Technical Report
Biological Environment

1.0 Introduction

1.1 Purpose of Report

This Biological Environment Technical Report has been prepared in support of the Bottineau Transitway Project Draft Environmental Impact Statement (Draft EIS). The objective of this report is to evaluate the Bottineau Transitway Project's potential biological impacts within the study area. This includes the following:

- Evaluate the Project's impact on vegetation;
- Evaluate the Project's impact on terrestrial and aquatic habitat and associated wildlife;
- Evaluate the Project's impact on federal- and state-listed threatened and endangered species.

2.0 Technical Analysis

2.1 Regulatory Context/Methodology

2.1.1 Legal and Regulatory Context

The Migratory Bird Treaty Act of 1918 (16 USC 703-712) governs the taking, killing, possession, transportation, and importation of migratory birds including eggs, parts, and nests. Such actions are prohibited unless authorized under a valid permit. This law applies to migratory birds native to the United States and its territories. It does not apply to non-native migratory birds or resident species that do not migrate on a seasonal basis.

In general, aquatic habitat is protected by the Minnesota Department of Natural Resources (DNR) through the Public Waters Permit. The DNR Public Waters Permit and Crossing License ensures that bridge construction or reconstruction is not detrimental to significant fish and wildlife habitat (including, but not limited to, obstructing the movement of game fish or disrupting fish spawning) or protected vegetation. Any anticipated adverse effects require implementation of feasible and practical measures to mitigate effects. Minnesota statutes also provide for the conservation of habitats by controlling weeds (Minnesota Noxious Weed Law 18.376-18.88).

Section 7 of the Endangered Species Act (ESA) of 1973 (16 USC 1531-1544) requires that all federal agencies consider and avoid, if possible, adverse impacts to federally listed threatened or endangered species or their critical habitats, which may result from their direct, regulatory, or funding actions. The United States Fish and Wildlife Service (USFWS) is responsible for compiling and maintaining the federal list of threatened and endangered species. Section 7 of the ESA also prohibits the taking of any federally listed species by any person without prior authorization. The term "taking" is broadly defined at the federal level and explicitly extends to any habitat modification that may significantly impair the ability of that species to feed, reproduce, or otherwise survive.

Minnesota's endangered species law (MN Statute 84.0895) and associated rules (MN Rules 6212.1800-.2300) regulates the taking, importation, transportation, and sale of state endangered or threatened species. The DNR administers the state listed rare, threatened, and endangered species.

2.1.2 Study Area

The biological resources study area for purposes of this report was defined as an area roughly one-quarter mile around each of the alignments and associated facilities. This distance captures the habitat that is directly adjacent to the Bottineau Transitway project and the wildlife that could potentially be affected by it. Please see Figure 1 for the Build Alternatives.

The study area for threatened and endangered species was defined as the area within one-mile around the transitway alignments based on the typical database search area used by the Minnesota Department of Natural Resource's Natural Heritage Inventory review for occurrences of threatened, endangered or special concern species.

2.1.3 Methodology

Available (2009) aerial photography was used to identify locations where potential habitat is present within the study area (defined in Section 2.1.2). A field survey was conducted on April 25, 2012 to review existing habitat. General plant communities and their associated wildlife were identified along each build alternative alignment using information compiled from the field review, common habitat/wildlife associations, and data from environmental regulatory agencies[1]. Because Theodore Wirth Park is a large habitat resource along the D1 alignment, Minneapolis Park & Recreation Board staff were also contacted to determine if any wildlife inventories for the park were available. No specific Theodore Wirth Park wildlife inventory was identified. The Three Rivers Park District's Twin Lakes Regional Trail Plan and Crystal Lake Regional Trail Plan were reviewed for wildlife inventories. No additional inventory information was identified in the study area.

The proposed Bottineau Transitway is largely to be constructed in areas that have been previously disturbed or developed with impervious surfaces and buildings. Some proposed build alternative alignments, however, run near natural areas or open spaces with vegetation cover that may provide foraging, migrating, or nesting habitat for wildlife. The size and quality of these natural areas or open spaces determines the likelihood of supporting wildlife.

For evaluation purposes, wildlife habitat was identified as unmanicured open space including wooded and wetland areas. Other potential wildlife habitat present within the study area includes landscaped areas (golf courses, manicured parks, backyards, etc.) and agricultural land. The habitat quality of the modified areas is relatively low in comparison to the open/unmanicured wetland and wooded areas; therefore, were not considered in this analysis.

In order to gauge the severity of potential habitat and wildlife impacts, the context, intensity and duration of the proposed actions were evaluated.

Context suggests that certain impacts depend on the setting of the alternative. For instance, actions that could reduce connectivity between habitats could be minor if such connections are abundant in a given region, moderate or major if they are not common. Therefore, the context of the impact considers whether the impact would be local or regional, The intensity of effects of the proposed actions are described in terms on negligible, minor, moderate, or major.

- **Negligible impacts** are imperceptible or not detectable. The action would not result in noticeable changes in habitat or wildlife use.

[1] Data provided by the Minnesota DNR for habitat for threatened, endangered, and species of special concern along with sites of significant biodiversity and high quality plant communities.

- **Minor impacts** are those that are slightly detectable and localized, however, would not affect the overall viability of the wildlife within that area. It is anticipated that wildlife within areas identified as having minor impacts would adapt to habitat changes and/or use adjacent habitat areas.
- **Moderate impacts** are impacts that are sufficient to cause a perceptible change in wildlife abundance, distribution, or habitat quality or quantity, but the change would remain localized.
- **Major impacts** are impacts that are substantial, highly noticeable, and permanently impact the wildlife abundance and distribution due to the amount of habitat impacted compared to the overall amount of habitat within the study area. It is anticipated that wildlife within areas identified with major impacts would not adapt to adjacent habitat areas due to a lack of availability of adjacent habitat.

The DNR Natural Heritage Information System (NHIS) Database was used to identify potential federal and state listed species within the study area., The NHIS database comprises locational records of rare plants, rare animals, and other rare features including native plant communities, geologic features, and animal aggregations (such as nesting colonies).

- Rare plants are defined as all species that are listed as Federally endangered, threatened or as candidates for Federal listing; all species that are State listed as endangered, threatened, or special concern. Several rare species are also tracked which currently have no legal status but need further monitoring to determine their status.
- Rare animals are defined as all animal species that are listed as Federally endangered or threatened (except the gray wolf) are tracked, as well as all birds, small mammals, reptiles, amphibians, mussels, and butterflies that are listed as State endangered, threatened or special concern.
- Other rare features include:
  - Native plant communities, which are groups of native plants that interact with each other and with their environment in ways not greatly altered by modern human activity over space and time. Although most native plant communities have no legal protection in Minnesota, the Natural Heritage and Nongame Research Program and the Minnesota County Biological Survey have evaluated and ranked community types according to their relative rarity and endangerment throughout their range.
  - Geologic features throughout Minnesota are tracked if they are unique or rare, extraordinarily well preserved, widely documented, highly representative of a certain period of geologic history, or very useful in regional geologic correlation.
  - Animal aggregations are tracked regardless of the legal status of the species that comprise them. The tendency to aggregate makes these species vulnerable because a single catastrophic event could result in the loss of many individuals.

Each proposed alignment was evaluated for critical habitats of the identified rare species in coordination with federal, state, and local agencies and in accordance with Section 7 of the ESA. The DNR has reviewed and agreed with the assessment of potential impact to rare species (Appendix A).

2.2 Affected Environment

Alignment A: Approximately 1.3 miles of this alignment crosses through an existing active gravel mining operation, within which the majority of the affected area has been disturbed and is mostly unvegetated. There is little to no potential for wildlife habitat in this part of the alignment, except for some standing water areas that may be used by waterfowl.

