



# Wetland Investigation Report

## Southwest LRT (METRO Green Line Extension)

Minneapolis, St. Louis Park, Hopkins, Minnetonka, and Eden Prairie, Minnesota

Anderson Engineering of MN, LLC.—Project No. 13485

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## 2 Executive Summary

The Southwest Light Rail Transit (LRT) (METRO Green Line Extension) is an approximately 16-mile proposed light rail line that will serve the Twin Cities metropolitan region within Hennepin County, Minnesota, operating from the southwestern suburban cities of Eden Prairie, Minnetonka, Hopkins, and St. Louis Park to downtown Minneapolis. The completion of the Final Environmental Impact Statement for the Southwest LRT project requires a detailed analysis of the wetland resources occurring within the study area and potential impacts to these resources as a result of the proposed project. The study area for the wetland assessment associated with the Final Environmental Impact Statement was established based on potential light rail alignments, including updates since publication of the Draft Environmental Impact Statement based on responses to comments received on this document and advancement of design activities.

Anderson Engineering of Minnesota, LLC is a subcontractor to CH2M Hill, Inc. and the Metropolitan Council to provide professional wetland services to identify areas within the Southwest LRT study area that meet the wetland criteria of the 1987 United States Army Corps of Engineers Wetland Delineation Manual (*Technical Report Y-87-1; January 1987*) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Midwest Regional Supplement).

The proposed Southwest LRT study area is located within the cities of Eden Prairie, Minnetonka, Hopkins, St. Louis Park, and Minneapolis. The area of wetland investigation includes corridors along potential light rail alignments; sites for potential operation and maintenance facilities, stations, and parking; and other project-associated improvements potentially including, but not limited to, temporary construction workspaces, temporary access roads, permanent road realignments, and bicycle and pedestrian paths. The Local Government Units (LGUs) that have Minnesota Wetland Conservation Act jurisdiction over water resources within the study area are the Minnesota Department of Transportation (DOT), the City of Eden Prairie (EP), Nine Mile Creek Watershed District (NM), the City of Minnetonka (MTA), Minnehaha Creek Watershed District (MC), and the City of Minneapolis (MPL). The United States Army Corps of Engineers (Corps) has Clean Water Act Section 404 jurisdiction on wetlands within the entire corridor and the Minnesota Department of Natural Resources regulates all public waters.

A total of 76 wetland basins were field delineated within the study area and are summarized in Appendix A. Wetlands are classified using the Cowardin, Circular 39, and Eggers and Reed Wetland Classification systems, described in Appendix B. Table 2-1 briefly summarizes each of the field delineated wetlands and is organized by LGU. The format for the wetland identification labels is LGU abbreviation listed first, followed by municipal location and a number identification.

**Table 2-1**

Summary of Field Delineated Wetlands within the Southwest LRT study area

Wetland ID	Wetland Classifications		
	Circ. 39	Cowardin	Eggers and Reed
<b>Minnesota Department of Transportation</b>			
DOT-EP-01	Type 2	PEMB	Fresh Wet Meadow
DOT-EP-02	Type 2/3	PEMB/C	Fresh Wet Meadow/Shallow Marsh
DOT-EP-03	Type 2/3	PEMB/C	Fresh Wet Meadow/Shallow Marsh
DOT-EP-04	Type 4	PEMF	Deep Marsh
DOT-EP-05	Type 1	PEMA	Seasonally Flooded Basin
DOT-EP-06	Type 3	PEMCx	Shallow Marsh

Wetland ID	Wetland Classifications		
	Circ. 39	Cowardin	Eggers and Reed
DOT-EP-07	Type 2	PEMB	Fresh Wet Meadow
DOT-EP-08	Type 3	PEMC	Shallow Marsh
DOT-EP-09	Type 3	PEMC	Shallow Marsh
DOT-SLP-10	Type 1A	PFO1A	Floodplain Forest
DOT-MPL-11	Type 3	PEMC	Shallow Marsh
<b>City of Eden Prairie</b>			
EP-EP-01	Type 5	PUBGx	Shallow Open Water
EP-EP-02	Type 3	PEMC	Shallow Marsh
EP-EP-03	Type 1	PEMA	Seasonally Flooded Basin
EP-EP-04	Type 1	PEMA	Seasonally Flooded Basin
EP-EP-05	Type 3	PEMC	Shallow Marsh
EP-EP-06	Type 5	PUBG	Shallow Open Water
EP-EP-07	Type 3/7	PEM/FO1C	Shallow Marsh/Hardwood Swamp
EP-EP-08	Type 3	PEMC	Shallow Marsh
EP-EP-09	Type 2	PEMB	Fresh Wet Meadow
EP-EP-10	Type 4	PEMF	Deep Marsh
EP-EP-11	Type 3/5	PEM/UB/C/F	Shallow Marsh/Shallow Open Water
EP-EP-12	Type 2	PEMB	Fresh Wet Meadow
EP-EP-13	Type 4	PEMFr	Deep Marsh
EP-EP-14	Type 5	PUBGx	Shallow Open Water
EP-EP-15	Type 3	PEMC	Shallow Marsh
EP-EP-16	Type 2/5	PEM/UB/B/G	Fresh Wet Meadow/Shallow Open Water
EP-EP-17	Type 3/6	PEM/SS1/C	Shallow Marsh/Scrub Carr
EP-EP-18	Type 5	PUBG	Shallow Open Water
EP-EP-19	Type 5	PUBGx	Shallow Open Water
EP-EP-20	Type 4	PEMF	Deep Marsh
EP-EP-21	Type 4	PUBFx	Deep Marsh
<b>Nine Mile Creek Watershed District</b>			
NM-EP-01	Type 3/6	PEM/SS1/C	Shallow Marsh/Scrub Carr
NM-EP-02	Type 3/6	PEM/SS1/C	Shallow Marsh/Scrub Carr
NM-EP-03	Type 3	PEMC	Shallow Marsh
NM-EP-04	Type 3/7	PEM/FO1C	Shallow Marsh/Hardwood Swamp
NM-EP-05	Type 5	PUBGx	Shallow Open Water
NM-EP-06	Type 3/6	PEM/SS1/C	Shallow Marsh/Scrub Carr
NM-EP-07	Type 3	PEMC	Shallow Marsh
NM-EP-08	Type 3/6	PEM/SS1/C	Shallow Marsh/Scrub Carr
NM-EP-09	Type 3	PEMC	Shallow Marsh
NM-EP-10	Type 3	PEMC	Shallow Marsh
NM-EP-11	Type 2	PEMB	Fresh Wet Meadow
NM-EP-12	Type 3/6	PEM/SS1/C	Shallow Marsh/Shrub Carr

Wetland ID	Wetland Classifications		
	Circ. 39	Cowardin	Eggers and Reed
NM-HOP-13	Type 3/6	PEM/SS1/C	Shallow Marsh/Shrub Carr
NM-HOP-14	Type 4	PUBFx	Deep Marsh
NM-HOP-15	Type 4	PUBFx	Deep Marsh
NM-HOP-16	Type 90	N/A	N/A
<b>City of Minnetonka</b>			
MTA-MTA-01	Type 5	PUBG	Shallow Open Water
MTA-MTA-02	Type 5	PUBG	Shallow Open Water
MTA-MTA-03	Type 1	PEMA	Seasonally Flooded Basin
MTA-MTA-04	Type 1	PEMA	Seasonally Flooded Basin
MTA-MTA-05	Type 5	PUBG	Shallow Open Water
MTA-MTA-06	Type 1A	PFO1A	Seasonally Flooded Basin
MTA-MTA-07	Type 3	PEMC	Shallow Marsh
MTA-MTA-08	Type 3	PEMC	Shallow Marsh
MTA-MTA-09	Type 3	PEMC	Shallow Marsh
MTA-MTA-10	Type 5	PUBG	Shallow Open Water
MTA-MTA-11	Type 3/5/6/7	PEM/FO1/SS1/UB/C/G	Shallow Marsh/ Shallow Open Water/Shrub Carr/Hardwood Swamp
MTA-MTA-12	Type 5	PUBGx	Shallow Open Water
<b>Minnehaha Creek Watershed District</b>			
MC-SLP-01	Type 90	N/A	N/A
MC-SLP-02	Type 1A	PFO1A	Floodplain Forest
MC-SLP-03	Type 2/3	PEMB/C	Fresh Wet Meadow/Shallow Marsh
MC-SLP-04	Type 2	PEMB	Fresh Wet Meadow
MC-SLP-05	Type 2/3/6	PEM/SS1/B/C	Fresh Wet Meadow/ Shallow Marsh/Shrub Carr
MC-SLP-06	Type 1	PEMA	Seasonally Flooded Basin
MC-SLP-07	Type 4	PEMGx	Deep Marsh
MC-SLP-08	Type 7	PF01C	Hardwood Swamp
MC-SLP-09	Type 1A	PFO1A	Floodplain Forest
MC-MPL-10	Type 4	PEMF	Deep Marsh
MC-MPL-11	Type 4	PUBG	Deep Marsh
MC-MPL-12	Type 1A	PFO1A	Floodplain Forest
MC-MPL-13	Type 90	N/A	N/A
MC-MPL-14	Type 1A	PFO1A	Floodplain Forest
MC-MPL-15	Type 5	PUBG	Shallow Open Water
MC-SLP-16	Type 3	PEMC	Shallow Marsh
Sources: "Wetlands of the United States" (U.S. Fish and Wildlife Service-Circular 39 Document) "Classification of Wetlands and Deepwater Habitats of the United States" (U.S. Fish and Wildlife Service-Cowardin et al. method) "Wetland Plants and Plant Communities of MN and WI"; (USACOE-St. Paul District; Eggers and Reed)			

Upon completion of the field investigation, each of the LGUs and the Corps conducted preliminary field reviews of the wetlands identified within each of their jurisdictions and verified the wetland boundary and type. Wetland boundaries are depicted on map exhibits in Appendix C.

In addition to the 76 field delineated basins, 8 wetland basins or portions thereof where on-site access could not be obtained were digitally mapped using off-site review methods. These are described in Table 2-2. Digitized wetlands have the prefix "DIG" in their identification labels.

**Table 2-2**

Summary of Off-site Mapped Wetlands in the Southwest LRT study area

<b>Wetland ID</b>	<b>National Wetlands Inventory Listing</b>	<b>Underlying Hydric Soil Classification</b>
DIG-EP-EP-01	PEMCd, Type 3	Muskego Muck
DIG-EP-EP-02	PEMA, Type 1	Muskego Muck
DIG-EP-EP-03	PEMA, Type 1	Muskego Muck
DIG-EP-EP-04	PEMA, Type 1	Muskego Muck
DIG-MC-SLP-01	PEMC, Type 3	N/A
DIG-MC-SLP-02	PEMC, Type 3	N/A
DIG-MC-SLP-03	PEMCd, Type 3	Houghton Muck
DIG-MC-SLP-04	PEMCd, Type 3	Houghton Muck

### 3 Background

As requested by the Metropolitan Council and CH2M Hill, Inc., Anderson Engineering of Minnesota, LLC performed wetland determinations and jurisdictional delineations in accordance with the 1987 United States Army Corps of Engineers Wetland Delineation Manual and the Midwest Regional Supplement.

The purpose of this study was to investigate the study area by identifying areas meeting the technical criteria for wetlands, delineate the jurisdictional extent of the wetland basins, and classify the observed wetland habitats.

Fieldwork for this project was completed by Environmental Scientists Ben Hodapp, Marc Cottingham, and Todd Udvig, and Environmental Associates Kristina Justen, Mohamed Elabbady, Alison Hruba, and Courtney Luensman during July-November, 2013.

### 4 Methodology

Field investigations and off-site reviews were performed to identify, delineate, and assess wetland areas. The wetland boundary delineations and wetland functional assessments were completed using data collected along sampling transects within the wetland, and through analysis of available data mapping resources. All wetland delineations were conducted under the oversight of a Minnesota Certified Wetland Delineator and in accordance with the 1987 United States Army Corps of Engineers Wetland Delineation Manual and the Midwest Regional Supplement.

#### 4.1 Background Data Research Review

Mapping resources were used to initially locate potential wetland habitats prior to conducting field investigations. Data resources used include:

- United States Geologic Service 7.5" Topographic Quadrangle maps
- United States Fish and Wildlife Service National Wetlands Inventory maps
- United States Department of Agriculture Natural Resources Conservation Service Soil Survey of Hennepin County, Minnesota
- Minnesota Department of Natural Resources Public Water Inventory
- Aerial photographs
- City of Eden Prairie GIS data
- City of Minnetonka Water Resources Management Plan
- Minnehaha Creek Watershed District Functional Assessment of Wetlands

Potential wetland habitats, designated "sampling units", were distinguished by marked differences in vegetative cover, landscape position, soil types, and/or disturbances relevant to aquatic resources. The most effective way to detect these differences was to review vegetative signatures on aerial photographs, since it typically reflects spatial variations in geomorphology, hydrology, soils, and other factors important to the formation and maintenance of wetlands. When natural vegetation was absent or disturbed, however, sampling units were determined based on landscape position, soil types, and/or other disturbances. During on-site data collection, sampling units were adjusted as needed based on observed field conditions.

#### 4.2 On-Site Data Collection and Field Demarcation

All land parcels required Right of Entry permits prior to an on-site investigation and property owners were contacted to coordinate field investigation date, time, and preferred demarcation method (temporary pin-flags, lath, flagging ribbon, etc.). Following coordination with the property owner, Gopher State One Call was notified to ensure underground utilities were marked and avoided during soil investigations.

On-site data were collected at sample points within sampling units to determine wetland boundaries and assess wetland habitat quality. Vegetation, soil, and hydrology data were recorded at each wetland. At least one sample point transect crosses the delineated wetland edge of each wetland basin. The transect consists of two sample points: one point within the basin, the wetland point, and one point outside of the basin, the upland point. Other sample points may have been taken in areas which have one or more of the wetland vegetative, soil, or hydrologic characteristics present; where questionable conditions exist; or to verify the absence of wetland criteria. Sample point locations were selected to be representative of the sampling unit.

The hydric soil assessment procedure of the Routine On-site Determination Method was used during this investigation. This method includes the following procedures:

- 1) Sampling of the vegetative community in all present strata (herbaceous, sapling/shrub, tree, and woody vine) to determine whether the sampling unit meets the hydrophytic vegetation criteria specified by the Midwest Regional Supplement.
- 2) Digging soil pits with a Dutch auger typically to depths of 16"-36", noting soil profile and any hydric soil characteristics to determine whether the sampling unit meets the hydric soil criteria specified by the Midwest Regional Supplement.

- 3) Observing and recording indicators of surface and subsurface hydrology to determine whether the sampling unit meets the wetland hydrology criteria specified by the Midwest Regional Supplement.

A data form was completed for each sample point in the sampling unit and for any additional investigative sampling points (Appendix D). In wetland-upland transition areas, sample points and associated data forms from the wetland and upland were used to illustrate and document differences between the wetland and upland. Digital photographs were taken of each wetland delineated to document general condition and status. Photographs are included in Appendix E of the delineation report.

After data collection, the identified wetland boundary was marked with sequentially numbered pink pin-flags or flagging ribbon. Sample point locations were marked in the field with orange pin-flags. The spacing of flags or other identification markers was relative to the level of detail needed to accurately depict the edge of the boundary: a more irregularly shaped wetland required more markers with less space between them. Markers were also placed so that at each point, adjacent markers in each direction are visible. Property owners were informed of the need to place physical markers on their land during initial contact. If the owner requested that all physical markers be removed, the markers were removed immediately following field review by the responsible regulatory agency.

The positions of physical markers were recorded with a mapping-grade Trimble GeoXH Global Positioning Satellite (GPS) unit with sub-meter accuracy.

### **4.3 Off-Site Delineation**

For parcels where Right of Entry permits were denied or a field investigation was not possible, off-site methods (Routine Level 1) were used to determine approximate wetland boundaries. A Routine Level 1 review consisted of an examination of mapping resources (soils, topography, National Wetlands Inventory, aerial photographs) to determine the potential presence of a wetland, identify its type if possible, and digitally sketch its approximate boundaries.

### **4.4 Wetland Functional Assessment**

Minnesota Routine Assessment Method (MnRAM) is a process designed to help assess qualitative functions and values associated with Minnesota wetlands. Anderson Engineering of MN, LLC environmental staff completed wetland functional evaluations for field-delineated natural wetlands using MnRAM, Version 3.4 (Appendix F). Natural wetlands are historically and currently existing wetlands, either naturally occurring or created specifically to be a functioning wetland. MnRAM analyses were not completed for "incidental" wetlands, those created as a result of development or human activity without the intent of creating a wetland, because "incidental" wetlands are not regulated under the Minnesota Wetland Conservation Act. MnRAM analyses were also not completed for digitized wetlands that were not field delineated, as not all data necessary to complete the MnRAM assessment could be accurately obtained without direct field observations.

## **5 Resource Review**

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The following resources were reviewed and are included on the Environmental map exhibits in Appendix B:

## 5.1 U.S. Fish and Wildlife Service National Wetlands Inventory

The National Wetlands Inventory (NWI) identifies numerous wetlands within the study area of the proposed Southwest LRT project.

## 5.2 Natural Resources Conservation Service Soil Survey

The Soil Survey of Hennepin County, MN identifies numerous hydric soil map units within the study area of the proposed Southwest LRT project.

## 5.3 Minnesota Department of Natural Resources Public Water Inventory

According to the Minnesota Department of Natural Resources Public Water Inventory, several public watercourses are located near the proposed Southwest LRT project.

## 5.4 Minnesota Climatology Working Group Antecedent Precipitation Data

A review of the antecedent precipitation data collected from the Minnesota Climatology Working Group (Appendix G) indicated that precipitation totals for the previous months were slightly above average in Hennepin County and hydrologic conditions were suitable for completing an accurate wetland determination and boundary delineation.

# 6 Results and Discussion

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## 6.1 Field Results

Seventy-six wetland basins or portions thereof were classified, field delineated and mapped within the Southwest LRT study area. Results of the wetland investigation within the Southwest LRT study area are divided by LGU and described below. Wetland descriptions include wetland type, size, wetland and upland dominant vegetation and soil descriptions, wetland to upland transition description, and observed wetland hydrology indicators. Wetlands are described as either being located entirely within the study area or extending outside the study area. If the wetland basin is located completely within the study area boundaries, the size of the entire wetland is given. For wetlands that extend outside of the study area boundaries, the size of only the on-site portion is given and the portion outside of the study area is excluded.

### 6.1.1 Minnesota Department of Transportation

**DOT-EP-01:** DOT-EP-01 is a small, isolated PEMB, Type 2, fresh wet meadow that receives stormwater from the surrounding area. It is located entirely in the study area and is approximately 0.27 acres in size. The wetland vegetation is dominated by Eastern cottonwood (*Populus deltoides*) and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Malardi soil series. The buried hemic peat layer under sandy loam and sand indicates hydric soil is present. Indicators of wetland hydrology include drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by Canada goldenrod (*Solidago canadensis*) and American vetch (*Vicia americana*). Upland soils consist of very dark grayish brown loam over dark yellowish brown loam and do not meet hydric soil indicators. A rock obstruction was present at 14 inches. No hydrology indicators were observed in the upland.

**DOT-EP-02:** DOT-EP-02 is a linear PEMB/C, Type 2/3, fresh wet meadow/shallow marsh that is part of the highway drainage system. It is located entirely in the study area and is approximately 0.22 acres in size. The wetland vegetation is dominated by narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as the Angus soil series. The layer of mucky peat over sand in the investigation area meets the 5 cm Mucky Peat or Peat (S3) hydric soil indicator. The Hydrogen Sulfide (A4) hydric soil indicator was also met. Indicators of wetland hydrology include surface water at a depth of 12 inches (A1), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by sandbar willow (*Salix interior*), Canada goldenrod (*Solidago canadensis*), orange jewelweed (*Impatiens capensis*), and American vetch (*Vicia americana*). Upland soils consist of very dark gray loamy sand over depleted brownish yellow sand, with a restrictive layer at 7 inches. Soils meet the Sandy Redox (S5) hydric soil indicator. No hydrology indicators were observed in the upland.

**DOT-EP-03:** DOT-EP-03 is a linear PEMB/C, Type 2/3, fresh wet meadow/shallow marsh that is part of the highway drainage system. It is located entirely in the study area and is approximately 0.27 acres in size. The wetland vegetation is dominated by reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Muskego soil series. The sandy loam soil in the investigation area does not meet any hydric soil indicators, but due to the landscape position, the presence of hydrophytic vegetation, and surface saturation, the soil is determined to be hydric. Indicators of wetland hydrology include saturation at the surface (A3), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by smooth brome (*Bromus inermis*) and reed canary grass (*Phalaris arundinacea*). Upland soils consist of very dark grayish brown loamy sand and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**DOT-EP-04:** DOT-EP-04 is a PEMF, Type 4, deep marsh stormwater treatment basin within a cloverleaf of Highway 212. The wetland extends out of the study area to the east and the on-site portion is approximately 0.26 acres in size. The wetland vegetation is dominated by narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as the Muskego soil series. The mixed soils at the investigation area do not meet any hydric soil indicators; however, due to the presence of hydrophytic vegetation, surface saturation, and landscape position, the soil is determined to be hydric. Indicators of hydrology include saturation within 1 inch of soil surface (A3), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by smooth brome (*Bromus inermis*), bird's-foot-trefoil (*Lotus corniculatus*), and Canada thistle (*Cirsium arvense*). Upland soils consist of very dark gray loamy sand, with a restrictive layer at 12 inches, and do not meet hydric soil indicators. No hydrology indicators were observed in the upland.

**DOT-EP-05:** DOT-EP-05 is an isolated PEMA, Type 1, seasonally flooded basin. It is located entirely in the study area and is approximately 0.08 acres in size. The wetland vegetation is dominated by yellow flat-sedge (*Cyperus strigosus*) and Pennsylvania smartweed (*Persicaria pennsylvanicum*). The underlying soils are mapped as Urban Land-Udorthents. The sandy loam over depleted clay loam soils in the investigation area do not meet any hydric soil indicators; however, due to the presence of hydrophytic vegetation, surface saturation and landscape position, the soil is determined to be hydric. Indicators of hydrology include drainage patterns (B10) and geomorphic position (D2).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by reed canary grass (*Phalaris arundinacea*) and curly dock (*Rumex crispus*). Upland soils consist of dark

gray sandy loam with a restrictive area at 8 inches and do not meet any hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

**DOT-EP-06:** DOT-EP-06 is a PEMCx, Type 3, shallow marsh constructed stormwater treatment basin. It is located entirely in the study area and is approximately 0.04 acres in size. The underlying soils are mapped as the Lester soil series. The sand, silt, clay mix in the investigation area does not meet hydric soil indicators, however, due to the presence of hydrophytic vegetation and landscape position, the soil is determined to be hydric. Indicators of wetland hydrology include drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by Eastern cottonwood (*Populus deltoides*) and Pennsylvania smartweed (*Persicaria pennsylvanicum*). Upland soils consist of very dark grayish brown sandy loam over depleted very dark grayish brown sandy loam, with a restrictive layer at 12 inches, and do not meet any hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

**DOT-EP-07:** DOT-EP-07 is a small, PEMB, Type 2, fresh wet meadow that is part of the roadway drainage system. It is located entirely in the study area and is approximately 0.01 acres in size. The wetland vegetation is dominated by narrow-leaf cat-tail (*Typha angustifolia*) and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Koronis soil series. The mixed silt loam over sandy clay soils in the investigation area do not meet hydric soil indicators; however, due to the presence of hydrophytic vegetation and landscape position, the soil is determined to be hydric. Indicators of wetland hydrology include surface water at a depth of 2 inches (A1), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by Canada goldenrod (*Solidago canadensis*) and reed canary grass (*Phalaris arundinacea*). Upland soils consist of dark brown silty sand and a restrictive layer of rock at 6 inches, and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**DOT-EP-08:** DOT-EP-08 is a PEMC, Type 3, shallow marsh that is part of the roadway drainage system. It is located entirely in the study area and is approximately 0.84 acres in size. The wetland vegetation is dominated by narrow-leaf cat-tail (*Typha angustifolia*) and reed canary grass (*Phalaris arundinacea*). The silt loam over depleted loamy sand in the investigation area do not meet hydric soil indicators; however, due to the presence of redoximorphic features in the soil, the presence of hydrophytic vegetation, and landscape position, the soil is determined to be hydric. Indicators of wetland hydrology include saturation at the surface (A3), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by reed canary grass (*Phalaris arundinacea*) and Canada thistle (*Cirsium arvense*). Upland soils consist of very dark grayish brown silt loam over a yellowish brown mix and do not meet any hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

**DOT-EP-09:** DOT-EP-09 is a PEMC, Type 3, shallow marsh that is part of the roadway drainage system. It is located entirely in the study area and is approximately 0.25 acres in size. The wetland vegetation is dominated by narrow-leaf cat-tail (*Typha angustifolia*) and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as Urban Land-Udorthents. Dark silt loam over depleted silt loam soils in the investigated area meets the depleted below dark surface (A11) hydric soil indicator. A gleyed layer of soil is located below the depleted silt loam. Indicators of wetland hydrology include saturation at 10 inches (A3) and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by white spruce (*Picea glauca*), Scotch pine (*Pinus sylvestris*), and reed canary grass (*Phalaris arundinacea*).

Upland soils consist of very dark gray loam with a restrictive layer at 12 inches and do not meet any hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

**DOT-SLP-10:** DOT-SLP-10 is a PFO1A, Type 1A, floodplain forest. It is located entirely in the study area and is approximately 0.01 acres in size. The wetland vegetation is dominated by quaking aspen (*Populus tremuloides*), common buckthorn (*Rhamnus cathartica*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as Urban Land-Udorthents. The silty loam soils over a restrictive layer at 8 inches in the investigated area does not meet hydric soil indicators; however, due to the presence of hydrophytic vegetation, landscape position, and surface inundation, the soil was determined to be hydric. Indicators of hydrology include surface water at a depth of 2 inches (A1).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by quaking aspen (*Populus tremuloides*), common buckthorn (*Rhamnus cathartica*), reed canary grass (*Phalaris arundinacea*), and smooth brome (*Bromus inermis*). Upland soils consist of very dark gray rocky soil and rocky fill and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**DOT-MPL-11:** DOT-MPL-11 is a PEMC, Type 3, shallow marsh that is part of the highway drainage system. The wetland extends out of the study area to the east. The on-site portion is approximately 0.89 acres in size. The wetland vegetation is dominated by narrow-leaf cat-tail (*Typha angustifolia*) and common duckweed (*Lemna minor*). The underlying soils are mapped as Urban Land-Udorthents. The mucky soil in the investigated area meets the Histisol (A1) hydric soil indicator. Indicators of wetland hydrology include surface water at a depth of 6 inches (A1), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by black willow (*Salix nigra*), sandbar willow (*Salix interior*), common buckthorn (*Rhamnus cathartica*), Canada goldenrod (*Solidago canadensis*), and Canada thistle (*Cirsium arvense*). Upland soils consist of very dark brown sandy loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

### 6.1.2 City of Eden Prairie

**EP-EP-01:** EP-EP-01 is a PUBGx, Type 5, shallow open water wetland that is used for stormwater treatment. The wetland extends out of the study area to the north. The on-site portion is approximately 0.02 acres in size. This wetland contains mainly open water with a vegetated fringe which is dominated by red-osier dogwood (*Cornus alba*), common buckthorn (*Rhamnus cathartica*), wild grape (*Vitis riparia*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Lester-Malardi complex. Sandy loam in the investigated area meets the loamy gleyed matrix (F2) hydric soil indicator. Indicators of wetland hydrology include geomorphic position (D2) and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Wetland vegetation is present along the wet margin and transitions to upland vegetation within a foot or two of the water surface. Upland vegetation is dominated by red-osier dogwood (*Cornus alba*), common buckthorn (*Rhamnus cathartica*), and Canada goldenrod (*Solidago canadensis*). Upland soils are silt loam over rocky material and do not meet hydric soil indicators. No hydrology indicators were observed in the upland.

**EP-EP-02:** EP-EP-02 is an isolated PEMC, Type 3, shallow marsh. It is located entirely in the study area and is approximately 1.05 acres in size. The wetland vegetation is dominated by box elder (*Acer negundo*), Eastern cottonwood (*Populus deltoides*), narrow-leaf cat-tail (*Typha angustifolia*), reed canary grass (*Phalaris arundinacea*), and Canada goldenrod (*Solidago canadensis*). The underlying soils are mapped as Urban Land. Loam and loamy sand soils in the investigated areas meet the depleted below

dark surface (A11) hydric soil indicator. Indicators of wetland hydrology include drainage patterns (B10), geomorphic position (D2) and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by box elder (*Acer negundo*), red oak (*Quercus rubra*), common buckthorn (*Rhamnus cathartica*), lanceleaf tickseed (*Coreopsis lanceolata*), stinging nettle (*Urtica dioica*), devil's beggartick (*Bidens frondosa*), and Virginia creeper (*Parthenocissus quinquefolia*). Upland soils consist of yellowish brown and dark grayish brown loam. These soils do not meet hydric soil indicators. There were no hydrology indicators observed in the upland. There is a riprap spillway on the east end that discharges stormwater into the wetland.

**EP-EP-03:** EP-EP-03 is a ditch that captures and directs stormwater runoff to the north. It is classified as a Type 1, PEMA, seasonally flooded basin. The wetland extends out of the study area to the west. The on-site portion is approximately 0.16 acres in size. The wetland vegetation is dominated by blunt spikerush (*Eleocharis obtusa*), reed canary grass (*Phalaris arundinacea*), and redtop (*Agrostis gigantea*). The underlying soils are mapped as Urban Land. Clay loam soils within the wetland meet the redox dark surface (F6) hydric soil indicator. Indicators of wetland hydrology include surface water at a depth of 2 inches (A1), saturation at the surface (A3), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by Kentucky bluegrass (*Poa pratensis*) mowed to the wetland edge. Soils in the upland were dark grayish brown silt loam over rock and do not meet hydric soil indicators. No hydrology indicators were observed in the upland area.

**EP-EP-04:** EP-EP-04 is a small, isolated PEMA, Type 1, seasonally flooded basin. It is located entirely in the study area and is approximately 0.04 acres in size. Vegetation in the wetland is dominated by fox sedge (*Carex vulpinoidea*) and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Angus-Malardi complex. Soils are a dark grayish brown loam over rock fill. Further sampling beyond 5 inches was restricted. However, soils were considered hydric based on the presence of hydrophytic vegetation and landscape position. Wetland hydrology indicators include drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation includes bird's-foot trefoil (*Lotus corniculatus*), bristle brush (*Setaria faberi*), and reed canary grass (*Phalaris arundinacea*). Upland soils are dark grayish brown loam over rocky fill and are considered non-hydric based on landscape position. No hydrology indicators were observed in the upland.

**EP-EP-05:** EP-EP-05 is an isolated PEMC, Type 3, shallow marsh. The wetland extends out of the study area to the east. The on-site portion is approximately 0.02 acres in size. This wetland vegetation is dominated by narrow-leaf cat-tail (*Typha angustifolia*) and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Malardi-Hawick complex. Soils within the wetland are loamy sand and are considered hydric based on the presence of hydrophytic vegetation and landscape position. Indicators of wetland hydrology include drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual slope with an abrupt vegetation change. Upland vegetation includes box elder (*Acer negundo*), black willow (*Salix nigra*), red-osier dogwood (*Cornus alba*), reed canary grass (*Phalaris arundinacea*), and Canada goldenrod (*Solidago canadensis*). Soils in the upland are brown loamy sands and do not meet hydric soil indicators. No hydrology indicators were observed in the upland.

**EP-EP-06:** EP-EP-06 is a PUBG, Type 5, shallow open water constructed stormwater pond that receives runoff from the surrounding developed area. The wetland extends out of the study area to the west. The

on-site portion is approximately 0.11 acres in size. Vegetation within the wetland is dominated by black willow (*Salix nigra*) and scattered Canada goldenrod (*Solidago canadensis*). Side slopes are relatively steep. The underlying soils are mapped as the Lester-Malardi complex. Soils within the wetland had a shallow organic layer over very dark gray sandy clay with depletions at 10 inches. Soils in the investigated area meet the sandy mucky mineral (S1) hydric soil indicator. Hydrology indicators include surface water at a depth greater than 12 inches (A1) and saturation at the surface (A3).

The transition from wetland to upland is an abrupt elevation change. The upland vegetation is dominated by common buckthorn (*Rhamnus cathartica*), American vetch (*Vicia americana*), and Canada goldenrod (*Solidago canadensis*). Upland soils are dominated by very dark gray and brown loamy sand and do not meet hydric soil indicators. No hydrology indicators were observed.

**EP-EP-07:** EP-EP-07 is a moderately-sized isolated PEM/F01C, Type 3/7, shallow marsh/hardwood swamp. The wetland extends out of the study area to the south and east. The on-site portion is approximately 1.54 acres in size. Wetland vegetation is dominated by American elm (*Ulmus americana*), reed canary grass (*Phalaris arundinacea*), and narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as Water. Loamy sand soils in the investigated area meet the redox dark surface (F6) hydric soil indicator. Wetland hydrology indicators include geomorphic position (D2) and the FAC-neutral test (D5).

The transition from wetland to upland is a significant rise in elevation. Upland vegetation is dominated by American elm (*Ulmus americana*), common buckthorn (*Rhamnus cathartica*), garlic mustard (*Alliaria petiolata*), and common burdock (*Arctium minus*). Soils in the upland are very dark grayish brown silty clay over dark gray silty clay and do not meet hydric soil indicators. No hydrology indicators were observed.

**EP-EP-08:** EP-EP-08 is a created PEMC, Type 3, shallow marsh mitigation site. The wetland extends out of the study area to the north. The on-site portion is approximately 1.30 acres in size. Wetland vegetation is dominated by swamp milkweed (*Asclepias incarnata*), common spikerush (*Eleocharis palustris*), reed canary grass (*Phalaris arundinacea*), foxtail barley (*Hordeum jubatum*), and American water horehound (*Lycopus americanus*). The underlying soils are mapped as Urban Land-Udorthents. Hydric soils consist of silt loam and meet the depleted below dark surface (A11) and redox dark surface (F6) hydric soil indicators. Hydrology indicators include geomorphic position (D2) and FAC-neutral test (D5).

Transition from the wetland to the upland is a gradual elevation change. Upland vegetation is dominated by big bluestem (*Andropogon gerardii*), and Kentucky bluegrass (*Poa pratensis*). Upland soils are dark grayish brown and yellowish brown loam over rock fill. Soils do not meet hydric soil indicators. No wetland hydrology indicators were observed.

**EP-EP-09:** EP-EP-09 is a small isolated PEMB, Type 2, fresh wet meadow. The wetland extends out of the study area to the north. The on-site portion is approximately 0.25 acres in size. Wetland vegetation includes foxtail barley (*Hordeum jubatum*), swamp milkweed (*Asclepias incarnata*), and narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as Urban Land-Udorthents. Wetland soil is silty clay and meets the depleted below dark surface (A11) and redox dark surface (F6) hydric soil indicators. Hydrology indicators include drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by Kentucky bluegrass (*Poa pratensis*) and big bluestem (*Andropogon gerardii*). Upland soils are dark grayish brown and yellowish brown loam over rock fill and do not meet hydric soil indicators. No hydrology indicators were observed in the upland.

**EP-EP-10:** EP-EP-10 is an isolated PEMF, Type 4, deep marsh constructed for stormwater treatment. The wetland extends out of the study area to the north. The on-site portion is approximately 0.02 acres in size. The wetland vegetation is dominated by broad-leaved arrowhead (*Sagittaria latifolia*), common spikerush (*Eleocharis palustris*), and common duckweed (*Lemna minor*). The underlying soils are mapped as the Lester-Malardi complex. Loam and fibric peat soils in the investigated area meet the depleted below dark surface (A11) hydric soil indicator. Indicators of wetland hydrology include surface water at a depth of 2 inches (A1), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by Kentucky bluegrass (*Poa pratensis*). Upland soils are black silty clay over dark yellowish brown gravelly loam and do not meet hydric soil indicators. No hydrology indicators were observed.

**EP-EP-11:** EP-EP-11 is an isolated PEM/UB/C/F, Type 3/5, shallow marsh/shallow open water wetland that is used for stormwater treatment. The wetland extends out of the study area to the north and is part of a larger wetland complex. The on-site portion is approximately 8.40 acres in size. The wetland is dominated by black willow (*Salix nigra*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as Urban Land-Udorthents. Soils in the first investigated area are black fibric peat and meet the histisol (A1) hydric soil indicator. Soils in the second investigated area are black silt loam with dark yellowish brown redox features. These soils meet the thick dark surface (A12) and redox dark surface (F6) hydric soil indicators. Soils in the third investigated area are black loam underlain by dark grayish brown loam and meet depleted below dark surface (A11) hydric soil indicator. Hydrology indicators include saturation (A3), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Vegetation in the upland is dominated by green ash (*Fraxinus pennsylvanica*), reed canary grass (*Phalaris arundinacea*), water smartweed (*Persicaria amphibium*), and Kentucky bluegrass (*Poa pratensis*). Upland soils are very dark grayish brown and dark brown silt loam and do not meet hydric soil indicators. One secondary indicator, the FAC-neutral test (D5), is observed in the upland.

**EP-EP-12:** EP-EP-12 is an isolated meandering basin and is classified as a PEMB, Type 2, fresh wet meadow. The wetland extends out of the study area to the south and is part of a larger wetland complex. The on-site portion is approximately 0.29 acres in size. The wetland vegetation is dominated by reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Shorewood soil series. Clay soils in the investigated area meet the redox dark surface (F6) hydric soil indicator. Wetland hydrology indicators were drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change with an abrupt vegetation change. Upland vegetation is dominated by big bluestem (*Andropogon gerardii*) and Canada goldenrod (*Solidago canadensis*). Upland soils were black dry clay with a restrictive clay pan layer at 12 inches. These do not meet hydric soil indicators. No hydrology indicators were observed in the upland.

**EP-EP-13:** EP-EP-13 is a created landscape pond with fountains. This wetland is classified as a PEMFr, Type 4, deep marsh. The wetland extends slightly out of the study area to the east. The on-site portion is approximately 0.45 acres in size. Wetland vegetation is dominated by blunt spikerush (*Eleocharis obtuse*). Underlying soils were mapped as the Lester-Malardi Complex. Soils in the investigated area were black silt loam over sandy loam and are assumed to be hydric based on best professional judgment. Indicators of wetland hydrology consisted of surface water at greater than 18 inches (A1), saturation (A3), crayfish burrows (C8), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. The upland area bounding the wetland is dominated by mowed Kentucky bluegrass (*Poa pratensis*). Upland soils were similar to those in the wetland. No hydrology indicators were observed in the upland.

**EP-EP-14:** EP-EP-14 is a PUBGx, Type 5, shallow open water constructed stormwater pond. The wetland extends out of the study area to the south. The on-site portion is approximately 0.08 acres in size. The wetland vegetation is dominated by rice cutgrass (*Leersia oryzoides*). Underlying soils are mapped as the Canestio soils series. Silty clay loam soils in the investigated area meet the thick dark surface (A12) and redox dark surface (F6) hydric soil indicators. Hydrology indicators include geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. The upland vegetation is dominated by common blue violet (*Viola sororia*) and reed canary grass (*Phalaris arundinacea*). Upland soils were dark grayish brown over rock fill and do not meet hydric soil indicators. No hydrology indicators were observed in the upland.

**EP-EP-15:** EP-EP-15 is a PEMC, Type 3, shallow marsh mitigation site. The wetland extends out of the study area to the south and east and is part of a larger wetland complex. The on-site portion is approximately 0.99 acres in size. The wetland vegetation is dominated by sandbar willow (*Salix interior*) and common spikerush (*Eleocharis palustris*). The underlying soils are mapped as Muskego, Blue Earth, and Houghton soil series. Mucky peat soils in the investigated area meet the 5cm mucky peat or peat (S3) hydric soil indicator. Indicators of wetland hydrology include saturation at the surface (A3), geomorphic position (D2) and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by Eastern cottonwood (*Populus deltoides*), common buckthorn (*Rhamnus cathartica*), Canada goldenrod (*Solidago canadensis*), and big bluestem (*Andropogon gerardii*). Upland soils were very dark grayish brown and dark grayish brown silty loam and do not meet hydric soil indicators. No hydrology indicators were observed in the upland.

**EP-EP-16:** EP-EP-16 is a large PEM/UB/B/G, Type 2/5, fresh wet meadow/shallow open water wetland that is part of a larger wetland complex that extends south of the corridor. This wetland receives some stormwater inputs. The on-site portion is approximately 5.52 acres in size. The wetland is dominated by box elder (*Acer negundo*), reed canary grass (*Phalaris arundinacea*), and sandbar willow (*Salix interior*). The underlying soils are mapped as the Urban Lester-Malardi soil series. Loam soils over rock fill in the investigated are assumed to be hydric based on landscape position, hydrophytic vegetation, and professional judgment. Indicators of wetland hydrology include geomorphic position (D2) and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by smooth brome (*Bromus inermis*) and Kentucky bluegrass (*Poa pratensis*) along the wetland edge. Upland soils were brownish yellow silty clay loam over rock fill and do not meet hydric soil indicators. No hydrology indicators were observed in the upland.

**EP-EP-17:** EP-EP-17 contains both Purgatory Creek and a stormwater treatment pond. The wetland associated with Purgatory Creek is classified as a PEM/SS1/C, Type 3/6 shallow marsh/shrub carr. The wetland extends out of the study area to the north and west and is part of a larger wetland complex. The on-site portion is approximately 0.62 acres in size. These wetland areas are dominated by black willow (*Salix nigra*), box elder (*Acer negundo*), orange jewelweed (*Impatiens capensis*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as Lester soil series. Black fibric peat soils in the investigated area meet the histisol (A1) hydric soil indicator. Indicators of wetland hydrology included geomorphic position (D2) and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by black willow (*Acer negundo*), green ash (*Fraxinus pennsylvanica*), and Kentucky bluegrass (*Poa pratensis*). Soils in the upland are very dark grayish brown silt loam over brown loam and do not meet hydric soil indicators. No hydrology indicators were observed in the upland.

**EP-EP-18:** EP-EP-18 is a created PUBG, Type 5, shallow open water stormwater treatment pond. The wetland extends out of the study area to the north and west. The on-site portion is approximately 0.81 acres in size. The wetland vegetation is dominated by box elder (*Acer negundo*) and narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as Urban Land-Udorthents. Mucky peat soils in the investigated area meet the histisol (A1) hydric soil indicator. Indicators of wetland hydrology include surface water at a depth of three inches (A1), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by field thistle (*Cirsium discolor*) and crown vetch (*Vicia sativa*). Upland soils were dark grayish brown loam over rock fill and do not meet hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

**EP-EP-19:** EP-EP-19 is a PUBGx, Type 5, shallow open water constructed stormwater treatment pond. The wetland extends out of the study area to the north and west. The on-site portion is approximately 0.23 acres in size. The wetland vegetation is dominated by sandbar willow (*Salix interior*) and narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as Lester-Metea Complex. Sandy clay soils in the investigated area meet the depleted below dark surface (A11) hydric soil indicator. Indicators of wetland hydrology include saturation at the surface (A3), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. The upland vegetation is dominated by sandbar willow (*Salix interior*) and narrow-leaf cat-tail (*Typha angustifolia*). Upland soils were very dark gray clay loam over dark grayish brown clay loam and do not meet hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

**EP-EP-20:** EP-EP-20 is part of Idlewild Lake. Idlewild Lake receives some stormwater input and also contains two large fountains. EP-EP-20 is along the fringe of the lake and is classified as a PEMF, Type 4, deep marsh. The wetland extends out of the study area to the south and east. The on-site portion is approximately 0.74 acres in size. The wetland is dominated by common buckthorn (*Rhamnus cathartica*), tatarian honeysuckle (*Lonicera tatarica*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Lester Loam-Morainic soil series. Clay loam soils in the investigated areas are assumed to be hydric based on landscape position, hydrophytic vegetation, and surface inundation. Indicators of wetland hydrology include surface water at a depth of 24 inches (A1), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by green ash (*Fraxinus pennsylvanica*), box elder (*Acer negundo*), common buckthorn (*Rhamnus cathartica*), tatarian honeysuckle (*Lonicera tatarica*), common burdock (*Arctium minus*), and tall goldenrod (*Solidago altissima*). Soil in the upland is a very dark grayish brown loamy sand over sandy loam and does not meet hydric soil indicators. No hydrology indicators were observed in the upland.

**EP-EP-21:** EP-EP-21 is a PUBFx, Type 4, deep marsh constructed stormwater treatment basin. The wetland extends slightly out of the study area to the north. The on-site portion is approximately 0.10 acres in size. The wetland vegetation is dominated by ironweed (*Vernonia fasciculata*) and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as Urban Land-Udorthents. Loamy sand soils in the investigated area are assumed hydric based on the presence of hydrophytic vegetation, surface inundation, and landscape position. Indicators of wetland hydrology include surface water at a depth of two inches (A1), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by ironweed (*Vernonia fasciculata*), and reed canary grass (*Phalaris arundinacea*). Upland soils are dark

yellowish brown depleted clay loam but do not meet hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

### 6.1.3 Nine Mile Creek Watershed District

**NM-EP-01:** NM-EP-01 is a PEM/SS1/C, Type 3/6, shallow marsh/shrub carr. It is located entirely in the study area and is approximately 1.81 acres in size. The wetland vegetation is dominated by box elder (*Acer negundo*), sandbar willow (*Salix interior*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Muskego soil series. Silty loam over fibric peat soils in the investigated area meet the histisol (A1) hydric soil indicator, and are likely caused by flooding events. Indicators of wetland hydrology included geomorphic position (D2) and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation and contains the creek floodplain. Upland vegetation is dominated by box elder (*Acer negundo*), common buckthorn (*Rhamnus cathartica*), and sandbar willow (*Salix interior*). Upland soils consist of dark brown silty loam over very dark brown silty loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**NM-EP-02:** NM-EP-02 is a PEM/SS1/C, Type 3/6, shallow marsh/shrub carr that partially encompasses Nine Mile Creek and part of the creek's floodplain. The wetland extends out of the study area to the west and north and the on-site portion is approximately 3.71 acres in size. The wetland vegetation is dominated by quaking aspen (*Populus tremuloides*), common buckthorn (*Rhamnus cathartica*), sandbar willow (*Salix interior*), narrow-leaf cat-tail (*Typhus angustifolia*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Muskego soil series. Fibric peat soil in the investigated area meets the histisol (A1) hydric soil indicator. Indicators of wetland hydrology include the presence of surface water at a depth of 1 inch (A1), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change and is a raised terrace within the floodplain. Upland vegetation is dominated by quaking aspen (*Populus tremuloides*), Eastern cottonwood (*Populus deltoides*), common buckthorn (*Rhamnus cathartica*), tatarian honeysuckle (*Lonicera tatarica*), prickly ash (*Zanthoxylum americanum*), tall goldenrod (*Solidago altissima*), and American vetch (*Vicia americana*). Upland soils consist of very dark brown sandy loam over depleted very dark grayish brown loamy sand and pale brown silt and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**NM-EP-03:** NM-EP-03 is a PEMC, Type 3, shallow marsh that is divided by Nine Mile Creek. The wetland extends out of the study area to the east and the on-site portion is approximately 0.26 acres in size. The wetland vegetation is dominated by American elm (*Ulmus americana*) and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Koronis soil series. The sapric peat soil in the investigated area meets the histisol (A1) hydric soil indicator. Indicators of wetland hydrology include the presence of surface water at a depth of 1 inch (A1), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a raised terrace. Upland vegetation is dominated by American elm (*Ulmus americana*) and black willow (*Salix nigra*). Upland soils consist of dark grayish brown silty loam over depleted dark grey silty clay loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**NM-EP-04:** NM-EP-04 is a PEM/FO1C, Type 3/7, shallow marsh/hardwood swamp. The wetland extends out of the study area to the north and the on-site portion is approximately 0.79 acres in size. The wetland vegetation is dominated by green ash (*Fraxinus pennsylvanica*), common buckthorn (*Rhamnus cathartica*), and fowl manna grass (*Glyceria striata*). The underlying soils are mapped as the Muskego soil series. Fibric peat soil in the investigated area meets the histisol (A1) hydric soil indicator. Indicators of wetland hydrology include geomorphic position (D2) and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual creek bank. Upland vegetation is dominated by Eastern cottonwood (*Populus deltoides*) and common buckthorn (*Rhamnus cathartica*). Upland soils consist of very dark brown mucky peat over very dark brown clay loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**NM-EP-05:** NM-EP-05 is a PUBGx, Type 5, shallow open water constructed stormwater treatment pond. The wetland extends out of the study area to the north and west and the on-site portion is approximately 0.10 acres in size. The wetland vegetation is dominated by narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as the Malardi soil series. The fibric peat layer over depleted clay soils in the investigated area meet the black histic (A3) and the depleted below dark surface (A11) hydric soil indicators. Indicators of wetland hydrology include geomorphic position (D2) and the FAC-neutral test (D5).

Since the wetland was constructed for stormwater retention, the transition from wetland to upland consists of steep slide slopes and an abrupt elevation change. Upland vegetation is dominated by smooth brome (*Bromus inermis*). Upland soils consist of dark brown silty loam over very dark brown silty loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**NM-EP-06:** NM-EP-06 is a PEM/SS1/C, Type 3/6, shallow marsh/scrub carr and includes a small portion of mitigation area. The wetland extends out of the study area to the west and the on-site portion is approximately 0.42 acres in size. The wetland vegetation is dominated by box elder (*Acer negundo*), reed canary grass (*Phalaris arundinacea*), and narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as the Houghton soil series. Fibric peat soil in the investigated area meets the histisol (A1) hydric soil indicator. Indicators of wetland hydrology include soil saturation at 12 inches (A3), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a moderate elevation change. Upland vegetation is dominated by black willow (*Salix nigra*), common buckthorn (*Rhamnus cathartica*), and tatarian honeysuckle (*Lonicera tatarica*). Upland soils consist of brown loam over rocky fill and do not meet any hydric soil indicators. No hydrology indicators were observed in the wetland.

**NM-EP-07:** NM-EP-07 is a small PEMC, Type 3, shallow marsh excavated stormwater treatment area. It is located entirely in the study area and is approximately 0.03 acres in size. The wetland vegetation is dominated by narrow-leaf cat-tail (*Typha angustifolia*) and field thistle (*Cirsium discolor*). The underlying soils are mapped as the Houghton soil series. Silty loam soil over depleted clay loam and peat soils in the investigation area meet the depleted below dark surface (A11) hydric soil indicator. Indicators of wetland hydrology include drainage patterns (B10) and geomorphic position (D2).

The transition from wetland to upland lies along the edge of the excavated basin. Upland vegetation is dominated by field thistle (*Cirsium discolor*) and tall goldenrod (*Solidago altissima*). Upland soils consist of dark brown loam over brown loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**NM-EP-08:** NM-EP-08 is a small isolated PEM/SS1/C, Type 3/6, shallow marsh/shrub carr and includes a portion of mitigation area. It is located entirely in the study area and is approximately 2.25 acres in size. The wetland vegetation is dominated by Eastern cottonwood (*Populus deltoides*), common spikerush (*Eleocharis palustris*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Houghton soil series. Depleted dark silty clay loam over depleted silty clay loam in the investigation area meets the depleted below dark surface (A11) and redox dark surface (F6) hydric soil indicators. Indicators of wetland hydrology include geomorphic position (D2) and the FAC-neutral test (D5).

The transition from wetland to upland is a rapid change in elevation. Upland vegetation is dominated by the prairie grasses big bluestem (*Andropogon gerardii*) and switch grass (*Panicum virgatum*). Upland soils consist of very dark gray silty loam over very dark grayish brown silty loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**NM-EP-09:** NM-EP-09 is a PEMC, Type 3, shallow marsh and consists of two connected basins. The wetland extends out of the study area to the west and the on-site portion is approximately 0.66 acres in size. The wetland vegetation is dominated by American elm (*Ulmus americana*), reed canary grass (*Phalaris arundinacea*), and narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as the Malardi soil series and Urban Land-Udorthents. The soils in the southern basin consist of a layer of dark silty clay loam over a layer of depleted loam and meet the depleted below dark surface (A11) hydric soil indicator. The soils in the northern basin consist of dark depleted silty loam over depleted silty loam and fibric peat and meet the depleted below dark surface (A11) and the redox dark surface (F6) hydric soil indicators. Indicators of wetland hydrology include soil saturation at the surface (A3), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a rapid elevation change. Upland vegetation is dominated by American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*), common buckthorn (*Rhamnus cathartica*), reed canary grass (*Phalaris arundinacea*), and common vetch (*Vicia sativa*). Upland soils in the southern basin consist of very dark gray silty clay loam over depleted dark grayish brown silty clay loam and do not meet hydric soil indicators. Upland soils in the northern basin consist of very dark gray silty clay loam over rocky fill and do not meet any hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

**NM-EP-10:** NM-EP-10 is an isolated PEMC, Type 3, shallow marsh stormwater treatment basin. It is located entirely in the study area and is approximately 0.13 acres in size. The wetland vegetation is dominated by reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Kingsley soil series and Urban Land-Udorthents. Silty loam over hemic peat in the investigated area does not meet any hydric soil indicators; however, due to the presence of hydrophytic vegetation and landscape position, hydric soil was assumed. Indicators of wetland hydrology include drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a rapid elevation change. Upland vegetation is dominated by box elder (*Acer negundo*), Canada goldenrod (*Solidago canadensis*), and reed canary grass (*Phalaris arundinacea*). Upland soils consist of very dark grayish brown loamy sand and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**NM-EP-11:** NM-EP-11 is a small, isolated PEMB, Type 2, fresh wet meadow. It is located entirely in the study area and is approximately 0.01 in size. The wetland vegetation is dominated by reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Kingsley soil series. Dark loamy sand over depleted loamy clay in the investigated area meets the redox dark surface (F6) hydric soil indicator. Indicators of wetland hydrology include soil saturation at the surface (A3), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by silver maple (*Acer saccharinum*), box elder (*Acer negundo*), gray dogwood (*Cornus racemosa*), and common buckthorn (*Rhamnus cathartica*). Upland soils consist of very dark brown loamy sand and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**NM-EP-12:** NM-EP-12 is an isolated PEM/SS1/C, Type 3/6, shallow marsh/shrub carr. It is located entirely in the study area and is approximately 0.01 acres in size. The wetland vegetation is dominated by sandbar willow (*Salix interior*), narrow-leaf cat-tail (*Typha angustifolia*), and Pennsylvania smartweed (*Persicaria pensylvanicum*). The underlying soils are mapped as the Lundlake soil series.

Dark loam over depleted silty loam in the investigated area meets the depleted below dark surface (A11) hydric soil indicator. Indicators of wetland hydrology include drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by garlic mustard (*Alliaria petiolata*), common ragweed (*Ambrosia artemisiifolia*), and stinging nettle (*Urtica dioica*). Upland soils consist of brown sandy loam and do not meet any hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test, was observed in the wetland.

**NM-HOP-13:** NM-HOP-13 is a linear PEM/SS1/C, Type 3/6, shallow marsh/shrub carr. The wetland extends out of the study area to the northeast and the on-site portion is approximately 2.69 acres in size. The wetland vegetation is dominated by black willow (*Salix nigra*), sandbar willow (*Salix interior*), reed canary grass (*Phalaris arundinacea*), and purple loosestrife (*Lythrum salicaria*). The underlying soils are mapped as Urban Land-Udorthents. In the western basin, the soil consists of peat and meets the histisol (A1) hydric soil indicator. In the eastern basin, the soil consists of dark depleted silty loam over rocky fill and meets the redox dark surface (F6) hydric soil indicator. Indicators of wetland hydrology in the western basin include surface water at a depth of 3 inches (A1), water marks (B1), drift deposits (B3), algal mat or crust (B4), water-stained leaves (B9), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5). Indicators of wetland hydrology for the eastern basin include soil saturation at the surface (A3), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by common ragweed (*Ambrosia artemisiifolia*) and tall goldenrod (*Solidago altissima*). At the western basin, upland soils consist of very dark brown sandy loam over very dark grayish brown sandy loam and do not meet hydric soil indicators. At the eastern basin, upland soils consist of black silty loam over rocky fill and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**NM-HOP-14:** NM-HOP-14 is a PUBFx, Type 4, deep marsh constructed stormwater treatment pond with a rock retaining wall along the north edge. It is located entirely in the study area and is approximately 0.22 acres in size. The wetland vegetation is dominated by Eastern cottonwood (*Populus deltoides*) and sandbar willow (*Salix interior*). The underlying soils are mapped as the Malardi soil series. Sandy silt soil over sand in the investigated area did not meet any hydric soil indicators; however, due to the presence of hydrophytic vegetation, surface inundation, and landscape position, hydric soils were assumed. Indicators of wetland hydrology include surface water at a depth of 3 inches (A1), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by common vetch (*Vicia sativa*) and big bluestem (*Andropogon gerardii*). Upland soils consist of very dark gray sand and gravel mixture and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**NM-HOP-15:** NM-HOP-15 is a PUBFx, Type 4, deep marsh constructed stormwater treatment pond. It is located entirely in the study area and is approximately 0.29 acres in size. The wetland vegetation is dominated by black willow (*Salix nigra*), sandbar willow (*Salix interior*), red-osier dogwood (*Cornus alba*), and narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as Urban Land-Udorthents. Sapric peat mixed with silt loam over layers of mixed silt loam does not meet any hydric soil indicators; however, due to the presence of hydrophytic vegetation, surface inundation, and landscape position, hydric soil was assumed. Indicators of wetland hydrology include surface water at a depth of 3 inches (A1), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by box elder (*Acer negundo*), American elm (*Ulmus americana*), sandbar willow (*Salix interior*), red-osier dogwood (*Cornus alba*), and Canada goldenrod (*Solidago canadensis*). Upland soils consist of black fine

loamy sand over layers of mixed silt loam and do not meet any hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test, was observed in the upland.

**NM-HOP-16:** NM-HOP-16 is a Type 90, permanently flooded portion of Nine Mile Creek. The on-site banks of the creek primarily consist of riprap and are partially vegetated by Pennsylvania smartweed (*Persicaria pensylvanicum*). The underlying soils are mapped as Urban Land-Udorthents; however, no soil samples were taken as the creek bottom and side slopes were entirely riprapped. At the time of the field investigation, the on-site portion of the creek contained 12 inches of water. This area does not appear to meet wetland criteria, but will be regulated as a Waters of the US.

No samples were taken in the upland, as both sides of the creek were entirely rip rapped.

#### 6.1.4 City of Minnetonka

**MTA-MTA-01:** MTA-MTA-01 is a created PUBG, Type 5, shallow open water stormwater pond. The wetland extends out of the study area to the east. The on-site portion is approximately 0.06 acres in size. The wetland is dominated by sandbar willow (*Salix interior*), common spikerush (*Eleocharis palustris*), and narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as Lester loam, morainic. Silty clay soils in the investigated area meet the depleted below dark surface (A11) hydric soil indicator. Indicators of wetland hydrology include surface water at a depth of 12 to 24 inches (A1), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by green ash (*Fraxinus pennsylvanica*) and mowed Kentucky bluegrass (*Poa pratensis*). Upland soils are very dark grayish brown sandy loam over brown sandy clay and do not meet hydric soil indicators. No hydrology indicators were observed in the upland.

**MTA-MTA-02:** MTA-MTA-02 area is an historical wetland that currently serves as a stormwater treatment pond. It is classified as a PUBG, Type 5, shallow water basin. The wetland extends out of the study area to the east. The on-site portion is approximately 0.33 acres in size. Wetland vegetation includes smooth sumac (*Rhus glabra*), sandbar willow (*Salix interior*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Angus soil series. Silty clay soils over silty clay loam soils in the investigated area meet the 2cm muck (A10), depleted below dark surface (A11), and the redox dark surface (F6) hydric soil indicators. Hydrology indicators include saturation (A3), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by smooth sumac (*Rhus glabra*), Eastern cottonwood (*Populus deltoides*), and black walnut (*Juglans nigra*). Upland soils are black silty clay loam over depleted silt loam and meet the depleted below dark surface (A11) hydric soil indicator. No hydrology indicators were observed in the upland.

**MTA-MTA-03:** MTA-MTA-03 is a small PEMA, Type 1, seasonally flooded basin adjacent to a berm. It is located entirely in the study area and is approximately 0.01 acres in size. The wetland vegetation is dominated by sandbar willow (*Salix interior*) common buckthorn (*Rhamnus cathartica*). Underlying soils are mapped as Urban Land-Udorthents. Silt loam soils in the investigated area meet the depleted below dark surface (A11) and the redox dark surface (F6) hydric soil indicators. Indicators of wetland hydrology included drainage patterns (B10) and geomorphic position (D2).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by green ash (*Fraxinus pennsylvanica*), common buckthorn (*Rhamnus cathartica*), and common ragweed (*Ambrosia artemisiifolia*). Soils in the upland are very dark gray depleted silt loam, which meets the depleted below dark surface (A11) and redox dark surface (F6) hydric soil indicators. No hydrology indicators were observed in the upland.

**MTA-MTA-04:** MTA-MTA-04 is a linear PEMA, Type 1, seasonally flooded basin along a roadway. It is located entirely in the study area and is approximately 0.16 acres in size. The wetland vegetation is dominated by sandbar willow (*Salix interior*) and Canada goldenrod (*Solidago canadensis*). The underlying soils are mapped as Urban Land-Udorthents. Silt loam soils in the investigated area met the depleted below dark surface (A11) and the redox dark surface (F6) hydric soil indicators. Indicators of wetland hydrology include drainage patterns (B10) and geomorphic position (D2).

The transition from wetland to upland is a moderate elevation change. Upland vegetation is dominated by tall goldenrod (*Solidago altissima*) and field pennycress (*Thlaspi arvense*). Upland soils are very dark grayish brown loam over depleted silt loam, which meets the depleted below dark surface (A11) hydric soil indicator. No hydrology indicators were observed in the upland.

**MTA-MTA-05:** MTA-MTA-05 is an isolated PUBG, Type 5, shallow open water basin. The wetland extends out of the study area to the south. The on-site portion is approximately 0.35 acres in size. The wetland vegetation is dominated by black willow (*Salix nigra*), sandbar willow (*Salix interior*), and narrow-leaf cat-tail (*Typha angustifolia*). Underlying soils are mapped as the Angus soil series. Soils in the investigated area are a mixed texture however there was a gleyed layer of silty clay loam. These soils met the loamy gleyed matrix (F2) hydric soil indicator. Indicators of wetland hydrology include surface water at a depth of 36 inches (A1), crayfish burrows (C8), geomorphic position (D2) and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by green ash (*Fraxinus pennsylvanica*), box elder (*Acer negundo*), common buckthorn (*Rhamnus cathartica*), Canada goldenrod (*Solidago Canadensis*), and Canada thistle (*Cirsium arvense*). Upland soils are very dark grayish brown sandy loam over very dark grayish brown loamy sand and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MTA-MTA-06:** MTA-MTA-06 is a PFO1A, Type 1, seasonally flooded basin that is part of a drainage way. It is located entirely in the study area and is approximately 0.01 acres in size. The wetland is dominated by box elder (*Acer negundo*), silver maple (*Acer saccharinum*), gray dogwood (*Cornus racemosa*), and common buckthorn (*Rhamnus cathartica*). Underlying soils were mapped as Urban Land-Udorthents. Loam soils in the investigated area are assumed to be hydric based on inundation and hydrophytic vegetation. Indicators of wetland hydrology include surface water at a depth of two inches (A1) geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by box elder (*Acer negundo*), silver maple (*Acer saccharinum*), gray dogwood (*Cornus racemosa*), and common buckthorn (*Rhamnus cathartica*). Upland soils are very dark grayish brown loam over depleted dark gray silty clay loam. No hydrology indicators were observed in the upland.

**MTA-MTA-07:** MTA-MTA-07 is a linear PEMC, Type 3, shallow marsh that contains stormwater drainage. It is located entirely in the study area and is approximately 0.18 acres in size. The wetland vegetation is dominated by box elder (*Acer negundo*) and narrow-leaf cat-tail (*Typha angustifolia*). The underlying soils are mapped as the Angus soil series. The mucky peat in the investigated area meets the histisol (A1) hydric soil indicator. Indicators of wetland hydrology include saturation at the surface (A3), sparsely vegetated concave surface (B8), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by green ash (*Fraxinus pennsylvanica*), garlic mustard (*Alliaria petiolata*), and Virginia creeper (*Parthenocissus quinquefolia*). Upland soils consist of black silty clay over dark grayish brown silty clay and do not meet any hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

**MTA-MTA-08:** MTA-MTA-08 is an isolated PEMC, Type 3, shallow marsh within a wooded area. It is located entirely in the study area and is approximately 0.34 acres in size. The wetland vegetation is dominated by box elder (*Acer negundo*), common buckthorn (*Rhamnus cathartica*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as the Houghton soil series. The fibric peat in the investigated area meets the histisol (A1) hydric soil indicator. Indicators of wetland hydrology include drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a moderate elevation change. Upland vegetation is dominated by box elder (*Acer negundo*), common buckthorn (*Rhamnus cathartica*), common burdock (*Arctium minus*), and reed canary grass (*Phalaris arundinacea*). Upland soils consist of black silty clay over dark grayish brown silty clay and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MTA-MTA-09:** MTA-MTA-09 is a large PEMC, Type 3, shallow marsh. The wetland extends out of the study area to the east. The on-site portion is approximately 1.46 acres in size. The wetland vegetation is dominated by box elder (*Acer negundo*) and orange jewelweed (*Impatiens capensis*). The underlying soils are mapped as the Houghton soil series. The black silty loam over depleted dark grayish brown silty loam meets the depleted below dark surface (A11) hydric soil indicator. Indicators of wetland hydrology include drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by box elder (*Acer negundo*), garlic mustard (*Alliaria petiolata*), and reed canary grass (*Phalaris arundinacea*). Upland soils consist of black silty clay loam over depleted dark gray and meet the thick dark surface (A12) hydric soil indicator. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

**MTA-MTA-10:** MTA-MTA-10 is a PUBG, Type 5, shallow open water wetland used for stormwater treatment. It extends out of the study area to the southwest. The on-site portion is approximately 0.11 acres in size. The wetland vegetation is dominated by broad-leaf arrowhead (*Sagittaria latifolia*) and river bulrush (*Schoenoplectus fluviatilis*). The underlying soils are mapped as Urban Land-Udorthents. The clay mix over rocky fill in the investigated area does not meet hydric soil indicators; however, due to the presence of hydrophytic vegetation and landscape position, soil is determined to be hydric under normal circumstances. Indicators of wetland hydrology include surface water at a depth of 24 inches (A1), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by Eastern cottonwood (*Populus deltoides*) and common buckthorn (*Rhamnus cathartica*). Upland soils consist of very dark grayish brown loamy sand over a restrictive rock layer and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MTA-MTA-11:** MTA-MTA-11 is a large PEM/FO1/SS1/UB/C/G, Type 3/5/6/7, shallow marsh/floodplain forest/scrub-shrub/shallow open water wetland complex. The wetland is in three separate portions within the investigation area, but extends out of the study area to the west. The on-site portions total approximately 5.05 acres in size. It is currently bisected by a paved pedestrian path. The wetland vegetation is dominated by reed canary grass (*Phalaris arundinacea*), sandbar willow (*Salix interior*), box elder (*Acer negundo*), and green ash (*Fraxinus pennsylvanica*). The underlying soils are mapped as the Klossner soil series. Fibric peat over depleted silty clay and depleted silty clay loam layers in the investigated areas meet the redox dark surface (F6), histisol (A1), and thick dark surface (A12) hydric soil indicators. Indicators of wetland hydrology include surface water at a depth of 6 inches (A1), saturation at the surface (A3), geomorphic position (D2), and the FAC-neutral test (D5).

The transitions from wetland to upland are abrupt elevation changes. Upland vegetation is dominated by green ash (*Fraxinus pennsylvanica*), basswood (*Tilia americana*), common buckthorn (*Rhamnus*

*cathartica*), garlic mustard (*Alliaria petiolata*), and Canada thistle (*Cirsium arvense*). Upland soils consist of various colors of dark silty clay and loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MTA-MTA-12:** MTA-MTA-12 is a PUBGx, Type 5, shallow open water wetland that is used as a stormwater treatment pond. It extends out of the study area to the west. The on-site portion is approximately 0.85 acres in size. The wetland vegetation is dominated by box elder (*Acer negundo*), Eastern cottonwood (*Populus deltoides*), black willow (*Salix nigra*), common buckthorn (*Rhamnus cathartica*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as Urban Land-Udorthents. The dark sandy loam over depleted sandy loam in the investigated areas meets the sandy redox (S5) hydric soil indicator. Indicators of wetland hydrology include saturation at 6 inches from the surface (A3), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by box elder (*Acer negundo*), Eastern cottonwood (*Populus deltoides*), common buckthorn (*Rhamnus cathartica*), and Virginia creeper (*Parthenocissus quinquefolia*). Upland soils consist of very dark grayish brown sand and do not meet any hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

#### 6.1.5 Minnehaha Creek Watershed District

**MC-SLP-01:** MC-SLP-01 is a Type 90, permanently flooded riverine system. The on-site banks of the creek contain riprap and are unvegetated. The underlying soils are mapped as the Suckercreek soil series; however, no soil samples were taken as the creek bottom and side slopes were entirely riprapped. At the time of the field investigation, the on-site portion of the creek contained approximately 12 inches of water. This area does not appear to meet wetland criteria, but is a portion of Minnehaha Creek and will be regulated as a Waters of the US.

The transition from wetland to upland is an abrupt elevation change above the creek bank. Upland vegetation is dominated by Eastern cottonwood (*Populus deltoides*) and common buckthorn (*Rhamnus cathartica*). Soil samples were not taken in the upland due to riprap and construction debris. No hydrology indicators were observed in the upland.

**MC-SLP-02:** MC-SLP-02 is a PF01A, Type 1A, floodplain forest portion of Minnehaha Creek adjacent to a developed industrial area. The wetland extends out of the study area to the west and south. The on-site portion is approximately 0.26 acres in size. The wetland vegetation is dominated by Eastern cottonwood (*Populus deltoides*), common buckthorn (*Rhamnus cathartica*), poison ivy (*Toxicodendron radicans*), and Virginia creeper (*Parthenocissus quinquefolia*). The underlying soils are mapped as Suckercreek soils. The fibric peat over loamy sand in the investigated area meets the black histic (A3) and hydrogen sulfide (A4) hydric soil indicators. Indicators of wetland hydrology include surface water at a depth of 4 inches (A1).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by Eastern cottonwood (*Populus deltoides*), common buckthorn (*Rhamnus cathartica*), and Canada goldenrod (*Solidago canadensis*). Upland soils consist of black mucky peat over dark brown loamy sand and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MC-SLP-03:** MC-SLP-03 is a PEMB/C, Type 2/3, fresh wet meadow/shallow marsh constructed drainage ditch. It is located entirely in the study area and is approximately 0.20 acres in size. The wetland vegetation is dominated by river bulrush (*Schoenoplectus fluviatilis*), narrow-leaf cat-tail (*Typha angustifolia*), and purple loosestrife (*Lythrum salicaria*). The underlying soils are mapped as Urban Land-Udorthents. Dry loamy sand over a depleted clay loam, gravel mix in the investigated area does not meet hydric soil indicators; however, due to the presence of hydrophytic vegetation, surface saturation, and landscape position, soils are determined to be hydric. Indicators of wetland hydrology include

saturation at the surface (A3), algal mat or crust (B4), drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by quack grass (*Elymus repens*) and switch grass (*Panicum virgatum*). Upland soils consist of very dark grayish brown loamy sand and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MC-SLP-04:** MC-SLP-04 is an isolated PEMB, Type 2, fresh wet meadow that is part of a drainage system. It is located entirely in the study area and is approximately 0.01 acres in size. The wetland vegetation is dominated by narrow-leaf cat-tail (*Typha angustifolia*) and purple loosestrife (*Lythrum salicaria*). The underlying soils are mapped as Urban Land-Udorthents. Loamy sand over rocky fill in the investigated area does not meet hydric soil indicators; however, due to the presence of hydrophytic vegetation and landscape position, soils determined to be hydric. Indicators of wetland hydrology include drainage patterns (B10), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by Kentucky bluegrass (*Poa pratensis*) and Canada goldenrod (*Solidago canadensis*). Upland soils consist of dark grayish brown loamy sand over rocky fill and do not meet any hydric indicators. No hydrology indicators were observed in the upland.

**MC-SLP-05:** MC-SLP-05 is a PEM/SS1/B/C, Type 2/3/6, fresh wet meadow/shallow marsh/shrub carr. It extends out of the study area to the south. The on-site portion is approximately 0.24 acres in size. The wetland vegetation is dominated by Eastern cottonwood (*Populus deltoides*), green ash (*Fraxinus pennsylvanica*), black willow (*Salix nigra*), sandbar willow (*Salix interior*), narrow-leaf cat-tail (*Typha angustifolia*), and purple loosestrife (*Lythrum salicaria*). The underlying soils are mapped as Urban Land-Udorthents. Peat soil over sand in the investigation area meets the sandy mucky mineral (S1) hydric soil indicator. Indicators of wetland hydrology include saturation at the surface (A3), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by spreading dogbane (*Apocynum androsaemifolium*), Kentucky bluegrass (*Poa pratensis*), and tall goldenrod (*Solidago altissima*). Upland soils consist of very dark grayish brown sandy loam over black sandy loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MC-SLP-06:** MC-SLP-06 is an isolated PEMA, Type 1, seasonally flooded basin that is used for stormwater treatment. It is located entirely in the study area and is approximately 0.05 acres in size. The wetland vegetation is dominated by Pennsylvania smartweed (*Persicaria pensylvanicum*). The underlying soils are mapped as Urban Land-Udipsamments. The sandy clay loam in the investigation area does not meet hydric soil indicators; however, due to the presence of hydrophytic vegetation, surface saturation, and landscape position, soils are determined to be hydric. Indicators of wetland hydrology include saturation at the surface (A3), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by box elder (*Acer negundo*), American elm (*Ulmus americana*), white paniced aster (*Symphyotrichum lanceolatum*), and ironweed (*Vernonia fasciculata*). Upland soils consist of very dark grayish brown loam over sandy loam and do not meet any hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

**MC-SLP-07:** MC-SLP-07 is an isolated PEMGx, Type 4, deep marsh basin used for stormwater treatment. It is located entirely in the study area and is approximately 0.17 acres in size. The wetland vegetation is dominated by American elm (*Ulmus americana*), silver maple (*Acer saccharinum*), sandbar willow (*Salix*

*interior*), and Pennsylvania smartweed (*Persicaria pensylvanicum*). The underlying soils are mapped as Urban Land-Udorthents. Loamy sand over sand in the investigation area does not meet hydric soil indicators; however, due to the presence of hydrophytic vegetation, surface saturation, and landscape position, soils are determined to be hydric. Indicators of wetland hydrology include surface water at a depth of 12-24 inches (A1), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by smooth brome (*Bromus inermis*). Upland soils consist of black loamy sand over rocky fill and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MC-SLP-08:** MC-SLP-08 is an isolated PFO1C, Type 7, hardwood swamp. It is located entirely in the study area and is approximately 0.28 acres in size. The wetland vegetation is dominated by common buckthorn (*Rhamnus cathartica*), garlic mustard (*Alliaria petiolata*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as Urban Land-Udorthents. The peat in the investigation area meets the histisol (A1) hydric soil indicator. Indicators of wetland hydrology include sparsely vegetated concave surface (B8) and geomorphic position (D2).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by box elder (*Acer negundo*), common buckthorn (*Rhamnus cathartica*), and garlic mustard (*Alliaria petiolata*). Upland soils consist of very dark brown sandy loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MC-SLP-09:** MC-SLP-09 is an isolated PFO1A, Type 1A, floodplain forest. It is located entirely in the study area and is approximately 0.1 acres in size. The wetland vegetation is dominated by reed canary grass (*Phalaris arundinacea*), Eastern cottonwood (*Populus deltoides*), smallspike false nettle (*Boehmeria cylindrica*), and wild cucumber (*Echinocystis lobata*). The underlying soils are mapped as the Houghton and Muskego soil series. In the first investigated area dark fibric peats soils meet the histisol (A1) and hydrogen sulfide odor (A4) hydric soil indicators. In the second investigated area black silt loam soils with a depleted white silt layer meet the depleted below dark surface (A11) hydric soil indicator. Indicators of wetland hydrology include soil saturation at the surface (A3), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by box elder (*Acer negundo*), Eastern cottonwood (*Populus deltoides*), common buckthorn (*Rhamnus cathartica*), smallspike false nettle (*Boehmeria cylindrica*), and reed canary grass (*Phalaris arundinacea*). Upland soils consist of black and very dark gray sandy loam soils with small gravel and do not meet and hydric soil indicators. One secondary hydrology indicator, the FAC-neutral test (D5), was observed in the upland.

