PHASE 1A ARCHAEOLOGICAL INVESTIGATION FOR THE PROPOSED SOUTHWEST CORRIDOR TRANSITWAY PROJECT, HENNEPIN COUNTY, MINNESOTA

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September 2010

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Introduction

The Southwest Transitway Project (Project), sponsored by the Hennepin County Regional Railroad Authority (HCRRA), is seeking to obtain funding from the Federal Transit Administration (FTA). The Cultural Resources Unit (CRU) of the Minnesota Department of Transportation (MnDOT) has been delegated by FTA to act on its behalf to carry out many aspects of project review in accordance with the Section 106 process of the National Historic Preservation Act (NHPA) and the National Environmental Policy Act (NEPA).

HCRRA contracted HDR, Inc. (HDR) to develop the NEPA Draft Environmental Impact Statement (DEIS) and to conduct archival and field documentation to support the Section 106 consultation process. HDR led a team of consultants to carry out the identification of historic properties within the Project's area of potential effect (APE). This team consists of Hess Roise Consultants, Mead and Hunt, and Summit Envirosolutions to address historic buildings and structures. The technical reports prepared by these firms are referenced where appropriate and are available by request under separate cover.

Archaeological Resource Services (ARS) was retained to address issues relating to prehistoric and historic archaeological resources. Efforts to determine the Project's potential to impact known and as yet unidentified archaeological historic properties (archaeological sites eligible for or already listed in the National Register of Historic Places) were addressed by ARS principal investigator Christina Harrison and HDR archaeologist Michael Madson. Tribal consultation is being conducted for this project by FTA with the assistance of CRU.

The few previous archaeological surveys in the project vicinity identified few archaeological sites. Existing archaeological information for the project corridors is limited but nevertheless, when considered with other archival data, it appears that specific areas within the Project APE have potential to contain intact near surface archaeological deposits.

Methodology

In the spring of 2010, the Project consultant team developed *Southwest Transitway: A Research Design for Cultural Resources* (Attachment A). This document defined a three-phase approach for ongoing identification and evaluation of archaeological properties within the Archaeological APE (see Figure 1, Attachment A) throughout the Project life cycle.

The Archaeological APE was developed through consultation between FTA, CRU, and the Minnesota State Historic Preservation Officer (SHPO), and captures the project footprint based on the conceptual design completed as of early 2010. In order to adequately address the extent of the anticipated construction limits, the Archaeological APE was defined as:

- The full width of existing railroad right-of-way corridors proposed for utilization by the project,
- The area within 100 feet of the margins of current engineering alignments, and
- Any undeveloped and/or vacant property within 500 feet of station areas that could potentially be used for construction/development activities. (Depending on the station location, these may include open green spaces and paved parking lots.)

The three-phase approach for Section 106 review considers the potential need for changes to the Archaeological APE through the life of the Section 106 process. The Archaeological APE will be reviewed and modified if necessary.

As discussed in detail in *Southwest Transitway: A Research Design for Cultural Resources* (Attachment A), the approach addresses identification and evaluation of archaeological historic properties in three phases:

- Task 1: Presentation of an Archaeological Overview Report (this document) outlining the results of a literature review for archaeological properties within the Archaeological APE, supplemented with limited field observations of the corridor from public rights-of-way, and including recommendations for a field survey strategy. This information was summarized in the Draft Environmental Impact Statement (DEIS).
- Task 2: The APE will be refined and surveyed in a manner consistent with the recommendations presented in the Task 1 report. Field sampling will involve standard methods for identification, collection, and analysis of artifacts. Sites will be analyzed for dimensions, integrity, and National Register potential. The survey may utilize targeted geomorphological testing in areas likely to feature deeply buried archaeological evidence. Archaeological sites determined to have National Register potential will require formal Phase II testing.
- Task 3: Technical reports on the Phase I and Phase II investigations will be prepared in accordance with the applicable guidelines and include submittal of Geographic Information Systems (GIS) data. All sites documented during the survey will be recorded on new or updated Minnesota Archaeological Site Forms. Collected artifacts will be processed and analyzed in compliance with the applicable guidelines. Artifacts will be curated at an approved facility.

This Archaeological Overview Report (Task 1) summarizes the areas, landforms, parcels, and other property that might hold archaeological deposits. It was developed through a review of existing archaeological site and survey documents on file at SHPO and the Office of the State Archaeologist (OSA). The overview also includes a review of historic maps and aerial photographs, local histories, and other archival information on file at the Minnesota Historical Society, the Borchert Map Library (University of Minnesota-Twin Cities), and local libraries and historical societies. Other environmental and historic context information was also reviewed. This report documents visible indications of topographic and hydrological features, as well as past and current land use with any apparent associated loss of soil integrity. Field observations were combined with the data gathered during the archival review to develop information on archaeological site probability along the five Southwest Transitway Corridor segments.

Existing Conditions

This section presents the environmental and historic background information that informed the overview, including the selection of survey areas in and/or near the potential route segments examined for the NEPA process. A general environmental overview and a prehistoric and early historic-period overview are presented. The reports on historic buildings and structures contain information on the later portion of the historic-period context as it relates to late 19th and early 20th century activity.

The physical geography of the Southwest Transitway study area is composed of a glacially formed landscape. The most recent glacial activity was the advance and subsequent withdrawal of the Grantsburg sublobe of the Des Moines lobe of the Wisconsin glaciations around 12,000 years ago. The retreating glacier left an area of hilly uplands on glacial till with ice-block-formed lakes dotting the landscape. The study area is in the Owatonna Moraine area physiographic region (Wright 1972). The area drains into the Mississippi and Minnesota rivers via Bassett Creek, Minnehaha Creek, Nine Mile Creek, Purgatory Creek, and their associated tributaries and wetlands.

The boundaries of the three basic vegetation zones found in Minnesota (coniferous forest in the northeast, prairie in the west, and deciduous forest in the east and southeast), have changed over time. As the climate warmed and dried, a period known as the Hypsithermal peaked around 6,000-7,000 years ago and prairies pushed east and northwards (Lynott et al. 1986). Then, gradually, the region returned to a cooler, wetter climate, and prairies retreated westward, being replaced by deciduous forest and oak savanna. All three vegetation zones have significant biological diversity that could have formed a subsistence base for human inhabitants of the region during the last 10,000 years. The Project falls within the Central Deciduous Lakes Archaeological Region (Anfinson 1990).

Cultural Context

Archaeological sites associated with the precontact and historic-period contexts that are typically encountered in this region could be found in any of the five Project segments. Intact precontact and historic-period archaeological deposits from all contexts could exist within the Archaeological APE, although they may have been altered by post depositional development or natural processes such as erosion and deposition.

The following main cultural manifestations (and approximate time periods) either are known to exist or are likely to exist in the archaeological record of the Twin Cities metropolitan area:

- Paleoindian Tradition (9500 to 6000 BC)
    - Fluted Points (Clovis, Folsom, Eastern Fluted, 9500-8000 BC)
    - Lanceolate Points (Plano, 8500 to 6000 BC)
- Archaic Tradition (6000 to 500 BC)
    - Lake-Forest
    - Eastern/Riverine
- Woodland Tradition (500 BC to AD 1650)
    - Havana Related
    - Transitional Woodland
    - Kathio
    - Southeastern Minnesota Late Woodland
- Mississippian Tradition (AD 900 to 1650)
    - Silvernale
- Oneota Tradition (AD 900 to 1600)
    - Blue Earth
- Contact Period (1650 to 1837)
    - Native American (Eastern Dakota)
    - Euro-American (French, British, Initial United States Presence)
- Post Contact Period (1837 to present)
    - Indian Communities and Reservations (1837-1934)
    - Early Agriculture and River Settlement (1840-1870)
    - Railroads and Agricultural Development (1870-1940)
    - Urban Centers (1870-1940)

As the Minneapolis area was one of the earliest in the region to be developed, first for farming and timbering and later for residential and commercial use, much of the archaeological record was likely destroyed before it could have been recorded and studied. More is known about the archaeology of the lake country of the southwestern metro region and the uplands along the Minnesota River Valley, including those surrounding the confluence of the Mississippi and Minnesota rivers.

The following overview summarizes each historic context, its associated artifact and property types, and its known/expected regional distribution. It is based on information culled from a variety of sources including the Minnesota Historical Society reference library, the survey and inventory files maintained by SHPO, and the discussions of background data and survey results provided by reports on a number of individual projects including:

- City-wide cultural resources and historic landscapes surveys conducted for the City of Eden Prairie (Schweigert 1992; Vogel et al. 1994);
- Investigations conducted along the central Minneapolis riverfront by the Minnesota Historical Society's Municipal-County Highway Archaeology program (Anfinson 1989); and,
- Archaeological investigations conducted for improvement projects proposed by the Minneapolis Park and Recreation Board (at Lake of the Isles/Lake Calhoun, Bassett Creek, and Minnehaha Creek), by the Nine Mile Creek Watershed District, by the Minnesota Department of Transportation (Trunk Highway 212 corridor study) and by the Metropolitan Airports Commission (runway expansions at Flying Cloud Airport) as well as a number of proposed housing developments (Harrison 1988 to 2009).

Paleoindian Tradition and Early Archaic Periods

During the Paleoindian and Early Archaic periods, small, mobile hunting societies subsisted on large game, like bison, as well as on smaller game, fish, and plant resources as a distinct warming and drying trend followed the disappearance of the glaciers. This drying period culminated with the altithermal period and the spread of open grasslands. Like historically-known nomadic peoples, these earliest inhabitants of Minnesota are believed to have traveled in small, kinship based groups.

Within the long-lasting Paleoindian and early Archaic traditions, temporal and geographic variations have largely been defined on the basis of technological criteria. These are primarily the morphological changes in large, lanceolate, biface stone tools, which were well made out of high quality lithic raw materials. These tools were used as projectile points and probably also as cutting implements. Large, bifacially flaked knives, choppers, scrapers, and more expedient tools, often made with a minimum of modification from large flakes, were also used.

