

# Environmental Assessment Worksheet

Report Version 4.0

Proposer: Carver County

RGU: Minnesota Department of Transportation (MnDOT)

Prepared by:



Date: June 2023

State Project (SP) 1013-77 and 010-596-013

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# Environmental Assessment Worksheet

December 2022 version

This most recent Environmental Assessment Worksheet (EAW) form and guidance documents are available at the Environmental Quality Board’s website at: <https://www.egb.state.mn.us/>. The EAW form provides information about a project that may have the potential for significant environmental effects. Guidance documents provide additional detail and links to resources for completing the EAW form.

**Cumulative potential effects** can either be addressed under each applicable EAW Item or can be addressed collectively under EAW Item 21.

**Note to reviewers:** Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the EQB Monitor. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

## 1. EAW Item 1: Project Title

U.S. Highway (Hwy) 212 Benton Township Project (SP 1013-77 and 010-596-013)

## 2. EAW Item 2: Proposer

Carver County  
Contact person: Darin Mielke, P.E.  
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Address: Carver County Public Works, 11360 Hwy 212, Suite 1  
City, State, ZIP: Cologne, MN 55322  
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Email: [dmielke@co.carver.mn.us](mailto:dmielke@co.carver.mn.us)

## 3. EAW Item 3: RGU

Minnesota Department of Transportation (MnDOT)  
Contact person: Diane Langenbach  
Title: Metro South Area Engineer  
Address: MnDOT Metro District, 1500 West County Road B2  
City, State, ZIP: Roseville, MN 55113  
Phone: (651) 234-7721  
Fax: Not Applicable  
Email: [diane.langenbach@state.mn.us](mailto:diane.langenbach@state.mn.us)

## 4. EAW Item 4: Reason for EAW Preparation

### Required:

- EIS Scoping
- Mandatory EAW

### Discretionary:

- Citizen petition
- RGU discretion
- Proposer initiated



If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

The proposed project includes reconstruction and expansion of a two-lane, 5.5-mile segment of Hwy 212 from the city of Norwood Young America to the city of Cologne in Benton Township. The project also includes improvements to the Highway 51 intersection. The proposed project meets a mandatory EAW threshold under Minnesota Rule 4410.4300 Supt 22 (B) – For construction of additional through lanes or passing lanes on an existing road for a length of two or more miles.

#### 5. EAW Item 5: Project Location

- County: Carver
- City/Township: Cologne, Benton Township, Norwood Young America
- PLS Location (¼, ¼, Section, Township, Range): T115N-R25W-S14, 15, 16, 17, 18; T115N- R26W-S13, 14
- Watershed (81 major watershed scale): Lower Minnesota River Watershed
- GPS Coordinates: 44.7677°, -93.8489° (approximate center)
- Tax Parcel Number: Not Applicable

At a minimum attach each of the following to the EAW:

- County map showing the general location of the project;

See **Figure 1, Appendix A** (State Location Map) and **Figure 2, Appendix A** (Project Location Map).

- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and

See **Figure 3, Appendix A** (USGS Project Location Map).

- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.

See **Figure 4, Appendix A** (Project Layout)

- List of data sources, models, and other resources (from the Item-by-Item Guidance: *Climate Adaptation and Resilience* or other) used for information about current Minnesota climate trends and how climate change is anticipated to affect the general location of the project during the life of the project (as detailed below in item 7. Climate Adaptation and Resilience).

- Minnesota Climate Trends website
- Minnesota Climate Explorer website
- Minnesota Flood Factor website
- CREAT Climate Scenarios Projection Map
- Heat Vulnerability in Minnesota Tool
- Climate Vulnerability Assessment website
- Fourth National Climate Assessment: Chapter 21, Midwest Report and Chapter 24, Reducing Risk through Adaptation Actions

## 6. EAW Item 6: Project Description

- a. Provide the brief project summary to be published in the *EQB Monitor*, (approximately 50 words).

Carver County proposes an expansion of Hwy 212 from about 0.34-mile west of Tacoma Avenue/CSAH 34 to the intersection with CSAH 36 between Norwood Young America and the City of Cologne. The existing 5.5-mile-long rural two-lane highway corridor would be expanded to a rural four-lane divided highway with two eastbound lanes and two westbound lanes separated by a center median ditch. The project also includes Reduced Conflict Intersections (RCIs) and improvements to the CSAH 51 intersection, including the construction of a grade separated quadrant interchange. The project proposes construction of roadside ditches and wet ponds for stormwater treatment. Structural snow fencing, lighting improvements, and signing improvements are also proposed.

- b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities

### 1) Construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes.

The existing Hwy 212 roadway between Cologne and Norwood Young America is a rural two-lane highway with a 60 mile per hour (MPH) posted speed. Existing at-grade crossings are stop controlled and there are private driveways and farm field accesses. A drainage ditch crosses the highway via a box culvert and briefly parallels the eastbound/south lane before flowing south.

The proposed project involves the reconstruction of Hwy 212 as a four-lane divided highway with median ditch and roadside ditches along the outer shoulders on either side of the road. **Exhibit 1** illustrates the proposed Hwy 212 four-lane divided highway typical section, which is designed to accommodate vehicles of all sizes, including agricultural equipment and large trucks. There is one major intersection (CSAH 51) and three minor intersections (Tacoma Ave, Salem Ave, and CR 153) to reconstruct. The project involves the following elements that will cause physical manipulation of the environment:

- The alignment of the highway would be shifted north and south to avoid wetland impacts and minimize impact to a solar energy generating facility. This alignment was selected because it best balances and minimizes potential impacts within the project area.
- RCIs would be constructed at CSAH 34/Tacoma Avenue, Salem Avenue, CR 153, and County Drive. There are also intermediate U-turn locations between Salem Avenue and CSAH 51; these are not considered RCIs since they do not occur at an intersection.
- A grade separated quadrant interchange with CSAH 51 on a new alignment east of the existing CSAH 51 roadway would be constructed. CSAH 51 would be constructed on a bridge over Hwy 212. This project element would be located east of St John's

United Church of Christ's parking lot (north of Hwy 212) and cross east of residential properties (south of Hwy 212). The original roadway alignment would be modified to connect to the new alignment.