**MC-MPL-10:** MC-MPL-10 is a PEMF, Type 4, deep marsh located near residential housing. It is located entirely in the study area and is approximately 0.14 acres in size. The wetland vegetation is dominated by Eastern cottonwood (*Populus deltoides*), common buckthorn (*Rhamnus cathartica*), sandbar willow (*Salix interior*), and reed canary grass (*Phalaris arundinacea*). The underlying soils are mapped as Urban Land-Udorthents. The black depleted silty clay loam soils in the investigate area meet the depleted below dark surface (A11) and depleted matrix (F3) hydric soil indicators. Indicators of wetland hydrology include sparsely vegetated concave surface (B8), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by white mulberry (*Morus alba*), American elm (*Ulmus americana*), Eastern cottonwood (*Populus deltoides*), common buckthorn (*Rhamnus cathartica*), and reed canary grass (*Phalaris arundinacea*). Upland soils consist of very dark grayish brown loam over dark yellowish brown loam and do not meet and hydric soil indicators. No hydrology indicators were observed in the upland.

**MC-MPL-11:** MC-SPL-11 is an isolated PUBG, Type 4, deep marsh that is used for stormwater treatment. The wetland extends out of the study area to the east. The on-site portion is approximately 0.11 acres in size. The wetland vegetation is dominated by silver maple (*Acer saccharinum*) and black willow (*Salix nigra*). Underlying soils are mapped as Urban Land-Udorthents. Black mucky peat over black clay loam soils in the investigated area meet the histisol (A1) hydric soil indicator. Indicators of wetland hydrology include surface water at a depth of 1 inch (A1), water marks (B1), sparsely vegetated concave surface (B8), hydrogen sulfide odor (C1), geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by box elder (*Acer negundo*), common buckthorn (*Rhamnus cathartica*), and Virginia creeper (*Parthenocissus quinquefolia*). Upland soils consist of black loamy sand and do not meet and hydric soil indicators. No hydrology indicators were observed in the upland.

**MC-MPL-12:** MC-MPL-12 is a PFO1A, Type 1A, floodplain forest wetland within a residential neighborhood. It the wetland extends out of the study area to the northwest. The on-site portion is approximately 0.16 acres in size. The wetland vegetation was dominated by Eastern cottonwood (*Populus deltoides*), box elder (*Acer negundo*), and common buckthorn (*Rhamnus cathartica*). Underlying soils are mapped as Urban Land-Udorthents. Loam soil over silt loam in the investigated area is assumed to be hydric due to the presence hydrophytic vegetation and landscape position. Indicators of wetland hydrology include saturation at the surface (A3) and geomorphic position (D2).

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by Eastern cottonwood (*Populus deltoides*), box elder (*Acer negundo*), and common buckthorn (*Rhamnus cathartica*). Upland soils consist of light olive brown loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MC-MPL-13:** MC-MPL-13 is a Type 90 channel between Cedar Lake and Lake of the Isles. The on-site banks are primarily vegetated by green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*), box elder (*Acer negundo*), and common buckthorn (*Rhamnus cathartica*). Underlying soils are mapped as Urban Land, Malardi Complex. Fine sandy loam soils in the investigated area are considered hydric because it is within the banks of Cedar Lake. At the time of field investigation, water in the channel was approximately 6 feet deep. This area does not meet wetland criteria, but will be regulated as a Waters of the US.

The transition from wetland to upland is an abrupt elevation change. Upland vegetation is dominated by white mulberry (*Morus alba*) and garlic mustard (*Alliaria petiolata*). Upland soils consist of dark brown loam over brown loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MC-MPL-14:** MC-MPL-14 is a small isolated PFO1A, Type 1A, floodplain forest. The wetland extends out of the study area to the north. The on-site portion is approximately 0.09 acres in size. Wetland vegetation is dominated by Eastern cottonwood (*Populus deltoides*), box elder (*Acer negundo*), common buckthorn (*Rhamnus cathartica*), and common beggarticks (*Bidens frondosa*). Underlying soils are mapped as Urban Land-Udorthents. Sandy loam soil over depleted brown sandy loam soil in the investigated area meet the depleted below dark surface (A11) hydric soil indicator. Indicators of wetland hydrology include sparsely vegetated concave surface (B8), water stained leaves (B9), and geomorphic position (D2).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by Eastern cottonwood (*Populus deltoides*), box elder (*Acer negundo*), common buckthorn (*Rhamnus cathartica*), and Canadian thistle (*Cirsium arvense*). Upland soils consist of very dark grayish brown silt loam over depleted dark grayish brown fine sandy loam. Upland soils meet the depleted below dark surface (A11) hydric soil indicator. No hydrology indicators were observed in the upland.

**MC-MPL-15:** MC-MPL-15 is a large isolated PUBG, Type 5, shallow open water basin. The wetland extends out of the study area to the north and east. The on-site portion is approximately 0.24 acres in size. Wetland vegetation is dominated by red cedar (*Juniperus virginiana*), reed canary grass (*Phalaris arundinacea*), and sandbar willow (*Salix interior*). Underlying soils are mapped as Urban Land-Udorthents. Very dark gray fibric peat over dark gray depleted fine sand meet the depleted below dark surface (A11) hydric soil indicator. Indicators of wetland hydrology include soil saturation at a depth of three inches (A3) at the surface, geomorphic position (D2), and the FAC-neutral test (D5).

The transition from wetland to upland is a gradual elevation change. Upland vegetation is dominated by red cedar (*Juniperus virginiana*), common buckthorn (*Rhamnus cathartica*), Canadian thistle (*Cirsium arvense*), and common beggarticks (*Bidens frondosa*). Upland soils consist of very dark grayish brown silt loam over brown fine sandy loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

**MC-SLP-16:** MC-SLP-16 is a PEMC, Type 3, shallow marsh. The wetland extends out of the study area to the south. The on-site portion is approximately 0.05 acres in size. Wetland vegetation is dominated by Eastern cottonwood (*Populus deltoides*), sandbar willow (*Salix interior*), narrow-leaf cat-tail (*Typha angustifolia*), and reed canary grass (*Phalaris arundinacea*). Underlying soils are mapped as Urban Land-Udorthents. Dark silty loam over depleted mixed loam meets the depleted below dark surface (A11) hydric soil indicator. Indicators of wetland hydrology include geomorphic position (D2) and the FAC-neutral test (D5).

The transition from wetland to upland is a moderate elevation change with an abrupt vegetation change. Upland vegetation is dominated by Eastern cottonwood (*Populus deltoides*), box elder (*Acer negundo*), and common buckthorn (*Rhamnus cathartica*). Upland soils consist of very dark grayish brown silty loam over brown silty loam and do not meet any hydric soil indicators. No hydrology indicators were observed in the upland.

## 6.2 Local Government Unit Field-Delineated Wetland Totals

Table 6.2-1 shows the number of wetlands field delineated within each LGU jurisdiction area. They are grouped into the categories natural wetlands, incidental wetlands, and waterways:

- **Natural wetlands** are historically and currently existing wetlands that are hydrologically supported by non-point surface runoff, groundwater, or a combination of the two.
- **Incidental wetlands** are not historical wetlands, but are created as a result of development or human activity without the intent of wetland replacement or creation.
- **Waterways** are riverine systems (rivers, creeks, and streams) that are contained in natural or artificial channels containing periodically or continuously flowing water, or a connecting link between two standing bodies of water.

**Table 6.2-1**

Local Government Unit Field-Delineated Wetland Totals

Local Government Unit	Wetland Category			Total
	Natural	Incidental	Waterway	
Minnesota Dept. of Transportation	2	9	0	11
City of Eden Prairie	15	6	0	21
Nine Mile Creek Watershed District	12	3	1	16
City of Minnetonka	10	2	0	12
Minnehaha Creek Watershed District	12	2	2	16
City of Minneapolis	0	0	0	0
<b>Totals</b>	<b>51</b>	<b>22</b>	<b>3</b>	<b>76</b>

### 6.3 Off-Site Delineation Results

Eight wetland basins or portions thereof were digitally mapped within the Southwest LRT study area. Results of the Routine Level 1 review within the Southwest LRT study area are described below.

#### 6.3.1 City of Eden Prairie

**DIG-EP-EP-01:** DIG-EP-EP-01 is mapped as a PEMCd, Type 3 wetland according to the NWI. The underlying soil mapping unit is Muskego muck, a hydric soil. Based on the aerial signature, it appears that this area was modified for use as a stormwater detention basin. This area appears to be hydrologically connected to Purgatory Creek. The wetland is located entirely within the corridor.

**DIG-EP-EP-02:** DIG-EP-EP-02 is mapped as a PEMA, Type 1 wetland according to the NWI. The underlying soil mapping unit is Muskego muck, a hydric soil. Based on the aerial signature, it appears that this area was modified for use as a stormwater detention basin. This area is hydrologically connected to Purgatory Creek. The wetland is located entirely within the corridor.

**DIG-EP-EP-03:** DIG-EP-EP-03 is mapped as a PEMA, Type 1 wetland according to the NWI. The underlying soil mapping unit is Muskego muck, a hydric soil. Based on the aerial signature, it appears that this area was modified for use as a stormwater detention basin. This area is hydrologically connected to Purgatory Creek. The wetland is located entirely within the corridor.

**DIG-EP-EP-04:** DIG-EP-EP-04 is mapped as a PEMA, Type 1 wetland according to the NWI. The underlying soil is Muskego muck, a hydric soil. This area is modified for use as a stormwater detention basin and decorative pond. It appears that this area is hydrologically connected to Purgatory Creek. The wetland is located entirely within the corridor.

#### 6.3.2 Minnehaha Creek Watershed District

**DIG-MC-SLP-01:** DIG-MC-SLP-01 is mapped as a large PEMC, Type 3 wetland according to NWI. No underlying hydric soils are mapped in this area. The wetland is located entirely within the corridor.

**DIG-MC-SLP-02:** DIG-MC-SLP-02 is mapped as a large PEMC, Type 3 wetland according to NWI. The wetland is located entirely within the corridor. No underlying hydric soils are mapped in this area.

**DIG-MC-SLP-03:** DIG-MC-SLP-03 is mapped as a PEMCd, Type 3 wetland according to NWI. The wetland extends out of the study area to the north and west. Underlying soils are mapped as the Houghton soil series, a hydric soil series.

**DIG-MC-SLP-04:** DIG-MC-SLP-04 is mapped as a PEMCd, Type 3 wetland according to NWI. The wetland extends out of the study area to the north and west. Underlying soils are mapped as the Houghton soil series, a hydric soil series.

## 6.4 Investigated Areas

Two additional areas were investigated within the study area to determine whether they meet wetland criteria. Neither of these areas was determined to be wetland based on data collected in the field. Datasheets for these areas are included in Appendix D. The investigated areas are briefly described below:

**Investigated Area 1:** Investigated Area 1 is located in the City of Minnetonka, east of wetland MTA-MTA-10. It was investigated because it consists of a channelized area that periodically conveys stormwater runoff. The vegetation in the area is dominated by common buckthorn (*Rhamnus cathartica*), ironwood (*Carpinus carolina*), red oak (*Quercus rubra*) and tatarian honeysuckle (*Lonicera tatarica*). The underlying soils are mapped as the Lester soil series. The observed soil profile was disturbed by erosion, but contained redoximorphic features in the upper portion of the profile. The area appeared to convey stormwater runoff, but did not show signs of persistent wetland hydrology. Based on the prevalence of upland vegetation and a lack of wetland hydrology, this area is not a wetland. The non-wetland determination was confirmed by City of Minnetonka environmental staff during preliminary field review.

**Investigated Area 2:** Investigated Area 2 is located within the City of Hopkins, east of MTA-MTA-11. This area was investigated because it consists of an excavated depression. At the time of field investigation the area was unvegetated. The underlying soils are mapped as Urban Land-Udorthents. The observed soil profile did not meet hydric criteria. This area was determined to be non-wetland because it lacked hydrophytic vegetation and hydric soils, and appears to be excavated out of an upland area.

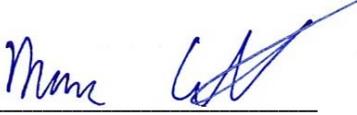
## 7 Conclusion

Field investigation resulted in a total of 76 wetland basins or portions thereof delineated and 8 off-site delineations in accordance with the 1987 United States Army Corps of Engineers Wetland Delineation Manual and Midwest Regional Supplement within the Southwest Light Rail Transit Project study area located in Hennepin County, Minnesota.

The Local Government Units responsible for implementing the Minnesota Wetland Conservation Act at this project location are the Minnesota Department of Transportation, the City of Eden Prairie, Nine Mile Creek Watershed District, the City of Minnetonka, Minnehaha Creek Watershed District, and the City of Minneapolis. Wetlands within the study area are potentially regulated by multiple regulatory agencies including, but not limited to, the United States Army Corps of Engineers and state and local government units. Any work within or adjacent to regulated wetlands will require permits and authorization from the appropriate regulatory agency(s).

This wetland investigation meets the standards and criteria described in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and the Midwest Regional Supplement. The results reflect the conditions present at the time of the delineation.

I certify that I performed the field analysis and wrote the report for this wetland determination.

  
12/05/2013  
 Date  
 Marc Cottingham  
 Environmental Scientist  
 MN Certified Wetland Delineator #1207  
 Anderson Engineering of Minnesota, LLC

  
12/05/2013  
 Date  
 Alison Hruby  
 Environmental Associate  
 Anderson Engineering of Minnesota, LLC

  
12/05/2013  
 Date  
 Todd Udvig  
 Senior Project Scientist  
 MN Certified Wetland Delineator #1051  
 Anderson Engineering of Minnesota, LLC

  
12/05/2013  
 Date  
 Kristina Justen  
 Environmental Associate  
 Anderson Engineering of Minnesota, LLC

  
12/05/2013  
 Date  
 Mohamed Elabbady  
 Environmental Associate  
 Anderson Engineering of Minnesota, LLC

  
12/05/2013  
 Date  
 Courtney Luensman  
 Environmental Associate  
 Anderson Engineering of Minnesota, LLC

I certify that I performed the field analysis and/or reviewed work completed by above staff.

  
12/05/2013  
 Date  
 Benjamin J Hodapp, PWS  
 Environmental Services Manager  
 MN Certified Wetland Delineator #1016  
 Anderson Engineering of Minnesota, LLC



## **APPENDIX A**

### **Southwest Light Rail Transit Wetland Delineation Summary Table**



Southwest Light Rail Transit Wetland Delineation Summary Table-West to East (Eden Prairie to Minneapolis)

December 4, 2013

Wetland ID	Map Exhibit Sheet Number	Wetland Type			Field Notes	NWI	LGU Inventory	PWI	LGU Association	Regulatory Authority		MnRAM Management Class	Comments
		Circ. 39	Cowardin	Eggers and Reed						WCA	CWA		
DOT-EP-01	1	Type 2	PEMB	Fresh Wet Meadow	Roadside Ditch	PFO1/EMC	16-11-A	Unnamed 27098900	MNDOT (In Eden Prairie)	Yes	Isolated	Manage 3	
DOT-EP-02	2	Type 2/3	PEMB/C	Fresh Wet Meadow/Shallow Marsh	Roadside Ditch	NI	NI	NI	MNDOT (In Eden Prairie)	Incidental	Non-Waters	NI	
DOT-EP-03	2	Type 2/3	PEMB/C	Fresh Wet Meadow/Shallow Marsh	Roadside Ditch	NI	NI	NI	MNDOT (In Eden Prairie)	Incidental	Non-Waters	NI	
DOT-EP-04	2	Type 4	PEMF	Deep Marsh	Stormwater Pond	PEMcd	15-11-C	NI	MNDOT (In Eden Prairie)	Yes	Jurisdictional	Manage 2	
DOT-EP-05	3	Type 1	PEMA	Seasonally Flooded Basin	Stormwater Pond	NI	NI	NI	MNDOT (In Eden Prairie)	Incidental	Non-Waters	NI	
DOT-EP-06	4	Type 3	PEMCx	Shallow Marsh	Stormwater Pond	NI	11-44-A	NI	MNDOT (In Eden Prairie)	Incidental	Non-Waters	NI	
DOT-EP-07	4	Type 2	PEMB	Fresh Wet Meadow	Roadside Ditch	NI	NI	NI	MNDOT (In Eden Prairie)	Incidental	Non-Waters	NI	
DOT-EP-08	5	Type 3	PEMC	Shallow Marsh	Roadside Ditch	NI	01-31-A	NI	MNDOT (In Eden Prairie)	Incidental	Non-Waters	NI	
DOT-EP-09	6	Type 3	PEMC	Shallow Marsh	Roadside Ditch	NI	01-24-C	NI	MNDOT (In Eden Prairie)	Incidental	Non-Waters	NI	
DOT-SLP-10	12	Type 1A	PFO1A	Floodplain Forest	Roadside Ditch	NI	NI	NI	MNDOT (In St. Louis Park)	Incidental	Non-Waters	NI	
DOT-MPL-11	14	Type 3	PEMC	Shallow Marsh		NI	E-029-24-29-004	NI	Minnehaha Creek WD	Incidental	Non-Waters	NI	
EP-EP-01	1	Type 5	PUBGx	Shallow Open Water	Stormwater Pond	PUBGx	16-12-A	Unnamed 27099300	Eden Prairie	Yes	Isolated	Manage 2	
EP-EP-02	1	Type 3	PEMC	Shallow Marsh		PUBG	16-13-A	NI	Eden Prairie	Yes	Isolated	Manage 2	
EP-EP-03	1	Type 1	PEMA	Seasonally Flooded Basin	Roadside Ditch	NI	NI	NI	Eden Prairie	Incidental	Non-Waters	NI	
EP-EP-04	1	Type 1	PEMA	Seasonally Flooded Basin		NI	NI	NI	Eden Prairie	Yes	Isolated	Manage 3	
EP-EP-05	1	Type 3	PEMC	Shallow Marsh		NI	16-14-A	NI	Eden Prairie	Yes	Isolated	Manage 3	
EP-EP-06	1	Type 5	PUBG	Shallow Open Water	Stormwater Pond	NI	16-13-B	NI	Eden Prairie	Incidental	Non-Waters	NI	
EP-EP-07	1	Type 3/7	PEM/FO1C	Shallow Marsh/Hardwood Swamp		PEM/UBF	16-14-B	Unnamed 27099200	Eden Prairie	Yes	Isolated	Manage 2	
EP-EP-08	2	Type 3	PEMC	Shallow Marsh	Mitigation wetland, portion used as stormwater pond	PEMF	15-22-C & 15-23-E	Unnamed 27099000	Eden Prairie	Yes	Isolated	Manage 2	
EP-EP-09	2	Type 2	PEMB	Fresh Wet Meadow	Mitigation wetland, portion used as stormwater pond	PEMF	15-22-D	NI	Eden Prairie	Yes	Isolated	Manage 2	
EP-EP-10	2	Type 4	PEMF	Deep Marsh	Stormwater Pond	NI	NI	NI	Eden Prairie	Incidental	Non-Waters	NI	
EP-EP-11	2	Type 3/5	PEM/UB/C/F	Shallow Marsh/Shallow Open Water	Portion used as stormwater pond	PUBFd	15-23-A & 15-24-A	NI	Eden Prairie	Yes	Jurisdictional	Manage 2	
EP-EP-12	2	Type 2	PEMB	Fresh Wet Meadow		PUBF	15-24-C	NI	Eden Prairie	Yes	Isolated	Manage 3	
EP-EP-13	2	Type 4	PEMFr	Deep Marsh	Landscape Pond	NI	15-24-D	NI	Eden Prairie	Incidental	Non-Waters	NI	
EP-EP-14	2	Type 5	PUBGx	Shallow Open Water	Stormwater Pond	PEMA	15-13-C	NI	Eden Prairie	Yes	Jurisdictional	Manage 2	
EP-EP-15	2	Type 3	PEMC	Shallow Marsh		PEMA/PEMcd	15-13-E	NI	Eden Prairie	Yes	Jurisdictional	Manage 2	
EP-EP-16	2	Type 2/5	PEM/UB/B/G	Fresh Wet Meadow/Shallow Open Water	Portion used as stormwater pond	PEMA/PEMcd	15-14-B	Purgatory Creek	Eden Prairie	Yes	Jurisdictional	Manage 1	
EP-EP-17	2	Type 3/6	PEM/SS1/C	Shallow Marsh/Scrub Carr	Purgatory Creek flows through	PEMA	NI	Purgatory Creek	Eden Prairie	Yes	Jurisdictional	Manage 3	
EP-EP-18	3	Type 5	PUBG	Shallow Open Water	Stormwater Pond	NI	14-23-C	NI	Eden Prairie	Incidental	Non-Waters	NI	
EP-EP-19	3	Type 5	PUBGx	Shallow Open Water	Stormwater Pond	NI	14-23-A	NI	Eden Prairie	Incidental	Non-Waters	NI	
EP-EP-20	3	Type 4	PEMF	Deep Marsh	Lake Edge	L1UBH	27-074	Idlewild Lake	Eden Prairie	Yes	Jurisdictional	Manage 1	
EP-EP-21	3	Type 4	PUBFx	Deep Marsh	Stormwater Pond	PEMC	11-34-C	NI	Eden Prairie	Yes	Isolated	Manage 2	
NM-EP-01	5	Type 3/6	PEM/SS1/C	Shallow Marsh/Scrub Carr		PEM/SS1C	12-24-C	Nine Mile Creek South For	Nine Mile Creek WD	Yes	Jurisdictional	Manage 2	
NM-EP-02	5	Type 3/6	PEM/SS1/C	Shallow Marsh/Scrub Carr	Contains portion of Nine Mile Creek	PEM/SS1C	12-24-A	Nine Mile Creek South For	Nine Mile Creek WD	Yes	Jurisdictional	Manage 2	
NM-EP-03	5	Type 3	PEMC	Shallow Marsh	Along banks of Nine Mile Creek	PSS1C	12-24-B	Nine Mile Creek South For	Nine Mile Creek WD	Yes	Jurisdictional	Manage 1	
NM-EP-04	5	Type 3/7	PEM/FO1C	Shallow Marsh/Hardwood Swamp		PEM/SS1C	12-21-A	NI	Nine Mile Creek WD	Yes	Jurisdictional	Manage 2	
NM-EP-05	5	Type 5	PUBGx	Shallow Open Water	Stormwater Pond	PEM/SS1C	12-21-D	NI	Nine Mile Creek WD	Yes	Isolated	Manage 2	
NM-EP-06	5	Type 3/6	PEM/SS1/C	Shallow Marsh/Scrub Carr	Mitigation Wetland	PEM/SS1C	01-34-A	NI	Nine Mile Creek WD	Yes	Isolated	Manage 1	
NM-EP-07	5	Type 3	PEMC	Shallow Marsh	Stormwater Pond	NI	01-34-E	NI	Nine Mile Creek WD	Incidental	Non-Waters	NI	
NM-EP-08	5	Type 3/6	PEM/SS1/C	Shallow Marsh/Scrub Carr	Mitigation Wetland	PEM/SS1Cd	01-34-G & 01-34-H	NI	Nine Mile Creek WD	Yes	Isolated	Manage 1	

Wetland ID	Map Exhibit Sheet Number	Wetland Type			Field Notes	NWI	LGU Inventory	PWI	LGU Association	Regulatory Authority		MnRAM Management Class	Comments
		Circ. 39	Cowardin	Eggers and Reed						WCA	CWA		
NM-EP-09	5	Type 3	PEMC	Shallow Marsh		NI	01-34-B	NI	Nine Mile Creek WD	Yes	Isolated	Manage 3	
NM-EP-10	6	Type 3	PEMC	Shallow Marsh		PEMC	01-21-A	NI	Nine Mile Creek WD	Yes	Isolated	Manage 3	
NM-EP-11	6	Type 2	PEMB	Fresh Wet Meadow	Stormwater Pond	PEMC	01-22-A	NI	Nine Mile Creek WD	Yes	Isolated	Manage 2	
NM-EP-12	6	Type 3/6	PEM/SS1/C	Shallow Marsh/Shrub Carr	Created as a result of stormwater discharge	PEMC	01-21-F	NI	Nine Mile Creek WD	Yes	Isolated	Manage 3	
NM-HOP-13	8	Type 3/6	PEM/SS1/C	Shallow Marsh/Shrub Carr	Portion used as stormwater pond	PUBGx	NI	NI	Nine Mile Creek WD	Yes	Jurisdictional	Manage 2	
NM-HOP-14	8	Type 4	PUBFx	Deep Marsh	Stormwater Pond	NI	NI	NI	Nine Mile Creek WD	Incidental	Non-Waters	NI	
NM-HOP-15	8	Type 4	PUBFx	Deep Marsh	Stormwater Pond	NI	NI	NI	Nine Mile Creek WD	Incidental	Non-Waters	NI	
NM-HOP-16	8	Type 90	NA	NA	Riprap sides and bottom	NI	NI	Nine Mile Creek	Nine Mile Creek WD	Non-Wetland	Jurisdictional	NI	
MTA-MTA-01	6	Type 5	PUBG	Shallow Open Water	Stormwater pond	NI	NI	NI	Minnetonka	Incidental	Non-Waters	NI	
MTA-MTA-02	6	Type 5	PUBG	Shallow Open Water	Stormwater pond	PUBF	Manage 2	Unnamed 27079400	Minnetonka	Yes	Isolated	Manage 1	
MTA-MTA-03	6	Type 1	PEMA	Seasonally Flooded Basin		NI	NI	NI	Minnetonka	Yes	Isolated	Manage 3	
MTA-MTA-04	6	Type 1	PEMA	Seasonally Flooded Basin		NI	NI	NI	Minnetonka	Yes	Isolated	Manage 2	
MTA-MTA-05	6	Type 5	PUBG	Shallow Open Water	Stormwater pond	PEMC	NI	NI	Minnetonka	Yes	Isolated	Manage 1	
MTA-MTA-06	6	Type 1	PFO1A	Seasonally Flooded Basin	Roadside ditch	NI	NI	NI	Minnetonka	Incidental	Non-Waters	NI	
MTA-MTA-07	6	Type 3	PEMC	Shallow Marsh		PEMC	Manage 1	Unnamed 27079600	Minnetonka	Yes	Jurisdictional	Manage 1	
MTA-MTA-08	7	Type 3	PEMC	Shallow Marsh		PEMC	Manage 1	Unnamed 27079600	Minnetonka	Yes	Jurisdictional	Manage 1	
MTA-MTA-09	7	Type 3	PEMC	Shallow Marsh		PEMC	Manage 1	Unnamed 27079600	Minnetonka	Yes	Jurisdictional	Manage 1	
MTA-MTA-10	7	Type 5	PUBG	Shallow Open Water	Stormwater pond	PUBGx	Manage 2	NI	Minnetonka	Yes	Isolated	Manage 1	
MTA-MTA-11	7	Type 3/5/6/7	PEM/FO1/SS1/UB/C/G	Shallow Marsh/Shallow Open Water/Shrub Carr/Hardwood Swamp		PEM/FO1/SS1C	Manage 1	NI	Minnetonka	Yes	Jurisdictional	Manage 1	
MTA-MTA-12	7	Type 5	PUBGx	Shallow Open Water	Stormwater pond	PUBGx	NI	NI	Minnetonka	Yes	Jurisdictional	Manage 2	
MC-SLP-01	10	Type 90	NA	NA		NI	NI	Minnehaha Creek	Minnehaha Creek WD	Non-Wetland	Jurisdictional	NI	
MC-SLP-02	10	Type 1	PFO1A	Floodplain Forest	Minnehaha Creek	PEMcd	D-117-21-20-005	Minnehaha Creek	Minnehaha Creek WD	Yes	Jurisdictional	Manage 2	
MC-SLP-03	10	Type 2/3	PEMB/C	Fresh Wet Meadow/Shallow Marsh		NI	NI	NI	Minnehaha Creek WD	Yes	Jurisdictional	Manage 3	
MC-SLP-04	11	Type 2	PEMB	Fresh Wet Meadow	Drainage Ditch	NI	NI	NI	Minnehaha Creek WD	Yes	Isolated	Manage 3	
MC-SLP-05	11	Type 2/3/6	PEM/SS1/B/C	Fresh Wet Meadow/ Shallow Marsh/Shrub Carr		PEM/SS1C	E-117-21-20-002	Unnamed 27066200	Minnehaha Creek WD	Yes	Jurisdictional	Manage 2	
MC-SLP-06	Relocate 1	Type 1	PEMA	Seasonally Flooded Basin	Stormwater Pond	NI	NI	NI	Minnehaha Creek WD	Incidental	Non-Waters	NI	
MC-SLP-07	Relocate1	Type 4	PEMGx	Deep Marsh	Stormwater Pond	NI	NI	NI	Minnehaha Creek WD	Incidental	Non-Waters	NI	
MC-SLP-08	12	Type 7	PFO1C	Hardwood Swamp		NI	D-117-21-20-005	NI	Minnehaha Creek WD	Yes	Isolated	Manage 2	
MC-SLP-09	Relocate 3	Type 1A	PFO1A	Floodplain forest		PFO1Cd	NI	Unnamed 27065800	Minnehaha Creek WD	Yes	Jurisdictional	Manage 2	
MC-MPL-10	13	Type 4	PEMF	Deep Marsh		NI	D-028-24-05-001	NI	Minnehaha Creek WD	Yes	Isolated	Manage 2	
MC-MPL-11	13	Type 4	PUBG	Deep Marsh	Appears to be natural but used as a stormwater pond	NI	E-028-24-05-001	NI	Minnehaha Creek WD	Yes	Isolated	Manage 2	
MC-MPL-12	13	Type 1A	PFO1A	Floodplain Forest		NI	D-029-24-32-004	NI	Minnehaha Creek WD	Yes	Isolated	Manage 2	
MC-MPL-13	13	Type 90	NA	NA	Channel connecting Cedar Lake and Lake of the Isles	NI	NI	Unnamed Creek	Minnehaha Creek WD	Non-Wetland	Jurisdictional	NI	
MC-MPL-14	Relocate 5	Type 1A	PFO1A	Floodplain Forest		NI	NI	Brownie 27003800	City of Minneapolis	Yes	Jurisdictional	Manage 2	
MC-MPL-15	Relocate 5	Type 5	PUBG	Shallow Open Water		PUBG	E-029-24-29-006	NI	City of Minneapolis	Yes	Jurisdictional	Manage 1	
MC-SLP-16	Relocate 4	Type 3	PEMC	Shallow Marsh		NI	NI	NI	Minnehaha Creek WD	Yes	Isolated	Manage 3	

Legend:

- DOT= Minnesota Department of Transportation
- MC= Minnehaha Creek Watershed District
- NM= Nine Mile Creek Watershed District
- EP= Eden Prairie
- HOP= Hopkins
- MTA= Minnetonka
- MPL= Minneapolis
- SLP= St. Louis Park
- NI= Not Inventoried

## **APPENDIX B**

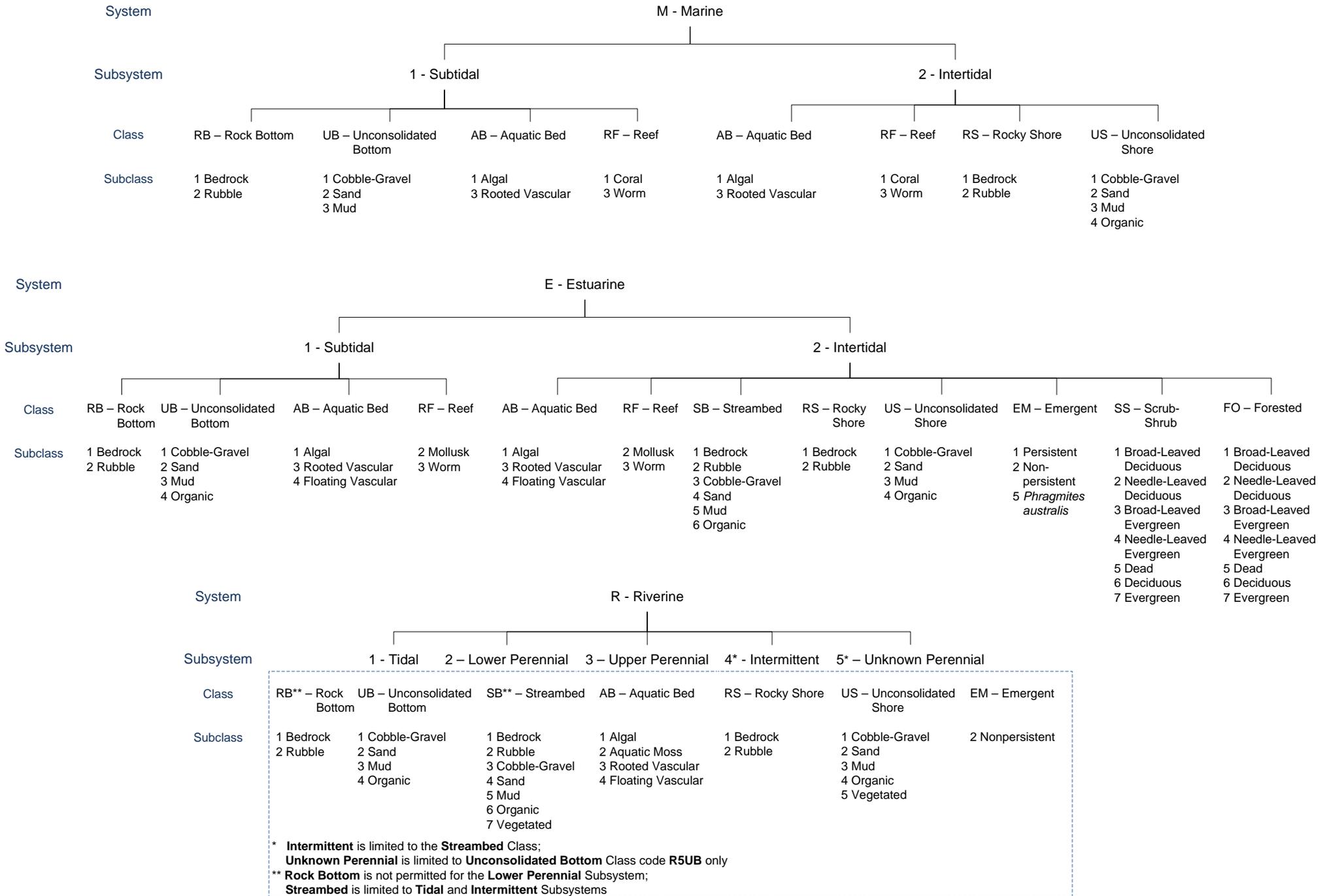
### **Wetland Classification Descriptions**

### Circular 39 Wetland Classification System

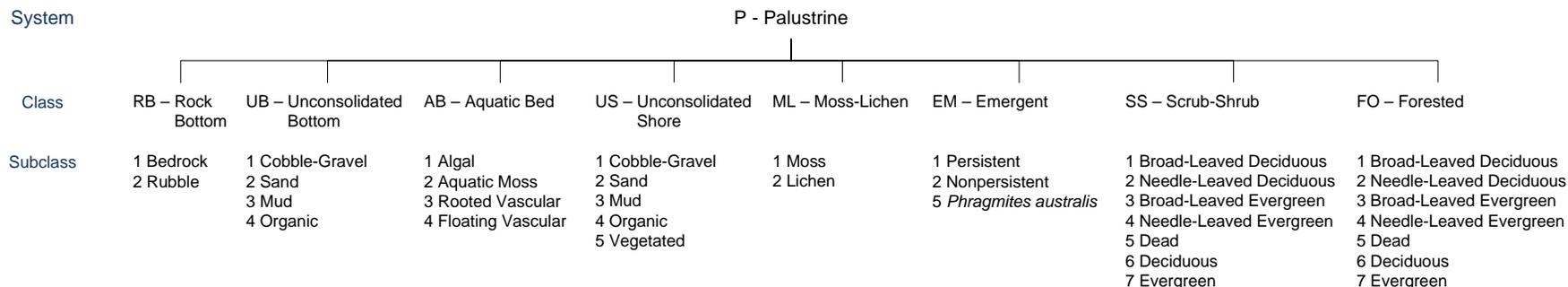
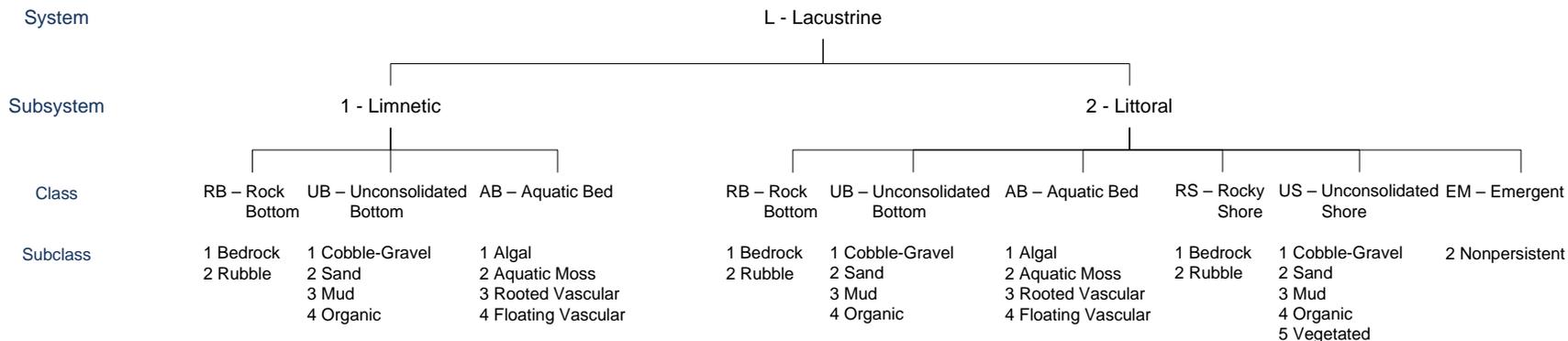
<b>Type 1</b>	<p><b>Seasonally Flooded Basins or Floodplains</b></p> <ul style="list-style-type: none"> <li>• Vegetation varies according to the season and the amount of flooding.</li> <li>• Benefits of Type 1 wetlands include seasonal waterfowl habitat, water quality, protection and groundwater recharge and discharge.</li> </ul>
<b>Type 2</b>	<p><b>Wet Meadows</b></p> <ul style="list-style-type: none"> <li>• Soil is without standing water during the growing season, but is saturated below the surface.</li> <li>• Vegetation includes grasses, sedges, rushes, and various broad-leaved plants.</li> <li>• Type 2 wetlands provide waterfowl and wildlife habitat, water quality benefits and groundwater discharge and recharge.</li> </ul>
<b>Type 3</b>	<p><b>Shallow Marshes</b></p> <ul style="list-style-type: none"> <li>• Soil is usually waterlogged early in the spring and often covered with six or more inches of water.</li> <li>• Vegetation includes grasses, bullrushes, spikerushes, cattails, arrowheads, pickerelweed, and smartweed.</li> <li>• Type 3 wetlands protect water quality and shoreland, retain floodwater, provide habitat for waterfowl, amphibians and fish, and offer recreation, including hunting, fishing, and canoeing.</li> </ul>
<b>Type 4</b>	<p><b>Deep Marshes</b></p> <ul style="list-style-type: none"> <li>• Soil is usually covered with water during spring and summer--anywhere from six to three feet.</li> <li>• Vegetation includes cattails, reeds, bulrushes, spikerushes, and wild rice. In open areas, pondweed, naiads, coontail, watermilfoils, waterweeds, duckweeds, waterlilies or spatterdocks may grow.</li> <li>• Deep marshes may completely fill shallow lake basins, potholes, limestone sinks and depressions.</li> <li>• Type 4 wetlands provide water quality protection, floodwater detention, wildlife and fisheries habitat and recreation, including hunting, fishing and canoeing.</li> </ul>
<b>Type 5</b>	<p><b>Open Water Wetlands</b> (Including shallow ponds and reservoirs)</p> <ul style="list-style-type: none"> <li>• Water is less than six feet deep and fringed by a border of emergent vegetation.</li> <li>• Type 5 wetlands provide floodwater detention, wildlife and fish habitat, and recreation, including hunting, fishing, and canoeing.</li> </ul>
<b>Type 6</b>	<p><b>Shrub swamps</b></p> <ul style="list-style-type: none"> <li>• Soil is waterlogged during much of the growing season, and is covered with as much as six inches of water.</li> <li>• Vegetation includes alders, willows, buttonbush, dogwoods, leatherleaf and swamp-privet.</li> <li>• Benefits of Type 6 wetlands include water quality, floodwater detention, low flow augmentation, and wildlife habitat.</li> </ul>
<b>Type 7</b>	<p><b>Wooded swamps</b></p> <ul style="list-style-type: none"> <li>• Soil is waterlogged to within a few inches of the surface during the growing season, and can be covered with as much as a foot of water.</li> <li>• Typical trees include tamarack, white cedar, arborvitae, black spruce, balsam, red maple, and black ash.</li> <li>• Type 7 wetland benefits include water quality, low flow augmentation, floodwater detention, and timber harvesting.</li> </ul>
<b>Type 90</b>	<p><b>Riverine System</b></p> <ul style="list-style-type: none"> <li>• All wetland and deepwater habitats contained within a channel. Wetlands typically develop in the floodplain on either side of the defined channel.</li> </ul>

Source: Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Online. <http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm> (Version 04DEC1998).

# WETLANDS AND DEEPWATER HABITATS CLASSIFICATION



# WETLANDS AND DEEPWATER HABITATS CLASSIFICATION



<b>MODIFIERS</b>							
In order to more adequately describe the wetland and deepwater habitats, one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.							
Water Regime			Special Modifiers	Water Chemistry			Soil
Nontidal	Saltwater Tidal	Freshwater Tidal		Coastal Halinity	Inland Salinity	pH Modifiers for all Fresh Water	
A Temporarily Flooded	L Subtidal	S Temporarily Flooded-Tidal	b Beaver	1 Hyperhaline	7 Hypersaline	a Acid	g Organic
B Saturated	M Irregularly Exposed	R Seasonally Flooded-Tidal	d Partly Drained/Ditched	2 Euhaline	8 Eusaline	t Circumneutral	n Mineral
C Seasonally Flooded	N Regularly Flooded	T Semipermanently Flooded-Tidal	f Farmed	3 Mixohaline (Brackish)	9 Mixosaline	i Alkaline	
E Seasonally Flooded/ Saturated	P Irregularly Flooded	V Permanently Flooded-Tidal	h Diked/Impounded	4 Polyhaline	0 Fresh		
F Semipermanently Flooded			r Artificial	5 Mesohaline			
G Intermittently Exposed			s Spoil	6 Oligohaline			
H Permanently Flooded			x Excavated	0 Fresh			
J Intermittently Flooded							
K Artificially Flooded							

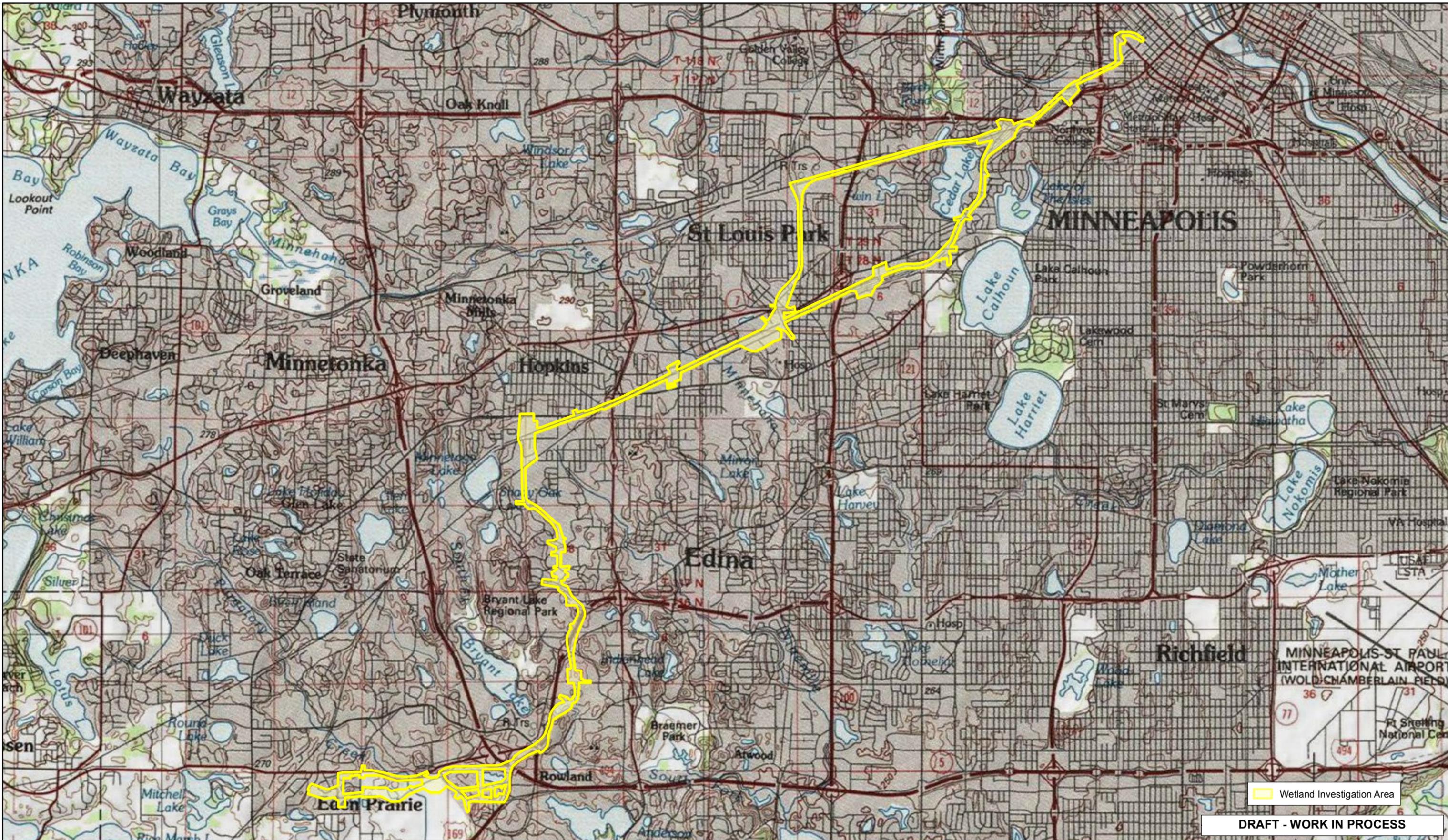
**Eggers and Reed**  
**Wetland Plants and Plant Communities of Minnesota and Wisconsin**

<b>Shallow Open Water</b>	<ul style="list-style-type: none"> <li>• Generally have water depths of less than 6.6 feet (2 meters).</li> <li>• Submergent, floating and floating-leaved aquatic vegetation including pondweeds, water-lilies, water milfoil, coontail, and duckweeds characterize this wetland type.</li> <li>• Size can vary from a one-quarter acre pond, to a long oxbow of a river or shallow bay of a lake.</li> </ul>
<b>Deep Marsh</b>	<ul style="list-style-type: none"> <li>• Deep marsh plant communities have standing water depths of between 6 inches and 3 or more feet during the growing season.</li> <li>• Herbaceous emergent, floating, floating-leaved, and submergent vegetation compose this community, with the major dominance by cattails, hardstem bulrush, pickerelweed, giant bur-reed, <i>Phragmites</i>, wild rice, pondweeds and/or water-lilies.</li> </ul>
<b>Shallow Marsh</b>	<ul style="list-style-type: none"> <li>• Shallow marsh plant communities have soils that are saturated to inundated by standing water up to 6 inches in depth, throughout most of the growing season.</li> <li>• Herbaceous emergent vegetation such as cattails, bulrushes, arrowheads, and lake sedges characterize this community.</li> </ul>
<b>Fresh Wet Meadow</b>	<ul style="list-style-type: none"> <li>• Faxon soils have a seasonal high water table at the surface to 12 inches below the surface during November through May of most years.</li> <li>• Fresh (wet) meadows are dominated by grasses, such as redtop grass and reed canary grass, and by forbs such as giant goldenrod, growing on saturated soils.</li> <li>• The grass family (Gramineae) and aster family (Compositae) are well represented in fresh (wet) meadows.</li> <li>• The forbs and grasses of these meadows tend to be less competitive, more nutrient demanding, and often shorter-lived species than the sedges of the sedge meadow community.</li> </ul>
<b>Shrub Carr</b>	<ul style="list-style-type: none"> <li>• Shrub-carrs are plant communities composed of tall, deciduous shrubs growing on saturated to seasonally flooded soils.</li> <li>• Usually dominated by willows and/or red-osier dogwood, and sometimes silky dogwood.</li> <li>• The groundlayer typically includes some of the ferns, sedges, grasses and forbs of sedge meadow and fresh (wet) meadow communities.</li> <li>• Hydrology is primarily groundwater and overland runoff. Rifle muck is typically saturated to the surface and may have as much as 6 inches of standing water after spring snowmelt and heavy rainfall events.</li> </ul>
<b>Hardwood Swamp</b>	<ul style="list-style-type: none"> <li>• Hardwood swamps are dominated by deciduous hardwood trees and have soils that are saturated during much of the growing season, and may be inundated by as much as a foot of standing water.</li> <li>• Dominant trees include black ash, red maple, yellow birch and, south of the vegetation tension zone, silver maple.</li> </ul>
<b>Floodplain Forest</b>	<ul style="list-style-type: none"> <li>• Wetlands dominated by mature, deciduous hardwood trees growing on alluvial soils associated with riverine systems.</li> <li>• The soils are inundated during flood events, but are usually somewhat well-drained for much of the growing season.</li> </ul>
<b>Seasonally Flooded Basin</b>	<ul style="list-style-type: none"> <li>• Poorly drained, shallow depressions that may have standing water for a few weeks each year, but are usually dry for much of the growing season.</li> <li>• Ponding following spring snowmelt and heavy summer rainfall events, as well as a high water table.</li> <li>• Typical species include smartweeds, beggarticks, nut-grasses, and wild millet.</li> </ul>

Source: Eggers, Steve D., and Donald M. Reed. 1997. Wetland plants and communities of Minnesota and Wisconsin. U.S. Army Corps of Engineers, St. Paul District. Jamestown, ND: Northern Prairie Wildlife Research Center Online. <http://www.npwrc.usgs.gov/resource/plants/mnplant/index.htm> (Version 03SEP1998).

## **APPENDIX C**

### **Map Exhibits**



Wetland Investigation Area

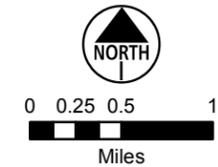
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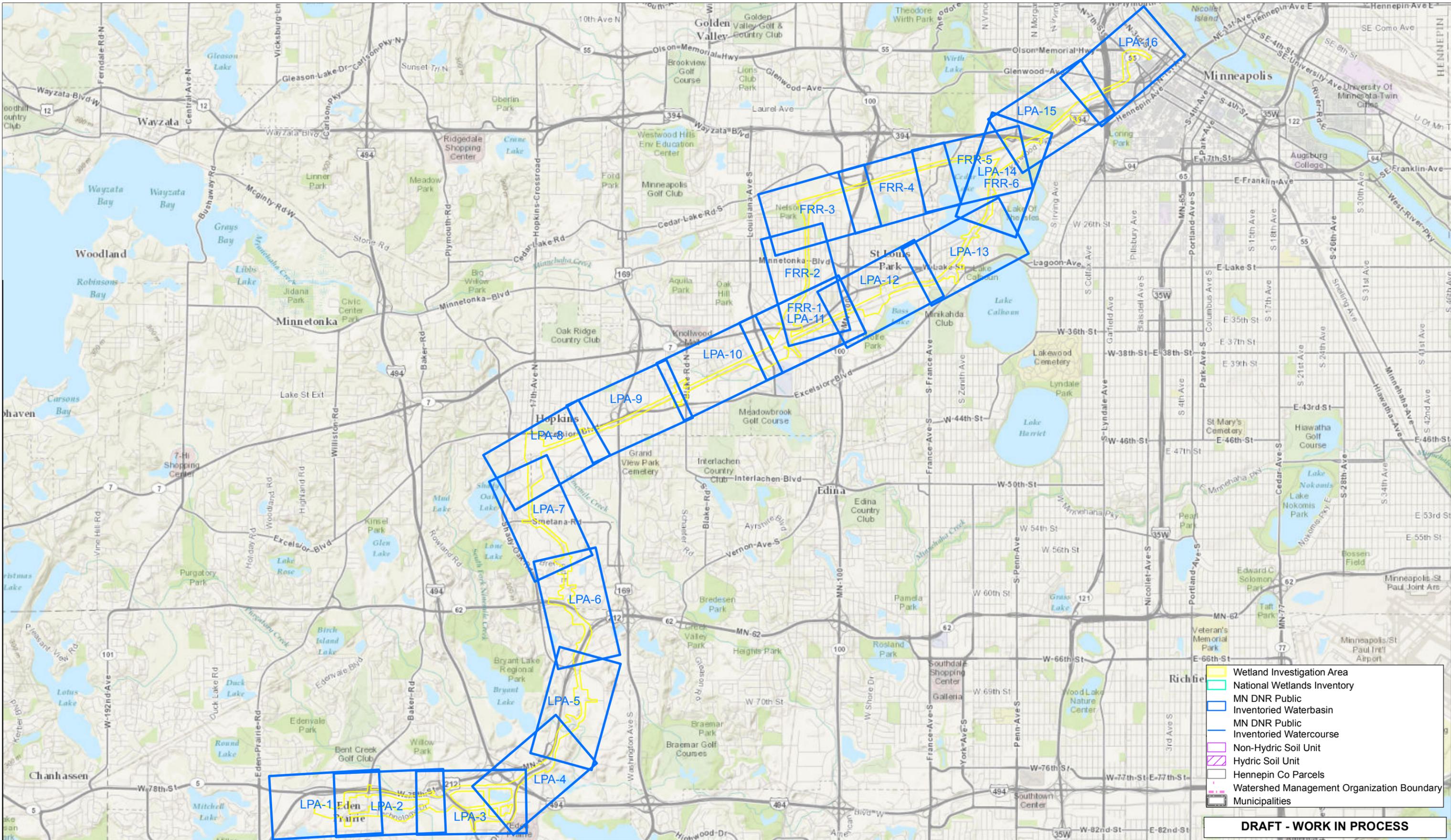
# SOUTHWEST LRT

Wetland Investigation Area Location



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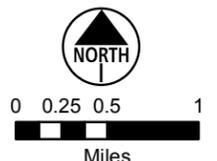
- Wetland Investigation Area
- National Wetlands Inventory
- MN DNR Public Inventoried Waterbasin
- MN DNR Public Inventoried Watercourse
- Non-Hydric Soil Unit
- Hydric Soil Unit
- Hennepin Co Parcels
- Watershed Management Organization Boundary
- Municipalities

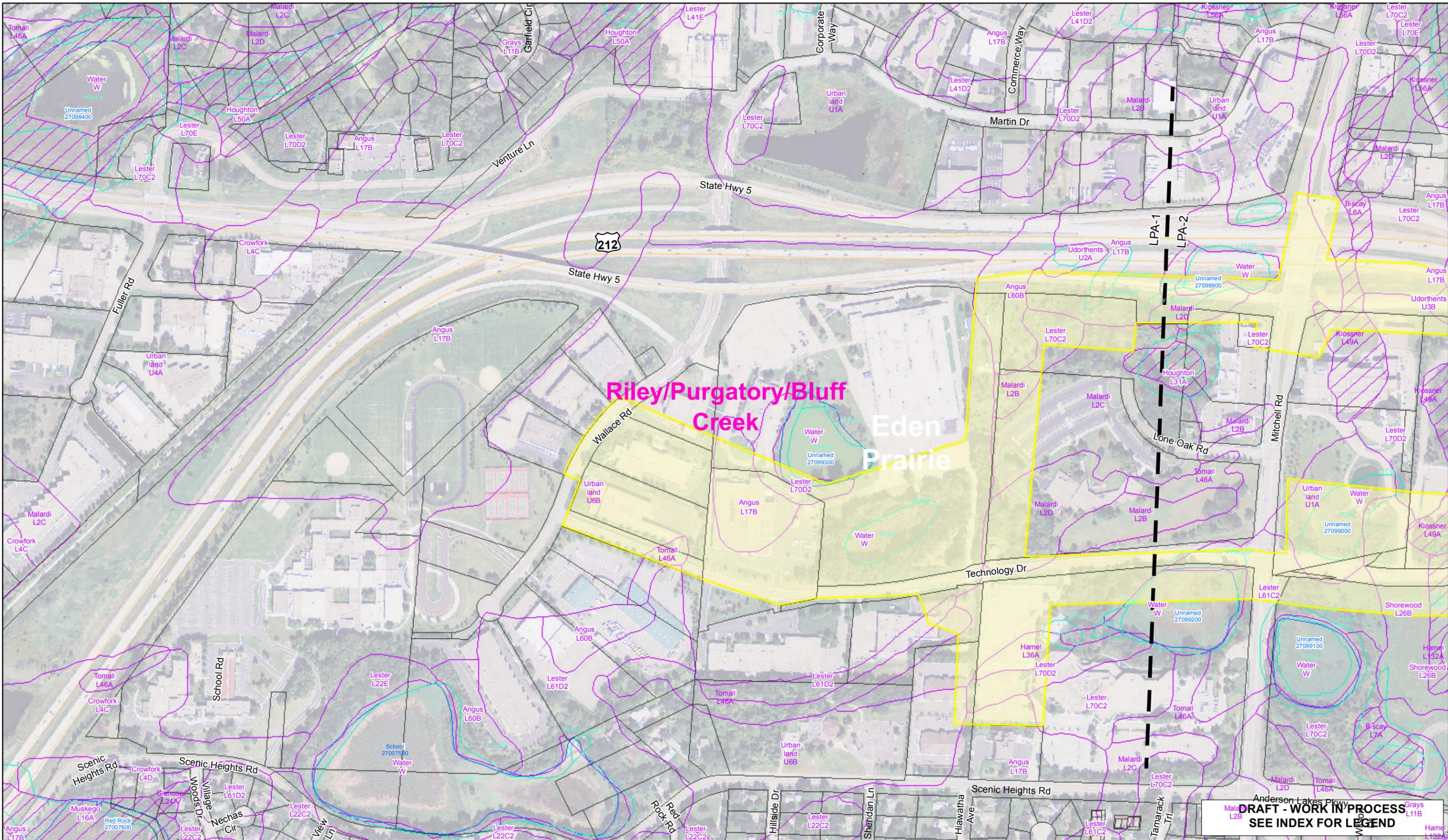
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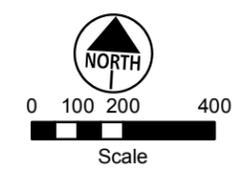


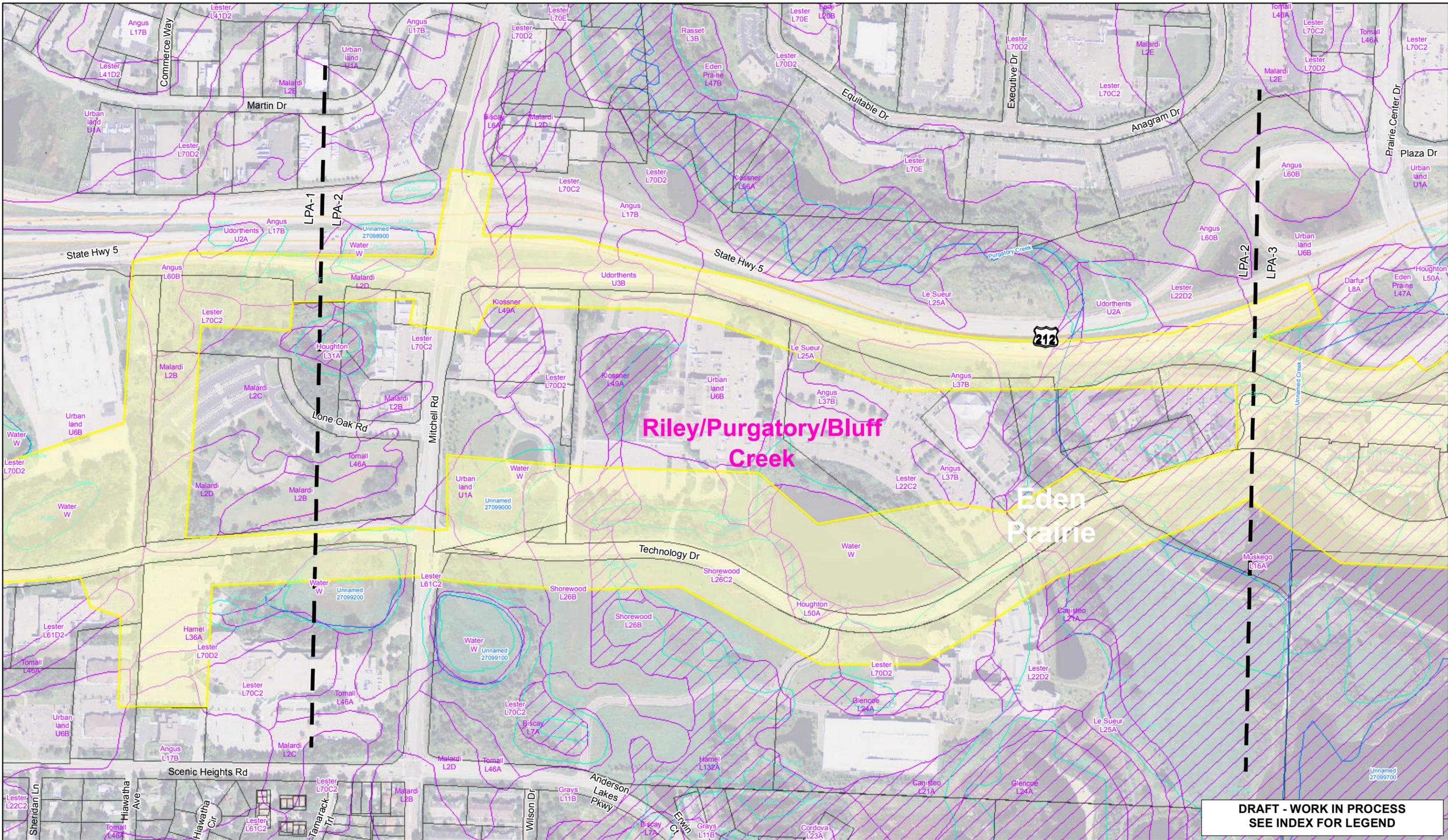
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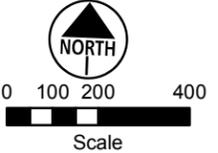


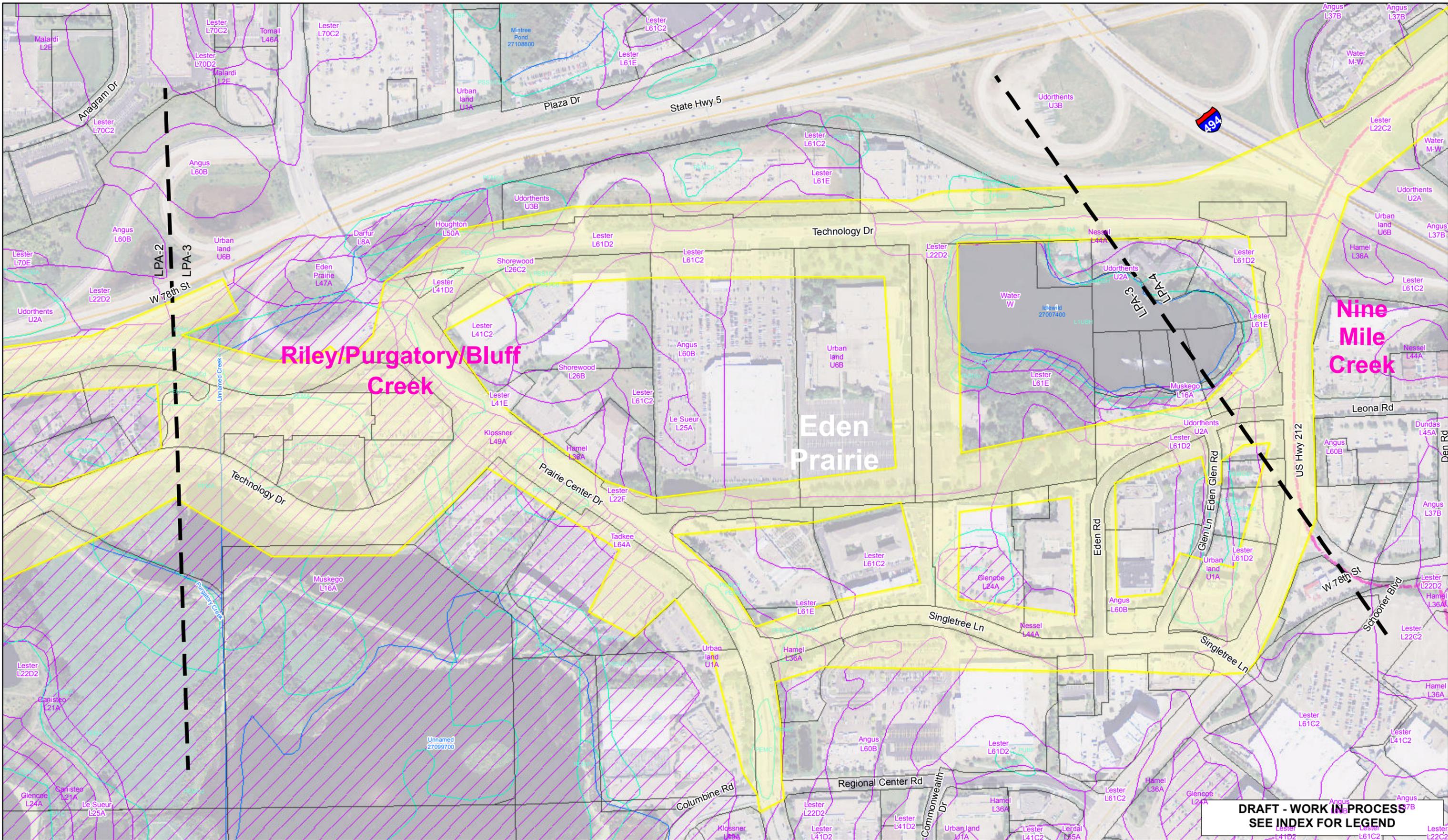
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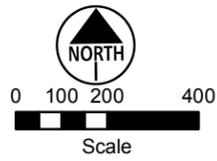


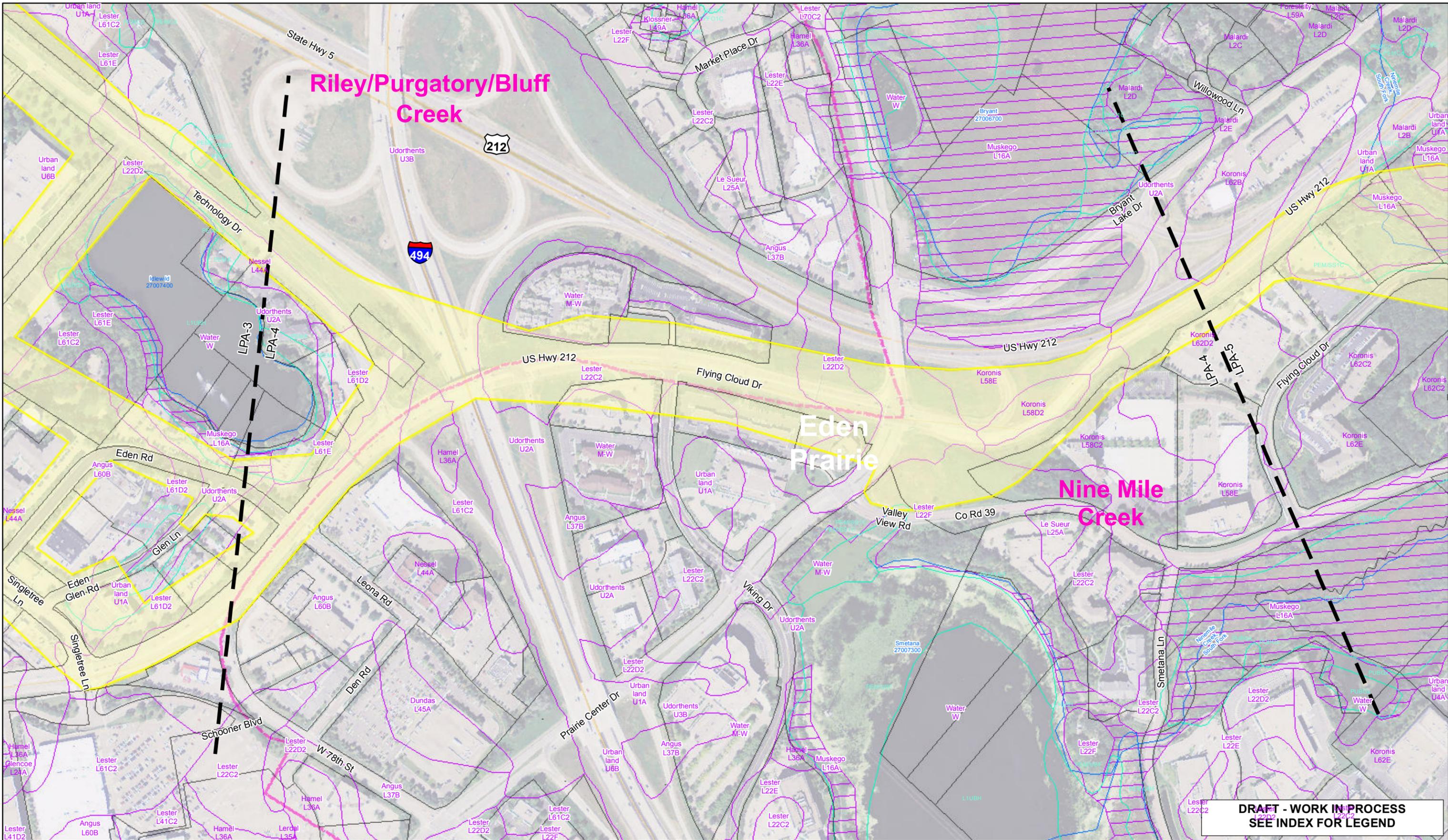
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**Riley/Purgatory/Bluff  
Creek**

**Nine Mile  
Creek**

**Eden  
Prairie**

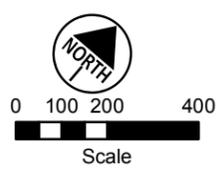
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SEE INDEX FOR LEGEND**

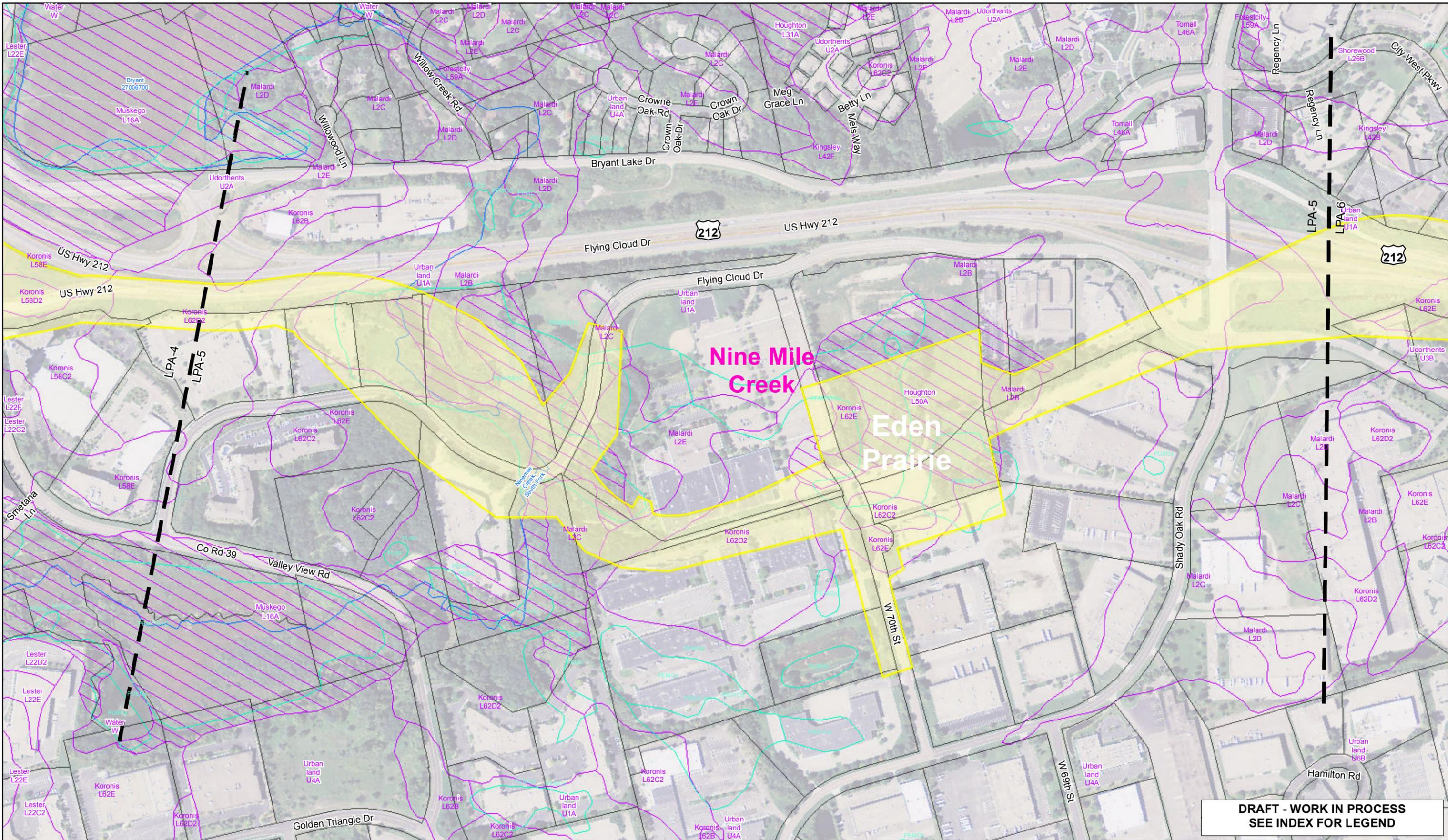


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**Nine Mile Creek**  
**Eden Prairie**

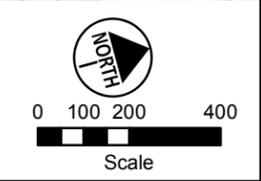
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**SEE INDEX FOR LEGEND**