Finds that can be securely attributed to these early periods are scarce, and are often limited to isolated finds of diagnostic points. Lanceolate points, primarily late Paleoindian lanceolate varieties, but also a few earlier fluted points (Clovis and Folsom) have been reported from Hennepin and adjacent counties. Not far from the study area, lanceolate points were found at Mendota (Clouse 1997) and also in the Hasse Archaeological District in Carver County (Lofstrom 1978). In addition, many of the less diagnostic "lithic scatters" of stone tools, tool fragments, waste flakes, and fire-cracked rock that have been found on cultivated fields around the region lack ceramic debris, which suggests that such sites predate the use of ceramics and may date to the Paleoindian or Early Archaic periods.

During the later part of the Archaic period, the seasonal pattern of seminomadic hunting and gathering continued but with more of a focus on the wider range of resources that were made available by an environment which became increasingly rich and varied. Oak savanna and hardwood forest spread across much of the area as the climate became cooler and wetter. This left the prairie mainly on the upland plateaus and on the well-drained terraces of the river valleys.

Over time, the archaeological record shows regional variation in tool technology and other aspects of material culture. These changes are likely linked to greater utilization of local resources that were often marginal. Archaic groups on the western prairie continued to rely heavily on bison hunting. Eastern

Archaic groups developed an increasingly diverse technology for hunting and trapping smaller game, fishing, foraging and the processing food and edible plants in addition to some bison hunting. Chipped lithics continued to be the dominant tools; however, they often exhibit evidence of being changed and improved. Projectile points became smaller and were either stemmed or side-notched because they were used to tip the darts of atlatls, rather than spears. In addition, ground and polished stone implements came into widespread use as net-sinkers and as grooved mauls, gouges, and grindstones used for wood and plant processing. A distinctive aspect of the eastern Archaic period in the Upper Midwest is the common use of native copper.

Most Archaic habitation sites are found along larger lakes and rivers. These seem to have been seasonal camps associated with an established round of subsistence activities. Later Archaic sites are more common than those of the previous periods. In part, this may reflect an increase in population density. It is also likely that many early Archaic sites, once associated with the river bottoms and shorelines of a much drier climate, were later inundated by water or buried under layers of flood deposited silt.

Evidence of Archaic habitation has been found in excavation s along the Minnesota River bluffs and adjacent to larger bodies of water such as Rice Marsh Lake (Harrison 1988 and 1999, and Schweigert 1992). It has also been collected from cultivated fields throughout the area. In addition to clearly identified Archaic sites, numerous "lithic scatters" have been recorded that lack evidence of the use of ceramics, which suggests that they predate the subsequent Woodland period.

Archaic projectile points are also known from various private collections in western Hennepin and adjacent Carver County. Burials associated with Archaic points have been reported in Carver County. Copper points have been found around Lake Minnetonka and in Carver County.

Woodland Tradition

The use of ceramic vessels and the construction of earthen mounds for burials began in the Woodland period. Economic patterns established during the Archaic Tradition are thought to have continued largely unchanged until new subsistence practices emerged with the introduction of horticulture (primarily along the major river valleys in the south) and the increasing reliance on wild rice exploitation in the north. The use of the bow and arrow was another significant technological breakthrough that is associated with the Woodland period. The use of the bow and arrow led to the development of even smaller types of corner- and side-notched projectile points.

The earliest Woodland period, recognized by the use of rather plain, thick-walled ceramic vessels, is primarily known from sites in southeastern Minnesota near the Mississippi River. To date, ceramics for this period have only been found on one site near the study area, not far from Fort Snelling (Perkl 2001). Sites from the middle and late Woodland period are more common throughout the study area and include:

- Mounds (earthworks) found singly or in groups on heights of land that overlook many of the larger lakes and most of the major rivers, including the lower reaches of their tributaries. A majority of mounds were mapped in the late 1800s (Winchell 1911). Numerous large mound groups have been recorded along the bluffs and intermediate terraces of the Minnesota River as well as the shores of larger lakes in the southwestern metro region, particularly Lake Minnetonka. A large number of the archaeological localities known in these areas all feature earthworks, often near large habitation sites.
- Smaller camps and special activity sites presumed to have been associated with seasonal resource procurement, which are often found at a considerable distance from the major waterways and habitation centers. They are usually found in association with some water feature.

Like a majority of Woodland sites in central Minnesota, those of the Twin Cities metro region feature ceramics that are particularly distinctive for, and often named after, major archaeological localities. Ceramics are found near Mille Lacs and along the St. Croix River drainage and nearby segments of the Mississippi River Valley. Examples include early Woodland Havana-related Malmo, Howard Lake and Sorg Ware, "transitional Woodland" St. Croix and Onamia Ware, or later Woodland Kathio Ware.

Considerable continuity between Archaic and Woodland lifeways is evident in the technology and the food remains found at a number of sites in the region. For example, the previously-mentioned Hasse Archaeological District has yielded evidence from the Middle Woodland, Archaic, and, possibly, the Paleo-Indian periods. The nearby Miller Lake Archaeological district features Archaic burials near a large group of Woodland burial mounds and habitation areas with large quantities of Middle Woodland pottery (Lofstrom and VanBrocklin Spaeth 1978:16). Havana-like sherds found at Mendota, cord-impressed Late Woodland ceramics found at Fort Snelling, and small Woodland sites found elsewhere on the lower Minnesota River all seem to reflect fairly intensive procurement of floodplain resources.

Mississippian and Oneota Traditions

Late Woodland groups appear to have coexisted for some time with small groups of horticulturalists who established themselves in semi-permanent villages along the Mississippi and its major tributaries. The Oneota tradition, which emerged around A.D. 950-1000, appears to have developed out of the indigenous Woodland base despite sharing many traits with the more complex Mississippian cultures of the south (such as horticulture and settlement patterns). A later variant of this manifestation, the Silvernale Phase of A.D. 1150 to 1350, saw more direct contact with the south and the Middle Mississippian culture centered on Cahokia, Illinois. Further to the west, sites of the related Plains Village tradition extend from the upper Minnesota River to the Missouri River region.

The Oneota and Plains Village traits that break with earlier traditions, such as intensified horticulture, a modified and diversified tool kit, new methods of dwelling and mound construction, a wider variety of ceramics and non-utilitarian, often exotic items, all reflect the emergence of increasingly sedentary, complex, and stratified social groups. The shift in subsistence and settlement patterns is documented by archaeological sites with large storage pits; post molds; thick, organically rich occupation floors; implements like scapula hoes and antler picks; and organic remains such as charred beans and corn kernels. No Oneota sites have been identified in the immediate vicinity of the study area despite the documented presence of Oneota sites along the Mississippi River downstream from Fort Snelling and also along the central and upper Minnesota River. Plains Village ceramics were recovered from a Minnesota River terrace some distance downstream from the study area (George 1999).

Contact Period

Little is known about the later precontact period of this area. The Mississippian villages of the Silvernale phase seem to have declined at about the same time as related complexes elsewhere in the Midwest. Later Oneota manifestations, on the other hand, may have continued into the period of initial Euro-American contact. In southern Minnesota and Iowa the Orr phase occurred when Oneota traditions began to blend with early European influences among indigenous groups that are thought to have been the Siouan speaking Oto and Iowa. The latter later moved west, probably under pressure from Eastern Dakota groups coming down from the north and it was the Dakota who met the first Euro-Americans to visit the study area.

As demonstrated both archaeologically and by written accounts, indigenous groups continued to occupy the area throughout the period of initial contact with Euro-Americans. These groups remained in the region west of the Mississippi River after 1837 when two large areas east of that river were opened for logging and settlement through treaties signed with the Ojibwe and the Dakota. For decades, their villages

and hunting grounds surrounded the military reserve that had been negotiated in 1805 between Lieutenant Zebulon Pike and local Dakota groups. These groups also had formal reasons to be present within the reserve boundaries once an Indian Agency had been established adjacent to the newly constructed Fort Snelling in 1820 (Taliaferro 1894; White and White 1998:28). One of their main reasons for contact with Euro-Americans, however, was the fur trade. Just across the Minnesota River from the fort was Mendota, or "meeting of waters" in the Dakota language, which was a settlement established in the 1820s to serve as the regional headquarters for the American Fur Company (Clouse 1999). In the 1820s a trading post was operated at Land's End on the northern side of the Minnesota River about a mile upstream from the agency and just outside the boundary of the military reservation. This trading post was run by a Mr. Lamont until 1831 when it was operated by Joseph R. Brown (Nute 1930).

In their journals and letters, French, British, and American explorers, military men, traders, and missionaries made numerous references to the Eastern Dakota. Among them were the Mdewakanton on the Minnesota and Mississippi Rivers between Shakopee and Winona, and the Wahpeton on the Upper Minnesota River (Keating 1825; Long 1978). Historic accounts refer to a number of eastern Dakota settlements in the area. Summer villages were occupied during the growing season and then abandoned. Short-term camps were used during the rest of the year as the Eastern Dakota balanced gardening with the gathering of wild plants and hunting needed to satisfy their needs and those of the fur trade.

Post Contact Period

A thorough discussion of Dakota beliefs, social customs, and material culture is found in the writings of Samuel Pond, who worked among the Dakota as a missionary between 1834 and 1851 (Pond 1940 and 1986). Living with several of the groups, he and his brother, Gideon, learned their language and became keen observers and recorders of their way of life. The two established Presbyterian missions on the Minnesota River in the 1840s. An important part of their intent was to teach Euro-American farming methods and lifeways to the local Dakota.

Samuel Pond estimated the number of Mdewakanton to be a little less than 2,000 and described the different bands, their chiefs, and their villages. Closest to Fort Snelling were Kaposia on the Mississippi River a few miles south of the site of St. Paul. Along the Minnesota River were found Black Dog village a few miles above Fort Snelling, Pinisha (Penichon's) village near the mouth of Nine Mile Creek, Tewapa village at Eagle Creek, and the village of Shakopee. Cloud Man's village was located a few miles west of Fort Snelling on the eastern shore of Lake Calhoun.