- Highway access to private residential and agricultural lands would be reconstructed throughout the project area. Coordination with the property owners was conducted to consolidate access points and relocate to provide better grading for the roadway.
- Wet ponds for stormwater management would be constructed throughout the project area to accommodate increased impervious surface.
- An existing drainage ditch located east of CSAH 51 would be situated south of its existing path to accommodate the proposed project.
- Existing overhead electric transmission lines are present throughout the project area. The project has been designed to avoid impacts to transmission lines.

Exhibit 1: Proposed Hwy 212 Four-Lane Divided Highway Section



## 2) modifications to existing equipment or industrial processes

The project would not modify existing equipment or industrial processes.

## 3) significant demolition, removal or remodeling of existing structures

The project would involve the demolition and removal of buildings at one residential / farmstead property. The property is located north of Hwy 212 and east of Salem Ave. There is a house with three outbuildings and an old foundation. The impacts would include removal of the house and three outbuildings and an old foundation/slab. There are other buildings present at this location and will remain on the parcel. The house could be reconstructed elsewhere on the property or property owners could relocate to another location. There are no other building impacts on this site.

## 4) timing and duration of construction activities

Construction of the proposed Hwy 212 improvement project is anticipated to be let June 2024 with construction to occur in 2024 through fall 2026.

### c. Project magnitude

Table 1 lists project magnitude data.

Table 1: Project Magnitude Data

Description	Number
Total Project Acreage <sup>1</sup>	178.3 acres
Linear project length	5.5 miles (Hwy 212); 0.6 miles (CSAH 51)
Number and type of residential units	N/A
Residential building area (in square feet)	N/A
Commercial building area (in square feet)	N/A
Industrial building area (in square feet)	N/A
Institutional building area (in square feet)	N/A
Other uses – specify (in square feet)	N/A
Structure height(s)	N/A

<sup>1</sup>Total project acreage includes the approximate area within the preliminary design construction limits.

N/A = Not Applicable

- d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

**Project Purpose**

The purpose of the Hwy 212 Benton Township project is to improve pavement conditions, vehicle safety, and vehicle mobility on Hwy 212 between CSAH 34 and CSAH 36 in Carver County.

**Project Need**

Project needs include pavement condition, vehicle safety, and vehicle mobility. These needs are briefly discussed in this section and fully described, including supporting data and analysis, in **Appendix B**.

Pavement Condition

MnDOT assesses pavement condition or performance using several indices:

- Ride Quality Index (RQI) – a ride smoothness metric representing the rating that a typical road user would give to the pavement’s smoothness as felt within their vehicle.
- Surface Rating (SR) – a pavement distress metric representing distress or visible defects on the pavement surface including cracks, patches, and ruts.
- Pavement Quality Index (PQI) – a metric describing the overall pavement condition.

MnDOT Highway Pavement Management Application (HPMA) plots were developed for existing and future conditions on Hwy 212 from CSAH 34 to CSAH 36 and show the RQI and SR. **Figure 3** in **Appendix B** shows the HPMA plot for the project area. The RQI and SR ratings represent 2020 pavement data collected by the MnDOT Pavement Management Unit and include past pavement performance history as well as projected future pavement performance. Existing data describing the

condition of pavement is generally described as good, reflecting the improvements in pavement condition from the 2020 mill and overlay project. This noted, pavement conditions are projected to steadily deteriorate over the coming years. By 2035, the RQI is projected to fall into the fair category and the SR is projected to fall into the poor category. Overall pavement quality is projected to fall into the poor category between 2037 and 2038. A more detailed analysis of pavement conditions is provided in **Appendix B**.

The underlying concrete pavement on Hwy 212 was originally constructed nearly 90 years ago. The roadbed and pavement have not been completely reconstructed since that time. As such, it is anticipated that pavement on Hwy 212 will deteriorate more rapidly, resulting in poor pavement conditions much sooner than the timeframes described above.

### Vehicle Safety

High traffic volumes, high speeds, and access have caused a vehicle safety concern on Hwy 212 between CSAH 34 and CSAH 36. A crash analysis of MnDOT's Minnesota Crash Mapping Analysis Tool for a five-year period 2015 to 2019 found a total of 97 crashes, including 71 segment crashes (one fatality, 14 incapacitating injuries, and 56 property damage only crashes) and 26 intersection crashes (one fatality, seven incapacitating injuries, and 18 property damage only crashes).

An analysis of segment crash rates within the project area found the highway does not deviate from statewide trends for similar facilities and is performing within expectation. The same analysis was performed on intersection crash rates within the project area. The rates at Hwy 212 intersections with CSAH 34, Salem Avenue, and CSAH 51 exceed statewide trends for similar facilities and indicate there is a sustained crash problem at these locations. Analysis of other intersections found no deviation from statewide trends for similar facilities.

Hwy 212 is an essential freight connection between the Twin Cities Metropolitan Area and southwest Minnesota and beyond. This role plays a factor in vehicle safety along the corridor; freight vehicles were involved in 15 percent of crashes on Hwy 212 during the period from 2015 to 2019. This included one fatal crash and four personal injury crashes. One-third (33 percent) of the freight-related crashes resulted in a fatality, serious injury, minor injury, or possible injury during the period.