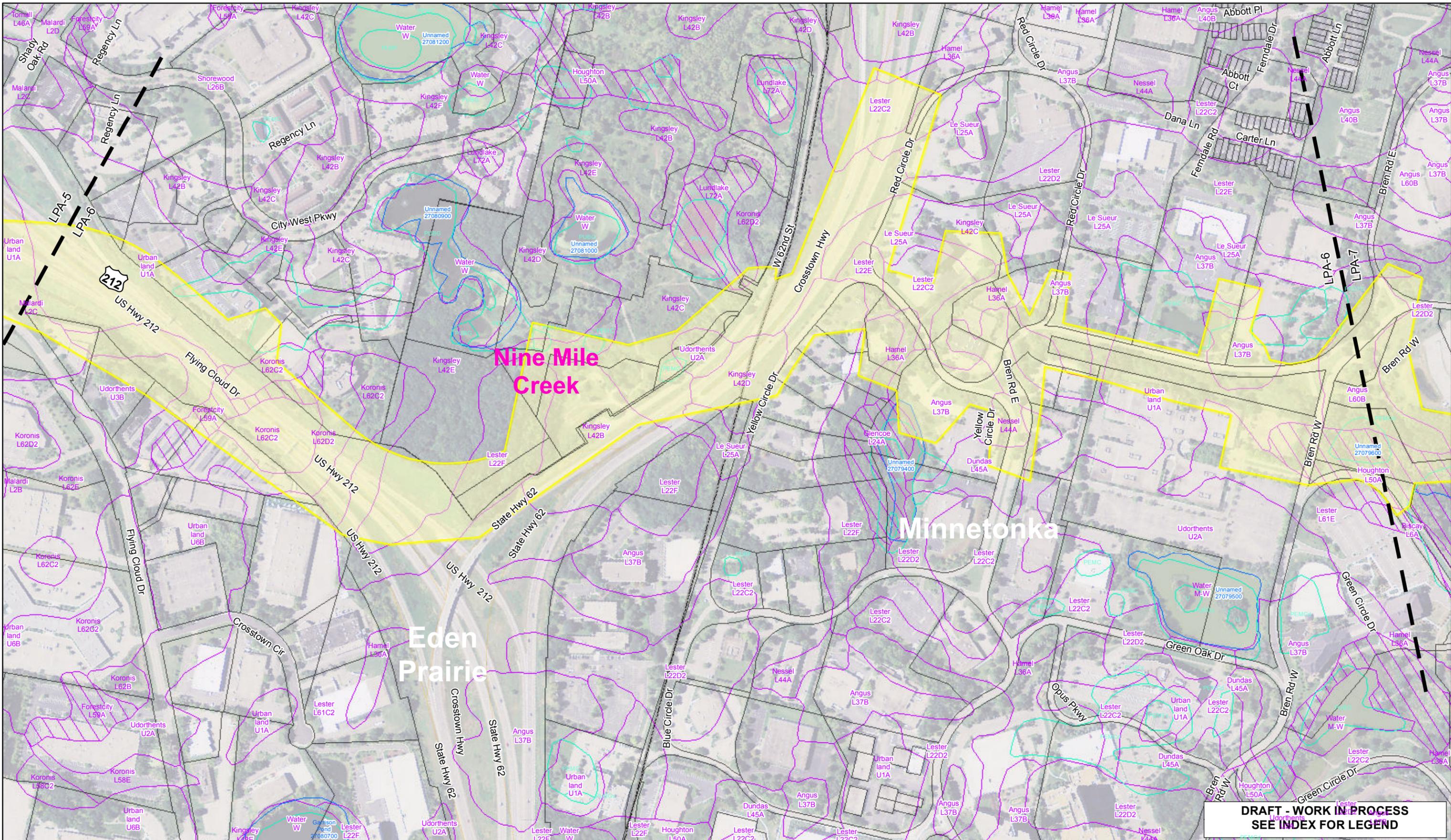


# SOUTHWEST LRT

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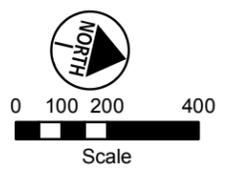


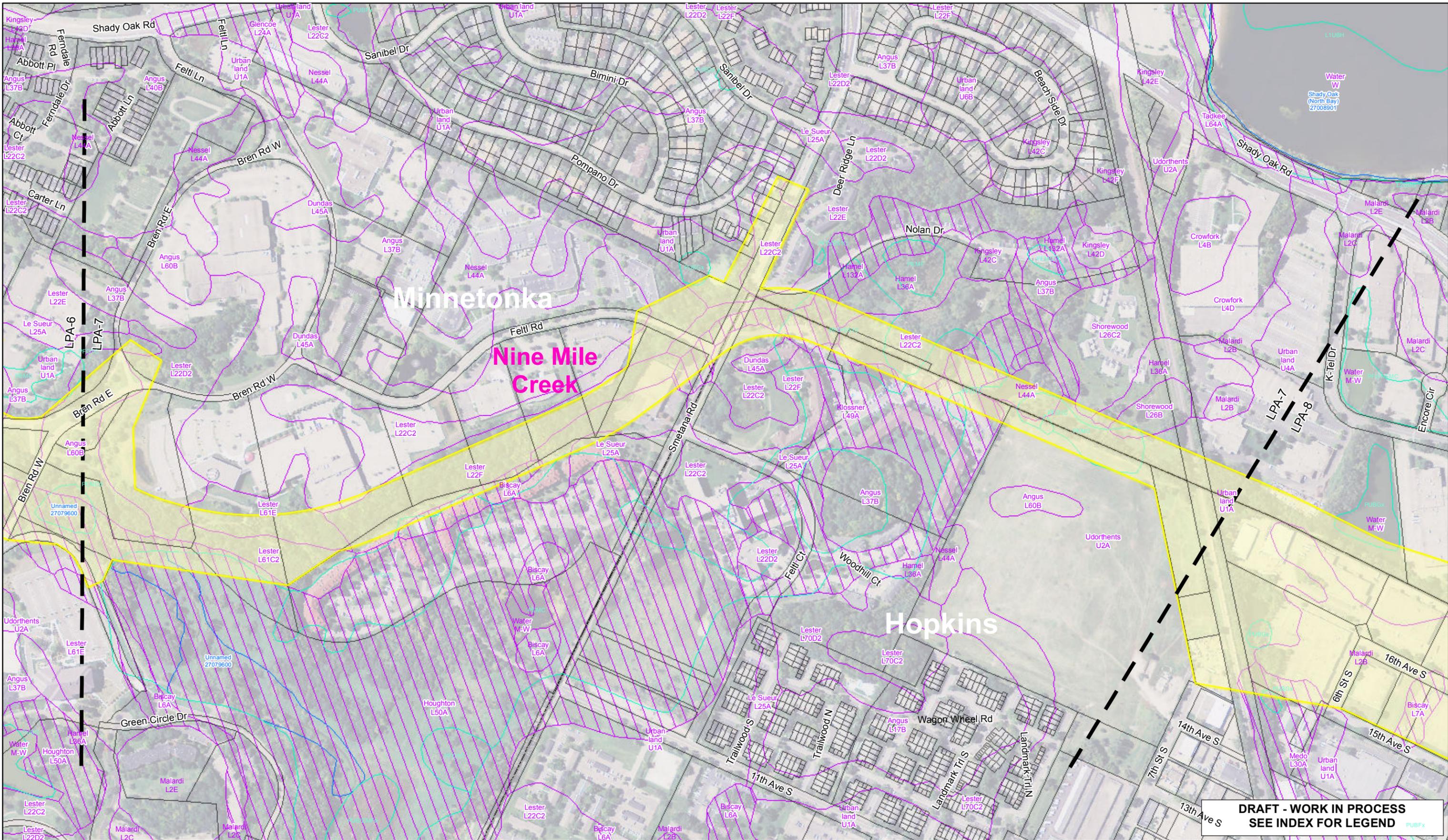
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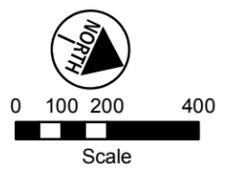


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**SEE INDEX FOR LEGEND** PUBF

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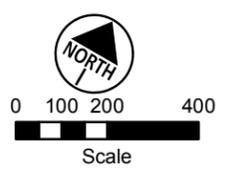


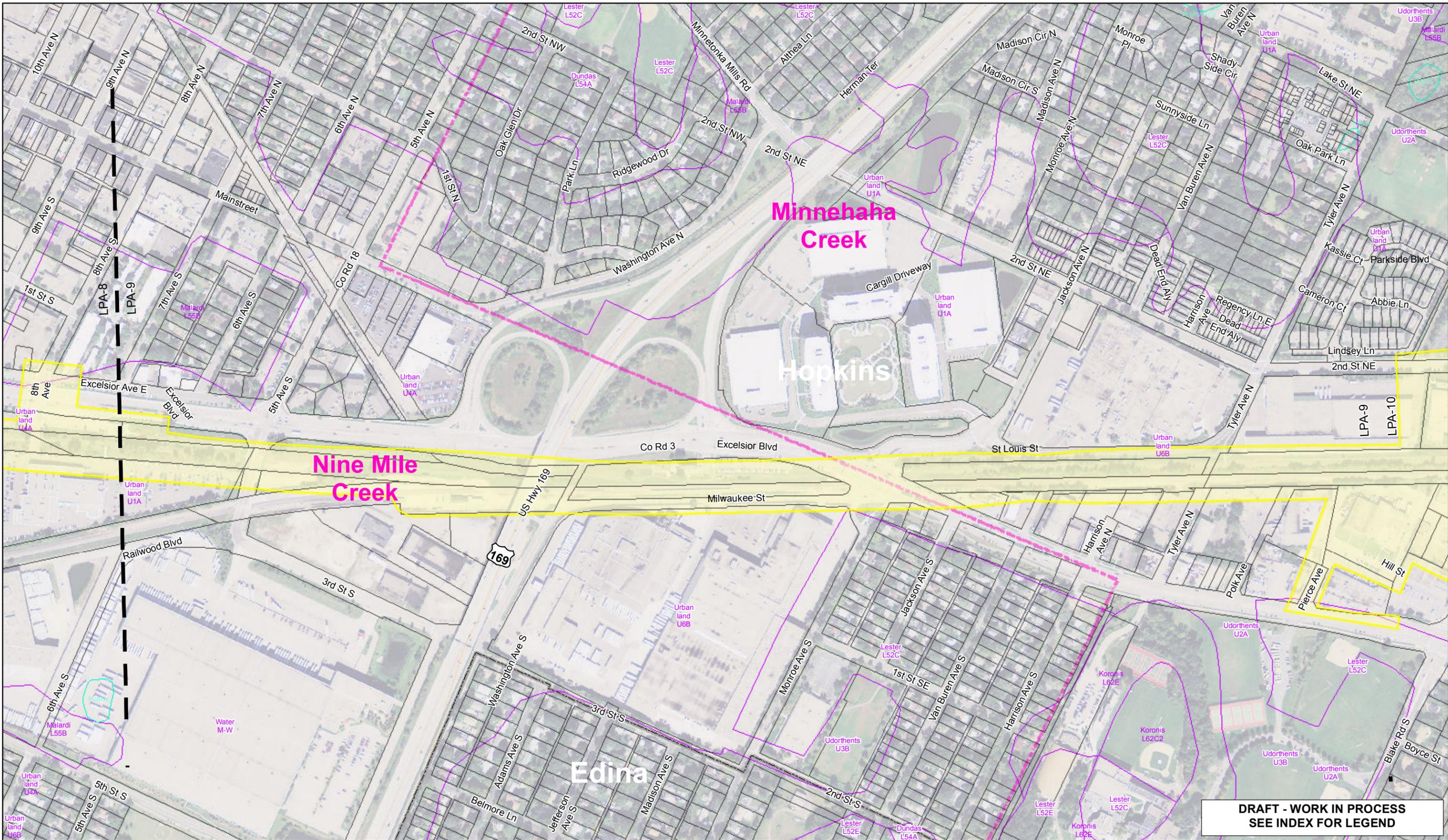
**DRAFT- WORK IN PROCESS**  
**SEE INDEX FOR LEGEND**

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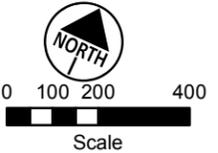


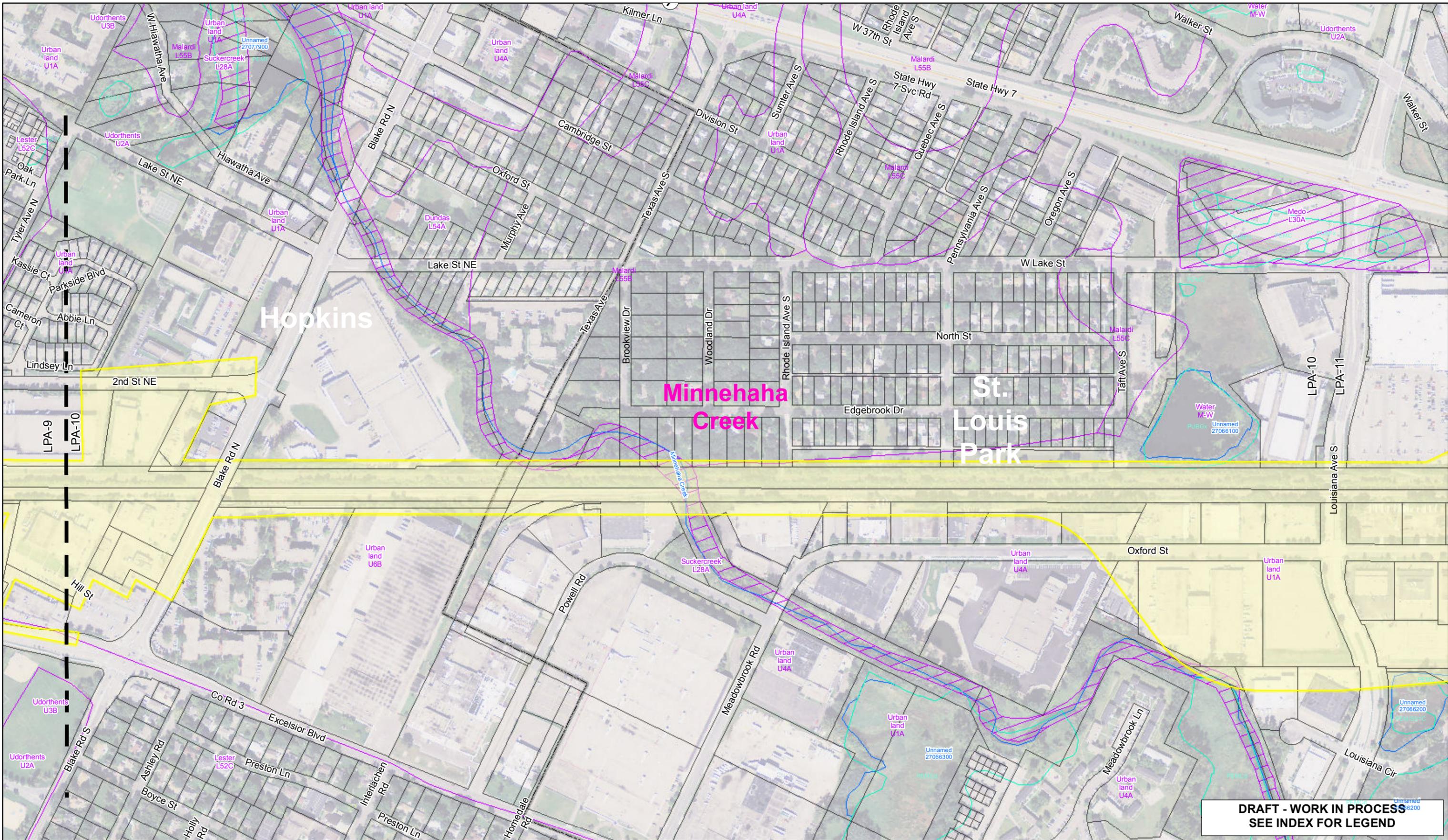
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# SOUTHWEST LRT

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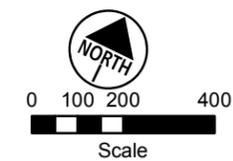




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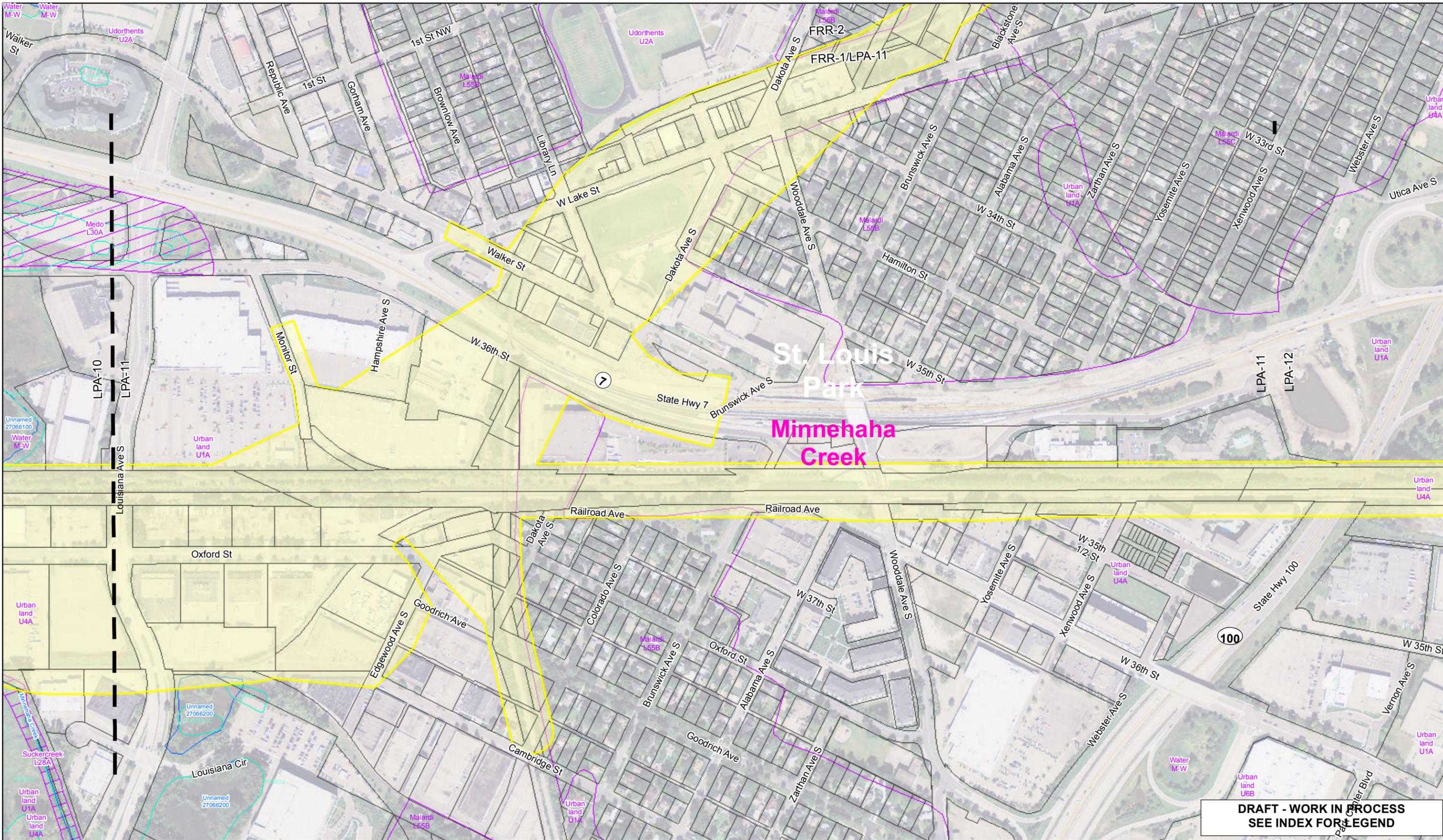
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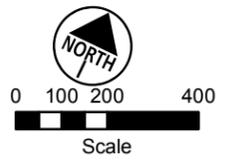


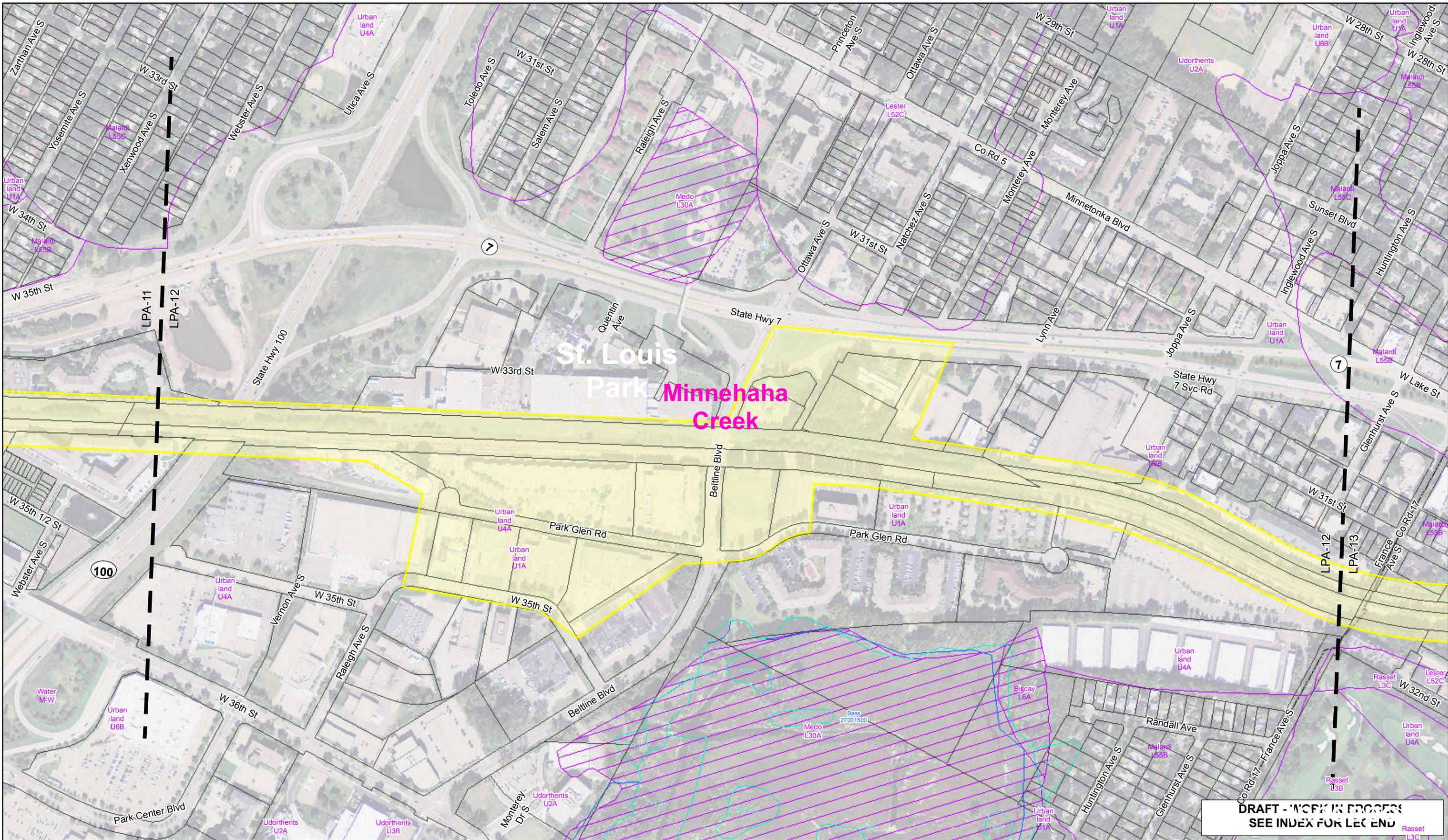
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# SOUTHWEST LRT

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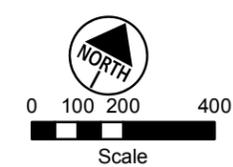


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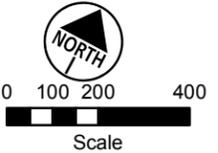
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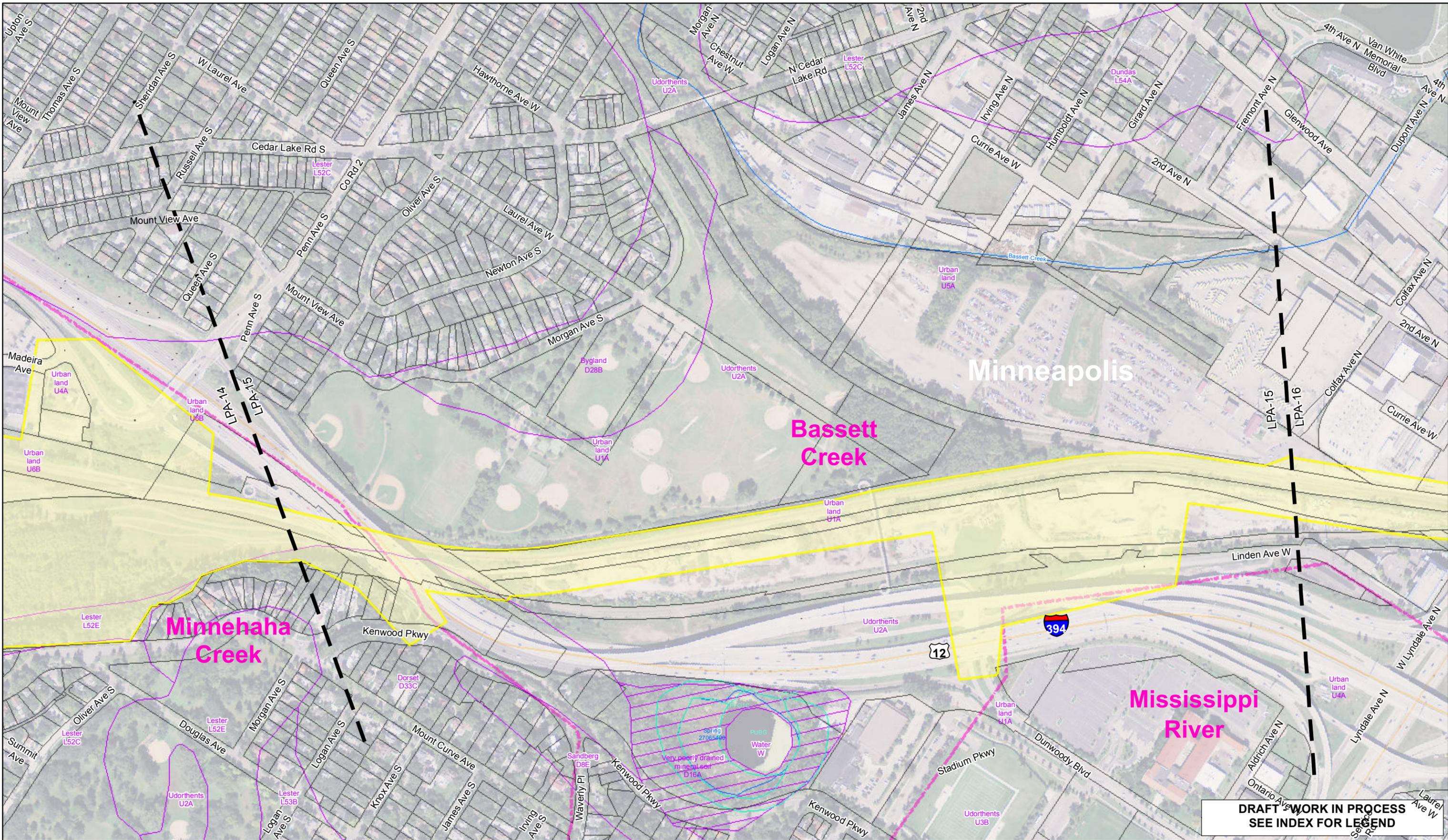
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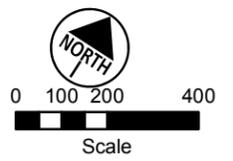


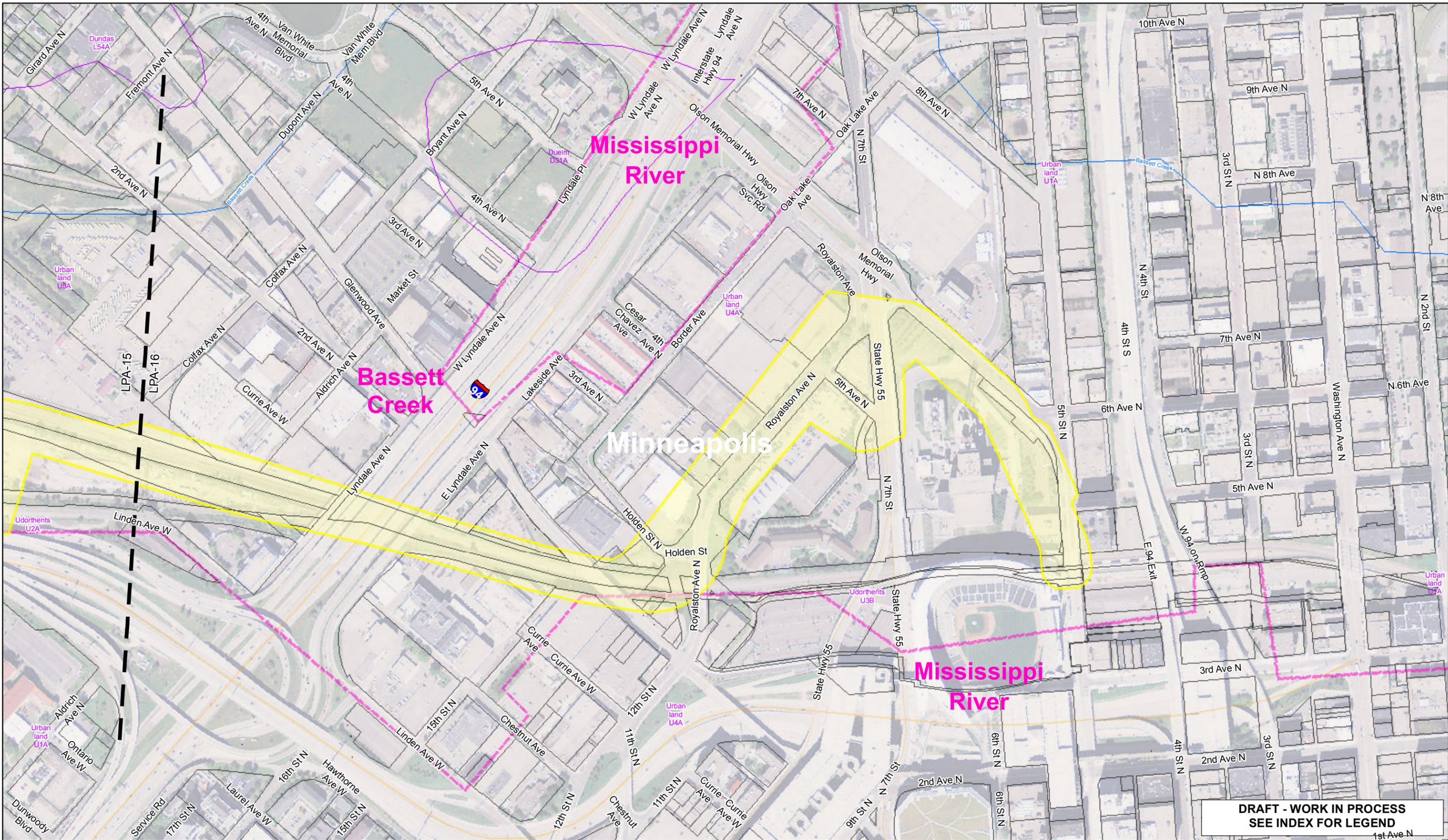
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# SOUTHWEST LRT

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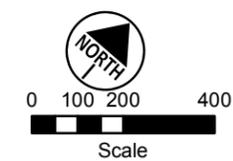


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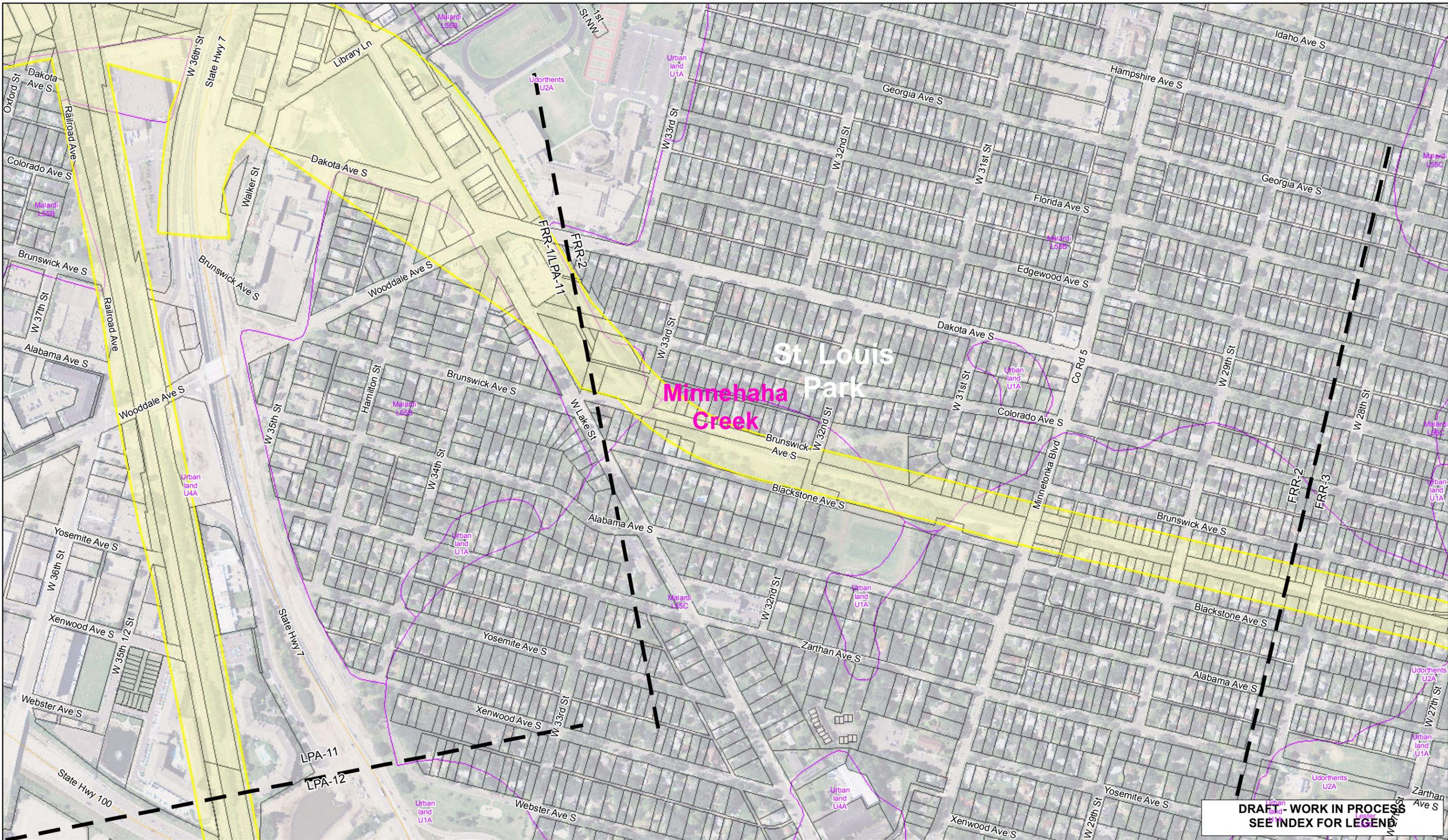
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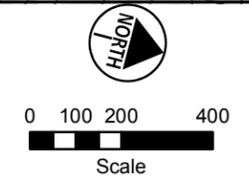


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# SOUTHWEST LRT

Environmental  
 Freight Rail Relocation Alternative

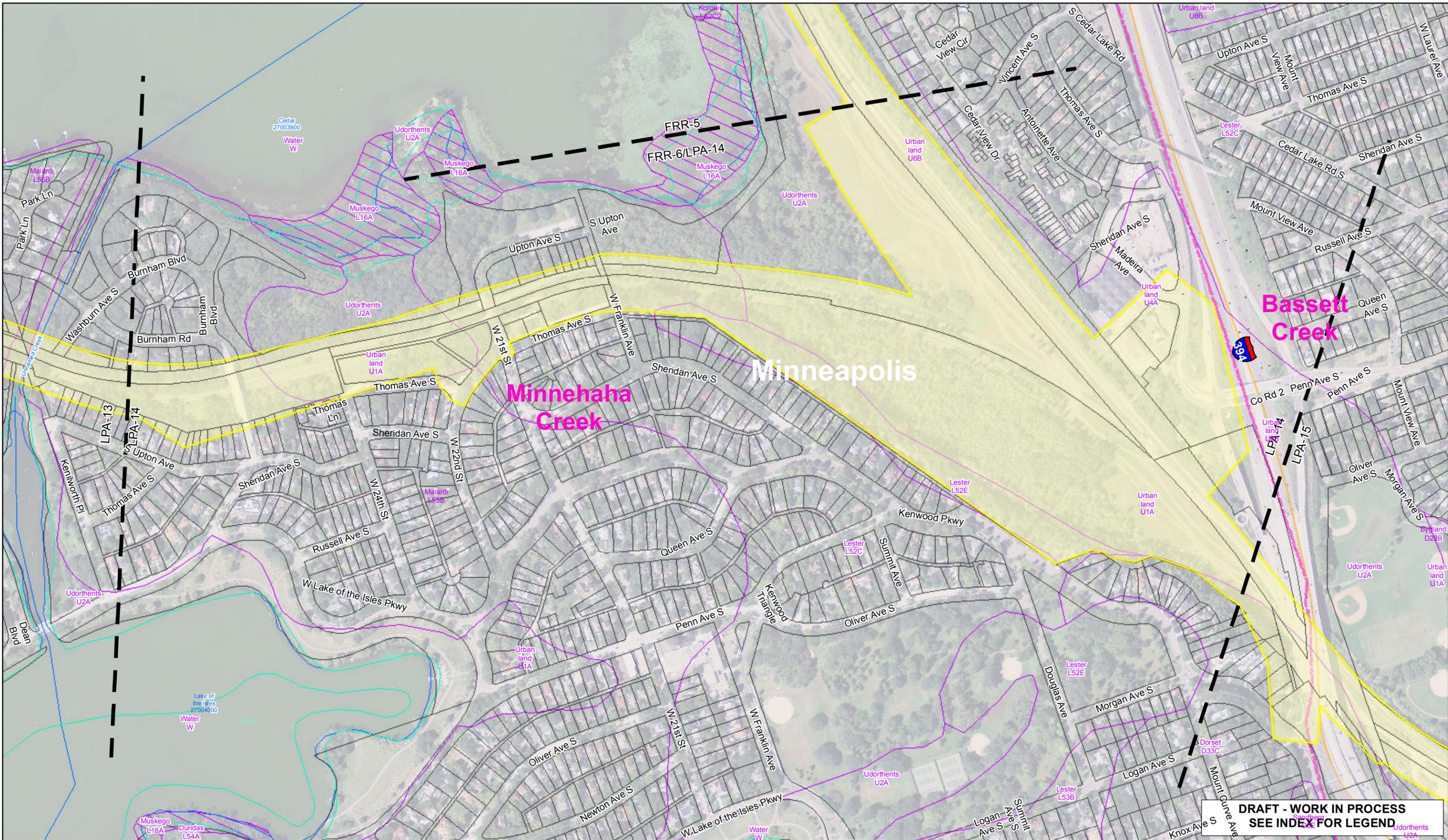
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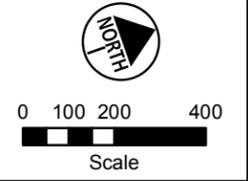




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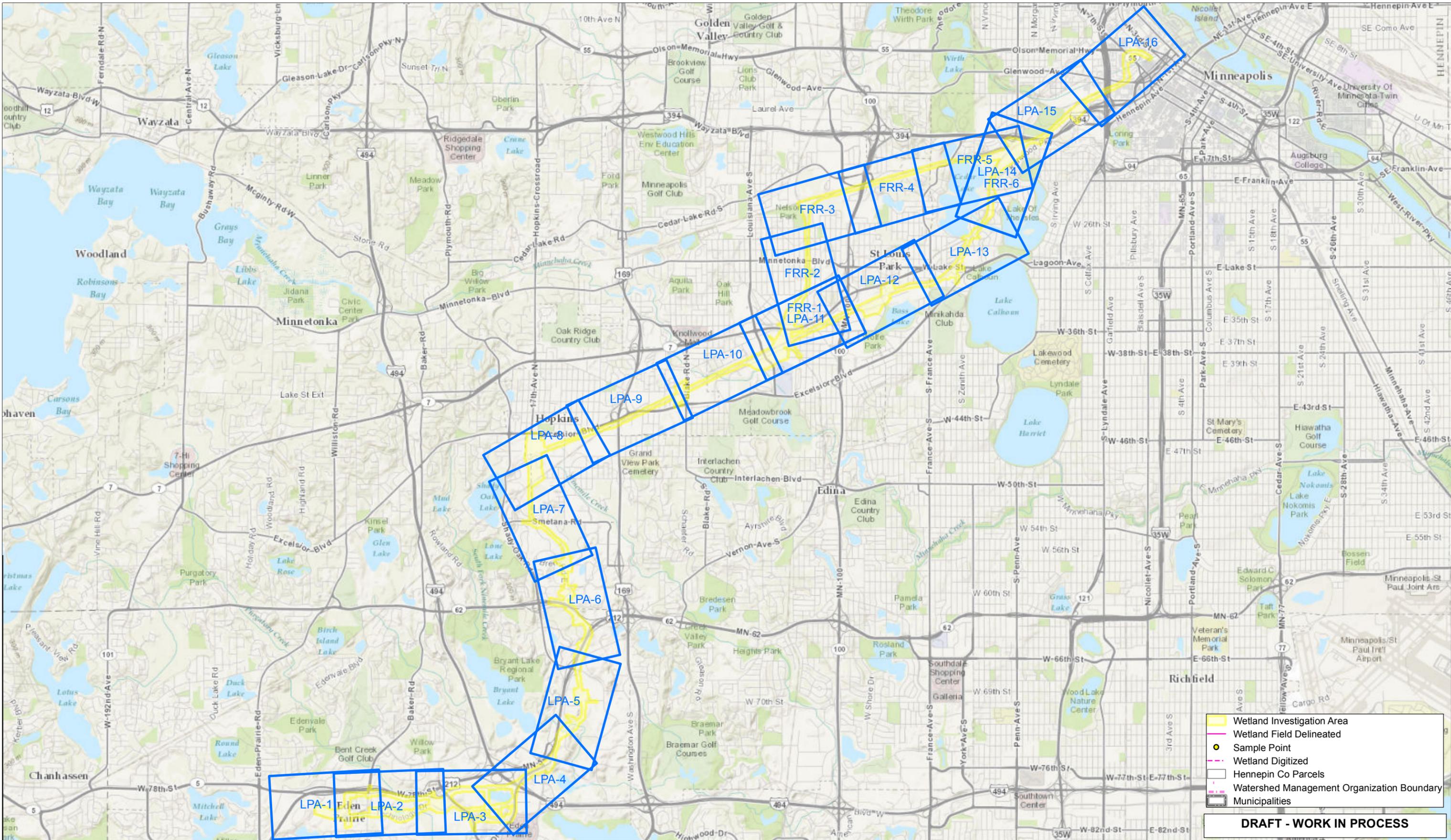
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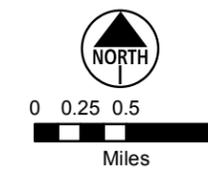


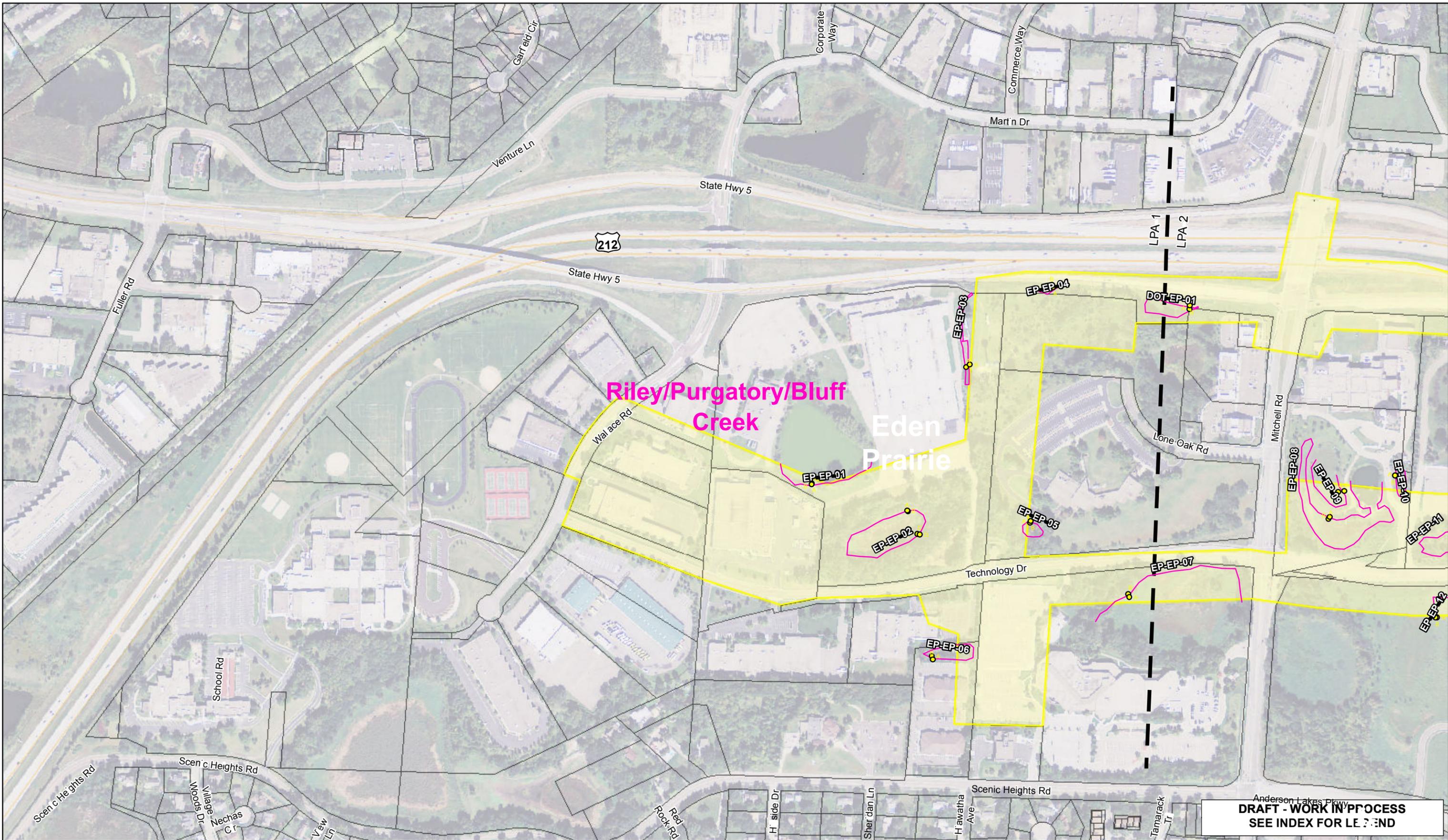


# SOUTHWEST LRT

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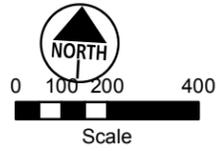


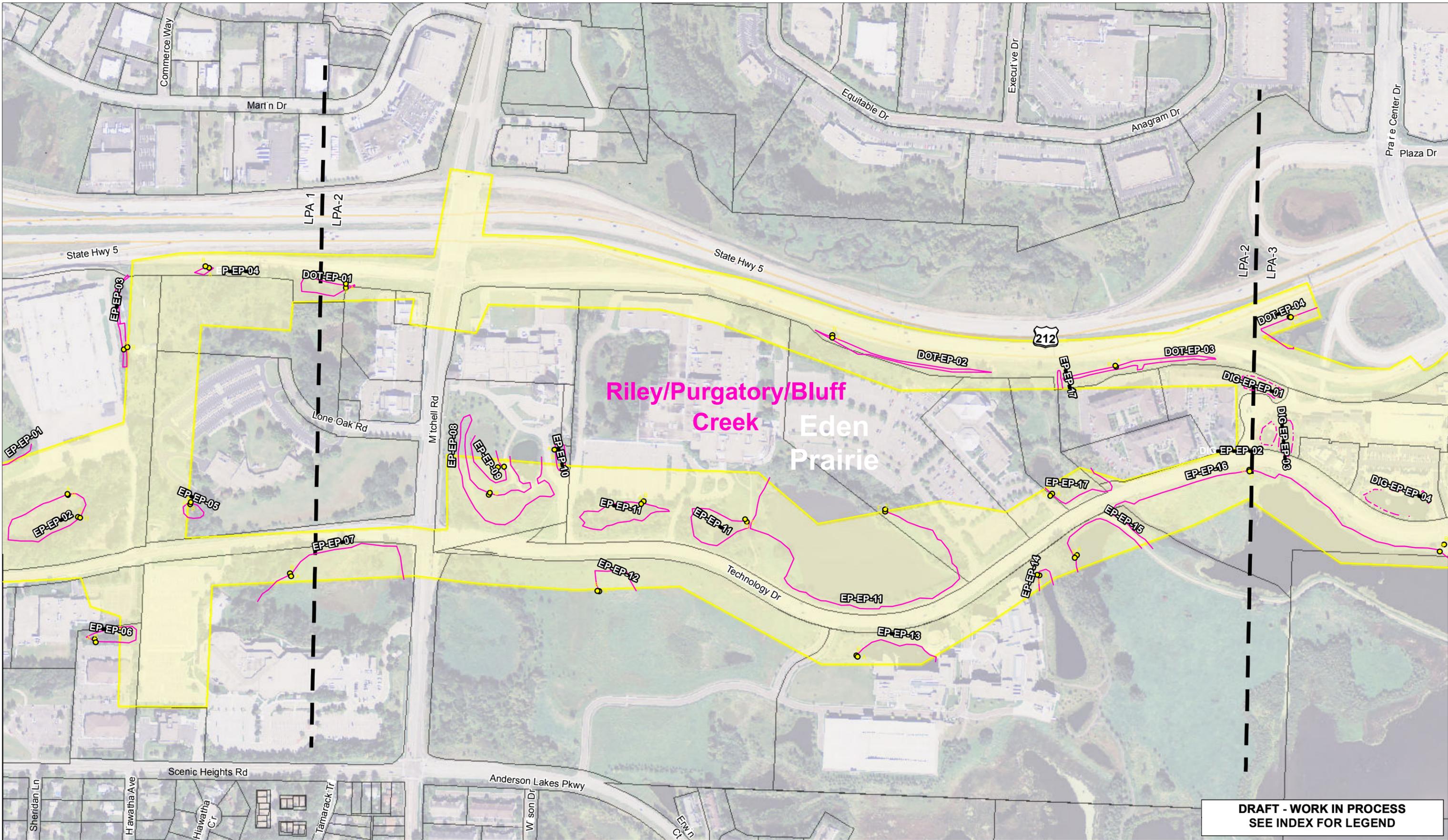
Anderson Lakes Pkwy  
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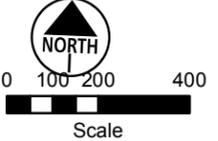
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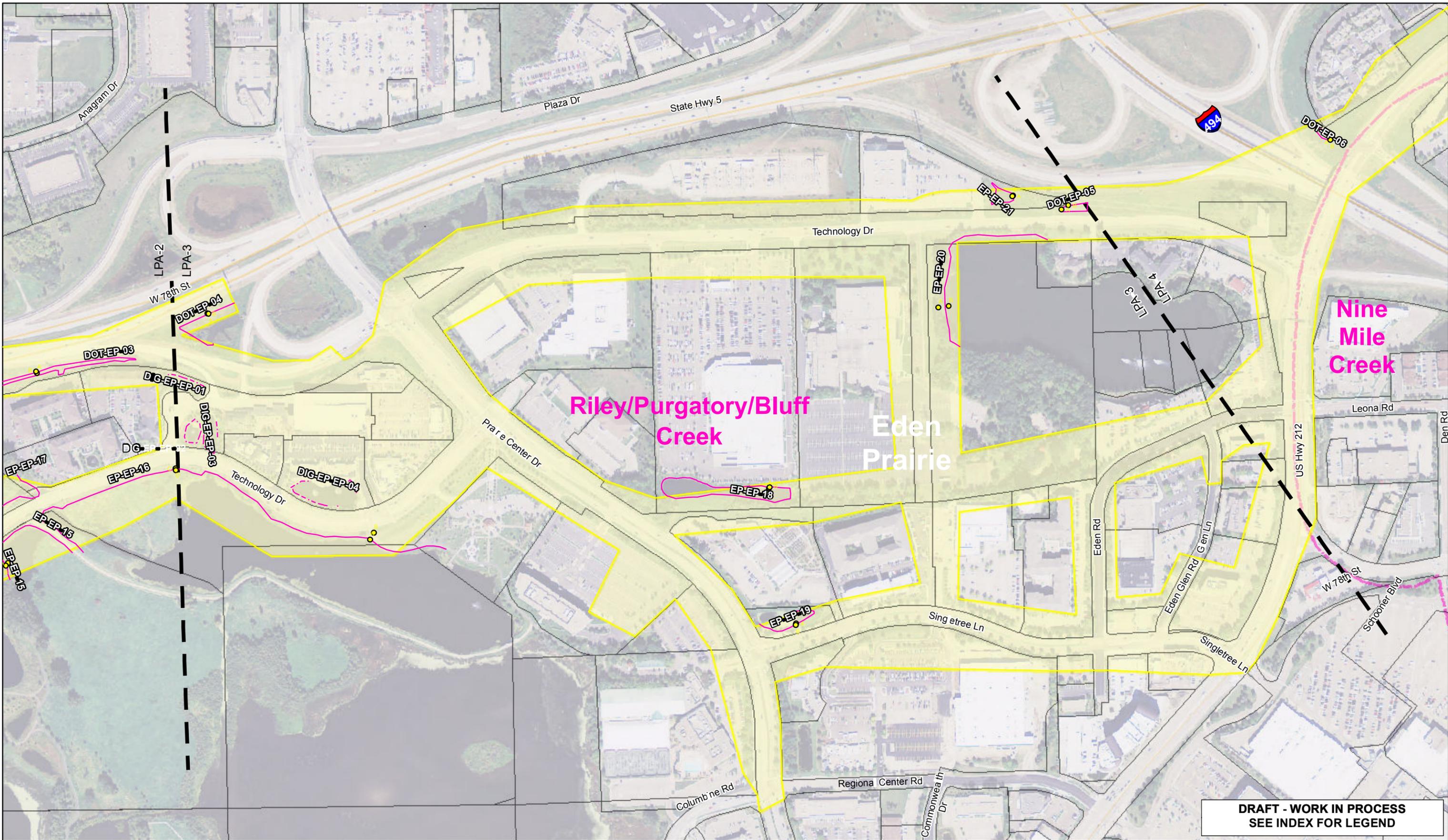


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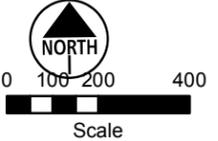
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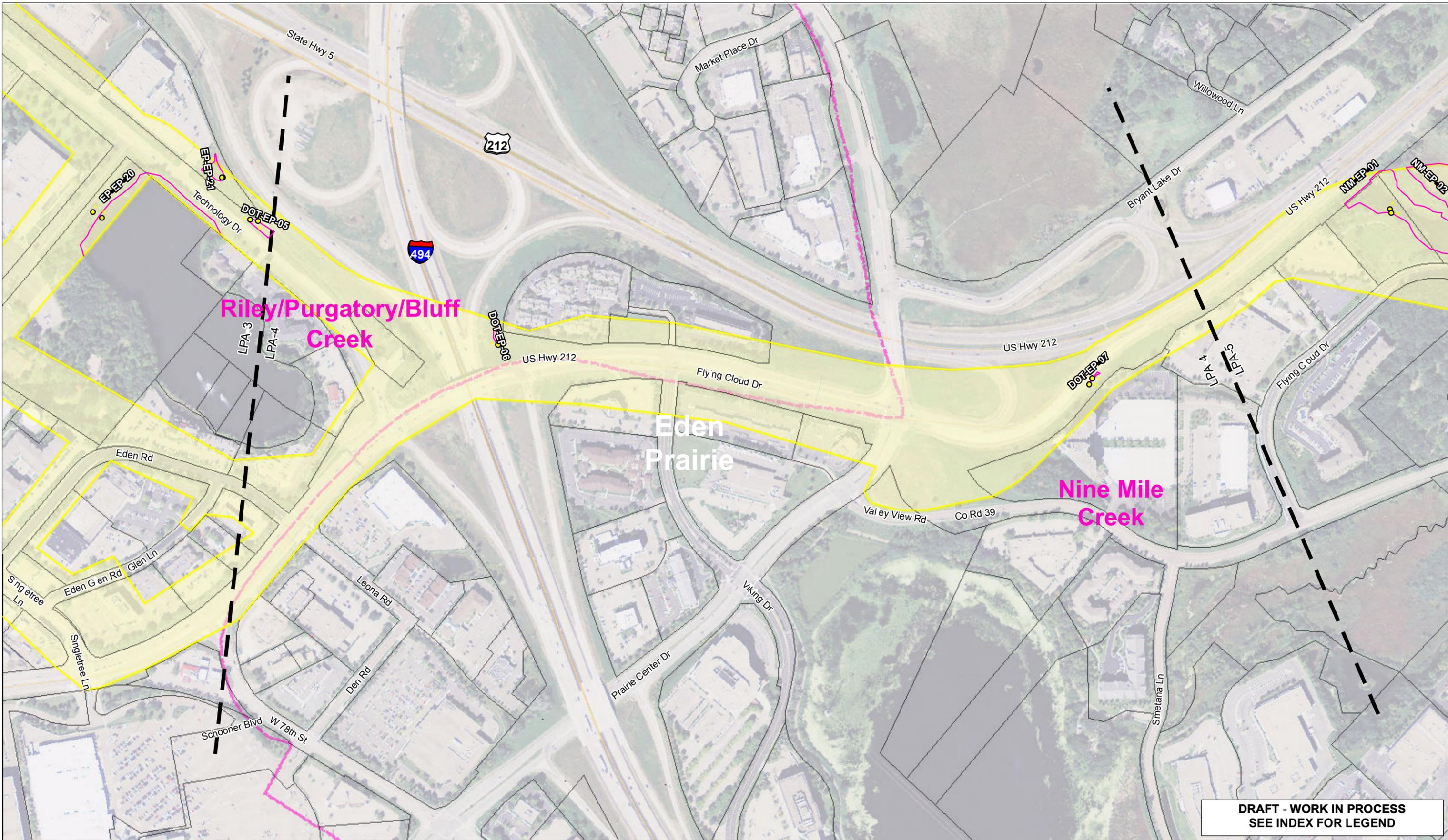


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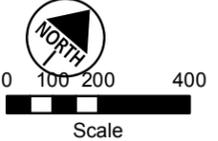
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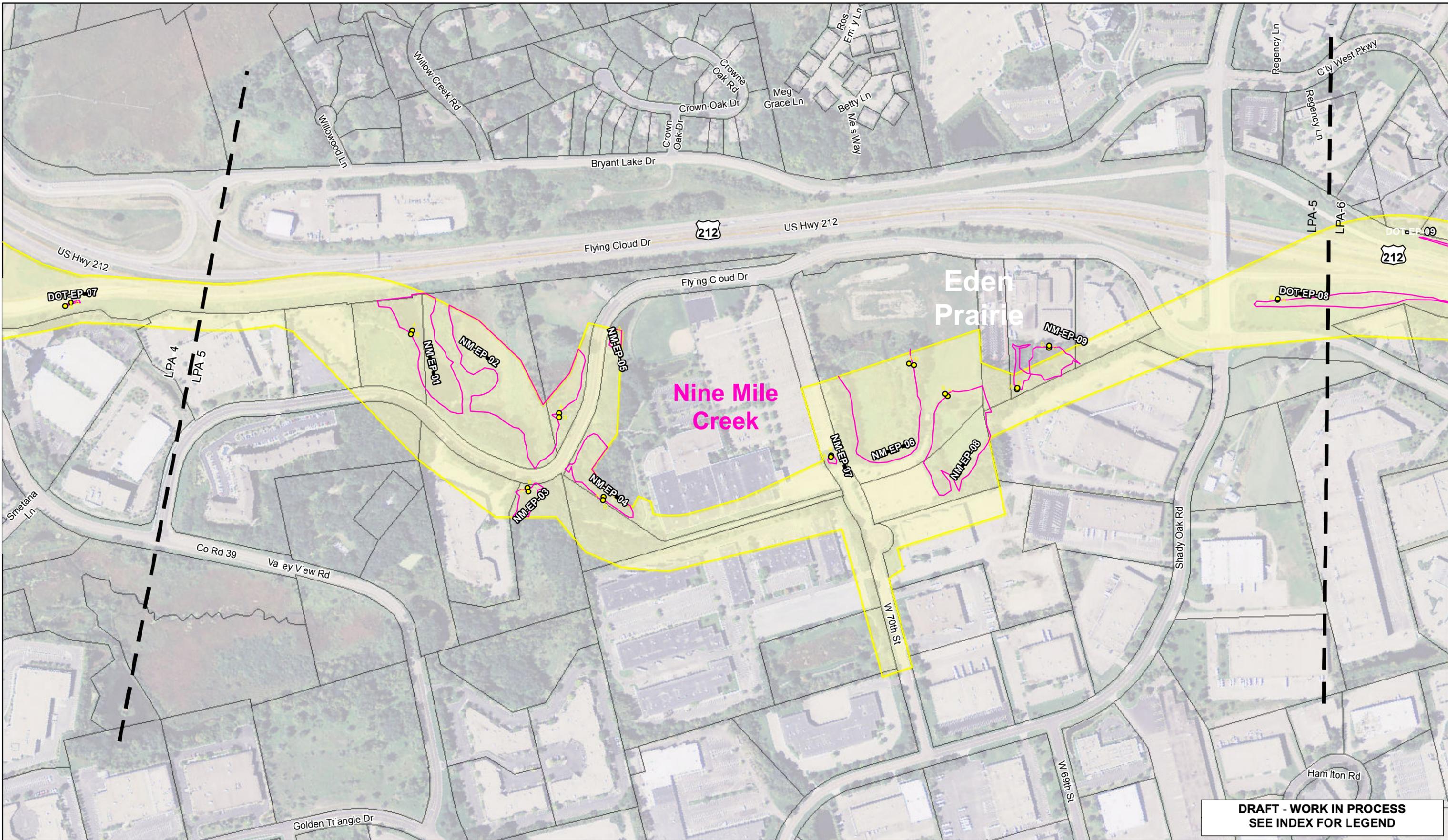


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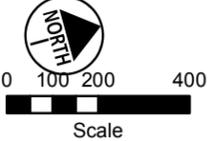


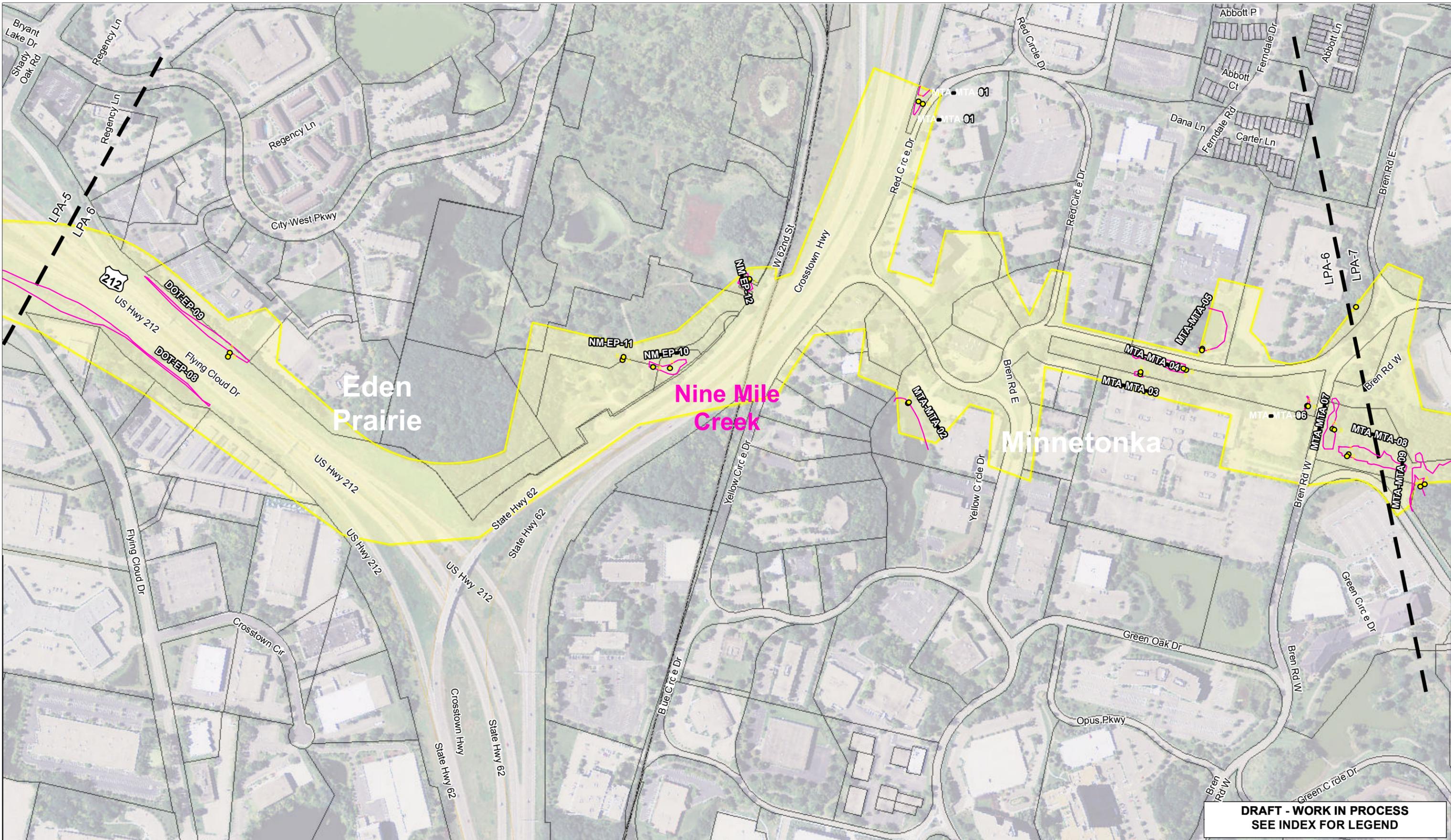
**DRAFT - WORK IN PROCESS  
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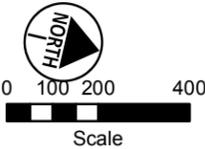


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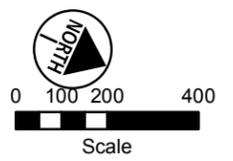


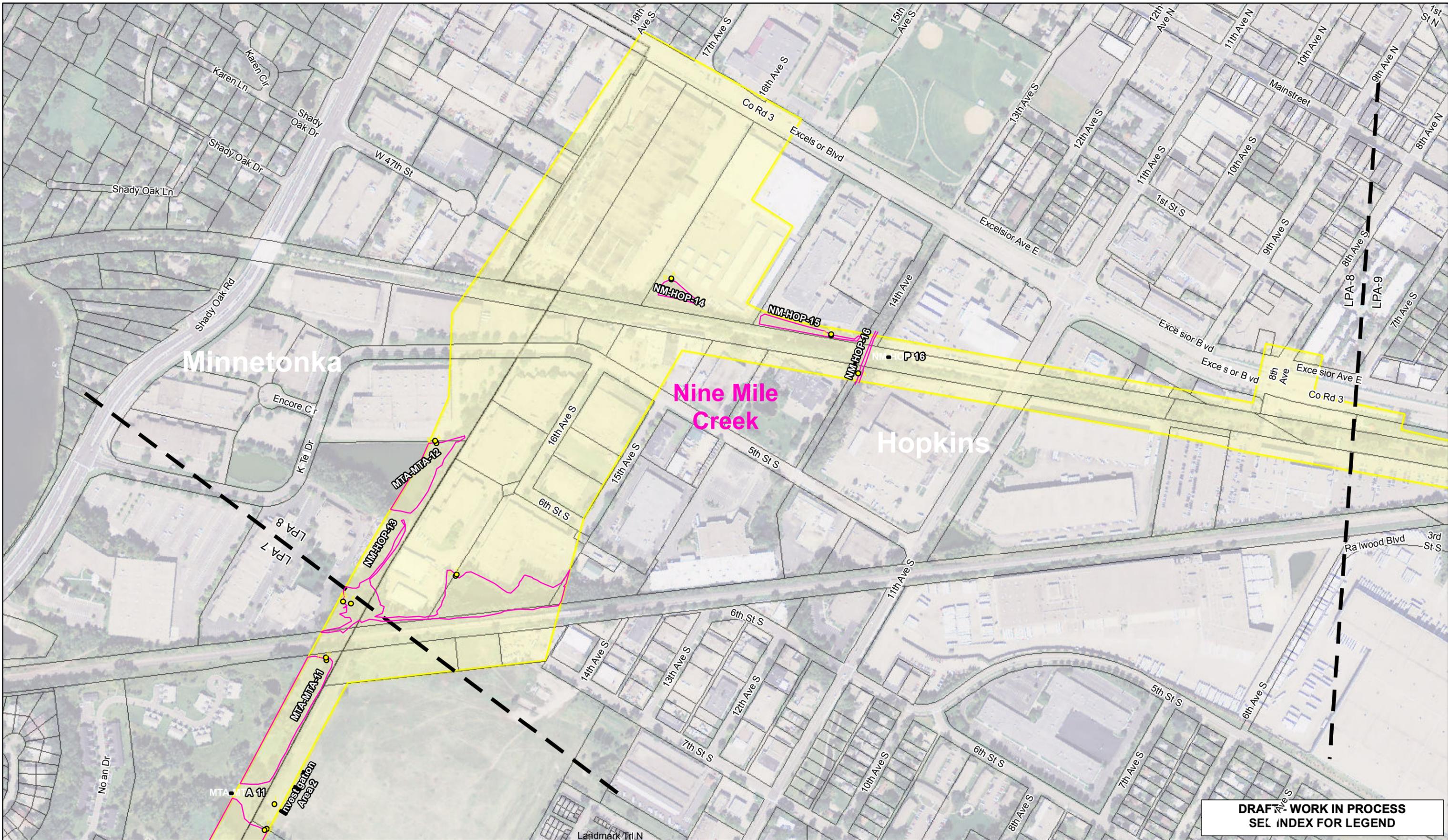
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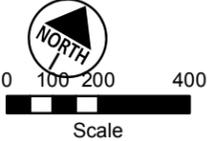


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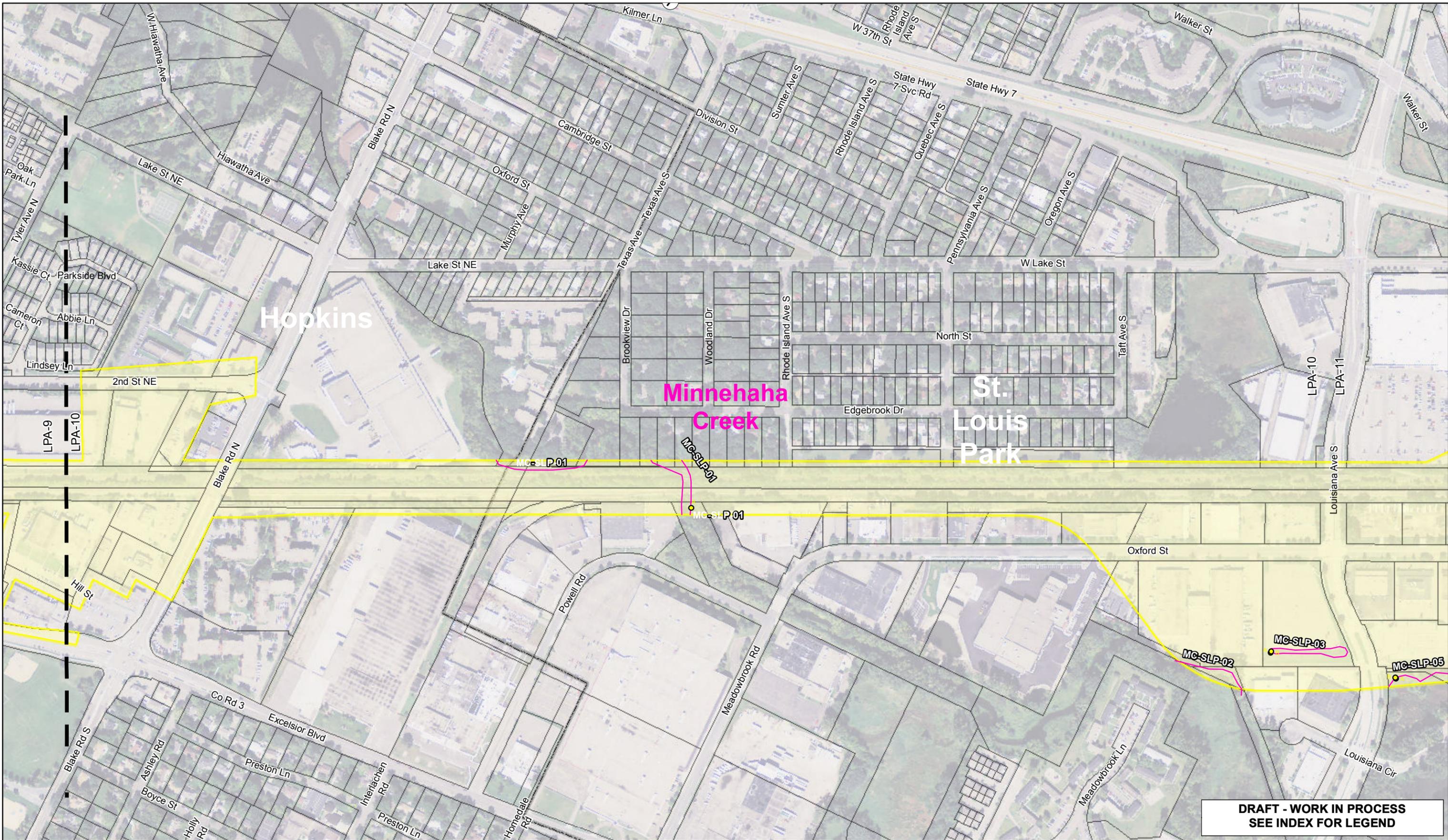
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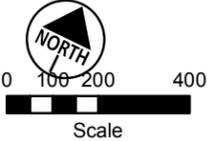


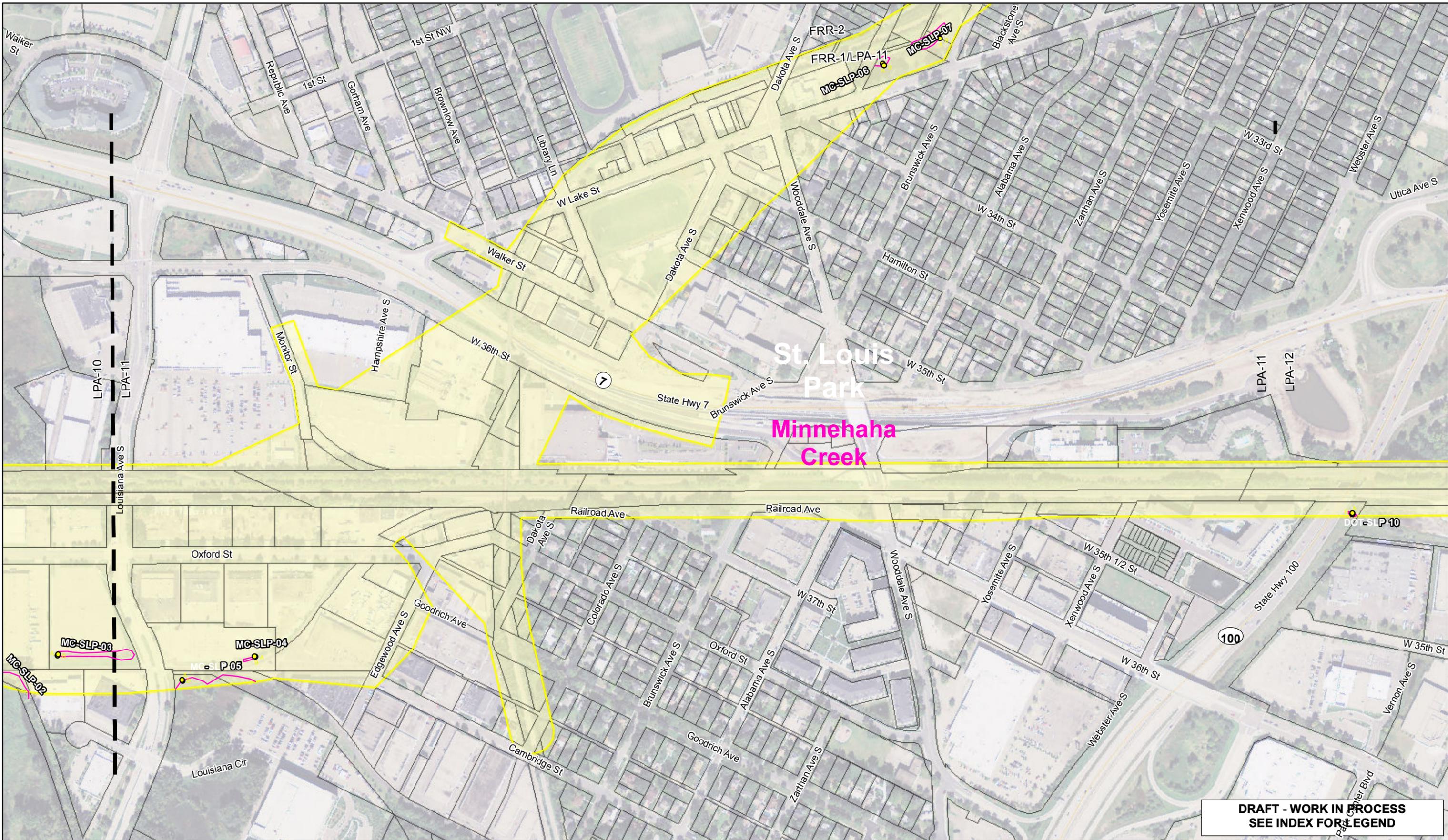
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Minnehaha Creek