Pond also described the annual round of Eastern Dakota resource procurement. In October, people abandoned the summer villages on the main rivers for the fall and winter hunt which kept them moving through more forested regions in search of deer and smaller game. Late winter was a time for fishing, the trading of furs and deer skins, and the processing of hides into clothing. During March, most of the men hunted muskrats while the rest of the band made maple sugar. A number of sugar camps are thought to have been located in sheltered, wooded areas around Fort Snelling. By May, the bands had returned to their summer villages where they lived in bark houses, fished in local lakes and streams, gathered wild plant foods, and planted their gardens. Summer was also a time for visiting with other Dakota and for bartering with the traders. By late summer and early fall, there was wild rice to be harvested in many of the area lakes.

By 1851-1852, however, through the treaties of Mendota and Traverse des Sioux, the Dakota had exchanged all their lands west of the Mississippi for government annuities and life within designated reservations. Some of their descendants later returned to reestablish Dakota communities south and west of the Minnesota/Mississippi river confluence. The confluence area remains integral to the spiritual

beliefs of some Dakota. The period of even intermittent physical presence of Native Americans in this region was essentially over by the early 1850s.

With few exceptions, these Dakota groups are not well represented in the archaeological record even though a few of their settlements have been identified on the lower Minnesota River. Some historic Dakota sites, if located on a frequently inundated flood plain or at the base of a bluff slope, may have been quite deeply buried by alluvial or colluvial deposits. For the most part, however, intensive farming and development have likely destroyed the villages that once occupied the higher and fertile river and lakeshore terraces because the evidence would have been concentrated in the upper horizons of the cultivated soil (George 1999; Spector 1993).

West of the Mississippi, Euro-American settlement was still sporadic until the ratification of the 1851 Treaties of Mendota and Traverse des Sioux opened the area to settlement. With the rapidly growing river towns and steam boat landings serving as gateways, settlers poured into the river valleys and hinterlands. Within a few decades, practically all arable lands in the area had been claimed for settlement. With the construction of roads and railroads, and logging of the river valley forest, settled land soon began to be some of the richest croplands in the Midwest. Spurred by rapid population growth and intensifying industry and commerce, urban development began to engulf the former Fort Snelling military reservation and spread west across the uplands that overlook the Minnesota River valley.

Roise (2010), Goodson (2010), and Schmidt (2010) provide an excellent foundation for later historic-period contexts in the Project vicinity. Particularly relevant are early agricultural activities, the development of railroads, and the development of industry in the urban centers, all between 1840 and 1870.

Archaeological Site Potential by Segment

The following discussion looks at each segment and examines its potential to hold intact and significant archaeological properties. ARS staff conducted a preliminary visual review of all segments. The investigations were completed under the direct supervision of Ms. Harrison.

Initial visual inspections took place in February 2010. Although the ground was still snow covered, it was possible to broadly identify topographic settings that may have invited past cultural use. In addition, the comparison between historic aerial photographs and current conditions provided important indications about what changes in land use and topography may have impacted the preservation of archaeological evidence. Once the snow cover disappeared, follow-up inspections conducted during late March and early April allowed for more reliable observations regarding current ground conditions.

All assumptions about the presence, absence, or degree of archaeological potential are based on past archaeological survey experience within or near the project corridors and it is also based on the patterns of Native American and early Euro-American land use and the results of the literature and records review. In addition to the discussion of conclusions and recommendations, organized by survey segments, areas considered to have archaeological potential are shown in the segment figures found in Attachment B and listed in Table 1 to 6.

A total of 371 acres within 48 mapped areas (*Areas*) thought to have the potential to contain intact archaeological resources are present within or adjacent to the five route segments (Table 1). Each *Area* was plotted using GIS and its acreage was calculated. Table 1 compares the number of *Areas*, total acreage by segment, and the potential for each of them to represent the three general archaeological contexts. Note that the segments ultimately chosen for development should be subject to inventory-level survey.

Table 1. Summary of Sensitive *Areas* with Archaeological Potential by Segment.

Segment	*Areas*	Total *Area*-Acres/*Area*-Acres within Archaeological APE	No. of *Areas* with Precontact Period, Contact Period Potential	No. of *Areas* with Historic Period Potential	No. of *Areas* with Precontact Period, Contact Period, Historic Period Potential
1	6	67/18	0	3	3
3	21	145/88	8	1	11
4	9	85/38	0	8	1
A	10	64/42	3	4	3
C	3	10/8	2	1	0
Total	48 (Aj/Cc are the same *Area*)	371/194	13	16 (Aj/Cc are the same *Area*)	18

The *Areas* shown in Tables 1 to 5, and discussed in the following subsections, are possible locations of intact archaeological deposits, based on archival and limited field review. These *Areas* will be targeted and specifically addressed during the work proposed as part of Task II of the research design (see Attachment A). If other *Areas* are identified during the field identification effort, they may also be specifically addressed during subsequent field inventory and evaluation.

Segment 1

No National Register eligible archaeological resources have been identified within this segment or in its immediate vicinity. Six *Areas* along Segment 1 have potential for intact archaeological deposits (See Table 2 and the Segment 1 topological and aerial figures [sheets 1 to 5] in Attachment B).

Table 2. Segment 1, *Areas* with Archaeological Potential.

Area	Archaeological Potential	*Area*-Acres/*Area*-Acre(s) within Archaeological APE	Comments	Task 2 Inventory Method(s)
1:a	Precontact Period, Contact Period, Historic Period	15/12	Upland near Purgatory Creek wetlands	Pedestrian survey, shovel tests
1:b	Precontact Period, Contact Period, Historic Period	19/3	Upland near Nine Mile Creek wetlands	Pedestrian survey, shovel tests
1:c	Precontact Period, Contact Period, Historic Period	25/1	Upland near Nine Mile Creek wetlands, associated with former Hennepin County boys home	Pedestrian survey, shovel tests
1:d	Historic Period	1/1	Former location of railroad switching house	Pedestrian survey, shovel tests, non-invasive sampling
1:e	Historic Period	3/1	Abandoned railroad spur embankment	Pedestrian survey
1:f	Historic Period	5/1	Possible location of railroad man-camp	Pedestrian survey, shovel tests, non-invasive sampling
Total		67/18		

These six *Areas* comprise 18 acres within the Archaeological APE along Segment 1. The three historic period *Areas* are generally associated with late 19th and early to mid 20th century railroad activities. The remaining three *Areas* may be associated with any of the three prehistoric contexts. One of these also has the potential to contain historic period resources associated with the nearby Hennepin County Home School (also known as the Glen Lake School for Boys).

As the corridor segment follows an existing railroad grade, it seems possible that construction may have destroyed or severely impacted any archaeological evidence located in its path. However, remnants of deeply buried archaeological deposits are known to have survived at the base of railroad embankments in other locations. This is of particular concern where the railroad corridor traverses areas of suspected archaeological potential such as the uplands that overlook the drainages.

The Archaeological APE at the Highway 5 (Minnesota Trunk Highway [TH] 5) station encompasses uplands that overlook wetlands associated with Purgatory Creek. Most areas northwest of the Transitway Corridor feature post-1960 residences located on heavily landscaped lots that have been greatly altered by the excavation of walkout basements. Most areas southeast of the Transitway Corridor have been heavily reconfigured by the expansion of TH 212 and TH 5. Only *Area* 1:a appears to retain enough physical integrity to warrant exploratory shovel testing for precontact, contact, and historic period archaeological resources.

The Archaeological APE at the proposed Highway 62 station is traversed by a tributary of the South Fork of Nine Mile Creek. This area features considerable archaeological potential along the stream, even in areas where commercial buildings and parking lots have been built fairly close to it.

Located north of West 62nd Street and Townline Road, *Area* 1:c encompasses relatively undisturbed grass and wood-covered uplands, which were once part of the Hennepin County Home School. Founded in1909, the Home School farmed, gardened, and pastured animals for their own use, and sold milk and produce to the nearby Glen Lake Sanatorium. In addition to the potential for historic evidence, precontact period potential is suggested by the presence of four precontact period archaeological sites around nearby Birch Island Lake (21 HE 215, 21 HE 216, 21 HE 217, and 21 HE 334). All four of these sites have yielded important archaeological information regarding the Woodland and possibly the Archaic periods. All four sites are in a setting that is very comparable to the uplands in *Area* 1: c (Harrison 2008a).

Wedged between two railroads north of Townline Road, *Area* 1:d has probably retained little if any precontact/contact period potential but it may feature the archaeological remains of a former, now demolished, railroad switching house.

At the proposed Rowland Road station area, which encompasses a number of knolls and ridges that overlook Minnetoga Lake and the South Fork of Nine Mile Creek, areas that invited historic use have been disturbed by residential development and extensive landscaping. The area has also been quite heavily impacted by the construction of I-494, Baker Road, and Rowland Road. In addition, previous archaeological surveys of both sides of the South Fork of Nine Mile Creek between Rowland Road and the Chicago & Northwestern and Chicago Milwaukee & St. Paul railroads have demonstrated that the uplands northeast of Rowland Road were lacking in archaeological resources (Harrison 1982). Additional Phase I testing of this area would be unwarranted.

Areas 1:e and 1:f were only partially included in the previous surveys and may have some historic archaeological potential. *Area* 1:e is part of an abandoned spur of the Chicago & Northwestern Railroad that was reportedly used for hauling ice from Shady Oak Lake during the early 1900s. *Area* 1:f, which is a

higher area, appears on a 1940s aerial photograph to have held a cluster of buildings that may have been related to the ice harvesting activity (Sanborn Map Company 1912).

For a further discussion of the proposed Shady Oak Road station area, see Segment 4.

Segment 3

Twenty-one *Areas* along Segment 3 have potential for intact archaeological deposits (See Table 3 and the Segment 3 topological and aerial figures [sheets 1 to 5] in Attachment B).

Table 3. Segment 3 *Areas* with Archaeological Potential.