Other crashes not captured in the reviewed five-year period include a fatal rear-end crash resulting in two deaths (2009), serious right-angle crash (2010), and fatal right-angle crash involving a semi-tractor trailer (2018). Recent data from 2021 and 2022 found 30 recorded crashes, including one fatal crash and one severe injury crash. The fatal crash occurred on Hwy 212 approximately one mile east of Salem Avenue on May 31, 2021. The incident involved a pickup truck and semi-tractor trailer and resulted from a head-on crash.

Traffic volumes are projected to increase by the year 2040 and side-street delays at intersections are expected to increase (summarized in below section). As traffic volumes increase, there will be fewer gaps for vehicles to turn onto the highway. Drivers are anticipated to take greater risks and un-safe gaps to enter on to the highway or with turning movements from the highway to intersecting roadways. It is expected that increased traffic volumes and delays would increase the occurrence of crashes at intersections.

### Vehicle Mobility

Vehicle mobility within the project area is summarized by existing and forecasted traffic volumes, volume to capacity ratios, and intersection operations analysis. Collectively, analysis shows that there are vehicle mobility deficiencies based on daily traffic volumes and intersections during the morning and afternoon peak periods. This conclusion is generally based on the following:

- i. Vehicle traffic is projected to increase by 23 to 39 percent (by vehicles per day) by the year 2040 compared to existing conditions.
- ii. All segments within the project area are projected to exceed capacity by the year 2024.
- iii. The following intersections are expected to approach unstable traffic flow, with a level of service D (LOS D) or result in a breakdown of traffic flow (LOS F) by year 2040 during morning peak hour and/or afternoon peak hour: CSAH 34, CSAH 51, and CR 153.

### **Project Beneficiaries**

The project would benefit all users of Hwy 212 between CSAH 36 and CSAH 34/Tacoma Avenue, as well as users of adjacent and intersecting roadways, such as CSAH 51. Reconstruction of Hwy 212 would improve pavement condition, vehicle safety, and vehicle mobility.

- e. Are future stages of this development, including development on any other property planned or likely to happen?  Yes  No

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

Not applicable.

- f. Is this project a subsequent stage of an earlier project?  Yes  No

If yes, briefly describe the past development, timeline and any past environmental review.

This project is the final project among the county's Hwy 212 improvement projects. These projects include:

- Hwy 212 four-lane expansion (2009)
- CSAH 53 / Hwy 284 RCI Installation (2012)
- CSAH 44 Interchange (2019)
- Hwy 5 / Hwy 25 Rehab and Intersection Improvements (2020)
- Pedestrian underpass (2020)

The four-lane expansion project located east of this project in Dahlgren Township and city of Carver involved reconstruction of an approximate 4.7-mile segment of a former two-lane roadway to a four-lane expressway, replacement of the bridge over Carver Creek, and reduced conflict intersection at CSAH 43. Environmental review for this project consisted of an Environmental Assessment approved by MnDOT and Federal Highway Administration (December 2009). An Environmental Assessment Worksheet was prepared for the Hwy 212/CSAH 44 Interchange Project in 2018.

## **7. EAW Item 7: Climate Adaptation and Resilience**

- a. Describe the climate trends in the general location of the project (see guidance: *Climate Adaptation and Resilience*) and how climate change is anticipated to affect that location during the life of the project.

All the data sources reviewed gave high probabilities for increased temperatures and increased precipitation over the next 20 years, resulting in increased flooding and stormwater management concerns, as well as heat waves. However, review of the flood factor mapping for the project area in Carver County indicated an overall minor risk of flooding. The increased rainfall intensity and frequency can affect stormwater management systems and increase water pollution. Higher temperatures can also harm water quality. Data also indicates a greater probability of drought periods, though these are not predicted to be as frequent as the periods of increased precipitation. These shifts in weather patterns will affect vegetation and wildlife.

MnDOT has identified a number of potential negative effects of climate change on the state’s transportation system and the need to adapt.<sup>1</sup> Confidence is high to very high for the following impacts: heavy precipitation/flooding, warmer winters, and new species ranges. Examples of negative effects include overtopping roads due to flooding, damage to the highway, more ice-buildup and reduced pavement conditions, changes in roadside vegetation mixes, and increases in invasive species.

- b. For each Resource Category in the table below: Describe how the project’s proposed activities and how the project’s design will interact with those climate trends. Describe proposed adaptations to address the project effects identified.

Given the increased impervious surface (existing is 33.9 acres and proposed is 71.0 acres) associated with the project, stormwater management was an important factor in the design. The design helps address critical mobility and safety issues while having a resilient design that factors in climate trends in the area. Given the anticipated high usage of this road, it was important to make sure that the road would be able to withstand increased temperatures and the larger, more frequent extreme precipitation events.

**Table 2** lists resource categories.

*Table 2: Resource Categories*

Resource Category	Climate Considerations (example text provided below isto be replaced with project-specific information)	Project Information	Adaptations
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<sup>1</sup> Minnesota Department of Transportation. Adaptation (Webpage regarding impacts of climate change on MnDOT and climate change impacts in Minnesota). Accessed October 18, 2022, at <http://www.dot.state.mn.us/climate/adaptation.html>.