There are a few surface waters east of US 169, including a pond east of Hennepin Technical College,

a channel crossing just west of CR 81, and a wetland just north of 73rd Avenue. The remaining portions of this alignment are made up of manicured/landscaped areas, residential yards, developed commercial properties, and railroad/road right-of-way.

The wildlife expected to use these urban habitat areas would vary widely depending on the availability of adjacent open space areas. Generally, species typically found within these urban environments would include generalist species adapted to urban conditions such as grey squirrel, raccoon, rabbit, field mice, vole and mole; common songbirds, Canada geese, and hawks. The wetland/surface water areas may also provide habitat for generalist amphibian and reptiles species.

Alignment B: The majority of this alignment follows the centerline of existing West Broadway (CR 103). There is little to no potential for wildlife habitat in this part of the alignment. The portion of the alignment that follows the western edge of the West Broadway, north of 93rd Avenue crosses areas that have unmanicured open space, a storm water pond, and a woodland/wetland complex

The wildlife expected to use the habitat areas north of 93rd Avenue would vary widely depending on the availability of adjacent open space areas and would be similar to those identified for Alignment A. White-tailed deer may be found in areas that connect to other green space outside the corridor, such as the woodland area and Shingle Creek crossing south of 82nd Avenue.

Alignment C: This alignment follows Burlington Northern Santa Fe (BNSF) right-of-way that is currently used for a transportation purpose, whether freight rail or vehicular traffic. The southern half of the alignment follows existing BNSF right-of-way. The northern half of the alignment also parallels CR 81 right-of-way. Much of the alignment also abuts residential properties and commercial development. The vegetation within the right-of-way areas consists primarily of unmowed grasses with scattered shrubs and small trees. There is one small wetland and wooded area adjacent to the railroad tracks (north of 62nd Avenue).

The wildlife expected to use the limited habitat areas in this alignment would be similar to those identified for Alignment A.

Alignment D1: This alignment also follows within the BNSF right-of-way. However, for this alignment, there is much more vegetated open space adjacent to the right-of-way than in other alignments. The largest area of habitat in this alignment coincides with Minneapolis Park and Recreation Board parkland and other local parks are also near the alignment. Much of the land directly adjacent to the right-of-way, whether it is parkland or residential property, is wooded. A number of large wetlands were identified adjacent to the right-of-way.

Theodore Wirth Park and other local parks (Sochacki, South Halifax) represent a relatively large mosaic of natural habitats. As such, the wildlife expected to use habitat areas within and adjacent to this alignment may be more diverse than other alignments given the more extensive tree cover and larger areas of less developed open space. Similar to the other alignments, species typically found within urban environments would include urban-adapted generalist species such as grey squirrel, raccoon, rabbit, field mice, vole and mole; common songbirds, Canada geese, turkeys, and hawks. Bald eagles may also be observed in this alignment given its proximity to lakes and rivers. The wetland/surface water areas may also provide habitat for common amphibian and reptile species and other water-dependent species. In addition, white-tailed deer are also expected to be found here, along with a greater diversity and abundance of songbirds than in other alignments.

Alignment D2: The northern half of this alignment follows 34th Avenue and CR 81, crossing primarily residential parcels and commercial development. The southern half of this alignment follows the

median of West Broadway Avenue and along existing Penn Avenue. The vegetation within this alignment is limited to manicured areas with scattered residential trees, and unmowed grasslands, providing limited habitat for wildlife. No wetlands or surface waters were identified in this alignment except for a small area at the north end of the alignment in the railroad right-of-way.

The wildlife expected to use these habitat areas would include urban-adapted generalist species such as grey squirrel, raccoon, field mice, vole and mole, and common songbirds.

D1/D2 Common Alignment: This part of the D alignment follows the median of TH 55. This area is manicured green space with select tree plantings, offering marginal cover for wildlife but may accommodate mice, squirrels, and common songbirds.

A review of the DNR NHIS database indicated there were 13 endangered species, 18 threatened species, and 30 special concern species that have previously been observed in Hennepin County. The endangered, threatened, and special concern species that may be found within the habitats identified in the study area are shown in Table 1.

Table 1. State- and Federal-Listed Species within One Mile of Project Alignments[1]

Scientific Name	Common Name	State Status	Federal Status	Last Observation Date/ Nearest Alignment	Habitat
Erythronium propullans	Dwarf Trout Lily	E[2]	E[3]	2005/ D1, D2, D Common Section	Wooded, north-facing slope above or near a streambed
Ligumia recta	Black Sandshell	SC	-	2007/ D Common Section	Medium to large rivers in riffles or raceways in gravel or firm sand
Setophanga citrina	Hooded Warbler	SC	-	1979/ D1, D2, D Common Section	Edges of forests
Haliaeetus leucocephalus	Bald Eagle	SC	-	2001/ A 2005/ C	Lakes and rivers with large trees for nesting
Etheostoma microperca	Least Darter	SC	-	1931/C, D1, D2	Natural lakes and permanent wetlands with vegetation
Emydoidea blandingii	Blanding's Turtle	T	-	2000/ D1, D2, D Common Section	Shallow water with sandy uplands
Falco peregrinus	Peregrine Falcon	T	-	3 locations: 2008, 2011/ D Common Section	Cliff ledges along rivers or lakes

E- Endangered, SC- Special Concern, T- Threatened. Source: Minnesota DNR: National Heritage Database, 15 May 2012
1 – Center of Track
2 - State-Listed Endangered Species, however, there are no known native populations in Hennepin County, MN.
3 - Federally-Listed Endangered Species, however; there are no known native populations in Hennepin County, MN

Dwarf Trout Lily

There is one record of Dwarf Trout Lily within the study area of the project. It is south of TH 55, in Theodore Wirth Park approximately 0.5 mile away from the nearest alignment. The populations in Hennepin County were introduced prior to listing as endangered. The habitat of this small spring perennial is woodland habitat, rich slopes dominated by maple and basswood and adjoining

floodplains dominated by silver maple and cottonwood. It is not expected that this species is present north of TH 55 based on the understanding that it was introduced to the park south of TH 55, and that the forested areas of the park north of TH 55 are relatively fragmented and have a number of invasive species present.

Black Sandshell

Two records of Black Sandshell are within the banks of the Mississippi River. The records are over 0.75 mile from the nearest alignment. The habitat of this mussel species is medium to large rivers in riffles or raceways in gravel or firm sand. The Bottineau Transitway project area does not cross or impact the Mississippi River.

Hooded Warbler

There is one record of Hooded Warbler within the study area of the project, but it is over 30 years old and there is no evidence known to support a current breeding population. The record was south of TH 55, in Theodore Wirth Park, approximately 0.6 mile from the nearest alignment. The habitat of the Hooded Warbler is mature hardwood forests, with nesting on the forest edges in shrubby openings. This species is not expected to nest in areas that are impacted by the Bottineau Transitway Project.

Bald Eagle

There are two records of bald eagles within the study area of the project. The record from 2005 occurred near Twin Lakes, approximately 0.9 mile from Alignment C. The record from 2001 is near Eagle Lake, approximately 0.9 mile from alignment A. The habitat of the bald eagle is near lakes and rivers in forested areas where large trees are available for nesting. The nest trees are usually within 0.5 mile of water.

Least Darter

There is one record of a Least Darter in Crystal Lake. The record is approximately 0.6 mile from the nearest project alignment and is over 70 years old. The habitat of the Least Darter is shallow, clear waters with little current, in or near weedy areas over bottoms made up of gravel, sand, and silt. This species is expected to no longer be present in the area due to the fact it has not been observed for over 70 years and due to changes in water quality as the area developed.