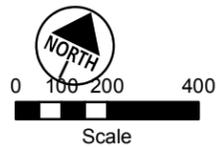
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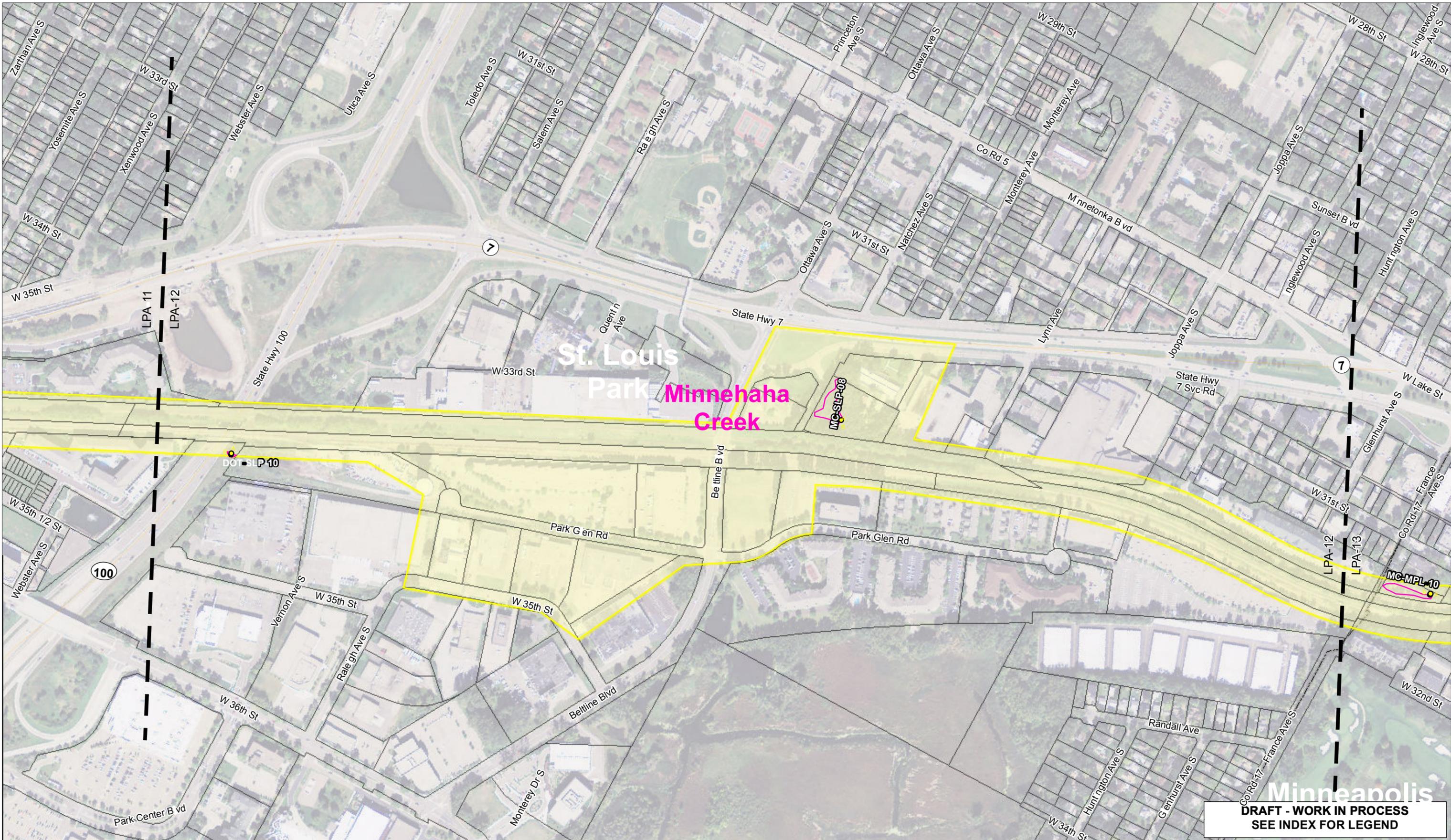


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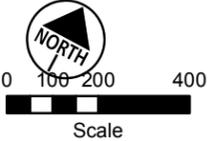


**Minneapolis**  
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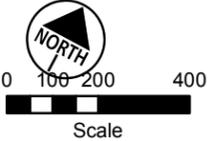
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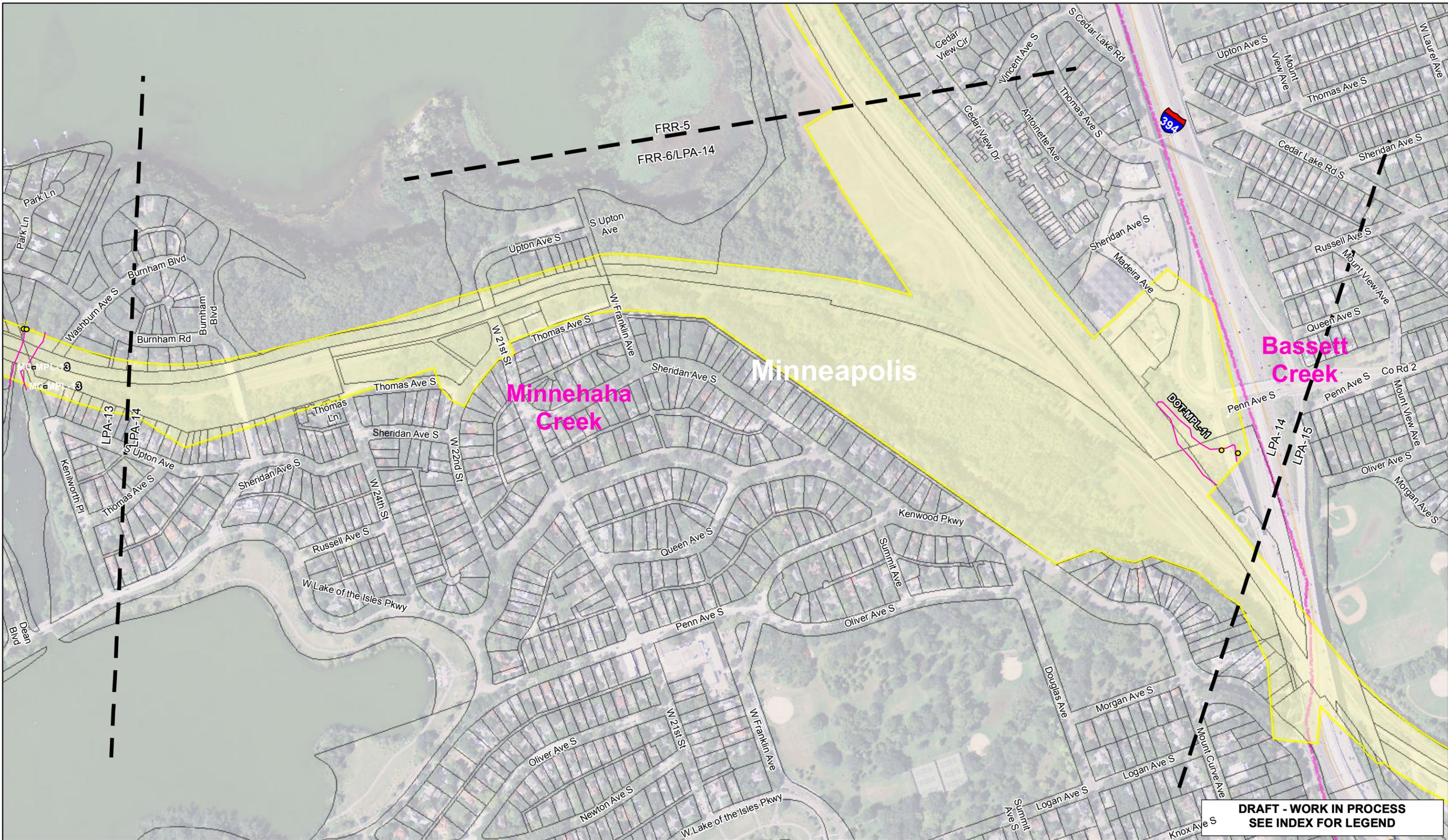


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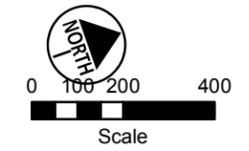


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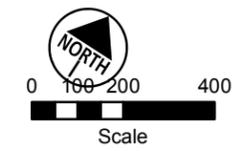
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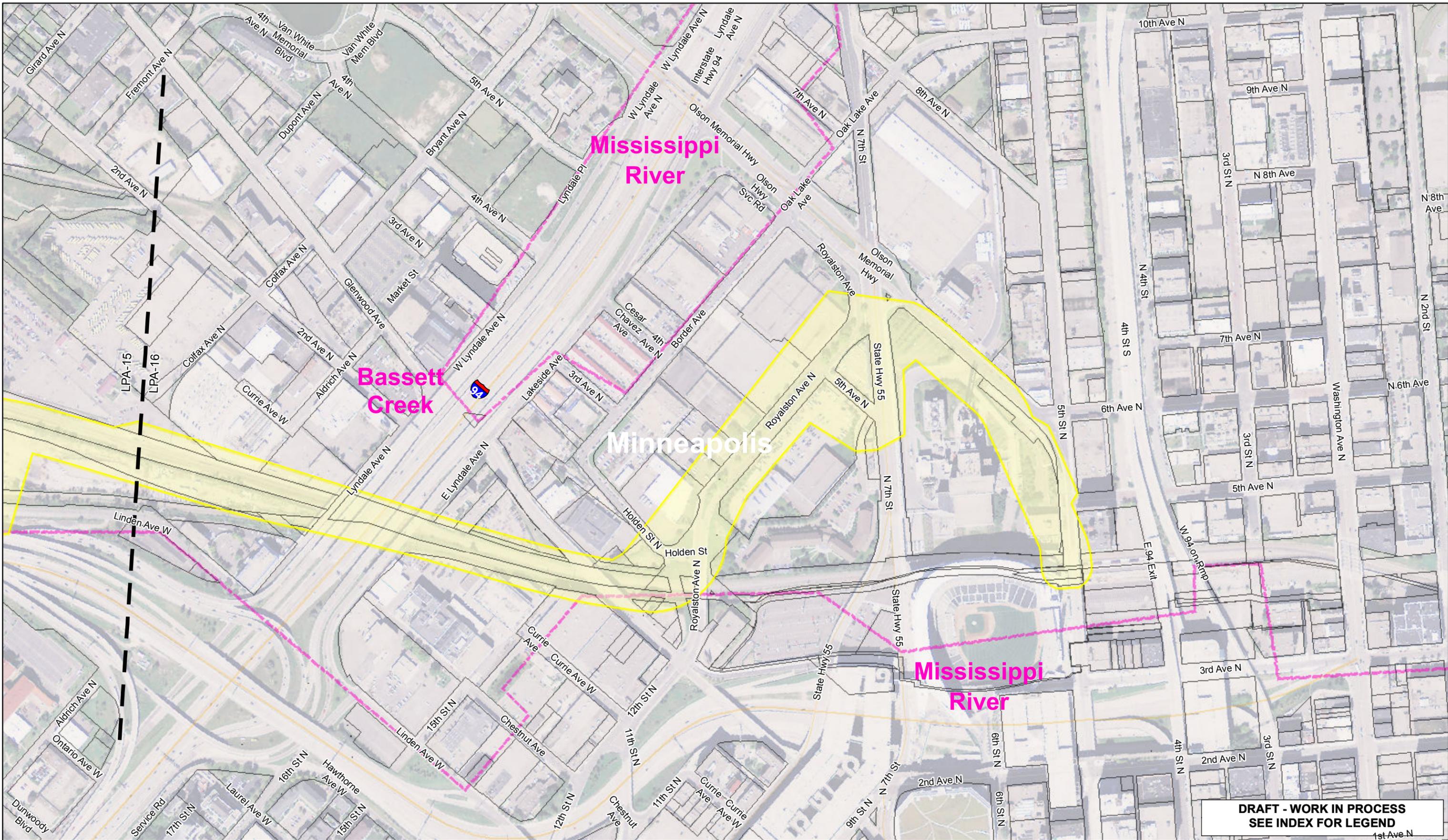


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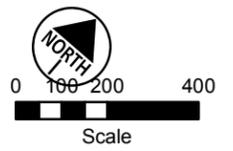


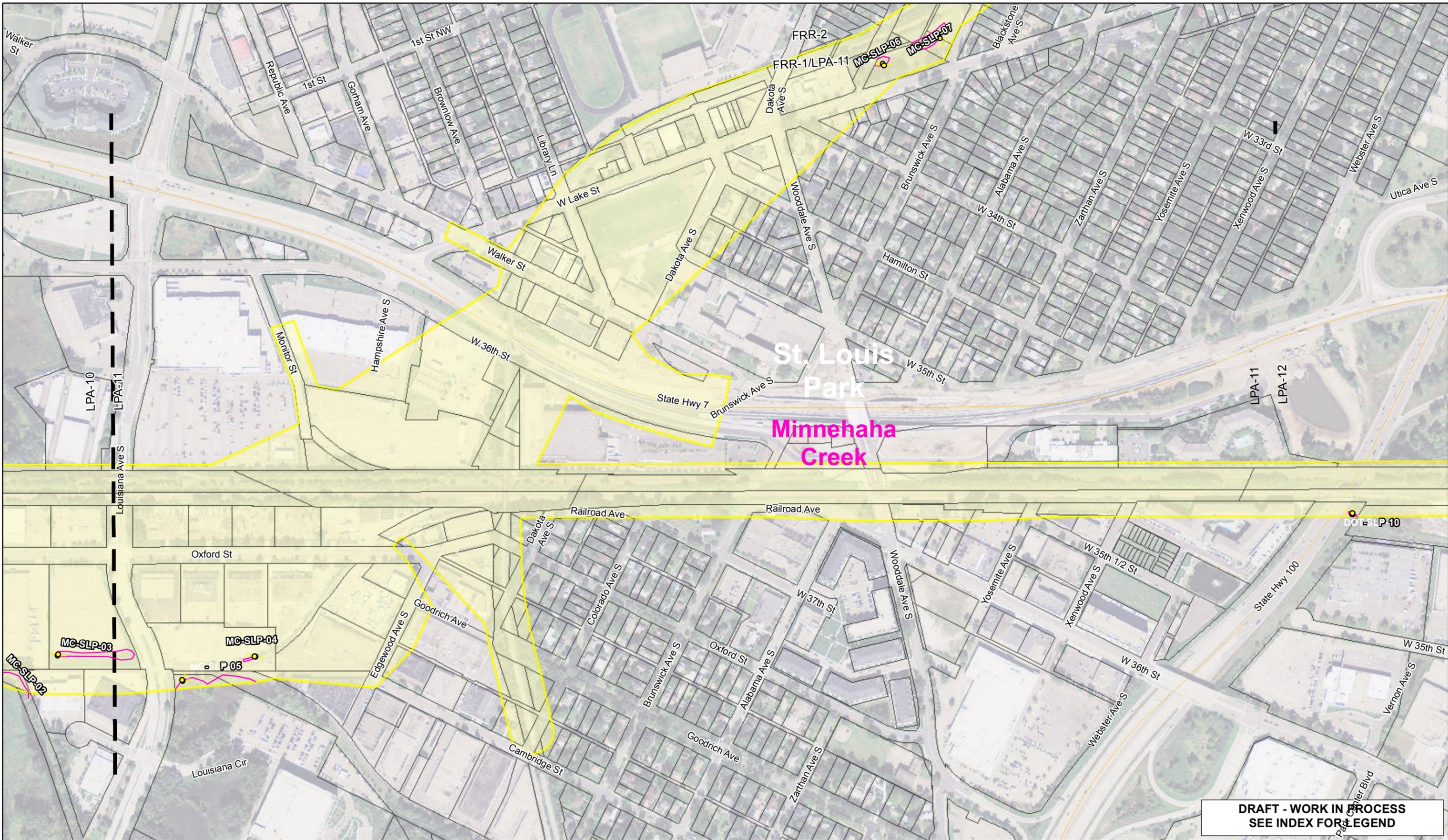
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Minnehaha Creek

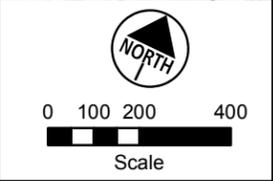
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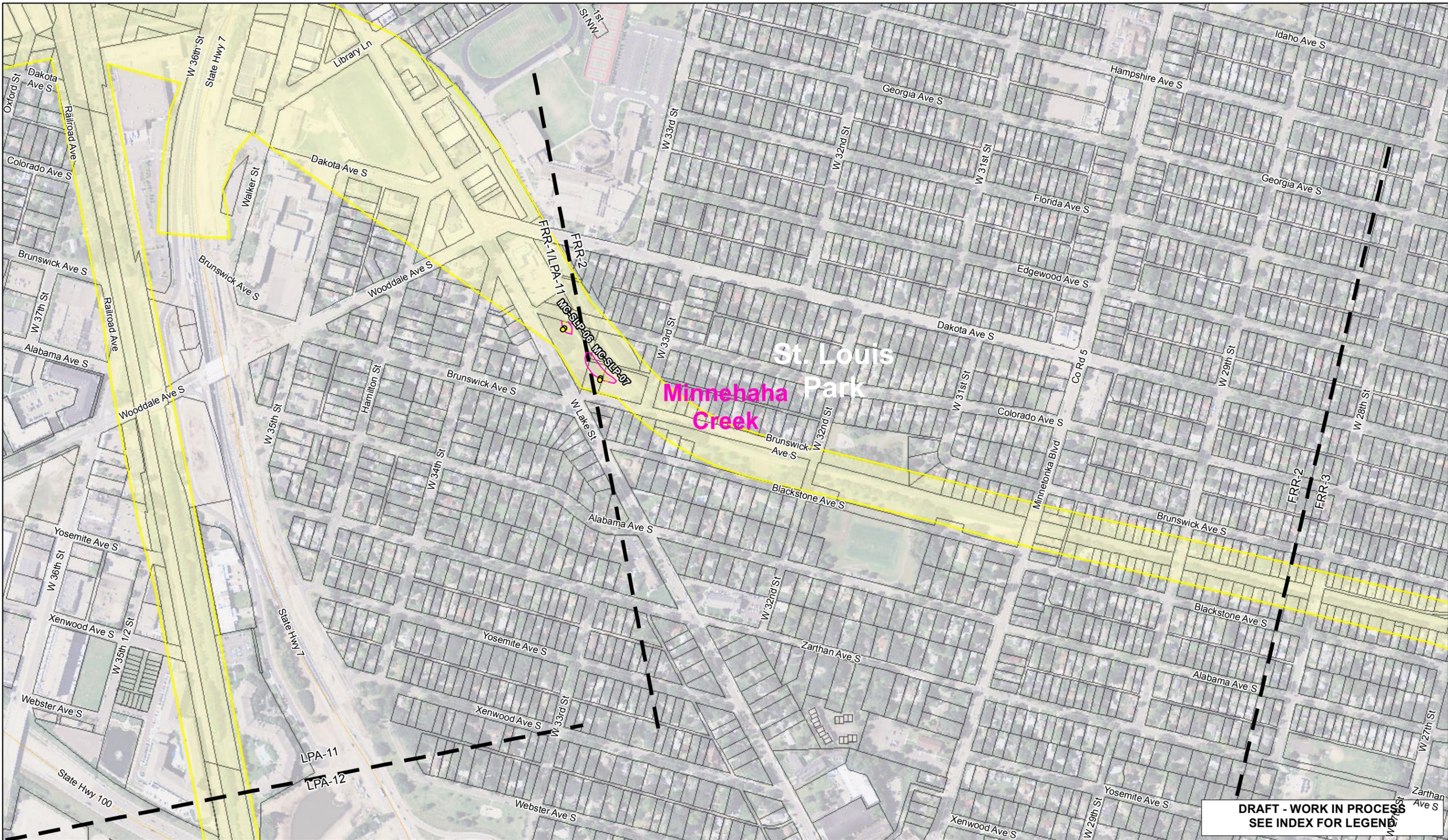


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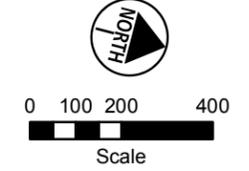


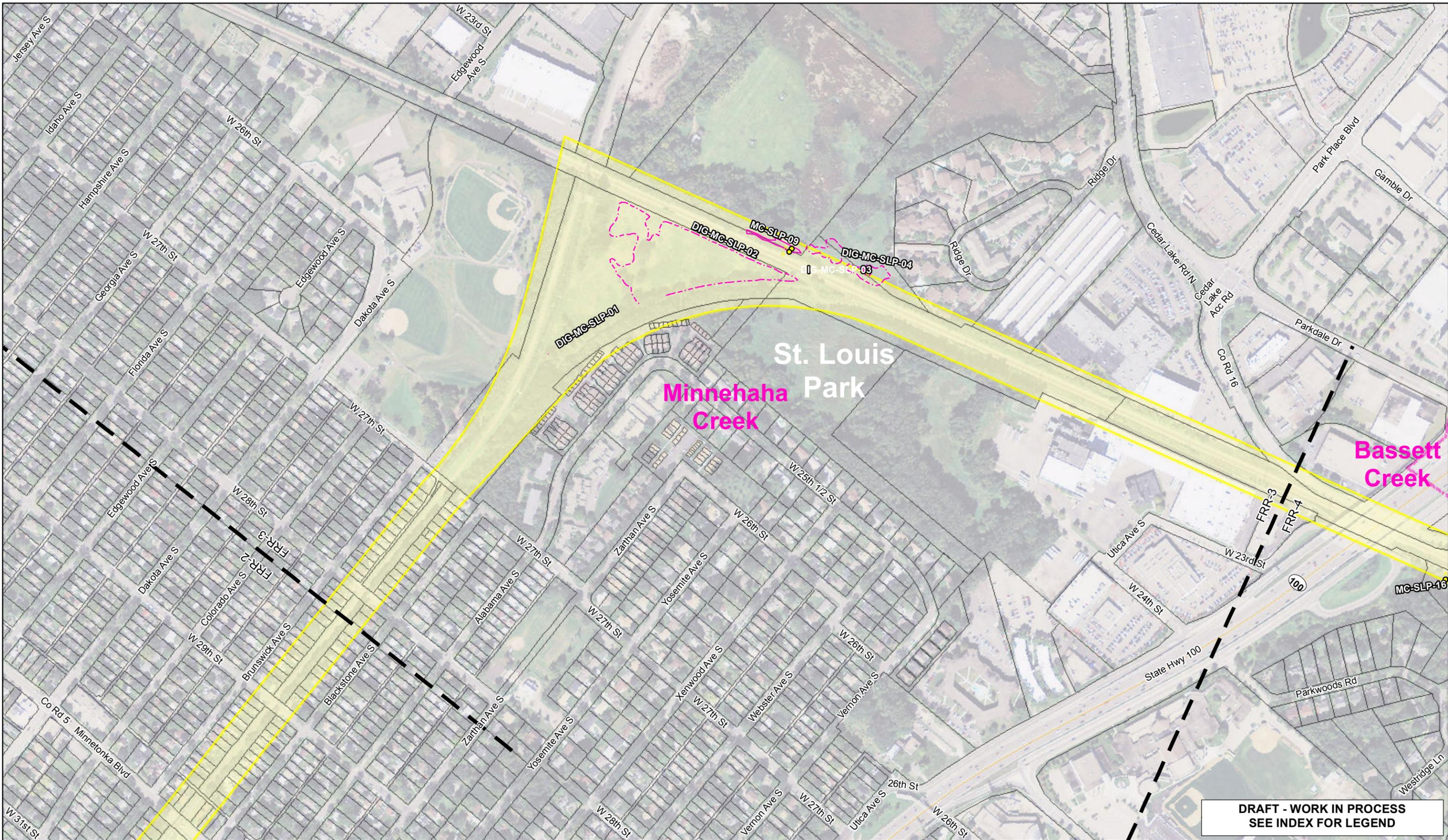
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# SOUTHWEST LRT

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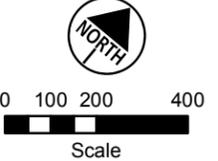


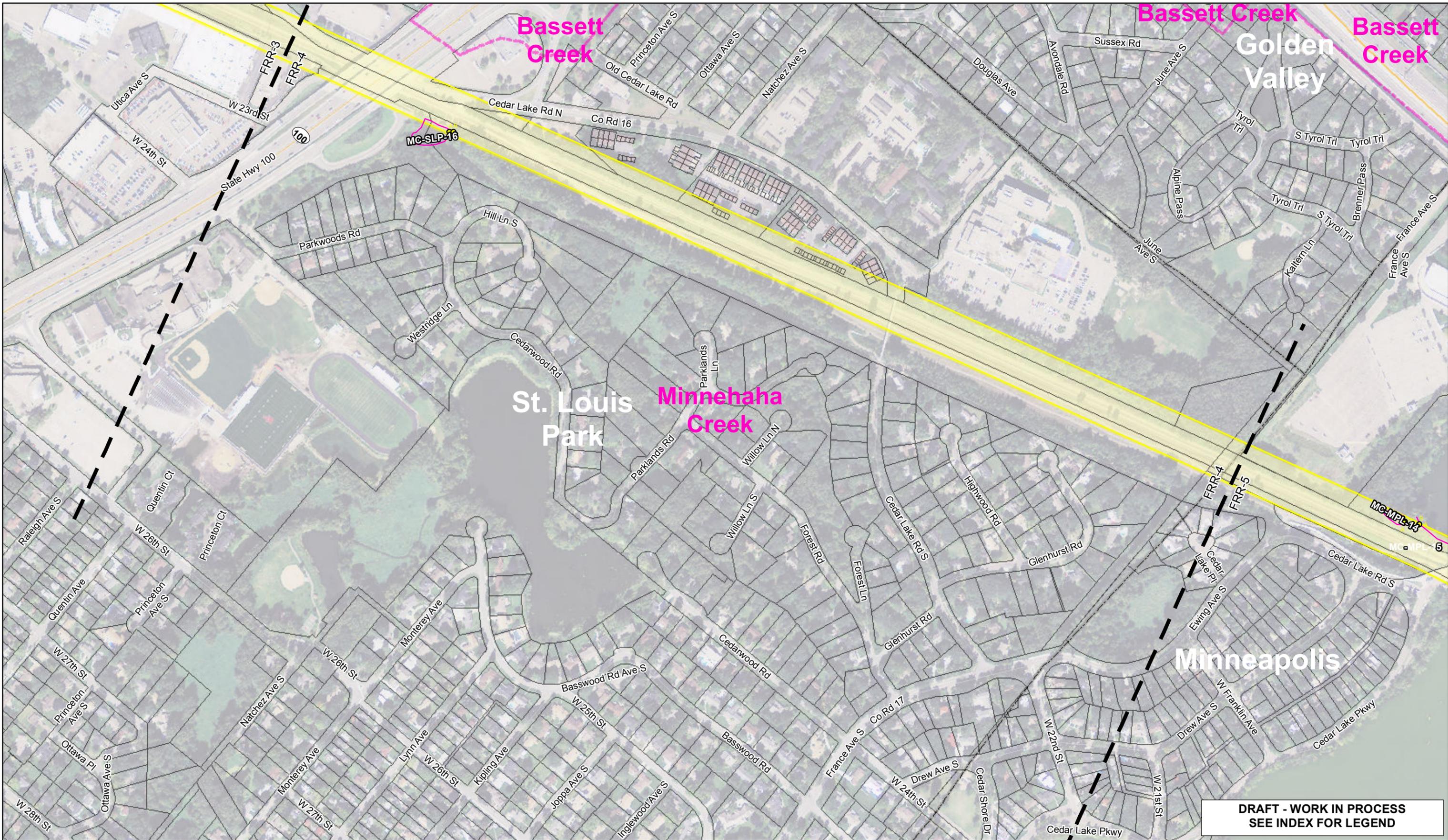
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Wetland Field Delineation  
 Freight Rail Relocation Alternative

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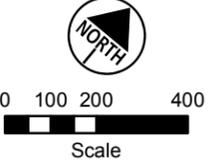


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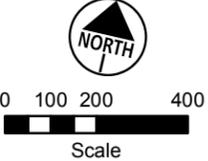


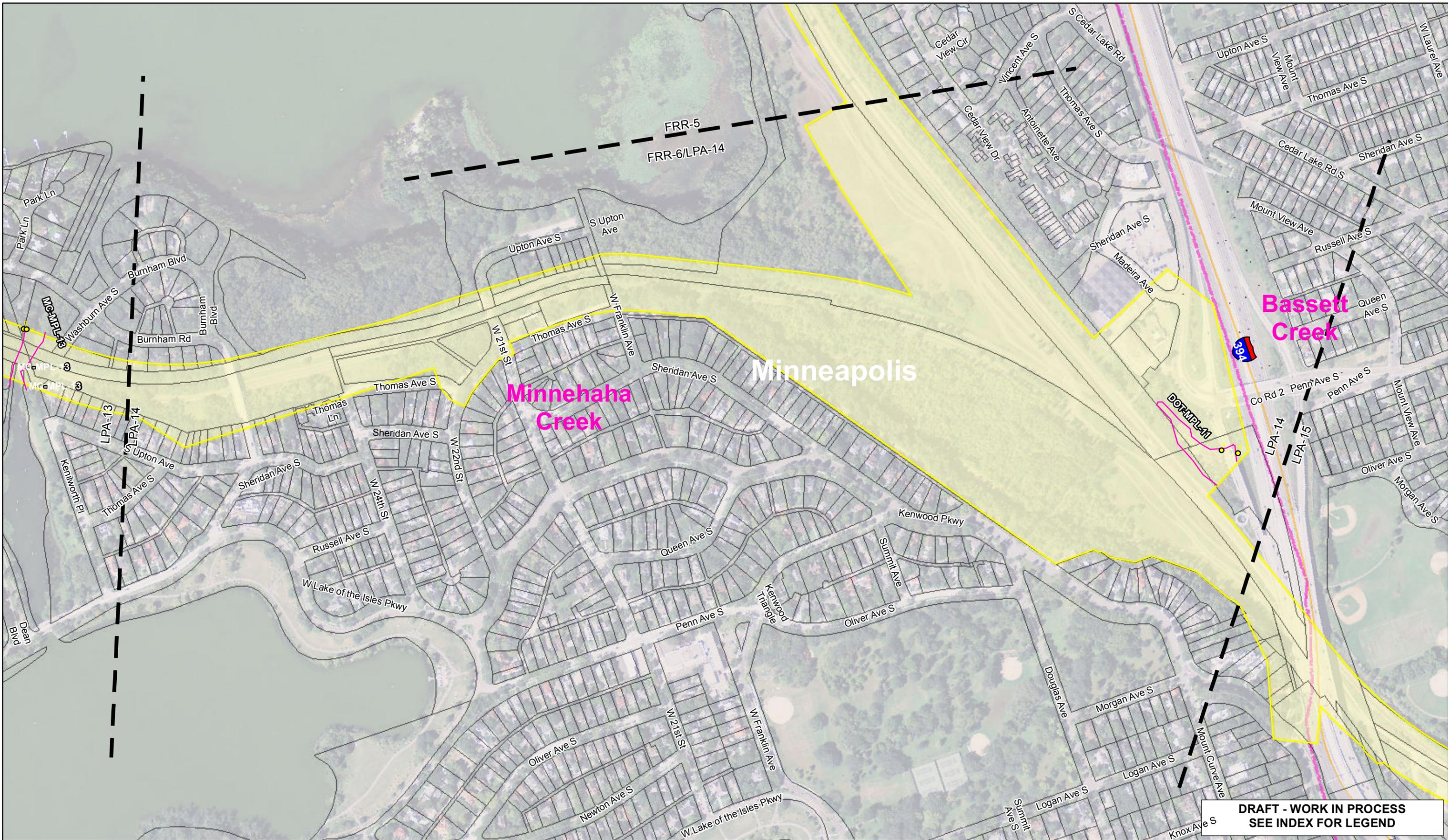
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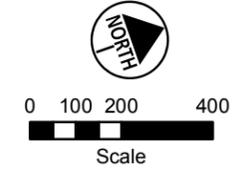


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## **APPENDIX D**

### **Routine On-site Determination Method Datasheets**

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-01 City/County: Eden Prairie/Hennepin Sampling Date: 09/06/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 12-18 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L2D-Malardi Hawick Complex NWI Classification: PF01/EMC

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland. Normal circumstances not met because soil profile disturbed by road development.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Populus deltoides</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>90</u> x 2 = <u>180</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>110</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>2.00</u>
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Typha angustifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR3/1	100					Sandy Loam	With Gravel
6-9	10YR4/2	100					Sand	
9-12	10YR2/2	100					Sand	
12-18	10YR2/2	100					Peat	Hemic

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> 0-13 <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
				*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic	

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 Buried peat layer at 1' comprised of hemic peat.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-01 City/County: Eden Prairie/Hennepin Sampling Date: 09/06/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 12-18 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L2D-Malardi Hawick Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three criteria were met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1	_____	_____	_____	_____		Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)	
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u> = Total Cover				
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b>	
1	_____	_____	_____	_____		Total % Cover of:
2	_____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>	
3	_____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>	
4	_____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>	
5	_____	_____	_____	_____	FACU species <u>100</u> x 4 = <u>400</u>	
		<u>0</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
						Column totals <u>100</u> (A) <u>400</u> (B)
Herb stratum	(Plot size: <u>5 ft</u> )				Prevalence Index = B/A = <u>4.00</u>	
1	<u>Solidago canadensis</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
2	<u>Vicia americana</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
6	_____	_____	_____	_____		
7	_____	_____	_____	_____		
8	_____	_____	_____	_____		
9	_____	_____	_____	_____		
10	_____	_____	_____	_____		
		<u>100</u> = Total Cover				
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>N</u>	
1	_____	_____	_____	_____		
2	_____	_____	_____	_____		
		<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-3	10YR3/2	100					Loam	
3-14	10YR4/4	100					Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Rock obstruction</u> Depth (inches): <u>14"</u>	<b>Hydric soil present?</b> <u>  N  </u>
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Remarks:  
 Rock obstruction at 14".

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>  N  </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-02 City/County: Eden Prairie/Hennepin Sampling Date: 09/06/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 2-5 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L37B-Angus Loam, Morainic NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>100</u> x 1 = <u>100</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>1.00</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Typha angustifolia</u>	100	Y	OBL	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR2/1	100					Mucky Peat	
15-18	10YR6/8	100					Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input checked="" type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input checked="" type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
<p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>		

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p>			<p><u>Secondary Indicators (minimum of two required)</u></p>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<input type="checkbox"/> Water-Stained Leaves (B9)					

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input checked="" type="checkbox"/>    No <input type="checkbox"/>    Depth (inches): <u>    12"    </u></p> <p>Water table present?      Yes <input type="checkbox"/>      No <input type="checkbox"/>      Depth (inches): <u>          </u></p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input type="checkbox"/>      Depth (inches): <u>          </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-02 City/County: Eden Prairie/Hennepin Sampling Date: 09/06/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Slope \_\_\_\_\_ Local relief (concave, convex, none): Concave  
 Slope (%): 2-5 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L37B-Angus Loam, Morainic NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria not met. Area is not a wetland. Normal circumstances not met because soil profile contains a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>90</u> (A) <u>260</u> (B) Prevalence Index = B/A = <u>2.89</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Salix interior</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>30</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Solidago canadensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Impatiens capensis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3	<u>Vicia americana</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>60</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR3/1	98	5YR4/6	2	C	M	Loamy Sand	
5-7	10YR6/6	50	5YR4/6	50	C	M	Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input checked="" type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: <u>Rock</u> Depth (inches): <u>7 inches</u>	<b>Hydric soil present?</b> <u>  N  </u>
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Remarks:  
 Restrictive layer at 7 inches. Soil profile determines to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>  N  </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-03 City/County: Eden Prairie/Hennepin Sampling Date: 09/06/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L16A-Muskego, Blue Earth and Houghton NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1	_____	_____	_____	_____		Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2	_____	_____	_____	_____		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u> = Total Cover				
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b>	
1	_____	_____	_____	_____		Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>100</u> x 2 = <u>200</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.00</u>
2	_____	_____	_____	_____		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u> = Total Cover				
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1	<u>Phalaris arundinacea</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>		_____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2	_____	_____	_____	_____		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
6	_____	_____	_____	_____		
7	_____	_____	_____	_____		
8	_____	_____	_____	_____		
9	_____	_____	_____	_____		
10	_____	_____	_____	_____		
		<u>100</u> = Total Cover				
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>	
1	_____	_____	_____	_____		
2	_____	_____	_____	_____		
		<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR3/2	100					Sandy Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 No hydric indicators were observed. Soil was determined to be hydric based on landscape position, the presence of hydrophytic vegetation, and saturation at the surface.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Water table present?        Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No <u>    </u> Depth (inches): <u>    At surface    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Roadside ditch.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-03 City/County: Eden Prairie/Hennepin Sampling Date: 09/06/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L16A-Muskego-Blue Earth-Houghton NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>3.00</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )				
1	<u>Bromus inermis</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Phalaris arundinacea</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR3/2	100					Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
--	---

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology of hydrologic indicators noted.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-04 City/County: Eden Prairie/Hennepin Sampling Date: 09/06/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L16A-Muskego, Blue Earth, Houghton NWI Classification: PEMCD

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland. Normal circumstances not met because soil profile disturbed by development of the road.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>100</u> x 1 = <u>100</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>1.00</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Typha angustifolia</u>	<u>100</u>	<u>Y</u>	<u>OBL</u>	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	<b>Hydrophytic vegetation present?</b> <u>Y</u>
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR5/1	100					Mix	
6-10	10YR5/1	98	10YR6/6	2	C	M	Mix	
10-18	10YR2/1	33					Mix	
	10YR4/1	33					Mix	
	10YR6/6	33					Mix	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 No hydric indicators were identified, however, due to the presence of hydrophytic vegetation, surface saturation and landscape position, hydric soils are assumed by best professional judgment.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Water table present?        Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No <u>    </u> Depth (inches): <u>    Within 1'    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-04 City/County: Eden Prairie/Hennepin Sampling Date: 09/06/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L16A-Muskego, Blue Earth, Houghton NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three criteria were met. Area is not a wetland. Normal circumstances not met because soil profile contained a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>100</u> x 4 = <u>400</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>400</u> (B) Prevalence Index = B/A = <u>4.00</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )				
1	<u>Bromus inermis</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Lotus corniculatus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3	<u>Cirsium arvense</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR3/1	100					Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: <u>Unknown</u></p> <p>Depth (inches): <u>12</u></p>	<p><b>Hydric soil present?</b> <u>  N  </u></p>
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Remarks:  
Soil impermeable beyond 12". Profile determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>		<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>	
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-05 City/County: Eden Prairie/Hennepin Sampling Date: 09-10-2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 11-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U3B-Urban Land NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>240</u> (B) Prevalence Index = B/A = <u>2.40</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Cyperus strigosus</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Polygonum ramosissimum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR3/1	80					Sandy Loam	
	10YR4/3	20					Sandy Loam	
15-18	10YR2/1	70	10YR5/6	30	D	M	Clay Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Hystic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 No hydric indicators were identified, however, due to the presence of hydrophytic vegetation, surface saturation and landscape position, hydric soils are assumed by best professional judgment.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-05 City/County: Eden Prairie/Hennepin Sampling Date: 09-10-2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 11-116-22  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Slope \_\_\_\_\_ Local relief (concave, convex, none): Concave  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U3B-Urban Land NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
f yes, optional wetland site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Soil and hydrology criteria were not met. Area is not a wetland. Normal circumstances not met because soil profile contained a restrictive layer.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>2.20</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Rumex crispus</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR4/1	100					Sandy Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: <u>Hard Clay Pan</u></p> <p>Depth (inches): <u>8"</u></p>	<p><b>Hydric soil present?</b> <u>  N  </u></p>
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Remarks:  
Hard clay pan did not allow sampling beyond 8". Soil was determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
No hydrology or hydrologic indicators observed.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-06 City/County: Eden Prairie/Hennepin Sampling Date: 09/10/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 11-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L22C2-Lester Loam-Morainic NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? \_\_\_\_\_ (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland. Normal circumstances not met because soil profile disturbed by road construction.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>100</u> x 1 = <u>100</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>1.00</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Typha angustifolia</u>	<u>100</u>	<u>Y</u>	<u>OBL</u>	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR4/1	97	10YR5/6	3	C	M	Sand, Silt, Clay Mix	
8-15	10YR5/4	100					Mix	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils:</b>	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Other (explain in remarks)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
No hydric indicator met. Soil profile disturbed by road construction. Soil profile determined to be hydric based on the presence of hydrophytic vegetation and landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b>		<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
Surface water present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Storm pond, excavated. 18" corrugated plastic culvert enters from north side.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-06 City/County: Eden Prairie/Hennepin Sampling Date: 09/10/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 11-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L22C2-Lester Loam-Morainic NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria not met. Area is not a wetland. Normal circumstances not met because soil profile contained a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Populus deltoides</u>	10	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>100</u> x 2 = <u>200</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>110</u> (A) <u>230</u> (B) Prevalence Index = B/A = <u>2.09</u>
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Persicaria pensylvanica</u>	90	Y	FACW	
2 <u>Phalaris arundinacea</u>	10	N	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR3/2	100					Sandy Loam	
10-12	10YR3/2	98	10YR5/6	2	C	M	Sandy Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: <u>        </u> Unknown Depth (inches): <u>        </u> 12"	<b>Hydric soil present?</b> <u>        </u> N
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Remarks:  
Soil impenetrable beyond 12". Profile determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>        </u> No <u>        </u> X    Depth (inches): <u>        </u> Water table present?        Yes <u>        </u> No <u>        </u> X    Depth (inches): <u>        </u> Saturation present?        Yes <u>        </u> No <u>        </u> X    Depth (inches): <u>        </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>        </u> N
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
18" concrete culvert that runs into wetland area.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-07 City/County: Eden Prairie/Hennepin Sampling Date: 09/10/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 12-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 6-8 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L58C2-Koronis-Kingsley complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland. Normal circumstances not met because soil profile disturbed by road construction. Area consists of a roadside ditch.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>50</u> x 1 = <u>50</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>70</u> (A) <u>90</u> (B) Prevalence Index = B/A = <u>1.29</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Typha angustifolia</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Persicaria pensylvanica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>70</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR3/1	100					Silt Loam	
6-12	10YR3/1	50					Silt Loam	
	5YR4/6	50						
12-18	10YR3/3	100					Sandy Clay	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils:</b>	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Other (explain in remarks)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
No hydric indicators met. Soil profile disturbed by road construction. Soil profile determined to be hydric based on the presence of hydrophytic vegetation and landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b>		<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
Surface water present?    Yes <input checked="" type="checkbox"/> No _____    Depth (inches): <u>    2    </u>		
Water table present?    Yes _____    No _____    Depth (inches): _____		
Saturation present?    Yes _____    No _____    Depth (inches): _____ (includes capillary fringe)		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Area is a roadside ditch.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-07 City/County: Eden Prairie/Hennepin Sampling Date: 09/10/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 12-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 6-8 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L58C2-Koronis-Kingsley complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three criteria were met. Area is not a wetland. Normal circumstances not met because soil profile contained a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1	_____	_____	_____	_____		Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
2	_____	_____	_____	_____		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u> = Total Cover				
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b>	
1	_____	_____	_____	_____		Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>260</u> (B) Prevalence Index = B/A = <u>3.25</u>
2	_____	_____	_____	_____		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u> = Total Cover				
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1	<u>Solidago canadensis</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>		_____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2	<u>Phalaris arundinacea</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
6	_____	_____	_____	_____		
7	_____	_____	_____	_____		
8	_____	_____	_____	_____		
9	_____	_____	_____	_____		
10	_____	_____	_____	_____		
		<u>80</u> = Total Cover				
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>N</u>	
1	_____	_____	_____	_____		
2	_____	_____	_____	_____		
		<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR3/3	100					Silty Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: <u>Rock obstruction</u></p> <p>Depth (inches): <u>6"</u></p>	<p><b>Hydric soil present?</b> <u>  N  </u></p>
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Remarks:  
 Unable to penetrate past 6" due to rock obstruction. Soil profile determined to be non-hydric due to landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-08 City/County: Eden Prairie/Hennepin Sampling Date: 09/11/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-6/12-18 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U3B-Udorthents/L62E-Koronis-Kingsley-Malardi Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a roadside ditch. Normal circumstances not met because soils are disturbed by road construction.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>50</u> x 1 = <u>50</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>150</u> (B) Prevalence Index = B/A = <u>1.50</u>
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Typha angustifolia</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Phalaris arundinacea</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR2/2	100					Silt Loam	
10-18	10YR4/3	98	10YR5/8	2			Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 No hydric indicators met. Soil profile disturbed by road construction. Soils determined to be hydric based on redoximorphic features in the profile, the presence of hydrophytic vegetation and landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Water table present?        Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Saturation present?         Yes <u>    X    </u> No <u>    </u> Depth (inches): <u>    10"    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-08 City/County: Eden Prairie/Hennepin Sampling Date: 09/11/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-6/12-18 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U3B-Udorthents/L62E-Koronis-Kingsley-Malardi Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>240</u> (B) Prevalence Index = B/A = <u>2.40</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	80	Y	FACW	
2	<u>Cirsium arvense</u>	20	Y	FACU	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR3/2	100					Silt Loam	
6-18	10YR5/8	100					Mix	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-09 City/County: Eden Prairie/Hennepin Sampling Date: 09/10/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban land-Udorthents, wet substratum NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a roadside ditch.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>80</u> x 1 = <u>80</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>120</u> (B) Prevalence Index = B/A = <u>1.20</u>
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Typha angustifolia</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3					
4					
5					
6					
7					
8					
9					
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)  
 Large culvert discharging into ditch-24" in diameter.

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR2/1	100					Silt Loam	
6-10	10YR2/1	98	5Y4/6	2	C	M	Silt Loam	
10-15	10YR2/1		Gley1-4/5GY					

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Water table present?        Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No <u>    </u> Depth (inches): <u>    10"    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Area is a roadside ditch.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-EP-09 City/County: Eden Prairie/Hennepin Sampling Date: 09/10/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban land-Udorthents, wet substratum NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Picea glauca</u>	30	Y	FACU	
2 <u>Pinus strobus</u>	20	Y	FACU	
3 _____				
4 _____				
5 _____				
<u>50</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>90</u> x 2 = <u>180</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>140</u> (A) <u>380</u> (B) Prevalence Index = B/A = <u>2.71</u>
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )				
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1 <u>Phalaris arundinacea</u>	90	Y	FACW	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
<u>90</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )				
1 _____				
2 _____				
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)  
 Large culvert discharging into ditch-24" in diameter.

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR3/1	100					Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: <u>Clay Pan</u></p> <p>Depth (inches): <u>12"</u></p>	<p><b>Hydric soil present?</b> <u>  N  </u></p>
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Remarks:  
Restrictive Clay Pan at 12". Profile determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): <u>          </u></p> <p>Water table present?        Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): <u>          </u></p> <p>Saturation present?        Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): <u>          </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-SLP-10 City/County: St. Louis Park/Hennepin Sampling Date: 9-5-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 06-028-24  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland. Normal circumstances not met because soil profile contained restrictive layer.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Populus tremuloides</u>	15	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>90</u> (A) <u>250</u> (B) Prevalence Index = B/A = <u>2.78</u>
1 <u>Rhamnus cathartica</u>	15	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	40	Y	FACW	
2 <u>Arctium minus</u>	10	N	FACU	
3 <u>Solidago altissima</u>	10	N	FACU	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>60</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/1						SiL	Rocky substrate

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils:</b>	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Other (explain in remarks)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: <u>    Rock    </u> Depth (inches): <u>    8"    </u>	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
Restrictive layer at 8 inches. Profile determined to be hydric based on presence of hydrophytic vegetation, Landscape position, and surface inundation.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b> Surface water present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>    2    </u>	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
Water table present?    Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>          </u>	
Saturation present?    Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-SLP-10 City/County: St. Louis Park/Hennepin Sampling Date: 9-5-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 06-028-24  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%):          Lat:          Long:          Datum:           
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification:         

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation         , soil X, or hydrology          significantly disturbed? Are "normal circumstances"           
 Are vegetation         , soil         , or hydrology          naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: <u>        </u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland. Normal circumstances not met because soil profile contained restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
1 <u>Populus tremuloides</u>	15	Y	FAC	
2 <u>        </u>				
3 <u>        </u>				
4 <u>        </u>				
5 <u>        </u>				
<u>15</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>55</u> x 3 = <u>165</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>85</u> (A) <u>255</u> (B) Prevalence Index = B/A = <u>3.00</u>
1 <u>Rhamnus cathartica</u>	40	Y	FAC	
2 <u>        </u>				
3 <u>        </u>				
4 <u>        </u>				
5 <u>        </u>				
<u>40</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	15	Y	FACW	
2 <u>Bromus inermis</u>	15	Y	FACU	
3 <u>        </u>				
4 <u>        </u>				
5 <u>        </u>				
6 <u>        </u>				
7 <u>        </u>				
8 <u>        </u>				
9 <u>        </u>				
10 <u>        </u>				
<u>30</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>        </u>				
2 <u>        </u>				
<u>0</u> = Total Cover				

**Hydrophytic Vegetation Indicators:**  
 Rapid test for hydrophytic vegetation  
 Dominance test is >50%  
 Prevalence index is ≤3.0\*  
 Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          B

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR 3/1						SiL	Rocky
15+								Rocky fill

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Rocky fill</u> Depth (inches): <u>15+</u>	Hydric soil present? <u>  N  </u>
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Remarks:  
Restrictive layer at 15 inches. Profile determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>  N  </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-MPL-11 City/County: Minneapolis/Hennepin Sampling Date: 09/12/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 28-29-24  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U6B-Urban Land NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>100</u> x 1 = <u>100</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>1.00</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Typha angustifolia</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Lemna minor</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR2/1	100					Muck	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input checked="" type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
---	--

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
<input type="checkbox"/> Water-Stained Leaves (B9)					

<b>Field Observations:</b> Surface water present?    Yes <input checked="" type="checkbox"/> No _____    Depth (inches): <u>    6    </u> Water table present?      Yes _____    No _____    Depth (inches): _____ Saturation present?        Yes _____    No _____    Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site DOT-MPL-11 City/County: Minneapolis/Hennepin Sampling Date: 09/12/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 28-29-24  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Slope \_\_\_\_\_ Local relief (concave, convex, none): Convex  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U6B-Urban Land NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Salix nigra</u>	20	Y	OBL	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>7</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>57.14%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
	20 = Total Cover			
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Salix interior</u>	30	Y	FACW	
2 <u>Rhamnus cathartica</u>	30	Y	FAC	OBL species <u>20</u> x 1 = <u>20</u>
3 _____	_____	_____	_____	FACW species <u>60</u> x 2 = <u>120</u>
4 _____	_____	_____	_____	FAC species <u>30</u> x 3 = <u>90</u>
5 _____	_____	_____	_____	FACU species <u>100</u> x 4 = <u>400</u>
	60 = Total Cover			UPL species <u>0</u> x 5 = <u>0</u>
				Column totals <u>210</u> (A) <u>630</u> (B)
				Prevalence Index = B/A = <u>3.00</u>
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:
1 <u>Solidago canadensis</u>	30	Y	FACU	
2 <u>Cirsium arvense</u>	30	Y	FACU	<input checked="" type="checkbox"/> Dominance test is >50%
3 <u>Phalaris arundinacea</u>	10	N	FACW	<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
4 <u>Ambrosia artemisiifolia</u>	10	N	FACU	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5 _____	_____	_____	_____	Problematic hydrophytic vegetation* (explain)
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
	80 = Total Cover			
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Parthenocissus quinquefolia</u>	30	Y	FACU	
2 <u>Vitis riparia</u>	20	Y	FACW	
	50 = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR2/2	100					Sandy Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
<p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>		

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____ (includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-01 City/County: Eden Prairie/Hennepin Sampling Date: 08/30/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Pond edge Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Lester-Malardi Complex NWI Classification: PUBGx

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>45</u> x 2 = <u>90</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>60</u> (A) <u>135</u> (B) Prevalence Index = B/A = <u>2.25</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	<u>Cornus alba</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Rhamnus cathartica</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3					
4					
5					
		<u>35</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>5</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1	<u>Vitis riparia</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2					
		<u>20</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland serves as stormwater pond.

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2	10YR3/1	100					Fine Sandy Loam	
2-18	5/10G	95	10YR 4/6	5	C	M	Fine Sandy Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
---	--

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Pond edge.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-01 City/County: Eden Prairie/Hennepin Sampling Date: 08/30/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Lester-Malardi complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria not met. Area is not a wetland. Normal circumstances were not met because soil profile had a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1					
2					Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3					Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
4					
5					
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b>
1	<u>Cornus alba</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Rhamnus cathartica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	OBL species <u>0</u> x 1 = <u>0</u>
3					FACW species <u>35</u> x 2 = <u>70</u>
4					FAC species <u>20</u> x 3 = <u>60</u>
5					FACU species <u>20</u> x 4 = <u>80</u>
		<u>40</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
					Column totals <u>75</u> (A) <u>210</u> (B)
					Prevalence Index = B/A = <u>2.80</u>
Herb stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>
1	<u>Solidago canadensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2					<input checked="" type="checkbox"/> Dominance test is >50%
3					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5					Problematic hydrophytic vegetation* (explain)
6					
7					
8					
9					
10					
		<u>20</u>	= Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody vine stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	<u>Vitis riparia</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2					
		<u>15</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR3/2	100					Silty Loam	
8+							Rocky Fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>    </u> Rock Depth (inches): <u>    </u> 8	<b>Hydric soil present?</b> <u>    </u> N
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Remarks:  
 Profile contains rocky material at 8 inches. Soil profile assumed non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> X    Depth (inches): <u>    </u> Water table present?      Yes <u>    </u> No <u>    </u> X    Depth (inches): <u>    </u> Saturation present?        Yes <u>    </u> No <u>    </u> X    Depth (inches): <u>    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> N
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-02 City/County: Eden Prairie/Hennepin Sampling Date: 08/30/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Water NWI Classification: PUBG

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	20	Y	FAC	
2 <u>Populus deltoides</u>	10	Y	FAC	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>70</u> x 1 = <u>70</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>120</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>1.83</u>
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1 <u>Typha angustifolia</u>	70	Y	OBL	
2 <u>Solidago canadensis</u>	10	N	FACU	
3 <u>Phalaris arundinacea</u>	10	N	FACW	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>90</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland serves as stormwater pond.

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR3/1	100					Loam	
8-18	10YR4/2	95	10YR4/6	5	C	M	Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes _____ No <u>    X    </u> Depth (inches): _____ Water table present?        Yes _____ No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes _____ No <u>    X    </u> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-02 City/County: Eden Prairie/Hennepin Sampling Date: 08/30/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham/Alison Hruba Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Urban Land - Udorthents NWI Classification: PUBG

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three criteria were met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1 <u>Acer negundo</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>20</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>250</u> (B) Prevalence Index = B/A = <u>3.13</u>
1 <u>Rhamnus cathartica</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>50</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Coreopsis lanceolata</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2 <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR5/4	100					Loam	
8-18	10YR4/2	100					Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Water table present?      Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Saturation present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-02 City/County: Eden Prairie/Hennepin Sampling Date: 10/1/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: C  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Water NWI Classification: PUBG

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Acer negundo</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>60</u> x 1 = <u>60</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>170</u> (A) <u>350</u> (B) Prevalence Index = B/A = <u>2.06</u>
1 <u>Rhamnus cathartica</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Typha angustifolia</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2 <u>Phalaris arundinacea</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland serves as stormwater pond.

**SOIL**

Sampling Point:           C          

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR3/2	100					LS	
12-16	10YR4/2	100					LS	
16-18	10YR4/2	98	10YR5/8	1	D	M	LS	Depletions 16"+

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> 0-13 <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 No hydric soil indicators were identified; however, due to the presence of hydrophytic vegetation, surface saturation, and landscape position, hydric soils are assumed by best professional judgement.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
<input type="checkbox"/> Water-Stained Leaves (B9)					

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-02 City/County: Eden Prairie/Hennepin Sampling Date: 10/1/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: D  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): \_\_\_\_\_  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Water NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1 <u>Acer negundo</u>	40	Y	FAC		Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)
2 <u>Quercus rubra</u>	20	Y	FACU		
3 _____	_____	_____	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
<u>60</u> = Total Cover				<b>Prevalence Index Worksheet</b>	
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )					
1 <u>Rhamnus cathartica</u>	40	Y	FAC		Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>80</u> x 3 = <u>240</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>150</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>2.80</u>
2 _____	_____	_____	_____		
3 _____	_____	_____	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
<u>40</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>	
Herb stratum (Plot size: <u>5 ft</u> )					
1 <u>Urtica dioica</u>	30	Y	FACW		
2 <u>Bidens frondosa</u>	20	Y	FACW		
3 _____	_____	_____	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
9 _____	_____	_____	_____		
10 _____	_____	_____	_____		
<u>50</u> = Total Cover				Problematic hydrophytic vegetation* (explain) _____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
Woody vine stratum (Plot size: <u>30 ft</u> )					
1 _____	_____	_____	_____		
2 _____	_____	_____	_____		
<u>0</u> = Total Cover				<b>Hydrophytic vegetation present?</b> <u>Y</u>	

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland serves as stormwater pond.

**SOIL**

Sampling Point:          **D**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR4/2	100					LS	
14-16	10YR4/3	100					LS	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> 0-13 <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Water table present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Saturation present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
 \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-03 City/County: Eden Prairie/Hennepin Sampling Date: 09/13/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U6B-Urban Land NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	OBL species <u>55</u> x 1 = <u>55</u>
3	_____	_____	_____	_____	FACW species <u>50</u> x 2 = <u>100</u>
4	_____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5	_____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
		<u>0</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
		<u>0</u>	= Total Cover		Column totals <u>105</u> (A) <u>155</u> (B)
					Prevalence Index = B/A = <u>1.48</u>
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Eleocharis obtusa</u>	<u>45</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Phalaris arundinacea</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3	<u>Agrostis gigantea</u>	<u>20</u>	<u>N</u>	<u>FACW</u>	
4	<u>Typha angustifolia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5	<u>Scirpus atrovirens</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>105</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR2/1	50	10YR5/6	30	RM	M	Clay Loam	
			2.5Y4/1	20	RM	M	Clay Loam	
6-16	10YR2/1	50	10YR5/6	25	RM	M	Clay Loam	
			2.5Y4/1	25	RM	M	Clay Loam	
16-18	10YR4/3						Clay Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <input checked="" type="checkbox"/> No _____    Depth (inches): <u>    2"    </u> Water table present?      Yes _____    No _____    Depth (inches): _____ Saturation present?        Yes _____    No _____    Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Area is within a roadside ditch.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-03 City/County: Eden Prairie/Hennepin Sampling Date: 09/13/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Slope \_\_\_\_\_ Local relief (concave, convex, none): Concave  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U6B-Urban Land NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland. Normal circumstances not met because soil profile contains a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>100</u> x 3 = <u>300</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				
1	<u>Poa pratensis</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
X Dominance test is >50%  
X Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR4/2	100					Silt Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: <u>Rock</u></p> <p>Depth (inches): <u>12</u></p>	<p><b>Hydric soil present?</b> <u>  N  </u></p>
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Remarks:  
Restrictive layer at 12 inches. Soil profile determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-04 City/County: Eden Prairie/Hennepin Sampling Date: 08/30/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 2-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L17B-Angus-Malardi Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland. Normal circumstances were not met because soil profile contained restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>70</u> x 2 = <u>140</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>170</u> (B) Prevalence Index = B/A = <u>2.13</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	<u>Populus deltoides</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2					
3					
4					
5					
		<u>5</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Carex vulpinoidea</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Phalaris arundinacea</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3	<u>Solidago gigantea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4	<u>Marrubium vulgare</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5					
6					
7					
8					
9					
10					
		<u>75</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR4/2	100					Loam	
5+							Rocky Fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>    Rocky fill    </u> Depth (inches): <u>    5"    </u>	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 Soil profile contains fill material associated with Highway 212. No hydric indicators were identified, however, due to the presence of hydrophytic vegetation and landscape position, hydric soils are assumed by best professional judgment.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-04 City/County: Eden Prairie/Hennepin Sampling Date: 08/30/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 2-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L17B-Angus-Malardi Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the wetland criteria were met. Area is not a wetland. Normal circumstances not met because soil profile contains restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u> (A/B)
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3	_____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
4	_____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5	_____	_____	_____	_____	FACU species <u>45</u> x 4 = <u>180</u>
		<u>0</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
		<u>55</u>	= Total Cover		Column totals <u>55</u> (A) <u>200</u> (B)
					Prevalence Index = B/A = <u>3.64</u>
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Lotus corniculatus</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Setaria faberi</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3	<u>Phalaris arundinacea</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4	<u>Solidago canadensis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>55</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>N</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR4/2	100					Loam	
5+							Rocky Fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Rocky fill</u> Depth (inches): <u>5+</u>	Hydric soil present? <u>    </u> <b>N</b> <u>    </u>
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Remarks:  
Restrictive layer at 5 inches. Soil determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): <u>    </u> Water table present?      Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): <u>    </u> Saturation present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): <u>    </u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-05 City/County: Eden Prairie/Hennepin Sampling Date: 09/13/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 12-18 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L2D-Malardi-Hawick Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria met. Area is a wetland. Normal circumstances not met because soil profile disturbed by urban development.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>1</u> (B)
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	OBL species <u>90</u> x 1 = <u>90</u>
3	_____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
4	_____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5	_____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
		<u>0</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
					Column totals <u>100</u> (A) <u>110</u> (B)
					Prevalence Index = B/A = <u>1.10</u>
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Typha angustifolia</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR4/1	100					Loamy Sand	
12-15	10YR4/1	80	10YR4/6	20	C	M	Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 No hydric indicators met due to soil profile disturbance from urban development. Soil profile determined to be hydric based on the presence of hydrophytic vegetation and landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-05 City/County: Eden Prairie/Hennepin Sampling Date: 09/13/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 12-18 Lat:  Long:  Datum:   
 Soil Map Unit Name L2D-Malardi-Hawick Complex NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation , soil X, or hydrology  significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation , soil , or hydrology  naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: <u></u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1 <u>Acer negundo</u>	40	Y	FAC		Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>6</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
2 <u>Salix nigra</u>	20	Y	OBL		
3					
4					
5					
<u>60</u> = Total Cover				<b>Prevalence Index Worksheet</b>	
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )					
1 <u>Zanthoxylum americanum</u>	30	Y	FACU		Total % Cover of: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>170</u> (A) <u>480</u> (B) Prevalence Index = B/A = <u>2.82</u>
2 <u>Cornus alba</u>	20	Y	FACW		
3					
4					
5					
<u>50</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>	
Herb stratum (Plot size: <u>5 ft</u> )					
1 <u>Phalaris arundinacea</u>	30	Y	FACW		
2 <u>Solidago canadensis</u>	30	Y	FACU		
3					
4					
5					
6					
7					
8					
9					
10					
<u>60</u> = Total Cover				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
Woody vine stratum (Plot size: <u>30 ft</u> )					
1					
2					
<u>0</u> = Total Cover				<b>Hydrophytic vegetation present?</b> <u>Y</u>	

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR4/3	100					Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Rock</u> Depth (inches): <u>12</u>	<b>Hydric soil present?</b> <u>N</u>
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Remarks:  
 Rock at 12" restricted further sampling. Profile determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>N</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 No hydrology.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-06 City/County: Eden Prairie/ Hennepin Sampling Date: 09/27/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L70C2-Lester-Malardi Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Salix nigra</u>	100	Y	OBL	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>100</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	OBL species <u>100</u> x 1 = <u>100</u>
3 _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>
4 _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5 _____	_____	_____	_____	FACU species <u>20</u> x 4 = <u>80</u>
<u>0</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
				Column totals <u>120</u> (A) <u>180</u> (B)
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index = B/A = <u>1.50</u>
1 <u>Solidago canadensis</u>	20	Y	FACU	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>20</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
 \_\_\_\_\_ Dominance test is >50%  
 Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2	10YR2/1	100					Fibric Peat	
2-10	10YR3/1	100					Sandy Clay	
10-12	10YR3/1	80	10YR4/3	20	D	M	Sandy Clay	
12-18	10YR3/1	80	10YR4/3	20	D	M	Sandy Clay	Gravel 20%

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input checked="" type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    X    </u> No _____    Depth (inches): <u>    &gt;12"    </u> Water table present?      Yes _____    No _____    Depth (inches): _____ Saturation present?        Yes _____    No _____    Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Stormwater detention basin.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-06 City/County: Eden Prairie/ Hennepin Sampling Date: 09/27/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L70C2-Lester-Malardi Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the criteria were met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>100</u> x 4 = <u>400</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>130</u> (A) <u>480</u> (B) Prevalence Index = B/A = <u>3.69</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Rhamnus cathartica</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Salix interior</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>30</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Vicia americana</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Solidago canadensis</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>N</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR3/1	100					Loamy Sand	
6-10	10YR4/3	100					Loamy Sand	
10-16	10YR4/3	100					Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Water table present?      Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Saturation present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Stormwater detention basin.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-07 City/County: Eden Prairie Sampling Date: 8-6-2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 16-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Water NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Ulmus americana</u>	10	Y	FACW	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>25</u> x 1 = <u>25</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>105</u> (A) <u>185</u> (B) Prevalence Index = B/A = <u>1.76</u>
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	70	Y	FACW	
2 <u>Typha angustifolia</u>	25	Y	OBL	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>95</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR 3/1	98	10YR 4/6	2	C	M	LyS	
15-30	10YR 4/1	98	10YR 4/6	2	C	M	LyS	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-07 City/County: Eden Prairie Sampling Date: 8-6-2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 46-116-22  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Lester-Malardi complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Ulmus americana</u>	10	Y	FACW	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Rhamnus cathartica</u>	60	Y	FAC	
2 _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
4 _____	_____	_____	_____	FAC species <u>120</u> x 3 = <u>360</u>
5 _____	_____	_____	_____	FACU species <u>25</u> x 4 = <u>100</u>
<u>60</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
				Column totals <u>155</u> (A) <u>480</u> (B)
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index = B/A = <u>3.10</u>
1 <u>Alliaria petiolata</u>	60	Y	FAC	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Arctium minus</u>	25	Y	FACU	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>85</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          B

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-13	10YR 3/2						SiCL	
13-25	10YR 4/1						SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> N <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> N <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-08 City/County: Eden Prairie Sampling Date: 8-6-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Urban Land - Udorthents NWI Classification: PEMF

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus deltoides</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b>
5 _____	<u>5</u>	<u>= Total Cover</u>		
<b>Sapling/Shrub stratum (Plot size: <u>15 ft</u>)</b>				Total % Cover of:
1 _____	_____	_____	_____	OBL species <u>40</u> x 1 = <u>40</u>
2 _____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
3 _____	_____	_____	_____	FAC species <u>45</u> x 3 = <u>135</u>
4 _____	_____	_____	_____	FACU species <u>10</u> x 4 = <u>40</u>
5 _____	<u>0</u>	<u>= Total Cover</u>		UPL species <u>0</u> x 5 = <u>0</u>
<b>Herb stratum (Plot size: <u>5 ft</u>)</b>				Column totals <u>105</u> (A) <u>235</u> (B)
1 <u>Hordeum jubatum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Prevalence Index = B/A = <u>2.24</u>
2 <u>Asclepias incarnata</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
3 <u>Eleocharis palustris</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
4 <u>Lycopus americanus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5 <u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6 <u>Solidago altissima</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7 <u>Cirsium discolor</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	<u>100</u>	<u>= Total Cover</u>		
<b>Woody vine stratum (Plot size: <u>30 ft</u>)</b>				
1 _____	_____	_____	_____	<b>Hydrophytic vegetation present?</b> <u>Y</u>
2 _____	<u>0</u>	<u>= Total Cover</u>		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	95	10YR 4/6	5	C	M	SiL	
8-16	10YR 2/1	30	10YR 4/6	2	C	M	SiL	
	10YR 6/1	40						
	10YR 4/1	28						

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-08 City/County: Eden Prairie Sampling Date: 8-6-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology were not met. Area is not a wetland. Normal circumstances not met because soil profile contains restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>25</u> x 4 = <u>100</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>75</u> (A) <u>250</u> (B) Prevalence Index = B/A = <u>3.33</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Andropogon gerardii</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Poa pratensis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3	<u>Lotus corniculatus</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
4	<u>Ambrosia artemisiifolia</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>75</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 4/2						Loam	
6-8	10YR 5/4						Loam	
8+								Rocky fill

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Rocky fill</u> Depth (inches): <u>8+</u>	Hydric soil present? <u>    </u> <b>N</b> <u>    </u>
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Remarks:  
 Restrictive layer at 8 inches. Determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): <u>    </u> Water table present?      Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): <u>    </u> Saturation present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): <u>    </u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-09 City/County: Eden Prairie Sampling Date: 8-6-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Urban Land - Udorthents NWI Classification: PEMF

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>35</u> x 1 = <u>35</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>55</u> (A) <u>95</u> (B) Prevalence Index = B/A = <u>1.73</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Hordeum jubatum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Asclepias incarnata</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
3	<u>Typha angustifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4	<u>Leersia oryzoides</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5					
6					
7					
8					
9					
10					
		<u>55</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	95	10YR 4/6	5	C	M	SiCL	
8-18	10YR 4/2	98	10YR 4/6	2	C	M	Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input checked="" type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-09 City/County: Eden Prairie Sampling Date: 8-6-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland. Normal circumstances not met because soil profile contains restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>24</u> x 4 = <u>96</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>94</u> (A) <u>306</u> (B) Prevalence Index = B/A = <u>3.26</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Poa pratensis</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Andropogon gerardii</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3	<u>Ambrosia artemisiifolia</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
4	<u>Festuca arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5	<u>Lactuca serriola</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
6	<u>Lotus corniculatus</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>94</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 4/2						Loam	
6-8	10YR 5/4						Loam	
8+								Rocky fill

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Rocky Fill</u> Depth (inches): <u>8+</u>	<b>Hydric soil present?</b> <u>    N    </u>
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Remarks:  
 Soil profile contains rocky fill material. Assumed to be non-hydric based on observed profile and landscape position.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
<input type="checkbox"/> Water-Stained Leaves (B9)					

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    N    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-10 City/County: Eden Prairie Sampling Date: 8-6-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Lester-Malardi complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>75</u> x 1 = <u>75</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>85</u> (A) <u>95</u> (B) Prevalence Index = B/A = <u>1.12</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Sagittaria latifolia</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Eleocharis palustris</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
3	<u>Lemna minor</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
4	<u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>85</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1						Loam	
8-15	10YR 5/1	95	10YR 4/6	5	C	M	Loam	
15-17	10YR 4/2						Fibric Peat	
17-30	10YR 7/1	98	10YR 4/4	2	C	M	Fine Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    X    </u> No _____    Depth (inches): <u>    2    </u> Water table present?      Yes _____    No _____    Depth (inches): _____ Saturation present?        Yes _____    No _____    Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-10 City/County: Eden Prairie Sampling Date: 8-6-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Lester-Malardi complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>75</u> x 3 = <u>225</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>90</u> (A) <u>255</u> (B) Prevalence Index = B/A = <u>2.83</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Poa pratensis</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Eleocharis palustris</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3	<u>Plantago major</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4	<u>Cirsium discolor</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>90</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-13	10YR 2/1						SiCL	
13-24	10YR 4/4						Loam	Gravelly

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-11 City/County: Eden Prairie Sampling Date: 9-11-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Klossner NWI Classification: PUBFd

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
If yes, optional wetland site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)

All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Salix nigra</u>	35	Y	OBL	
2 <u>Acer negundo</u>	15	Y	FAC	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>50</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>35</u> x 1 = <u>35</u> FACW species <u>70</u> x 2 = <u>140</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>120</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>1.83</u>
1 <u>Cornus alba</u>	15	Y	FACW	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	40	Y	FACW	
2 <u>Impatiens capensis</u>	15	Y	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>55</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

**Hydrophytic Vegetation Indicators:**

\_\_\_\_ Rapid test for hydrophytic vegetation  
 Dominance test is >50%  
 Prevalence index is ≤3.0\*

\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)

\_\_\_\_ Problematic hydrophytic vegetation\* (explain)

\*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/1	98	10YR 4/6	2	C	M	Fibric Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input checked="" type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
<p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>		

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<input type="checkbox"/> Water-Stained Leaves (B9)		

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?    Yes <input checked="" type="checkbox"/>    No <input type="checkbox"/>    Depth (inches): <u>    Surface    </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-11 City/County: Eden Prairie Sampling Date: 9-11-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Klossner NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Fraxinus pennsylvanica</u>	15	Y	FACW	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species <u>15</u> x 2 = <u>30</u>
4 _____	_____	_____	_____	FAC species <u>80</u> x 3 = <u>240</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
_____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
<u>0</u> = Total Cover				Column totals <u>95</u> (A) <u>270</u> (B)
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index = B/A = <u>2.84</u>
1 <u>Poa pratensis</u>	80	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>80</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
 Dominance test is >50%  
 Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR 3/2						SiL	
5-18	10YR 3/3						SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?        Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-11 City/County: Eden Prairie Sampling Date: 9-12-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: C  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Klossner NWI Classification: PUBFd

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

All wetland criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>1.60</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Persicaria amphibia</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:           C          

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-13	10YR 2/1	98	10YR 4/4	2	C	M	SiL	
13-24	10YR 4/2	98	10YR 4/4	2	C	M	SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input checked="" type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b>    <u>  Y  </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____ (includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b>    <u>  Y  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-11 City/County: Eden Prairie Sampling Date: 9-12-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: D  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Klossner NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the wetland criteria were met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>360</u> (B) Prevalence Index = B/A = <u>3.60</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				
1	<u>Solidago altissima</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          D

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/3						Loam	
10-18	10YR 5/3						Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> N <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> N <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-11 City/County: Eden Prairie Sampling Date: 9-12-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: E  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Klossner NWI Classification: PUBFd

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Ulmus americana</u>	15	Y	FACW	
2 <u>Acer negundo</u>	15	Y	FAC	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>95</u> x 2 = <u>190</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>110</u> (A) <u>235</u> (B) Prevalence Index = B/A = <u>2.14</u>
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	80	Y	FACW	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>80</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
 Dominance test is >50%  
 Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:           E          

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1						Loam	
6-18	10YR 4/2	98	10YR 4/4	2	C	M	Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
<p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>		

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b>    <u>  Y  </u></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>			<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>			<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>		
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b>    <u>  Y  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-11 City/County: Eden Prairie Sampling Date: 9-12-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: F  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Klossner NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	15	Y	FAC	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Rhamnus cathartica</u>	30	Y	FAC	
2 _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species <u>15</u> x 2 = <u>30</u>
4 _____	_____	_____	_____	FAC species <u>55</u> x 3 = <u>165</u>
5 _____	_____	_____	_____	FACU species <u>30</u> x 4 = <u>120</u>
<u>30</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Column totals <u>100</u> (A) <u>315</u> (B)
1 <u>Ageratina altissima</u>	30	Y	FACU	Prevalence Index = B/A = <u>3.15</u>
2 <u>Phalaris arundinacea</u>	15	Y	FACW	
3 <u>Xanthium strumarium</u>	10	N	FAC	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>55</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	<u>X</u> Dominance test is >50%
<u>0</u> = Total Cover				_____ Prevalence index is ≤3.0*
				_____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
				_____ Problematic hydrophytic vegetation* (explain)
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				<b>Hydrophytic vegetation present?</b> <u>Y</u>

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **F**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 3/3						Loam	
6-18	10YR 4/3						Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-12 City/County: Eden Prairie/Hennepin Sampling Date: 08/29/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 3-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L26B-Shorewood Silt Clay Loam NWI Classification: PUBF

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
1	_____	_____	_____	_____		
2	_____	_____	_____	_____		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u>	= Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>95</u> x 2 = <u>190</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>210</u> (B) Prevalence Index = B/A = <u>2.10</u>	
1	_____	_____	_____	_____		
2	_____	_____	_____	_____		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u>	= Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1	<u>Phalaris arundinacea</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>		
2	<u>Persicaria pensylvanica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
3	<u>Solidago canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
6	_____	_____	_____	_____		
7	_____	_____	_____	_____		
8	_____	_____	_____	_____		
9	_____	_____	_____	_____		
10	_____	_____	_____	_____		
		<u>100</u>	= Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>	
1	_____	_____	_____	_____		
2	_____	_____	_____	_____		
		<u>0</u>	= Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)  
 United Healthcare Property, located in the southeast corner of Mitchell Rd and Technology Dr.