Project Design	This project may contribute to urban heat island effects in the future. Although Carver County is currently the least populated of the seven Twin Cities metro area counties, it is one of the fastest growing. Construction will contribute to CO2 emissions and may also contribute to the heat island effect due to increases in impervious cover.	Climate change risks and vulnerabilities identified include more frequent and intense storm events and extended heat waves.	The project will be constructed as efficiently as possible while still meeting the project goals.
Land Use	Creation of increased impervious areas will affect stormwater management during strong precipitation events.	Climate change risks and vulnerabilities identified include increased runoff from impervious surfaces and stronger and more frequent precipitation events, as well as increased emissions from changes in traffic.	The road will be sloped appropriately with ditches to accommodate stormwater runoff and increased precipitation associated with climate change.
Water Resources	Addressed in item 12	Addressed in item 12	Addressed in item 12
Contamination/ Hazardous Materials/Wastes	Increased temperatures and precipitation can cause increased methane production in landfills and increased odors.	Climate change risks and vulnerabilities identified include increased heat could affect stored hazardous materials.	The Project does not anticipate the storage of any hazardous materials onsite.
Fish, wildlife, plant communities, and sensitive ecological resources (rare features)	Addressed in item 14	Addressed in item 14	Addressed in item 14



**8. EAW Item 8: Cover Types**

Estimate the acreage of the site with each of the following cover types before and after development.

Cover Types	Before (acres)	After (acres)	Gain/Loss
Wetlands and shallow lakes (<2 meters deep)	25.00 <sup>1</sup>	0.00	25.00 acres loss
Deep lakes (>2 meters deep)	0.00	0.00	N/A
Wooded/forest	10.77	0.00	10.77 acres loss
Rivers/streams	0.92	0.00	0.92-acre loss
Brush/Grassland	0.50	0.00	0.50-acre loss
Cropland	107.50	0.00	107.50 acres loss
Livestock rangeland/pastureland	0.00	0.00	N/A
Landscaping/vegetated roadside	13.80	101.3 <sup>2</sup>	87.50 acres gain
Green infrastructure TOTAL (from table below*)	N/A	0.01	0.01-acre gain
Impervious surface	33.90	71.00	37.10 acres gain
Stormwater Pond (wet sedimentation basin)	N/A	5.97	5.97 acres gain
<b>TOTAL</b>	<b>178.3</b>	<b>178.3</b>	

**Table 3** lists cover types before and after the Hwy 212 Benton Township Project, **Table 4** shows green infrastructure acreage before and after the project, and **Table 5** lists tree cover before and after the project.

*Table 3: Land Cover Before and After Development*

Cover Types	Before (acres)	After (acres)	Gain/Loss
Wetlands and shallow lakes (<2 meters deep)	25.00 <sup>1</sup>	0.00	25.00 acres loss
Deep lakes (>2 meters deep)	0.00	0.00	N/A
Wooded/forest	10.77	0.00	10.77 acres loss
Rivers/streams	0.92	0.00	0.92-acre loss
Brush/Grassland	0.50	0.00	0.50-acre loss
Cropland	107.50	0.00	107.50 acres loss
Livestock rangeland/pastureland	0.00	0.00	N/A
Landscaping/vegetated roadside	13.80	101.3 <sup>2</sup>	87.50 acres gain
Green infrastructure TOTAL (from table below*)	N/A	0.01	0.01-acre gain
Impervious surface	33.90	71.00	37.10 acres gain
Stormwater Pond (wet sedimentation basin)	N/A	5.97	5.97 acres gain

Cover Types	Before (acres)	After (acres)	Gain/Loss
<b>TOTAL</b>	<b>178.3</b>	<b>178.3</b>	

The area of interest encompasses land within the proposed right of way.

The “Before” and “After” area totals listed in the table above are preliminary estimates based on existing land cover data and preliminary design files and are subject to change through more detailed design and construction. Note “Before” and “After” acreage totals may not equal the sum of individual cover types due to factors like variability in data availability and rounding.

<sup>1</sup>Approximately 14.1 acres of wetlands are located in cropland areas, resulting in the sum of individual cover types before construction to be greater than 178.3 acres.

<sup>2</sup>Wetlands, wooded, and cropland areas lost but not converted into additional impervious surface or stormwater pond are assumed to be landscaping/vegetated roadside.

Table 4: Green Infrastructure Before and After Project

Green Infrastructure*	Before (acreage)	After (acreage)
Bioretention in the ditch bottom: NE quadrant of the Salem Ave intersection	0.00	0.01
Constructed tree trenches and tree boxes	N/A	N/A
Constructed wetlands	N/A	N/A
Constructed green roofs	N/A	N/A
Constructed permeable pavements	N/A	N/A
Other (describe)	N/A	N/A
<b>TOTAL*</b>	<b>0.00</b>	<b>0.01</b>

Table 5: Tree Cover Before and After Development

Trees	Percent	Number
Percent tree canopy removed or number of mature trees removed during development	100%	10.77 acres
Number of new trees planted	0	0

## 9. EAW Item 9: Permits and Approvals Required

List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

Error! Reference source not found. lists anticipated permits and approval required for the Hwy 212 Benton Township Project.

Table 6: Permits and Approvals Required

Unit of Government	Type of Application	Status
<b>Federal</b>		
Federal Highway Administration (FHWA)	Categorical Exclusion Document	Pending
U.S. Fish and Wildlife Service (USFWS)	Threatened and Endangered Species Review	Complete* USFWS concurrence has been received; structures will be re-inspected summer 2023 to identify bat species using structures. If Northern Long-Eared Bats are observed, consultation with USFWS will be initiated.
U.S. Army Corps of Engineers (USACE)	Clean Water Act (CWA) Section 404 permit	To be completed
<b>State</b>		
Minnesota Department of Transportation (MnDOT)	Environmental Assessment Worksheet	Pending
MnDOT	EIS Need Determination	To be completed
MnDOT Cultural Resources Unit (CRU)	Archaeological/Historical Determination	Pending (see <b>Appendix D</b> ). This will be completed before the EAW is signed.
MnDOT	Wetland Conservation Act (Boundary Approval/Public Road Project Notification)	Complete The boundary/type approval was completed by CCWMO. Their Notice of Decision was issued 10/12/2022.
Minnesota Department of Natural Resources (DNR)	State Endangered Species Review	Completed
DNR	Water Appropriation Permit	To be completed (if necessary)
DNR	Public Waters Work Permit	To be completed (the city or township will work with the DNR)
Minnesota Pollution Control Agency (MPCA)	National Pollution Discharge Elimination System (NPDES) Construction Stormwater Permit	To be completed
MPCA	CWA Section 401 Water Quality Certification	To be completed