Blanding's Turtle

There is one record of Blanding's Turtle within the study area of the project. The record is south of TH 55, in Theodore Wirth Park approximately 0.5 mile away from the nearest alignment. The habitat of the Blanding's Turtle is calm, shallow water with rich aquatic vegetation, and sandy uplands for nesting. It is possible for these turtles to be present along Bassett Creek and associated wetlands.

Peregrine Falcon

There are three records of the Peregrine Falcon within the study area of the project. These records are within Downtown Minneapolis, between 0.4 and 0.7 mile from the project alignment. The habitat of the Peregrine Falcon is cliff ledges or ledges of tall buildings along rivers or lakes. There are no known nesting locations of this falcon species along any of the project alignments.

2.3 Environmental Consequences

2.3.1 Operating Phase Impacts

No-Build Alternative

No adverse impacts to wildlife habitat, including threatened and endangered species, are anticipated to result from the No-Build alternative.

Transportation System Management Alternative

No adverse impacts to wildlife habitat, including threatened and endangered species, are anticipated to result from the TSM alternative.

Build Alternatives

The four Build alternatives, as previously discussed, are made up of a combination of individual alignments. The potential impacts to the biological environment were investigated for each alignment (Table 5) and the total impacts to biological environment for each Build alternative is expressed as the sum of impacts for its contributing alignments (Table 6).

The build alternatives would not result in the construction of any physical barriers that would further restrict the crossing of the transitway/freight corridor by wildlife than the existing tracks do today, with the potential exception of the station locations. The stations, which would generally be less than 600 feet long, may include some barriers to restrict human crossing of the tracks for limited distances. The spacing of stations would allow wildlife to continue to cross as they do today between the stations.

Alignment A

The impact to general wildlife habitat would be small in comparison to other habitat available for these common urban adapted species, with a direct loss of 1.7 acres of natural/open habitat compared to an estimated 132 acres of habitat within approximately one-half mile of the tracks (see Figure 2 and 3b).

An OMF site and proposed park-and-ride lots located along this alignment would result in no additional wildlife habitat impact as they are located within an active gravel mine; therefore the total wildlife habitat impact for Alignment A would be 1.7 acres.

The bald eagle nest near Eagle Lake is nearly a mile from the project area. Standard guidelines for avoiding impacts to bald eagle nesting sites is to limit construction activity within 330 feet of the nest and limit clearing of vegetation within 660 feet (0.13 mile) of the nest site during the nesting season (February-July). Therefore, this alignment would have no impact on bald eagle nesting or eagle populations in the area.

This small loss of habitat, in an area that has similar habitat available in close proximity, would be a negligible impact to habitat and wildlife.

Alignment B

The impact to general wildlife habitat would be small in comparison to other habitat available for these common urban-adapted species, with a direct loss of 4.8 acres of natural/open habitat compared to an estimated 267 acres of wildlife habitat within approximately one-half mile of the tracks (see Figure 3 and 3a-b).

As shown in Figure 3a, the OMF site located at 101st Avenue would result in an additional impact to approximately 17 acres of wildlife habitat. The OMF site located at 93rd Avenue would result in 0.1

acre of wildlife habitat impact.

The proposed park-and-ride site located at 93rd Avenue would result in 0.1 acre of wildlife habitat impact. This impact is the same as if the OMF site would be located at 93rd Avenue.

The total impact for Alignment B with the OMF located at 101st Avenue is 21.9 acres. The total impact for Alignment B with an OMF site located at 93rd Avenue is 4.9 acres.

This small loss of habitat with the 93rd Avenue OMF site, would be a negligible impact to habitat and wildlife given the impacts are in an area that has similar habitat available in close proximity. With the OMF site at 101st Avenue, the impact would be minor, as the change would be noticeable, however there is adequate adjacent open space for wildlife to use and would adapt to changed conditions.

No rare species were identified within or near this alignment.

Alignment C
The impact to general wildlife habitat would be small in comparison to other habitat available for these common urban-adapted species, with a direct loss of 0.8 acre of natural/open habitat compared to an estimated 22 acres of wildlife habitat within approximately one-half mile of the tracks (see Figure 4 and 4a).

The bald eagle nest near Twin Lakes is nearly a mile from the project area. Standard guidelines for avoiding impacts to bald eagle nesting sites is to limit construction activity within 330 feet of the nest and limit clearing of vegetation within 660 feet (0.13 mile) of the nest site during the nesting season (February-July). Therefore, this alignment would have no impact on bald eagle nesting or eagle populations in the area. No other listed species have been recorded near the project area except the least darter, which has not been observed in the area for over 70 years, therefore there would be no adverse effects to this species.

The proposed park-and-rides located along this alignment would result in no additional wildlife habitat impact.

This small loss of habitat, in an area that has similar habitat available in close proximity, would be a negligible impact to habitat and wildlife.

Alignment D1
The impact to general wildlife habitat would be small in comparison to other habitat available for these common urban adapted species, with a direct loss of 8.2 acres of natural/open habitat compared to the estimated 405 acres of wildlife habitat within approximately one-half mile of the tracks (see Figures 5 and 5a). This alignment runs adjacent to west side of Theodore Wirth Park, which provides a relatively large area of natural and manicured open space near the project area. Other parks along this alignment also include Glenview Terrace Park, Sochacki Park, South Halifax Park, and the Mary Hills Nature Area (Figure 5a).

There was no discernible difference in impact between the Golden Valley Road and Plymouth Avenue/Wirth Park station options.

Bald eagles are not known to currently nest within the park, but there are some trees that could provide nesting sites near the lakes or creek. Trees adjacent to the railroad tracks are not expected to be preferred for bald eagle nesting; therefore removing trees along the existing rail line would not impact eagle habitat or potential eagle use. Blanding's turtles may be found in Bassett Creek and

adjacent open water wetland areas in Theodore Wirth Park. The project is anticipated to result in some wetland impacts and therefore there would be some potential impact to turtle habitat.

Understanding that the habitat impacts would occur mostly within the railroad right of way and not in the park, and that there is similar habitat available in close proximity to the impacted areas, this relatively small loss of habitat would be a negligible to minor impact to habitat and wildlife, as wildlife would adapt to these habitat changes.

Alignment D2

The impact to general wildlife habitat would be small in comparison to other habitat available for these common urban adapted species, with a direct loss of 0.5 acre of natural/open habitat compared to an estimated two acres of wildlife habitat within approximately one-half mile of the tracks (see Figure 5 and 5a).

Bald eagles are not known to nest within the D2 alignment area, but there are some trees that could provide nesting sites near the lakes or creek in Theodore Wirth Park, as noted for D1 above. Trees adjacent to Penn or Broadway Avenues are not expected to be preferred for bald eagle nesting; therefore removing trees along the existing road would not impact eagle habitat.

This small loss of habitat, in an area that has similar habitat available in close proximity, would be a negligible impact to habitat and wildlife.

Alignment D Common Section

There was no wildlife habitat identified in this alignment. Direct loss of roadway median landscaping would have no measurable impact on urban wildlife populations. Other potential impacts of tree and landscaping removal are being analyzed in the Visual/Aesthetics Technical Memo and the Community Character Cohesion section of the Draft EIS.

Bald eagles are not known to currently nest near TH 55. Trees adjacent to the road are not expected to be preferred for bald eagle nesting due to size and location, therefore removing trees along the existing road, specifically the median, would not impact eagle habitat.

No loss of habitat would result in no anticipated impacts to wildlife.