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR2/1	97	10YR6/8	3	C	M	Clay	Very Dry

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Clay Pan</u> Depth (inches): <u>6"</u>	Hydric soil present? <u>Y</u>
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Remarks:  
Restrictive clay pan at 6".

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
<input type="checkbox"/> Water-Stained Leaves (B9)					

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-12 City/County: Eden Prairie/Hennepin Sampling Date: 08/29/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 3-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L26B-Shorewood Silty Clay Loam NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three criteria were met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>N</u>
1	<u>Solidago canadensis</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Andropogon gerardii</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)  
 United Healthcare Property, located in the southeast corner of Mitchell Rd and Technology Dr.

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR2/1	100					Clay	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: <u>Clay Pan</u></p> <p>Depth (inches): <u>12"</u></p>	<p><b>Hydric soil present?</b> <u>  N  </u></p>
---	---

Remarks:  
Restrictive clay pan at 12".

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-13 City/County: Eden Prairie/Hennepin Sampling Date: 08/29/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 12-18/6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L70D2-Lester-Malardi Complex/L22C2-Lester Loam, Morainic NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>1</u> (B)
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	OBL species <u>100</u> x 1 = <u>100</u>
3	_____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>
4	_____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5	_____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
		<u>0</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
					Column totals <u>100</u> (A) <u>100</u> (B)
					Prevalence Index = B/A = <u>1.00</u>
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Eleocharis obtusa</u>	<u>100</u>	<u>Y</u>	<u>OBL</u>	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland 1 on Optum property is the fountain in front of the main building.

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR2/1	100					Silty Loam	
5-18	10YR5/1	100					Sandy Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils:</b>	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Other (explain in remarks)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
No hydric indicators were identified, however, due to the presence of hydrophytic vegetation, surface saturation and landscape position, hydric soils are assumed by best professional judgment.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b>		<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
Surface water present?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>    &gt;18"    </u>		
Water table present?      Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>                    </u>		
Saturation present?      Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>                    </u> (includes capillary fringe)		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Fountain in front of main building.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-13 City/County: Eden Prairie/Hennepin Sampling Date: 08/29/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 12-18/6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L70D2-Lester-Malardi Complex/L22C2-Lester Loam Morainic NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric Soil and Hydrology wetland criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>100</u> x 3 = <u>300</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>3.00</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Poa pratensis</u>	100	Y	FAC	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland 1 on Optum property is the fountain in front of the main building.

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR2/1	100					Clay Loam	
6-14	10YR4/2	100					Silty Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: <u>        </u> Unknown Depth (inches): <u>        </u> 14"	<b>Hydric soil present?</b> <u>        </u> N
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Remarks:  
Soil impermeable beyond 14".

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>        </u> No <u>        </u> X    Depth (inches): <u>        </u> Water table present?        Yes <u>        </u> No <u>        </u> X    Depth (inches): <u>        </u> Saturation present?        Yes <u>        </u> No <u>        </u> X    Depth (inches): <u>        </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>        </u> N
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Fountain in front of main building.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-14 City/County: Eden Prairie/Hennepin Sampling Date: 08/30/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L21A-Canestio Loam NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b>
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )					
1	_____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>90</u>	= Total Cover		<b>Hydrophytic vegetation present?</b> <u>Y</u>
Herb stratum (Plot size: <u>5 ft</u> )					
1	<u>Leersia oryzoides</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2	<u>Phalaris arundinacea</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
3	<u>Typha angustifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4	<u>Vernonia fasciculata</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5	<u>Solidago canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>90</u>	= Total Cover		<b>Hydrophytic vegetation present?</b> <u>Y</u>
Woody vine stratum (Plot size: <u>30 ft</u> )					
1	_____	_____	_____	_____	<b>Hydrophytic vegetation present?</b> <u>Y</u>
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)  
 Small wetland constructed on Optum property on east side of building. Constructed stormwater pond.

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-13	10YR2/1	85	10YR4/6	15	C	M	Silty Clay Loam	
13-20	10YR4/1	85	10YR4/6	15	C	M	Silty Clay Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input checked="" type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Storm water retention pond.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-14 City/County: Eden Prairie/Hennepin Sampling Date: 08/30/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Slope \_\_\_\_\_ Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L21A-Canisteo Loam NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland. Normal circumstances were not met, soil profile contains rocky fill.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>230</u> (B) Prevalence Index = B/A = <u>2.88</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Viola sororia</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3	<u>Poa pratensis</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4	<u>Andropogon gerardii</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5	<u>Solidago canadensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>80</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland 2 on Optum property is on the east side of the building.

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR4/2	100					Silty Loam	
8-8+								Rocky fill

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: <u>Rock</u></p> <p>Depth (inches): <u>8</u></p>	<p><b>Hydric soil present?</b> <u>  N  </u></p>
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Remarks:  
Soil profile contains rocky fill at 8 inches. Profile likely non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Saturation present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Storm water retention pond.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-15 City/County: Eden Prairie/Hennepin Sampling Date: 08/30/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Muskego, Blue Earth and Houghton soils NWI Classification: PEMA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>60</u> x 1 = <u>60</u> FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>95</u> (A) <u>130</u> (B) Prevalence Index = B/A = <u>1.37</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	<u>Salix interior</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
		<u>30</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Eleocharis palustris</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Typha angustifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3	<u>Schoenoplectus tabernaemontani</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4	<u>Helenium autumnale</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5	<u>Lythrum salicaria</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6					
7					
8					
9					
10					
		<u>65</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR2/1	100					Mucky Peat	
10-18	10YR5/1	85	10YR4/6	15	C	M	Fine Sandy Loam	Gley

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input checked="" type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Water table present?      Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No <u>    </u> Depth (inches): <u>    Surface    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-15 City/County: Eden Prairie/Hennepin Sampling Date: 08/30/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham/Alison Hruby Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Muskego, Blue Earth and Houghton soils NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>7</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>57.14%</u> (A/B)
1 <u>Populus deltoides</u>	10	Y	FAC	
2 <u>Elaeagnus angustifolia</u>	5	Y	FACU	
3 _____				
4 _____				
5 _____				
	15 = Total Cover			
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>260</u> (B) Prevalence Index = B/A = <u>3.25</u>
1 <u>Rhamnus cathartica</u>	5	Y	FAC	
2 <u>Cornus alba</u>	5	Y	FACW	
3 _____				
4 _____				
5 _____				
	10 = Total Cover			
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Solidago canadensis</u>	15	Y	FACU	
2 <u>Andropogon gerardii</u>	15	Y	FAC	
3 <u>Vicia sativa</u>	15	Y	FACU	
4 <u>Echinochloa crus-galli</u>	10	N	FACW	
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
	55 = Total Cover			
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____				
2 _____				
	0 = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR3/2	100					Silty Loam	
10-14	10YR4/2	100					Silty Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b>    <u>  N  </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>		<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>	
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b>    <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-16 City/County: Eden Prairie Sampling Date: 9-5-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-18 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Lester-Malardi NWI Classification: PEMA/PEMcd

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland. Normal circumstances not met because profile contained restrictive layer at 10 inches.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Acer negundo</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>20</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>115</u> x 2 = <u>230</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>135</u> (A) <u>290</u> (B) Prevalence Index = B/A = <u>2.15</u>
1 <u>Salix interior</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>25</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>90</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
X Dominance test is >50%  
X Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 6/1	98	10YR 6/8	2	C	M	Loam	
10+							Rocky fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: <u>    Rocky fill    </u> Depth (inches): <u>    10+    </u>	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 No indicators met; however, soil contained restrictive layer at 10 inches, and is likely hydric based on landscape position and the presence of hydrophytic vegetation.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-16 City/County: Eden Prairie Sampling Date: 9-5-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex  
 Slope (%): 0-18 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Lester-Malardi NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the wetland criteria were met. Area is not a wetland. Normal circumstances not met because soil profile contained restrictive layer at 10 inches.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>90</u> (A) <u>340</u> (B) Prevalence Index = B/A = <u>3.78</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Bromus inermis</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Poa Pratensis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>90</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          B

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 6/1	98	10YR 6/8	2	C	M	SiCL	
10+							Rocky fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Rocky Fill</u> Depth (inches): <u>10+</u>	<b>Hydric soil present?</b> <u>    N    </u>
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Remarks:  
 Restrictive layer found at 10 inches. Soil profile likely non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    N    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site Ep-EP-17 City/County: Eden Prairie Sampling Date: 9-6-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Lester NWI Classification: PEMA/PEMCd

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

All three wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Salix nigra</u>	20	Y	OBL	
2 <u>Acer negundo</u>	20	Y	FAC	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>40</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>110</u> (A) <u>235</u> (B) Prevalence Index = B/A = <u>2.14</u>
Sapling/Shrub stratum (Plot size: <u>15ft</u> )				
1 <u>Rhamnus cathartica</u>	15	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )				
1 <u>Impatiens capensis</u>	30	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Phalaris arundinacea</u>	20	Y	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )				
1 <u>Vitis riparia</u>	5	Y	FACW	
2 _____	_____	_____	_____	
<u>5</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 3/1	98	10YR 4/6	2	C	M	Fibric Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input checked="" type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-17 City/County: Eden Prairie Sampling Date: 9-6-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 15-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex  
 Slope (%): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Lester NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric Soil and Hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Salix nigra</u>	10	Y	OBL	
2 <u>Fraxinus pennsylvanica</u>	10	Y	FACW	
3 _____				
4 _____				
5 _____				
<u>20</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>110</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>2.73</u>
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Poa pratensis</u>	90	Y	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
<u>90</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	5	Y		
2 _____				
<u>5</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR 3/2						SiL	
5-18	10YR 4/3						Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<input type="checkbox"/> Water-Stained Leaves (B9)		

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-18 City/County: Eden Prairie Sampling Date: 8-28-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 14-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

All three wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1 <u>Acer negundo</u>	30	Y	FAC		Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____	_____	_____	_____		
5 _____	30 = Total Cover	_____	_____		
<b>Sapling/Shrub stratum (Plot size: _____)</b>					
1 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b>	
2 _____	_____	_____	_____		Total % Cover of:
3 _____	_____	_____	_____	OBL species <u>80</u> x 1 = <u>80</u>	
4 _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>	
5 _____	_____	_____	_____	FAC species <u>35</u> x 3 = <u>105</u>	
_____	0 = Total Cover	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>	
_____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>	
<b>Herb stratum (Plot size: _____)</b>					
1 <u>Typha angustifolia</u>	80	Y	OBL	Column totals <u>115</u> (A) <u>185</u> (B)	
2 <u>Apocynum cannabinum</u>	5	N	FAC	Prevalence Index = B/A = <u>1.61</u>	
3 _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b>	
4 _____	_____	_____	_____		_____ Rapid test for hydrophytic vegetation
5 _____	_____	_____	_____		<u>X</u> Dominance test is >50%
6 _____	_____	_____	_____		<u>X</u> Prevalence index is ≤3.0*
7 _____	_____	_____	_____		Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
8 _____	_____	_____	_____		Problematic hydrophytic vegetation* (explain)
9 _____	_____	_____	_____		_____
10 _____	85 = Total Cover	_____	_____		_____
<b>Woody vine stratum (Plot size: _____)</b>					
1 _____	_____	_____	_____		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 _____	_____	_____	_____	<b>Hydrophytic vegetation present?</b> <u>Y</u>	
_____	0 = Total Cover	_____	_____		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/1						Mucky Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input checked="" type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric soil present? <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<input type="checkbox"/> Water-Stained Leaves (B9)		

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input checked="" type="checkbox"/>    No <input type="checkbox"/>    Depth (inches): <u>    3    </u></p> <p>Water table present?      Yes <input type="checkbox"/>      No <input type="checkbox"/>      Depth (inches): <u>          </u></p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input type="checkbox"/>      Depth (inches): <u>          </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-18 City/County: Eden Prairie Sampling Date: 8-28-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 14-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

None of the criteria were met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>1</u> (B)
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: _____)				<b>Prevalence Index Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3	_____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>
4	_____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5	_____	_____	_____	_____	FACU species <u>85</u> x 4 = <u>340</u>
		<u>0</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
		<u>85</u>	= Total Cover		Column totals <u>85</u> (A) <u>340</u> (B)
					Prevalence Index = B/A = <u>4.00</u>
Herb stratum	(Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Cirsium discolor</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Vicia sativa</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>85</u>	= Total Cover		
Woody vine stratum	(Plot size: _____)				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 4/2						Loam	
8+							Rocky fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
				*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic	

<b>Restrictive Layer (if observed):</b> Type: <u>Rocky fill</u> Depth (inches): <u>8+</u>	<b>Hydric soil present?</b> <u>    N    </u>
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Remarks:  
 Restricted layer at 8 inches. Profile determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    N    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-19 City/County: Eden Prairie/Hennepin Sampling Date: 08/26/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham/Mo Elabbady/Alison Hruby Section, Township, Range: 14-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 18-25 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L61E-Lester-Metea Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		0 = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>45</u> x 1 = <u>45</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>90</u> (A) <u>150</u> (B) Prevalence Index = B/A = <u>1.67</u>
1	<i>Salix interior</i>	20	Y	FACW	
2	<i>Cornus alternifolia</i>	15	Y	FAC	
3					
4					
5					
		35 = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Typha angustifolia</i>	30	Y	OBL	
2	<i>Persicaria amphibia</i>	15	Y	OBL	
3					
4					
5					
6					
7					
8					
9					
10					
		45 = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	<i>Vitis riparia</i>	10	Y	FACW	
2					
		10 = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR2/1	100					Sandy Clay	
10-18	10YR4/2	98	10YR4/6	2	C	M	Sandy Clay	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Water table present?      Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No <u>    </u> Depth (inches): <u>    Surface    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Stormwater inlet pond.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-19 City/County: Eden Prairie/Hennepin Sampling Date: 08/26/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham/Mo Elabbady/Alison Hruby Section, Township, Range: 14-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 18-25 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L61E-Lester-Metea Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Soil and hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across all Strata: <u>6</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>83.33%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>30</u> x 1 = <u>30</u> FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>95</u> (A) <u>205</u> (B) Prevalence Index = B/A = <u>2.16</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	<u>Salix interior</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Cornus alternifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3					
4					
5					
		<u>35</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Typha angustifolia</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Persicaria amphibia</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
3	<u>Vicia americana</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
4					
5					
6					
7					
8					
9					
10					
		<u>45</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1	<u>Vitis riparia</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2					
		<u>15</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR3/1	100					Clay Loam	Very Dry
6-18	10YR4/2	100					Clay Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histi Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-20 City/County: Eden Prairie/ Hennepin Sampling Date: 08/19/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 14-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 12-18 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L22D2-Lester Loam-Morainic NWI Classification: L1UBH

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>80</u> x 3 = <u>240</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>170</u> (A) <u>440</u> (B) Prevalence Index = B/A = <u>2.59</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	<u>Rhamnus cathartica</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Lonicera tatarica</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3					
4					
5					
		<u>100</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Schoenoplectus fluviatilis</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3	<u>Typha angustifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4					
5					
6					
7					
8					
9					
10					
		<u>70</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR2/1	100					Clay Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils:</b>	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Other (explain in remarks)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
No hydric indicators were identified, however, due to the presence of hydrophytic vegetation, surface inundation and landscape position, hydric soils are assumed by best professional judgment.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b>		<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
Surface water present?      Yes <input checked="" type="checkbox"/> No _____      Depth (inches): <u>    24"    </u>		
Water table present?      Yes _____      No _____      Depth (inches): _____		
Saturation present?      Yes _____      No _____      Depth (inches): _____ (includes capillary fringe)		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Stormwater input coming in, 2 fountains, numerous carp.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-20 City/County: Eden Prairie/ Hennepin Sampling Date: 08/19/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 14-116-22  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 12 to 18 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L2202-Lester Loam, Moranic NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Wetland criteria was not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>6</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1 <u>Fraxinus pennsylvanica</u>	40	Y	FACW	
2 <u>Acer negundo</u>	40	Y	FAC	
3 <u>Populus deltoides</u>	10	N	FAC	
4 <u>Tilia americana</u>	10	N	FACU	
5 _____				
	100 = Total Cover			
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>80</u> x 3 = <u>240</u> FACU species <u>100</u> x 4 = <u>400</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>220</u> (A) <u>720</u> (B) Prevalence Index = B/A = <u>3.27</u>
1 <u>Rhamnus cathartica</u>	30	Y	FAC	
2 <u>Lonicera tatarica</u>	30	Y	FACU	
3 _____				
4 _____				
5 _____				
	60 = Total Cover			
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1 <u>Arctium minus</u>	30	Y	FACU	
2 <u>Solidago altissima</u>	30	Y	FACU	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
	60 = Total Cover			
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>N</u>
1 _____				
2 _____				
	0 = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR3/2	100					Loamy Sand	
8-16	10YR3/2	80					Sandy Loam	
8-16	10YR3/2	20					Sandy Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Stormwater input coming in, two fountains, numerous carp in the water indicating poor water quality.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-21 City/County: Eden Prairie/Hennepin Sampling Date: 08/15/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 11-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U3B-Udorthents NWI Classification: PEMC

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Vernonia fasciculata</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3	<u>Solidago canadensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4	<u>Persicaria pensylvanica</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>70</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
 Dominance test is >50%  
 Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12'	10YR4/3	100					Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils:</b>	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Other (explain in remarks)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
No hydric indicators were identified, however, due to the presence of hydrophytic vegetation, surface inundation and landscape position, hydric soils are assumed by best professional judgment.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b>		<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
Surface water present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>    2    </u>		
Water table present?    Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>          </u>		
Saturation present?    Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Small stormwater pond.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site EP-EP-21 City/County: Eden Prairie/Hennepin Sampling Date: 08/15/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 11-116-22  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Slope \_\_\_\_\_ Local relief (concave, convex, none): Convex  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U3B-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Soil and hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>70</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>2.29</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Vernonia fasciculata</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3	<u>Solidago canadensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4	<u>Persicaria pensylvanica</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5					
6					
7					
8					
9					
10					
		<u>70</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-9	10YR4/4	80	10YR5/3	20	C	M	Clay Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Roots</u> <u>9"</u> Depth (inches): <u>                    </u>	<b>Hydric soil present?</b> <u>  N  </u>
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Remarks:  
 Root obstruction did not allow soil sampling beyond 9".

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>      </u> No <u>  X  </u> Depth (inches): <u>          </u> Water table present?      Yes <u>      </u> No <u>  X  </u> Depth (inches): <u>          </u> Saturation present?        Yes <u>      </u> No <u>  X  </u> Depth (inches): <u>          </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>  N  </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-01 City/County: Eden Prairie/Hennepin Sampling Date: 08/27/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham/Mo Elabbady Section, Township, Range: 12-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L16A-Muskego, Blue Earth and Houghton Soils NWI Classification: PEM/SS1C

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1 <u>Acer negundo</u>	15	Y	FAC	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b>
1 <u>Salix interior</u>	30	Y	FACW	
2 _____	_____	_____	_____	OBL species <u>5</u> x 1 = <u>5</u>
3 _____	_____	_____	_____	FACW species <u>85</u> x 2 = <u>170</u>
4 _____	_____	_____	_____	FAC species <u>15</u> x 3 = <u>45</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
<u>30</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
				Column totals <u>105</u> (A) <u>220</u> (B)
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index = B/A = <u>2.10</u>
1 <u>Phalaris arundinacea</u>	50	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Persicaria amphibia</u>	5	N	OBL	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>55</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Vitis riparia</u>	5	Y	FACW	<b>Hydrophytic vegetation present?</b> <u>Y</u>
2 _____	_____	_____	_____	
<u>5</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR3/1	100					Silty Loam	
8-30	10YR2/1	100					Fibric Peat	Sandy

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input checked="" type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes _____ No <u>    X    </u> Depth (inches): _____ Water table present?      Yes _____ No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes _____ No <u>    X    </u> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-01 City/County: Eden Prairie/Hennepin Sampling Date: 08/27/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham/Mo Elabbady Section, Township, Range: 12-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L16A-Muskego, Blue Earth and Houghton Soils NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	30	Y	FAC	
2 <u>Populus deltoides</u>	10	Y	FAC	
3 _____				
4 _____				
5 _____				
	40 = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>105</u> (A) <u>310</u> (B) Prevalence Index = B/A = <u>2.95</u>
<b>Sapling/Shrub stratum</b> (Plot size: <u>15 ft</u> )				
1 <u>Rhamnus cathartica</u>	50	Y	FAC	
2 <u>Salix interior</u>	10	N	FACW	
3 _____				
4 _____				
5 _____				
	60 = Total Cover			
<b>Herb stratum</b> (Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
	0 = Total Cover			
<b>Woody vine stratum</b> (Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1 <u>Parthenocissus quinquefolia</u>	5	Y	FACU	
2 _____				
	5 = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR3/3	100					Silty Loam	
10-30	10YR2/1	100					Silty Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b>    <u>  N  </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<input type="checkbox"/> Water-Stained Leaves (B9)		

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b>    <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-02 City/County: Eden Prairie Sampling Date: 7-26-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Mohamed Elabbady, Todd Udvig Section, Township, Range: 12-116-21  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L16A-Muskego, Blue Earth, and Houghton soils NWI Classification: PEM/ISS1C

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )					Dominance Test Worksheet	
Tree	Species	Absolute % Cover	Dominant Species	Indicator Status		
1	<i>Populus tremuloides</i>	20	Y	FAC	Number of Dominant Species that are OBL, FACW, or FAC: <u>6</u> (A)	
2	<i>Salix nigra</i>	10	Y	OBL	Total Number of Dominant Species Across all Strata: <u>6</u> (B)	
3					Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4						
5						
		<u>30</u>	= Total Cover			
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )					Prevalence Index Worksheet	
Sapling/Shrub	Species	Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:	
1	<i>Rhamnus cathartica</i>	40	Y	FAC	OBL species	<u>50</u> x 1 = <u>50</u>
2	<i>Salix interior</i>	30	Y	FACW	FACW species	<u>60</u> x 2 = <u>120</u>
3					FAC species	<u>60</u> x 3 = <u>180</u>
4					FACU species	<u>0</u> x 4 = <u>0</u>
5					UPL species	<u>0</u> x 5 = <u>0</u>
		<u>70</u>	= Total Cover		Column totals	<u>170</u> (A) <u>350</u> (B)
					Prevalence Index = B/A = <u>2.06</u>	
Herb stratum (Plot size: <u>5 ft</u> )					Hydrophytic Vegetation Indicators:	
Herb	Species	Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)	
1	<i>Typha angustifolia</i>	40	Y	OBL		
2	<i>Phalaris arundinacea</i>	30	Y	FACW		
3						
4						
5						
6						
7						
8						
9						
10						
		<u>70</u>	= Total Cover			
Woody vine stratum (Plot size: <u>30 ft</u> )					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
Woody vine	Species	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>Y</u>	
1						
2						
		<u>0</u>	= Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-16	10YR 2/1						Fibric peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input checked="" type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric soil present? <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<input type="checkbox"/> Water-Stained Leaves (B9)		

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <u>    X    </u>    No _____    Depth (inches): <u>    1"    </u></p> <p>Water table present?      Yes _____    No _____    Depth (inches): _____</p> <p>Saturation present?        Yes _____    No _____    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-02 City/County: Eden Prairie Sampling Date: 7-26-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Mohamed Elabbady, Todd Udvig Section, Township, Range: 12-116-21  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L16A-Muskego, Blue Earth, and Houghton soils NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1 <u>Populus tremuloides</u>	20	Y	FAC		Number of Dominant Species that are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across all Strata: <u>10</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)
2 <u>Populus deltoides</u>	20	Y	FAC		
3 <u>Acer negundo</u>	10	Y	FAC		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
50 = Total Cover				<b>Prevalence Index Worksheet</b>	
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )					
1 <u>Rhamnus cathartica</u>	40	Y	FAC		Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>110</u> x 4 = <u>440</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>210</u> (A) <u>730</u> (B) Prevalence Index = B/A = <u>3.48</u>
2 <u>Lonicera canadensis</u>	30	Y	FACU		
3 <u>Zanthoxylum americanum</u>	20	Y	FACU		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
90 = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>	
Herb stratum (Plot size: <u>5 ft</u> )					
1 <u>Solidago altissima</u>	30	Y	FACU		_____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Vicia americana</u>	20	Y	FACU		
3 <u>Rubus alumnus</u>	10	N	FACU		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
9 _____	_____	_____	_____		
10 _____	_____	_____	_____		
60 = Total Cover				<b>Hydrophytic vegetation present?</b> <u>Y</u>	
Woody vine stratum (Plot size: <u>30 ft</u> )					
1 <u>Vitis riparia</u>	5	Y	FACW		
2 <u>Rubus arcticus</u>	5	Y	FACW		
10 = Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          B

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					SyL	
8-10	10YR 3/2	100					SyC	
10-22	10YR 3/2	80	10YR 4/6	20	C	M	LyS	
22-24	10YR 6/3	100					Silt	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric soil present? <u>    </u> N <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____ (includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> N <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-03 City/County: Eden Prairie Sampling Date: 8-1-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 12-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 18-35 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L62E-Koronis-Kingsley-Malardi complex NWI Classification: PSS1C

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

All three wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
1 <u>Ulmus americana</u>	20	Y	FACW	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
20 = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>110</u> x 2 = <u>220</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>140</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>2.14</u>
1 <u>Rhamnus cathartica</u>	10	Y	FAC	
2 <u>Lonicera tatarica</u>	10	Y	FACU	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
20 = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	80	Y	FACW	
2 <u>Persicaria amphibia</u>	10	N	OBL	
3 <u>Urtica dioica</u>	10	N	FACW	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
100 = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
0 = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-30	10YR 2/1						Sapric Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input checked="" type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input checked="" type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input checked="" type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <u>    X    </u>    No _____    Depth (inches): <u>    1    </u></p> <p>Water table present?      Yes _____    No _____    Depth (inches): _____</p> <p>Saturation present?      Yes _____    No _____    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-03 City/County: Eden Prairie Sampling Date: 8-1-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 12-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 18-35 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L62E-Koronis-Kingsley-Malardi complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology wetland criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

				<b>Dominance Test Worksheet</b>	
<b>Tree Stratum</b> (Plot size: <u>30 ft</u> )				Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)	
1	<u>Ulmus americana</u>	Absolute % Cover: <u>15</u>	Dominant Species: <u>Y</u>	Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
2	<u>Salix nigra</u>	<u>15</u>	<u>Y</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)	
3	_____	_____	_____		
4	_____	_____	_____		
5	_____	_____	_____		
		<u>30</u> = Total Cover			
<b>Sapling/Shrub stratum</b> (Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b>	
1	_____	_____	_____	Total % Cover of:	
2	_____	_____	_____	OBL species <u>15</u> x 1 = <u>15</u>	
3	_____	_____	_____	FACW species <u>15</u> x 2 = <u>30</u>	
4	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>	
5	_____	_____	_____	FACU species <u>10</u> x 4 = <u>40</u>	
		<u>0</u> = Total Cover		UPL species <u>0</u> x 5 = <u>0</u>	
				Column totals <u>40</u> (A) <u>85</u> (B)	
<b>Herb stratum</b> (Plot size: <u>5 ft</u> )				Prevalence Index = B/A = <u>2.13</u>	
1	<u>Arctium minus</u>	<u>5</u>	<u>Y</u>	<b>Hydrophytic Vegetation Indicators:</b>	
2	_____	_____	_____	____ Rapid test for hydrophytic vegetation	
3	_____	_____	_____	____ Dominance test is >50%	
4	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence index is ≤3.0*	
5	_____	_____	_____	____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
6	_____	_____	_____	____ Problematic hydrophytic vegetation* (explain)	
7	_____	_____	_____	____	
8	_____	_____	_____	____	
9	_____	_____	_____	____	
10	_____	_____	_____	____	
		<u>5</u> = Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
<b>Woody vine stratum</b> (Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>	
1	<u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>Y</u>		
2	_____	_____	_____		
		<u>5</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 4/2						SiL	
10-20	10YR 4/1	90	10YR 4/6	10	C	M	SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-04 City/County: Eden Prairie/Hennepin Sampling Date: 08/28/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham/Mo Elabbady Section, Township, Range: 12-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): none  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L16A-Muskego, Blue Earth, and Houghton soils NWI Classification: PEM/SS1C

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
f yes, optional wetland site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Fraxinus pennsylvanica</u>	15	Y	FACW	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Rhamnus cathartica</u>	25	Y	FAC	
2 _____	_____	_____	_____	OBL species <u>15</u> x 1 = <u>15</u>
3 _____	_____	_____	_____	FACW species <u>25</u> x 2 = <u>50</u>
4 _____	_____	_____	_____	FAC species <u>25</u> x 3 = <u>75</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
_____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
<u>25</u> = Total Cover				Column totals <u>65</u> (A) <u>140</u> (B)
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index = B/A = <u>2.15</u>
1 <u>Glyceria striata</u>	15	Y	OBL	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Impatiens capensis</u>	10	Y	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>25</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10 YR 2/1	100					Fibric peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input checked="" type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-04 City/County: Eden Prairie/Hennepin Sampling Date: 08/28/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham/Mo Elabbady Section, Township, Range: 12-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L16A-Muskego, Blue Earth, and Houghton soils NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1 <u>Populus deltoides</u>	20	Y	FAC	Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
<u>20</u> = Total Cover					
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b>	
1 <u>Rhamnus cathartica</u>	60	Y	FAC	Total % Cover of:	
2 _____	_____	_____	_____	OBL species	<u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species	<u>0</u> x 2 = <u>0</u>
4 _____	_____	_____	_____	FAC species	<u>80</u> x 3 = <u>240</u>
5 _____	_____	_____	_____	FACU species	<u>0</u> x 4 = <u>0</u>
<u>60</u> = Total Cover				UPL species	<u>0</u> x 5 = <u>0</u>
				Column totals	<u>80</u> (A) <u>240</u> (B)
				Prevalence Index = B/A =	<u>3.00</u>
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1 _____	_____	_____	_____	Rapid test for hydrophytic vegetation	
2 _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance test is >50%	
3 _____	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence index is ≤3.0*	
4 _____	_____	_____	_____	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
5 _____	_____	_____	_____	Problematic hydrophytic vegetation* (explain)	
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
9 _____	_____	_____	_____		
10 _____	_____	_____	_____		
<u>0</u> = Total Cover					
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>Y</u>	
1 _____	_____	_____	_____		
2 _____	_____	_____	_____		
<u>0</u> = Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR 2/1	100					Mucky Peat	
15-24	10YR 2/1	100					Clay Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<input type="checkbox"/> Water-Stained Leaves (B9)		

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-05 City/County: Eden Prairie/Hennepin Sampling Date: 08/27/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham/Mo Elabbady Section, Township, Range: 12-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L2C-Malardi-Hawick complex NWI Classification: PEM/SS1C

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>65</u> (A) <u>130</u> (B) Prevalence Index = B/A = <u>2.00</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Typha angustifolia</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Cirsium arvense</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3	<u>Bromus inermis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4	<u>Persicaria pensylvanica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>65</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR2/1	100					Fibric Peat	
8-18	10YR6/1	95	10YR4/6	5	C	M	Clay	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input checked="" type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Stormwater pond.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-05 City/County: Eden Prairie/Hennepin Sampling Date: 08/27/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham/Mo Elabbady Section, Township, Range: 12-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L2C-Malardi-Hawick complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the criteria were met. Area is not a wetland. Normal circumstances not met because soil profile contains a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Bromus inermis</u>	<u>80</u>	<u>Y</u>	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>80</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
 \_\_\_\_\_ Dominance test is >50%  
 \_\_\_\_\_ Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** N

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4	10YR3/3	100					Loam	
4-8	10YR4/3	100					Loam	
8+							Rocky Fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: <u>Rocky Fill</u> Depth (inches): <u>8+</u>	<b>Hydric soil present?</b> <u>  N  </u>
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Remarks:  
Restrictive layer found at 8 inches. Soil profile determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>  N  </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-06 City/County: Minneapolis Sampling Date: 8-28-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego soils NWI Classification: PEM/SS1C

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three wetland criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	20	Y	FAC	
2 <u>Salix nigra</u>	15	Y	OBL	
3 _____				
4 _____				
5 _____				
<u>35</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>30</u> x 1 = <u>30</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>110</u> (A) <u>210</u> (B) Prevalence Index = B/A = <u>1.91</u>
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )				
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1 <u>Phalaris arundinacea</u>	60	Y	FACW	
2 <u>Typha angustifolia</u>	15	Y	OBL	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
<u>75</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1 _____				
2 _____				
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/1						Fibric Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input checked="" type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Water table present?      Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No <u>    </u> Depth (inches): <u>    12in    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-06 City/County: Minneapolis Sampling Date: 8-28-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego soils NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric Soil and Hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Salix nigra</u>	15	Y	OBL	
2 <u>Populus deltoides</u>	5	Y	FAC	
3 _____				
4 _____				
5 _____				
<u>20</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>230</u> (B) Prevalence Index = B/A = <u>2.88</u>
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Rhamnus cathartica</u>	40	Y	FAC	
2 <u>Lonicera tatarica</u>	10	Y	FACU	
3 _____				
4 _____				
5 _____				
<u>50</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Parthenocissus quinquefolia</u>	10	Y	FACU	
2 _____				
<u>10</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-9	10YR 4/3						Loam	
9+							Rocky fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: <u>Rocky fill</u></p> <p>Depth (inches): <u>9+</u></p>	<p><b>Hydric soil present?</b> <u>  N  </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>		<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>	
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>          </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-07 City/County: Minneapolis Sampling Date: 8-28-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego soils NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

All three wetland criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>30</u> x 1 = <u>30</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>50</u> (A) <u>110</u> (B) Prevalence Index = B/A = <u>2.20</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Typha angustifolia</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Cirsium discolor</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3	<u>Solidago altissima</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>50</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/1						SiL	
10-13	10YR 6/1	98	10YR 4/6	2	C	M	CL	
13-20	10YR 2/1						Fibric Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
Buried peat layer.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Detention pond.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-07 City/County: Minneapolis Sampling Date: 8-28-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego soils NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three criteria were met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>20</u> (A) <u>80</u> (B) Prevalence Index = B/A = <u>4.00</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Cirsium discolor</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Solidago altissima</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>20</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-3	10YR 3/3						Loam	
3-18	10YR 4/3						Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-08 City/County: Eden Prairie Sampling Date: 8-28-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego soils NWI Classification: PEM/SS1Cd

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

All three wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus deltoides</u>	10	Y	FAC	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>5</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	OBL species <u>40</u> x 1 = <u>40</u>
3 _____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
4 _____	_____	_____	_____	FAC species <u>15</u> x 3 = <u>45</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
<u>0</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
				Column totals <u>65</u> (A) <u>105</u> (B)
				Prevalence Index = B/A = <u>1.62</u>
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:
1 <u>Eleocharis palustris</u>	15	Y	OBL	
2 <u>Phalaris arundinacea</u>	10	Y	FACW	<u>X</u> Dominance test is >50%
3 <u>Asclepias incarnata</u>	10	Y	OBL	<u>X</u> Prevalence index is ≤3.0*
4 <u>Sagittaria latifolia</u>	10	Y	OBL	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5 <u>Lythrum salicaria</u>	5	N	OBL	Problematic hydrophytic vegetation* (explain)
6 <u>Rumex crispus</u>	5	N	FAC	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>55</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic vegetation present?
1 _____	_____	_____	_____	<u>Y</u>
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/1	98	10YR 4/6	2	C	M	SiCL	
10-18	10YR 5/1	95	10YR 4/6	5	C	M	SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric soil present? <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<input type="checkbox"/> Water-Stained Leaves (B9)		

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-08 City/County: Eden Prairie Sampling Date: 8-28-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego soils NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>65</u> x 3 = <u>195</u> FACU species <u>17</u> x 4 = <u>68</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>92</u> (A) <u>273</u> (B) Prevalence Index = B/A = <u>2.97</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Panicum virgatum</u>	30	Y	FAC	
2	<u>Andropogon gerardii</u>	30	Y	FAC	
3	<u>Ambrosia artemisiifolia</u>	15	N	FACU	
4	<u>Lythrum salicaria</u>	10	N	OBL	
5	<u>Setaria pumila</u>	5	N	FAC	
6	<u>Rudbeckia hirta</u>	2	N	FACU	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>92</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          B

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/1						SiL	
8-18	10YR 3/2						SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> N <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>		<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>	
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> N <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-09 City/County: Eden Prairie Sampling Date: 8-6-2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 1-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L2B-Malardi-Hawick complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet	
1 <u>Ulmus americana</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>		Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b>	
5 _____	_____	_____	_____		Total % Cover of:
<u>30</u> = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>	
<b>Sapling/Shrub stratum</b> (Plot size: <u>15 ft</u> )				FACW species <u>35</u> x 2 = <u>70</u>	
1 _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>	
2 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>	
3 _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>	
4 _____	_____	_____	_____	Column totals <u>35</u> (A) <u>70</u> (B)	
5 _____	_____	_____	_____	Prevalence Index = B/A = <u>2.00</u>	
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>	
<b>Herb stratum</b> (Plot size: <u>5 ft</u> )					_____ Rapid test for hydrophytic vegetation
1 <u>Phalaris arundinacea</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		<u>X</u> Dominance test is >50%
2 _____	_____	_____	_____		<u>X</u> Prevalence index is ≤3.0*
3 _____	_____	_____	_____		Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
4 _____	_____	_____	_____		_____ Problematic hydrophytic vegetation* (explain)
5 _____	_____	_____	_____		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
6 _____	_____	_____	_____		<b>Hydrophytic vegetation present?</b> <u>Y</u>
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
9 _____	_____	_____	_____		
<u>5</u> = Total Cover					
<b>Woody vine stratum</b> (Plot size: <u>30 ft</u> )					
1 _____	_____	_____	_____		
2 _____	_____	_____	_____		
<u>0</u> = Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1						SiCL	
6-18	10YR 7/1	98	10YR 4/6	2	C	M	Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input checked="" type="checkbox"/>      No <input type="checkbox"/>      Depth (inches): <u>    Surface    </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-09 City/County: Eden Prairie Sampling Date: 8-6-2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 1-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L2B-Malardi-Hawick complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Wetland hydrology criteria was not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
1 <u>Ulmus americana</u>	40	Y	FACW	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>85</u> (A) <u>215</u> (B) Prevalence Index = B/A = <u>2.53</u>
1 <u>Rhamnus cathartica</u>	15	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	15	Y	FACW	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Parthenocissus quinquefolia</u>	15	Y	FACU	
2 _____	_____	_____	_____	
<u>15</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/1						SiCL	
10-18	10YR 4/2	98	10YR 4/6	2	C	M	SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>Y</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-09 City/County: Eden Prairie Sampling Date: 8-6-2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: C  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 1-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents, wet substratum NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Fraxinus pennsylvanica</u>	10	Y	FACW	
2 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>70</u> x 1 = <u>70</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>130</u> (B) Prevalence Index = B/A = <u>1.30</u>
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
10 = Total Cover				
<b>Sapling/Shrub stratum (Plot size: <u>15 ft</u>)</b>				
1 <u>Salix interior</u>	10	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Cornus alba</u>	10	Y	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
20 = Total Cover				
<b>Herb stratum (Plot size: <u>5 ft</u>)</b>				
1 <u>Typha angustifolia</u>	70	Y	OBL	<b>Hydrophytic vegetation present?</b> <u>Y</u>
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
70 = Total Cover				
<b>Woody vine stratum (Plot size: <u>30 ft</u>)</b>				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
0 = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:            C

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1	95	10YR 4/6	5	C	M	SiL	
6-8	10YR 4/2	98	10YR 4/6	2	C	M	SiL	
8-18	10YR 2/1	100					Fibric Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>  Y  </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>      </u> No <u>  X  </u> Depth (inches): _____ Water table present?      Yes <u>      </u> No <u>  X  </u> Depth (inches): _____ Saturation present?        Yes <u>  X  </u> No <u>      </u> Depth (inches): <u>  Surface  </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>  Y  </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-09 City/County: Eden Prairie Sampling Date: 8-6-2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: D  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 1-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents, wet substratum NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three criteria were met. Area is not a wetland. Normal circumstances not met because soil profile contains a restrictive layer.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u> (A/B)
1 <u>Fraxinus pennsylvanica</u>	15	Y	FACW	
2 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>95</u> (A) <u>350</u> (B) Prevalence Index = B/A = <u>3.68</u>
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
<b>Sapling/Shrub stratum (Plot size: <u>15 ft</u>)</b>				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Herb stratum (Plot size: <u>5 ft</u>)</b>				
1 <u>Vicia sativa</u>	40	Y	FACU	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Solidago altissima</u>	25	Y	FACU	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>65</u> = Total Cover				
<b>Woody vine stratum (Plot size: <u>30 ft</u>)</b>				
1 <u>Parthenocissus quinquefolia</u>	15	Y	FACU	
2 _____	_____	_____	_____	
<u>15</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          D

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/1	100					SiCL	
8+							Rock fill	Restrictive layer

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Rocky fill</u> Depth (inches): <u>8+</u>	<b>Hydric soil present?</b> <u>  N  </u>
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Remarks:  
Restrictive layer at 8 inches. Soil determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>  N  </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-10 City/County: Eden Prairie/Hennepin Sampling Date: 09/03/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L42C-Kingsley-Gotham Complex/U2A-Urban Land-Udorthents NWI Classification: PEMC

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland. Wetland appears to be the result of discharge of stormwater.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>95</u> x 2 = <u>190</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>95</u> (A) <u>190</u> (B) Prevalence Index = B/A = <u>2.00</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	95	Y	FACW	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>95</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland is located on United Healthcare Property along 62nd St. W.

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR3/3	100					Silty Loam	
12-15	10YR2/1	100					Hemic Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils:</b>	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Other (explain in remarks)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
No hydric indicators were identified, however, due to the presence of hydrophytic vegetation and landscape position, hydric soils are assumed by best professional judgment.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b>		<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
Surface water present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-10 City/County: Eden Prairie/Hennepin Sampling Date: 09/03/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L42C-Kinglsey-Gotham Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
1 <u>Acer negundo</u>	15	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>115</u> (A) <u>405</u> (B) Prevalence Index = B/A = <u>3.52</u>
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Solidago canadensis</u>	80	Y	FACU	
2 <u>Phalaris arundinacea</u>	20	Y	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
X Dominance test is >50%  
 \_\_\_\_\_ Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR3/2	100					Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Storm water inlet is on the north side, elliptical shape, 1' wide.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-11 City/County: Eden Prairie/Hennepin Sampling Date: 09/03/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L42C-Kingsley-Gotham complex NWI Classification: PEMC

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>115</u> (A) <u>225</u> (B) Prevalence Index = B/A = <u>1.96</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	<u>Salix interior</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
		<u>60</u>	= Total Cover		
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Persicaria pensylvanica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Typha angustifolia</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3	<u>Poa pratensis</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
4					
5					
6					
7					
8					
9					
10					
		<u>55</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland is located on United Healthcare Property along 62nd St. W. It is the property furthest west along 62nd St. W.

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR2/1	100					Loamy Sand	
6-12	10YR3/2	97	10YR4/6	3	C	M	Loamy Clay	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes _____ No <u>    X    </u> Depth (inches): _____ Water table present?    Yes _____ No <u>    X    </u> Depth (inches): _____ Saturation present?    Yes <u>    X    </u> No _____    Depth (inches): <u>    Surface    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-11 City/County: Eden Prairie/Hennepin Sampling Date: 09/03/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L42C-Kinglsey-Gotham complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three criteria were met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>310</u> (B) Prevalence Index = B/A = <u>3.10</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Alliaria petiolata</u>	70	Y	FAC	
2	<u>Ambrosia artemisiifolia</u>	20	Y	FACU	
3	<u>Urtica dioica</u>	10	N	FACW	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>N</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland is located on United Healthcare Property along 62nd St. W. It is the property furthest west along 62nd St. W.

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR2/2	100					Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Culvert-30"dumping into area (concrete).

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-12 City/County: Eden Prairie/Hennepin Sampling Date: 09/03/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L72A-Lundlake Loam NWI Classification: PEMC

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
If yes, optional wetland site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)

All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>100</u> x 2 = <u>200</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.00</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	100	Y	FACW	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

Wetland is located on United Healthcare Property at the end of 62nd St. W.

**SOIL**

Sampling Point:          **A**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR3/2	100					Loam	
10-12	10YR4/2	70	7.5YR4/6	30	C	M	SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>Y</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input checked="" type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>Y</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-EP-12 City/County: Eden Prairie/Hennepin Sampling Date: 09/03/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 01-116-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L72A-Lundlake Loam NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer saccharinum</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Acer negundo</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>50</u> (A) <u>145</u> (B) Prevalence Index = B/A = <u>2.90</u>
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )				
1 <u>Cornus racemosa</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Rhamnus cathartica</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic				
<b>Hydrophytic vegetation present?</b> <u>Y</u>				

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland is located on United Healthcare Property at the end of 62nd St. W.

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR4/3	100					Sandy Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Water table present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Saturation present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-HOP-13 City/County: Minnetonka/Hennepin Sampling Date: 7-23-13  
 Applicant/Owner: SW Light Rail Transit State: MN Sampling Point: A  
 Investigator(s): Mohamed Elabbady, Todd Udvig Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents, wet substratum NWI Classification: PUBGx

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	30	Y	FAC	
2 <u>Populus deltoides</u>	30	Y	FAC	
3 <u>Salix nigra</u>	20	Y	OBL	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
80 = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>140</u> x 3 = <u>420</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>240</u> (A) <u>640</u> (B) Prevalence Index = B/A = <u>2.67</u>
<b>Sapling/Shrub stratum</b> (Plot size: <u>15ft</u> )				
1 <u>Rhamnus cathartica</u>	60	Y	FAC	
2 <u>Cornus racemosa</u>	20	Y	FAC	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
80 = Total Cover				
<b>Herb stratum</b> (Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1 <u>Phalaris arundinacea</u>	40	Y	FACW	
2 <u>Impatiens capensis</u>	20	Y	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
60 = Total Cover				
<b>Woody vine stratum</b> (Plot size: <u>30ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1 <u>Parthenocissus quinquefolia</u>	20	Y	FACU	
2 _____	_____	_____	_____	
20 = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 2/1	100					Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input checked="" type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    X    </u> No _____    Depth (inches): <u>    3    </u> Water table present?        Yes _____    No _____    Depth (inches): _____ Saturation present?        Yes _____    No _____    Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-HOP-13 City/County: Minnetonka/Hennepin Sampling Date: 7-23-13  
 Applicant/Owner: SW Light Rail Transit State: MN Sampling Point: B  
 Investigator(s): Mohamed Elabbady, Todd Udvig Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents, wet substratum NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
1 <u>Acer negundo</u>	30	Y	FAC	
2 <u>Populus deltoides</u>	30	Y	FAC	
3 _____				
4 _____				
5 _____				
	60 = Total Cover			
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>100</u> x 3 = <u>300</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>130</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>3.23</u>
1 <u>Rhamnus cathartica</u>	40	Y	FAC	
2 _____				
3 _____				
4 _____				
5 _____				
	40 = Total Cover			
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
	0 = Total Cover			
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Parthenocissus quinquefolia</u>	30	Y	FACU	
2 _____				
	30 = Total Cover			

**Hydrophytic Vegetation Indicators:**  
 Rapid test for hydrophytic vegetation  
 Dominance test is >50%  
 Prevalence index is ≤3.0\*  
 Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4	10YR 2/2	100					SL	
4-14	10YR 3/2	100					SL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks:  
Soil was dry, no saturation to 12".

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Water table present?      Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Saturation present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
No Hydrology.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-HOP-13 City/County: Hopkins/Hennipen Sampling Date: 8-8-2013  
 Applicant/Owner: SW Light Rail Transit State MN Sampling Point: C  
 Investigator(s): Marc Cottingham Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Udorthents, wet substratum NWI Classification: PUBGx

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland. Normal circumstances not met because profile contains a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Salix nigra</u>	15	Y	OBL	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Salix interior</u>	15	Y	FACW	
2 _____	_____	_____	_____	OBL species <u>35</u> x 1 = <u>35</u>
3 _____	_____	_____	_____	FACW species <u>65</u> x 2 = <u>130</u>
4 _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
_____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
_____	_____	_____	_____	Column totals <u>100</u> (A) <u>165</u> (B)
<u>15</u> = Total Cover				Prevalence Index = B/A = <u>1.65</u>
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:
1 <u>Phalaris arundinacea</u>	50	Y	FACW	
2 <u>Lythrum salicaria</u>	20	Y	OBL	<input checked="" type="checkbox"/> Dominance test is >50%
3 _____	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
4 _____	_____	_____	_____	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5 _____	_____	_____	_____	Problematic hydrophytic vegetation* (explain)
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>70</u> = Total Cover				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic vegetation present?
1 _____	_____	_____	_____	<u>Y</u>
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          C

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1	95	10YR 4/6	5	C	M	SiL	
6-6+							Rocky fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: <u>Gravel</u> Depth (inches): <u>6</u>	Hydric soil present? <u>Y</u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>        </u> No <u>X</u> Depth (inches): <u>        </u> Water table present?        Yes <u>        </u> No <u>X</u> Depth (inches): <u>        </u> Saturation present?         Yes <u>X</u> No <u>        </u> Depth (inches): <u>Surface</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-HOP-13 City/County: Minnetonka Sampling Date: 8-8-2013  
 Applicant/Owner: SW Light Rail Transit State MN Sampling Point: D  
 Investigator(s): Marc Cottingham Section, Township, Range: Section 25 Township 117N Range 22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents, wet substratum NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 The hydric soil and wetland hydrology criteria were not met. Area is not a wetland. Normal circumstances not met because soil profile contains a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>70</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>3.14</u>
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Ambrosia trifida</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Solidago altissima</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>70</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          D

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 2/1						SiL	
10-10+							Rocky fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
				*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic	

<b>Restrictive Layer (if observed):</b> Type: <u>Rock</u> Depth (inches): <u>10</u>	Hydric soil present? <u>N</u>
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Remarks:  
Restrictive layer at 10 inches. Soil likely non-hydric due to landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Indicators of wetland hydrology present? <u>N</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-HOP-14 City/County: Hopkins/Hennepin Sampling Date: 08/13/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 1--6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L2B Malardi-hawick complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Populus deltoides</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 feet</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>60</u> (A) <u>150</u> (B) Prevalence Index = B/A = <u>2.50</u>
1 <u>Salix interior</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Herb stratum (Plot size: <u>5 feet</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 2/2	100					Sandy Silt	
12-14	10YR 3/2	100					Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 No hydric indicators were identified, however, due to the presence of hydrophytic vegetation, surface inundation and landscape position, hydric soils are assumed.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    X    </u> No _____    Depth (inches): <u>    3in    </u> Water table present?        Yes _____    No _____    Depth (inches): _____ Saturation present?        Yes _____    No _____    Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-HOP-14 City/County: Hopkins/Hennepin Sampling Date: 08/13/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 1--6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L2B Malardi-Hawick Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three criteria were met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>100</u> x 4 = <u>400</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>120</u> (A) <u>460</u> (B) Prevalence Index = B/A = <u>3.83</u>
Sapling/Shrub stratum	(Plot size: <u>15 feet</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 feet</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Vicia sativa</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Andropogon gerardii</u>	<u>20</u>	<u>N</u>	<u>FAC</u>	
3	<u>Rudbeckia hirta</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4	<u>Solidago altissima</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>120</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 feet</u> )				<b>Hydrophytic vegetation present?</b> <u>N</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          B

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 3/1	100					SiL	Gravelly and sand

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> N <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> N <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-HOP-15 City/County: Hopkins/Hennepin Sampling Date: 09/16/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is within a stormpond. Normal circumstances not met because soils disturbed by stormpond construction.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Salix nigra</u>	20	Y	OBL	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>20</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Salix interior</u>	40	Y	FACW	
2 <u>Cornus alba</u>	20	Y	FACW	OBL species <u>25</u> x 1 = <u>25</u>
3 _____	_____	_____	_____	FACW species <u>60</u> x 2 = <u>120</u>
4 _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
<u>60</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
<u>60</u> = Total Cover				Column totals <u>85</u> (A) <u>145</u> (B)
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index = B/A = <u>1.71</u>
1 <u>Typha angustifolia</u>	5	Y	OBL	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR2/1	50					Sapric Peat	
	10YR4/3	50					SiL	
6-12	10YR2/1	100					SiL	
12-18	10YR/2/1	50					SiL	
	10YR4/4	50					SiL	
18-20	10YR5/6						Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils:</b>	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Other (explain in remarks)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
Storm Pond. No hydric indicators were identified, however, due to the presence of hydrophytic vegetation, surface inundation and landscape position, hydric soils are assumed by best professional judgment.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b>		<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
Surface water present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>    3    </u>		
Water table present?    Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>          </u>		
Saturation present?    Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-HOP-15 City/County: Hopkins/Hennepin Sampling Date: 09/16/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Soil and hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	20	Y	FAC	
2 <u>Ulmus americana</u>	10	Y	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>70</u> x 2 = <u>140</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>240</u> (B) Prevalence Index = B/A = <u>2.40</u>
Sapling/Shrub stratum (Plot size: <u>15ft</u> )				
1 <u>Salix interior</u>	40	Y	FACW	
2 <u>Cornus alba</u>	20	Y	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>60</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )				
1 <u>Solidago canadensis</u>	10	Y	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:            **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-3	10YR2/1	100					Fine Loamy Sand	
3-6	10YR3/2	100					Loamy Sand	
6-12	10YR2/1	50					SiL	
	10YR3/2	50					SiL	
12-15	10YR4/3	100					Sandy Clay Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>  N  </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes _____ No <u>  X  </u> Depth (inches): _____ Water table present?        Yes _____ No <u>  X  </u> Depth (inches): _____ Saturation present?        Yes _____ No <u>  X  </u> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>  N  </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-HOP-16 City/County: Hopkins/Hennepin Sampling Date: 09/05/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Channel \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Concave \_\_\_\_\_  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Within channel of Nine Mile Creek. Bottom of channel is rock, so no soil sample taken.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>40</u> (A) <u>80</u> (B) Prevalence Index = B/A = <u>2.00</u>
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Persicaria pensylvanica</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>40</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
								Rip-rap on both sides.

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input checked="" type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: <u>    Rock    </u></p> <p>Depth (inches): <u>    Surface    </u></p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:  
No soil sample taken because bottom of channel is rock. Hydric soil assumed based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input checked="" type="checkbox"/>    No <input type="checkbox"/>    Depth (inches): <u>    &lt;12"    </u></p> <p>Water table present?      Yes <input type="checkbox"/>      No <input type="checkbox"/>      Depth (inches): <u>            </u></p> <p>Saturation present?        Yes <input type="checkbox"/>        No <input type="checkbox"/>        Depth (inches): <u>            </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Within banks of Nine Mile Creek.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site NM-HOP-16 City/County: Hopkins/Hennepin Sampling Date: 09/05/2013  
 Applicant/Owner: \_\_\_\_\_ State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Slope \_\_\_\_\_ Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
If yes, optional wetland site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three criteria were met. Area is not a wetland. Above ordinary high water mark of Nine Mile Creek.  
 Normal circumstances not met because area is rip-rapped

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1	_____	_____	_____	_____		Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>0</u> (B)	
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)	
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u>	= Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b>	
1	_____	_____	_____	_____		Total % Cover of:
2	_____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>	
3	_____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>	
4	_____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>	
5	_____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>	
		<u>0</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>	
		<u>0</u>			Column totals <u>0</u> (A) <u>0</u> (B)	
					Prevalence Index = B/A = _____	
Herb stratum	(Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1	_____	_____	_____	_____		_____ Rapid test for hydrophytic vegetation
2	_____	_____	_____	_____		_____ Dominance test is >50%
3	_____	_____	_____	_____		_____ Prevalence index is ≤3.0*
4	_____	_____	_____	_____		_____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5	_____	_____	_____	_____		_____ Problematic hydrophytic vegetation* (explain)
6	_____	_____	_____	_____		_____
7	_____	_____	_____	_____		_____
8	_____	_____	_____	_____		_____
9	_____	_____	_____	_____		_____
10	_____	_____	_____	_____	_____	
		<u>0</u>	= Total Cover			
Woody vine stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status		
1	_____	_____	_____	_____		
2	_____	_____	_____	_____		
		<u>0</u>	= Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          B

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
								Rip-rap on both sides.

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> N <u>    </u></p>
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Remarks:  
Area is rip-rapped, no soil sample taken.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> N <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-01 City/County: Minnetonka/Hennepin Sampling Date: 08/15/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L22C2 Lester loam, morainic NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

All three wetland criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>110</u> x 1 = <u>110</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>140</u> (A) <u>170</u> (B) Prevalence Index = B/A = <u>1.21</u>
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				
1	<u>Salix Interior</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
		<u>30</u>	= Total Cover		
Herb stratum	(Plot size: <u>5ft</u> )				
1	<u>Eleocharis obtusa</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Typha angustifolia</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3					
4					
5					
6					
7					
8					
9					
10					
		<u>110</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30ft</u> )				
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR3/1	90					SiCl	
5-16	10YR4/1	100	10YR4/3	20	D	M	SiCl	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input checked="" type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input checked="" type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input checked="" type="checkbox"/>    No _____    Depth (inches): <u>    12-24"    </u></p> <p>Water table present?      Yes _____    No _____    Depth (inches): _____</p> <p>Saturation present?        Yes _____    No _____    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-01 City/County: Minnetonka/Hennepin Sampling Date: 08/15/2013  
 Applicant/Owner: SWLR State: MN Sampling Point: B  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Storm Pond Local relief (concave, convex, none): Concave  
 Slope (%): 6-12 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L22C2-Lester loam, morainic NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Fraxinus pennsylvanica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species <u>30</u> x 2 = <u>60</u>
4 _____	_____	_____	_____	FAC species <u>100</u> x 3 = <u>300</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
<u>0</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
<u>0</u> = Total Cover				Column totals <u>130</u> (A) <u>360</u> (B)
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index = B/A = <u>2.77</u>
1 <u>Poa pratensis</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
 Dominance test is >50%  
 Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR3/2	100					Sandy Loam	
6-12	10YR4/3	100					Sandy Clay	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-02 City/County: Minnetonka/Hennepin Sampling Date: 07/23/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): M. Cottingham Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 2-5 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L37B-Angus Loam, morainic NWI Classification: PUBF

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>10</u> x 5 = <u>50</u> Column totals <u>55</u> (A) <u>130</u> (B) Prevalence Index = B/A = <u>2.36</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	<u>Rhus glabra</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	
2	<u>Salix interior</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3					
4					
5					
		<u>15</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				
1	<u>Phalaris arundinacea</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Lythrum salicaria</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
3	<u>Persicaria amphibia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4					
5					
6					
7					
8					
9					
10					
		<u>40</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-3	10YR 2/1	100					Mucky Peat	
3-10	10 YR 2/1	95	10YR 4/6	5	C	M	SiCL	
10-18	10YR 4/2	98	10YR 4/6	2	C	M	SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input checked="" type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Water table present?      Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No <u>    </u> Depth (inches): <u>    Surface    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-02 City/County: Minnetonka/Hennepin Sampling Date: 07/23/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): M. Cottingham Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None  
 Slope (%): 2-5 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L37B-Angus Loam, morainic NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydrophytic vegetation and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Juglans nigra</u>	25	Y	FACU	
2 <u>Populus deltoides</u>	10	Y	FAC	
3 _____				
4 _____				
5 _____				
<u>35</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>25</u> x 4 = <u>100</u> UPL species <u>30</u> x 5 = <u>150</u> Column totals <u>75</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>4.00</u>
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )				
1 <u>Rhus glabra</u>	30	Y	UPL	
2 _____				
3 _____				
4 _____				
5 _____				
<u>30</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )				
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )				
1 <u>Vitis riparia</u>	10	Y	FACW	Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 _____				
<u>10</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					SiCL	
8-18	10YR 5/2	95	10YR 4/6	5	C	M	SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>Y</b>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Water table present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Saturation present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-03 City/County: Minnetonka/Hennepin Sampling Date: 07-31-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Mohamed Elabbady, Marc Cottingham Section, Township, Range: 36-17-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>95</u> (A) <u>210</u> (B) Prevalence Index = B/A = <u>2.21</u>
1	<u>Salix interior</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Rhamnus cathartica</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3					
4					
5					
		<u>90</u>	= Total Cover		
Herb stratum	(Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Arctium minus</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>5</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30ft</u> )				
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/1	90	10YR 4/6	10	C	M	SiL	
10-20	10YR 4/2	90	10YR 4/6	10	C	M	SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>			<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>			<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input checked="" type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>		
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-03 City/County: Minnetonka/Hennepin Sampling Date: 07-31-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Mohamed Elabbady, Marc Cottingham Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Wetland hydrology criteria was not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)
1 <u>Fraxinus pennsylvanica</u>	15	Y	FACW	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
15 = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>90</u> (A) <u>285</u> (B) Prevalence Index = B/A = <u>3.17</u>
1 <u>Rhamnus cathartica</u>	30	Y	FAC	
2 <u>Lonicera tatarica</u>	10	Y	FACU	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
40 = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1 <u>Arctium minus</u>	20	Y	FACU	
2 <u>Alliaria petiolata</u>	15	Y	FAC	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
35 = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>Y</u>
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
0 = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/1	90	10YR 4/6	10	C	M	SiL	
10-20	10YR 4/1	90	10YR 4/6	10	C	M	SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>Y</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?        Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-04 City/County: Minnetonka/Hennepin Sampling Date: 07-31-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Mohamed Elabbady, Marc Cottingham Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>95</u> (A) <u>245</u> (B) Prevalence Index = B/A = <u>2.58</u>
1	<u>Salix interior</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
		<u>60</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Solidago canadensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Symphotrichum lanceolatum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3					
4					
5					
6					
7					
8					
9					
		<u>35</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/1	90	10YR 4/6	10	C	M	SiL	
10-20	10YR 4/2	90	10YR 4/6	10	C	M	SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric soil present? <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input checked="" type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>

<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?        Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-04 City/County: Minnetonka/Hennepin Sampling Date: 07-31-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Mohamed Elabbady, Marc Cottingham Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydrophytic vegetation and hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>75</u> (A) <u>290</u> (B) Prevalence Index = B/A = <u>3.87</u>
Sapling/Shrub stratum	(Plot size: <u>15 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5 ft</u> )				
1	<u>Solidago altissima</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Thlaspi arvense</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3	<u>Phalaris arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>75</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30 ft</u> )				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/2	100					Loam	
8-20	10YR 4/2	95	10YR 4/6	5	C	M	SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    N    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-05 City/County: Minnetonka/Hennepin Sampling Date: 09/16/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 2-5 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L37B-Angus Loam, Morainic NWI Classification: PEMC

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Salix nigra</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>50</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>55</u> x 1 = <u>55</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>95</u> (A) <u>135</u> (B) Prevalence Index = B/A = <u>1.42</u>
1 <u>Salix interior</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Typha angustifolia</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4	10YR2/2	100					Silty Clay Loam	
4-6	10YR3/1	97	Gley1-4/5GY	3	C	M	Loam	
6-12	10YR3/2	50					Loam	
	10YR5/6	50						

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <input checked="" type="checkbox"/> No _____    Depth (inches): <u>    36"    </u> Water table present?      Yes _____    No _____    Depth (inches): _____ Saturation present?        Yes _____    No _____    Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Pond has no inlets or outlets.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-05 City/County: Minnetonka/Hennepin Sampling Date: 09/16/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 2-5 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L37B-Angus Loam, Morainic NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Fraxinus pennsylvanica</u>	30	Y	FACW	
2 <u>Acer negundo</u>	30	Y	FAC	
3 <u>Acer saccharinum</u>	10	N	FACW	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>70</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>120</u> (A) <u>360</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )				
1 <u>Rhamnus cathartica</u>	10	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )				
1 <u>Solidago canadensis</u>	20	Y	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Cirsium arvense</u>	20	Y	FACU	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-7	10YR3/2	100					Sandy Loam	
7-12	10YR2/2	50					Sandy Loam	
	10YR4/3	50					Sandy Loam	
12-15	10YR3/2	50					Loamy Sand	
	10YR4/2	50					Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
<input type="checkbox"/> Water-Stained Leaves (B9)					

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-06 City/County: Minnetonka Sampling Date: 07-31-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Mohamed Elabbady, Marc Cottingham Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland. Soil profile is within altered urban land, and had a restrictive layer at 3 inches.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	40	Y	FAC	
2 <u>Acer saccharinum</u>	30	Y	FACW	
3 _____				
4 _____				
5 _____				
	70 = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>45</u> x 2 = <u>90</u> FAC species <u>85</u> x 3 = <u>255</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>130</u> (A) <u>345</u> (B) Prevalence Index = B/A = <u>2.65</u>
<b>Sapling/Shrub stratum</b> (Plot size: <u>15ft</u> )				
1 <u>Cornus racemosa</u>	30	Y	FAC	
2 <u>Rhamnus cathartica</u>	15	Y	FAC	
3 _____				
4 _____				
5 _____				
	45 = Total Cover			
<b>Herb stratum</b> (Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
	0 = Total Cover			
<b>Woody vine stratum</b> (Plot size: <u>30ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1 <u>Vitis riparia</u>	15	Y	FACW	
2 _____				
	15 = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-3	10YR 3/1	100					Loam	
3+							Rocky fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: <u>    Rocky fill    </u> Depth (inches): <u>    3+    </u>	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 Sample was not able to be taken below 3 inches due to restrictive gravel layer. Sample point taken within a roadside drainage channel with two inches of standing water.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>    2"    </u> Water table present?      Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>            </u> Saturation present?        Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>            </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-06 City/County: Minnetonka/Hennepin Sampling Date: 07-31-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Mohamed Elabbady, Marc Cottingham Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric Soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	40	Y	FAC	
2 <u>Acer saccharinum</u>	20	Y	FACW	
3 _____				
4 _____				
5 _____				
<u>60</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>85</u> x 3 = <u>255</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>130</u> (A) <u>365</u> (B) Prevalence Index = B/A = <u>2.81</u>
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )				
1 <u>Rhamnus cathartica</u>	30	Y	FAC	
2 <u>Cornus racemosa</u>	15	Y	FAC	
3 _____				
4 _____				
5 _____				
<u>45</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft</u> )				
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft</u> )				
1 <u>Vitis riparia</u>	15	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Parthenocissus quinquefolia</u>	10	Y	FACU	
<u>25</u> = Total Cover				
<b>Hydrophytic vegetation present?</b> <u>Y</u>				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR 3/2	100					Loam	
14-30	10YR 4/1	50	10YR 4/6	10	C	M	SiCL	
	10YR 5/1	40						

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-07 City/County: Minnetonka/Hennepin Sampling Date: 8-1-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 2-5 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L60B-Angus-Moon complex NWI Classification: PEMCD

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b>
5 _____	<u>25</u> = Total Cover	_____	_____	
<b>Sapling/Shrub stratum (Plot size: <u>15ft</u>)</b>				OBL species <u>15</u> x 1 = <u>15</u>
1 _____	_____	_____	_____	FACW species <u>5</u> x 2 = <u>10</u>
2 _____	_____	_____	_____	FAC species <u>25</u> x 3 = <u>75</u>
3 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
4 _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
5 _____	<u>0</u> = Total Cover	_____	_____	Column totals <u>45</u> (A) <u>100</u> (B)
<b>Herb stratum (Plot size: <u>5ft</u>)</b>				Prevalence Index = B/A = <u>2.22</u>
1 <u>Typha angustifolia</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Impatiens capensis</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Sagittaria latifolia</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	<u>20</u> = Total Cover	_____	_____	
<b>Woody vine stratum (Plot size: <u>30ft</u>)</b>				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1 _____	_____	_____	_____	
2 _____	<u>0</u> = Total Cover	_____	_____	

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-30	10YR 2/1	100					Mucky Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input checked="" type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric soil present? <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input checked="" type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>

<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input checked="" type="checkbox"/>      No <input type="checkbox"/>      Depth (inches): <u>    Surface    </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-07 City/County: Minnetonka/Hennepin Sampling Date: 8-1-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None  
 Slope (%): 2-5 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L60B-Angus-Moon complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Fraxinus pennsylvanica</u>	10	Y	FACW	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Rhamnus cathartica</u>	30	Y	FAC	
2 _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
4 _____	_____	_____	_____	FAC species <u>40</u> x 3 = <u>120</u>
5 _____	_____	_____	_____	FACU species <u>10</u> x 4 = <u>40</u>
_____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
<u>30</u> = Total Cover				Column totals <u>60</u> (A) <u>180</u> (B)
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index = B/A = <u>3.00</u>
1 <u>Alliaria petiolata</u>	10	Y	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Parthenocissus quinquefolia</u>	10	Y	FACU	
2 _____	_____	_____	_____	
<u>10</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 2/1	100					SiC	
10-18	10YR 4/2	100					SiC	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>		<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>	
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-08 City/County: Minnetonka/Hennepin Sampling Date: 8-1-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego mucks NWI Classification: PEMC

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

All three wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	30	Y	FAC	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Rhamnus cathartica</u>	15	Y	FAC	
2 _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species <u>70</u> x 2 = <u>140</u>
4 _____	_____	_____	_____	FAC species <u>45</u> x 3 = <u>135</u>
5 _____	_____	_____	_____	FACU species <u>10</u> x 4 = <u>40</u>
<u>15</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
				Column totals <u>125</u> (A) <u>315</u> (B)
				Prevalence Index = B/A = <u>2.52</u>
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:
1 <u>Phalaris arundinacea</u>	60	Y	FACW	
2 <u>Impatiens capensis</u>	10	N	FACW	<input checked="" type="checkbox"/> Dominance test is >50%
3 <u>Arctium minus</u>	10	N	FACU	<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
4 _____	_____	_____	_____	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5 _____	_____	_____	_____	Problematic hydrophytic vegetation* (explain)
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>80</u> = Total Cover				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic vegetation present? <u>Y</u>
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-30	10YR 2/1	100					Fibric Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input checked="" type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input checked="" type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-08 City/County: Minnetonka/Hennepin Sampling Date: 8-1-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego muck NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)
1 <u>Acer negundo</u>	30	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>140</u> (A) <u>450</u> (B) Prevalence Index = B/A = <u>3.21</u>
1 <u>Rhamnus cathartica</u>	60	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>60</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Arctium minus</u>	30	Y	FACU	
2 <u>Phalaris arundinacea</u>	10	Y	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Parthenocissus quinquefolia</u>	10	Y	FACU	
2 _____	_____	_____	_____	
<u>10</u> = Total Cover				

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
 Dominance test is >50%  
 \_\_\_\_\_ Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 2/1	100					SiC	
12-18	10YR 4/2	100					SiC	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-09 City/County: Minnetonka/Hennepin Sampling Date: 8-1-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego mucks NWI Classification: PEMC

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	25	Y	FAC	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>25</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species <u>80</u> x 2 = <u>160</u>
4 _____	_____	_____	_____	FAC species <u>25</u> x 3 = <u>75</u>
5 _____	_____	_____	_____	FACU species <u>5</u> x 4 = <u>20</u>
<u>0</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
				Column totals <u>110</u> (A) <u>255</u> (B)
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index = B/A = <u>2.32</u>
1 <u>Impatiens capensis</u>	70	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Phalaris arundinacea</u>	5	N	FACW	
3 <u>Arctium minus</u>	5	N	FACU	
4 <u>Urtica dioica</u>	5	N	FACW	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>85</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR 2/1	100					SiL	
5-18	10YR 4/2	98	10YR 4/6	2	C	M	SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric soil present? <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input checked="" type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-09 City/County: Minnetonka/Hennepin Sampling Date: 8-1-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None  
 Slope (%): 0-1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego mucks NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Wetland hydrology criteria was not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Acer negundo</u>	40	Y	FAC	
2 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>65</u> x 3 = <u>195</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>235</u> (B) Prevalence Index = B/A = <u>2.94</u>
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>40</u> = Total Cover				
<b>Sapling/Shrub stratum</b> (Plot size: <u>15ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Herb stratum</b> (Plot size: <u>5ft</u> )				
1 <u>Alliaria petiolata</u>	25	Y	FAC	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Phalaris arundinacea</u>	10	Y	FACW	
3 <u>Arctium minus</u>	5	N	FACU	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>40</u> = Total Cover				
<b>Woody vine stratum</b> (Plot size: <u>30ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR 2/1	100					SiCL	
15-30	2.5YR 4/1	98	10YR 4/6	2	C	M	SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input checked="" type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>Y</b> <u>    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <u>    </u> No <u>    </u> <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <u>    </u> No <u>    </u> <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-10 City/County: Minnetonka/Hennepin Sampling Date: 08/13/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): T. Udvig, A. Hruby Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: PUBGx

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland. Normal circumstances not met because soil profile contains a restrictive layer at 10 inches.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1	_____	_____	_____	_____		Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2	_____	_____	_____	_____		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u> = Total Cover				
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				<b>Prevalence Index Worksheet</b>	
1	_____	_____	_____	_____		Total % Cover of: OBL species <u>40</u> x 1 = <u>40</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>40</u> (A) <u>40</u> (B) Prevalence Index = B/A = <u>1.00</u>
2	_____	_____	_____	_____		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u> = Total Cover				
Herb stratum	(Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1	<u>Sagittaria latifolia</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>		_____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0*  Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)  Problematic hydrophytic vegetation* (explain)  *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2	<u>Schoenoplectus fluviatilis</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
6	_____	_____	_____	_____		
7	_____	_____	_____	_____		
8	_____	_____	_____	_____		
9	_____	_____	_____	_____		
10	_____	_____	_____	_____		
		<u>40</u> = Total Cover				
Woody vine stratum	(Plot size: <u>30ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>	
1	_____	_____	_____	_____		
2	_____	_____	_____	_____		
		<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-3	10YR 3/3	50					Clay	Mixed matrix
	10YR 3/2	50					Clay	
3-10	10YR 3/2	100					Rocky fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils:</b>	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Other (explain in remarks)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: <u>Rocky fill</u> Depth (inches): <u>10+</u>	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
No hydric indicator met; however, soil profile contains rocky restrictive layer and is likely hydric under Normal Circumstances based on landscape position and hydrophytic vegetation.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b>		<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>    24    </u>		
Water table present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>          </u>		
Saturation present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Edge of constructed detention pond.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-10 City/County: Minnetonka/Hennepin Sampling Date: 08/13/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): T. Udvig, A. Hruby Section, Township, Range: 36-117-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria not met. Area is not a wetland. Normal circumstances not met because soil profile contains a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1 <u>Populus deltoides</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Sapling/Shrub stratum (Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b>
1 <u>Rhamnus cathartica</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>
4 _____	_____	_____	_____	FAC species <u>80</u> x 3 = <u>240</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
<u>50</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
				Column totals <u>80</u> (A) <u>240</u> (B)
				Prevalence Index = B/A = <u>3.00</u>
Herb stratum (Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance test is >50%
3 _____	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
4 _____	_____	_____	_____	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5 _____	_____	_____	_____	Problematic hydrophytic vegetation* (explain)
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 3/2	100					Loamy sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Rock</u> Depth (inches): <u>6</u>	Hydric soil present? <u>N</u>
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Remarks:  
Soil profile contains rocky restrictive layer, but is likely not hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>N</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Edge of constructed detention pond.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-11 City/County: Minnetonka/Hennepin Sampling Date: 7-26-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Mohamed Elabbady, Todd Udvig Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L49A-Klossner soils. L132A-Hamel-Glencoe depressional comp WVI Classification: PEM/FO1/SS1C