Local		
Metropolitan Council	Controlled Access Approval	To be completed
Carver County Water Management Organization (CCWMO)	Stormwater Permit	To be completed
CCWMO	Erosion and Sediment Control (ESC) Permit	To be completed
CCWMO	Wetland Conservation Act Approval (Boundary Approval/Wetland Replacement Plan)	To be completed
Norwood Young America	Wetland Conservation Act Approval (Boundary Approval/Wetland Replacement Plan)	To be completed
Cologne	Wetland Conservation Act Approval (Boundary Approval/Wetland Replacement Plan)	To be completed

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos.10-20, or the RGU can address all cumulative potential effects in response to EAW Item No.22. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 21.

**10. EAW Item 10: Land Use**

- a. Describe:
  - i. Existing land use of the site as well as areas adjacent to and near the site, including parks and open space, cemeteries, trails, prime or unique farmlands.

**Existing Land Use**

The project area is adjacent to commercial, industrial, agricultural, farmstead, residential, and transportation (roadways and right of way) uses, as well as a park and a church. **Figure 5, Appendix A** illustrates the existing land uses in the project area.

**Parks and Open Space, Cemeteries, Trails**

There are no pedestrian or bike trails within or adjacent to the project area. There is one park in the project area, Veteran’s Park, which is owned by the city of Norwood Young America. It is part of a 5.8-acre parcel (ID number 580141100) located at 700 Railroad St E. It is south of Hwy 212, west of Tacoma Ave, and north of Railroad Street E. Amenities include a memorial walk, gazebo, the Minnesota Freedom Rock, and a parking lot. Veteran’s Park itself is 1.2 acres and is classified as an urban park according to Norwood Young America’s 2040 Comprehensive Plan. The park is within the northeast corner of the parcel. The remainder of the parcel is either roadway or vegetated.

The Southwest Trails Association, a nonprofit organization, has a segment of snowmobile trail (labeled as Snowmobile Trail – 225 on Minnesota DNR’s Interactive

Snowmobile Trails map) that crosses Hwy 212 near Salem Ave. However, this is not a state designated trail, and the crossing will be maintained during the winter months since no roadwork is planned during that timeframe.

St. John's United Church of Christ has a cemetery on its property. It is located at the northwest corner of the Hwy 212 and CSAH 51 intersection. The cemetery will not be impacted by the project.

### **Prime or Unique Farmlands**

Prime and unique farmlands are located adjacent to the project area. Lands along the north and south sides of the Hwy 212 project area are currently in agricultural uses.

**Figure 6, Appendix A** illustrates prime and unique farmlands within the study area.

- ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

Carver County is the least populated county in the Twin Cities metropolitan area but is expected to reach 3.4 million people by 2030 and nearly 3.7 million by 2040. Carver County's 2040 Comprehensive Plan proposed land use map (February 2020) was reviewed for planned land use adjacent to the Hwy 212 project area. Areas identified as 2040 City Growth Area are adjacent to the city of Norwood Young America. Agricultural areas surround the city of Norwood Young America's 2040 City Growth Area and the city of Cologne.

The plan defines 2040 City Growth Area as areas shown on city plans for annexation and development within the next 20 years. These areas are expected to be served by sewer service when developed. Agricultural areas are used for agricultural purposes including dairying, pasturage, horticulture, floriculture, viticulture, and animal and poultry husbandry. City land use includes incorporated areas.

- iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

Within agricultural areas identified in the Carver County 2040 Comprehensive Plan, a patchwork of lands is enrolled in the Agricultural Preserve Program, which is designed to value and tax qualifying agricultural property located in the metropolitan area under Minnesota Statute 473H. Benton Township has a high participation in the program, with 69% of the land in the Township enrolled as of 2014. The covenant limits the residential density to one dwelling per 40 acres, regardless of other zoning provisions. The Carver County Zoning Map (Ordinance 97-2001) also shows that there is a rural service overlay district (Bongards Creamery) on Hwy 212 within the project area. The future road classification for Hwy 212 is noted as a principal arterial road. CSAH 51 is identified as a future A-minor connector roadway in the 2040 Carver County Comprehensive Plan. The purpose of A-minor roadways is to provide continuity on a sub-region level, serve travel sheds, and serve medium to long-distance trips.

The alignment of the railroad south of Hwy 212 is designated as a Regional Trail Corridor

(future linking trail); this is part of the linking trail corridor known as the Twin Cities and Western Regional Trail Corridor. The railroad is not anticipated to be abandoned within the 2040 timeframe.

**Figure 10, Appendix A** shows floodplains within the project’s vicinity. The Federal Emergency Management Agency (FEMA) flood insurance rate map (FIRM) for the project area is Community Panel No. 27019C0170D. The FEMA map shows a small portion of Flood Zone A (associated with Barnes Lake) north of Hwy 212, just east of the intersection with Stewart Avenue, within the project limits. The area has “no base flood elevations determined.” The DNR Lake and Flood Elevations map shows it as 972 feet.<sup>2</sup> The box culvert associated with Barnes Lake does not convey as perennial stream; it is just the high-water outlet for the lake. Floodplain reporting requirements will be met, according to the DNR Letter of Map Revision (LOMC) Guide<sup>3</sup>. The proposed project is outside of 500-year floodplain or other floodway boundaries. A floodplain assessment is located in **Appendix F**.