TPSS

TPSS sites would be placed within the existing railroad right of way or on public owned lands where possible. Additionally, impacts to wooded, wetland, and unmanicured areas would also be minimized and/or avoided to the extent possible.

There are no known threatened, endangered, or special concern species within the 500-ft radius study areas for the proposed TPSS sites along all alignments; therefore, negligible impacts to habitat or wildlife would be associated with TPSS placement.

Summary of Impacts

Wildlife habitat impacts are anticipated to result from all Build alternatives. However, due to the urban setting of the Bottineau Transitway Project, the wildlife that inhabits these areas are generalist species adapted to urbanized conditions. These species are generally more tolerant of human presence and activities, including traffic (pedestrian, rail, and vehicular), and have demonstrated by their presence that they adapt readily to changes in their environment.

Generally, the amount of wildlife habitat that would be impacted by any build alternative is less than four percent of the available habitat in the project area, resulting in a negligible impact on wildlife. Two exceptions result in slightly greater impacts, the OMF site at 101st Avenue with the B alignment and the potential for Blanding's turtles in alignment D1. Therefore, Alternative B-C-D1 with the 101st OMF and potential turtle habitat would be a minor impact, and Alternative B-C-D2 with the 101st Avenue OMF, would be a negligible to minor. See summary of impacts in Tables 2 and 3.

Of the species identified as rare in the database search, only two of the species (bald eagle and Blanding's turtle) were determined to have a potential to be present in the project area. The bald eagle has known nesting sites within approximately a mile of alignments A and C. The distance of these nest sites from project activities (> 660 feet) would result in no impact on eagle nesting, based on eagle management guidelines (National Bald Eagle Management Guidelines, U.S. Fish and Wildlife Service, 2007).

Blanding's turtles are found in urban wetland areas more commonly today than when initially listed. As a result, the DNR has provided standard practices for avoiding impacts to turtles during construction, resulting in no measureable impact to turtles (MnDNR, 2008). These measures would be implemented where there are activities within or near shallow water wetlands.

No impacts to known rare features would result from any of the Build alternatives.

Table 2. Wildlife Habitat Impacts by Alignment in Acres

Alignment	Alignment/ Station Impact *[acres]*	Park-and-Ride Impact	OMF Impact	Total Habitat Impact Area (acres)	Impact Classification
A	1.7	0	0	**1.7**	**Negligible**
B	4.8	0.1	0.1 [93rd]	**4.9**[2] **[93rd]**	**Negligible**
			17.0 [101st]	**21.9 [101st]**	**Minor**
C	0.8	0	N/A	**0.8**	**Negligible**
D1	8.2[1]	N/A	N/A	**8.2**	**Negligible to minor**
D2	0.5	N/A	N/A	**0.5**	**Negligible**
D1/D2 Common	0	N/A	N/A	**0**	**No impact**

1 There was no discernible difference in impact between the Golden Valley Road and Plymouth Avenue/Wirth Park station options.
2 Park-and-Ride Impacts are the same as the 93rd Avenue OMF impacts; therefore, they were only counted once in the total impact

Table 3. Wildlife Habitat Impacts by Alternative in Acres

Alternative	Wildlife Habitat within half-mile of Alternative	Alignment/ Station Impact *[acres]*	Park-and-Ride Impact	OMF Impact	Total Habitat Impact Area (acres)	Impact Classification
No-Build Alternative	N/A	0	0	0	**0**	**None**
TSM Alternative	N/A	0	0	0	**0**	**None**
Alternative A-C-D1	559	10.7[1] (2%)	0	0	**10.7**	**Negligible to minor**
Alternative A-C-D2	156	3.0 (2%)	0	0	**3.0**	**Negligible**
Alternative B-C-D1	694	13.8[1] (2%)	0.1	0.1 [93rd]	**13.9[2]**	**Negligible to minor**
				17.0 [101st]	**30.9**	**Minor**
Alternative B-C-D2	291	6.1 (2%)	0.1	0.1 [93rd]	**6.2[1]**	**Negligible**
				17.0 [101st]	**23.2**	**Minor**

1 There was no discernible difference in impact between the Golden Valley Road and Plymouth Avenue/Wirth Park station options.
2 Park-and-Ride Impacts are the same as the 93rd Avenue OMF impacts; therefore, they were only counted once in the total impact

2.3.2 Construction Phase Impacts

Construction phase impacts are generally those impacts that would be above and beyond those described in the previous section, which would occur for a short period of time coincident with the installation/construction of the project.

No-Build Alternative

No short-term construction impacts would result from the No-Build alternative.

Enhanced Bus/Transportation System Management Alternative

No short-term construction impacts would result from the TSM alternative.

Build Alternatives

Short-term construction impacts to wildlife would result from the Build Alternatives due to construction activities in the project area, including use of heavy equipment and silt fence/construction barriers. These impacts may cause temporary disruption to wildlife; however, they would be temporary and limited to active construction areas. As a result of various regulatory requirements, the number of active construction areas must be the minimum number to construct the project and inactive disturbed areas must be stabilized.

2.3.3 Indirect/Secondary Impacts

No-Build Alternative
No indirect or secondary impacts would result from the No-Build alternative.

Transportation System Management Alternative
No indirect or secondary impacts would result from the TSM alternative.

Build Alternatives
No secondary impacts would result from the Build alternatives.

Indirect impacts to wildlife may occur as a result of the increased frequency of rail vehicles, and increased pedestrian and vehicular traffic near the station areas. Generally, the extent of disturbance from two-car light rail trains passing any given habitat area would be relatively short (measured in seconds) and most wildlife would be expected to adapt to the changed traffic patterns given the existing urban environment. However, it is recognized that some wildlife may be struck by trains, cars, or be displaced by human disturbance near the station sites at a higher rate than occurs today, but the level of disturbance is not expected to drive any species or population out of the project area.

There has been concern expressed that the project would create a barrier to wildlife, specifically near Theodore Wirth Regional Park. Based on the identified wildlife habitat areas in Alignment D1, the majority of the habitat is found west of the existing tracks, therefore, there is only a minor amount of habitat to the east that is currently separated by the existing tracks. Overall, the project would not create any more of a physical barrier to wildlife than the existing freight rail tracks; wildlife would still be able to cross where they can cross today. Similarly, the passing of light rail vehicles would be so short in duration that the trains would not result in a barrier to wildlife movements. Based on this assessment, wildlife movements would not be restricted by the project, nor would it create a barrier to wildlife.

TPSS
No secondary impacts would result from siting the TPSS sites, as habitat areas would be avoided to the extent possible when identifying their final placement.

2.4 Avoidance, Minimization, and/or Mitigation Measures

There were no impacts identified to state or federal listed threatened, endangered, and special concern species as a result of the Build alternatives (alignments, stations, OMF, park-and- rides, or TPSS sites). Therefore, no long-term mitigation measures are warranted.

During or prior to construction, there are a number of measures that can be taken to minimize or ensure no impacts to eagle or turtle habitat occurs. Construction BMPs, as discussed in the Stormwater Technical Report (Kimley-Horn and Associates, June 2012) would serve to minimize impacts to both terrestrial and aquatic habitats. Specifically, eagle nest surveys would be conducted during final design to determine if any nests are present at that time. If eagle nests are identified, construction timetables would be designed to do much of the work outside the eagle nesting season (February – July) or outside a 330-foot buffer area from the nest.

Similarly, in areas with potential for Blanding's turtle habitat, the DNR has established standard BMPs for construction, which would be implemented, as needed. These BMPs consist of measures such as using overlapping silt fence that allows turtles to bypass the fencing while still capturing the sediment; providing identification information to the contractor to facilitate avoidance of turtles if observed in the construction zone; and removing silt fence post stabilization of the site to remove barriers to turtle movements.