Area	Archaeological Potential	*Area*-Acres/*Area*-Acre(s) within Archaeological APE	Comments	Task 2 Inventory Method(s)
3:a	Precontact Period, Contact Period	11/8	Upland near Purgatory Creek wetlands	Pedestrian survey, shovel tests
3:b	Precontact Period, Contact Period	11/0	Upland near Purgatory Creek wetlands	Pedestrian survey, shovel tests
3:c	Precontact Period, Contact Period	4/1	Upland near Purgatory Creek wetlands	Pedestrian survey, shovel tests
3:d	Precontact Period, Contact Period	4/1	Upland near Purgatory Creek wetlands; Possible deposits associated with 21HE206	Pedestrian survey, shovel tests
3:e	Precontact Period, Contact Period	5/2	Upland near Purgatory Creek wetlands	Pedestrian survey, shovel tests
3:f	Precontact Period, Contact Period, Historic Period	3/0	Upland near Purgatory Creek wetlands, possible pre-1940s farmstead; possible deposits associated with 21HE208	Pedestrian survey, shovel tests
3:g	Precontact Period, Contact Period	9/7	Ridge w/terraces over Purgatory Creek drainage	Pedestrian survey, shovel tests
3:h	Precontact Period, Contact Period, Historic Period	7/3	Ridge w/terraces over Purgatory Creek drainage, possible pre-1940s farmstead	Pedestrian survey, shovel tests
3:i	Precontact Period, Contact Period, Historic Period	11/10	Ridge w/terraces over South Fork Nine Mile Creek drainage, possible pre-1940s farmstead(s)	Pedestrian survey, shovel tests
3:j	Precontact Period, Contact Period	6/3	Upland near South Fork Nine Mile Creek wetlands	Pedestrian survey, shovel tests
3:k	Precontact Period, Contact Period, Historic Period	19/18	Upland near South Fork Nine Mile Creek wetlands	Pedestrian survey, shovel tests
3:l	Precontact Period, Contact Period, Historic Period	2/2	Upland near South Fork Nine Mile Creek wetlands, possible pre-1940s farmstead	Pedestrian survey, shovel tests
3:m	Precontact Period, Contact Period	31/26	Upland near South Fork Nine Mile Creek	Pedestrian survey, shovel tests
3:n	Historic Period	9/1	Pre-1940s farmsteads	Pedestrian survey, shovel tests

Area	Archaeological Potential	*Area*-Acres/*Area*-Acre(s) within Archaeological APE	Comments	Task 2 Inventory Method(s)
3:o	Precontact Period, Contact Period, Historic Period	8/4	Upland overlooking South Fork Nine Mile Creek, pre-1940s farmstead	Pedestrian survey, shovel tests
3:p	Precontact Period, Contact Period	6/3	Upland near South Fork Nine Mile Creek wetlands, possible pre-1940s farmstead	Pedestrian survey, shovel tests
3:q	Precontact Period, Contact Period	2/1	Upland near South Fork Nine Mile Creek wetlands	Pedestrian survey, shovel tests
3:r	Precontact Period, Contact Period, Historic Period	1/1	Upland overlooking South Fork Nine Mile Creek, pre-1940s farmstead	Pedestrian survey, shovel tests
3:s	Precontact Period, Contact Period, Historic Period	1/1	Upland overlooking South Fork Nine Mile Creek, pre-1940s farmstead	Pedestrian survey, shovel tests
3:t	Precontact Period, Contact Period, Historic Period	1/1	Upland overlooking South Fork Nine Mile Creek wetlands, pre-1940s farmstead	Pedestrian survey, shovel tests
3:u	Precontact Period, Contact Period, Historic Period	1/1	Upland overlooking South Fork Nine Mile Creek, pre-1940s farmstead	Pedestrian survey, shovel tests
Total		145/88		

These *Areas* comprise 88 acres within the Archaeological APE along Segment 3. Eight precontact/contact period *Areas* and one historic period *Area* are found along this segment. The historic period *Area* is generally associated with agricultural activities that were probably established in the 19th century and remained in place through 1940. The remaining *Areas* may be associated with both the prehistoric contexts and with the late 19th to mid-20th century agricultural activities. The portion of Segment 3 that closely parallels either TH 212/TH 5 or Technology Drive, traverses areas that are too disturbed to retain archaeological potential, with the exception of the three proposed station areas.

Near the proposed Mitchell Road station, the area north of the freeway has been completely altered by commercial development and landscaping. To the south, *Area* 3:a, *Area* 3:b, and *Area* 3:c all retain enough undisturbed upland terrain near wetlands to warrant exploratory testing.

Within and due west of the proposed Southwest station, three recorded precontact period sites in or near the project corridor demonstrate the potential for archaeological sensitivity in uplands along Purgatory Creek. Site 21 HE 206 (shown as *Area* 3:d) is a lithic scatter of indeterminate precontact period affiliation as well as the former location of a farm. These resources were largely destroyed by creek bank modifications as well as the construction of TH 212. Site 21 HE 207 is a lithic findspot of indeterminate precontact period affiliation that is located north of the Archaeological APE. Site 21 HE 208 (shown as *Area* 3:f) is a lithic scatter of indeterminate precontact period affiliation that was formerly located on an undisturbed upland north of the creek and determined eligible for the National Register. This site has been partly or completely destroyed by the construction of the TH 212/Prairie Center Drive interchange. Considering the likelihood that similar evidence is common all along the creek, the stream banks in *Area* 3:e warrant a visual inspection, and possibly shovel testing. Most likely to be impacted by station-related

construction, *Area* 3:g is an upland which overlooks the creek and is now partly covered by Purgatory Creek Park and some large parking lots. Precontact period and historic period archaeological resources may remain and the *Area* warrants exploratory testing.

A short distance to the east, most of the proposed Eden Prairie Town Center station area features either pronounced slope or uplands heavily impacted by commercial development and associated landscaping. Two sites north and south of Technology Drive, together designated as *Area* 3:h, appear less disturbed and may, as former farmstead locations, have enough historic archaeological potential to warrant exploratory testing even though they appear partly destroyed by the construction of a substation.

As the project corridor continues east, it traverses an area too severely altered by the construction of the TH 212/I-494 interchange to retain any archaeological potential. Once beyond the interchange, the corridor curves north, for the most part following a new alignment which occasionally parallels existing roads but often cuts cross-country, traversing terrain that generally is quite rolling, with numerous wetlands that are part of the Nine Mile Creek watershed. Aerial photographs from the 1940s indicate that most of this land was still being farmed. Preliminary visual inspection of the entire Archaeological APE north of the TH 212/I-494 interchange indicated that *Areas* 3:i to *Area* 3:u are reasonably level and undisturbed enough to warrant a formal archaeological survey.

No archaeological sites have been recorded either within or immediately adjacent to this part of Segment 3. This is likely due to the fact that relatively few nearby areas have been subjected to archaeological reconnaissance survey. Considering that the Birch Island Lake area, located just a few miles further west and part of the same watershed, proved to be quite rich in archaeological evidence when systematically inspected as part of a city-wide survey (Harrison 2008a), it would be logical to expect similar cultural resource potential in this part of the watershed. It is somewhat surprising that of five archaeological reconnaissance reviews previously conducted near Segment 3 produced neither precontact nor historic period evidence. These included two surveys which encompassed uplands overlooking the northern part of Anderson Lakes in SW ¼ Section 13 (Harrison 1994 and 2008b); two separate studies of uplands adjacent to Smetana Lake in SW ¼ Section 12 due southeast of the Segment 3 Archaeological APE (Hagglund 1994; Harrison 1999b); and a survey along Nine Mile Creek between Excelsior Boulevard and TH 169, i.e. due east/northeast of the northern part of the Segment 3 Archaeological APE (Harrison 2009a). It should be noted, however, that these surveys still represent a fairly small sampling of the total Nine Mile Creek watershed.

Segment 4

No National Register eligible archaeological resources have been identified within this segment or in its immediate vicinity. However, nine *Areas* along Segment 4 have potential for intact archaeological deposits (See Table 4 and the Segment 4 topological and aerial figures [sheets 1 to 4] in Attachment B).

Table 4. Segment 4, *Areas* with Archaeological Potential.

Area	Archaeological Potential	*Area*-Acres/*Area*-Acre(s) within Archaeological APE	Comments	Task 2 Inventory Method(s)
4:a	Historic Period	30/8	Red Wing/Minneapolis Sewer Pipe Company	Pedestrian survey, shovel tests, non-invasive sampling
4:b	Historic Period	26/9	Minneapolis Threshing Machine Company/ Minneapolis Moline	Pedestrian survey, shovel tests, non-invasive sampling
4:c	Historic Period	5/4	Old Hopkins	Pedestrian survey, shovel tests, non-invasive sampling
4:d	Historic Period	7/6	Produce distribution	Pedestrian survey, shovel tests, non-invasive sampling
4:e	Precontact Period, Contact Period, Historic Period	5/3	Uplands near Minnehaha Creek	Pedestrian survey, shovel tests
4:f	Historic Period	2/2	Milwaukee Road Depot	Pedestrian survey, shovel tests, non-invasive sampling
4:g	Historic Period	2/1	St. Louis Park Roadside Rest	Pedestrian survey, shovel tests, non-invasive sampling
4:h	Historic Period	1/2	Industrial use (around 1940)	Pedestrian survey, shovel tests, non-invasive sampling
4:i	Historic Period	2/1	Railroad-use (1920s to 1930s)	Pedestrian survey, shovel tests, non-invasive sampling
4:j	Historic Period	5/2	Rail	Pedestrian survey, shovel tests, non-invasive sampling
Total		85/38		

These *Areas* comprise approximately 38 acres within the Archaeological APE of Segment 4. The nine historic period *Areas* along the segment are generally associated with late 19th and 20th century railroad and heavy industrial activities, including the former locations of Minneapolis Moline and the Minneapolis Sewer Pipe Company. The remaining *Area* may be associated with precontact, contact period, and/or historic period resources due to its prominent location above the Minnehaha Creek floodplain.

At the proposed Shady Oak station site, much of the area north/northwest of the Project corridor was the former location of the Minneapolis Sewer Pipe Company, known prior to 1912 as the Red Wing Sewer Pipe Company (shown as *Area* 4:a). Torn down before the 1940s and shown to be in ruins on an aerial photograph from that period, it was redeveloped by Minneapolis Moline with a large building placed on top of ruins of the old structure and associated storage area. Still visible remnants include a smoke stack, foundations, a rail spur, and an abandoned loading dock to the immediate north of the railroad and the proposed station area. Judging by the same 1940s aerial photograph, the area south/southeast of the project corridor was still farmed at that time, with farm buildings located well southwest of the proposed station in an area that has been substantially altered by subsequent commercial development.