Carver County Watershed Management Organization’s 2020-2029 Watershed Management Plan shows 100-year floodplain associated with Barnes Lake within the west portion of the project area. The basin of Barnes Lake outlets to the south under the current Hwy 212 roadway. Anticipated floodplain impacts associated with the project include the following: 877 sq ft, 30 cubic yards of fill, and longitudinal length of 50 feet.

The surface water management plan establishes policies and design standards to prevent flooding from surface flows by controlling excessive volumes and rates of runoff.

- iv. If any critical facilities (i.e., facilities necessary for public health and safety, those storing hazardous materials, or those with housing occupants who may be insufficiently mobile) are proposed in floodplain areas and other areas identified as at risk for localized flooding, describe the risk potential considering changing precipitation and event intensity.

Critical facilities or those with housing occupants who may be insufficiently mobile are not identified within mapped floodplain within the project area.

- b. Discuss the project’s compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

This project would be compatible with nearby land uses, zoning, and plans. The project is located within Hwy 212 right of way, as well as privately-owned land along Hwy 212 and surrounding the proposed CSAH 51 quadrant interchange. The project would require right of way acquisition from adjacent properties to accommodate reconstruction of Hwy 212; quadrant interchange and overpass at CSAH 51 and adjacent road realignment areas, RCIs at Tacoma Avenue, Salem Avenue, CR 153, and County Drive; U-turns between Salam Avenue and CSAH 51, and construction of stormwater ponds. The affected properties are rural residential, agricultural, and wetland land uses. The largest areas of proposed right of way acquisition would be from land surrounding the proposed Hwy 212/CSAH 51

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<sup>2</sup> Minnesota Department of Natural Resources. MnDNR Lake and Flood Elevations Online. <https://arcgis.dnr.state.mn.us/ewr/lfeo/lat/44.7686/lng/-93.8967/z/18>. Accessed September 26, 2022.

<sup>3</sup> Minnesota Department of Natural Resources. MnDNR LOMC Guide.. Accessed February 9, 2023 and available at [https://files.dnr.state.mn.us/waters/watermgmt\\_section/floodplain/lomr-guidance.pdf](https://files.dnr.state.mn.us/waters/watermgmt_section/floodplain/lomr-guidance.pdf).

interchange and for the development of RCIs and stormwater ponds. Other proposed right of way acquisitions along Hwy 212 would consist of strip takings adjacent to existing right of way. The proposed right of way acquisitions along Hwy 212 would not prevent future development of affected properties.

Erosion control measures following MnDOT best management practices (BMPs) and specifications, and as required by National Pollution Discharge Elimination System (NPDES) permitting would be implemented during project construction. The proposed stormwater management plan provides water quality treatment for runoff prior to discharge to adjacent wetlands. Both water quality and volume control will be provided. These measures provide compatibility for the portion of the project within the Carver County Water Management Organization (CCWMO).

- c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 10b above and any risk potential.

No incompatibility with existing or planned land use is anticipated; therefore, no mitigation is required.

#### **11. EAW Item 11: Geology, Soils and Topography/Land Forms**

- a. Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects on geologic features.

According to the Minnesota Geological Survey (MGS) Geologic Atlas of Carver County, the surficial soils in the project area consist of till deposited by glacial ice and mudflows as the glacial ice retreated. In general, bedrock depths vary from approximately 100 feet to 400 feet below ground surface.

According to information available from the DNR, the project is not located within a karst-prone region.<sup>4</sup>

- b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 12.b.ii.

Project area topography is generally described as gently rolling. Elevations range from

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<sup>4</sup> Minnesota Department of Natural Resources. Ecological and Water Resources Division. 2016. Minnesota Regions Prone to Surface Karst Feature Development. Available at: [http://files.dnr.state.mn.us/waters/groundwater\\_section/mapping/gw/gw01\\_report.pdf](http://files.dnr.state.mn.us/waters/groundwater_section/mapping/gw/gw01_report.pdf)

approximately 953 feet above sea level near the east project extent to approximately 994 feet above sea level near the west project extent.

Soil within the project area are not designated as Highly Erodible Land based on the Natural Resource Conservation Service (NRCS) Soil Survey for Carver County. Much of the soil is loam or clay loam, such as Lester loam, Le Sueur-Lester loams, Hamel loam, and Klossner muck. Some of the Lester loam is moderately eroded (e.g., Lester loam, 6 to 10 percent slopes, moderately eroded).

The acreage of soil excavation and/or grading for the proposed project is approximately 186 acres (i.e., area within preliminary construction limits). The estimated volume of soil excavation and/or grading is approximately 1,425,000 cubic yards for excavation and 1,480,000 cubic yards for embankment. Disposal will occur outside the current construction limits. Disposal may occur inside the project corridor area, but disposal sites have not been identified yet – disposal is up to the contractor. The deepest disturbance is 34 feet. Project soils do not present any situations that would require unique soil stabilization methods. Poor soil along the Hwy 212 roadway would be excavated and replaced with material suitable for the roadway subgrades.

*NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 12 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 11.*

## 12. EAW Item 12: Water Resources

The Local Government Unit (LGU) – the city or township – will coordinate any public water permitting and environmental review through the Minnesota DNR area resource managers.

- a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.
  - i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, shoreland classification and floodway/floodplain, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include the presence of aquatic invasive species and the water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

### *Minnesota DNR Public Waters*

**Figure 8 in Appendix A** illustrates existing water resources in the project area. There are a few Minnesota Department of Natural Resources (DNR) Public Water basins, watercourses, or wetlands identified within 500 feet of the project limits:

- Barnes Lake (described as public water basin): north of Hwy 212, between Tacoma Ave and Salam Ave.
- Unnamed stream (labeled M-055-022-002 / DNR Hydro ID: 124019) in the public waters basin delineation GIS file from DNR), north of Hwy 212 and connected with Meuwissen Lake.