During the early stages of final design, bridge structures within the construction limits would be field checked in compliance with the Migratory Bird Treaty Act to determine whether swallows nests are present. If active swallow nests are documented, appropriate mitigation measures would be implemented during construction, such as seasonal work windows or nest removal during the non-nesting season. The measures selected for construction mitigation would be made in consultation with the appropriate agencies.

3.0 Summary

The range of wildlife habitat impacts anticipated from the Build alternatives is summarized in the tables below. There would be no impact to wildlife or habitat from the TSM alternative or the No-Build alternative.

Negligible to minor wildlife habitat impacts are anticipated to result from the Build alternatives. However, due to the urban setting of the Bottineau Transitway Project, the wildlife that inhabits these areas are generalist species adapted to urbanized conditions. These species are generally more tolerant of human presence and activities, including traffic (pedestrian, rail, and vehicular), and have demonstrated by their presence that they adapt readily to changes in their environment.

Table S-1. Summary of Biological Environment Impacts and Mitigation Measures

Impact Category	Impacts of Build Alternatives		Avoidance, Minimization, and/or Mitigation Measures
	Potentially Affected Wildlife Habitat (acres)	Rare Species	
Biological Environment	Generally, the amount of wildlife habitat that would be impacted by any build alternative is less than four percent of the available habitat in the project area, resulting in a negligible impact on wildlife. Two exceptions result in slightly greater impacts, the OMF site at 101st Avenue with the B alignment and the potential for Blanding's turtles in alignment D1. Therefore, **Alternative B-C-D1** with the 101st OMF and potential turtle habitat would be a minor impact, and **Alternative B-C-D2** with the 101st Avenue OMF, would be a negligible to minor.	No adverse impacts to state- and federal-listed threatened, endangered, and special concern species would occur as a result of the Build alternatives.	No mitigation measures are warranted for wildlife habitat.

Table S-2. Summary of Construction Impacts and Mitigation Measures

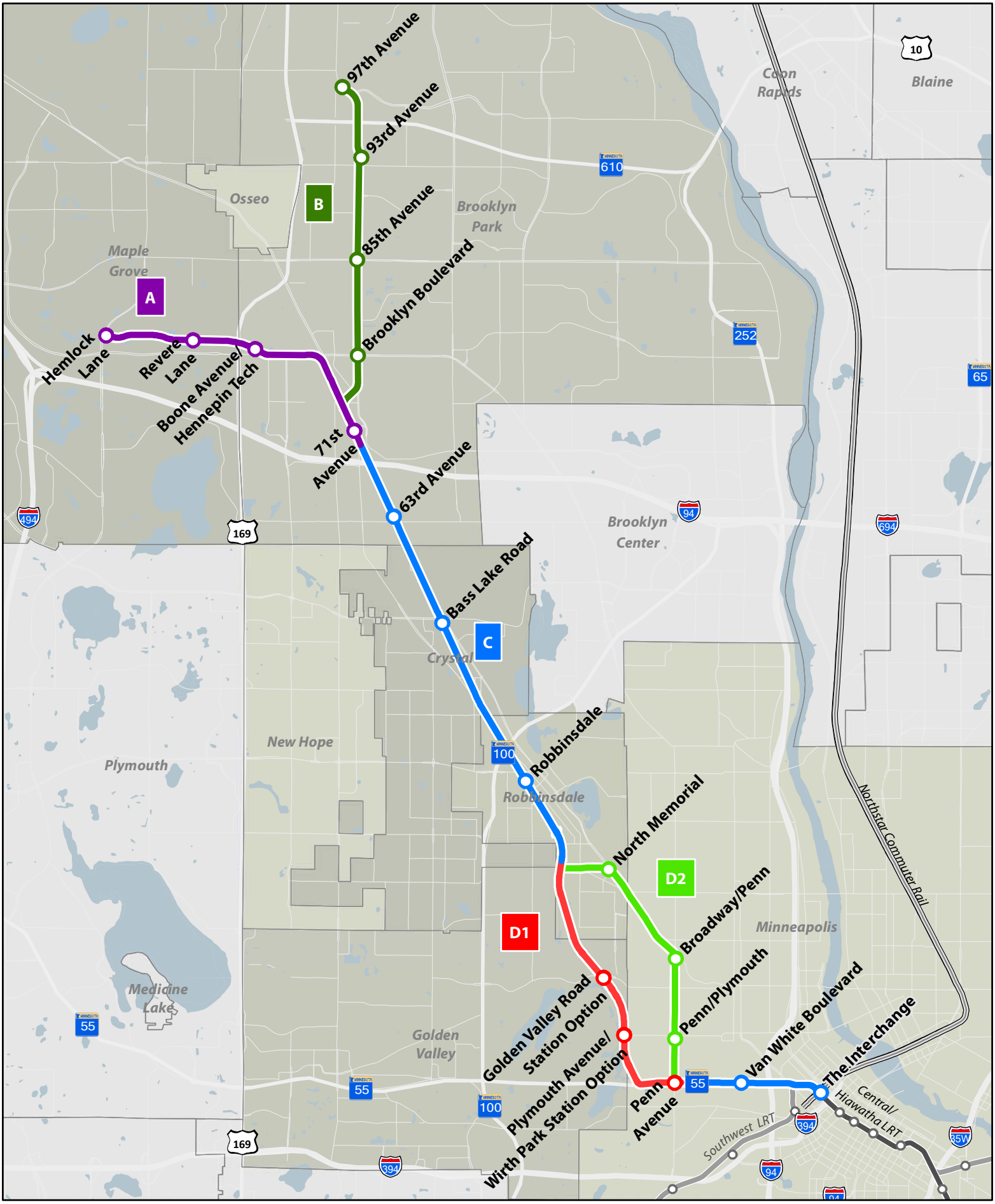
Impact Category	Consruction Impacts of Build Alternatives	Avoidance, Minimization, and/or Mitigation Measures
Biological Environment	Increased activity in the project area from construction activities, heavy equipment and silt fence/construction barriers may cause temporary disruption to wildlife.	Construction BMPs would serve to minimize temporary impacts to terrestrial and aquatic habitats. An eagle nest survey would be conducted during final design in Alignments A and D1. Standard guidelines for avoiding impacts to bald eagle nesting sites is to limit construction activity within 330 feet of the nest and limit clearing of vegetation within 660 feet (0.13 mile) of the nest site during the nesting season (February-July). The DNR has standard BMPs for construction in areas with potential for Blanding's turtle habitat, which would be implemented during construction.