At the proposed Downtown Hopkins station site, the area south/southeast of the project corridor, shown as *Area* 4:b, is the former location of the large industrial complex which began as the Minneapolis Threshing Machine Company in 1887 and in 1929 evolved into Minneapolis Moline, staying in this location until the mid-1970s. Since reused for other industrial and commercial activity, the *Area* still

encompasses some fairly open, though largely paved-over, spaces that are of historic archaeological interest. North/northwest of the corridor and Excelsior Boulevard, *Area* 4:c is the old Hopkins village center, a community first settled in 1852 and then known as West Minneapolis, but by 1928 incorporated as the City of Hopkins. Though heavily impacted by the construction of Excelsior Boulevard, the *Area* still has historic archaeological potential.

At the proposed Blake Road station site, the area surrounding the project corridor is part of a commercial center long associated with food distribution and possibly including structures and structural remnants near the proposed station (*Area* 4:d). Somewhat further east, within *Area* 4:e, the project corridor traverses uplands that overlook Minnehaha Creek. Only partially impacted by the construction of buildings and parking lots, these areas have considerable precontact, contact, and historic period archaeological potential.

At the proposed Louisiana Avenue station site, visual inspection of the station area indicated that it has been too heavily impacted by commercial development to retain any archaeological potential. The same is largely true of the proposed Wooddale station area, except for a parcel associated with the historic Milwaukee Railroad St. Louis Park Depot, namely *Area* 4:f.

East of TH 100, the project corridor skirts *Area* 4:g. This area does not appear to have the potential to be impacted by the current Project, but any modifications to the proposed Project should consider this area. Historically known as the St. Louis Park Roadside Rest, it has been called Lilac Park since the 1990s. It should be noted that this parcel includes a historic beehive structure that was moved to this location from of the original Lilac Park in the interchange to the north.

Within the proposed Beltline Boulevard station area are three *Areas* of potential historic archaeological interest:

- *Area* 4:h where an industrial complex that is shown in a 1940s aerial photograph has since been replaced by the parking lot for Nordic Ware.
- *Area* 4:i where a 1920s-1930s era building, as well as a wooded area between the building and the railroad, appears related to the use of the latter.
- *Area* 4:j, which also extends towards the east beyond the station area – a former rail yard which extended all along the south side of the railroad as far as Bass Lake.

The proposed West Lake Street station area is located approximately a quarter mile northwest of Lake Calhoun. It has been heavily impacted by residential and commercial development and its associated landscaping and appears totally lacking in archaeological potential.

Segment A

No National Register eligible archaeological resources have been identified within this segment or in its immediate vicinity. Nine *Areas* along Segment A have potential for intact archaeological deposits (See Table 5 and the Segment A topological and aerial figures [sheets 1 to 4] in Attachment B).

Table 5. Segment A, *Areas* with Archaeological Potential.

Area	Archaeological Potential	*Area*-Acres/*Area*-Acre(s) within Archaeological APE	Comments	Task 2 Inventory Method(s)
A:a	Precontact Period, Contact Period	1/1	Upland near lake	Pedestrian survey, shovel tests
A:b	Precontact Period, Contact Period	5/5	Upland near lake	Pedestrian survey, shovel tests
A:c	Precontact Period, Contact Period and Historic Period	1/1	Upland near lake; historic residences	Pedestrian survey, shovel tests
A:d	Precontact Period, Contact Period and Historic Period	1/1	Upland near lake; historic residences	Pedestrian survey, shovel tests
A:e	Historic Period	4/4	Railroad-use (1880s to 1950s)	Pedestrian survey, non-invasive sampling
A:f	Historic Period	6/1	Cedar Lake Ice House (early 1900s)	Pedestrian survey, shovel tests, non-invasive sampling
A:g	Precontact Period, Contact Period	1/1	Upland overlooking former wetland	Pedestrian survey, shovel tests
A:h	Historic Period	38/21	Railroad-use (1880s to 1950s)	Pedestrian survey, non-invasive sampling
A:i	Precontact Period, Contact Period and Historic Period	1/1	Bluff top overlooking former wetland; historic residences	Pedestrian survey, shovel tests
A:j	Historic Period	6/6	19th-century residential neighborhood	Pedestrian survey, non-invasive sampling
Total		64/42		

These *Areas* comprise 42 acres within the Archaeological APE along Segment A. The three historic period *Areas* along the segment are generally associated with late 19th and 20th century railroad and industrial activities. Three precontact and contact period *Areas* may also exist along the alignment, focused in the general vicinity of Cedar Lake. The remaining three *Areas* may be associated with precontact, contact period, and/or historic period resources due to their prominent location above the Cedar Lake environs and may reflect historic period residences that generally occupied these locations beginning in the late 19th century.

Within and due northeast of the proposed 21st Street station area are six parcels that warrant further research and exploratory testing. These include *Areas* A:a to A:d, which encompass uplands that overlook Cedar Lake. Uplands overlooking nearby Lake of the Isles have proved to have high precontact and historic period archaeological potential. Consequently, similar potential appears at Cedar Lake. *Area* A:c may also feature historic archaeological evidence at the location of a cluster of recently demolished residences and the same may be true within parts of *Area* A:d. Railroad related use of nearby *Area* A:e may have left traces in the archaeological record as may the use of *Area* A:f for commercial ice harvesting in the early 1900s (Sanborn Map Company 1912). Though fairly far removed from Cedar Lake, *Area* A:g, as a small but distinct upland overlooking a former wetland, is also likely to feature evidence of precontact to historic period land use.

Area A:h, including the proposed Penn Avenue station area, is located within the Kenwood Rail Yards, which were in use between the 1880s and the 1950s. Consequently, it has clear historic archaeological potential. *Area* A:i – a bluff top that overlooks the former rail yard/wetland area – is also likely to feature evidence of past cultural activity associated with several historic residences as well as, possibly, the precontact and early historic periods (Goodson 2010; Sanborn Map Company 1912).

Within the proposed Van White Boulevard station area, visual review indicated that some wooded areas of the current course of Bassett Creek are within its perimeters and overlook the Bryn Mawr Meadows. It does not appear that these areas have retained enough physical integrity to feature archaeological potential.

Although the proposed Royalston Avenue and Intermodal station areas are located near the now buried lower course of Bassett Creek, they have both been too heavily impacted by 20th/early 21st century development to retain any precontact or contact period archaeological potential.

The Royalston Avenue station location and vicinity (*Area* A:j) may also harbor archaeological evidence of relatively affluent 19th century domestic occupations. Plat maps published between the 1880s and mid-20th century show the former location of Royalston Avenue just west of its current location. The current alignment, born from the urban renewal projects in the 1960s, clings to the very edge of the former railroad yard, on the locations of the domestic structures, outbuildings, and alley that once stood there. Depending on the methods used during the demolition of these structures and construction of the current alignment in the latter part of the 20th century, intact foundations, privy shafts, domestic middens, or other features may exist below the current grade.

Segment C

Two National Register eligible archaeological resources have been identified within and in the immediate vicinity of this segment, both along the southern shore of Lake of the Isles. Two *Areas* along Segment C have potential for intact archaeological deposits (See Table 6 and the Segment C topological and aerial figures [sheets 1 to 5] in Attachment B).

Table 6. Segment C, *Areas* with Archaeological Potential.

Area	Archaeological Potential	*Area*-Acres/*Area*-Acre(s) within Archaeological APE	Comments	Task 2 Inventory Method(s)
C:a	Precontact Period, Contact Period	3/1	Location of 21HE314, NRHP-eligible Woodland period habitation	Pedestrian survey, shovel tests, evaluative units
C:b	Precontact Period, Contact Period	1/1	Location of 21HE315, NRHP-eligible Woodland period habitation	Pedestrian survey, shovel tests, evaluative units
C:c	Historic Period	6/6	19th-century residential neighborhood	Pedestrian survey, non-invasive sampling
Total		10/8		

These *Areas* comprise 8 acres within the Archaeological APE along Segment C. Two previously-identified precontact (and possibly contact period) archaeological sites adjacent to the segment may be expressed within existing mid-town greenway right-of-way.

As this segment corridor also follows an existing railroad grade, it seems likely that construction of the latter would have destroyed or severely impacted archaeological evidence located in its path. However, as previously mentioned, there are cases where remnants of deeply buried archaeological deposits have survived at the base of railroad embankments. This would be of particular concern where the railroad corridor traverses areas of suspected archaeological potential such as uplands that overlook lakes and streams, in this case the Lake of the Isles and Lake Calhoun basins, both drained by Minnehaha Creek. This portion of Segment C has recently been reviewed for archaeological resources. A Phase I/II investigation was conducted in this area in support of a Metropolitan Council Environmental Services project to construct a new forcemain through Hopkins and the City of Saint Louis Park and into the City of Minneapolis as far as Irving Avenue and 27th Street on the east side of Lake of the Isles (Harrison 2009b).

The above-referenced study builds, in part, on the results of a cultural resources review completed in 1999 as part of the preparation of a master plan for Lake of the Isles (Roise 1999). An initial reconnaissance (Phase I) survey covered four islands/former islands in the lake:

- Mikes Island and Raspberry Island, which still are surrounded by water (and have remained quite undisturbed due, in part, to their designation, for many years, as protected heron rookeries);
- Two upland areas which once were known as the Maples Islands and occupied the extreme southern portion of the Lake of the Isles basin until they became landlocked following (a) the construction, in the late 1890s, of the Chicago, St. Paul and Milwaukee Railway across the isthmus between this lake and Lake Calhoun, and (b) by the creation of the parkway that now circles the lake – construction which necessitated extensive cutting and filling at the southern end of the lake.

Evidence of historic activity was identified in all four areas. Most of it was associated with precontact period Native American use of the lake and includes chipped lithic tools and flaking debris, cobble tools, pottery fragments, and faunal remains. Fire-cracked rock, charcoal, and burnt bone indicate the presence of fire hearths. The areas also featured thinly scattered evidence of more recent historic origin (Harrison in Roise 1999). Each find area was added to the Minnesota Archaeological Inventory and assigned a Smithsonian site number: 21 HE 0312 for Mikes Island, 21 HE 0313 for Raspberry Island, 21 HE 0314 and 21 HE 0315 for Maples Island West and Maples Island East. More intensive Phase II testing was then conducted within all four areas in order to assess their research significance and determine their eligibility for the National Register of Historic Places. All four sites were determined to meet National Register eligibility criteria as discussed in a separate technical report (Harrison 2000).