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Meets all wetland criteria. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet	
1 <u>Fraxinus nigra</u>	25	Y	FACW		Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b>	
5 _____	_____	_____	_____		Total % Cover of:
25 = Total Cover				OBL species <u>30</u> x 1 = <u>30</u>	
<b>Sapling/Shrub stratum</b> (Plot size: <u>15ft</u> )				FACW species <u>40</u> x 2 = <u>80</u>	
1 _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>	
2 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>	
3 _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>	
4 _____	_____	_____	_____	Column totals <u>70</u> (A) <u>110</u> (B)	
5 _____	_____	_____	_____	Prevalence Index = B/A = <u>1.57</u>	
0 = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>	
<b>Herb stratum</b> (Plot size: <u>5ft</u> )					_____ Rapid test for hydrophytic vegetation
1 <u>Typha angustifolia</u>	30	Y	OBL		<u>X</u> Dominance test is >50%
2 <u>Phalaris arundinacea</u>	15	Y	FACW		<u>X</u> Prevalence index is ≤3.0*
3 _____	_____	_____	_____		Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
4 _____	_____	_____	_____		_____ Problematic hydrophytic vegetation* (explain)
5 _____	_____	_____	_____		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
6 _____	_____	_____	_____		<b>Hydrophytic vegetation present?</b> <u>Y</u>
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
9 _____	_____	_____	_____		
45 = Total Cover					
<b>Woody vine stratum</b> (Plot size: <u>30ft</u> )					
1 _____	_____	_____	_____		
2 _____	_____	_____	_____		
0 = Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/2	90	10YR 4/4	10	C	M	SiCL	
6-14	10YR 2/1	100					Silt	Organic Matter

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input checked="" type="checkbox"/>    No <input type="checkbox"/>    Depth (inches): <u>    6    </u></p> <p>Water table present?      Yes <input type="checkbox"/>      No <input type="checkbox"/>      Depth (inches): <u>          </u></p> <p>Saturation present?        Yes <input type="checkbox"/>        No <input type="checkbox"/>        Depth (inches): <u>          </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-11 City/County: Minnetonka/Hennepin Sampling Date: 7-26-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Mohamed Elabbady, Todd Udvig Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Slope \_\_\_\_\_ Local relief (concave, convex, none): Convex  
 Slope (%): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L49A-Klossner soils/L132A-Hamel-Glencoe depressional complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? \_\_\_\_\_ (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the wetland criteria were met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1	_____	_____	_____	_____		Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>1</u> (B)	
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)	
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u> = Total Cover				
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				<b>Prevalence Index Worksheet</b>	
1	_____	_____	_____	_____		Total % Cover of:
2	_____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>	
3	_____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>	
4	_____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>	
5	_____	_____	_____	_____	FACU species <u>10</u> x 4 = <u>40</u>	
		<u>0</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
						Column totals <u>10</u> (A) <u>40</u> (B)
Herb stratum	(Plot size: <u>5ft</u> )				Prevalence Index = B/A = <u>4.00</u>	
1	<u>Cirsium arvense</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
2	_____	_____	_____	_____		
3	_____	_____	_____	_____		
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
6	_____	_____	_____	_____		
7	_____	_____	_____	_____		
8	_____	_____	_____	_____		
9	_____	_____	_____	_____		
10	_____	_____	_____	_____		
		<u>10</u> = Total Cover				
Woody vine stratum	(Plot size: <u>30ft</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1	_____	_____	_____	_____		_____ Rapid test for hydrophytic vegetation
2	_____	_____	_____	_____	_____ Dominance test is >50%	
		<u>0</u> = Total Cover				_____ Prevalence index is ≤3.0*
						_____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
						_____ Problematic hydrophytic vegetation* (explain)
						*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-3	10YR 3/1	100					SiCL	
6-14	10YR 4/4	30					SiCL	
	10YR 3/1	30					SiCL	
	10YR 3/1	40					SyL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	Hydric soil present? <u>    </u> <b>N</b> <u>    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Water table present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Saturation present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ (includes capillary fringe)	Indicators of wetland hydrology present? <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-11 City/County: Minnetonka/Hennepin Sampling Date: 8/7/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: C  
 Investigator(s): Mohamed Elabbady, Marc Cottingham Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L132A-Hamel-Glencoe complex NWI Classification: PEM/FO1/SS1C

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Acer negundo</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>20</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>75</u> (A) <u>185</u> (B) Prevalence Index = B/A = <u>2.47</u>
1 <u>Rhamnus cathartica</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:           C          

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					Fibric Peat	
8-18	10YR 2/1	98	10YR 4/6	2	C	M	SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input checked="" type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input checked="" type="checkbox"/>    No <input type="checkbox"/>      Depth (inches): <u>    Surface    </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-11 City/County: Minnetonka/Hennepin Sampling Date: 8/7/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: D  
 Investigator(s): Mohamed Elabbady, Marc Cottingham Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L132A-Hamel-Glencoe complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric Soil and Hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Fraxinus pennsylvanica</u>	10	Y	FACW	
2 <u>Tilia americana</u>	10	Y	FACU	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>20</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>80</u> x 3 = <u>240</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub stratum (Plot size: <u>15ft</u> )				
1 <u>Rhamnus cathartica</u>	80	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>80</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)				
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic				
<b>Hydrophytic vegetation present?</b> <u>Y</u>				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          D

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-25	10YR 2/1	100					SiCL	
25-30	10YR 4/1	100					SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>  N  </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b> Surface water present?    Yes _____ No <u>  X  </u> Depth (inches): _____ Water table present?        Yes _____ No <u>  X  </u> Depth (inches): _____ Saturation present?        Yes _____ No <u>  X  </u> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>  N  </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-11 City/County: Minnetonka/Hennepin Sampling Date: 8/7/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: E  
 Investigator(s): Mohamed Elabbady, Marc Cottingham Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L132A-Hamel-Glencoe complex NWI Classification: PEM/FO1/SS1C

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Salix nigra</u>	40	Y	OBL	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Rhamnus cathartica</u>	15	Y	FAC	
2 _____	_____	_____	_____	OBL species <u>45</u> x 1 = <u>45</u>
3 _____	_____	_____	_____	FACW species <u>50</u> x 2 = <u>100</u>
4 _____	_____	_____	_____	FAC species <u>15</u> x 3 = <u>45</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
_____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
_____	_____	_____	_____	Column totals <u>110</u> (A) <u>190</u> (B)
<u>15</u> = Total Cover				Prevalence Index = B/A = <u>1.73</u>
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:
1 <u>Phalaris arundinacea</u>	50	Y	FACW	
2 <u>Schoenoplectus fluviatilis</u>	5	N	OBL	<input checked="" type="checkbox"/> Dominance test is >50%
3 _____	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
4 _____	_____	_____	_____	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5 _____	_____	_____	_____	Problematic hydrophytic vegetation* (explain)
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>55</u> = Total Cover				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic vegetation present?
1 _____	_____	_____	_____	<u>Y</u>
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:            **E**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 2/1	90	10YR 4/6	10	C	M	SiCL	
12-18	10YR 4/1	85	10YR 4/6	15	C	M	SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input checked="" type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input checked="" type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>  </u> <b>Y</b> <u>  </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?       Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  </u> <b>Y</b> <u>  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-11 City/County: Minnetonka/Hennepin Sampling Date: 8/7/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: F  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L132A-Hamel-Glencoe complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric Soil and Hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)
1 <u>Acer negundo</u>	50	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>50</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>90</u> x 3 = <u>270</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>125</u> (A) <u>380</u> (B) Prevalence Index = B/A = <u>3.04</u>
1 <u>Rhamnus cathartica</u>	30	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Arctium minus</u>	20	Y	FACU	
2 <u>Alliaria petiolata</u>	10	Y	FAC	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Vitis riparia</u>	15	Y	FACW	
2 _____	_____	_____	_____	
<u>15</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          F

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/1	100					SiCL	
10-18	10YR 4/3	95	10YR 4/4	5	C	M	SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> N <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> N <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-11 City/County: Minnetonka/Hennepin Sampling Date: 9/4/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: G  
 Investigator(s): Marc Cottingham Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: PEM/FO1/SS1C

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Salix nigra</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b>
5 _____	_____	_____	_____	
10 = Total Cover				OBL species <u>10</u> x 1 = <u>10</u>
Sapling/Shrub stratum (Plot size: <u>15ft</u> )				FACW species <u>90</u> x 2 = <u>180</u>
1 _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
2 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
3 _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4 _____	_____	_____	_____	Column totals <u>100</u> (A) <u>190</u> (B)
5 _____	_____	_____	_____	Prevalence Index = B/A = <u>1.90</u>
0 = Total Cover				<b>Hydrophytic Vegetation Indicators:</b>
Herb stratum (Plot size: <u>5ft</u> )				
1 <u>Phalaris arundinacea</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
90 = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
0 = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **G**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/1	100					SiL	
8-18	10YR 4/2	95	10YR 4/6	5	C	M	LyS	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>Y</b> <u>    </u>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Water table present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Saturation present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>Y</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
 \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-11 City/County: Minnetonka/Hennepin Sampling Date: 9/4/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: H  
 Investigator(s): Marc Cottingham Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
1 <u>Salix nigra</u>	25	Y	OBL	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>25</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>25</u> x 1 = <u>25</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>105</u> (A) <u>275</u> (B) Prevalence Index = B/A = <u>2.62</u>
1 <u>Rhamnus cathartica</u>	40	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Alliaria petiolata</u>	30	Y	FAC	
2 <u>Ageratina altissima</u>	10	Y	FACU	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:            H

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/3	100					Loam	
10-18	10YR 4/3	100					Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>  </u> N <u>  </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  </u> N <u>  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-11 City/County: Minnetonka Sampling Date: 9/4/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: I  
 Investigator(s): Marc Cottingham Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Excavated Pond Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydrophytic vegetation and hydric soil criteria not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1	_____	_____	_____	_____		Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>0</u> (B)	
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)	
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u> = Total Cover				
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				<b>Prevalence Index Worksheet</b>	
1	_____	_____	_____	_____		Total % Cover of:
2	_____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>	
3	_____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>	
4	_____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>	
5	_____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>	
		<u>0</u> = Total Cover			UPL species <u>0</u> x 5 = <u>0</u>	
					Column totals <u>0</u> (A) <u>0</u> (B)	
					Prevalence Index = B/A = _____	
Herb stratum	(Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1	_____	_____	_____	_____		_____ Rapid test for hydrophytic vegetation
2	_____	_____	_____	_____		_____ Dominance test is >50%
3	_____	_____	_____	_____		_____ Prevalence index is ≤3.0*
4	_____	_____	_____	_____		_____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5	_____	_____	_____	_____		_____ Problematic hydrophytic vegetation* (explain)
6	_____	_____	_____	_____		
7	_____	_____	_____	_____		
8	_____	_____	_____	_____		
9	_____	_____	_____	_____		
10	_____	_____	_____	_____		
		<u>0</u> = Total Cover				
Woody vine stratum	(Plot size: <u>30ft</u> )					
1	_____	_____	_____	_____		
2	_____	_____	_____	_____		
		<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)  
 Un-vegetated excavated sedimentation pond.

**SOIL**

Sampling Point:   I  

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR 3/1	100					SiCL	
5-13	10YR 2/1	100					SiCL	
13-24	10YR 2/1	70					SiCL	Mixed matrix
	10YR 4/2	30						

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b>    <u>  N  </u></p>
--	--

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input checked="" type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
<p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b>    <u>  Y  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Area is an excavated stormwater basin.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-12 City/County: Minnetonka/Hennepin Sampling Date: 8-22-13  
 Applicant/Owner: SW Light Rail Transit State: MN Sampling Point: A  
 Investigator(s): Mohamed Elabbady, Allison Hruby Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Udorthents NWI Classification: PUBGx

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>30</u> x 1 = <u>30</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>70</u> (A) <u>110</u> (B) Prevalence Index = B/A = <u>1.57</u>
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Persicaria pensylvanica</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2	<u>Lythrum salicaria</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3	<u>Asclepias incarnata</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4	<u>Schoenoplectus fluviatilis</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>70</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					SyL	
8-24	10YR 2/1	95	10YR 4/6	5	C	M	SyL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input checked="" type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)			

<b>Field Observations:</b> Surface water present?    Yes _____ No <u>    X    </u> Depth (inches): _____ Water table present?      Yes _____ No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No _____    Depth (inches): <u>    6    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MTA-MTA-12 City/County: Minnetonka/Hennepin Sampling Date: 8-22-2013  
 Applicant/Owner: SW Light Rail Transit State: MN Sampling Point: B  
 Investigator(s): Mohamed Elabbady, Allison Hruby Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>50</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>2.00</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Persicaria pensylvanica</u>	50	Y	FACW	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>50</u> = Total Cover			
Woody vine stratum	(Plot size: <u>15ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          B

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-24	10YR 3/2	100					Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> N <u>    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> N <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-01 City/County: St. Louis Park/Hennepin Sampling Date: 09/11/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 20-117-21  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L28A-Suckercreek Fine Sandy Loam NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Area is within the banks of Minnehaha Creek. Although, area is un-vegetated, it will be regulated as a Water of the U.S.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1						Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)
2					Total Number of Dominant Species Across all Strata: <u>0</u> (B)	
3					Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)	
4						
5						
		<u>0</u>	= Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				<b>Prevalence Index Worksheet</b>	
1						Total % Cover of:
2					OBL species <u>0</u> x 1 = <u>0</u>	
3					FACW species <u>0</u> x 2 = <u>0</u>	
4					FAC species <u>0</u> x 3 = <u>0</u>	
5					FACU species <u>0</u> x 4 = <u>0</u>	
		<u>0</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>	
		<u>0</u>	= Total Cover		Column totals <u>0</u> (A) <u>0</u> (B)	
					Prevalence Index = B/A = _____	
Herb stratum	(Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1						____ Rapid test for hydrophytic vegetation
2						____ Dominance test is >50%
3						____ Prevalence index is ≤3.0*
4						____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5						____ Problematic hydrophytic vegetation* (explain)
6						
7						
8						
9						
10						
		<u>0</u>	= Total Cover			
Woody vine stratum	(Plot size: <u>30ft</u> )				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1						
2						
		<u>0</u>	= Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)  
 Area is un-vegetated within the banks of Minnehaha Creek.

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
								Rip-rap on both sides.

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 No soil samples taken due to rip-rap on both sides of the creek. No hydric indicators were identified, however, due to the presence of surface saturation and landscape position, hydric soils are assumed by best professional judgment.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    X    </u> No _____    Depth (inches): <u>    12    </u> Water table present?        Yes _____    No _____    Depth (inches): _____ Saturation present?        Yes _____    No _____    Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Area is within the banks of Minnehaha Creek.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-01 City/County: St. Louis Park/Hennepin Sampling Date: 09/11/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 20-117-21  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L28A-Suckercreek Fine Sandy Loam NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Soil and hydrology indicators were not met. Area is not a wetland. Normal circumstances not met because soil profile was inaccessible through rip-rap along edge of Minnehaha Creek.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Populus deltoides</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>60</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>150</u> x 3 = <u>450</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>150</u> (A) <u>450</u> (B) Prevalence Index = B/A = <u>3.00</u>
1 <u>Rhamnus cathartica</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>90</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          B

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
								Rip-rap on both sides.

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
<p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>		

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> N <u>    </u></p>
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Remarks:  
No soil samples taken due to rip-rap and construction debris.

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>			<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>			<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>		
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> N <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Area is above the ordinary high water mark of Minnehaha Creek.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-02 City/County: St. Louis Park/Hennepin Sampling Date: 08/09/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig, Kristina Justen Section, Township, Range: 20-117-21  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none  
 Slope (%): 0-2 Lat: 44.931530° Long: 93.367971° Datum: \_\_\_\_\_  
 Soil Map Unit Name L28A-Sucker creek fine sandy loam NWI Classification: PEMCD

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus deltoides</u>	10	Y	FAC	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Rhamnus cathartica</u>	90	Y	FAC	
2 _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>
4 _____	_____	_____	_____	FAC species <u>105</u> x 3 = <u>315</u>
5 _____	_____	_____	_____	FACU species <u>5</u> x 4 = <u>20</u>
6 _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
7 _____	_____	_____	_____	Column totals <u>110</u> (A) <u>335</u> (B)
8 _____	_____	_____	_____	Prevalence Index = B/A = <u>3.05</u>
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>90</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:
1 <u>Toxicodendron radicans</u>	5	Y	FAC	
2 _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance test is >50%
3 _____	_____	_____	_____	<input type="checkbox"/> Prevalence index is ≤3.0*
4 _____	_____	_____	_____	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5 _____	_____	_____	_____	Problematic hydrophytic vegetation* (explain)
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1 <u>Parthenocissus quinquefolia</u>	5	Y	FACU	
2 _____	_____	_____	_____	
<u>5</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR 2/1						F. Peat	
14-17+	10YR 3/3						Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)
<input checked="" type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (explain in remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Stunted or Stressed Plants (D1)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface water present?    Yes <u>    X    </u> No _____    Depth (inches): <u>    4    </u> Water table present?      Yes _____    No _____    Depth (inches): _____ Saturation present?        Yes _____    No _____    Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Wetland associated with Minnehaha Creek

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-02 City/County: St. Louis Park/Hennepin Sampling Date: 08/09/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig, Kristina Justen Section, Township, Range: 20-117-21  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none  
 Slope (%): 0-2 Lat: 44.931530° Long: 93.367971° Datum: \_\_\_\_\_  
 Soil Map Unit Name L28A-Suckercreek fine sandy loam NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus deltoides</u>	10	Y	FAC	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Rhamnus cathartica</u>	90	Y	FAC	
2 _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>
4 _____	_____	_____	_____	FAC species <u>100</u> x 3 = <u>300</u>
5 _____	_____	_____	_____	FACU species <u>50</u> x 4 = <u>200</u>
<u>90</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Column totals <u>150</u> (A) <u>500</u> (B)
1 <u>Solidago canadensis</u>	30	Y	FACU	Prevalence Index = B/A = <u>3.33</u>
2 <u>Euphorbia spathulata</u>	20	Y	FACU	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
 \_\_\_\_\_ Dominance test is >50%  
 \_\_\_\_\_ Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** N

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 2/1	100					Mucky Peat	
12-24+	10YR 3/3	100					Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes _____ No <u>    </u> <b>X</b> Depth (inches): _____ Water table present?        Yes _____ No <u>    </u> <b>X</b> Depth (inches): _____ Saturation present?        Yes _____ No <u>    </u> <b>X</b> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Wetland associated with Minnehaha Creek

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-03 City/County: St. Louis Park/Hennepin Sampling Date: 09/05/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 20-117-21  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1					
2					Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3					Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
4					
5					
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b>
1		<u>10</u>	<u>Y</u>		
2					OBL species <u>101</u> x 1 = <u>101</u>
3					FACW species <u>0</u> x 2 = <u>0</u>
4					FAC species <u>0</u> x 3 = <u>0</u>
5					FACU species <u>0</u> x 4 = <u>0</u>
		<u>10</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
		<u>101</u>	= Total Cover		Column totals <u>101</u> (A) <u>101</u> (B)
Herb stratum	(Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index = B/A = <u>1.00</u>
1	<u>Schoenoplectus fluviatilis</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2	<u>Typha angustifolia</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3	<u>Lythrum salicaria</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
4	<u>Schoenoplectus tabernaemontani</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5	<u>Eleocharis obtusa</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
6					
7					
8					
9					
10					
		<u>101</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland is located on Methodist Hospital property with railroad tracks to the south.

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR3/2	100					Loamy Sand	Very Dry
8-12	10YR2/1	97	10YR5/8	3	C	M	Clay Loam	Pea-sized Gravel

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> 0-13 <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: <u>Hardpan</u> Depth (inches): <u>12"</u>	Hydric soil present? <u>Y</u>
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Remarks:  
 Soils are a mix of sand, silt and clay. No hydric indicators were identified, however, due to the presence of hydrophytic vegetation, surface saturation and landscape position, hydric soils are assumed by best professional judgment.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> Drainage Patterns (B10)			
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
<input type="checkbox"/> Water-Stained Leaves (B9)					

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Lots of gravel from either railroad or parking lot construction.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-03 City/County: St. Louis Park/Hennepin Sampling Date: 09/05/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 20-117-21  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three criteria were met. Area is not a wetland. Normal circumstances not met because soil profile contained restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>50</u> (A) <u>185</u> (B) Prevalence Index = B/A = <u>3.70</u>
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Elymus repens</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2	<u>Panicum virgatum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3	<u>Phleum pratense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>50</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland is located on Methodist Hospital property with railroad tracks to the south.

**SOIL**

Sampling Point:          B

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR3/2	100					Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> 0-13 <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Hardpan</u> Depth (inches): <u>12"</u>	Hydric soil present? <u>N</u>
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Remarks:  
Restrictive layer at 12 inches. Profile determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>N</u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Lots of gravel from either railroad or parking lot construction.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-04 City/County: St. Louis Park/Hennepin Sampling Date: 09/05/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 20-117-21  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" \_\_\_\_\_  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three wetland criteria were met. Area is a wetland. Normal circumstances were not met due to a restrictive layer in the soil profile.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1	_____	_____	_____	_____		Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)
2	_____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>2</u> (B)	
3	_____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)	
4	_____	_____	_____	_____		
5	_____	_____	_____	_____		
		<u>0</u> = Total Cover				
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				<b>Prevalence Index Worksheet</b>	
1	_____	_____	_____	_____		Total % Cover of:
2	_____	_____	_____	_____	OBL species <u>100</u> x 1 = <u>100</u>	
3	_____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>	
4	_____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>	
5	_____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>	
		<u>0</u> = Total Cover			UPL species <u>0</u> x 5 = <u>0</u>	
					Column totals <u>100</u> (A) <u>100</u> (B)	
					Prevalence Index = B/A = <u>1.00</u>	
Herb stratum	(Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1	<u>Typha angustifolia</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>		<input type="checkbox"/> Rapid test for hydrophytic vegetation
2	<u>Lythrum salicaria</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>		<input checked="" type="checkbox"/> Dominance test is >50%
3	_____	_____	_____	_____		<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
4	_____	_____	_____	_____		Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5	_____	_____	_____	_____		Problematic hydrophytic vegetation* (explain)
6	_____	_____	_____	_____		
7	_____	_____	_____	_____		
8	_____	_____	_____	_____		
9	_____	_____	_____	_____		
10	_____	_____	_____	_____		
		<u>100</u> = Total Cover			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
Woody vine stratum	(Plot size: <u>30ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>	
1	_____	_____	_____	_____		
2	_____	_____	_____	_____		
		<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland is located on Methodist Hospital property with railroad tracks to the south.

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR4/3	100					Loamy Sand	
8+							Rocky fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> 0-13 <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: <u>    Rocky fill    </u> Depth (inches): <u>    8+    </u>	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 Restrictive layer at 8 inches. Profile determined to be hydric based on the presence of hydrophytic vegetation and landscape position.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
<input type="checkbox"/> Water-Stained Leaves (B9)					

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-04 City/County: St. Louis Park/Hennepin Sampling Date: 09/05/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 20-117-21  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology wetland criteria were not met. Area is not a wetland. Normal circumstances were not met because soil profile contained a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>1</u> x 2 = <u>2</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>56</u> (A) <u>187</u> (B) Prevalence Index = B/A = <u>3.34</u>
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Apocynum cannabinum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>5</u>	= Total Cover		
Herb stratum	(Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Poa pratensis</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Solidago canadensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>50</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Vitis riparia</u>	<u>1</u>	_____	<u>FACW</u>	
2	_____	_____	_____	_____	
		<u>1</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland is located on Methodist Hospital property with railroad tracks to the south.

**SOIL**

Sampling Point:          **B**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR4/2	100					Loamy Sand	
8+							Rocky fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> 0-13 <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Rocky fill</u> Depth (inches): <u>8+</u>	<b>Hydric soil present?</b> <u>  N  </u>
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Remarks:  
 Restrictive soil layer at 8 inches. Profile determined to be non-hydric based on landscape position.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
<input type="checkbox"/> Water-Stained Leaves (B9)					

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>  N  </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Curb cut on parking lot edge is feeding hydrology.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-05 City/County: St. Louis Park/Hennepin Sampling Date: 09/05/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 20-117-21  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents NWI Classification: PEM/SS1C

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus deltoides</u>	25	Y	FAC	
2 <u>Fraxinus pennsylvanica</u>	15	Y	FACW	
3 <u>Salix nigra</u>	15	Y	OBL	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
55 = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>115</u> x 1 = <u>115</u> FACW species <u>25</u> x 2 = <u>50</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>165</u> (A) <u>240</u> (B) Prevalence Index = B/A = <u>1.45</u>
<b>Sapling/Shrub stratum</b> (Plot size: <u>15ft</u> )				
1 <u>Salix interior</u>	10	Y	FACW	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
10 = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
<b>Herb stratum</b> (Plot size: <u>5ft</u> )				
1 <u>Typha angustifolia</u>	80	Y	OBL	
2 <u>Lythrum salicaria</u>	20	Y	OBL	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
100 = Total Cover				
<b>Woody vine stratum</b> (Plot size: <u>30ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
0 = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland is located on Methodist Hospital property.

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-16	10YR2/1	100					Peat	
16-24	10YR5/6	100					Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input checked="" type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
---	--

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<input type="checkbox"/> Water-Stained Leaves (B9)					

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>    Surface    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-05 City/County: St. Louis Park/Hennepin Sampling Date: 09/05/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig/Alison Hruby Section, Township, Range: 20-117-21  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric Soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>40</u> x 5 = <u>200</u> Column totals <u>95</u> (A) <u>350</u> (B) Prevalence Index = B/A = <u>3.68</u>
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5ft</u> )				
1	<u>Apocynum androsaemifolium</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	
2	<u>Poa pratensis</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3	<u>Solidago gigantea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4	<u>Cirsium arvense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5					
6					
7					
8					
9					
10					
		<u>95</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30ft</u> )				
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)  
 Wetland is located on Methodist Hospital property.

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-23	10YR 3/2	100					SyL	
23-24	10YR 2/1	100					SyL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
--	---

Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-06 City/County: SLP/ Hennepin Sampling Date: 08/15/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 16-117-21  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U4A-Urban Land-Udipsamments NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>
1	<u>Persicaria pensylvanica</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>100</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>Y</u>
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR3/1	100					SCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 No hydric indicators were identified, however, due to the presence of hydrophytic vegetation, surface saturation and landscape position, hydric soils are assumed by best professional judgement.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Water table present?      Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No <u>    </u> Depth (inches): <u>    Surface    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Area is a detention pond.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-06 City/County: SLP/ Hennepin Sampling Date: 08/15/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 16-117-21  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U4A-Urban Land-Udipsamments NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	80	Y	FAC	
2 <u>Ulmus americana</u>	20	Y	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>100</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>100</u> x 3 = <u>300</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>150</u> (A) <u>400</u> (B) Prevalence Index = B/A = <u>2.67</u>
Sapling/Shrub stratum (Plot size: <u>15ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )				
1 <u>Symphyotrichum lanceolatum</u>	20	Y	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Vernonia fasciculata</u>	20	Y	FACW	
3 <u>Persicaria pensylvanica</u>	10	Y	FACW	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/2	100					Loam	
8-15	10YR 3/2	100					SyL	
15-24	10YR 3/2	100					LyS	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Water table present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Saturation present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-07 City/County: SLP/ Hennepin Sampling Date: 08/15/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 16-117-21  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U4A-Urban Land (Cut and Fill) NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

				<b>Dominance Test Worksheet</b>	
<b>Tree Stratum</b> (Plot size: <u>30ft</u> )				Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A)	
1	<u>Ulmus americana</u>	Absolute % Cover: <u>10</u>	Dominant Species: <u>Y</u>	Indicator Status: <u>FACW</u>	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
2	<u>Acer saccharinum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
3					
4					
5					
		<u>20</u> = Total Cover			
<b>Sapling/Shrub stratum</b> (Plot size: <u>15ft</u> )				<b>Prevalence Index Worksheet</b>	
1	<u>Salix interior</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Total % Cover of:
2					OBL species <u>0</u> x 1 = <u>0</u>
3					FACW species <u>120</u> x 2 = <u>240</u>
4					FAC species <u>0</u> x 3 = <u>0</u>
5					FACU species <u>0</u> x 4 = <u>0</u>
		<u>20</u> = Total Cover	UPL species <u>0</u> x 5 = <u>0</u>		
				Column totals	<u>120</u> (A) <u>240</u> (B)
<b>Herb stratum</b> (Plot size: <u>5ft</u> )				Prevalence Index = B/A = <u>2.00</u>	
1	<u>Persicaria pensylvanica</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>80</u> = Total Cover			
<b>Woody vine stratum</b> (Plot size: <u>30ft</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1					<input type="checkbox"/> Rapid test for hydrophytic vegetation
2					<input checked="" type="checkbox"/> Dominance test is >50%
		<u>0</u> = Total Cover	<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
				Problematic hydrophytic vegetation* (explain)	
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
				<b>Hydrophytic vegetation present?</b> <u>Y</u>	

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR2/1	100					Loamy Sand	
14-16	10YR3/1	100					Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils:</b>	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Other (explain in remarks)	
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
---	--

Remarks:  
No hydric indicators were identified, however, due to the presence of hydrophytic vegetation, surface saturation and landscape position, hydric soils are assumed by best professional judgment.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Water-Stained Leaves (B9)			

<b>Field Observations:</b>					
Surface water present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches):	<u>    12-24"    </u>	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
Water table present?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Depth (inches):	<u>                    </u>	
Saturation present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Depth (inches):	<u>                    </u>	

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-07 City/County: SLP/ Hennepin Sampling Date: 08/15/2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 16-117-21  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Slope \_\_\_\_\_ Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U4A-Urban Land (Cut and Fill) NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the three wetland criteria were met. Area is not a wetland. Normal circumstances not met because soil profile contained a restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Bromus inermis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
		<u>20</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
		<u>0</u>	= Total Cover		

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
 \_\_\_\_\_ Dominance test is >50%  
 \_\_\_\_\_ Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** N

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR2/1	100					Loamy Sand	
6+							Rocky fill	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>Rocky fill</u> Depth (inches): <u>6"</u>	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks:  
 Restrictive layer at 6 inches. Profile determined to be non-hydric based on landscape position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>  X  </u> Depth (inches): <u>    </u> Water table present?      Yes <u>    </u> No <u>  X  </u> Depth (inches): <u>    </u> Saturation present?        Yes <u>    </u> No <u>  X  </u> Depth (inches): <u>    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-08 City/County: St. Louis Park/Hennepin Sampling Date: 08/26/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham/Mo Elabbady/Alison Hruby Section, Township, Range: 6-28-24  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land, Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Rhamnus cathartica</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2					
3					
4					
5					
		<u>15</u>	= Total Cover		
Herb stratum	(Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1	<u>Alliaria petiolata</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>	
2	<u>Phalaris arundinacea</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
3					
4					
5					
6					
7					
8					
9					
10					
		<u>85</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1					
2					
		<u>0</u>	= Total Cover		

**Hydrophytic Vegetation Indicators:**  
 \_\_\_\_\_ Rapid test for hydrophytic vegetation  
 Dominance test is >50%  
 Prevalence index is ≤3.0\*  
 \_\_\_\_\_ Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)  
 Highway 7 Frontage Road, East of Beltline.

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-40	10YR2/1	100					Fibrous Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input checked="" type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
---	--

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b>		<b>Secondary Indicators (minimum of two required)</b>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Water table present?        Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No <u>    </u> Depth (inches): <u>    18"    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Storm drainage pone inlet.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-08 City/County: St. Louis Park/Hennepin Sampling Date: 08/26/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham/Mo Elabbady/Alison Hruby Section, Township, Range: 6-28-24  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land, Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Soil and hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Acer negundo</u>	15	Y	FAC	
2 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>100</u> x 3 = <u>300</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>3.00</u>
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
<b>Sapling/Shrub stratum</b> (Plot size: <u>15ft</u> )				
1 <u>Rhamnus cathartica</u>	15	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
<b>Herb stratum</b> (Plot size: <u>5ft</u> )				
1 <u>Alliaria petiolata</u>	70	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>70</u> = Total Cover				
<b>Woody vine stratum</b> (Plot size: <u>30ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)  
 Highway 7 Frontage Road, East of Beltline.

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-20	10YR2/2	100					Sandy Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b>    <u>  N  </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b>    <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-09 City/County: St Louis Park/Hennepin Sampling Date: 08/20/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): K.Justen, M. Elabbady, A.Hruby Section, Township, Range: 9-117-21  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: 44.959995° N Long: 93.355735° W Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego soils NWI Classification: PFO1Cd

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland. Wetland located along ditch of railroad right of way.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Populus tremuloides</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>30</u> (A) <u>50</u> (B) Prevalence Index = B/A = <u>1.67</u>
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Boehmeria cylindrica</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>20</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/1	100					F. Peat	fibrous
18-30	10YR 3/3	100					F. Peat	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input checked="" type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input checked="" type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Water table present?        Yes <u>    </u> No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No <u>    </u> Depth (inches): <u>    at surface    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-09 City/County: St Louis Park/Hennepin Sampling Date: 08/20/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): K.Justen, M. Elabbady, A.Hruby Section, Township, Range: 9-117-21  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-1 Lat: 44.959995° N Long: 93.355735° W Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego soils NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus tremuloides</u>	20	Y	FAC	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>5</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)
4 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b>
5 _____	_____	_____	_____	
20 = Total Cover				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub stratum (Plot size: <u>15ft</u> )				FACW species <u>10</u> x 2 = <u>20</u>
1 <u>Rhamnus cathartica</u>	30	Y	FAC	FAC species <u>60</u> x 3 = <u>180</u>
2 <u>Acer negundo</u>	10	Y	FAC	FACU species <u>10</u> x 4 = <u>40</u>
3 _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
4 _____	_____	_____	_____	Column totals <u>80</u> (A) <u>240</u> (B)
5 _____	_____	_____	_____	Prevalence Index = B/A = <u>3.00</u>
40 = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Herb stratum (Plot size: <u>5ft</u> )				
1 <u>Urtica dioica</u>	10	Y	FACW	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
10 = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )				
1 <u>Parthenocissus quinquefolia</u>	10	Y	FACU	<b>Hydrophytic vegetation present?</b> <u>Y</u>
2 _____	_____	_____	_____	
10 = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 3/1	100					SiCL	small gravel throughout
18-30	10YR 2/1	100					SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
<p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>		

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>			<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>			<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>		
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-09 City/County: St Louis Park/Hennepin Sampling Date: 08/20/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: C  
 Investigator(s): K.Justen, M. Elabbady, A.Hruby Section, Township, Range: 9-117-21  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: 44.959995° N Long: 93.355735° W Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego soils NWI Classification: PFO1Cd

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland. Wetland located along ditch of railroad right of way.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>105</u> x 2 = <u>210</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>105</u> (A) <u>210</u> (B) Prevalence Index = B/A = <u>2.00</u>
Sapling/Shrub stratum	(Plot size: <u>15ft</u> )				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Phalaris arundinacea</u>	<u>95</u>	<u>Y</u>	<u>FACW</u>	
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>95</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30ft</u> )				
1	<u>Echinocystis lobata</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2					
		<u>10</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          C

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1	100					SiL	
6-12	10YR 8/1	90	10YR5/6	10	C	M	silt	
12-30	10YR2/1	100					SiL	organic roots throughout

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> Y <u>    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> X    Depth (inches): _____ Water table present?      Yes <u>    </u> No <u>    </u> X    Depth (inches): _____ Saturation present?        Yes <u>    </u> X    No <u>    </u> Depth (inches): <u>    </u> at surface (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> Y <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-09 City/County: St Louis Park/Hennepin Sampling Date: 08/20/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: D  
 Investigator(s): K.Justen, M. Elabbady, A.Hruby Section, Township, Range: 9-117-21  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-1 Lat: 44.959995° N Long: 93.355735° W Datum: \_\_\_\_\_  
 Soil Map Unit Name L50A-Houghton and Muskego soils NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
If yes, optional wetland site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)

Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer negundo</u>	10	Y	FAC	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	OBL species <u>20</u> x 1 = <u>20</u>
3 _____	_____	_____	_____	FACW species <u>20</u> x 2 = <u>40</u>
4 _____	_____	_____	_____	FAC species <u>10</u> x 3 = <u>30</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
<u>0</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Column totals <u>50</u> (A) <u>90</u> (B)
1 <u>Boehmeria cylindrica</u>	20	Y	OBL	Prevalence Index = B/A = <u>1.80</u>
2 <u>Phalaris arundinacea</u>	10	Y	FACW	
3 <u>Impatiens capensis</u>	5	N	FACW	
4 <u>Urtica dioica</u>	5	N	FACW	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance test is >50%
<u>0</u> = Total Cover				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
				Problematic hydrophytic vegetation* (explain)
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				<b>Hydrophytic vegetation present?</b> <u>Y</u>

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          D

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-20	10YR 2/1						Sandy Loam	gravel throughout

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p> <p> </p> <p>*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
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<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric soil present? <u>  N  </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<input type="checkbox"/> Water-Stained Leaves (B9)		

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-10 City/County: St. Louis Park Sampling Date: 9-12-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 05-028-24  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U6B-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus deltoides</u>	15	Y	FAC	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Rhamnus cathartica</u>	15	Y	FAC	
2 <u>Salix interior</u>	15	Y	FACW	OBL species <u>0</u> x 1 = <u>0</u>
3 _____	_____	_____	_____	FACW species <u>25</u> x 2 = <u>50</u>
4 _____	_____	_____	_____	FAC species <u>30</u> x 3 = <u>90</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
<u>30</u> = Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Column totals <u>55</u> (A) <u>140</u> (B)
1 <u>Phalaris arundinacea</u>	10	Y	FACW	Prevalence Index = B/A = <u>2.55</u>
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance test is >50%
<u>0</u> = Total Cover				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*
				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
				Problematic hydrophytic vegetation* (explain)
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				<b>Hydrophytic vegetation present?</b> <u>Y</u>

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1	95	10YR 4/6	5	C	M	SiCL	
6-18	10YR 4/1	95	10YR 4/6	5	C	M	SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)			

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-10 City/County: St. Louis Park/Hennepin Sampling Date: 9-12-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 05-028-24  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-6 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U6B-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across all Strata: <u>5</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Morus alba</u>	15	Y	FAC	
2 <u>Ulmus americana</u>	10	Y	FACW	
3 <u>Populus deltoides</u>	10	Y	FAC	
4 _____				
5 _____				
	35 = Total Cover			
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>55</u> x 3 = <u>165</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>75</u> (A) <u>205</u> (B) Prevalence Index = B/A = <u>2.73</u>
1 <u>Rhamnus cathartica</u>	30	Y	FAC	
2 _____				
3 _____				
4 _____				
5 _____				
	30 = Total Cover			
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	10	Y	FACW	
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
	10 = Total Cover			
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____				
2 _____				
	0 = Total Cover			

**Hydrophytic Vegetation Indicators:**  
 Rapid test for hydrophytic vegetation  
 Dominance test is >50%  
 Prevalence index is ≤3.0\*  
 Morphological adaptations\* (provide supporting data in Remarks or on a separate sheet)  
 Problematic hydrophytic vegetation\* (explain)  
 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

**Hydrophytic vegetation present?** Y

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR 3/2						Loam	
5-18	10YR 4/4						Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-11 City/County: Minneapolis/Hennepin Sampling Date: 08/13/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig Section, Township, Range: 5-28-24  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Slope \_\_\_\_\_ Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All three criteria were met. Area is a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Acer saccharinum</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Salix nigra</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>60</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>30</u> x 1 = <u>30</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>60</u> (A) <u>90</u> (B) Prevalence Index = B/A = <u>1.50</u>
Sapling/Shrub stratum (Plot size: <u>15 ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)				
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic				
<b>Hydrophytic vegetation present?</b> <u>Y</u>				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-16	10YR2/1	100					Mucky Peat	
16-20	10YR2/1	100					Clay Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input checked="" type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <input checked="" type="checkbox"/> No _____    Depth (inches): <u>    1"    </u> Water table present?    Yes _____    No _____    Depth (inches): _____ Saturation present?    Yes _____    No _____    Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-11 City/County: Minneapolis/Hennepin Sampling Date: 08/13/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 5-28-24  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Slope \_\_\_\_\_ Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
1 <u>Acer negundo</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>330</u> (B) Prevalence Index = B/A = <u>3.30</u>
1 <u>Rhamnus cathartica</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Parthenocissus quinquefolia</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2 _____	_____	_____	_____	
<u>30</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR2/1	100					Loamy Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: <u>Rock</u></p> <p>Depth (inches): <u>                    </u></p>	<p><b>Hydric soil present?</b> <u>  N  </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>                    </u></p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>                    </u></p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): <u>                    </u></p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>  N  </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-12 City/County: Minneapolis/Hennepin Sampling Date: 08/21/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Todd Udvig, Alison Hruby Section, Township, Range: 32-29-24  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land, udorthents. NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  

All three wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Populus deltoides</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2 <u>Acer negundo</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>100</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>200</u> x 3 = <u>600</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>200</u> (A) <u>600</u> (B) Prevalence Index = B/A = <u>3.00</u>
1 <u>Rhamnus cathartica</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>100</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/2	100					Loam	
8-16	5YR 7/3	100					SiL	
16-30	5Y 7/2	95	2.5YR 5/6	5	C	M	SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:  
 No hydric indicators observed. Profile determined to be hydric based on the presence of hydrophytic species and landscape position.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)			
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
<input type="checkbox"/> Water-Stained Leaves (B9)					

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>At surface</u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 3457 St. Louis Ave. Cedar lake Shores Townhomes. Property includes 8 townhome units off to the northeast.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-12 City/County: Minneapolis/Hennepin Sampling Date: 8-22-2013  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Ben Hodapp, Mohamed Elabbady Section, Township, Range: 32-29-24  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name Urban land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus deltoides</u>	30	Y	FAC	
2 <u>Acer negundo</u>	20	Y	FAC	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>50</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>80</u> x 3 = <u>240</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>85</u> (A) <u>260</u> (B) Prevalence Index = B/A = <u>3.06</u>
Sapling/Shrub stratum (Plot size: <u>15ft</u> )				
1 <u>Rhamnus cathartica</u>	30	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )				
1 <u>Parthenocissus quinquefolia</u>	5	Y	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 _____	_____	_____	_____	
<u>5</u> = Total Cover				
<b>Hydrophytic vegetation present?</b> <u>Y</u>				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	2.5Y 5/3	100					Loam	
6-17	2.5Y 5/4	100					Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-13 City/County: Minneapolis/Hennepin Sampling Date: 08/26/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham/Mo Elabbady/Alison Hruby Section, Township, Range: 32-29-24  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): Convex  
 Slope (%): 0-8 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L55B-Urban Land, Malardi Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil X, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? No  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? No

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Area is within the banks of an unnamed tributary to Cedar Lake, and is likely a Waters of the US. Normal circumstances not met because soil profile contained restrictive layer.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1 <u>Fraxinus pennsylvanica</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Ulmus americana</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3 <u>Acer negundo</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>65</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>75</u> (A) <u>175</u> (B) Prevalence Index = B/A = <u>2.33</u>
1 <u>Rhamnus cathartica</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR2/1	100					Fine Sandy Loam	
12+								Hit Bedrock

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: <u>    Rock    </u> Depth (inches): <u>    12+    </u>	Hydric soil present? <u>    Y    </u>
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Remarks:  
Restrictive layer at 12 inches. Profile determined to be hydric because it is within the banks of a tributary to Cedar Lake.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>			<u>Secondary Indicators (minimum of two required)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
<input type="checkbox"/> Water-Stained Leaves (B9)					

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water table present?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Within OHWL, Waters of the U.S.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-13 City/County: Minneapolis/Hennepin Sampling Date: 08/26/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham/Mo Elabbady/Alison Hruby Section, Township, Range: 32-29-24  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex  
 Slope (%): 0-8 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name L55B-Urban Land, Malardi Complex NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Morus rubra</u>	5	Y	FACU	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>5</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)
4 _____	_____	_____	_____	<b>Prevalence Index Worksheet</b>
5 _____	5 = Total Cover	_____	_____	
Sapling/Shrub stratum (Plot size: <u>15ft</u> )				OBL species <u>5</u> x 1 = <u>5</u>
1 _____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
2 _____	_____	_____	_____	FAC species <u>20</u> x 3 = <u>60</u>
3 _____	_____	_____	_____	FACU species <u>5</u> x 4 = <u>20</u>
4 _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
5 _____	0 = Total Cover	_____	_____	Column totals <u>40</u> (A) <u>105</u> (B)
Herb stratum (Plot size: <u>5ft</u> )				Prevalence Index = B/A = <u>2.63</u>
1 <u>Alliaria petiolata</u>	15	Y	FAC	<b>Hydrophytic Vegetation Indicators:</b> _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Viola sororia</u>	5	Y	FAC	
3 <u>Boehmeria cylindrica</u>	5	Y	OBL	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	25 = Total Cover	_____	_____	
Woody vine stratum (Plot size: <u>30ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1 <u>Vitis riparia</u>	10	Y	FACW	
2 _____	_____	_____	_____	
_____ = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)  
 Approximately 60' wide, 3-5' deep. Banks are 2' high and dominated by Boxelder and Elm trees. Mucky Bottom-Runs north to Lake of the Isles, slow velocity.

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR3/3	100					Loam	
6-18	10YR4/3	100					Loam	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-14 City/County: Minneapolis Sampling Date: 9-13-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 29-029-24  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U2A-Urban Land-Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus deltoides</u>	20	Y	FAC	
2 <u>Acer negundo</u>	10	Y	FAC	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>65</u> (A) <u>175</u> (B) Prevalence Index = B/A = <u>2.69</u>
<b>Sapling/Shrub stratum</b> (Plot size: <u>15ft</u> )				
1 <u>Rhamnus cathartica</u>	15	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
<b>Herb stratum</b> (Plot size: <u>5ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1 <u>Bidens frondosa</u>	15	Y	FACW	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>15</u> = Total Cover				
<b>Woody vine stratum</b> (Plot size: <u>30ft</u> )				<b>Hydrophytic vegetation present?</b> <u>Y</u>
1 <u>Vitis riparia</u>	5	Y	FACW	
2 _____	_____	_____	_____	
<u>5</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/1						Fine Syl	
8-18	10YR 5/2	95	10YR 4/6	5	C	M	Fine Syl	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric soil present? <u>    Y    </u></p>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		

<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    Y    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-14 City/County: Minneapolis Sampling Date: 9-13-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 29-029-24  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U2A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus deltoides</u>	20	Y	FAC	
2 <u>Acer negundo</u>	20	Y	FAC	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>40</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>55</u> x 3 = <u>165</u> FACU species <u>25</u> x 4 = <u>100</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>90</u> (A) <u>285</u> (B) Prevalence Index = B/A = <u>3.17</u>
Sapling/Shrub stratum (Plot size: <u>15ft</u> )				
1 <u>Rhamnus cathartica</u>	15	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )				
1 <u>Cirsium arvense</u>	15	Y	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Bidens frondosa</u>	10	Y	FACW	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>25</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )				
1 <u>Parthenocissus quinquefolia</u>	10	Y	FACU	
2 _____	_____	_____	_____	
<u>10</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 3/2						SiL	
12-18	10YR 4/2	98	10YR 4/6	2	C	M	Fine Syl	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Water table present?      Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ Saturation present?        Yes <u>    </u> No <u>    </u> <b>X</b> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-15 City/County: Minneapolis Sampling Date: 9-13-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 29-029-24  
 Landform (hillslope, terrace, etc.): Lake Edge Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U2A-Urban Land - Udorthents NWI Classification: PUBG

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
1 <u>Juniperus virginiana</u>	10	Y	FACU	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>10</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>75</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>2.13</u>
1 <u>Salix interior</u>	15	Y	FACW	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Phalaris arundinacea</u>	40	Y	FACW	
2 <u>Lythrum salicaria</u>	10	Y	OBL	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2	10YR 3/1						Fibric Peat	
2-6	5Y 4/1	98	10YR 4/6	2	C	M	Fine Sand	
6-18	10YR 5/1	95	10YR 4/6	5	C	M	Fine Sand	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
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<b>Field Observations:</b> Surface water present?    Yes _____ No <u>    X    </u> Depth (inches): _____ Water table present?        Yes _____ No <u>    X    </u> Depth (inches): _____ Saturation present?        Yes <u>    X    </u> No _____    Depth (inches): <u>    3    </u> (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-MPL-15 City/County: Minneapolis Sampling Date: 9-13-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Mohamed Elabbady Section, Township, Range: 29-029-24  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U2A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 None of the wetland criteria were met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b> Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>6</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1 <u>Juniperus virginiana</u>	30	Y	FACU	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>30</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>95</u> (A) <u>300</u> (B) Prevalence Index = B/A = <u>3.16</u>
1 <u>Rhamnus cathartica</u>	20	Y	FAC	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Cirsium arvense</u>	15	Y	FACU	
2 <u>Bidens frondosa</u>	15	Y	FACW	
3 <u>Lythrum salicaria</u>	10	Y	OBL	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>40</u> = Total Cover				
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	
1 <u>Parthenocissus quinquefolia</u>	5	Y	FACU	
2 _____	_____	_____	_____	
<u>5</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/2						SiL	
10-18	10YR 4/3						Fine Syl	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation present?        Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-16 City/County: St. Louis Park/Hennepin Sampling Date: 11-18-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: A  
 Investigator(s): Marc Cottingham, Courtney Luensman Section, Township, Range: 31-29-24  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 All wetland criteria were met. Area is a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus deltoides</u>	15	Y	FAC	
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>3</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
15 = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet
1 <u>Salix interior</u>	10	Y	FACW	
2 _____	_____	_____	_____	OBL species <u>90</u> x 1 = <u>90</u>
3 _____	_____	_____	_____	FACW species <u>20</u> x 2 = <u>40</u>
4 _____	_____	_____	_____	FAC species <u>15</u> x 3 = <u>45</u>
5 _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
_____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
_____	_____	_____	_____	Column totals <u>125</u> (A) <u>175</u> (B)
10 = Total Cover				Prevalence Index = B/A = <u>1.40</u>
Herb stratum (Plot size: <u>5ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators:
1 <u>Typha angustifolia</u>	90	Y	OBL	
2 <u>Phalaris arundinacea</u>	10	N	FACW	<u>X</u> Dominance test is >50%
3 _____	_____	_____	_____	<u>X</u> Prevalence index is ≤3.0*
4 _____	_____	_____	_____	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5 _____	_____	_____	_____	_____ Problematic hydrophytic vegetation* (explain)
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
100 = Total Cover				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody vine stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic vegetation present? <u>Y</u>
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
0 = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:     A    

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2	10YR 3/1	100					Fibric Peat	
2-5	10YR 4/2	98	10YR4/6	2	C	M	SyL	Fine
5-18	10YR 2/1	95	10YR4/6	5	C	M	SiCL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input checked="" type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
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\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>    Y    </u>
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Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface water present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present?        Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>    Y    </u>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site MC-SLP-16 City/County: St. Louis Park/Hennepin Sampling Date: 11-18-13  
 Applicant/Owner: SW LRT State: MN Sampling Point: B  
 Investigator(s): Marc Cottingham, Courtney Luensman Section, Township, Range: 31-29-24  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name U1A-Urban Land - Udorthents NWI Classification: \_\_\_\_\_

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydric soil and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION** -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30ft</u> )	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Populus deltoides</u>	15	Y	FAC	
2 <u>Acer negundo</u>	10	Y	FAC	
3 _____				
4 _____				
5 _____				
<u>25</u> = Total Cover				<b>Prevalence Index Worksheet</b> Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>50</u> (A) <u>150</u> (B) Prevalence Index = B/A = <u>3.00</u>
Sapling/Shrub stratum (Plot size: <u>15ft</u> )				
1 <u>Rhamnus cathartica</u>	25	Y	FAC	
2 _____				
3 _____				
4 _____				
5 _____				
<u>25</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Herb stratum (Plot size: <u>5ft</u> )				
1 _____				
2 _____				
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
9 _____				
10 _____				
<u>0</u> = Total Cover				<b>Hydrophytic vegetation present?</b> <u>Y</u>
Woody vine stratum (Plot size: <u>30ft</u> )				
1 _____				
2 _____				
<u>0</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point:          **B**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 3/2	100					SiL	
6-18	10YR 4/3	100					SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.      \*\*Location: PL = Pore Lining, M = Matrix

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
--	---	---

\*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric soil present?</b> <u>    </u> <b>N</b> <u>    </u></p>
--	---

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p><b>Field Observations:</b></p> <p>Surface water present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Water table present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Indicators of wetland hydrology present?</b> <u>    </u> <b>N</b> <u>    </u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site Investigated Area 1 City/County: Minnetonka Sampling Date: 08/27/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: Investigated Area 1  
 Investigator(s): M. Cottingham, M. Elabbady Section, Township, Range: Sec. 36, T. 117N, R. 22W  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave  
 Slope (%): 0-3 Lat: Long: Datum:  
 Soil Map Unit Name Lester loam NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS**

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydrophytic vegetation and wetland hydrology criteria were not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>
1 <u>Quercus rubra</u>	25	Y	FACU	
2 <u>Carpinus caroliniana</u>	20	Y	FAC	Total Number of Dominant Species Across all Strata: <u>4</u> (B)
3 _____				Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
4 _____				
5 _____				
	45 = Total Cover			
Sapling/Shrub stratum (Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Prevalence Index Worksheet</b>
1 <u>Rhamnus cathartica</u>	15	Y	FAC	
2 <u>Lonicera tatarica</u>	15	Y	FACU	OBL species <u>0</u> x 1 = <u>0</u>
3 _____				FACW species <u>0</u> x 2 = <u>0</u>
4 _____				FAC species <u>35</u> x 3 = <u>105</u>
5 _____				FACU species <u>40</u> x 4 = <u>160</u>
	30 = Total Cover			UPL species <u>0</u> x 5 = <u>0</u>
				Column totals <u>75</u> (A) <u>265</u> (B)
				Prevalence Index = B/A = <u>3.53</u>
Herb stratum (Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>
1 _____				
2 _____				<input type="checkbox"/> Dominance test is >50%
3 _____				<input type="checkbox"/> Prevalence index is ≤3.0*
4 _____				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5 _____				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)
6 _____				<input type="checkbox"/> *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
7 _____				
8 _____				
9 _____				
10 _____				
	0 = Total Cover			
Woody vine stratum (Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Hydrophytic vegetation present?</b> <u>N</u>
1 _____				
2 _____				
	0 = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

**SOIL**

Sampling Point: Investigated Area

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 4/2	95	10YR 4/6	5	C	M	SiL	
10-18	10YR 3/2	98	10YR 4/6	2	C	M	SiL	

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input checked="" type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>Y</u>
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Remarks:  
Soil profile disturbed by erosion within drainage swale. Has a depleted matrix near the surface.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
--	--	--	--	--	--

<b>Field Observations:</b> Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>N</u>
--	--

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Area consists of a drainage swale.

**WETLAND DETERMINATION DATA FORM - Midwest Region**

Project/Site Investigated Area 2 City/County: Hopkins/Hennepin Sampling Date: 9/4/2013  
 Applicant/Owner: SWLRT State: MN Sampling Point: Investigated Area 2  
 Investigator(s): Marc Cottingham Section, Township, Range: 25-117-22  
 Landform (hillslope, terrace, etc.): Excavated Pond Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: Long: Datum:  
 Soil Map Unit Name Urban Land - Udorthents NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ significantly disturbed? Are "normal circumstances" present? Yes  
 Are vegetation \_\_\_\_\_, soil \_\_\_\_\_, or hydrology \_\_\_\_\_ naturally problematic? present? Yes

**SUMMARY OF FINDINGS** (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	<b>Is the sampled area within a wetland?</b> <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 Hydrophytic vegetation and hydric soil criteria not met. Area is not a wetland.

**VEGETATION -- Use scientific names of plants.**

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status	<b>Dominance Test Worksheet</b>	
1						Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)
2					Total Number of Dominant Species Across all Strata: <u>0</u> (B)	
3					Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)	
4						
5						
		<u>0</u>	= Total Cover			
Sapling/Shrub stratum	(Plot size: _____)				<b>Prevalence Index Worksheet</b>	
1						Total % Cover of:
2					OBL species <u>0</u> x 1 = <u>0</u>	
3					FACW species <u>0</u> x 2 = <u>0</u>	
4					FAC species <u>0</u> x 3 = <u>0</u>	
5					FACU species <u>0</u> x 4 = <u>0</u>	
		<u>0</u>	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>	
					Column totals <u>0</u> (A) <u>0</u> (B)	
					Prevalence Index = B/A = _____	
Herb stratum	(Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b>	
1						____ Rapid test for hydrophytic vegetation
2						____ Dominance test is >50%
3						____ Prevalence index is ≤3.0*
4						____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
5						____ Problematic hydrophytic vegetation* (explain)
6						
7						
8						
9						
10						
		<u>0</u>	= Total Cover			
Woody vine stratum	(Plot size: _____)					
1						
2						
		<u>0</u>	= Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)  
 Un-vegetated excavated sedimentation pond.

**SOIL**

Sampling Point: Investigated Area

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10YR 3/1	100					SiCL	
5-13	10YR 2/1	100					SiCL	
13-24	10YR 2/1	70					SiCL	Mixed matrix
	10YR 4/2	30						

\*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. \*\*Location: PL = Pore Lining, M = Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histisol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils:</b> <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> Dark Surface (S7) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (explain in remarks)	
*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic					

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric soil present?</b> <u>  N  </u>
---	--

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)		<b>Secondary Indicators (minimum of two required)</b> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	
--	--	---	--	---	--

<b>Field Observations:</b> Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Indicators of wetland hydrology present?</b> <u>  Y  </u>
--	--

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Area is an excavated stormwater basin.

## **APPENDIX E**

### **Field Delineated Wetland Photographs**



DOT-EP-01



DOT-EP-02



DOT-EP-03



DOT-EP-04



DOT-EP-05



DOT-EP-06



DOT-EP-07



DOT-EP-08



DOT-EP-09



DOT-SLP-10



DOT-MPL-11



EP-EP-01



EP-EP-02



EP-EP-03



EP-EP-04



EP-EP-05



EP-EP-06



EP-EP-07



EP-EP-08



EP-EP-09



EP-EP-10



EP-EP-11



EP-EP-12



EP-EP-13



EP-EP-14



EP-EP-15



EP-EP-16



EP-EP-17



EP-EP-18



EP-EP-19



EP-EP-20



EP-EP-21



NM-EP-01



NM-EP-02



NM-EP-03



NM-EP-04



NM-EP-05



NM-EP-06



NM-EP-07



NM-EP-08



NM-EP-09



NM-EP-10



NM-EP-11



NM-EP-12



NM-HOP-13



NM-HOP-14



NM-HOP-15



NM-HOP-16



MTA-MTA-01



MTA-MTA-02



MTA-MTA-03



MTA-MTA-04



MTA-MTA-05



MTA-MTA-06



MTA-MTA-07



MTA-MTA-08



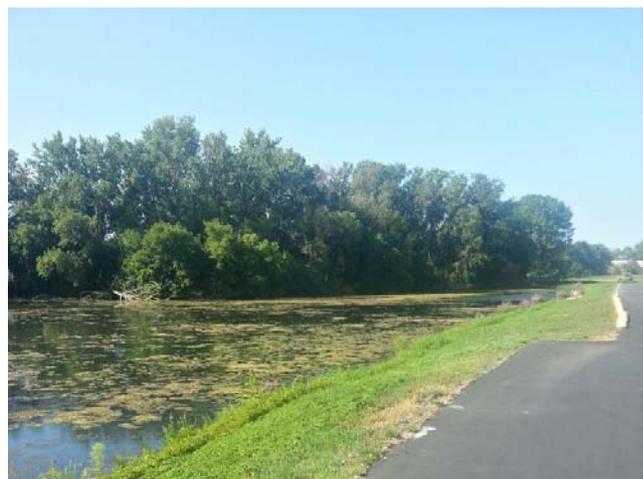
MTA-MTA-09



MTA-MTA-10



MTA-MTA-11



MTA-MTA-12



MC-SLP-01



MC-SLP-02



MC-SLP-03



MC-SLP-04



MC-SLP-05



MC-SLP-06



MC-SLP-07



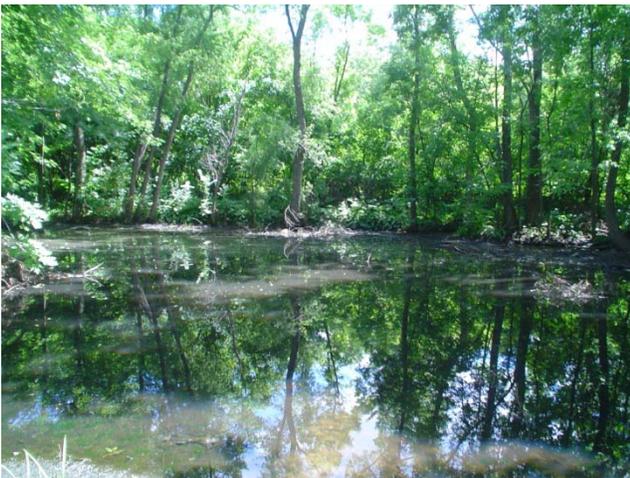
MC-SLP-08



MC-SLP-09



MC-MPL-10



MC-MPL-11



MC-MPL-12



MC-MPL-13



MC-MPL-14



MC-MPL-15



MC-SLP-16

## **APPENDIX F**

### **MnRAM: Minnesota Routine Assessment Methodology**

**Management Classification Report for DOT-EP-01**

**SWLRT**

ID: 105

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	Low / Low
Low	Characteristic Hydrology and Vegetative Diversity	Low / Low
High	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Wednesday, December 11, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
DOT-EP-01	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.74	0.60	0.28	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
DOT-EP-01	0.31	0.00	0.00	0.26	0.00	Recharge	0.00	0.10	0.28
	Low	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
DOT-EP-01	27-116-22-16-001	PEMB	Type 2	Fresh (Wet) Meadow	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: DOT-EP-01

Location: 27-116-22-16-001

## SWLRT

### Plant Community: Fresh (Wet) Meadow

Cowardin Classification: Circular 39:  
PEMB Type 2

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 6 inches

8-2 % inundated 10%

9 Immediate drainage--local WS 1 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Malardi

11-Wetland Soil Malardi

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 12/11/2013

# MnRAM Site Assessment Report

Wednesday, December 11, 2013

**Wetland: DOT-EP-01**

**Project: SWLRT**

Wetland ID: 105, Township 116, Section 16, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.45 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 6 inches, with 10 percent inundated. With an immediate drainage area of 1 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.45 acres.

### *Soils*

The soils in the immediate wetland area are primarily Malardi. The adjacent upland, to about 500 feet, is Malardi.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 10 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Fresh Wet Meadow Type 2, PEMB. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMB	Type 2	Fresh Wet Meadow	Reed canary grass Narrow-leaved cattail	>75-100% >10-25%

**Management Classification Report for DOT-EP-04**

**SWLRT**

ID: 104

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Low	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Low	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.1	Amphib & reptile overwintering habitat

This report was printed on: Wednesday, December 11, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
DOT-EP-04	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)	0.33	0.60	0.54	0.26	0.00
		Low	Moderate	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
DOT-EP-04	0.27	0.29	0.10	0.21	0.00	Combination Discharge, Recharge	0.00	0.10	0.26
	Low	Low	Low	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant Community	39					
DOT-EP-04	27-116-22-15-001	PEMF	Type 4	Deep Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: DOT-EP-04

Location: 27-116-22-15-001

## SWLRT

### Plant Community: Deep Marsh

Cowardin Classification: Circular 39:  
PEMF Type 4

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/FlowThru

8-1 Maximum water depth 24 inches

8-2 % inundated 90%

9 Immediate drainage--local WS 3 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land

11-Wetland Soil Muskego muck

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Discharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 12/11/2013

# MnRAM Site Assessment Report

Wednesday, December 11, 2013

**Wetland: DOT-EP-04**

**Project: SWLRT**

Wetland ID: 104, Township 116, Section 15, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 1 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 24 inches, with 90 percent inundated. With an immediate drainage area of 3 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Flow-through wetland, this site has an apparent inlet and outlet. As such,  
Placeholder for Depressional/Flow-through discussion

This wetland has been drained or altered 0% from its original size of 1 acres.

### *Soils*

The soils in the immediate wetland area are primarily Muskego muck. The adjacent upland, to about 500 feet, is Urban Land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 90 percent and the naturalized buffer width averages 15 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Deep Marsh Type 4, PEMF. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.

Maintenance of Characteristic Fish Habitat	Low	No direct connection to a waterbody with a native fishery or poor water quality make this site a poor candidate for fish habitat. High carp populations degrade habitat for other fish.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMF	Type 4	Deep Marsh	Narrow-leaved cattail	>75-100%

**Management Classification Report for EP-EP-1**

**EP-EP-1**

ID: 26

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Low	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Low	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.1	Amphib & reptile overwintering habitat

*This report was printed on:* Friday, October 11, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-1	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.78	0.63	0.28	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-1	0.31	0.32	0.30	0.31	0.00	Combination Discharge, Recharge	0.00	0.10	0.28
	Low	Low	Low	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39 Community						
EP-EP-1	27-116-22-16-001	PUBG	Type 5	Shallow, Open Water Communities	90	0.1	0.10	0.10	0.10
							Low	Low	Low
		PEMC	Type 3	Shallow Marsh	10	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-1

Location: 27-116-22-16-001

## EP-EP-1

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBG  
Circular 39: Type 5

### Plant Community: Shallow Marsh

Cowardin Classification: PEMC  
Circular 39: Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/Isolated
- 8-1 Maximum water depth 48 inches
- 8-2 % inundated 90%
- 9 Immediate drainage--local WS 55 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land - Udothents

11-Wetland Soil Water

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Discharge
- 62 Inlet/Outlet configuration Discharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/11/2013

# MnRAM Site Assessment Report

Friday, October 11, 2013

**Wetland: EP-EP-1**

**Project: EP-EP-1**

Wetland ID: 26, Township 116, Section 16, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Assessment Purpose: Classification

Site conditions were Normal. This wetland is estimated to cover 3.5 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 48 inches, with 90 percent inundated. With an immediate drainage area of 55 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 3.5 acres.

### *Soils*

The soils in the immediate wetland area are primarily Water. The adjacent upland, to about 500 feet, is Urban Land - Udorthents.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 15 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Ow Communities Type 5, PUBG. This community had a vegetative index of low and comprised 90 percent of the entire area.

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 10 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.

Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Low	No direct connection to a waterbody with a native fishery or poor water quality make this site a poor candidate for fish habitat. High carp populations degrade habitat for other fish.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBG	Type 5	Shallow, Ow Communities		
PEMC	Type 3	Shallow Marsh		

**Management Classification Report for EP-EP-2**

**SWLRT EP-EP-2**

ID: 25

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Moderate	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q37+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/9$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
37	0.1	Vegetation cover interspersion
39	0.1	Detritus
3e	0.1	<No Description Found>

\* The classification value settings for these functions are not adjustable

## Management Classification Report for EP-EP-2

ID: 25

## SWLRT EP-EP-2

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

40	0.5	Wetland interspersion/landscape
41	0.5	Wildlife barriers

*This report was printed on:* Friday, October 11, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-2	Depressional/Isolated (no discernable inlets or outlets)	0.52	0.77	0.60	0.32	0.00
		Moderate	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-2	0.40	0.52	0.00	0.26	0.00	Combination Discharge, Recharge	0.00	0.10	0.32
	Moderate	Moderate	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Community					
EP-EP-2	27-116-22-16-001	PEMC	Type 3	Shallow Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-2

Location: 27-116-22-16-001

## SWLRT EP-EP-2

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 12 inches
- 8-2 % inundated 10%
- 9 Immediate drainage--local WS 55 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land Udorthents

11-Wetland Soil Water

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Discharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- |                       |   |
|-----------------------|---|
| 66 Existing size      | 2 |
| Restorable size       | 0 |
| Potential new wetland | 0 |
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs C

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/11/2013

# MnRAM Site Assessment Report

Friday, October 11, 2013

**Wetland: EP-EP-2**

**Project: SWLRT EP-EP-2**

Wetland ID: 25, Township 116, Section 16, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 2 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 12 inches, with 10 percent inundated. With an immediate drainage area of 55 acres, the catchment area is smaller than would be expected for a wetland with standing water. This catchment area may be appropriate for a drier-type wetland (Type 1 or 2). If there is standing water, it may be due to recent rainfall or there may be sources of hydrology that are not visible. The site may be fed by groundwater, or it may be artificially supported.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 2 acres.

### *Soils*

The soils in the immediate wetland area are primarily Water. The adjacent upland, to about 500 feet, is Urban Land Udorthents.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 90 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Moderate	Permanently flooded but isolated wetlands can support native populations of minnows and some isolated deep marshes have intermittent populations of sunfish and northern pike after flood events. Poor water quality, due to runoff and insufficient buffer and vegetation, can affect the sustainability of fish populations.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Reed canary grass	30
			Narrow-leaved cattail	60

**Management Classification Report for EP-EP-3**

**SWLRT EP-EP-3**

ID: 46

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	Low / Low
Low	Characteristic Hydrology and Vegetative Diversity	Low / Low
High	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Friday, October 11, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-3	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.70	0.61	0.21	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-3	0.31	0.00	0.00	0.21	0.00	Recharge	0.00	0.10	0.21
	Low	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Exceptional	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
EP-EP-3	116-22-16-001	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-3

Location: -116-22-16-001

## SWLRT EP-EP-3

### Plant Community: Seasonally Flooded Ba

Cowardin Classification: PEMA  
Circular 39: Type 1

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 2 inches

8-2 % inundated 20%

9 Immediate drainage--local WS 0.1 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersion on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs C

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/11/2013

# MnRAM Site Assessment Report

Friday, October 11, 2013

**Wetland: EP-EP-3**

**Project: SWLRT EP-EP-3**

Wetland ID: 46, Township 116, Section 16, Range 22

Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.05 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 2 inches, with 20 percent inundated. With an immediate drainage area of 0.1 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.05 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 75 percent and the naturalized buffer width averages 250 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Seasonally FI Basin Type 1, PEMA. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Exceptional	This site is exceptionally sensitive to stormwater; sedge meadows, open and coniferous bogs, calcareous fens, low prairies, wet to wet-mesic prairies, coniferous swamps, lowland hardwood swamps, or seasonally flooded basins.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMA	Type 1	Seasonally FI Basin	Reed canary grass	>10-25%
			Narrow-leaved cattail	>50-75%

**Management Classification Report for EP-EP-4**

**SWLRT EP-EP-4**

ID: 47

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	Low / Low
Low	Characteristic Hydrology and Vegetative Diversity	Low / Low
High	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
High	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Friday, October 11, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-4	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.78	0.68	0.33	0.00
		Low	High	High	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-4	0.31	0.00	0.00	0.26	0.00	Recharge	0.00	0.10	0.33
	Low	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Exceptional	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
EP-EP-4	27-116-22-16-001	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-4

Location: 27-116-22-16-001

## SWLRT EP-EP-4

### Plant Community: Seasonally Flooded Ba

Cowardin Classification: PEMA  
Circular 39: Type 1

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 2 inches
- 8-2 % inundated 0%
- 9 Immediate drainage--local WS 0.05 acre
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Angus Malardi Complex

11-Wetland Soil Angus Malardi Complex

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Recharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/11/2013

# MnRAM Site Assessment Report

Friday, October 11, 2013

**Wetland: EP-EP-4**

**Project: SWLRT EP-EP-4**

Wetland ID: 47, Township 116, Section 16, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.05 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 2 inches, with 0 percent inundated. With an immediate drainage area of 0.05 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.05 acres.

### *Soils*

The soils in the immediate wetland area are primarily Angus Malardi Complex. The adjacent upland, to about 500 feet, is Angus Malardi Complex.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 5 percent and the naturalized buffer width averages 250 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Seasonally FI Basin Type 1, PEMA. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	High	This wetland has the ability and opportunity to protect valuable downstream resources, including recreational waters. A wetland with significant emergent vegetation and overland flow characteristics removes sediment from stormwater. A high nutrient removal rating indicates dense vegetation (to maximize nutrient uptake) and sheet flow. The wetland may protect a valuable water resource within 0.5 miles downstream. More (and less-treated) runoff also increase a wetland's opportunity to rate high for this function. Maintaining wide, natural buffers and keeping out surges of untreated stormwater will help maintain this wetland's role as a protector of important resources lower in the watershed.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.

Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Exceptional	This site is exceptionally sensitive to stormwater; sedge meadows, open and coniferous bogs, calcareous fens, low prairies, wet to wet-mesic prairies, coniferous swamps, lowland hardwood swamps, or seasonally flooded basins.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMA	Type 1	Seasonally FI Basin	Reed canary grass	>25-50%
			Fox sedge	>25-50%

**Management Classification Report for EP-EP-5**

**SWLRT EP-EP-5**

ID: 48

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	Low / Low
Low	Characteristic Hydrology and Vegetative Diversity	Low / Low
High	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Friday, October 11, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-5	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.74	0.64	0.23	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-5	0.31	0.00	0.00	0.26	0.00	Recharge	0.00	0.10	0.23
	Low	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
EP-EP-5	27-116-22-16-001	PEMC	Type 3	Shallow Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-5

Location: 27-116-22-16-001

## SWLRT EP-EP-5

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 6 inches
- 8-2 % inundated 25%
- 9 Immediate drainage--local WS 0.25 acre
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Malardi

11-Wetland Soil Malardi

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Minnesota (Shakopee)  
WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/11/2013

# MnRAM Site Assessment Report

Friday, October 11, 2013

**Wetland: EP-EP-5**

**Project: SWLRT EP-EP-5**

Wetland ID: 48, Township 116, Section 16, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.25 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 6 inches, with 25 percent inundated. With an immediate drainage area of 0.25 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.25 acres.

### *Soils*

The soils in the immediate wetland area are primarily Malardi. The adjacent upland, to about 500 feet, is Malardi.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 90 percent and the naturalized buffer width averages 80 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Reed canary grass	>10-25%
			Narrow-leaved cattail	>75-100%

**Management Classification Report for EP-EP-6**

**SWLRT EP-EP-6**

ID: 49

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Moderate
Low	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

<i>Question</i>	<i>Value</i>	<i>Description</i>
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.1	Amphib & reptile overwintering habitat

*This report was printed on:* Friday, October 11, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-6	Depressional/Isolated (no discernable inlets or outlets)	0.10	0.64	0.51	0.26	0.00
		Low	Moderate	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-6	0.25	0.00	0.23	0.21	0.00	Combination Discharge, Recharge	0.00	0.10	0.26
	Low	Not Applicable	Low	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39 Community	Shallow, Open Water Communities					
EP-EP-6	27-116-22-16-001	PUBG	Type 5	Shallow, Open Water Communities	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-6

Location: 27-116-22-16-001

## SWLRT EP-EP-6

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBG  
Circular 39: Type 5

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 48 inches

8-2 % inundated 80%

9 Immediate drainage--local WS 1 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Lester-Malardi Complex

11-Wetland Soil Lester-Malardi Complex

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Discharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity C

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/11/2013

# MnRAM Site Assessment Report

Friday, October 11, 2013

**Wetland: EP-EP-6**

**Project: SWLRT EP-EP-6**

Wetland ID: 49, Township 116, Section 16, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.55 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 48 inches, with 80 percent inundated. With an immediate drainage area of 1 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.55 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lester-Malardi Complex. The adjacent upland, to about 500 feet, is Lester-Malardi Complex.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 15 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Ow Communities Type 5, PUBG. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBG	Type 5	Shallow, Ow Communities	Sandbar willow	>10-25%

## Management Classification Report for EP-EP-7

SWLRT EP-EP-7

ID: 50

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q37+Q38+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/10$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
37	0.5	Vegetation cover interspersion
38	0.1	Community interspersion
39	0.1	Detritus

\* The classification value settings for these functions are not adjustable

## Management Classification Report for EP-EP-7

ID: 50

## SWLRT EP-EP-7

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape
41	0.1	Wildlife barriers

*This report was printed on:* Tuesday, October 15, 2013

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-7	Depressional/Isolated (no discernable inlets or outlets)	0.65	0.75	0.54	0.36	0.00
		Moderate	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-7	0.37	0.00	0.00	0.31	0.00	Recharge	0.00	0.10	0.36
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
EP-EP-7	27-116-22-12-001	PEMC	Type 3	Shallow Marsh	70	0.1	0.10	0.10	0.10
							Low	Low	Low
		PFO1C	Type 7	Hardwood Swamp	30	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-7

Location: 27-116-22-12-001

## SWLRT EP-EP-7

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

### Plant Community: Hardwood Swamp

Cowardin Classification: Circular 39:  
PFO1C Type 7

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/Isolated
- 8-1 Maximum water depth 6 inches
- 8-2 % inundated 15%
- 9 Immediate drainage--local WS 10 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Lester Malardi complex

11-Wetland Soil Water

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

- 29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- |                       |     |
|-----------------------|-----|
| Existing size         | 5.5 |
| Restorable size       | 0   |
| Potential new wetland | 0   |
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-7**

**Project: SWLRT EP-EP-7**

Wetland ID: 50, Township 116, Section 12, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 5.5 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 6 inches, with 15 percent inundated. With an immediate drainage area of 10 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 5.5 acres.