FIGURES

FIGURE 1: Build Alternatives Proposed for Study in Draft EIS
FIGURE 2: Alignment A Wildlife Habitat Impact
FIGURE 3: Alignment B: Habitat Impacts
FIGURE 3b: Alignment B: Wildlife Habitat Impacts
FIGURE 3a: Alignment B: Wildlife Habitat Impacts
FIGURE 4: Alignment C: Wildlife Habitat Impacts
FIGURE 4a: Alignment C: Wildlife Habitat Impacts
FIGURE 5: Alignments D1, D2, and D1/D2 Common Wildlife Habitat Impacts
FIGURE 5a: Alignments D1 and D2: Wildlife Habitat Impacts

APPENDICES

APPENDIX A: DNR Correspondence



0 0.75 1.5 Miles

FIGURE 1. Bottineau Transitway Build Alternatives

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hennepin County Regional Railroad Authority

Metropolitan Council

0 0.25 0.5 Miles

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Sources:
Aerial: Minnesota Geospatial Information Office, 2010
Wildlife Habitat: Kimley-Horn and Associates, 2012

Hennepin County
Regional Railroad Authority
Metropolitan Council

FIGURE 2. ALIGNMENT A
WILDLIFE HABITAT IMPACT

0 0.125 0.25 Miles

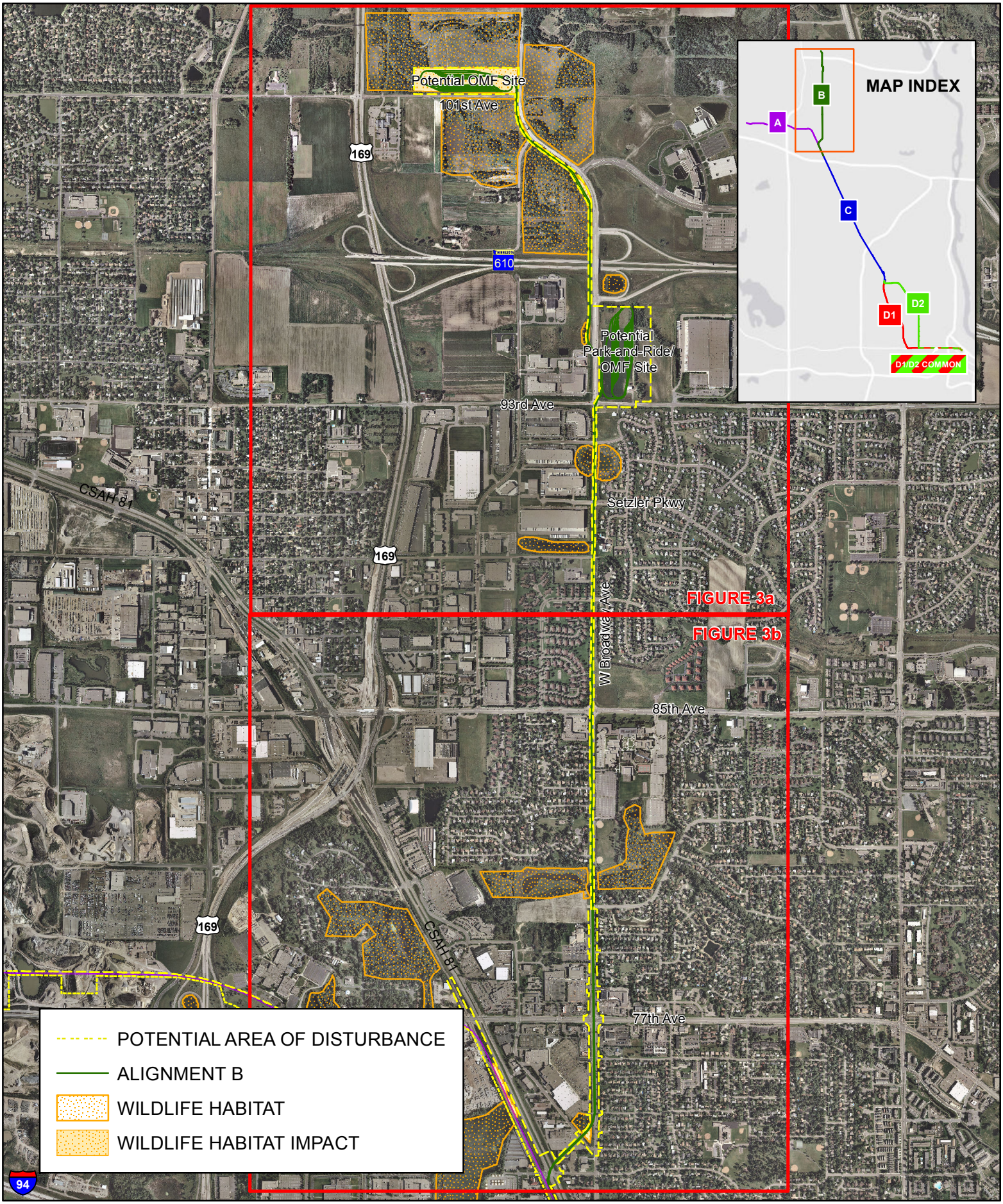
Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Sources:
Aerial: Minnesota Geospatial Information Office, 2010
Wildlife Habitat: Kimley-Horn and Associates, 2012

Hennepin County
Regional Railroad Authority

Metropolitan Council

FIGURE 2a. ALIGNMENTS A: WILDLIFE HABITAT IMPACT



0 0.25 0.5 Miles

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Sources:
Aerial: Minnesota Geospatial Information Office, 2010
Wildlife Habitat: Kimley-Horn and Associates, 2012

Hennepin County
Regional Railroad Authority

Metropolitan Council

FIGURE 3. ALIGNMENT B: HABITAT IMPACTS

0 0.125 0.25 Miles

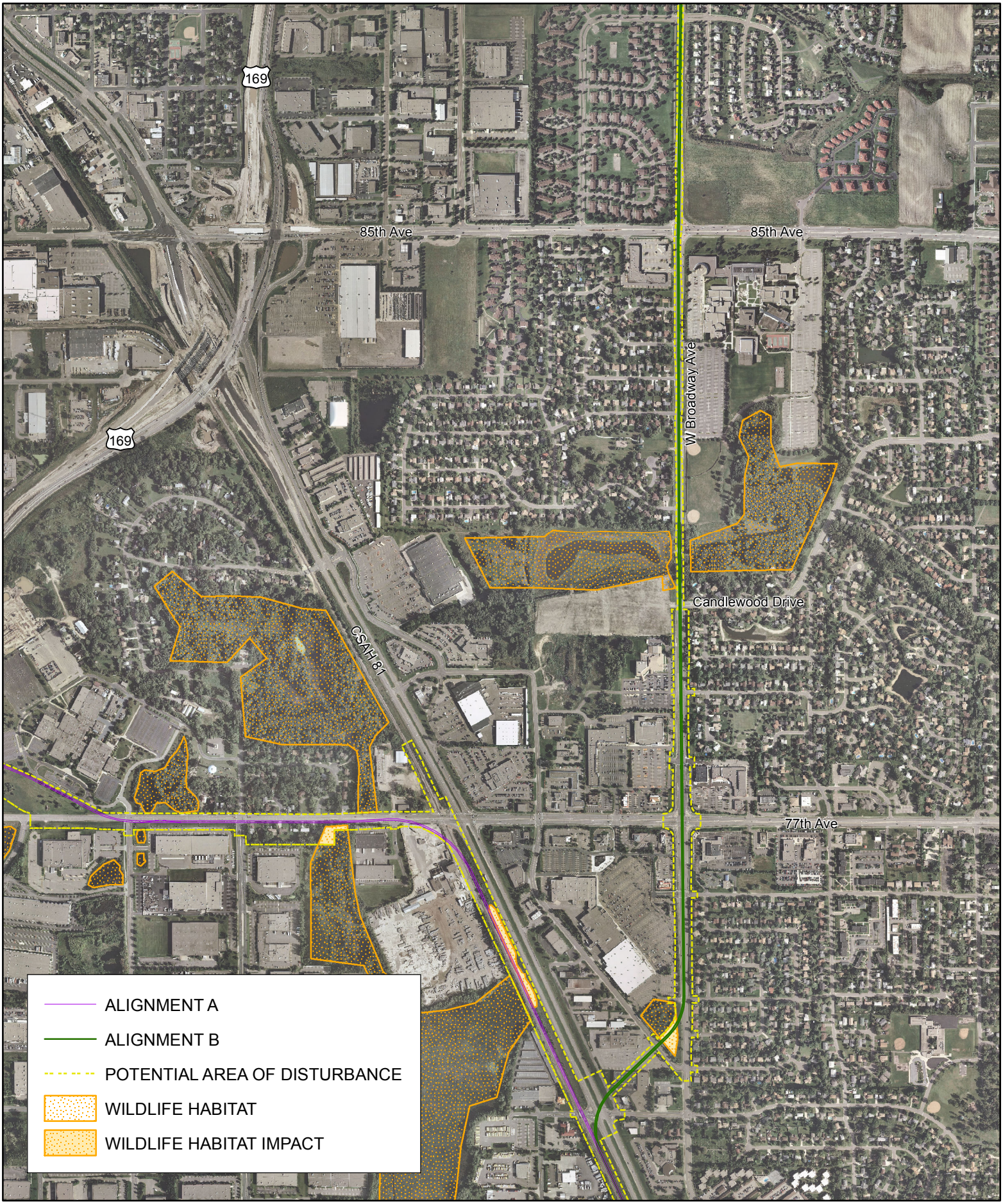
Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Sources:
Aerial: Minnesota Geospatial Information Office, 2010
Wildlife Habitat: Kimley-Horn and Associates, 2012