The proposed forcemain route directly parallels the northern side of the former Chicago, St. Paul and Milwaukee Railway embankment and skirts what would have been the southern shores of the Maple Islands. Both areas were revisited in 2009. Closer inspection of the Maples Island West site (21 HE 0314) and the proposed forcemain route determined that the latter runs south of what was once the southern shore of the island. Consequently, the archaeological deposit would not be impacted by construction associated with the Southwest Transitway Project.

The forcemain route seemed more likely to overlap with the *Maples Island East* (21 HE 0315) locality where the shore of this former island once extended south to within a few feet of what is now the railroad embankment. Intensive testing was conducted in this area in October 2009. Shovel tests and formal square meter units were placed within the southern part, which was the area of concern for the forcemain project. This yielded ceramic sherds, a crude biface, a scraper, lithic debitage, several cobble tools, fragments of fire-cracked rock, and some historic glass and metal fragments. Most of the ceramic sherds

seem to come from one grit-tempered, cord-impressed Late Woodland vessel. Neither the biface nor the scraper was sufficiently diagnostic to be assigned to a specific time period or cultural tradition. The evidence and relatively undisturbed soil matrix very strongly suggests that the southern part of the site is quite well preserved and has considerable research potential. However, as the southern shore of the island does not appear to have extended below what is now covered by railroad embankment fill, impacts to the cultural deposit should be avoidable.

The forcemain study also focused on the project route segments that run east and west of the former Maples Islands, including the wooded upland due south of the existing embankment.

All of these areas proved to be too disturbed by past wetland modification or other construction to have retained any archaeological potential. This was confirmed by visual inspection and a number of negative shovel tests. Results of these studies indicate that no archaeological evidence would be impacted by future construction activities that parallel the railroad across the isthmus between Lake of the Isles and Lake Calhoun, as long as they are limited to the crest, slope, and immediate vicinity of the base of the existing embankment.

Similarly, testing and visual inspection on the uplands east and west of the isthmus area indicated that any future excavation for a forcemain – or in this case, the Southwest Transitway Project -- would be most unlikely to impact anything but fairly recent fill or slopes too steep to have archaeological potential.

Windshield reconnaissance conducted along the rest of Segment C also indicated very clearly that significant precontact and contact period archaeological evidence would not be impacted by construction in this area. It is very difficult to accurately assess the presence of historic-period archaeological deposits along the rest of Segment C. The lack of opportunities for comprehensive field investigation ahead of major earth moving activities, likely first available during construction along the corridor, will make an assessment of archaeological potential very difficult. As it is proposed entirely within existing city streets or along the former railroad corridor (Midtown Greenway), it is not likely to contain intact precontact and contact period archaeological deposits. While these rights-of-way will likely contain a large number and wide variety of historic material, the integrity and attributable significance of these remains as archaeological deposits is likely very low.

Summary and Recommendations

This overview documents archaeological potential along five Project segments as they are currently defined. Alterations or additions to these Project segments should undergo a similar analysis. These will likely include Operations and Maintenance Facilities (OMF) and Traction Power Substations (TPSS). Some of these areas have been roughly defined as of this writing, namely the OMF locations west of the western terminus of Segments 1 and 3 and in the vicinity of the Target Field Station. These areas may yet have archaeological potential and should be analyzed as appropriate.

In addition, any cumulative effects of development around the Target Field intermodal facility are not addressed here. Any such analysis would be based on development planned parcel by parcel, and most likely relevant when discussing currently blacktopped parcels. When assessing the potential archaeological values under such parcels for future projects, the assessment should include an appropriate level of analysis of adjacent parcels in order to best understand any potential associations that may add to those archaeological values as a whole.

Based on the analysis of the current Project components, it appears that approximately 194 acres across 48 specific areas would require intensive archaeological inventory and assessment if all segments were reviewed.

Segment 1

If Segment 1 is chosen for Project-related development, the six *Areas* should be targeted during the identification effort with a combination of pedestrian survey and shovel testing techniques. Identified resources should be evaluated against the NRHP criteria for eligibility. Should additional work be required in order to fully evaluate identified resources, a testing strategy would likely need to be developed by MnDOT CRU working with the consulting parties on behalf of the FTA.

At those locations with a potential for intact railroad resources, it may be appropriate (and more efficient) for the investigation to include non-invasive sampling techniques ahead of subsurface excavation. Ground penetrating radar (GPR) or electrical resistivity sampling may be used to establish the presence of intact historic period features. If such features appear during the non-invasive sampling effort a subsurface testing effort could be designed to further examine and evaluate the resource.

Segment 3

If Segment 3 is chosen for construction, the 21 *Areas* should be targeted during the survey effort with standard pedestrian survey methods and shovel testing techniques as necessary. Identified resources should be evaluated against the NRHP criteria. Should additional work be required in order to fully evaluate identified resources, a testing strategy would likely need to be developed by MnDOT CRU working with the consulting parties on behalf of the FTA.

Segment 4

If this segment is selected for construction, the nine *Areas* should be targeted during the survey effort with standard pedestrian survey methods and shovel testing techniques as necessary. Identified resources should be evaluated against the NRHP criteria for eligibility. Should additional work be required in order to fully evaluate identified resources, a testing strategy would likely need to be developed by MnDOT CRU working with the consulting parties on behalf of the FTA.

At those locations with a potential for intact railroad or industrial archaeological resources, it may be appropriate and more efficient for the initial investigation to include non-invasive sampling techniques ahead of subsurface excavation. GPR or electrical resistivity sampling may be utilized to establish the presence of intact historic period features. If any features appear during the non-invasive sampling effort, a subsurface testing effort may be designed to further examine and evaluate the resource.

Segment A

Should this segment be selected for construction, the ten *Areas* should be targeted during the survey effort with standard pedestrian survey methods and shovel testing techniques as necessary. Identified resources should be evaluated against the NRHP criteria for eligibility. Should additional work be required in order to fully evaluate identified resources, a testing strategy would likely need to be developed by MnDOT CRU working with the consulting parties on behalf of the FTA.

At those locations with a potential for intact railroad or industrial archaeological resources, it may be appropriate and more efficient for the initial investigation to include non-invasive sampling techniques ahead of subsurface excavation. GPR or electrical resistivity sampling may be utilized to establish the presence of intact historic period features. If any features appear during the non-invasive sampling effort a subsurface testing effort may be designed to further examine and evaluate the resource.

Segment C

The three *Areas* discussed above should be targeted during the identification effort with a combination of pedestrian survey and shovel testing techniques. Identified archaeological materials associated with these

sites should be evaluated against the NRHP criteria for eligibility. Consideration may be required of the fact that these sites appear to extend outside of the Archaeological APE. Should additional work be required in order to fully evaluate identified resources, a testing strategy would likely need to be developed by MnDOT CRU working with the consulting parties on behalf of the FTA.

Recommended Future Investigations of Areas Reviewed for this Overview

Archaeological investigations of one or more of these preferred segments should consist of an updated literature search and field review of all areas within the Archaeological APE that are identified as having potential for archaeological deposits and that have not been previously surveyed. The archaeological survey should consist of:

- Pedestrian survey of areas within the Archaeological APE that have suitable surface visibility;
- Shovel testing of high- and moderate-potential areas for buried cultural deposits to a maximum of 1 meter in depth in areas of bridge replacement and trail construction;
- Non-invasive sampling of those areas with potential for industrial or commercial historic archaeological deposits;
- Initial Phase I/II inventory survey using surface survey and shovel testing, followed, as needed by more evaluative, formal testing, and;
- Digital photography documenting existing conditions.

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Attachment A – Research Design

Southwest Transitway:

A Research Design for Cultural Resources

12 February 2010
Updated 16 March 2010 and 2 April 2010

Prepared by

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Christina Harrison – Archaeological Research Services
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INTRODUCTION

The Hennepin County Regional Rail Authority is proposing to construct the Southwest Light Rail Transit (SWLRT) facility, linking the Intermodal Station in downtown Minneapolis with the central business area in suburban Eden Prairie. The line is located within the cities of Minneapolis, St. Louis Park, Hopkins, Minnetonka, and Eden Prairie.

The Federal Transit Administration (FTA) has determined that the proposed project is an undertaking as defined by the National Historic Preservation Act (NHPA) and is subject to the provisions of Section 106 of the NHPA. Section 106 requires that federal agencies take historic properties into account as part of project planning. The Cultural Resources Unit (CRU) of the Minnesota Department of Transportation (MnDOT) is acting on behalf of FTA for many aspects of the Section 106 review process for SWLRT. The FTA has also determined that the SWLRT is subject to the National Environmental Policy Act (NEPA) and a Draft Environmental Impact Statement (DEIS) is being prepared by Hennepin County under the direction of the FTA.

Through the NEPA scoping process, four build alternatives were identified. To streamline subsequent analysis, these alternatives were divided into five segments. The following table, which was included in the draft "Southwest LRT Technical Memorandum No. 9: Environmental Evaluation" (September 9, 2009), outlines the segments that are associated with each of the alternatives:

Alternative	Segments
LRT 1A	1, 4, A
LRT 3A	3, 4, A
LRT 3C-1 (Nicollet Mall)	3, 4, C-1 (Nicollet Mall)
LRT 3C-2 (11th/12th Street)	3,4, C-2 (11th-12th Streets), C-2A (Blaisdell Avenue), C-2B (1st Avenue)

Segment 1 extends northeast from a station in Eden Prairie at TH 5 along a former rail corridor owned by the Hennepin County Railroad Authority (HCRRA) to a station at Shady Oak Road, on the border between Minnetonka and Hopkins.

Segment 3 creates a new corridor, running east from a station at Mitchell Road in Eden Prairie and turning northerly to terminate at the Shady Oak Station.

Segment 4 follows an existing rail corridor east-northeasterly from the Shady Oak Station through Hopkins and Saint Louis Park to the West Lake Station in Minneapolis, near that city's western border.