### *Soils*

The soils in the immediate wetland area are primarily Water. The adjacent upland, to about 500 feet, is Lester Malardi complex.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 50 percent and the naturalized buffer width averages 100 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 70 percent of the entire area.

Hardwood Swamp Type 7, PFO1C. This community had a vegetative index of low and comprised 30 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Reed canary grass	>50-75%
			Narrow-leaved cattail	>25-50%
PFO1	Type 7	Hardwood Swamp	Red-osier dogwood	>10-25%
			Common buckthorn	>25-50%
			Box elder	>25-50%
			American elm	>10-25%

**Management Classification Report for EP-EP-8**

**SWLRT EP-EP-8**

ID: 53

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Moderate	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-8	Depressional/Isolated (no discernable inlets or outlets)	0.43	0.69	0.56	0.56	0.00
		Moderate	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-8	0.54	0.00	0.00	0.38	0.00	Recharge	0.00	0.50	0.56
	Moderate	Not Applicable	Not Applicable	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
EP-EP-8	116-22-15-001	PEMC	Type 3	Shallow Marsh	100	0.5	0.50	0.50	0.50
							Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-8

Location: -116-22-15-001

## SWLRT EP-EP-8

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 6 inches

8-2 % inundated 25%

9 Immediate drainage--local WS 5 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land

11-Wetland Soil Urban Land

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity A

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-8**

**Project: SWLRT EP-EP-8**

Wetland ID: 53, Township 116, Section 15, Range 22

Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 2.2 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 6 inches, with 25 percent inundated. With an immediate drainage area of 5 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 2.2 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban Land. The adjacent upland, to about 500 feet, is Urban Land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 10 percent and the naturalized buffer width averages 100 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of moderate and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Moderate. A more accurate look uses a weighted average; using this method, this site shows a Moderate Vegetative Diversity and Integrity.

The weighted average provides the best measure for an entire wetland. Plant communities at this site are, overall, of average quality. Individual community ratings should be examined to provide a complete picture of possible high-value communities or smaller-but-poor-quality segments that might degrade the site over time.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Moderate	Moderate-functioning vegetative communities indicate a presence of native wetland species with substantial non-native or invasive species.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.

Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Swamp milkweed	>10-25%
			Reed canary grass	>3-<10%
			Red-stalked spikerush	>10-25%
			Foxtail barley	>25-50%
			Cut-leaved bugleweed	>3-<10%

**Management Classification Report for EP-EP-9**

**SWLRT EP-EP-9**

ID: 52

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Moderate	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-9	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.74	0.61	0.48	0.00
		Low	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-9	0.45	0.00	0.00	0.26	0.00	Recharge	0.00	0.50	0.48
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
EP-EP-9	27-116-22-15-001	PEMB	Type 2	Fresh (Wet) Meadow	100	0.5	0.50	0.50	0.50
							Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-9

Location: 27-116-22-15-001

## SWLRT EP-EP-9

### Plant Community: Fresh (Wet) Meadow

Cowardin Classification: Circular 39:  
PEMB Type 2

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 6 inches

8-2 % inundated 10%

9 Immediate drainage--local WS 2 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land

11-Wetland Soil Urban Land

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-9**

**Project: SWLRT EP-EP-9**

Wetland ID: 52, Township 116, Section 15, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 1 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 6 inches, with 10 percent inundated. With an immediate drainage area of 2 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 1 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban Land. The adjacent upland, to about 500 feet, is Urban Land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 10 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Fresh Wet Meadow Type 2, PEMB. This community had a vegetative index of moderate and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Moderate. A more accurate look uses a weighted average; using this method, this site shows a Moderate Vegetative Diversity and Integrity.

The weighted average provides the best measure for an entire wetland. Plant communities at this site are, overall, of average quality. Individual community ratings should be examined to provide a complete picture of possible high-value communities or smaller-but-poor-quality segments that might degrade the site over time.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Moderate	Moderate-functioning vegetative communities indicate a presence of native wetland species with substantial non-native or invasive species.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMB	Type 2	Fresh Wet Meadow	Swamp milkweed	>10-25%
			Rice cut grass	>3-<10%
			Narrow-leaved cattail	>10-25%
			Foxtail barley	>25-50%

**Management Classification Report for EP-EP-10**

**SWLRT EP-EP-10**

ID: 51

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Moderate	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-10	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.74	0.57	0.44	0.00
		Low	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-10	0.43	0.00	0.10	0.21	0.00	Combination Discharge, Recharge	0.00	0.50	0.44
	Moderate	Not Applicable	Low	Low	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant Community	39					
EP-EP-10	27-116-22-15-001	PEMF	Type 4	Deep Marsh	100	0.5	0.50	0.50	0.50
							Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-10

Location: 27-116-22-15-001

## SWLRT EP-EP-10

### Plant Community: Deep Marsh

Cowardin Classification: Circular 39:  
PEMF Type 4

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 16 inches
- 8-2 % inundated 70%
- 9 Immediate drainage--local WS 0.25 acre
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Lester-Malardi complex

11-Wetland Soil Lester-Malardi complex

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Discharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-10**

**Project: SWLRT EP-EP-10**

Wetland ID: 51, Township 116, Section 15, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.15 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 16 inches, with 70 percent inundated. With an immediate drainage area of 0.25 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.15 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lester-Malardi complex. The adjacent upland, to about 500 feet, is Lester-Malardi complex.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 60 percent and the naturalized buffer width averages 0 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Deep Marsh Type 4, PEMF. This community had a vegetative index of moderate and comprised 100 percent

of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Moderate. A more accurate look uses a weighted average; using this method, this site shows a Moderate Vegetative Diversity and Integrity.

The weighted average provides the best measure for an entire wetland. Plant communities at this site are, overall, of average quality. Individual community ratings should be examined to provide a complete picture of possible high-value communities or smaller-but-poor-quality segments that might degrade the site over time.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Moderate	Moderate-functioning vegetative communities indicate a presence of native wetland species with substantial non-native or invasive species.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.

Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMF	Type 4	Deep Marsh	Reed canary grass	>10-25%
			Red-stalked spikerush	>10-25%
			Lesser duckweed	>10-25%
			Broad-leaved arrowhead	>10-25%

**Management Classification Report for EP-EP-11**

**SWLRT EP-EP-11**

ID: 54

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Moderate	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q37+Q38+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/10$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
37	0.5	Vegetation cover interspersion
38	0.5	Community interspersion
39	0.1	Detritus

\* The classification value settings for these functions are not adjustable

## Management Classification Report for EP-EP-11

ID: 54

## SWLRT EP-EP-11

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape
41	0.1	Wildlife barriers

*This report was printed on:* Tuesday, October 15, 2013

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-11	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)	0.52	0.49	0.43	0.38	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-11	0.41	0.58	0.04	0.42	0.00	Combination Discharge, Recharge	0.00	0.10	0.38
	Moderate	Moderate	Low	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Individual Wetland Proportion		Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39 Community	Shallow, Open Water Communities	Wetland Proportion	Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
EP-EP-11	27-116-22-15-001	PUBG	Type 5	Shallow, Open Water Communities	50	0.1	0.10	0.10	0.10
							Low	Low	Low
		PEMC	Type 3	Shallow Marsh	30	0.1	0.10	0.10	0.10
							Low	Low	Low
		PEMF	Type 4	Deep Marsh	20	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-11

Location: 27-116-22-15-001

## SWLRT EP-EP-11

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBG  
Circular 39: Type 5

### Plant Community: Shallow Marsh

Cowardin Classification: PEMC  
Circular 39: Type 3

### Plant Community: Deep Marsh

Cowardin Classification: PEMF  
Circular 39: Type 4

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/FlowThru

- 8-1 Maximum water depth 48 inches
- 8-2 % inundated 60%
- 9 Immediate drainage--local WS 25 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Klossner

11-Wetland Soil Klossner

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed

- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Discharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-11**

**Project: SWLRT EP-EP-11**

Wetland ID: 54, Township 116, Section 15, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 11.5 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 48 inches, with 60 percent inundated. With an immediate drainage area of 25 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Flow-through wetland, this site has an apparent inlet and outlet. As such,  
Placeholder for Depressional/Flow-through discussion

This wetland has been drained or altered 0% from its original size of 11.5 acres.

### *Soils*

The soils in the immediate wetland area are primarily Klossner. The adjacent upland, to about 500 feet, is Klossner.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 30 percent and the naturalized buffer width averages 200 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Ow Communities Type 5, PUBG. This community had a vegetative index of low and comprised 50 percent of the entire area.

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 30 percent of the entire area.

Deep Marsh Type 4, PEMF. This community had a vegetative index of low and comprised 20 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Moderate	Permanently flooded but isolated wetlands can support native populations of minnows and some isolated deep marshes have intermittent populations of sunfish and northern pike after flood events. Poor water quality, due to runoff and insufficient buffer and vegetation, can affect the sustainability of fish populations.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBG	Type 5	Shallow, Ow Communities	Lesser duckweed	>10-25%
PEMC	Type 3	Shallow Marsh	Water smartweed	>10-25%
			Sandbar willow	>10-25%
			Reed canary grass	>50-75%
			Narrow-leaved cattail	>10-25%
PEMF	Type 4	Deep Marsh	Water smartweed	>10-25%
			Narrow-leaved cattail	>25-50%

**Management Classification Report for EP-EP-12**

**SWLRT EP-EP-12**

ID: 55

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	Low / Low
Moderate	Characteristic Hydrology and Vegetative Diversity	Low / Low
High	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Aesthetics/Recreation/Education/Cultural**  $(Q49+Q50+Q51+Q52+Q53+Q54+Q55+Q56)/8$

<i>Question</i>	<i>Value</i>	<i>Description</i>
49	0.5	Wetland visibility
50	1	Proximity to population
51	0.1	Public ownership
52	0.1	Public access
53	1	Human influence on wetland
54	0.1	Human influence on viewshed
55	0.1	Spatial buffer
56	0.1	Recreational activity potential

\* The classification value settings for these functions are not adjustable

## Management Classification Report for EP-EP-12

ID: 55

## SWLRT EP-EP-12

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

### Maintenance of Characteristic Wildlife Habitat Str $(Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8$

<i>Question</i>	<i>Value</i>	<i>Description</i>
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	0.5	Adjacent area Management
25	0.1	Adjacent area diversity
39	0.1	Detritus
3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape
41	0.1	Wildlife barriers

*This report was printed on:* Tuesday, October 15, 2013

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-12	Depressional/Isolated (no discernable inlets or outlets)	0.43	0.74	0.59	0.40	0.00
		Moderate	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-12	0.33	0.00	0.00	0.37	0.00	Recharge	0.00	0.10	0.40
	Low	Not Applicable	Not Applicable	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
EP-EP-12	27-116-22-15-001	PEMB	Type 2	Fresh (Wet) Meadow	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-12

Location: 27-116-22-15-001

## SWLRT EP-EP-12

### Plant Community: Fresh (Wet) Meadow

Cowardin Classification: Circular 39:  
PEMB Type 2

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 0 inches

8-2 % inundated 0%

9 Immediate drainage--local WS 4 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Shorewood

11-Wetland Soil Shorewood

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-12**

**Project: SWLRT EP-EP-12**

Wetland ID: 55, Township 116, Section 15, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 2.75 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 0 inches, with 0 percent inundated. Although there was no standing water at the time of the site visit, the existence of water in the soil below indicates wetland hydrology is present. With an immediate drainage area of 4 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 2.75 acres.

### *Soils*

The soils in the immediate wetland area are primarily Shorewood. The adjacent upland, to about 500 feet, is Shorewood.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 0 percent and the naturalized buffer width averages 0 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Fresh Wet Meadow Type 2, PEMB. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMB	Type 2	Fresh Wet Meadow	Reed canary grass	>75-100%

**Management Classification Report for EP-EP-13**

**SWLRT EP-EP-13**

ID: 56

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Low	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.1	Amphib & reptile overwintering habitat

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-13	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.70	0.49	0.18	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-13	0.26	0.00	0.10	0.21	0.00	Combination Discharge, Recharge	0.00	0.10	0.18
	Low	Not Applicable	Low	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Community					
EP-EP-13	27-116-22-15-001	PEMFx	Type 4	Deep Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-13

Location: 27-116-22-15-001

## SWLRT EP-EP-13

### Plant Community: Deep Marsh

Cowardin Classification: Circular 39:  
PEMFX Type 4

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 12 inches
- 8-2 % inundated 90%
- 9 Immediate drainage--local WS 1 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Lester-Malardi complex

11-Wetland Soil Lester-Malardi complex

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Discharge
- 62 Inlet/Outlet configuration Discharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- |                       |     |
|-----------------------|-----|
| 66 Existing size      | 0.9 |
| Restorable size       | 0   |
| Potential new wetland | 0   |
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-13**

**Project: SWLRT EP-EP-13**

Wetland ID: 56, Township 116, Section 15, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.9 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 12 inches, with 90 percent inundated. With an immediate drainage area of 1 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.9 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lester-Malardi complex. The adjacent upland, to about 500 feet, is Lester-Malardi complex.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 100 percent and the naturalized buffer width averages 0 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Deep Marsh Type 4, PEMFx. This community had a vegetative index of low and comprised 100 percent of

the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMF	Type 4	Deep Marsh	Red-stalked spikerush	>75-100%

**Management Classification Report for EP-EP-14**

**SWLRT EP-EP-14**

ID: 57

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Low	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.5	Amphib & reptile overwintering habitat

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-14	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.74	0.53	0.29	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-14	0.31	0.00	0.17	0.31	0.00	Combination Discharge, Recharge	0.00	0.10	0.29
	Low	Not Applicable	Low	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Community					
EP-EP-14	27-116-22-15-001	PUBG	Type 5	Shallow, Open Water Communities	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-14

Location: 27-116-22-15-001

## SWLRT EP-EP-14

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBG  
Circular 39: Type 5

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 36 inches

8-2 % inundated 70%

9 Immediate drainage--local WS 4 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Canestio loam

11-Wetland Soil Canestio loam

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Discharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-14**

**Project: SWLRT EP-EP-14**

Wetland ID: 57, Township 116, Section 15, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 1.4 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 36 inches, with 70 percent inundated. With an immediate drainage area of 4 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 1.4 acres.

### *Soils*

The soils in the immediate wetland area are primarily Canestio loam. The adjacent upland, to about 500 feet, is Canestio loam.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 30 percent and the naturalized buffer width averages 0 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Owl Communities Type 5, PUBG. This community had a vegetative index of low and comprised 100

percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBG	Type 5	Shallow, Ow Communities	Rice cut grass	>25-50%
			Reed canary grass	>10-25%
			Narrow-leaved cattail	>25-50%

**Management Classification Report for EP-EP-15**

**SWLRT EP-EP-15**

ID: 58

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q37+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/9$

<i>Question</i>	<i>Value</i>	<i>Description</i>
13	0.5	Outlet: hydrologic regime
20	0.1	Stormwater runoff
23	1	Buffer width
24	0.9	Adjacent area Management
25	0.5	Adjacent area diversity
37	0.1	Vegetation cover interspersion
39	0.1	Detritus
3e	0.1	<No Description Found>

\* The classification value settings for these functions are not adjustable

**Management Classification Report for EP-EP-15**

ID: 58

**SWLRT EP-EP-15**

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

40	0.5	Wetland interspersion/landscape
41	0.5	Wildlife barriers

*This report was printed on:* Tuesday, October 15, 2013

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-15	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)	0.52	0.58	0.48	0.56	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-15	0.39	0.00	0.00	0.65	0.00	Combination Discharge, Recharge	0.00	0.10	0.56
	Moderate	Not Applicable	Not Applicable	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity								
		Community								
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating	
EP-EP-15	27-116-22-15-001	PEMC	Type 3	Shallow Marsh	100	0.1	0.10	0.10	0.10	
							Low	Low	Low	
					100		0.10	0.10	0.10	

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-15

Location: 27-116-22-15-001

## SWLRT EP-EP-15

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/FlowThru

- 8-1 Maximum water depth 12 inches
- 8-2 % inundated 25%
- 9 Immediate drainage--local WS 100 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Canesto

11-Wetland Soil Houghton, Blue Earth and Muskego

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Discharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Discharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-15**

**Project: SWLRT EP-EP-15**

Wetland ID: 58, Township 116, Section 15, Range 22

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 90 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 12 inches, with 25 percent inundated. With an immediate drainage area of 100 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Flow-through wetland, this site has an apparent inlet and outlet. As such,  
Placeholder for Depressional/Flow-through discussion

This wetland has been drained or altered 0% from its original size of 90 acres.

### *Soils*

The soils in the immediate wetland area are primarily Houghton, Blue Earth and Muskego. The adjacent upland, to about 500 feet, is Canesto.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 40 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Sandbar willow	>10-25%
			Reed canary grass	>10-25%
			Red-stalked spikerush	>10-25%
			Purple loosestrife	>3-<10%
			Narrow-leaved cattail	>10-25%

## Management Classification Report for EP-EP-16

SWLRT EP-EP-16

ID: 59

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Low	Amphibian Habitat	Moderate
Moderate	Fish Habitat	High
Moderate	Shoreline Protection	Moderate
High	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
High	Characteristic Hydrology and Vegetative Diversity	High / Moderate
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Shoreline Protection**

Details of the formula for this action are shown below:

**Shoreline Protection**  $(Q30+Q31+Q32+Q33+Q34)/5$

Question	Value	Description
30	0.5	Shoreline rooted vegetation (%cover )
31	0.1	Shoreline wetland in-water width
32	0.5	Shoreline emergent veg/erosion resistance
33	1	Shoreline erosion potential
34	0.5	Shoreline upslope veg/bank protection

This report was printed on: Thursday, October 10, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-16	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)	0.77	0.63	0.46	0.48	0.34
		High	Moderate	Moderate	Moderate	Moderate

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-16	0.44	0.65	0.05	0.77	0.00	Combination Discharge, Recharge	0.00	0.10	0.48
	Moderate	Moderate	Low	High	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39 Community						
EP-EP-16	27-116-22-15-001	PEMB	Type 2	Fresh (Wet) Meadow	80	0.1	0.10	0.10	0.10
							Low	Low	Low
		PUBG	Type 5	Shallow, Open Water Communities	20	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-16

Location: 27-116-22-15-001

## SWLRT EP-EP-16

### Plant Community: Fresh (Wet) Meadow

Cowardin Classification: Circular 39:  
PEMB Type 2

### Plant Community: Shallow, Open Water C

Cowardin Classification: Circular 39:  
PUBG Type 5

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/FlowThru
- 8-1 Maximum water depth 16 inches
- 8-2 % inundated 20%
- 9 Immediate drainage--local WS 10 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Lester-Malardi

11-Wetland Soil Lester-Malardi

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Discharge
- 62 Inlet/Outlet configuration Discharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- |                       |   |
|-----------------------|---|
| Existing size         | 8 |
| Restorable size       | 0 |
| Potential new wetland | 0 |
- 66 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-16**

**Project: SWLRT EP-EP-16**

Wetland ID: 59, Township 116, Section 15, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 8 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 16 inches, with 20 percent inundated. With an immediate drainage area of 10 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Flow-through wetland, this site has an apparent inlet and outlet. As such,  
Placeholder for Depressional/Flow-through discussion

This wetland has been drained or altered 0% from its original size of 8 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lester-Malardi. The adjacent upland, to about 500 feet, is Lester-Malardi.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 30 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

As a shoreline wetland, this site has the potential to protect from erosion and provide spawning and nursery habitat for fish and wildlife. Wetlands located in areas with strong currents and wave action have the greatest potential for protecting shoreline. Shorelines composed of sandy or erodible soils will benefit the most from shoreline wetland protection.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Fresh Wet Meadow Type 2, PEMB. This community had a vegetative index of low and comprised 80 percent of the entire area.

Shallow, Ow Communities Type 5, PUBG. This community had a vegetative index of low and comprised 20 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	High	Due either to careful human management or lack of alteration of the outlet or watershed conditions, the wetland maintains a hydrologic regime similar to the original wetland type. This stability supports characteristic vegetative communities and is closely associated with flood attenuation, water quality, and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Moderate	This fringe site provides some protection against erosive action. Reducing the amount of buffer that is manicured would further protect the adjacent water resource, as would increasing the buffer width.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Moderate	Permanently flooded but isolated wetlands can support native populations of minnows and some isolated deep marshes have intermittent populations of sunfish and northern pike after flood events. Poor water quality, due to runoff and insufficient buffer and vegetation, can affect the sustainability of fish populations.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	High	Regardless of actual integrity, the site is accessible and valued by significant populations of people. Its value is enhanced by not being visibly altered by human influences such as trash or roads. There is a high evidence it is used for multiple recreational activities.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMB	Type 2	Fresh Wet Meadow	Reed canary grass	>75-100%
PUBG	Type 5	Shallow, Ow Communities	Lesser duckweed	>25-50%

**Management Classification Report for EP-EP-17**

**SWLRT EP-EP-17**

ID: 60

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	Low / Low
Moderate	Characteristic Hydrology and Vegetative Diversity	Low / Low
Moderate	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Aesthetics/Recreation/Education/Cultural**  $(Q49+Q50+Q51+Q52+Q53+Q54+Q55+Q56)/8$

<i>Question</i>	<i>Value</i>	<i>Description</i>
49	0.1	Wetland visibility
50	1	Proximity to population
51	0.1	Public ownership
52	0.1	Public access
53	1	Human influence on wetland
54	0.1	Human influence on viewshed
55	0.5	Spatial buffer
56	0.1	Recreational activity potential

\* The classification value settings for these functions are not adjustable

## Management Classification Report for EP-EP-17

ID: 60

**SWLRT EP-EP-17**

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

### Maintenance of Characteristic Wildlife Habitat Str $(Q3e*2+Q39+Q37+Q38+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/10$

<i>Question</i>	<i>Value</i>	<i>Description</i>
13	0.1	Outlet: hydrologic regime
20	0.1	Stormwater runoff
23	1	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
37	0.1	Vegetation cover interspersion
38	0.1	Community interspersion
39	0.1	Detritus
3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape
41	0.1	Wildlife barriers

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-17	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)	0.55	0.50	0.36	0.50	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-17	0.29	0.00	0.00	0.38	0.00	Recharge	0.00	0.10	0.50
	Low	Not Applicable	Not Applicable	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
EP-EP-17	27-116-22-15-001	PEMC	Type 3	Shallow Marsh	70	0.1	0.10	0.10	0.10
							Low	Low	Low
		PSS1C	Type 6	Shrub Carr	30	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-17

Location: 27-116-22-15-001

## SWLRT EP-EP-17

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

### Plant Community: Shrub Carr

Cowardin Classification: Circular 39:  
PSS1C Type 6

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/FlowThru
- 8-1 Maximum water depth 12 inches
- 8-2 % inundated 20%
- 9 Immediate drainage--local WS 5 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Lester

11-Wetland Soil Lester

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

- 29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- |                       |                                |
|-----------------------|--------------------------------|
| Existing size         | <input type="text" value="3"/> |
| Restorable size       | <input type="text" value="0"/> |
| Potential new wetland | <input type="text" value="0"/> |
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-17**

**Project: SWLRT EP-EP-17**

Wetland ID: 60, Township 116, Section 15, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 3 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 12 inches, with 20 percent inundated. With an immediate drainage area of 5 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Flow-through wetland, this site has an apparent inlet and outlet. As such,  
Placeholder for Depressional/Flow-through discussion

This wetland has been drained or altered 0% from its original size of 3 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lester. The adjacent upland, to about 500 feet, is Lester.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 40 percent and the naturalized buffer width averages 100 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 70 percent of the entire area.

Shrub-carr Type 6, PSS1C. This community had a vegetative index of low and comprised 30 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Spotted touch-me-not	>25-50%
			Reed canary grass	>25-50%
PSS1	Type 6	Shrub-carr	Common buckthorn	>10-25%
			Box elder	>10-25%
			Black willow	>10-25%

**Management Classification Report for EP-EP-18**

**SWLRT EP-EP-18**

ID: 61

County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $Q3e*2+Q37+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	1	Stormwater runoff
23	0.1	Buffer width
24	0.73	Adjacent area Management
25	0.38	Adjacent area diversity
37	0.5	Vegetation cover interspersion
3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape

\* The classification value settings for these functions are not adjustable

**Management Classification Report for EP-EP-18**

ID: 61

**SWLRT EP-EP-18**

County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

41      0.1      Wildlife barriers

*This report was printed on:* Thursday, October 10, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-18	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.70	0.52	0.21	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-18	0.37	0.00	0.00	0.21	0.00	Combination Discharge, Recharge	0.00	0.10	0.21
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Community					
EP-EP-18	-116-22-14-001	PEMF	Type 4	Deep Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-18

Location: -116-22-14-001

## SWLRT EP-EP-18

### Plant Community: Deep Marsh

Cowardin Classification: Circular 39:  
PEMF Type 4

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 16 inches

8-2 % inundated 60%

9 Immediate drainage--local WS 1 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Lester-Malardi complex

11-Wetland Soil Lester-Malardi complex

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Discharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/10/2013

# MnRAM Site Assessment Report

Thursday, October 10, 2013

**Wetland: EP-EP-18**

**Project: SWLRT EP-EP-18**

Wetland ID: 61, Township 116, Section 14, Range 22

Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 0.8 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 16 inches, with 60 percent inundated. With an immediate drainage area of 1 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.8 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lester-Malardi complex. The adjacent upland, to about 500 feet, is Lester-Malardi complex.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 50 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Deep Marsh Type 4, PEMF. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMF	Type 4	Deep Marsh	Sandbar willow	>25-50%
			Narrow-leaved cattail	>25-50%
			Lady's thumb	>25-50%

**Management Classification Report for EP-EP- 19**

**SWLRT EP-EP-19**

ID: 61

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $Q3e*2+Q37+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	1	Stormwater runoff
23	0.1	Buffer width
24	0.73	Adjacent area Management
25	0.38	Adjacent area diversity
37	0.5	Vegetation cover interspersion
3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape

\* The classification value settings for these functions are not adjustable

**Management Classification Report for EP-EP- 19**

ID: 61

**SWLRT EP-EP-19**

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

41      0.1      Wildlife barriers

*This report was printed on:* Tuesday, October 15, 2013

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP- 19	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.70	0.52	0.21	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP- 19	0.37	0.00	0.00	0.21	0.00	Combination Discharge, Recharge	0.00	0.10	0.21
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Community					
EP-EP- 19	-116-22-14-001	PEMF	Type 4	Deep Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP- 19

Location: -116-22-14-001

## SWLRT EP-EP-19

### Plant Community: Deep Marsh

Cowardin Classification: Circular 39:  
PEMF Type 4

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 16 inches
- 8-2 % inundated 60%
- 9 Immediate drainage--local WS 1 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Lester-Malardi complex

11-Wetland Soil Lester-Malardi complex

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Discharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Minnesota (Shakopee)  
WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP- 19**

**Project: SWLRT EP-EP-19**

Wetland ID: 61, Township 116, Section 14, Range 22

Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.8 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 16 inches, with 60 percent inundated. With an immediate drainage area of 1 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.8 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lester-Malardi complex. The adjacent upland, to about 500 feet, is Lester-Malardi complex.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 50 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Deep Marsh Type 4, PEMF. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMF	Type 4	Deep Marsh	Sandbar willow	>25-50%
			Narrow-leaved cattail	>25-50%
			Lady's thumb	>25-50%

## Management Classification Report for EP-EP- 20

EP-EP-20

ID: 62

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Low	Amphibian Habitat	Moderate
High	Fish Habitat	High
Moderate	Shoreline Protection	Moderate
High	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
High	Characteristic Hydrology and Vegetative Diversity	High / Moderate
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Fish Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Fish Habitat** 
$$\frac{[Q46*2]+Q24+Q18+Q20R+Q28+Q30+Q31+Q33R}{9}$$

Question	Value	Description
18	0.5	Sediment delivery
20	1	Stormwater runoff
24	1	Adjacent area Management
28	0.5	Nutrient loading
30	1	Shoreline rooted vegetation (%cover )
31	0.5	Shoreline wetland in-water width
33	1	Shoreline erosion potential
46	1	Fish habitat quality

\* The classification value settings for these functions are not adjustable

**Management Classification Report for EP-EP- 20**

ID: 62

**EP-EP-20**

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP- 20	Lacustrine Fringe (edge of deepwater areas)/Shoreland	0.77	0.71	0.50	0.45	0.62
		High	High	Moderate	Moderate	Moderate

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP- 20	0.55	0.83	0.06	0.75	0.00	Combination Discharge, Recharge	0.00	0.10	0.45
	Moderate	High	Low	High	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
EP-EP- 20	27-116-22-14-001	L2EMH	Type 4	Deep Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP- 20

Location: 27-116-22-14-001

## EP-EP-20

### Plant Community: Deep Marsh

Cowardin Classification: L2EMH  
Circular 39: Type 4

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Lacustrine

8-1 Maximum water depth 24 inches

8-2 % inundated 10%

9 Immediate drainage--local WS 25 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Lester

11-Wetland Soil Lester

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Discharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP- 20**

**Project: EP-EP-20**

Wetland ID: 62, Township 116, Section 14, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 1.5 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 24 inches, with 10 percent inundated. With an immediate drainage area of 25 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Lacustrine Fringe wetland, this site located at the edge of deepwater areas and may be considered shoreland. As such, it protects from possible erosive wave effects and may be used as a spawning area for fish.

This wetland has been drained or altered 0% from its original size of 1.5 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lester. The adjacent upland, to about 500 feet, is Lester.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 60 percent and the naturalized buffer width averages 200 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

As a shoreline wetland, this site has the potential to protect from erosion and provide spawning and nursery habitat for fish and wildlife. Wetlands located in areas with strong currents and wave action have the greatest potential for protecting shoreline. Shorelines composed of sandy or erodible soils will benefit the most from shoreline wetland protection.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Deep Marsh Type 4, L2EMH. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	High	Due either to careful human management or lack of alteration of the outlet or watershed conditions, the wetland maintains a hydrologic regime similar to the original wetland type. This stability supports characteristic vegetative communities and is closely associated with flood attenuation, water quality, and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.

Shoreline Protection	Moderate	This fringe site provides some protection against erosive action. Reducing the amount of buffer that is manicured would further protect the adjacent water resource, as would increasing the buffer width.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	High	The site has a direct connection to spawning or nursery habitat, or may provide refuge or shade for native species of fish. Low amounts of sediment mean that eggs are not smothered; good water quality supports fish health.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	High	Regardless of actual integrity, the site is accessible and valued by significant populations of people. Its value is enhanced by not being visibly altered by human influences such as trash or roads. There is a high evidence it is used for multiple recreational activities.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
L2EM	Type 4	Deep Marsh	River bulrush	>25-50%
			Reed canary grass	>25-50%
			Narrow-leaved cattail	>25-50%

**Management Classification Report for EP-EP-21**

**EP-EP-21**

ID: 63

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Low	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.1	Amphib & reptile overwintering habitat

This report was printed on: Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
EP-EP-21	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.70	0.51	0.20	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
EP-EP-21	0.28	0.00	0.10	0.21	0.00	Combination Discharge, Recharge	0.00	0.10	0.20
	Low	Not Applicable	Low	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39 Community	Shallow, Open Water Communities					
EP-EP-21	27-116-22-11-001	PUBG	Type 5	Shallow, Open Water Communities	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: EP-EP-21

Location: 27-116-22-11-001

## EP-EP-21

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBG  
Circular 39: Type 5

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 36 inches

8-2 % inundated 90%

9 Immediate drainage--local WS 0.5 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Discharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: EP-EP-21**

**Project: EP-EP-21**

Wetland ID: 63, Township 116, Section 11, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.3 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 36 inches, with 90 percent inundated. With an immediate drainage area of 0.5 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.3 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 10 percent and the naturalized buffer width averages 0 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Owl Communities Type 5, PUBG. This community had a vegetative index of low and comprised 100

percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBG	Type 5	Shallow, Ow Communities	Reed canary grass	>10-25%
			Bunched ironweed	>10-25%

**Management Classification Report for NM-EP-1**

**SWLRT NM-EP-1**

ID: 64

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q37+Q38+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/10$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
37	0.5	Vegetation cover interspersion
38	0.1	Community interspersion
39	0.1	Detritus

\* The classification value settings for these functions are not adjustable

## Management Classification Report for NM-EP-1

ID: 64

## SWLRT NM-EP-1

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape
41	0.5	Wildlife barriers

*This report was printed on:* Thursday, October 10, 2013

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-EP-1	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)	0.52	0.55	0.48	0.36	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-EP-1	0.41	0.00	0.22	0.38	0.00	Recharge	0.00	0.10	0.36
	Moderate	Not Applicable	Low	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
NM-EP-1	27-116-22-12-001	PEMC	Type 3	Shallow Marsh	70	0.1	0.10	0.10	0.10
							Low	Low	Low
		PSS1C	Type 6	Shrub Carr	30	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-EP-1

Location: 27-116-22-12-001

## SWLRT NM-EP-1

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

### Plant Community: Shrub Carr

Cowardin Classification: Circular 39:  
PSS1C Type 6

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/FlowThru
- 8-1 Maximum water depth 36 inches
- 8-2 % inundated 30%
- 9 Immediate drainage--local WS 5 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land

11-Wetland Soil Urban Land

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/10/2013

# MnRAM Site Assessment Report

Thursday, October 10, 2013

**Wetland: NM-EP-1**

**Project: SWLRT NM-EP-1**

Wetland ID: 64, Township 116, Section 12, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 2 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 36 inches, with 30 percent inundated. With an immediate drainage area of 5 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Flow-through wetland, this site has an apparent inlet and outlet. As such,  
Placeholder for Depressional/Flow-through discussion

This wetland has been drained or altered 0% from its original size of 2 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban Land. The adjacent upland, to about 500 feet, is Urban Land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 30 percent and the naturalized buffer width averages 300 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 70 percent of the entire area.

Shrub-carr Type 6, PSS1C. This community had a vegetative index of low and comprised 30 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Reed canary grass	>50-75%
			Narrow-leaved cattail	>25-50%
PSS1	Type 6	Shrub-carr	Sandbar willow	>50-75%
			Green ash	>10-25%
			Common buckthorn	>10-25%
			Box elder	>10-25%

**Management Classification Report for NM-EP-2**

**SWLRT NM-EP-2**

ID: 65

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Moderate	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q37+Q38+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/10$

Question	Value	Description
13	0.1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
37	1	Vegetation cover interspersion
38	0.1	Community interspersion
39	0.1	Detritus

\* The classification value settings for these functions are not adjustable

## Management Classification Report for NM-EP-2

ID: 65

## SWLRT NM-EP-2

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape
41	0.5	Wildlife barriers

*This report was printed on:* Tuesday, October 15, 2013

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-EP-2	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)	0.43	0.55	0.47	0.38	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-EP-2	0.37	0.58	0.18	0.38	0.00	Combination Discharge, Recharge	0.00	0.10	0.38
	Moderate	Moderate	Low	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Individual Wetland Proportion		Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39 Community						
NM-EP-2	-116-22-12-001	PEMC	Type 3 Shallow Marsh	80	0.1	0.10	0.10	0.10	0.10
						Low	Low	Low	
		PSS1C	Type 6 Shrub Carr	20	0.1	0.10	0.10	0.10	0.10
						Low	Low	Low	
				100		0.10	0.10	0.10	

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-EP-2

Location: -116-22-12-001

## SWLRT NM-EP-2

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

### Plant Community: Shrub Carr

Cowardin Classification: Circular 39:  
PSS1C Type 6

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/FlowThru
- 8-1 Maximum water depth 36 inches
- 8-2 % inundated 40%
- 9 Immediate drainage--local WS 10 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land

11-Wetland Soil Muskego

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Discharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Discharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: NM-EP-2**

**Project: SWLRT NM-EP-2**

Wetland ID: 65, Township 116, Section 12, Range 22

Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 7 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 36 inches, with 40 percent inundated. With an immediate drainage area of 10 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Flow-through wetland, this site has an apparent inlet and outlet. As such,  
Placeholder for Depressional/Flow-through discussion

This wetland has been drained or altered 0% from its original size of 7 acres.

### *Soils*

The soils in the immediate wetland area are primarily Muskego. The adjacent upland, to about 500 feet, is Urban Land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 80 percent and the naturalized buffer width averages 200 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 80 percent of the entire area.

Shrub-carr Type 6, PSS1C. This community had a vegetative index of low and comprised 20 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Moderate	Permanently flooded but isolated wetlands can support native populations of minnows and some isolated deep marshes have intermittent populations of sunfish and northern pike after flood events. Poor water quality, due to runoff and insufficient buffer and vegetation, can affect the sustainability of fish populations.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Reed canary grass	>25-50%
			Narrow-leaved cattail	>25-50%
PSS1	Type 6	Shrub-carr	Sandbar willow	>25-50%
			Dwarf alder	>25-50%
			Cottonwood	>10-25%
			Box elder	>10-25%

## Management Classification Report for NM-EP-3

SWLRT NM-EP-3

ID: 66

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Low	Amphibian Habitat	Moderate
High	Fish Habitat	High
Moderate	Shoreline Protection	Moderate
Low	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
Moderate	Characteristic Hydrology and Vegetative Diversity	High / Moderate
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Fish Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Fish Habitat** 
$$\frac{[Q46*2]+Q24+Q18+Q20R+Q28+Q30+Q31+Q33R]}{9}$$

Question	Value	Description
18	1	Sediment delivery
20	0.5	Stormwater runoff
24	1	Adjacent area Management
28	0.5	Nutrient loading
30	1	Shoreline rooted vegetation (%cover )
31	0.5	Shoreline wetland in-water width
33	1	Shoreline erosion potential
46	0.5	Fish habitat quality

\* The classification value settings for these functions are not adjustable

**Management Classification Report for NM-EP-3**

ID: 66

**SWLRT NM-EP-3**

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-EP-3	Depressional/Tributary (outlet but no perennial inlet or drainage entering from upstream subwatershed)	0.65	0.52	0.47	0.44	0.44
		Moderate	Moderate	Moderate	Moderate	Moderate

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-EP-3	0.44	0.72	0.18	0.31	0.00	Combination Discharge, Recharge	0.00	0.10	0.44
	Moderate	High	Low	Low	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Community					
NM-EP-3	-116-22-12-001	PEMC	Type 3	Shallow Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-EP-3

Location: -116-22-12-001

## SWLRT NM-EP-3

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Tributary

- 8-1 Maximum water depth 16 inches
- 8-2 % inundated 20%
- 9 Immediate drainage--local WS 4 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Lester

11-Wetland Soil Lester

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Discharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- |                       |                                |
|-----------------------|--------------------------------|
| 66 Existing size      | <input type="text" value="2"/> |
| Restorable size       | <input type="text" value="0"/> |
| Potential new wetland | <input type="text" value="0"/> |
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: NM-EP-3**

**Project: SWLRT NM-EP-3**

Wetland ID: 66, Township 116, Section 12, Range 22

Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 2 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 16 inches, with 20 percent inundated. With an immediate drainage area of 4 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Tributary wetland, this site has an outlet but no perennial inlet or drainage entering from the upstream subwatershed. As such, Placeholder for Depressional/Tributary discussion.

This wetland has been drained or altered 0% from its original size of 2 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lester. The adjacent upland, to about 500 feet, is Lester.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 15 percent and the naturalized buffer width averages 200 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

As a shoreline wetland, this site has the potential to protect from erosion and provide spawning and nursery habitat for fish and wildlife. Wetlands located in areas with strong currents and wave action have the greatest potential for protecting shoreline. Shorelines composed of sandy or erodible soils will benefit the most from shoreline wetland protection.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Moderate	This fringe site provides some protection against erosive action. Reducing the amount of buffer that is manicured would further protect the adjacent water resource, as would increasing the buffer width.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	High	The site has a direct connection to spawning or nursery habitat, or may provide refuge or shade for native species of fish. Low amounts of sediment mean that eggs are not smothered; good water quality supports fish health.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Water smartweed	>10-25%
			Reed canary grass	>75-100%

**Management Classification Report for NM-EP-4**

**SWLRT NM-EP-4**

ID: 67

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q38+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/9$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
38	0.1	Community interspersion
39	0.1	Detritus
3e	0.1	<No Description Found>

\* The classification value settings for these functions are not adjustable

## Management Classification Report for NM-EP-4

ID: 67

## SWLRT NM-EP-4

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

40	0.5	Wetland interspersion/landscape
41	0.1	Wildlife barriers

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-EP-4	Depressional/Isolated (no discernable inlets or outlets)	0.52	0.64	0.48	0.24	0.00
		Moderate	Moderate	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-EP-4	0.35	0.00	0.00	0.21	0.00	Recharge	0.00	0.10	0.24
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Exceptional	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
NM-EP-4	27-116-22-12-001	PFO1C	Type 7	Hardwood Swamp	70	0.1	0.10	0.10	0.10
							Low	Low	Low
		PEMC	Type 3	Shallow Marsh	30	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-EP-4

Location: 27-116-22-12-001

## SWLRT NM-EP-4

### Plant Community: Hardwood Swamp

Cowardin Classification: Circular 39:  
PFO1C Type 7

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/Isolated
- 8-1 Maximum water depth 12 inches
- 8-2 % inundated 15%
- 9 Immediate drainage--local WS 4 acres
- 10 Estimated size/existing site: (see #66)
- 11-Upland Soil Urban Land
- 11-Wetland Soil Urban Land

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

- 29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: NM-EP-4**

**Project: SWLRT NM-EP-4**

Wetland ID: 67, Township 116, Section 12, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 2 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 12 inches, with 15 percent inundated. With an immediate drainage area of 4 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 2 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban Land. The adjacent upland, to about 500 feet, is Urban Land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 75 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Hardwood Swamp Type 7, PFO1C. This community had a vegetative index of low and comprised 70 percent of the entire area.

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 30 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Exceptional	This site is exceptionally sensitive to stormwater; sedge meadows, open and coniferous bogs, calcareous fens, low prairies, wet to wet-mesic prairies, coniferous swamps, lowland hardwood swamps, or seasonally flooded basins.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PFO1	Type 7	Hardwood Swamp	Spotted touch-me-not	>10-25%
			Green ash	>10-25%
			Common buckthorn	>25-50%
PEMC	Type 3	Shallow Marsh	Spotted touch-me-not	>10-25%
			Reed canary grass	>10-25%

**Management Classification Report for NM-EP-5**

**SWLRT - NM-EP-5**

ID: 68

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Low	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.1	Amphib & reptile overwintering habitat

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-EP-5	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.65	0.47	0.10	0.00
		Low	Moderate	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-EP-5	0.31	0.00	0.10	0.21	0.00	Combination Discharge, Recharge	0.00	0.10	0.10
	Low	Not Applicable	Low	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39 Community	Shallow, Open Water Communities					
NM-EP-5	27-116-22-12-001	PUBG	Type 5	Shallow, Open Water Communities	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-EP-5

Location: 27-116-22-12-001

## SWLRT - NM-EP-5

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBG  
Circular 39: Type 5

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 36 inches

8-2 % inundated 90%

9 Immediate drainage--local WS 1 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land

11-Wetland Soil Urban Land

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Discharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: NM-EP-5**

**Project: SWLRT - NM-EP-5**

Wetland ID: 68, Township 116, Section 12, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.5 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 36 inches, with 90 percent inundated. With an immediate drainage area of 1 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.5 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban Land. The adjacent upland, to about 500 feet, is Urban Land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 80 percent and the naturalized buffer width averages 0 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Open Communities Type 5, PUBG. This community had a vegetative index of low and comprised 100

percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBG	Type 5	Shallow, Ow Communities	Narrow-leaved cattail	>75-100%

## Management Classification Report for NM-EP-6

SWLRT NM-EP-6

ID: 69

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Moderate	Amphibian Habitat	Moderate
Not Applicable	Fish Habitat	High
Not Applicable	Shoreline Protection	Moderate
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
High	Characteristic Hydrology and Vegetative Diversity	High / Moderate
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	1	Stormwater runoff
23	1	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.1	Amphib & reptile overwintering habitat

This report was printed on: Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-EP-6	Depressional/Isolated (no discernable inlets or outlets)	0.77	0.74	0.57	0.51	0.00
		High	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-EP-6	0.46	0.00	0.45	0.36	0.00	Combination Discharge, Recharge	0.00	0.10	0.51
	Moderate	Not Applicable	Moderate	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant Community	39					
NM-EP-6	27-116-22-01-001	PEMC	Type 3	Shallow Marsh	60	0.1	0.10	0.10	0.10
							Low	Low	Low
		PSS1C	Type 6	Shrub Carr	40	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-EP-6

Location: 27-116-22-01-001

## SWLRT NM-EP-6

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

### Plant Community: Shrub Carr

Cowardin Classification: Circular 39:  
PSS1C Type 6

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/Isolated
- 8-1 Maximum water depth 18 inches
- 8-2 % inundated 50%
- 9 Immediate drainage--local WS 6 acres
- 10 Estimated size/existing site: (see #66)
- 11-Upland Soil Kronis
- 11-Wetland Soil Houghton

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading
- 29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Discharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: NM-EP-6**

**Project: SWLRT NM-EP-6**

Wetland ID: 69, Township 116, Section 1, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 3 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 18 inches, with 50 percent inundated. With an immediate drainage area of 6 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 3 acres.

### *Soils*

The soils in the immediate wetland area are primarily Houghton. The adjacent upland, to about 500 feet, is Kronis.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 40 percent and the naturalized buffer width averages 200 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 60 percent of the entire area.

Shrub-carr Type 6, PSS1C. This community had a vegetative index of low and comprised 40 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	High	Due either to careful human management or lack of alteration of the outlet or watershed conditions, the wetland maintains a hydrologic regime similar to the original wetland type. This stability supports characteristic vegetative communities and is closely associated with flood attenuation, water quality, and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Moderate	Predatory fish may be present due to occasional connection to other waters. Winter habitat unreliable if shallow water allows winterkill. As with fish, excess sedimentation may smother eggs so pretreatment of stormwater runoff and a wide, unmanicured buffer improves conditions for reproduction. Barriers to migration may also impact the value of a site to more-mobile frogs, salamanders, and turtles.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Reed canary grass	>50-75%
			Narrow-leaved cattail	>25-50%
PSS1	Type 6	Shrub-carr	Red-osier dogwood	>25-50%
			Box elder	>25-50%

**Management Classification Report for NM-EP-8**

**SWLRT NM-EP-8**

ID: 70

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Moderate	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Moderate	Amphibian Habitat	Moderate
Moderate	Fish Habitat	High
Not Applicable	Shoreline Protection	Moderate
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
High	Characteristic Hydrology and Vegetative Diversity	High / Moderate
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

<i>Question</i>	<i>Value</i>	<i>Description</i>
14	0.5	Upland land use
20	1	Stormwater runoff
23	1	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.1	Amphib & reptile overwintering habitat

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-EP-8	Depressional/Isolated (no discernable inlets or outlets)	0.88	0.69	0.62	0.65	0.00
		High	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-EP-8	0.53	0.62	0.52	0.41	0.00	Combination Discharge, Recharge	0.00	0.50	0.65
	Moderate	Moderate	Moderate	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant Community	39					
NM-EP-8	27-116-22-01-001	PEMC	Type 3	Shallow Marsh	80	0.5	0.50	0.30	0.42
							Moderate	Low	Moderate
		PSS1C	Type 6	Shrub Carr	20	0.1	0.50	0.30	0.42
							Moderate	Low	Moderate
					100		0.50	0.30	0.42

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-EP-8

Location: 27-116-22-01-001

## SWLRT NM-EP-8

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

### Plant Community: Shrub Carr

Cowardin Classification: Circular 39:  
PSS1C Type 6

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/Isolated
- 8-1 Maximum water depth 14 inches
- 8-2 % inundated 15%
- 9 Immediate drainage--local WS 5 acres
- 10 Estimated size/existing site: (see #66)

- 11-Upland Soil Kronis
- 11-Wetland Soil Houghton

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

- 29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Discharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)  
WS# 33 Service Area: 9

For functional ratings, please run the  
Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: NM-EP-8**

**Project: SWLRT NM-EP-8**

Wetland ID: 70, Township 116, Section 1, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 3.5 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 14 inches, with 15 percent inundated. With an immediate drainage area of 5 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 3.5 acres.

### *Soils*

The soils in the immediate wetland area are primarily Houghton. The adjacent upland, to about 500 feet, is Kronis.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 30 percent and the naturalized buffer width averages 300 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of moderate and comprised 80 percent of the entire area.

Shrub-carr Type 6, PSS1C. This community had a vegetative index of low and comprised 20 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Moderate Vegetative Diversity and Integrity.

The weighted average provides the best measure for an entire wetland. Plant communities at this site are, overall, of average quality. Individual community ratings should be examined to provide a complete picture of possible high-value communities or smaller-but-poor-quality segments that might degrade the site over time.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Moderate	Moderate-functioning vegetative communities indicate a presence of native wetland species with substantial non-native or invasive species.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	High	Due either to careful human management or lack of alteration of the outlet or watershed conditions, the wetland maintains a hydrologic regime similar to the original wetland type. This stability supports characteristic vegetative communities and is closely associated with flood attenuation, water quality, and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.

Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Moderate	Permanently flooded but isolated wetlands can support native populations of minnows and some isolated deep marshes have intermittent populations of sunfish and northern pike after flood events. Poor water quality, due to runoff and insufficient buffer and vegetation, can affect the sustainability of fish populations.
Maintenance of Characteristic Amphibian Habitat	Moderate	Predatory fish may be present due to occasional connection to other waters. Winter habitat unreliable if shallow water allows winterkill. As with fish, excess sedimentation may smother eggs so pretreatment of stormwater runoff and a wide, unmanicured buffer improves conditions for reproduction. Barriers to migration may also impact the value of a site to more-mobile frogs, salamanders, and turtles.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Swamp milkweed	>3-<10%
			Reed canary grass	>10-25%
			Red-stalked spikerush	>10-25%
			Narrow-leaved cattail	>10-25%
PSS1	Type 6	Shrub-carr	Red-osier dogwood	>25-50%
			Cottonwood	>25-50%
			Common buckthorn	>25-50%
			Box elder	>25-50%

**Management Classification Report for NM-EP-9**

**SWLRT NM-EP-9**

ID: 71

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	Low / Low
Low	Characteristic Hydrology and Vegetative Diversity	Low / Low
Moderate	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Tuesday, October 15, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-EP-9	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.66	0.59	0.27	0.00
		Low	Moderate	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-EP-9	0.27	0.00	0.00	0.21	0.00	Recharge	0.00	0.10	0.27
	Low	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
NM-EP-9	27-116-22-01-001	PEMC	Type 3	Shallow Marsh	70	0.1	0.10	0.10	0.10
							Low	Low	Low
		PSS1C	Type 6	Shrub Carr	30	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-EP-9

Location: 27-116-22-01-001

## SWLRT NM-EP-9

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

### Plant Community: Shrub Carr

Cowardin Classification: Circular 39:  
PSS1C Type 6

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/Isolated
- 8-1 Maximum water depth 16 inches
- 8-2 % inundated 20%
- 9 Immediate drainage--local WS 3 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land

11-Wetland Soil Houghton

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

- 29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/15/2013

# MnRAM Site Assessment Report

Tuesday, October 15, 2013

**Wetland: NM-EP-9**

**Project: SWLRT NM-EP-9**

Wetland ID: 71, Township 116, Section 1, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 1 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 16 inches, with 20 percent inundated. With an immediate drainage area of 3 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 1 acres.

### *Soils*

The soils in the immediate wetland area are primarily Houghton. The adjacent upland, to about 500 feet, is Urban Land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 70 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 70 percent of the entire area.

Shrub-carr Type 6, PSS1C. This community had a vegetative index of low and comprised 30 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.

Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Reed canary grass	>10-25%
			Narrow-leaved cattail	>75-100%
PSS1	Type 6	Shrub-carr	Sandbar willow	>25-50%
			Red-osier dogwood	>25-50%
			Common buckthorn	>10-25%
			American elm	>25-50%

**Management Classification Report for NM-EP-10**

**SWLRT NM-EP-10**

ID: 72

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	Low / Low
Low	Characteristic Hydrology and Vegetative Diversity	Low / Low
Moderate	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Wednesday, October 16, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-EP-10	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.65	0.53	0.20	0.00
		Low	Moderate	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-EP-10	0.27	0.00	0.00	0.26	0.00	Recharge	0.00	0.10	0.20
	Low	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
NM-EP-10	27-116-22-01-001	PEMC	Type 3	Shallow Marsh	60	0.1	0.10	0.10	0.06
							Low	Low	Low
					60		0.10	0.10	0.06

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-EP-10

Location: 27-116-22-01-001

## SWLRT NM-EP-10

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 12 inches
- 8-2 % inundated 20%
- 9 Immediate drainage--local WS 0.25 acre
- 10 Estimated size/existing site: (see #66)

11-Upland Soil LundlakeLoam

11-Wetland Soil Lundlake Loam

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/16/2013

# MnRAM Site Assessment Report

Wednesday, October 16, 2013

**Wetland: NM-EP-10**

**Project: SWLRT NM-EP-10**

Wetland ID: 72, Township 116, Section 1, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.15 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 12 inches, with 20 percent inundated. With an immediate drainage area of 0.25 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.15 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lundlake Loam. The adjacent upland, to about 500 feet, is LundlakeLoam.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 60 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 60 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Reed canary grass	>50-75%

**Management Classification Report for NM-EP-11**

**SWLRT NM-EP-11**

ID: 73

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	1	Stormwater runoff
23	0.1	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
39	0.1	Detritus
3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape

\* The classification value settings for these functions are not adjustable

**Management Classification Report for NM-EP-11**

ID: 73

**SWLRT NM-EP-11**

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

41      0.1      Wildlife barriers

*This report was printed on:* Wednesday, October 16, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-EP-11	Depressional/Isolated (no discernable inlets or outlets)	0.43	0.73	0.63	0.32	0.00
		Moderate	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-EP-11	0.33	0.00	0.00	0.26	0.00	Recharge	0.00	0.10	0.32
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
NM-EP-11	16-22-01-001	PEMB	Type 2	Fresh (Wet) Meadow	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-EP-11

Location: -116-22-01-001

## SWLRT NM-EP-11

### Plant Community: Fresh (Wet) Meadow

Cowardin Classification: Circular 39:  
PEMB Type 2

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 0 inches
- 8-2 % inundated 0%
- 9 Immediate drainage--local WS 0.1 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Lakelund Loam

11-Wetland Soil Lakelund Loam

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/16/2013

# MnRAM Site Assessment Report

Wednesday, October 16, 2013

**Wetland: NM-EP-11**

**Project: SWLRT NM-EP-11**

Wetland ID: 73, Township 116, Section 1, Range 22

Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.05 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 0 inches, with 0 percent inundated. Although there was no standing water at the time of the site visit, the existence of water in the soil below indicates wetland hydrology is present. With an immediate drainage area of 0.1 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.05 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lakelund Loam. The adjacent upland, to about 500 feet, is Lakelund Loam.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 0 percent and the naturalized buffer width averages 100 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Fresh Wet Meadow Type 2, PEMB. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMB	Type 2	Fresh Wet Meadow	Reed canary grass	>75-100%

**Management Classification Report for NM-EP-12**

**SWLRT NM-EP-12**

ID: 75

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	Low / Low
Low	Characteristic Hydrology and Vegetative Diversity	Low / Low
Moderate	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Wednesday, October 16, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-EP-12	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.65	0.49	0.18	0.00
		Low	Moderate	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-EP-12	0.23	0.00	0.00	0.21	0.00	Recharge	0.00	0.10	0.18
	Low	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
NM-EP-12	27-116-22-01-001	PEMC	Type 3	Shallow Marsh	60	0.1	0.10	0.10	0.10
							Low	Low	Low
		PSS1C	Type 6	Shrub Carr	40	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-EP-12

Location: 27-116-22-01-001

## SWLRT NM-EP-12

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

### Plant Community: Shrub Carr

Cowardin Classification: Circular 39:  
PSS1C Type 6

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/Isolated
- 8-1 Maximum water depth 12 inche
- 8-2 % inundated 60%
- 9 Immediate drainage--local WS 0.25 acre
- 10 Esimated size/existing site: (see #66)

11-Upland Soil Lakelund

11-Wetland Soil Lakelund

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersation
- 39 Wetland detritus
- 40 Interspersation on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/16/2013

# MnRAM Site Assessment Report

Wednesday, October 16, 2013

**Wetland: NM-EP-12**

**Project: SWLRT NM-EP-12**

Wetland ID: 75, Township 116, Section 1, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.05 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Eden Prairie

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 12 inches, with 60 percent inundated. With an immediate drainage area of 0.25 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.05 acres.

### *Soils*

The soils in the immediate wetland area are primarily Lakelund. The adjacent upland, to about 500 feet, is Lakelund.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 80 percent and the naturalized buffer width averages 0 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 60 percent of

the entire area.

Shrub-carr Type 6, PSS1C. This community had a vegetative index of low and comprised 40 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Narrow-leaved cattail	>25-50%
			Lady's thumb	>25-50%
PSS1	Type 6	Shrub-carr	Sandbar willow	>75-100%

**Management Classification Report for NM-HOP-13**

**SWLRT- NM-HOP-13**

ID: 24

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Low	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.5	Amphib & reptile overwintering habitat

*This report was printed on:* Thursday, October 17, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
NM-HOP-13	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)	0.10	0.68	0.55	0.23	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
NM-HOP-13	0.32	0.00	0.17	0.26	0.00	Combination Discharge, Recharge	0.00	0.10	0.23
	Low	Not Applicable	Low	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant Community	39					
NM-HOP-13	27-117-22-25-001	PUBG	Type 5	Shallow, Open Water Communities	40	0.1	0.10	0.10	0.10
							Low	Low	Low
		PEMC	Type 3	Shallow Marsh	30	0.1	0.10	0.10	0.10
							Low	Low	Low
		PFO1C	Type 7	Floodplain Forest	30	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: NM-HOP-13

Location: 27-117-22-25-001

## SWLRT- NM-HOP-13

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBG  
Circular 39: Type 5

### Plant Community: Shallow Marsh

Cowardin Classification: PEMC  
Circular 39: Type 3

### Plant Community: Floodplain Forest

Cowardin Classification: PFO1C  
Circular 39: Type 7

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/FlowThru

- 8-1 Maximum water depth 48 inches
- 8-2 % inundated 50%
- 9 Immediate drainage--local WS 35 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land - Udorthents Complex

11-Wetland Soil Urban Land - Udorthents Complex

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Discharge
- 62 Inlet/Outlet configuration Discharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: NM-HOP-13**

**Project: SWLRT- NM-HOP-13**

Wetland ID: 24, Township 117, Section 25, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Assessment Purpose: Planning

Site conditions were Normal. This wetland is estimated to cover 3 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Hopkins in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 48 inches, with 50 percent inundated. With an immediate drainage area of 35 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Flow-through wetland, this site has an apparent inlet and outlet. As such,  
Placeholder for Depressional/Flow-through discussion

This wetland has been drained or altered 4000% from its original size of 3 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban Land - Udorthents Complex. The adjacent upland, to about 500 feet, is Urban Land - Udorthents Complex.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 80 percent and the naturalized buffer width averages 5 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Ow Communities Type 5, PUBG. This community had a vegetative index of low and comprised 40 percent of the entire area.

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 30 percent of the entire area.

Floodplain Forest Type 7, PFO1C. This community had a vegetative index of low and comprised 30 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.

Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBG	Type 5	Shallow, Ow Communities		
PEMC	Type 3	Shallow Marsh		
PFO1	Type 7	Floodplain Forest		
			Sandbar willow	15
			Reed canary grass	30
			Purple loosestrife	15
			Lesser duckweed	15

## Management Classification Report for MTA-MTA-2

SWLRT MTA-MTA-2

ID: 76

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Moderate	Amphibian Habitat	Moderate
Moderate	Fish Habitat	High
Not Applicable	Shoreline Protection	Moderate
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
Low	Characteristic Hydrology and Vegetative Diversity	High / Moderate
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	1	Amphib & reptile overwintering habitat

This report was printed on: Wednesday, October 16, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MTA-MTA-2	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.73	0.63	0.35	0.00
		Low	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MTA-MTA-2	0.41	0.43	0.45	0.36	0.00	Combination Discharge, Recharge	0.00	0.10	0.35
	Moderate	Moderate	Moderate	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39 Community	Shallow, Open Water Communities					
MTA-MTA-2	-117-22-36-001	PUBF	Type 5	Shallow, Open Water Communities	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MTA-MTA-2

Location: -117-22-36-001

## SWLRT MTA-MTA-2

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBF  
Circular 39: Type 5

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 48 inches

8-2 % inundated 90%

9 Immediate drainage--local WS 15 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Angus loam

11-Wetland Soil Angus loam

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersion on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Discharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/16/2013

# MnRAM Site Assessment Report

Wednesday, October 16, 2013

**Wetland: MTA-MTA-2**

**Project: SWLRT MTA-MTA-2**

Wetland ID: 76, Township 117, Section 36, Range 22

Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 3 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minnetonka

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 48 inches, with 90 percent inundated. With an immediate drainage area of 15 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 3 acres.

### *Soils*

The soils in the immediate wetland area are primarily Angus loam. The adjacent upland, to about 500 feet, is Angus loam.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 15 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Ow Communities Type 5, PUBF. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Moderate	Permanently flooded but isolated wetlands can support native populations of minnows and some isolated deep marshes have intermittent populations of sunfish and northern pike after flood events. Poor water quality, due to runoff and insufficient buffer and vegetation, can affect the sustainability of fish populations.
Maintenance of Characteristic Amphibian Habitat	Moderate	Predatory fish may be present due to occasional connection to other waters. Winter habitat unreliable if shallow water allows winterkill. As with fish, excess sedimentation may smother eggs so pretreatment of stormwater runoff and a wide, unmanicured buffer improves conditions for reproduction. Barriers to migration may also impact the value of a site to more-mobile frogs, salamanders, and turtles.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBF	Type 5	Shallow, Ow Communities	Reed canary grass	>10-25%
			Lesser duckweed	>10-25%

**Management Classification Report for MTA-MTA-3**

**SWLRT MTA-MTA-3**

ID: 77

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	Low / Low
Low	Characteristic Hydrology and Vegetative Diversity	Low / Low
High	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Wednesday, October 16, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MTA-MTA-3	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.69	0.61	0.37	0.00
		Low	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MTA-MTA-3	0.31	0.00	0.00	0.31	0.00	Recharge	0.00	0.10	0.37
	Low	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Exceptional	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
MTA-MTA-3	27-117-22-36-001	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MTA-MTA-3

Location: 27-117-22-36-001

## SWLRT MTA-MTA-3

### Plant Community: Seasonally Flooded Ba

Cowardin Classification: PEMA  
Circular 39: Type 1

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 0 inches
- 8-2 % inundated 0%
- 9 Immediate drainage--local WS 0.01 acre
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land

11-Wetland Soil Urban Land

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/16/2013

# MnRAM Site Assessment Report

Wednesday, October 16, 2013

**Wetland: MTA-MTA-3**

**Project: SWLRT MTA-MTA-3**

Wetland ID: 77, Township 117, Section 36, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.01 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minnetonka

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 0 inches, with 0 percent inundated. Although there was no standing water at the time of the site visit, the existence of water in the soil below indicates wetland hydrology is present. With an immediate drainage area of 0.01 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.01 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban Land. The adjacent upland, to about 500 feet, is Urban Land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 100 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Seasonally FI Basin Type 1, PEMA. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Exceptional	This site is exceptionally sensitive to stormwater; sedge meadows, open and coniferous bogs, calcareous fens, low prairies, wet to wet-mesic prairies, coniferous swamps, lowland hardwood swamps, or seasonally flooded basins.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMA	Type 1	Seasonally FI Basin	Sandbar willow	>75-100%

**Management Classification Report for MTA-MTA-04**

**SWLRT MTA-MTA-4**

ID: 78

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	0.55	Adjacent area Management
25	0.3	Adjacent area diversity
39	0.1	Detritus
3e	0.1	<No Description Found>
40	0.5	Wetland interspersions/landscape

\* The classification value settings for these functions are not adjustable

**Management Classification Report for MTA-MTA-04**

ID: 78

**SWLRT MTA-MTA-4**

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

41      0.5      Wildlife barriers

*This report was printed on:* Wednesday, October 16, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MTA-MTA-04	Depressional/Isolated (no discernable inlets or outlets)	0.43	0.64	0.52	0.33	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MTA-MTA-04	0.41	0.00	0.00	0.31	0.00	Recharge	0.00	0.10	0.33
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Exceptional	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
MTA-MTA-04	27-117-22-36-001	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MTA-MTA-04

Location: 27-117-22-36-001

## SWLRT MTA-MTA-4

### Plant Community: Seasonally Flooded Ba

Cowardin Classification: PEMA  
Circular 39: Type 1

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 0 inches

8-2 % inundated 0%

9 Immediate drainage--local WS 0.3 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Angus loam

11-Wetland Soil Angus loam

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/16/2013

# MnRAM Site Assessment Report

Wednesday, October 16, 2013

**Wetland: MTA-MTA-04**

**Project: SWLRT MTA-MTA-4**

Wetland ID: 78, Township 117, Section 36, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.3 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minnetonka

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 0 inches, with 0 percent inundated. Although there was no standing water at the time of the site visit, the existence of water in the soil below indicates wetland hydrology is present. With an immediate drainage area of 0.3 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.3 acres.

### *Soils*

The soils in the immediate wetland area are primarily Angus loam. The adjacent upland, to about 500 feet, is Angus loam.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 80 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Seasonally FI Basin Type 1, PEMA. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Exceptional	This site is exceptionally sensitive to stormwater; sedge meadows, open and coniferous bogs, calcareous fens, low prairies, wet to wet-mesic prairies, coniferous swamps, lowland hardwood swamps, or seasonally flooded basins.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMA	Type 1	Seasonally FI Basin	Sandbar willow	>50-75%

## Management Classification Report for MTA-MTA-5

SWLRT MTA-MTA-5

ID: 79

HENNEPIN County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Moderate	Amphibian Habitat	Moderate
Low	Fish Habitat	High
Not Applicable	Shoreline Protection	Moderate
Low	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Low	Wetland Water Quality and Vegetative Diversity	High / Moderate
Low	Characteristic Hydrology and Vegetative Diversity	High / Moderate
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	1	Amphib & reptile overwintering habitat

This report was printed on: Wednesday, October 16, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MTA-MTA-5	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.65	0.54	0.23	0.00
		Low	Moderate	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MTA-MTA-5	0.41	0.28	0.45	0.21	0.00	Recharge	0.00	0.10	0.23
	Moderate	Low	Moderate	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
MTA-MTA-5	27-117-22-36-001	PUBF	Type 5	Shallow, Open Water Communities	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MTA-MTA-5

Location: 27-117-22-36-001

## SWLRT MTA-MTA-5

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBF  
Circular 39: Type 5

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 48 inches

8-2 % inundated 90%

9 Immediate drainage--local WS 4 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Angus loam

11-Wetland Soil Angus loam

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/16/2013

# MnRAM Site Assessment Report

Wednesday, October 16, 2013

**Wetland: MTA-MTA-5**

**Project: SWLRT MTA-MTA-5**

Wetland ID: 79, Township 117, Section 36, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 1.3 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minnetonka

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 48 inches, with 90 percent inundated. With an immediate drainage area of 4 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 1.3 acres.

### *Soils*

The soils in the immediate wetland area are primarily Angus loam. The adjacent upland, to about 500 feet, is Angus loam.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 20 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Ow Communities Type 5, PUBF. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Low	No direct connection to a waterbody with a native fishery or poor water quality make this site a poor candidate for fish habitat. High carp populations degrade habitat for other fish.
Maintenance of Characteristic Amphibian Habitat	Moderate	Predatory fish may be present due to occasional connection to other waters. Winter habitat unreliable if shallow water allows winterkill. As with fish, excess sedimentation may smother eggs so pretreatment of stormwater runoff and a wide, unmanicured buffer improves conditions for reproduction. Barriers to migration may also impact the value of a site to more-mobile frogs, salamanders, and turtles.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBF	Type 5	Shallow, Ow Communities	Sandbar willow	>3-<10%
			Narrow-leaved cattail	>3-<10%
			Lesser duckweed	>3-<10%

**Management Classification Report for MTA-MTA-7**

**SWLRT MTA-MTA-7**

ID: 82

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Low	Amphibian Habitat	Moderate
High	Fish Habitat	High
Not Applicable	Shoreline Protection	Moderate
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
Moderate	Characteristic Hydrology and Vegetative Diversity	High / Moderate
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Fish Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Fish Habitat**  **$[(Q46*2)+Q24+Q18+Q20R+Q28]/6$**

<i>Question</i>	<i>Value</i>	<i>Description</i>
18	1	Sediment delivery
20	1	Stormwater runoff
24	1	Adjacent area Management
28	1	Nutrient loading
46	0.5	Fish habitat quality

*This report was printed on:* Wednesday, October 16, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MTA-MTA-7	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)	0.65	0.50	0.44	0.58	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MTA-MTA-7	0.50	0.83	0.23	0.38	0.00	Combination Discharge, Recharge	0.00	0.10	0.58
	Moderate	High	Low	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Community					
MTA-MTA-7	-117-22-36-001	PEMC	Type 3	Shallow Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MTA-MTA-7

Location: -117-22-36-001

## SWLRT MTA-MTA-7

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/FlowThru

8-1 Maximum water depth 16 inches

8-2 % inundated 30%

9 Immediate drainage--local WS 2 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Angus loam

11-Wetland Soil Houghton and Muskego mucks

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Discharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/16/2013

# MnRAM Site Assessment Report

Wednesday, October 16, 2013

**Wetland: MTA-MTA-7**

**Project: SWLRT MTA-MTA-7**

Wetland ID: 82, Township 117, Section 36, Range 22

Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.4 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minnetonka

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 16 inches, with 30 percent inundated. With an immediate drainage area of 2 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Flow-through wetland, this site has an apparent inlet and outlet. As such,  
Placeholder for Depressional/Flow-through discussion

This wetland has been drained or altered 0% from its original size of 0.4 acres.

### *Soils*

The soils in the immediate wetland area are primarily Houghton and Muskego mucks. The adjacent upland, to about 500 feet, is Angus loam.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 40 percent and the naturalized buffer width averages 150 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	High	The site has a direct connection to spawning or nursery habitat, or may provide refuge or shade for native species of fish. Low amounts of sediment mean that eggs are not smothered; good water quality supports fish health.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Spotted touch-me-not	>3-<10%
			Reed canary grass	>3-<10%
			Narrow-leaved cattail	>10-25%
			Broad-leaved arrowhead	>3-<10%

## Management Classification Report for MTA-MTA-8

SWLRT MTA-MTA-8

ID: 84

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Low	Amphibian Habitat	Moderate
High	Fish Habitat	High
Not Applicable	Shoreline Protection	Moderate
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
Moderate	Characteristic Hydrology and Vegetative Diversity	High / Moderate
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Fish Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Fish Habitat**  $[(Q46*2)+Q24+Q18+Q20R+Q28]/6$

Question	Value	Description
18	1	Sediment delivery
20	1	Stormwater runoff
24	1	Adjacent area Management
28	1	Nutrient loading
46	0.5	Fish habitat quality

This report was printed on: Wednesday, October 16, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MTA-MTA-8	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)	0.65	0.50	0.44	0.58	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MTA-MTA-8	0.50	0.83	0.23	0.38	0.00	Combination Discharge, Recharge	0.00	0.10	0.58
	Moderate	High	Low	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Community					
MTA-MTA-8	-117-22-36-001	PEMC	Type 3	Shallow Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MTA-MTA-8

Location: -117-22-36-001

## SWLRT MTA-MTA-8

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/FlowThru

8-1 Maximum water depth 16 inches

8-2 % inundated 30%

9 Immediate drainage--local WS 2 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Angus loam

11-Wetland Soil Houghton and Muskego mucks

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Discharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/16/2013

# MnRAM Site Assessment Report

Wednesday, October 16, 2013

**Wetland: MTA-MTA-8**

**Project: SWLRT MTA-MTA-8**

Wetland ID: 84, Township 117, Section 36, Range 22

Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 0.6 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minnetonka

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 16 inches, with 30 percent inundated. With an immediate drainage area of 2 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Flow-through wetland, this site has an apparent inlet and outlet. As such,  
Placeholder for Depressional/Flow-through discussion

This wetland has been drained or altered 0% from its original size of 0.6 acres.

### *Soils*

The soils in the immediate wetland area are primarily Houghton and Muskego mucks. The adjacent upland, to about 500 feet, is Angus loam.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 40 percent and the naturalized buffer width averages 150 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	High	The site has a direct connection to spawning or nursery habitat, or may provide refuge or shade for native species of fish. Low amounts of sediment mean that eggs are not smothered; good water quality supports fish health.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Spotted touch-me-not	>3-<10%
			Reed canary grass	>50-75%
			Narrow-leaved cattail	>3-<10%
			Box elder	>3-<10%

## Management Classification Report for MTA-MTA-9

SWLRT MTA-MTA-9

ID: 85

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Low	Amphibian Habitat	Moderate
High	Fish Habitat	High
Not Applicable	Shoreline Protection	Moderate
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
Moderate	Characteristic Hydrology and Vegetative Diversity	High / Moderate
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Fish Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Fish Habitat**  $[(Q46*2)+Q24+Q18+Q20R+Q28]/6$

Question	Value	Description
18	1	Sediment delivery
20	1	Stormwater runoff
24	1	Adjacent area Management
28	1	Nutrient loading
46	0.5	Fish habitat quality

This report was printed on: Wednesday, October 16, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MTA-MTA-9	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)	0.65	0.50	0.44	0.58	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MTA-MTA-9	0.50	0.83	0.23	0.38	0.00	Combination Discharge, Recharge	0.00	0.10	0.58
	Moderate	High	Low	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39	Community					
MTA-MTA-9	-117-22-36-001	PEMC	Type 3	Shallow Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MTA-MTA-9

Location: -117-22-36-001

## SWLRT MTA-MTA-9

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/FlowThru

- 8-1 Maximum water depth 16 inches
- 8-2 % inundated 30%
- 9 Immediate drainage--local WS 50 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Lester

11-Wetland Soil Houghton and Muskego mucks

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Discharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- |                       |    |
|-----------------------|----|
| 66 Existing size      | 35 |
| Restorable size       | 0  |
| Potential new wetland | 0  |
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/16/2013

# MnRAM Site Assessment Report

Wednesday, October 16, 2013

**Wetland: MTA-MTA-9**

**Project: SWLRT MTA-MTA-9**

Wetland ID: 85, Township 117, Section 36, Range 22, , ,

Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 35 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minnetonka

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 16 inches, with 30 percent inundated. With an immediate drainage area of 50 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Flow-through wetland, this site has an apparent inlet and outlet. As such,  
Placeholder for Depressional/Flow-through discussion

This wetland has been drained or altered 0% from its original size of 35 acres.