Hennepin County
Regional Railroad Authority

Metropolitan Council

FIGURE 3a. ALIGNMENT B:
WILDLIFE HABITAT IMPACTS



0 0.125 0.25 Miles

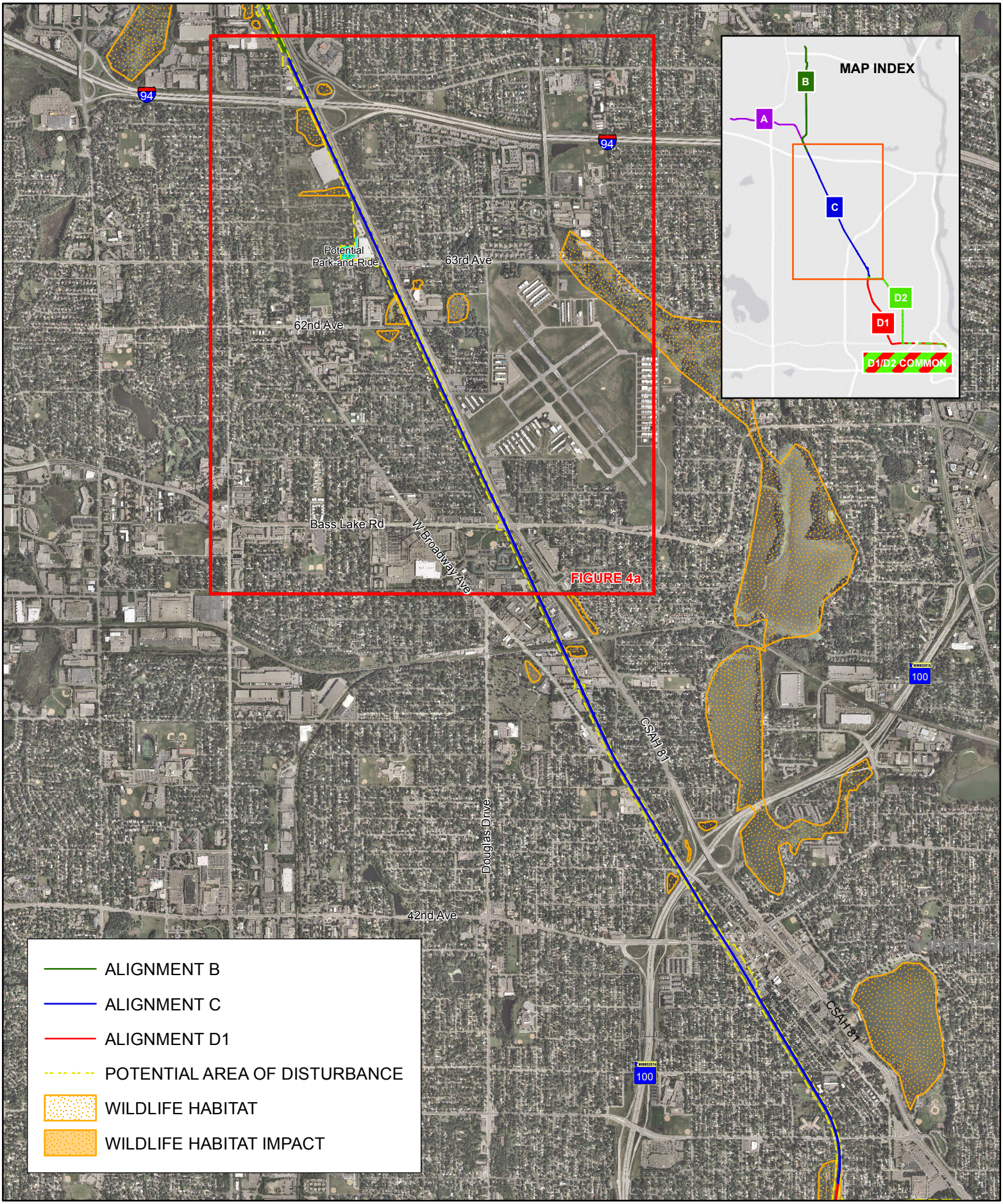
Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Sources:
Aerial: Minnesota Geospatial Information Office, 2010
Wildlife Habitat: Kimley-Horn and Associates, 2012

Hennepin County
Regional Railroad Authority

Metropolitan Council

FIGURE 3b. ALIGNMENT B:
WILDLIFE HABITAT IMPACTS



0 0.25 0.5 Miles

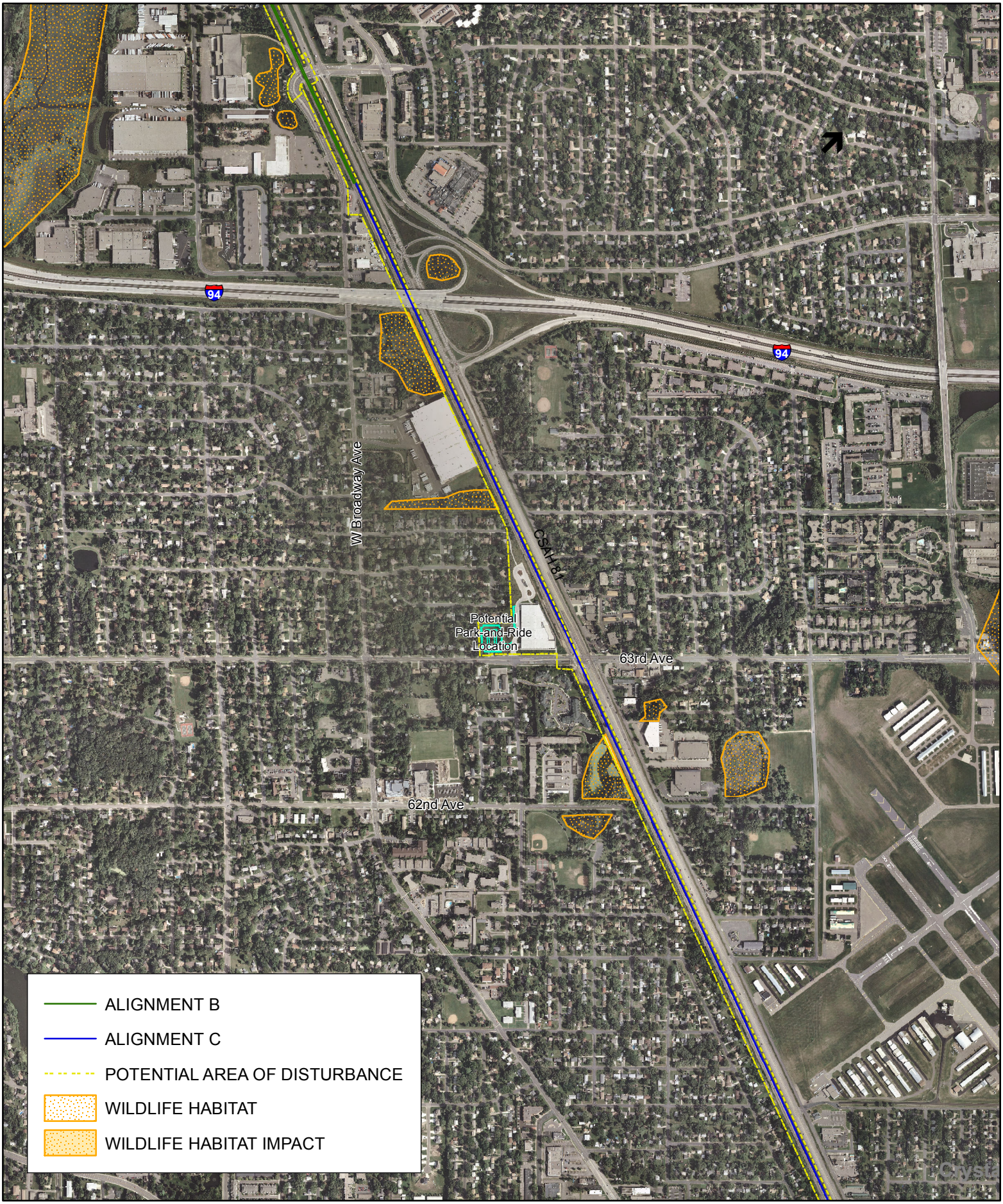
Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Sources:
Aerial: Minnesota Geospatial Information Office, 2010
Wetland: National Wetlands Inventory modified by Kimley-Horn
Floodplain: Federal Emergency Management Agency GIS