Segment A continues northeast from the West Lake Station, mostly using an existing rail corridor, to the Intermodal Station on the western edge of downtown Minneapolis.

Segment C also begins at the West Lake Station, traveling east along a former rail corridor (now the Midtown Greenway), north along one of several alternative courses under and on city streets, to and through downtown Minneapolis, and ultimately ending at the Intermodal Station or South Fourth Street. (For the purpose of this cultural resources assessment, all of the "C" variations will be considered as a single group.)

It should be noted that the above segments overlap at three points: the Shady Oak Station, the West Lake Station, and the Royalston/Intermodal Stations. When the results of the cultural resource surveys are sorted by segment, there will be redundancy in the findings at these three points. This redundancy is inevitable if the effects of each segment are to be analyzed. When a single alternative is selected, it will be necessary to eliminate duplicated properties to obtain an accurate representation of the effects of that alternative.

PROPOSED METHODOLOGY FOR ARCHAEOLOGICAL RESOURCES SURVEY

Christina Harrison – Archaeological Research Services
Mike Justin and Mike Madsen – HDR Engineering

This work plan outlines a program to identify archaeological properties which meet the criteria of the National Register of Historic Places in the project's area of potential effect (APE), to be used in assessing potential effects to those properties. Three primary tasks comprise the work plan. First, in order to provide a uniform assessment of available data across the five project segments discussed in the DEIS, the project team will prepare a report (by project segment within a broad APE) to include: results of the literature search, an archaeological probability assessment, and a field survey strategy (Task 1). It is expected that a limited amount of field investigation/sampling may occur as part of this task depending upon the weather. Second, an archaeological inventory/evaluation of the selected alternative will be completed, using a refined APE based on proposed construction (Task 2). Finally, a report of the field investigations of the selected alternative and an assessment of effects will be prepared (Task 3).

Task 1 will involve archaeologists from both HDR and ARS. Support will be provided, as needed, by Hess Roise research staff as well as by geomorphologists and other paleoenvironmental experts provided by HDR. Division of responsibilities will partly depend on what survey needs are identified by the background research, but primary responsibility for precontact and contact period archaeology will rest with Christina Harrison (ARS) and Michael Justin (HDR), and for historic archaeology with Michael Madson (HDR). The personnel for Tasks 2 and 3 are pending.

The survey will be conducted in accordance with all federal, state, and local requirements, including the Minnesota Field Archaeology Act and the Minnesota Private Cemeteries Act.

Area of Potential Effect (APE)

The APE for archaeological resources is generally defined as the anticipated limits of construction activities. At this stage in the project development, factors influencing those limits have not yet been fully identified. The APE, starting with a broad area at first, will be refined as the engineering design advances.

For Task 1, the APE for the literature search and probability assessment will be based, as appropriate, on the project limits as defined in the project engineering drawings used to prepare the DEIS. This will include the full width of existing railroad right-of-way corridors as well as the area within 100 feet on either side of the current engineering alignments. The APE near station areas also includes any undeveloped and/or vacant property within 500 feet that could potentially be utilized for construction/development activities. Depending on the station location, these may include open, green spaces (particularly in suburban areas) and paved parking lots (particularly in urban areas).

If the literature search/probability assessment identifies potentially significant historic features or high probability areas immediately adjacent to the above-referenced APE parameters, and if the significance of potential sites in these areas is expected to relate to National Register criteria A, B, and/or C, the APE for the field strategy for the Phase I-II survey may be adjusted to include these locations.

During Task 2, the APE will be reviewed in light of more detailed engineering plans. Throughout the design phase of the project, the adequacy of the APE will be periodically evaluated and expanded or retracted as necessary as project elements are added or modified. The survey report specified in Task 3 will provide a clear delineation of the surveyed APE, including all additions, so that the adequacy of survey efforts can be readily determined when project changes are proposed.

It should be noted that, generally, the APE for archaeological resources is a smaller area located within the APE for history/architecture resources.

Task 1. Report of Archival Review/Site Probability/Field Strategy

This task will uniformly represent the readily available information across the five project segments discussed in the DEIS. In general the report will be a desktop analysis of existing archaeological research data supplemented by a discussion of probability for previously unidentified archaeological properties. Field inspections may be utilized to confirm existing conditions, particularly to inform the discussion on field survey strategies.

The desktop analysis will utilize documents on file at the State Historic Preservation Office (SHPO) and the Office of the State Archaeologist (OSA). Historic maps and aerial photographs, local histories, and other archival information on file at the Minnesota Historical Society, the Borchert Map Library (at the University of Minnesota), and local libraries and historical societies may also be reviewed. The task will review:

- Archaeological survey reports on file at SHPO, OSA and other repositories in order to establish what segments of the project routes have already been inventoried according to current standards;
- Known archaeological sites and/or (if applicable) recommendations/confirmations of NRHP eligibility;
- Relevant USGS topographic maps and soil surveys as well as any Mn/Model information and other environmental and paleoenvironmental data pertinent to the assessment of pre-contact archaeological site probability, including land use histories; and
- Historic maps and aerial photographs to identify localities with historic-period archaeological site potential.

A preliminary field review will be conducted. The survey team will document visible indications of topographic and hydrological features as well as past and current land use with concomitant loss of soil integrity. The information from field observations will be combined with the data gathered during the archival review to propose archaeological site probability along the five segments.

Pre-contact and historic-period contexts will be briefly reviewed, with a focus to inform the discussion of site types and assessment of probability. The probability assessment will be organized by the five project segments (1, 3, 4, A, and C). For each of the five segments the report will include:

- A general description of the APE;
- A discussion of previous surveys and previously identified sites;
- A discussion of historic site types and the associated conditions that may indicate a historic property;

- A discussion of archaeological probability (for pre-contact/contact period and historic-period); and
- A survey strategy and methods, including specific places targeted for field investigation.

The survey strategy for precontact and contact period evidence will be guided by Native American and early Euro-American settlement and land use patterns identified by previous archaeological investigations in the vicinity including, for example, the 1992-1994 city-wide cultural resource survey of Eden Prairie, the corridor surveys conducted for Trunk Highway 212 and Trunk Highway 12, and a number of smaller scale compliance surveys conducted within the Nine Mile, Minnehaha and Purgatory Creek watersheds.

The results of Task 1 will be summarized in the DEIS.

Task 2. Inventory/Evaluation (Phase I-II) Survey

For the Inventory/Evaluation survey, the APE will be refined to reflect the updated engineering design. That refined APE will be surveyed in a manner consistent with the recommendations presented in the Task 1 report. Field methods outlined in the Minnesota SHPO and MnDOT CRU guidelines will be generally followed; any exception, as well as more detail specific to the existing conditions along each segment, will have been documented in the Task 1 report.

In the case of precontact/contact period Native American evidence, the field sampling will involve standard methods for identification and the preliminary assessment of horizontal and vertical site dimensions, integrity, and National Register potential. In addition, the survey may utilize targeted geomorphological testing and analysis in areas likely to feature deeply buried archaeological evidence.

Artifacts will be collected and analyzed in a manner consistent with contemporary standards. Artifacts from private property will be collected with written permission of the landowner. Historic period artifacts will only be collected if they appear to represent a potentially significant archaeological property.

Archaeological sites determined to have National Register potential will then require more comprehensive Phase II formal testing. As the Phase I review more than likely will have identified a wide range of site types associated with highly varied environmental settings and precontact to historic period contexts, the scope, research questions, and field and analytic needs will be more appropriately defined at that stage of the investigation.

Task 3. Analysis and Reporting

A technical report of the Phase I and Phase II investigations, including the methodology, field work results, and recommendations, will be prepared in accordance with the guidelines of MnDOT's CRU, the Secretary of the Interior's Standards for Identification and Evaluation, and other applicable state and federal guidelines. This includes submittal of Geographic Information Systems (GIS) data per the CRU guidelines. All sites documented during the survey will be recorded on new or updated Minnesota Archaeological Site Forms.

Collected artifacts will be processed and analyzed in compliance with the survey guidelines of the SHPO and the Mn/DOT CRU. Artifacts will be curated at an approved facility as stipulated in the consultant's archaeology license.

PROPOSED METHODOLOGY FOR HISTORY/ARCHITECTURE RESOURCES SURVEY

Charlene Roise – Hess, Roise and Company

Area of Potential Effect (APE)

Generally, the APE for history/architecture resources extends 300 feet on either side of the centerline of the alignment of each corridor. Around each station, the APE includes property within a quarter-mile radius. This area addresses anticipated project-related infrastructure work and reasonably foreseeable development.

The APE is illustrated in maps of the five project segments. Exceptions to the parameters outlined above include the following:

- The APE for the Intermodal Station (in segments A and C) includes all property within the boundaries adopted for the "Downtown Minneapolis Transit Hub" Environmental Screening Report (October 28, 2009 review draft) prepared for Hennepin County by Kimley-Horn and Associates. The area shown in the report is extended northeast of Washington Avenue to and across the Mississippi River to include the first tier of properties on Nicollet Island, to provide adequate APE coverage for the three-block potential station area and related developments such as rail storage yards. This area addresses infrastructure work associated with the SWLRT project as well as cumulative effects related to the development of the Intermodal station. (See below for discussion about splitting responsibility for survey of this area between the SWLRT project and the Intermodal Station project.)
- The APE for the 4th Street, 8th Street, 12th Street, Harmon Place, Hawthorne Avenue, Lyndale, and Uptown Stations (in segment C) includes the adjacent blocks in all directions from the station. This area is proposed for the stations in the more densely-built urban area, in comparison to the larger quarter-mile radius for other stations in outlying areas.
- The APE for the proposed tunnel area under Blaisdell, Nicollet, or First Avenues, including the 28th Street and Franklin Stations (in segment C), extends from one-half block west of Blaisdell Avenue to one-half block east of First Avenue. If this alternative is selected, the APE may need to be expanded in light of the design and construction methods for the tunnel.
- Along some portions of the corridor, the 300 foot APE may be extended to take into account visual effects. For example, if the 300 foot area comprises open space, and a row of buildings is located beyond, these buildings may be included in the APE.
- In some station areas, there are known areas of project related work and/or anticipated development outside of the quarter-mile radius, and these areas are included in the APE. This includes areas in downtown Hopkins.