### *Soils*

The soils in the immediate wetland area are primarily Houghton and Muskego mucks. The adjacent upland, to about 500 feet, is Lester.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 50 percent and the naturalized buffer width averages 300 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	High	The site has a direct connection to spawning or nursery habitat, or may provide refuge or shade for native species of fish. Low amounts of sediment mean that eggs are not smothered; good water quality supports fish health.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Spotted touch-me-not	>25-50%
			Sandbar willow	>10-25%
			Reed canary grass	>50-75%
			Narrow-leaved cattail	>25-50%
			Box elder	>3-<10%

**Management Classification Report for MTA-MTA-10**

**SWLRT MTA-MTA-10**

ID: 86

County  
Minnesota (Shakopee) Watershed, #33  
Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Moderate	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Moderate	Amphibian Habitat	Moderate
Not Applicable	Fish Habitat	High
Not Applicable	Shoreline Protection	Moderate
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
Moderate	Characteristic Hydrology and Vegetative Diversity	High / Moderate
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

<i>Question</i>	<i>Value</i>	<i>Description</i>
14	0.1	Upland land use
20	0.5	Stormwater runoff
23	0.5	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	1	Amphib & reptile overwintering habitat

*This report was printed on:* Wednesday, October 16, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MTA-MTA-10	Depressional/Isolated (no discernable inlets or outlets)	0.52	0.64	0.50	0.50	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MTA-MTA-10	0.53	0.00	0.52	0.38	0.00	Combination Discharge, Recharge	0.00	0.50	0.50
	Moderate	Not Applicable	Moderate	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39 Community	Shallow, Open Water Communities					
MTA-MTA-10	-117-22-36-001	PUBF	Type 5	Shallow, Open Water Communities	100	0.5	0.50	0.50	0.50
							Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MTA-MTA-10

Location: -117-22-36-001

## SWLRT MTA-MTA-10

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBF  
Circular 39: Type 5

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 36 inches

8-2 % inundated 90%

9 Immediate drainage--local WS 6 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Discharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/16/2013

# MnRAM Site Assessment Report

Wednesday, October 16, 2013

**Wetland: MTA-MTA-10**

**Project: SWLRT MTA-MTA-10**

Wetland ID: 86, Township 117, Section 36, Range 22

Minnesota (Shakopee) Watershed, Corps Bank Service Area #9

Site conditions were Normal. This wetland is estimated to cover 3 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minnetonka

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 36 inches, with 90 percent inundated. With an immediate drainage area of 6 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 3 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 20 percent and the naturalized buffer width averages 200 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Ow Communities Type 5, PUBF. This community had a vegetative index of moderate and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Moderate. A more accurate look uses a weighted average; using this method, this site shows a Moderate Vegetative Diversity and Integrity.

The weighted average provides the best measure for an entire wetland. Plant communities at this site are, overall, of average quality. Individual community ratings should be examined to provide a complete picture of possible high-value communities or smaller-but-poor-quality segments that might degrade the site over time.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Moderate	Moderate-functioning vegetative communities indicate a presence of native wetland species with substantial non-native or invasive species.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Moderate	Predatory fish may be present due to occasional connection to other waters. Winter habitat unreliable if shallow water allows winterkill. As with fish, excess sedimentation may smother eggs so pretreatment of stormwater runoff and a wide, unmanicured buffer improves conditions for reproduction. Barriers to migration may also impact the value of a site to more-mobile frogs, salamanders, and turtles.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBF	Type 5	Shallow, Ow Communities	River bulrush	>10-25%
			Broad-leaved arrowhead	>10-25%

**Management Classification Report for MTA-MTA-11**

**SWLRT MTA-MTA-11**

ID: 28

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Moderate	Amphibian Habitat	Moderate
Not Applicable	Fish Habitat	High
Not Applicable	Shoreline Protection	Moderate
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
Moderate	Characteristic Hydrology and Vegetative Diversity	High / Moderate
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

<i>Question</i>	<i>Value</i>	<i>Description</i>
14	0.1	Upland land use
20	0.5	Stormwater runoff
23	0.5	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	1	Amphib & reptile overwintering habitat

*This report was printed on:* Friday, October 18, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MTA-MTA-11	Extensive Peatland/Organic Flat	0.52	0.71	0.48	0.40	0.00
		Moderate	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MTA-MTA-11	0.51	0.00	0.38	0.36	0.00	Combination Discharge, Recharge	0.00	0.10	0.40
	Moderate	Not Applicable	Moderate	Moderate	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity								
Wetland Name	Location	Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating	
		Cowardin Classification	Circular Plant 39	Community						
MTA-MTA-11	27-117-22-25-001	PEMC	Type 3	Shallow Marsh	60	0.1	0.10	0.10	0.10	
								Low	Low	Low
		PUBG	Type 5	Shallow, Open Water Communities	10	0.1	0.10	0.10	0.10	
								Low	Low	Low
		PFO1C	Type 7	Floodplain Forest	15	0.1	0.10	0.10	0.10	
								Low	Low	Low
		PSS1C	Type 6	Shrub Carr	15	0.1	0.10	0.10	0.10	
							Low	Low	Low	
					100		0.10	0.10	0.10	

Denotes incomplete calculation data.



# MnRAM: Site Response Record

For Wetland: MTA-MTA-11

Location: 27-117-22-25-001

## SWLRT MTA-MTA-11

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

### Plant Community: Floodplain Forest

Cowardin Classification: Circular 39:  
PFO1C Type 7

### Plant Community: Shrub Carr

Cowardin Classification: Circular 39:  
PSS1C Type 6

### Plant Community: Shallow, Open Water C

Cowardin Classification: Circular 39:  
PUBG Type 5

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Extensive Peatland

- 8-1 Maximum water depth 48 inches
- 8-2 % inundated 10%
- 9 Immediate drainage--local WS 150 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Udorthents

11-Wetland Soil Klossner

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured

24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Discharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Discharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs C

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/18/2013

# MnRAM Site Assessment Report

Friday, October 18, 2013

**Wetland: MTA-MTA-11**

**Project: SWLRT MTA-MTA-11**

Wetland ID: 28, Township 117, Section 25, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Nine Mile Creek Subwatershed, Corps Bank Service Area #9

Assessment Purpose: Classification

Site conditions were Normal. This wetland is estimated to cover 15 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Hopkins and Minnetonka in Hassan Township.

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 48 inches, with 10 percent inundated. With an immediate drainage area of 150 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Extensive Peatland/Organic Flat wetland, this site [No Data] [No Data]

This wetland has been drained or altered 0% from its original size of 15 acres.

### *Soils*

The soils in the immediate wetland area are primarily Klossner. The adjacent upland, to about 500 feet, is Udorthents.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 90 percent and the naturalized buffer width averages 30 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides some protection for the wetland water quality but little habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 60 percent of the entire area.

Floodplain Forest Type 7, PFO1C. This community had a vegetative index of low and comprised 15 percent of the entire area.

Shrub-carr Type 6, PSS1C. This community had a vegetative index of low and comprised 15 percent of the entire area.

Shallow, Ow Communities Type 5, PUBG. This community had a vegetative index of low and comprised 10 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.

Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Moderate	Predatory fish may be present due to occasional connection to other waters. Winter habitat unreliable if shallow water allows winterkill. As with fish, excess sedimentation may smother eggs so pretreatment of stormwater runoff and a wide, unmanicured buffer improves conditions for reproduction. Barriers to migration may also impact the value of a site to more-mobile frogs, salamanders, and turtles.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh	Sandbar willow	10
			Reed canary grass	30
			Narrow-leaved cattail	10
			Green ash	10
			Box elder	10
PFO1	Type 7	Floodplain Forest		
PSS1	Type 6	Shrub-carr		
PUBG	Type 5	Shallow, Ow Communities	Reed canary grass	20
			Narrow-leaved cattail	10
			Common buckthorn	10
			Box elder	10

**Management Classification Report for MTA-MTA-12**

**MTA-MTA-12**

ID: 27

HENNEPIN County  
 Minnesota (Shakopee) Watershed, #33  
 Corps Bank Service Area 9

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Not Applicable	Vegetative Diversity/Integrity	Moderate
Low	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Low	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.1	Amphib & reptile overwintering habitat

This report was printed on: Friday, October 18, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MTA-MTA-12	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.72	0.57	0.25	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MTA-MTA-12	0.29	0.33	0.23	0.26	0.00	Combination Discharge, Recharge	0.00	0.10	0.25
	Low	Low	Low	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39 Community						
MTA-MTA-12	27-117-22-25-001	PUBG	Type 5	Shallow, Open Water Communities	0	0.1	0.10	0.10	0.00
							Low	Low	Not Applicable
							0.10	0.10	0.00

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MTA-MTA-12

Location: 27-117-22-25-001

## MTA-MTA-12

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBG  
Circular 39: Type 5

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 48 inches

8-2 % inundated 90%

9 Immediate drainage--local WS 40 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land - Udorthents

11-Wetland Soil Water

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Discharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity C

72 Additional treatment needs A

Watershed Minnesota (Shakopee)

WS# 33 Service Area: 9

For functional ratings, please run the Summary tab report.

This report printed on: 10/18/2013

# MnRAM Site Assessment Report

Friday, October 18, 2013

**Wetland: MTA-MTA-12**

**Project: MTA-MTA-12**

Wetland ID: 27, Township 117, Section 25, Range 22

HENNEPIN County, Minnesota (Shakopee) Watershed, Nine Mile Creek Subwatershed, Corps Bank Service Area #9

Assessment Purpose: Classification

Site conditions were Normal. This wetland is estimated to cover 3.48 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minnetonka

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 48 inches, with 90 percent inundated. With an immediate drainage area of 40 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 3.48 acres.

### *Soils*

The soils in the immediate wetland area are primarily Water. The adjacent upland, to about 500 feet, is Urban Land - Udorthents.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 10 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Ow Communities Type 5, PUBG. This community had a vegetative index of low and comprised 0 percent of the entire area.

**Functional Ratings**

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.

Maintenance of Characteristic Fish Habitat	Low	No direct connection to a waterbody with a native fishery or poor water quality make this site a poor candidate for fish habitat. High carp populations degrade habitat for other fish.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBG	Type 5	Shallow, Ow Communities	Purple loosestrife	10
			Pennsylvania smartweed	10

## Management Classification Report for MC-SLP-2

SWLRT MC-SLP-2

ID: 91

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8$

Question	Value	Description
13	0.5	Outlet: hydrologic regime
20	0.1	Stormwater runoff
23	1	Buffer width
24	0.55	Adjacent area Management
25	0.3	Adjacent area diversity
39	0.1	Detritus
3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape

\* The classification value settings for these functions are not adjustable

**Management Classification Report for MC-SLP-2**

ID: 91

**SWLRT MC-SLP-2**

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

41      0.1      Wildlife barriers

*This report was printed on:* Thursday, October 17, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-SLP-2	Riverine (within the river/stream banks), Floodplain (outside waterbody banks)	0.43	0.41	0.39	0.50	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-SLP-2	0.36	0.00	0.00	0.31	0.00	Combination Discharge, Recharge	0.00	0.10	0.50
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant Community	39					
MC-SLP-2	27-117-21-20-001	PFO1A	Type 1	Floodplain Forest	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-SLP-2

Location: 27-117-21-20-001

## SWLRT MC-SLP-2

### Plant Community: Floodplain Forest

Cowardin Classification: PFO1A  
Circular 39: Type 1

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Riverine, Floodplain

- 8-1 Maximum water depth 0 inches
- 8-2 % inundated 0%
- 9 Immediate drainage--local WS 1 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban Land

11-Wetland Soil Sucker Creek

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Discharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: MC-SLP-2**

**Project: SWLRT MC-SLP-2**

Wetland ID: 91, Township 117, Section 20, Range 21

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 1 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Saint Louis Park

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 0 inches, with 0 percent inundated. Although there was no standing water at the time of the site visit, the existence of water in the soil below indicates wetland hydrology is present. With an immediate drainage area of 1 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Riverine wetland, this site is within the river or stream banks. As such, its vegetation may serve to protect the banks from erosion and may harbor fish, amphibian, bird, and mammal species.

As a Floodplain wetland, this site is outside waterbody banks. As such, it likely receives water on an irregular basis.

This wetland has been drained or altered 0% from its original size of 1 acres.

### *Soils*

The soils in the immediate wetland area are primarily Sucker Creek. The adjacent upland, to about 500 feet, is Urban Land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 70 percent and the naturalized buffer width averages 100 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Floodplain Forest Type 1, PFO1A. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PFO1	Type 1	Floodplain Forest	Cottonwood	>10-25%
			Common buckthorn	>75-100%

**Management Classification Report for MC-SLP-3**

**SWLRT MC-SLP-3**

ID: 92

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	Low / Low
Low	Characteristic Hydrology and Vegetative Diversity	Low / Low
High	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Thursday, October 17, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-SLP-3	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.79	0.58	0.21	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-SLP-3	0.24	0.00	0.00	0.31	0.00	Recharge	0.00	0.10	0.21
	Low	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
MC-SLP-3	27-117-21-20-001	PEMB	Type 2	Fresh (Wet) Meadow	60	0.1	0.10	0.10	0.10
							Low	Low	Low
		PEMC	Type 3	Shallow Marsh	40	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-SLP-3

Location: 27-117-21-20-001

## SWLRT MC-SLP-3

### Plant Community: Fresh (Wet) Meadow

Cowardin Classification: Circular 39:  
PEMB Type 2

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

- 7 Depressional/Isolated
- 8-1 Maximum water depth 12 inches
- 8-2 % inundated 20%
- 9 Immediate drainage--local WS 1 acres
- 10 Estimated size/existing site: (see #66)
- 11-Upland Soil Urban land
- 11-Wetland Soil Urban land

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading
- 29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: MC-SLP-3**

**Project: SWLRT MC-SLP-3**

Wetland ID: 92, Township 117, Section 20, Range 21

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 0.3 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Saint Louis Park

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 12 inches, with 20 percent inundated. With an immediate drainage area of 1 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.3 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 60 percent and the naturalized buffer width averages 15 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Fresh Wet Meadow Type 2, PEMB. This community had a vegetative index of low and comprised 60 percent

of the entire area.

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 40 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.

Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMB	Type 2	Fresh Wet Meadow	Reed canary grass	>50-75%
			Purple loosestrife	>10-25%
PEMC	Type 3	Shallow Marsh	River bulrush	>25-50%
			Purple loosestrife	>25-50%
			Narrow-leaved cattail	>25-50%

**Management Classification Report for MC-SLP-4**

**SWLRT MC-SLP-4**

ID: 93

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	Low / Low
Low	Characteristic Hydrology and Vegetative Diversity	Low / Low
High	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Vegetative Diversity** **NA**

<i>Question</i>	<i>Value</i>	<i>Description</i>
NA	NA	NA

*This report was printed on:* Thursday, October 17, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-SLP-4	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.70	0.52	0.15	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-SLP-4	0.27	0.00	0.00	0.21	0.00	Recharge	0.00	0.10	0.15
	Low	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
MC-SLP-4	27-117-21-20-001	PEMB	Type 2	Fresh (Wet) Meadow	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-SLP-4

Location: 27-117-21-20-001

## SWLRT MC-SLP-4

### Plant Community: Fresh (Wet) Meadow

Cowardin Classification: Circular 39:  
PEMB Type 2

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 0 inches
- 8-2 % inundated 0%
- 9 Immediate drainage--local WS 0.1 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: MC-SLP-4**

**Project: SWLRT MC-SLP-4**

Wetland ID: 93, Township 117, Section 20, Range 21

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 0.05 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Saint Louis Park

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 0 inches, with 0 percent inundated. Although there was no standing water at the time of the site visit, the existence of water in the soil below indicates wetland hydrology is present. With an immediate drainage area of 0.1 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.05 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 50 percent and the naturalized buffer width averages 10 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Fresh Wet Meadow Type 2, PEMB. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMB	Type 2	Fresh Wet Meadow	Purple loosestrife	>50-75%
			Narrow-leaved cattail	>50-75%

## Management Classification Report for MC-SLP-5

SWLRT MC-SLP-5

ID: 94

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q37+Q38+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/10$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	0.55	Adjacent area Management
25	0.3	Adjacent area diversity
37	0.1	Vegetation cover interspersion
38	0.5	Community interspersion
39	0.1	Detritus

\* The classification value settings for these functions are not adjustable

## Management Classification Report for MC-SLP-5

ID: 94

## SWLRT MC-SLP-5

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape
41	0.1	Wildlife barriers

*This report was printed on:* Thursday, October 17, 2013

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-SLP-5	Depressional/Tributary (outlet but no perennial inlet or drainage entering from upstream subwatershed)	0.52	0.74	0.59	0.40	0.00
		Moderate	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-SLP-5	0.33	0.00	0.00	0.31	0.00	Recharge	0.00	0.10	0.40
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
MC-SLP-5	27-117-21-20-001	PEMB	Type 2	Fresh (Wet) Meadow	30	0.1	0.10	0.10	0.10
							Low	Low	Low
		PEMC	Type 3	Shallow Marsh	40	0.1	0.10	0.10	0.10
							Low	Low	Low
		PSS1C	Type 6	Shrub Carr	30	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-SLP-5

Location: 27-117-21-20-001

## SWLRT MC-SLP-5

### Plant Community: Fresh (Wet) Meadow

Cowardin Classification: Circular 39:  
PEMB Type 2

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

### Plant Community: Shrub Carr

Cowardin Classification: Circular 39:  
PSS1C Type 6

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Tributary

- 8-1 Maximum water depth 16 inches
- 8-2 % inundated 25%
- 9 Immediate drainage--local WS 5 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed

- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: MC-SLP-5**

**Project: SWLRT MC-SLP-5**

Wetland ID: 94, Township 117, Section 20, Range 21

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 2.5 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Saint Louis Park

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 16 inches, with 25 percent inundated. With an immediate drainage area of 5 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Tributary wetland, this site has an outlet but no perennial inlet or drainage entering from the upstream subwatershed. As such, Placeholder for Depressional/Tributary discussion.

This wetland has been drained or altered 0% from its original size of 2.5 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 75 percent and the naturalized buffer width averages 25 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides some protection for the wetland water quality but little habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Fresh Wet Meadow Type 2, PEMB. This community had a vegetative index of low and comprised 30 percent of the entire area.

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 40 percent of the entire area.

Shrub-carr Type 6, PSS1C. This community had a vegetative index of low and comprised 30 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMB	Type 2	Fresh Wet Meadow	Purple loosestrife	>25-50%
			Narrow-leaved cattail	>25-50%
PEMC	Type 3	Shallow Marsh	Purple loosestrife	>10-25%
			Narrow-leaved cattail	>75-100%
PSS1	Type 6	Shrub-carr	Sandbar willow	>25-50%
			Green ash	>10-25%
			Cottonwood	>10-25%

## Management Classification Report for MC-SLP-8

SWLRT MC-SLP-8

ID: 95

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q37+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/9$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.1	Stormwater runoff
23	1	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
37	0.1	Vegetation cover interspersion
39	0.1	Detritus
3e	0.1	<No Description Found>

\* The classification value settings for these functions are not adjustable

## Management Classification Report for MC-SLP-8

ID: 95

## SWLRT MC-SLP-8

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

40	0.5	Wetland interspersion/landscape
41	0.1	Wildlife barriers

*This report was printed on:* Thursday, October 17, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-SLP-8	Depressional/Isolated (no discernable inlets or outlets)	0.65	0.69	0.50	0.52	0.00
		Moderate	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-SLP-8	0.41	0.00	0.00	0.26	0.00	Combination Discharge, Recharge	0.00	0.10	0.52
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Exceptional	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant Community	39					
MC-SLP-8	27-028-24-06-001	PFO1C	Type 7	Hardwood Swamp	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-SLP-8

Location: 27-028-24-06-001

## SWLRT MC-SLP-8

### Plant Community: Hardwood Swamp

Cowardin Classification: PFO1C  
Circular 39: Type 7

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 12 inches

8-2 % inundated 0%

9 Immediate drainage--local WS 1 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Discharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: MC-SLP-8**

**Project: SWLRT MC-SLP-8**

Wetland ID: 95, Township 28, Section 6, Range 24

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 0.5 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Saint Louis Park

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 12 inches, with 0 percent inundated. With an immediate drainage area of 1 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.5 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 60 percent and the naturalized buffer width averages 150 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Hardwood Swamp Type 7, PFO1C. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Exceptional	This site is exceptionally sensitive to stormwater; sedge meadows, open and coniferous bogs, calcareous fens, low prairies, wet to wet-mesic prairies, coniferous swamps, lowland hardwood swamps, or seasonally flooded basins.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PFO1	Type 7	Hardwood Swamp	Reed canary grass	>10-25%
			Common buckthorn	>50-75%

## Management Classification Report for MC-SLP-9

SWLRT MC-SLP-9

ID: 96

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Low	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

Question	Value	Description
14	0.1	Upland land use
20	1	Stormwater runoff
23	1	Buffer width
41	0.1	Wildlife barriers
43	0.5	Amphib breeding potential--fish presence
44	0.1	Amphib & reptile overwintering habitat

This report was printed on: Thursday, October 17, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-SLP-9	Depressional/Tributary (outlet but no perennial inlet or drainage entering from upstream subwatershed)	0.52	0.58	0.49	0.51	0.00
		Moderate	Moderate	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-SLP-9	0.32	0.00	0.19	0.49	0.00	Combination Discharge, Recharge	0.00	0.10	0.51
	Low	Not Applicable	Low	Moderate	Not Applicable		Not Applicable	Exceptional	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39 Community						
MC-SLP-9	27-117-22-09-001	PFO1A	Type 1	Seasonally Flooded Basin	25	0.1	0.10	0.10	0.10
							Low	Low	Low
		PEMC	Type 3	Shallow Marsh	75	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-SLP-9

Location: 27-117-22-09-001

## SWLRT MC-SLP-9

### Plant Community: Seasonally Flooded Ba

Cowardin Classification: PFO1A  
Circular 39: Type 1

### Plant Community: Shallow Marsh

Cowardin Classification: PEMC  
Circular 39: Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Tributary

- 8-1 Maximum water depth 6 inches
- 8-2 % inundated 0%
- 9 Immediate drainage--local WS 5 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Houghton

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Discharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Discharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: MC-SLP-9**

**Project: SWLRT MC-SLP-9**

Wetland ID: 96, Township 117, Section 9, Range 22

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 50 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Saint Louis Park

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 6 inches, with 0 percent inundated. With an immediate drainage area of 5 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Tributary wetland, this site has an outlet but no perennial inlet or drainage entering from the upstream subwatershed. As such, Placeholder for Depressional/Tributary discussion.

This wetland has been drained or altered 0% from its original size of 50 acres.

### *Soils*

The soils in the immediate wetland area are primarily Houghton. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 40 percent and the naturalized buffer width averages 200 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Seasonally FI Basin Type 1, PFO1A. This community had a vegetative index of low and comprised 25

percent of the entire area.

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 75 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Exceptional	This site is exceptionally sensitive to stormwater; sedge meadows, open and coniferous bogs, calcareous fens, low prairies, wet to wet-mesic prairies, coniferous swamps, lowland hardwood swamps, or seasonally flooded basins.

## Appendix A: Dominant Species By Plant Community

	<b>Wetland Type</b>	<b>Plant Community</b>	<b>Dominant Species</b>	<b>Percent Cover</b>
PFO1	Type 1	Seasonally FI Basin	White poplar	>25-50%
			Reed canary grass	>75-100%
PEMC	Type 3	Shallow Marsh	Reed canary grass	>75-100%
			Narrow-leaved cattail	>10-25%

## Management Classification Report for MC-MPL-10

ID: 97

**SWLRT MC-MLP-10**

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $Q3e*2+Q37+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	1	Stormwater runoff
23	0.1	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
37	0.1	Vegetation cover interspersion
3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape

\* The classification value settings for these functions are not adjustable

**Management Classification Report for MC-MPL-10**

ID: 97

**SWLRT MC-MLP-10**

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

41      0.1      Wildlife barriers

*This report was printed on:* Thursday, October 17, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-MPL-10	Depressional/Isolated (no discernable inlets or outlets)	0.43	0.78	0.61	0.24	0.00
		Moderate	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-MPL-10	0.33	0.00	0.23	0.26	0.00	Recharge	0.00	0.10	0.24
	Moderate	Not Applicable	Low	Low	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
MC-MPL-10	27-028-24-05-001	PEMF	Type 4	Deep Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-MPL-10

Location: 27-028-24-05-001

## SWLRT MC-MLP-10

### Plant Community: Deep Marsh

Cowardin Classification: Circular 39:  
PEMF Type 4

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 24 inches

8-2 % inundated 15%

9 Immediate drainage--local WS 1 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: MC-MPL-10**

**Project: SWLRT MC-MLP-10**

Wetland ID: 97, Township 28, Section 5, Range 24

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 0.25 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minneapolis

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 24 inches, with 15 percent inundated. With an immediate drainage area of 1 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.25 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 15 percent and the naturalized buffer width averages 150 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Deep Marsh Type 4, PEMF. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.

Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMF	Type 4	Deep Marsh	Sandbar willow	>3-<10%
			Reed canary grass	>10-25%
			Cottonwood	>3-<10%

**Management Classification Report for MC-MLP-11**

**SWLRT MC-MLP-11**

ID: 98

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Moderate
Low	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Low	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Amphibian Habitat (Q43) \* [( Q44 + 2\*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]**

<i>Question</i>	<i>Value</i>	<i>Description</i>
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potential--fish presence
44	0.1	Amphib & reptile overwintering habitat

*This report was printed on:* Thursday, October 17, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-MLP-11	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.79	0.64	0.39	0.00
		Low	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-MLP-11	0.28	0.00	0.10	0.26	0.00	Recharge	0.00	0.10	0.39
	Low	Not Applicable	Low	Low	Not Applicable		Not Applicable	Moderate	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
MC-MLP-11	27-028-24-05-001	PEMF	Type 4	Deep Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-MLP-11

Location: 27-028-24-05-001

## SWLRT MC-MLP-11

### Plant Community: Deep Marsh

Cowardin Classification: Circular 39:  
PEMF Type 4

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 24 inches

8-2 % inundated 90%

9 Immediate drainage--local WS 2 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: MC-MLP-11**

**Project: SWLRT MC-MLP-11**

Wetland ID: 98, Township 28, Section 5, Range 24

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 0.25 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minneapolis

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 24 inches, with 90 percent inundated. With an immediate drainage area of 2 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.25 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 40 percent and the naturalized buffer width averages 20 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer provides very little, if any, protection of water quality or habitat for wildlife.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Deep Marsh Type 4, PEMF. This community had a vegetative index of low and comprised 100 percent of the

entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.

Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMF	Type 4	Deep Marsh	Silver maple	>10-25%
			Sandbar willow	>10-25%
			Reed canary grass	>10-25%
			Narrow-leaved cattail	>10-25%

**Management Classification Report for MC-MLP-12**

**SWLRT MC-MLP-12**

ID: 99

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

<b>Functional rank of this wetland based on MnRAM data</b>	<b>Functional Category</b>	<b>Self-defined classification value settings for this management level</b>
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Low	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8$

<i>Question</i>	<i>Value</i>	<i>Description</i>
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	0.9	Adjacent area Management
25	0.42	Adjacent area diversity
39	0.1	Detritus
3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape

\* The classification value settings for these functions are not adjustable

**Management Classification Report for MC-MLP-12**

ID: 99

**SWLRT MC-MLP-12**

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

41      0.1      Wildlife barriers

*This report was printed on:* Thursday, October 17, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-MLP-12	Depressional/Isolated (no discernable inlets or outlets)	0.52	0.73	0.58	0.47	0.00
		Moderate	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-MLP-12	0.38	0.00	0.00	0.31	0.00	Recharge	0.00	0.10	0.47
	Moderate	Not Applicable	Not Applicable	Low	Not Applicable		Not Applicable	Exceptional	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
MC-MLP-12	27-029-24-32-001	PFO1A	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-MLP-12

Location: 27-029-24-32-001

## SWLRT MC-MLP-12

### Plant Community: Seasonally Flooded Ba

Cowardin Classification: PFO1A  
Circular 39: Type 1

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

8-1 Maximum water depth 0 inches

8-2 % inundated 0%

9 Immediate drainage--local WS 1 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersion on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Recharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: MC-MLP-12**

**Project: SWLRT MC-MLP-12**

Wetland ID: 99, Township 29, Section 32, Range 24

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 1 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minneapolis

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 0 inches, with 0 percent inundated. Although there was no standing water at the time of the site visit, the existence of water in the soil below indicates wetland hydrology is present. With an immediate drainage area of 1 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 1 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 100 percent and the naturalized buffer width averages 60 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Seasonally FI Basin Type 1, PFO1A. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Low	Inaccessible, distant from population centers, little-used sites that are not culturally significant rank poorly even if their other functions rank high. Usually, however, even the most distant sites have a potential for recreational use and will drop to the lowest ranking only if they are negatively affected by human alteration.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Exceptional	This site is exceptionally sensitive to stormwater; sedge meadows, open and coniferous bogs, calcareous fens, low prairies, wet to wet-mesic prairies, coniferous swamps, lowland hardwood swamps, or seasonally flooded basins.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PFO1	Type 1	Seasonally FI Basin	Cottonwood	>25-50%
			Common buckthorn	>75-100%
			Box elder	>25-50%

## Management Classification Report for MC-MLP-14

SWLRT MC-MLP-14

ID: 100

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 2**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Moderate	Wetland Water Quality and Vegetative Diversity	- / -
Moderate	Characteristic Hydrology and Vegetative Diversity	- / -
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Wildlife Habitat Str**  $(Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8$

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.1	Stormwater runoff
23	1	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
39	0.1	Detritus
3e	0.1	<No Description Found>
40	0.5	Wetland interspersion/landscape

\* The classification value settings for these functions are not adjustable

**Management Classification Report for MC-MLP-14**

ID: 100

**SWLRT MC-MLP-14**

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

41      0.5      Wildlife barriers

*This report was printed on:* Thursday, October 17, 2013

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-MLP-14	Depressional/Isolated (no discernable inlets or outlets)	0.65	0.76	0.60	0.54	0.00
		Moderate	High	Moderate	Moderate	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-MLP-14	0.50	0.00	0.00	0.55	0.00	Recharge	0.00	0.10	0.54
	Moderate	Not Applicable	Not Applicable	Moderate	Not Applicable		Not Applicable	Exceptional	Moderate

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Plant Community					
MC-MLP-14	27-029-24-29-001	PFO1A	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-MLP-14

Location: 27-029-24-29-001

## SWLRT MC-MLP-14

### Plant Community: Seasonally Flooded Ba

Cowardin Classification: PFO1A  
Circular 39: Type 1

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 0 inches
- 8-2 % inundated 0%
- 9 Immediate drainage--local WS 0.5 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersed on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential No
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer 0 feet
- 68 Ease of potential restoration
- 69 Hydrologic alterations 0
- 70 Potential wetland type 0
- 71 Stormwater sensitivity B
- 72 Additional treatment needs A

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: MC-MLP-14**

**Project: SWLRT MC-MLP-14**

Wetland ID: 100, Township 29, Section 29, Range 24

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 0.3 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minneapolis

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 0 inches, with 0 percent inundated. Although there was no standing water at the time of the site visit, the existence of water in the soil below indicates wetland hydrology is present. With an immediate drainage area of 0.5 acres. [Ratio could not be calculated; Percent Inundated is zero.]

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.3 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 50 percent and the naturalized buffer width averages 200 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Seasonally FI Basin Type 1, PFO1A. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.
Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Exceptional	This site is exceptionally sensitive to stormwater; sedge meadows, open and coniferous bogs, calcareous fens, low prairies, wet to wet-mesic prairies, coniferous swamps, lowland hardwood swamps, or seasonally flooded basins.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PFO1	Type 1	Seasonally FI Basin	Leafy beggarticks	>10-25%
			Cottonwood	>10-25%
			Box elder	>10-25%

## Management Classification Report for MC-MLP-15

ID: 101

## SWLRT MC-MLP-15

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 1**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Low	Vegetative Diversity/Integrity	High
Moderate	Habitat Structure (wildlife)	High
Low	Amphibian Habitat	Moderate
High	Fish Habitat	High
Moderate	Shoreline Protection	Moderate
High	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
Moderate	Characteristic Hydrology and Vegetative Diversity	High / Moderate
Moderate	Flood/Stormwater Attenuation*	-
Low	Commercial use*	High
Moderate	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Fish Habitat**

Details of the formula for this action are shown below:

**Maintenance of Characteristic Fish Habitat** 
$$\frac{[Q46*2]+Q24+Q18+Q20R+Q28+Q30+Q31+Q33R}{9}$$

Question	Value	Description
18	0.5	Sediment delivery
20	1	Stormwater runoff
24	1	Adjacent area Management
28	1	Nutrient loading
30	0.5	Shoreline rooted vegetation (%cover )
31	0.1	Shoreline wetland in-water width
33	1	Shoreline erosion potential
46	1	Fish habitat quality

\* The classification value settings for these functions are not adjustable

**Management Classification Report for MC-MLP-15**

ID: 101

**SWLRT MC-MLP-15**

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

*This report was printed on:* Thursday, October 17, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-MLP-15	Lacustrine Fringe (edge of deepwater areas)/Shoreland	0.55	0.52	0.42	0.51	0.36
		Moderate	Moderate	Moderate	Moderate	Moderate

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-MLP-15	0.45	0.79	0.05	0.70	0.10	Combination Discharge, Recharge	0.00	0.10	0.51
	Moderate	High	Low	High	Low		Not Applicable	Moderate	Moderate

## Wetland Community Summary

		Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
Wetland Name	Location	Cowardin Classification	Circular Plant 39 Community	Shallow, Open Water Communities					
MC-MLP-15	27-029-24-29-001	PUBG	Type 5	Shallow, Open Water Communities	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-MLP-15

Location: 27-029-24-29-001

## SWLRT MC-MLP-15

### Plant Community: Shallow, Open Water C

Cowardin Classification: PUBG  
Circular 39: Type 5

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Lacustrine

8-1 Maximum water depth 48 inches

8-2 % inundated 90%

9 Immediate drainage--local WS 40 acres

10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

12 Outlet for flood control

13 Outlet for hydro regime

14 Dominant upland land use

15 Wetland soil condition

16 Vegetation (% cover)

17 Emerg. veg flood resistance

18 Sediment delivery

19 Upland soils (soil group)

20 Stormwater runoff

21 Subwatershed wetland density

22 Channels/sheet flow

23 Adjacent buffer width

### Adjacent area management

24-A Full

24-B Manicured

24-C Bare

### Adjacent area diversity/structure

25-A Native

25-B Mixed

25-C Sparse

### Adjacent area slope

26-A Gentle

26-B Moderate

26-C Steep

27 Downstream sens./WQ protect.

28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

30 Rooted veg., % cover

31 Wetland in-water width

32 Emerg. veg. erosion resistance

33 Erosion potential of site

34 Upslope veg./bank protection

35 Rare wildlife?

36 Scarce/Rare/S1/S2 community

37 Vegetative cover

38 Veg. community interspersed

39 Wetland detritus

40 Interspersed on landscape

41 Wildlife barriers

### Amphibian-breeding potential

42 Hydroperiod adequacy

43 Fish presence

44 Overwintering habitat

45 Wildlife species (list)

46 Fish habitat quality

47 Fish species (list)

48 Unique/rare opportunity

49 Wetland visibility

50 Proximity to population

51 Public ownership

52 Public access

53 Human influence on wetland

54 Human influence on viewshed

55 Spatial buffer

56 Recreational activity potential

57 Commercial crop--hydro impact

### Groundwater-specific questions

58 Wetland soils Recharge

59 Subwatershed land use Recharge

60 Wetland size/soil group Recharge

61 Wetland hydroperiod Discharge

62 Inlet/Outlet configuration Recharge

63 Upland topo relief Discharge

### Additional information

64 Restoration potential No

65 LO affected by restoration

66 Existing size

Restorable size

Potential new wetland

67 Average width of pot. buffer 0 feet

68 Ease of potential restoration

69 Hydrologic alterations 0

70 Potential wetland type 0

71 Stormwater sensitivity B

72 Additional treatment needs A

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 10/17/2013

# MnRAM Site Assessment Report

Thursday, October 17, 2013

**Wetland: MC-MLP-15**

**Project: SWLRT MC-MLP-15**

Wetland ID: 101, Township 29, Section 29, Range 24

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 1 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of Minneapolis

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 48 inches, with 90 percent inundated. With an immediate drainage area of 40 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Lacustrine Fringe wetland, this site located at the edge of deepwater areas and may be considered shoreland. As such, it protects from possible erosive wave effects and may be used as a spawning area for fish.

This wetland has been drained or altered 0% from its original size of 1 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 30 percent and the naturalized buffer width averages 300 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resources for wildlife habitat.

As a shoreline wetland, this site has the potential to protect from erosion and provide spawning and nursery habitat for fish and wildlife. Wetlands located in areas with strong currents and wave action have the greatest potential for protecting shoreline. Shorelines composed of sandy or erodible soils will benefit the most from shoreline wetland protection.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow, Ow Communities Type 5, PUBG. This community had a vegetative index of low and comprised 100 percent of the entire area.

The highest rated community was the Shallow Marsh community rated at 1. Averaging all the communities together, the Vegetative Diversity and Integrity of this wetland is Low. A more accurate look uses a weighted average; using this method, this site shows a Low Vegetative Diversity and Integrity.

The majority of vegetation at this site, such as it is, does not contribute to wetland function beyond water retention and flow resistance. However, because the weighted average can "hide" smaller communities, always check for even small patches of high-quality species.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Moderate	Sediment removal would improve the ability of this site to maintain water quality.
Maintenance of Hydrologic Regime	Moderate	There has been some degree of human alteration of the wetland hydrology, either by outlet control or by altering immediate watershed conditions. However, the wetland retains some of the hydrologic regime similar to the original wetland type, either in part of the wetland or overall to some extent. Because of the interference (whether active or inadvertant), some characteristic vegetative communities have likely been affected, as also have the functions of flood attenuation, water quality and groundwater interaction.
Flood/Stormwater/Attenuation	Moderate	The wetland provides some flood storage and/or flood wave attenuation. It may have either an altered or unrestricted outlet, disturbed wetland soils, thin or little emergent vegetation (with channels) or it may be situated high in a watershed with a low proportion of impervious surfaces, moderate runoff volumes, loamy upland soils, and one or more other wetlands present within the subwatershed.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.

Maintenance of Wetland Water Quality	Moderate	Wetland water quality is average. Sediment removal from incoming water would benefit the site. Also consider reducing the amount of stormwater directed at the site. Sustaining a diverse wetland may require additional control over upland land use and the buffer.
Shoreline Protection	Moderate	This fringe site provides some protection against erosive action. Reducing the amount of buffer that is manicured would further protect the adjacent water resource, as would increasing the buffer width.
Maintenance of Characteristic Wildlife Habitat Structure	Moderate	The site provides good habitat and is relatively accessible to wildlife, although it may be somewhat isolated on the landscape and lack the rich vegetative community and complex structure that would support a wider range of wildlife.
Maintenance of Characteristic Fish Habitat	High	The site has a direct connection to spawning or nursery habitat, or may provide refuge or shade for native species of fish. Low amounts of sediment mean that eggs are not smothered; good water quality supports fish health.
Maintenance of Characteristic Amphibian Habitat	Low	Predatory fish are always present and winter habitat unsuitable as site often freezes to the bottom. High inputs of untreated stormwater or unfiltered runoff contribute to poor water quality and reproductive conditions.
Aesthetics/Recreation /Education/Cultural	High	Regardless of actual integrity, the site is accessible and valued by significant populations of people. Its value is enhanced by not being visibly altered by human influences such as trash or roads. There is a high evidence it is used for multiple recreational activities.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

	Wetland Type	Plant Community	Dominant Species	Percent Cover
PUBG	Type 5	Shallow, Ow Communities	Sandbar willow	>10-25%
			Reed canary grass	>10-25%
			Purple loosestrife	>10-25%
			Narrow-leaved cattail	>10-25%
			Lesser duckweed	>10-25%

## Management Classification Report for MC-SLP-16

SWLRT MC-SLP-16

ID: 103

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as **Manage 3**

Functional rank of this wetland based on MnRAM data	Functional Category	Self-defined classification value settings for this management level
Not Applicable	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Moderate	Aesthetic/Cultural/Rec/Ed and Habitat	Low / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	- / -
Low	Wetland Water Quality and Vegetative Diversity	Low / Low
Low	Characteristic Hydrology and Vegetative Diversity	Low / Low
High	Flood/Stormwater Attenuation*	High
Not Applicable	Commercial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

**Aesthetics/Recreation/Education/Cultural**  $(Q49+Q50+Q51+Q52+Q53+Q54+Q55+Q56)/8$

Question	Value	Description
49	0.5	Wetland visibility
50	1	Proximity to population
51	0.5	Public ownership
52	0.1	Public access
53	0.5	Human influence on wetland
54	0.1	Human influence on viewshed
55	0.1	Spatial buffer
56	0.1	Recreational activity potential

\* The classification value settings for these functions are not adjustable

## Management Classification Report for MC-SLP-16

ID: 103

SWLRT MC-SLP-16

HENNEPIN County  
Mississippi (Metro) Watershed, #20  
Corps Bank Service Area 7

### Maintenance of Characteristic Wildlife Habitat Str $(Q3e*2+Q39+Q37+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/9$

<i>Question</i>	<i>Value</i>	<i>Description</i>
13	1	Outlet: hydrologic regime
20	1	Stormwater runoff
23	0.1	Buffer width
24	0.775	Adjacent area Management
25	0.4	Adjacent area diversity
37	0.1	Vegetation cover interspersions
39	0.1	Detritus
3e	0	<No Description Found>
40	0.5	Wetland interspersions/landscape
41	0.1	Wildlife barriers

*This report was printed on:* Tuesday, November 19, 2013

\* The classification value settings for these functions are not adjustable

## Wetland Functional Assessment Summary

Wetland Name	Hydrogeomorphology	Maintenance of Hydrologic Regime	Flood/Stormwater/Attenuation	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
MC-SLP-16	Depressional/Isolated (no discernable inlets or outlets)	0.33	0.77	0.61	0.20	0.00
		Low	High	Moderate	Low	Not Applicable

### Additional Information

Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/Recreation/Education/Cultural	Commercial Uses	Ground-Water Interaction	Wetland Restoration Potential	Wetland Sensitivity to Stormwater and Urban Development	Additional Stormwater Treatment Needs
MC-SLP-16	0.27	0.00	0.00	0.36	0.00	Recharge	0.00	0.10	0.20
	Low	Not Applicable	Not Applicable	Moderate	Not Applicable		Not Applicable	Moderate	Low

## Wetland Community Summary

Wetland Name	Location	Vegetative Diversity/Integrity							
		Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating
		Cowardin Classification	Circular Plant 39	Community					
MC-SLP-16	27-029-24-31-001	PEMC	Type 3	Shallow Marsh	0	0.1	0.10	0.10	0.00
							Low	Low	Not Applicable
							0.10	0.10	0.00

Denotes incomplete calculation data.

# MnRAM: Site Response Record

For Wetland: MC-SLP-16

Location: 27-029-24-31-001

## SWLRT MC-SLP-16

### Plant Community: Shallow Marsh

Cowardin Classification: Circular 39:  
PEMC Type 3

- 4 Listed, rare, special species?
- 5 Rare community or habitat?
- 6 Pre-European-settlement condition?

### Hydrogeomorphology / topography:

7 Depressional/Isolated

- 8-1 Maximum water depth 6 inches
- 8-2 % inundated 40%
- 9 Immediate drainage--local WS 0.5 acres
- 10 Estimated size/existing site: (see #66)

11-Upland Soil Urban land

11-Wetland Soil Urban land

- 12 Outlet for flood control
- 13 Outlet for hydro regime
- 14 Dominant upland land use
- 15 Wetland soil condition
- 16 Vegetation (% cover)
- 17 Emerg. veg flood resistance
- 18 Sediment delivery
- 19 Upland soils (soil group)
- 20 Stormwater runoff
- 21 Subwatershed wetland density
- 22 Channels/sheet flow
- 23 Adjacent buffer width

### Adjacent area management

- 24-A Full
- 24-B Manicured
- 24-C Bare

### Adjacent area diversity/structure

- 25-A Native
- 25-B Mixed
- 25-C Sparse

### Adjacent area slope

- 26-A Gentle
- 26-B Moderate
- 26-C Steep

- 27 Downstream sens./WQ protect.
- 28 Nutrient loading

29 Shoreline wetland?

### Shoreline Wetland

- 30 Rooted veg., % cover
- 31 Wetland in-water width
- 32 Emerg. veg. erosion resistance
- 33 Erosion potential of site
- 34 Upslope veg./bank protection
- 35 Rare wildlife?
- 36 Scarce/Rare/S1/S2 community
- 37 Vegetative cover
- 38 Veg. community interspersed
- 39 Wetland detritus
- 40 Interspersion on landscape
- 41 Wildlife barriers

### Amphibian-breeding potential

- 42 Hydroperiod adequacy
- 43 Fish presence
- 44 Overwintering habitat
- 45 Wildlife species (list)
- 46 Fish habitat quality
- 47 Fish species (list)
- 48 Unique/rare opportunity
- 49 Wetland visibility
- 50 Proximity to population
- 51 Public ownership
- 52 Public access
- 53 Human influence on wetland
- 54 Human influence on viewshed
- 55 Spatial buffer
- 56 Recreational activity potential
- 57 Commercial crop--hydro impact

### Groundwater-specific questions

- 58 Wetland soils Recharge
- 59 Subwatershed land use Recharge
- 60 Wetland size/soil group Recharge
- 61 Wetland hydroperiod Recharge
- 62 Inlet/Outlet configuration Recharge
- 63 Upland topo relief Discharge

### Additional information

- 64 Restoration potential
- 65 LO affected by restoration
- 66 Existing size
- Restorable size
- Potential new wetland
- 67 Average width of pot. buffer
- 68 Ease of potential restoration
- 69 Hydrologic alterations
- 70 Potential wetland type
- 71 Stormwater sensitivity
- 72 Additional treatment needs

Watershed Mississippi (Metro)

WS# 20 Service Area: 7

For functional ratings, please run the Summary tab report.

This report printed on: 11/19/2013

# MnRAM Site Assessment Report

Tuesday, November 19, 2013

**Wetland: MC-SLP-16**

**Project: SWLRT MC-SLP-16**

Wetland ID: 103, Township 29, Section 31, Range 24

HENNEPIN County, Mississippi (Metro) Watershed, Corps Bank Service Area #7

Site conditions were Normal. This wetland is estimated to cover 0.25 acres.

This report reflects conditions on the ground at the date of the assessment and, unless noted or implicit in the standard questions, does not reflect speculation on the future or past conditions.

This wetland is located in or near the city of St Louis Park

## General Features

### *Hydrogeomorphology*

The maximum water depth at this site is 6 inches, with 40 percent inundated. With an immediate drainage area of 0.5 acres, it is doubtful that this wetland is sustainable given its small catchment area.

As a Depressional/Isolated wetland, this site has no discernable inlets or outlets. As such, it is valued for its ability to store water, especially if located lower in the watershed. If it does not already have invasive species in the plant community, its lack of connection to upstream sites with such species may protect it.

This wetland has been drained or altered 0% from its original size of 0.25 acres.

### *Soils*

The soils in the immediate wetland area are primarily Urban land. The adjacent upland, to about 500 feet, is Urban land.

## Vegetation and Upland Buffer

The extent of vegetation in this wetland is about 90 percent and the naturalized buffer width averages 50 feet. Vegetated buffers around wetlands provide multiple benefits including wildlife habitat, erosion protection, and a reduction in surface water runoff.

This buffer not only provides an excellent buffer for wetland water quality, it also serves as an important resource for wildlife habitat.

## Special Features

There were no special features observed at the site at the time of this assessment

## Vegetative Communities

The following plant communities were observed:

(See Appendix A for details on the Dominant Species per plant community)

Shallow Marsh Type 3, PEMC. This community had a vegetative index of low and comprised 0 percent of the entire area.

### Functional Ratings

<i>Function</i>	<i>Rating</i>	<i>Comment</i>
Vegetative Diversity	Low	If vegetation is present, the primary communities are compromised by extensive invasive and/or non-native species. Ongoing maintenance will be necessary to restore native ecologic communities, although the presence of invasives upstream will limit the success of restoration efforts.
Additional stormwater treatment needs	Low	Both sediment and nutrient removal are called for to prevent further degradation of this site.
Maintenance of Hydrologic Regime	Low	Extensive alteration of wetland hydrology has altered the original wetland, changing wetland type, vegetative communities, and severely impacting the natural hydrologic function. However, a constructed outlet may allow the the site to provide significant floodwater attenuation.
Flood/Stormwater/Attenuation	High	The wetland provides ample flood storage and/or flood wave attenuation. Outlet configuration is restricted (or unaltered) and undisturbed wetland soils, and dense emergent vegetation without channels allow the wetland to retard flood water. A high proportion of impervious surfaces in the subwatershed, large runoff volumes, clayey upland soils, and few wetlands present within the subwatershed may position any wetland to be a good attenuator of excess water.
Downstream Water Quality	Moderate	This wetland has some ability and opportunity to protect downstream resources. The ability of the wetland to remove sediment from stormwater is determined by emergent vegetation and overland flow characteristics. A high nutrient removal rating indicates dense vegetation and sheet flow to maximize nutrient uptake and residence time within the wetland. The opportunity for a wetland to protect a valuable water resource diminishes with distance from the wetland so wetlands with valuable waters within 0.5 miles downstream have the greatest opportunity to provide protection, as do those that receive more (and less-treated) runoff.
Maintenance of Wetland Water Quality	Low	Wetland water quality is poor. Additional resources are needed to protect any existing plant or animal communities that exist, using both sediment-removal and nutrient-reduction technologies.
Shoreline Protection	Not Applicable	The site does not fringe a deepwater habitat, lake, or is not within any type of watercourse.
Maintenance of Characteristic Wildlife Habitat Structure	Low	Isolated by development, the vegetation impacted and reduced, this site does not support an integral community of species.
Maintenance of Characteristic Fish Habitat	Not Applicable	The site is too isolated or does not remain wet enough to support a population of fish or to allow for even temporary use as a refuge.

Maintenance of Characteristic Amphibian Habitat	Not Applicable	Wetland never or rarely contains standing water and is not inundated long enough most years to allow amphibians to successfully breed.
Aesthetics/Recreation /Education/Cultural	Moderate	Many wetlands are visible from nearby buildings or roads and are accessible for some recreational activities. Excess negative human influence (such as trash or alteration) will reduce the ranking of well-used and highly-accessible sites.
Wetland restoration potential	Not Applicable	Because restoration would affect permanent structures or infrastructure (houses, roads, septic systems), this site is not suitable for restoration.
Wetland Sensitivity to Stormwater and Urban Development	Moderate	This wetland is moderately sensitive to stormwater; Floodplain forests, fresh wet meadows dominated by reed canary grass, shallow and deep marshes dominated by cattail, reed canary grass, giant reed or purple loosestrife, and shallow, open water communities with low to moderate vegetative diversity.

## Appendix A: Dominant Species By Plant Community

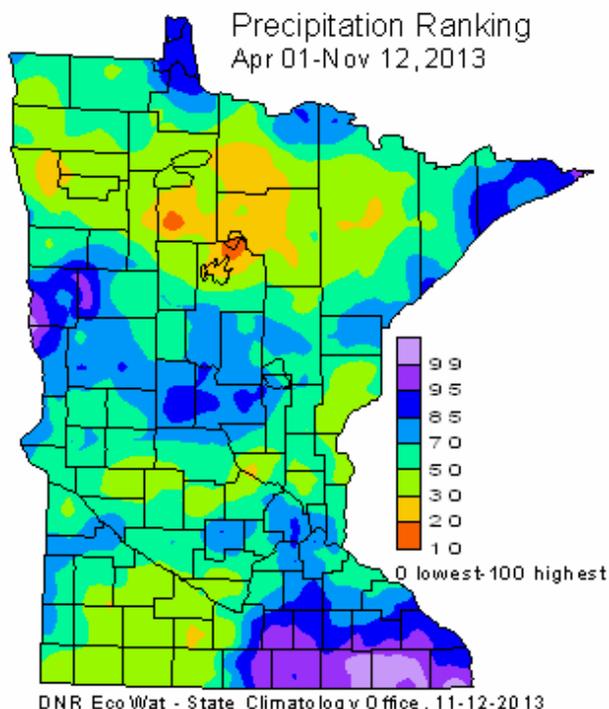
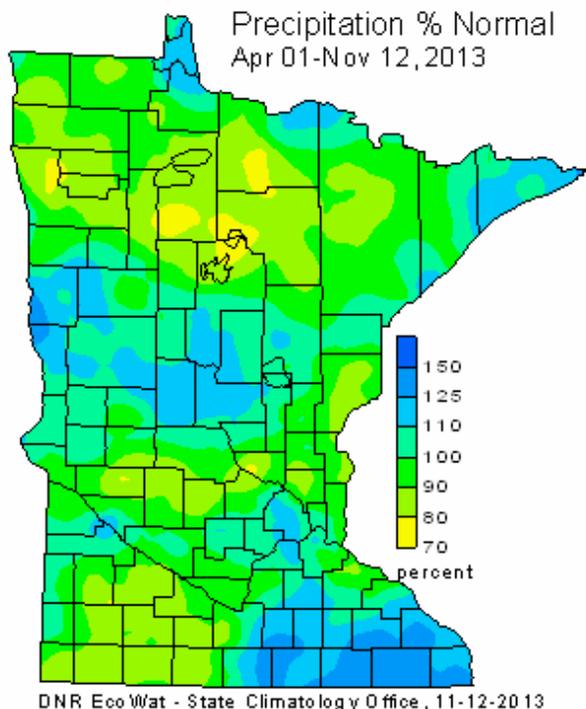
	Wetland Type	Plant Community	Dominant Species	Percent Cover
PEMC	Type 3	Shallow Marsh		

## **APPENDIX G**

### **Antecedent Precipitation Record**

### Appendix E: Precipitation Summary Maps

Source: [http://climate.umn.edu/doc/weekmap/weekmap\\_131112.htm](http://climate.umn.edu/doc/weekmap/weekmap_131112.htm)



# **ATTACHMENT 1**

**Anderson Engineering of Minnesota, LLC**

**Environmental Staff Credentials**

## **BENJAMIN J. HODAPP, PWS**

Environmental Services Manager  
Professional Wetland Scientist #1832  
MN Certified Wetland Delineator #1016

### **Education:**

MS Water Resources Management  
University of Wisconsin-Madison

BS Biology; Ecology  
Minnesota State University- Mankato

### **Specialized Training:**

Wetland Delineation & Management Training  
Richard Chinn Environmental Training, Inc.

Wetland Plant Identification  
Biotic Consultants Inc.

Plant Identification for Wetland Delineation  
University of Wisconsin-La Crosse

Watershed Academy Web Certificate  
United States Environmental Protection Agency

### **Professional Associations:**

Society of Wetland Scientists  
MN Wetland Professionals Association (WPA)  
MN WPA President 2010  
Wisconsin Wetlands Association  
Minnesota Native Plant Society  
Ecological Society of America

### **Total Years of Experience:**

14 years

### **Years with Current Firm:**

2004 to Present

### **Selected Publications:**

*The Future of Rowan Creek Watershed: Connecting Land Use and Management with Water Quality.* 2003. Water resources Management Workshop 2002 Gaylord Nelson Institute for Environmental Studies, University of Wisconsin, Madison.

*The Tumultuous World of Drainage Districts: An Analysis of Existing Management Arrangements, with Recommendations.* Working Paper Series 2002-1. Water Resources Institutions and Policies, Department of Urban and Regional Planning, University of Wisconsin, Madison.

### **Experience Summary:**

Benjamin Hodapp, a Biologist and Project Manager, brings a broad background of knowledge and experience in the natural resource field to the Anderson Engineering team. Benjamin has a unique combination of biologic training and field skills in addition to working experience at various levels of government (NRCS, FSA, University of MN Extension, Watonwan County Soil and Water Conservation District and Watonwan County Environmental Services).

Benjamin's project experience includes natural resource inventory, wetland determinations, delineations, mitigation design and monitoring, regulatory permit applications, wetland functions and values assessments, flood plain analysis, ordinary high water determinations, aerial photo interpretation. Benjamin has training and experience with Global Positioning Systems (GPS) and Geographic Information Systems (GIS).

### **Representative Projects:**

- **Farmed Wetland Determination Inventory - USDA NRCS – Various Counties, ND:** Project manager and field crew chief for farmed wetland determination inventory project within three counties in North Dakota. Project tasks included project management oversight of all supporting staff, client point of contact, scheduling field investigations with dozens of landowners, supervision of field staff during data collection, and quality control of deliverables sent to the USDA NRCS.
- **Wetland Delineation/Assessment – Northern Natural Gas – Dakota County and Freeborn County, MN & Worth County, IA:** Project manager and field crew chief for wetland determinations, boundary delineations and threatened and endangered species habitat assessments for three proposed natural gas line corridors located in Iowa and Minnesota. Project tasks and included project management oversight of all supporting staff, providing point of contact services for client, supervising field staff in completion of a wetland investigations and habitat assessments, and quality control of deliverables.
- **Wetland Delineation/Assessment – Northern Natural Gas – Redfield, IA:** Project manager and field crew chief for wetland determinations, boundary delineations and threatened and endangered species habitat assessments for 20 miles of proposed natural gas line corridors and 1,000 acres of proposed natural gas well pads. Project tasks and included project management oversight of all supporting staff, providing point of contact services for client, supervising field staff in completion of a wetland investigations and habitat assessments, and quality control of deliverables
- **Section 401/404 Wetland Permitting – Fort McCoy Commemorative Park Expansion – Fort McCoy, WI:** Provided project management services for Section 401/404 permitting associated with proposed wetland impacts resulting from the Commemorative Park Expansion Project at the Fort McCoy U.S. Army installation. Project tasks included project management of supporting staff, providing point of contact services for the U.S. Army, developing a wetland mitigation strategy in compliance with Section 401/404 and state wetland permitting requirements and oversight and quality control in preparing Section 401/404 permit application

## MARC COTTINGHAM, CPESC

Environmental Services Consultant  
Certified Professional in Erosion and Sediment  
Control #4491  
MN Certified Wetland Delineator #1207

### Education:

MS Water Resources Management  
University of Wisconsin-Madison

BS Soil Science  
University of Wisconsin-Madison

### Specialized Training:

Using the Midwest Interim Regional Supplement for  
Wetland Delineation, Illinois Soil Classifiers  
Association, February 27, 2009

Certified Professional in Erosion and Sediment  
Control, March 13, 2008

Railroad Right-of-Way Contractor Orientation  
Course Certification, April 11, 2007

Designated Erosion Control Inspector, Lake  
County, IL, March 22, 2007

Certified Wetland Specialist, Lake County, IL,  
February 7, 2007

Illinois Department of Agriculture Herbicide  
Applicator License, June, 2006

Wetland Plant Identification, Biotic Consultants, Inc.  
June 4, 2004

Federally Licensed Wetland Delineator Certification  
Training, Richard Chinn Environmental Training,  
Inc., August, 2004

### Professional Associations:

Illinois Environmental Professionals Association  
Soil Science Society of America  
Environmental Consulting Professionals  
MN Wetland Professionals Association  
Society of Wetland Scientists

### Total Years of Experience:

12 years

### Years with Current Firm:

2009 to Present

### Selected Publications:

*Innovating Stormwater Management on the  
University of Wisconsin-Madison Campus.* 2003.  
Water resources Management Workshop 2003  
Gaylord Nelson Institute for Environmental  
Studies, University of Wisconsin, Madison.

### Experience Summary:

Marc Cottingham, an Environmental Scientist, has over twelve years of professional experience completing wetland delineation/investigations. Prior to his employment with Anderson Engineering of MN, LLC, Marc worked as a wetland consultant in Illinois. The skills Marc has developed through his educational background and years of experience as a wetland/environmental consultant give him a firm understanding of each of the wetland indicators. Marc is able to correctly and thoroughly identify and delineate each wetland type within the Midwestern United States, including disturbed and problematic wetlands.

Marc's project experience includes wetland determinations, delineations, collection of wetland data using the data forms provided in the U.S. Army Corps of Engineers (USACE) Regional Supplement(s) to the 1987 Delineation Manual, farmed wetland assessments using the protocol established by the USDA and USACE for purposes of the Food Security Act, wetland mitigation design, wetland mitigation monitoring and maintenance, water resource regulatory permit applications, wetland functions and values assessments, natural resource inventories, watershed assessments, and aerial photo interpretation. Marc has training and experience with Global Positioning Systems (GPS) and Geographic Information Systems (GIS).

### Representative Projects

- **Wetland Delineation/Assessment – Northern Natural Gas – Dakota County and Freeborn County, MN & Worth County, IA:** Services included wetland determinations, boundary delineations and threatened and endangered species habitat assessments for three proposed natural gas line corridors located in Iowa and Minnesota. Project tasks included completion of wetland boundary investigations following the 1987 USACE Wetland Manual and all appropriate Regional Supplements; classification of the wetland habitat types based on soil profiles, dominant vegetative communities and hydrology indicators, completion of a habitat assessment for native tall grass prairie for potential occurrence of the federally listed prairie bush clover (*Lespedeza leptostachya*), and preparation of a comprehensive wetland delineation report documenting the findings.
- **Farmed Wetland Determination Inventory – USDA NRCS – Various Counties, ND:** Field crew chief for farmed wetland determination inventory project within three counties in North Dakota. Project tasks included collecting field data following the procedures of the USACE and USDA, supervision of supporting field staff, and preparation of deliverables to the NRCS.
- **Wetland Delineation/Assessment – Fort McCoy Alderwood Dam Removal – Fort McCoy, WI:** Services included a wetland determination and delineation of wetland associated with a proposed dam removal project at the Fort McCoy U.S. Army installation. Project tasks included completion of a wetland delineation following the 1987 USACE Wetland Manual and the Midwest Regional Supplement and preparation of the wetland delineation report to document findings and help assess potential wetland impacts for Section 401/404 permitting,

## Todd Udvig, CWD, CPSS

Senior Project Scientist

MN Certified Wetland Delineator #1051

### Education:

MS Candidate Geographic Information Science  
St Mary's University

MS Forestry  
Southern Illinois University at Carbondale

BS Biology  
University of Wisconsin- River Falls

### Specialized Training:

Environmental Law

Water and Wastewater Treatment

Wetland Creation and design

Plants for Storm Water Design

BWSR Advanced Wetland  
Delineation Training

VFA Training

MLCCS Certification Training

Water Quality Regulations

### Professional Associations:

Society of Wetland Scientists  
MN Wetland Professionals Association (WPA)

### Total Years of Experience:

30 years

### Years with Current Firm:

2013 to Present

### Experience Summary:

Mr. Udvig is a senior project scientist at Anderson Engineering. He has over 30 years' experience and academic training in wetland, natural resources, permitting projects and project management. He is experienced in public meeting and regulatory approval processes. Areas of expertise include natural resources management and inventories, wetland functions and values assessments, wetland permitting, mitigation design, delineation, threatened and endangered species surveys, environmental documents (EIS's, EA's, EAW's), specialized soils studies and drainage projects. He has completed wind projects in Minnesota, Wisconsin, Illinois, and Ohio and was involved with a major transmission line (345 Kv's) siting project specifically routing. He has extensive experience in wind related projects completing field surveys for natural resources, SPCC issues, and permitting and regulatory issues for siting. He has served as a Minnesota Wetland Conservation Act administrator for the Washington Conservation District, McLeod County, City of Albertville, City of Hamburg, White Bear Township, and Capitol Region WD.

He has also been responsible for marketing natural resource services to existing and new clients, including proposal and statement of qualifications package preparation. Mr. Udvig has extensive experience in Health and Safety including conducting training, development of Health and safety plans, and site safety management. Former Health and Safety manager for Geraghty and Miller, Inc. (now Arcadis).

### Representative Projects:

#### Petersburg Ranger District, Petersburg, Alaska

Project involved the preparation of an Environmental Assessment (EA) for a Travel and Management Plan within the Petersburg Ranger District managed by the USFS. Sections of the EA completed included vegetation, invasive plant species, timber management, forest health, and threatened and endangered plant species impacts. Additionally, a separate Invasive Plant Species report was prepared for the District. The Petersburg District encompasses four larger islands, part of the mainland and several smaller islands totaling 1.7 million acres.

#### Community Wind Farm, Lincoln County, Minnesota

Preliminary work on the siting of a wind farm project. Preliminary tasks included wetland delineations, site evaluation for native prairie remnants, habitat assessment, and an evaluation of threatened and endangered species presence. Wetland delineations were completed for the 2600 acre proposed windfarm development site. Preliminary wetland assessments were conducted from National Wetland Inventory mapping. Particular emphasis was placed on those areas where infrastructure would be installed. Regulatory coordination was completed for wetland delineation concurrence and for threatened and endangered species occurrence. The federally endangered Topeka Shiner (*Notropis topeka*) was recorded in Medary Creek on a portion of the site.

## **MOHAMMED ELABBADY**

Environmental Associate

### **Education:**

BS Environmental Science  
Minnesota State University-Mankato

### **Specialized Training**

Wastewater Chemical Treatment  
Environmental Consultant

### **Professional Associations:**

MN Wetland Professionals Association  
Society of Wetland Scientists

### **Total Years Experience:**

3 years

### **Years with Current Firm:**

2012 to Present

### **Experience Summary:**

Mohamed Elabbady, an Environmental Associate, brings a range of knowledge and experience in the field of biological monitoring to the Anderson Engineering team. Prior to his employment with Anderson Engineering of MN, LLC, Mohamed worked as an Environmental Consultant for DFMS Consulting Services. The skills Mohamed has developed through his educational background and experience as a consultant make him proficient in assessing and consulting with a variety of solutions to clients and various regulatory agencies.

Mohamed's project experience includes erosion and sediment control Best Management Practice's inspection and dewatering and stream diversion planning. Enabled assistance in construction permitting with SWPPP design, MN/DOT, MPCA, DNR, Watershed Districts, Wetland Impacts, Hydraulic computations and hydrologic analysis. Mohamed also has experience with Global Positioning Systems (GPS), remote sensing, and Geographic Information Systems (GIS).

### **Representative Projects:**

- Environmental Services for North Dakota Natural Resources Conservation Service (NRCS) - Performed on-site investigation on farmed wetlands on over 24,000 acres of agricultural land. Implemented standard sampling protocols such as standard transect sampling, vegetation identification, quantitative vegetative data collection and completion of standardized data sheets.
- Environmental Services for United Trailer Leasing- Performed on site investigation and wetland delineation. Implemented standard sampling protocols such as standard transect sampling, vegetation identification, quantitative vegetative data collection and completion of standardized data sheets. Used protocol of MN RAM wetland functions assessment and classified land cover and habitat types.
- Environmental Services for Cemstone, Trout Brook- Performed on site investigation and wetland delineation. Implemented standard sampling protocols such as standard transect sampling, vegetation identification, quantitative vegetative data collection and completion of standardized data sheets. Classified land cover and habitat types.
- SJVNC Water treatment System- Environmental Management System formulation for San Joaquin Valley National Cemetery (SJVNC). Review of existing drinking water treatment system and assisted in project proposals for improvement of SJVNC's water treatment systems. Prepared Bacteriological Site Sampling Plan, Emergency Notification Plan and Operations Plan in accordance with California Department of Public Health requirements. Developed project cost estimate and statement of work for proposed improvements. Provided assistance and consultation to owner and owner's representative.
- NCA Environmental Management System- Project Environmental Associate for Environmental Management System (EMS) program development, baseline site audits at 160 cemetery sites and EMS Manual preparation for 65 supervisory cemetery facilities; and tracking database development for the United States Department of Veterans Affairs, National Cemetery Administration. Development of environmental program Standard Operating Procedures (SOPs) and State specific Work Lists to assist in maintaining regulatory compliance. Development of environmental program area training module analysis and improvement reports.

## ALISON HRUBY, MS

Principal Investigator Archaeologist  
Environmental Associate  
MN Archaeological Survey License #13-003  
MHS Repository Agreement License #617  
ND Archaeological Survey License #Pending  
OSHA 40 Hour HAZWOPER #130402171590  
MN DNR Certified Tree Inspector #20104116

### Education:

MS Anthropology/Archaeology  
Minnesota State University- Mankato

BA Anthropology and History  
St. Cloud State University

### Specialized Training:

Wetland Delineator Certification Program  
University of Minnesota Extension Service

Basic Wetland Delineation-5 Day Course  
Wetland Boundary Plant ID Course  
Advanced Wetland Boundary Plant ID Course  
Hydrology Indicators Course  
Hydric Soils Course  
Land Use Based Wetland Delineation  
Wetland Mitigation in Minnesota

Customized Training & Consulting,  
Project Management Certification  
St. Paul College

Project Management Fundamentals  
Project Management Applications  
Fundamentals of Supervision and  
Management, Parts 1 and 2

### Professional Associations:

MN Wetland Professionals Association (WPA)

### Total Years of Experience:

17 years

### Years with Current Firm:

2013 to Present

### Selected Publications:

*The Use of Forensic Archaeology in Cultural Resource Management at Blackwater Draw Site in Eastern New Mexico.* 2004. Master of Science Thesis. Minnesota State University, Mankato.

*Investigating Poorly Known Areas of Minnesota: An Archaeological Survey of McLeod County.* 2012-2013. Minnesota Historical Society. Published by the Minnesota Department of Administration.

### Experience Summary:

Alison Hruby, a Principal Investigator Archaeologist and Wetland Professional, brings a broad background of knowledge and experience in both cultural and natural resource fields to the Anderson Engineering team. Alison has a unique combination of training and field skills in addition to work experience at various levels of government (USFW, FCC, and various THPO offices).

Alison's project experience includes the management and execution of Phase I-III cultural resources projects that entailed research, lab work, curation and report writing. Other experience includes the rehabilitation and stabilization of sites, evaluation and consultation of sites to determine future land use, and the development of museum quality interpretive displays, tours and programs. Alison also has experience in Phase I environmental assessments and experience with Global Positioning Systems (GPS) and X-ray Fluorescence Technology.

### Representative Archaeology Projects:

- **McLeod County Archaeological Survey – Minnesota Historical Society – St. Paul, MN:** Principal Investigator for archaeological reconnaissance survey to identify new archaeological sites in McLeod County. Project tasks included management oversight, landowner contact, completion of survey, analysis and quality control of deliverables.
- **Science Museum of Minnesota Excavation – SMM – St. Paul, MN:** Archaeologist and Lab Supervisor for the Phase III excavation and of the new Science Museum of Minnesota. Project tasks included assisting in the large scale excavation and the supervision of volunteers, which numbered a minimum of 50 people per day. Lab Supervisor in charge of interns and curation once the excavation was complete. Contributed to final report, including the analysis and photographing of artifacts.
- **Site Expansion and Interpretive Center Building – Blackwater Draw Site – Portales, NM:** Archaeologist involved in all aspects of conservation and maintenance in order to rehabilitate and stabilize the site and to reproduce the natural environment of 10,000 years ago for future visitors. Project tasks included excavation of the future interpretive center, along with designing and completing unique thesis research through identification of the soil chemical profile at the site. Supervised student interns and guest volunteers from other universities, in addition to designing and delivering interpretive tours.

### Representative Wetland Projects:

- **Southwest Light Rail – Southwest Light Rail Transit – St. Louis Park, MN:** Wetland scientist involved in the delineation of wetlands along various proposed routes of the Southwest Light Rail Corridor. Project tasks included field investigations, creation and dissemination of meeting materials and participation in the final report writing process.
- **Parkland 2<sup>nd</sup> Addition Development – Parkland Addition, LLC – Faribault, MN:** Wetland scientist involved in the determination of a created wetland to fulfill the requirements of mitigated wetlands in a foreclosed development. Project tasks included field delineation, client contact, previous records investigation and a final written report with recommendations for the new owner of the development.

## **KRISTINA A. JUSTEN**

Environmental Associate

### **Education:**

BS Biology  
University of Wisconsin - River Falls

### **Specialized Training**

Certified in Stream Electrofishing  
WI DNR, April 2010

### **Professional Associations:**

MN Wetland Professionals Association

### **Total Years Experience:**

4 years

### **Years with Current Firm:**

2010 to Present

### **Experience Summary:**

Kristina Justen, an Environmental Associate, brings a range of knowledge and experience in the field of biological monitoring to the Anderson Engineering team. Prior to her employment with Anderson Engineering of MN, LLC, Kristina worked as a wetland technician for the Minnesota Pollution Control Agency. The skills Kristina has developed through her educational background and experience as a wetland technician make her proficient in assessing and addressing a range of natural resource issues, and clearly communicating solutions to clients and various regulatory agencies.

Kristina's project experience includes natural resource inventory, watershed assessments, biologic assessments, Threatened and Endangered Species analysis, NEPA project management and document preparation, wetland determinations, delineations, mitigation design and monitoring, regulatory permit applications, wetland functions and values assessments, flood plain analysis, ordinary high water determinations, wetland macroinvertebrate sampling, Floristic Quality Assessments, Total Maximum Daily Load (TMDL) investigation, and aerial photo interpretation. Kristina has experience with Global Positioning Systems (GPS), remote sensing, and Geographic Information Systems (GIS).

### **Representative Projects:**

- Linear Corridor Projects including biologic assessment for critical habitat, threatened and endangered species, wetland determination, wetland delineation, and wetland mitigation replacement services for Northern Natural Gas– Ventura North III Natural Gas Pipeline Dakota County, MN, Freeborn County, MN & Worth County, IA
- Project Scientist for NEPA Environmental Assessment and Section 106 historic coordination as subcontractor for the United States Department of Veteran Affairs proposed parking ramp construction at Minneapolis VA Health Care System located in Minneapolis, MN.
- Project Scientist and Technical Writer for Nation-wide Environmental Management System (EMS) program development at 160 National Cemetery sites and EMS Manual preparation for 65 supervisory cemetery facilities; tracking database development; and Safety and Health Management System audits and manuals for 11 selected facilities for the United States Department of Veterans Affairs, National Cemetery Administration.
- Project Scientist for investigation and summary report regarding the shared storm water conveyance, treatment, and permitting requirements at Fort Snelling National Cemetery, Minneapolis, MN.
- Stream biological monitoring including fish and macroinvertebrate community and habitat assessment, as well as water chemistry collection for MPCA.
- Using an Index of Biotic Integrity to Measure the Effects of a Tributary (Parker Creek) on the Biotic Integrity of the Kinnickinnic River for UWRF.

## **COURTNEY M. LUENSMAN**

Environmental Associate

### **Education:**

BA Environmental Studies  
Illinois Wesleyan University

### **Professional Associations:**

MN Wetland Professionals Association  
Minnesota Naturalists' Association

### **Total Years Experience:**

2 years

### **Years with Current Firm:**

2013 to Present

### **Experience Summary:**

Courtney Luensman, an Environmental Associate, brings a range of knowledge and experience in the field of biological monitoring to the Anderson Engineering team. Prior to her employment with Anderson Engineering of MN, LLC, Courtney worked as an Assistant Ecologist for Arrowhead Environmental Consulting and as an environmental educator in Cuyahoga Valley National Park. The skills Courtney has developed through her educational background and work experience make her proficient in clearly communicating a variety of solutions to clients and regulatory agencies.

Courtney's project experience includes natural resource inventories; watershed assessments; biologic assessments; collection of wetland data using the data forms provided in the U.S. Army Corps of Engineers (USACE) Regional Supplement(s) to the 1987 Delineation Manual; wetland determinations, delineations, and monitoring; regulatory permit applications; aquatic macro invertebrate sampling; Low Impact Development strategies; and technical document preparation. Courtney has experience with Global Positioning Systems (GPS), remote sensing, and Geographic Information Systems (GIS).

### **Representative Projects:**

- **Farmed Wetland Determination Inventory – USDA NRCS – Various Counties, ND:** Services included completion of a farmed wetland determination inventory project within three counties in North Dakota. Performed on-site investigation on farmed wetlands on over 24,000 acres of agricultural land. Implemented standard sampling protocols such as standard transect sampling, vegetation identification, quantitative vegetative data collection and completion of standardized data sheets.
- Stream biological monitoring including macro invertebrate community and habitat assessment as well as water chemistry collection for Cuyahoga Valley National Park