Hennepin County
Regional Railroad Authority

Metropolitan Council

FIGURE 4. ALIGNMENT C: WILDLIFE HABITAT IMPACT



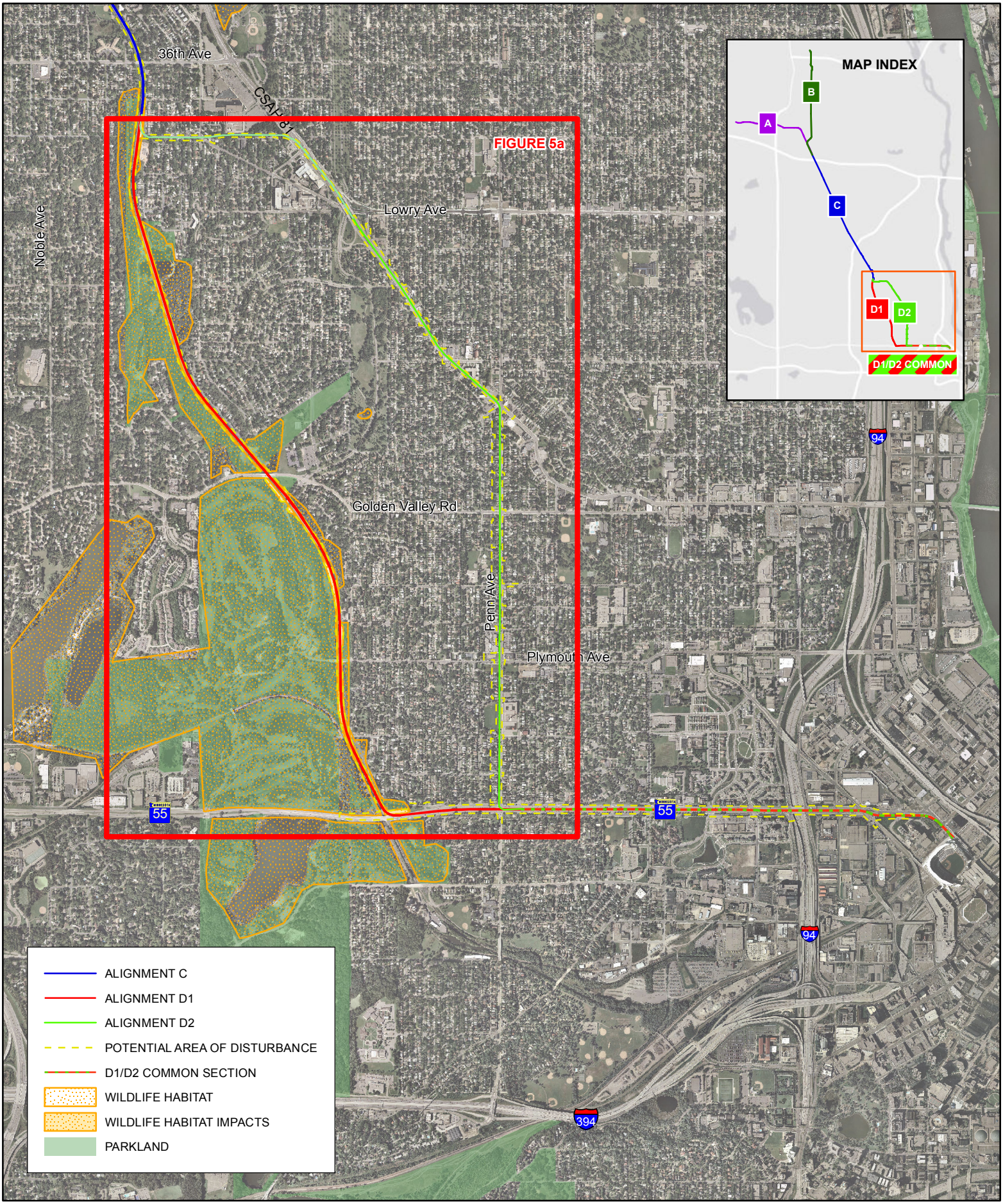
0 0.125 0.25 Miles

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Sources:
Aerial: Minnesota Geospatial Information Office, 2010
Wildlife Habitat: Kimley-Horn and Associates, 2012

Hennepin County
Regional Railroad Authority
Metropolitan Council

FIGURE 4a. ALIGNMENT C: WILDLIFE HABITAT IMPACT



0 0.25 0.5 Miles

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Sources:
Aerial: Minnesota Geospatial Information Office, 2010
Wildlife Habitat: Kimley-Horn and Associates, 2012

FIGURE 5. ALIGNMENTS D1, D2, AND D1/D2 COMMON WILDLIFE HABITAT IMPACTS

Hennepin County
Regional Railroad Authority
Metropolitan Council

0 0.125 0.25 Miles

Bottineau Transitway
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Sources:
Aerial: Minnesota Geospatial Information Office, 2010
Wildlife Habitat: Kimley-Horn and Associates, 2012

Hennepin County
Regional Railroad Authority
Metropolitan Council

FIGURE 5a. ALIGNMENTS D1 AND D2
WILDLIFE HABITAT IMPACT

APPENDIX A

DNR Correspondence

Haase, Rachel

From: Joyal, Lisa (DNR) <Lisa.Joyal@state.mn.us>
Sent: Friday, November 02, 2012 2:07 PM
To: Payne, Ashley
Subject: Bottineau Transitway

I have reviewed your assessment of the potential for the above project to impact rare features, and concur with your assessment. The reference number for this correspondence is ERDB #20120176-003.

Thank you for notifying us of this project, and for the opportunity to provide comments.

Sincerely,

Lisa Joyal

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Lisa Joyal
Endangered Species Review Coordinator
NHIS Data Distribution Coordinator
Division of Ecological and Water Resources
Minnesota Department of Natural Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155

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