The APE may also be adjusted if a field surveyor recommends that the project may affect a property or properties not included in the established APE boundaries.

As project planning proceeds, additional factors will be assessed to determine if there are other effects (direct, visual, auditory, atmospheric, and/or changes in use) which could require an expansion of the above APE. These factors include:

- Noise analysis, including areas where the use of bells and whistles is anticipated.
- Vibration analysis, including vibration related to project construction and operations.
- The specific locations of project elements, including operations/maintenance facilities, park-and-ride facilities, traction power substations, signal bungalows, and other infrastructure.

Survey Approach

Survey Zones

The project cuts through a number of distinct communities, each with a unique history. As a result, these communities, which share similar physical and historical characteristics, can serve as a framework for conducting the survey. The survey will be organized around the following zones (related project segments and stations are listed in parenthesis):

- Eden Prairie (Segments 1 and 3; Highway 5, Highway 62, Mitchell Road, Southwest Station, Eden Prairie Town Center, Golden Triangle, City West Stations)
- Minnetonka (Segments 1 and 3; Rowland, Opus, Shady Oak Stations)
- Hopkins (Segment 4; Shady Oak, Hopkins, Blake Stations)
- Saint Louis Park (Segment 4; Louisiana, Wooddale, Beltline Stations)
- Minneapolis west residential, including parts of Bryn Mawr, Lowry Hill, East Isles, Kenwood, Cedar-Isles-Dean, and West Calhoun neighborhoods (Segments A and C; West Lake, 21st Street, Penn Stations)
- Minneapolis south residential/commercial, including parts of the Stevens Square/Loring Heights, Whittier, Lowry Hill East, East Isles, and Cedar-Isles-Dean neighborhoods and the Midtown Greenway (Segment C; Uptown, Lyndale, 28th Street, Franklin Stations)
- Minneapolis downtown north of I-94 (Segment C; 12th Street, 8th Street, 4th Street, Harmon Place, Hawthorne Avenue Stations)
- Minneapolis industrial (Segments A and C; Van White, Royalston Stations)
- Minneapolis warehouse (Segments A and C; Intermodal Station)

In addition, there are four railroad corridors that traverse these community boundaries. These corridors will be considered as four individual zones. The corridors (by historic names) are:

- Minneapolis and Saint Louis Railway (Chicago and North Western Railway). Part of the main line is in the APE (Segments 1, 4, A and C). A segment of this line between downtown Minneapolis and Merriam Junction has recently been evaluated by the Surface Transportation Board as not eligible to the National Register; however, the SHPO did not concur with this finding. The line will be further evaluated, focusing on the section within the APE.
- Chicago, Milwaukee and Saint Paul Railway (Milwaukee Road), Benton Cutoff. Part of the CM&SP Benton Cutoff is in the APE (Segments 4, A, and C). Except for the Chicago, Milwaukee and Saint Paul Railroad Grade Separation Historic District, which is listed in the National Register, the Benton Cutoff has previously been determined as not eligible to the National Register by the Federal Highway Administration, with concurrence by the SHPO.
- Saint Paul and Pacific Railway (Great Northern Railway). Part of the main line is in the APE (Segment A). This line will be evaluated.

- Minneapolis, Northfield, and Southern Railway. Part of the Auto Club-Luce Line Extension of the MN&S is in the APE (Segment 4). This line has been previously evaluated by Mn/DOT CRU, and the Auto Club-Luce Line Extension has been recommended as not eligible to the National Register. This determination has not been submitted to SHPO for concurrence. The Mn/DOT CRU evaluation will be summarized and incorporated into this survey by reference.

All of the above lines, including those which have been evaluated as not eligible, will be inventoried and evaluated to identify any railroad related features in the APE that are potentially significant in their own right. The statewide railroad context developed by Mn/DOT CRU will serve as a basis for evaluation of railroad resources.

The survey of the above thirteen zones will be completed by three consultants. Hess Roise will complete the surveys for the five zones in Minneapolis, Mead & Hunt will complete the surveys for St. Louis Park, Hopkins, Minnetonka, and Eden Prairie, and Summit Envirosolutions will complete the surveys for the four railroad zones. Each consultant will prepare a report for the Phase I-II survey of the zones completed. An overall summary, integrating the survey results from all thirteen zones, will be prepared for the analysis of effects, within the framework of the five project segments.

The survey will include properties built in 1965 and earlier. Although National Register guidelines use a 50-year cut-off for eligibility (except for properties of exceptional importance), adopting a 45-year cut-off for this survey provides 5 years for project planning before the survey becomes outdated.

NOTE ON RESPONSIBILITY FOR SURVEYS IN THE INTERMODAL STATION AREA: There is an overlap of the APEs for the SWLRT project and the Intermodal Station project (currently in the planning stage). The SWLRT survey effort will complete survey work for only a portion of the SWLRT APE in the vicinity of the Intermodal Station, including where SWLRT construction is anticipated. The remainder of this area will be surveyed as part of the planning for the Intermodal Station project. The survey results from the Intermodal Station survey will be included in the consideration of cumulative effects as part of the SWLRT Section 106 review. (See map for the division of survey responsibilities in this portion of the SWLRT APE.)

Phase I Survey (Reconnaissance Survey)

The primary goal of Phase I is to identify properties that appear to have the potential to qualify for the National Register and merit further analysis. This will eliminate from further consideration any properties that have little or no potential to meet National Register criteria. The Phase I survey will also verify that properties already listed or officially determined eligible for listing in the National Register still retain integrity.

Literature Search

The literature search will focus on areas within the APE, with broader contextual information procured as needed. The literature search will begin by collecting existing reports and research for each zone. Maps, atlases, and other information that can provide specific information about property within the APE for archaeology will be a high priority. Additional research will be conducted for specific areas, and occasionally on specific properties, as appropriate. The literature search will produce:

- A working set of research files, including maps and related materials, for each zone. A copy of these files will be provided to the archaeological team.
- For each zone, a brief context (perhaps with subcontexts) will be developed that is approximately two to five pages in length and comprises a brief narrative, an annotated list of relevant property types, and a preliminary period of significance. (This assumes that extensive narrative contexts will not be developed during this phase.) A similar context will also be prepared for each railway, focusing specifically on segments in the APE. These contexts will also be provided to the archaeological team.

Fieldwork

A project-specific inventory form will be developed. Prior to the onset of fieldwork, a draft inventory form will be submitted to the client for review and approval.

The Hennepin County property database provides building construction dates for tax parcels. These dates will be assumed to be generally reliable for properties erected in the last half of the twentieth century, and will therefore be used to eliminate properties built after 1965 from the survey. During fieldwork, however, surveyors will be observant of properties eliminated from the inventory to identify:

- Inaccuracies: Properties not included in the survey that appear to date from 1965 and earlier (in other words, instances where the county date appears to be incorrect);
- Incomplete data: Properties not included in the survey that contain multiple buildings or other features, where the county date may refer to a newer feature—but older features are also present;
- Exceptional properties: Properties dating from 1966 or later that might be of exceptional importance.

Fieldwork will be conducted by zones. The methodology for each zone is as follows:

- Using information from the Hennepin County database, surveyors will be provided with a spreadsheet listing all properties in the zone built in 1965 or earlier. In addition to the address and year built, the spreadsheet will include the property's use and the name of the owner and taxpayer. The survey will include properties listed or officially determined eligible for listing in the National Register (including those in historic districts) to verify that they retain integrity. Map books will be prepared for reference in the field.
- Surveyors will conduct site visits for each property, recording observations from public rights-of-way with field notes and digital photographs. At a minimum, surveyors will record information on noteworthy features and the property's integrity. Using the data categories for functions and uses outlined in the National Register bulletin *How to Complete the National Register Registration Form*, and with reference to the context information for each zone, the surveyor will suggest data categories that seem the most appropriate for evaluating the property's National Register potential. The surveyor will also provide a preliminary recommendation—and a justification for that recommendation—stating that 1) the property does not appear to be eligible for the National Register, or 2) the property should be evaluated in Phase II.
- All field surveyors will meet the Secretary of the Interior's Professional Qualifications Standards.

Deliverables for Phase I survey

- For each zone:
  - Synopsis for each zone, including the context and property type information.
  - Table of surveyed properties including recommendations for intensive level survey, with justification.
  - Inventory form (2 copies) for each property in the APE built in 1965 or earlier. In addition to the data collected in the field, the inventory forms will incorporate information on the property's location (UTM reference, township/range/section) from the county database. At least one color digital photograph of the property will be included on each form. (NOTE: For properties which go to a Phase II evaluation, the same survey form should incorporate the evaluation information.)
  - Map of zone with properties recommended for intensive-level survey identified.

Phase II Survey (Intensive)

The goal of Phase II is to evaluate properties, as recommended in Phase I, to determine which meet the criteria of the National Register of Historic Places. As with Phase I, the work will be organized by zones.

Literature Search

The literature search will focus on individual properties and districts that have potential to meet National Register criteria. To provide a framework for evaluating some properties, it may be necessary to expand the context synopses developed in Phase I to address specific physical areas, eras, and/or property types.

Fieldwork

Additional field work may be needed to evaluate the physical characteristics of individual properties and districts. It might be necessary to obtain permission to enter some properties for this evaluation—if, for example, there is the potential for a significant interior space, or if a parcel is large and contains a number of buildings and these buildings cannot be adequately evaluated from the public right-of-way, aerial photographs, or other means.

Deliverables for Phase II survey

- For each zone:
  - Table of Phase II properties, including recommendations on eligibility.
  - More detailed inventory form, including the narrative evaluation of eligibility, for each property included in this phase.
  - Map of zone, showing properties that appear to qualify for the National Register identified, along with listed and previously determined eligible properties.
- A Phase I-II survey report (for all zones completed by the same consultant) conforming to Mn/DOT CRU Architecture/History Report requirements and other applicable federal and state guidelines.

At the conclusion of all Phase II history/architecture survey work, a consolidated summary/table incorporating the work from all thirteen zones will be prepared for the analysis of effect. This summary will be organized by the five project segments.

Attachment B – Figures

Due to the sensitive nature of the information that they contain,
these maps will not be provided except by request to the Metropolitan Council.