- Meuwissen Lake (described as public water wetland): east end of the project limits, north of Hwy 212.

*Aquatic Resources*

Aquatic resources within and adjacent to the project area consist of an assortment of wetlands, roadside wetland ditches (linear wet ditches), and public ditch. Wetland boundaries within and surrounding the project limits were identified using a Level 2 routine onsite delineation method. A total of 61 aquatic resources or portions thereof were identified within the investigation area. **Figure 2, Appendix C** illustrates delineated wetland boundaries and other aquatic resources in the project area. The delineation was approved under the Minnesota Wetland Conservation Act (WCA) on October 12, 2022.

*MPCA 303(d) Impaired Waters List*

The MPCA’s impaired waters list (2022) provides information on impairments and TMDLs as required by the federal Clean Water Act.<sup>5</sup>

**Table 7** lists the impaired waters within one mile of the project limits.

*Table 7: MPCA 303(d) Impaired Waters (2022) within One Mile of the Project Limits*

<b>Waterbody Name</b>	<b>Beneficial Use (Biology and Recreation, Consumption)</b>	<b>Impairment Cause</b>	<b>TMDL Plan</b>	<b>DNR Public Water</b>
Unnamed Ditch (AUID 07020012-533) Description: T115 R26W S14, north line to CD 4A	4A, Limited Resource Value (LRV)	<i>E. coli</i>	Year TMDL plan approved: 2020	County Ditch 4A (Public Watercourse M-055-027-014-001)
Unnamed Ditch (AUID 07020012-565) Description: T115 R25W S16, west line to Winkler Lk	4A, LRV	<i>E. coli</i>	Year Approved: 2020	N/A
Unnamed Creek (AUID 07020012-	4A, LRV	<i>E. coli</i>	Year TMDL plan approved:	DNR Hydro ID: 124019 (M-055-022-

<sup>5</sup> Minnesota Pollution Control Agency. 2022 Impaired Waters List. <https://www.pca.state.mn.us/air-water-land-climate/minnesotas-impaired-waters-list>. Approved by U.S. EPA on April 29, 2022. Accessed September 21, 2022.

568) Benton Lk to Carver Cr			2020	002)
Bevens Creek (AUID 07020012- 847) Unnamed cr to -93.7156 44.7438	4A, 2Bg	AQL/AQR, FC & T	Year TMDL plan approved: 2007	DNR Hydro ID: 104372 (M-055-027)
Winkler Lake (AUID 10- 0066-00)	4A, 2B	AQR, Nutrients	Year TMDL plan approved: 2010	Public Water Basin 10006600
Benton Lake (AUID 10- 0069-00)	4A, 2B	AQR, Nutrients	Year TMDL plan approved: 2013	Public Water Basin 10006900

- ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

*Depth to Groundwater*

Depth to groundwater is estimated at varying primarily 0-10 feet for the project area, based on the Water-Table Elevation and Depth to Water Table.<sup>6</sup>

*Wellhead Protection Areas (WHPA) and Drinking Water Supply Management Areas (DWSMA)*

There are no wellhead protection areas (WHPA) or drinking water supply management areas (DWSMA) within the construction limits.<sup>7</sup> The nearest WHPA is in Waconia, MN, which is around 4.5 miles north of the eastern project terminal, with the second (Plato) about seven miles west of the project terminal, and the third closest (Carver 2) about eight miles east, just south of Hwy 212. **Figure 7** in **Appendix A** illustrates the closest WHPA and DWSMA (Waconia) located near the project area, which has very low DWSMA Vulnerability.

*Wells*

A search of the Minnesota County Well Index (CWI) indicates that 18 verified wells are

<sup>6</sup> Source: Minnesota Department of Natural Resources. 2016. Water-Table Elevation and Depth to Water Table, Minnesota Hydrogeology Atlas series HG-03 available at <https://gisdata.mn.gov/dataset/geos-hydrogeology-atlas-hg03>.

<sup>7</sup> Source: Minnesota Department of Health. 2009-2019. Source Water Protection Web Map Viewer available at <https://www.health.state.mn.us/communities/environment/water/swp/mapviewer.html>. Accessed September 16, 2022.

located within a 500-foot buffer of the construction limits. **Figure 7 in Appendix A** includes wells in the project area.<sup>8</sup> Most of these wells are located outside of the Hwy 212 Benton Township right of way and preliminary construction limits. The wells within the project limits are listed as being in active domestic use and range from 180 to 217 feet deep. If the wells will be impacted or if any unused or unsealed wells are discovered in the project area during construction, they will be sealed in accordance with Minnesota Rules Chapter 4725.

Wells in the construction limits:

1. **Well ID #685662:** BACHMANN, LARRY, well depth 180 feet, domestic use (general location: north of Hwy 212, east of Salem Avenue)
2. **Well ID #781392:** KELSER, JOHN, well depth 216 feet, domestic use (general location: south of Hwy 212, east of County Road 51)
3. **Well ID #503539:** WTENDER, JULIUS, well depth 217 feet, domestic use (general location: south of Hwy 212, east of County Road 51)

It should be noted that no long-term impacts are anticipated for wells beneath the CSAH 51 overpass.

Wells near the construction limits (within 500 feet buffer of the preliminary construction limits):

1. **Well ID #575554:** LARSEN, ROBERT, well depth 173 feet, domestic use (general location: south of Hwy 212, west of Stewart Avenue)
2. **Well ID #450966:** FELTMANN, RANDALL, well depth 292 feet, domestic use (general location: north of Hwy 212, west of Salem Avenue)
3. **Well ID #503522:** BROERS, JOHN, well depth 215 feet, domestic use (general location: north of Hwy 212, west of County Road 51)
4. **Well ID # 639207:** STAHLKE, GARY, well depth of 202 feet, domestic use (general location: north of Hwy 12, west of County Road 51)
5. **Well ID #719978:** HOEN, LEONARD JR, well depth 179 feet, domestic use (general location: north of Hwy 212, east of County Road 51)
6. **Well ID #499008:** HOEN, LEONARD JR., well depth 187 feet, domestic use (general location: north of Hwy 212, east of County Road 51)
7. **Well ID #143562:** HOEN, LEONARD JR., well depth 306 feet, domestic use (general location: north of Hwy 212, east of County Road 51)
8. **Well ID #827597:** SCHEUDLE, JEREMY, well depth 239 feet, domestic use (general location: south of Hwy 212, west of County Road 51). This well is sealed.
9. **Well ID #192875:** HANSEN, RANDY, well depth 356 feet, domestic use (general location: south of Hwy 212, west of County Road 51)
10. **Well ID #736178:** RADDE, DAYLE, well depth 187 feet, domestic use (general location: south of Hwy 212, west of County Road 51)
11. **Well ID #187290:** STENDER, ALBERT, well depth 192 feet, domestic use (general location: south of Hwy 212, west of County Road 51). This well is sealed.
12. **Well ID #143569:** WENDORF IMPLEMENT, well depth 217 feet, domestic use (general location: south of Hwy 212, east of County Road 51)
13. **Well ID #122137:** KELSER, JOHN, well depth 280 feet, domestic use (general location:

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<sup>8</sup> Source: Minnesota Department of Health. 2018. Minnesota Well Index available at <https://apps.health.state.mn.us/cwi>.

south of Hwy 212, east of County Road 51). This well is sealed.

**14. Well ID #449437:** FOX, BARRY, well depth 275 feet, domestic use (general location: south of Hwy 212, east of County Road 51)

**15. Well ID #125958:** MYRON, DALBEC, well depth 175 feet, domestic use (general location: north of Hwy 212, east of CSAH 153)

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

Not applicable. The proposed project would not generate wastewater.

2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system. If septic systems are part of the project, describe the availability of septage disposal options within the region to handle the ongoing amounts generated as a result of the project. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion.

Not applicable.

3) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects.

Not applicable.

ii. Stormwater - Describe changes in surface hydrology resulting from change of land cover. Describe the routes and receiving water bodies for runoff from the project site (major downstream water bodies as well as the immediate receiving waters). Discuss environmental effects from stormwater discharges on receiving waters post construction including how the project will affect runoff volume, discharge rate and change in pollutants. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion. For projects requiring NPDES/SDS Construction Stormwater permit coverage, state the total number of acres that will be disturbed by the project and describe the stormwater pollution prevention plan (SWPPP), including specific best management practices to address soil erosion and sedimentation during and after project construction. Discuss permanent stormwater management plans, including methods of achieving volume reduction to restore or maintain the natural hydrology of the site using green infrastructure practices or other stormwater management

practices. Identify any receiving waters that have construction-related water impairments or are classified as special as defined in the Construction Stormwater permit. Describe additional requirements for special and/or impaired waters.

#### *Existing Conditions*

Much of the stormwater runoff from the project area currently drains into the shoulder ditches. No constructed stormwater treatment ponds are currently in the project area.

#### *Proposed Stormwater Management*

The project team met with CCWMO to discuss the stormwater management approach for the project on September 29, 2022. Stormwater management is based on the use of wet ponds with filter benches and amended soil. Mucky soils in the project vicinity (conducive to wetlands) make it difficult to achieve water quality targets via infiltration practices. The project approach is geared towards meeting water quality and rate control with Nationwide Urban Runoff Program (NURP) wet ponds. Water quality is further bolstered using filtration benches in conjunction with the NURP ponds. The amended soils are employed to obtain volume credit, per CCWMO design guidelines. Given the soil constraints, the volume reduction targets were cut approximately in half, per CCWMO constrained site guidance. If during final design it is determined that certain goals are not achievable, CCWMO offers the opportunity to purchase credits for the shortcoming that can be applied to other projects in the same drainage area.

There are existing drainage ditches and a county ditch along the project corridor. The wet ditch located east of County Road 51 and south of Hwy 212 will be shifted further to the south. The project will perpetuate the existing flow patterns with the new construction.

Final details on management of the wet ditches on the project will be determined during permitting efforts with the U.S. Army Corps of Engineers (USACE). See *Aquatic Resources* section of this question for additional details on wetland resources within the project area.

The proposed project would increase the area of impervious surface within the project area by approximately 37.1 acres compared to existing conditions. Existing drainage patterns would be maintained to the extent feasible. The ponds will have amended soils to meet TSS and TP removal goals and to meet the runoff volume reduction goals. Amended soils will be used along the whole corridor given the limitations of the existing soil for achieving water quality goals. The ponds will be geared towards rate control and will provide volume control as well.

The proposed stormwater management plan for the project specifies the construction of the following nine ponds (listed from west to east – see **Figure 4, Appendix A**):

1. Basswood pond (east of Tacoma Avenue S, south of Hwy 212)
2. Red Cedar Pond (west of Salem Avenue North, north of Hwy 212)
3. Black Walnut Pond (east of Salen Ave N, north of Hwy 212 near the west U-turn)
4. Green Alder Pond (east of Salen Ave N, north of Hwy 212 near the west U-turn)
5. Hackberry Pond (west of CSAH 51 and south of Hwy 212)

6. Ironwood Pond (between CSAH 51 and CR 153, south of Hwy 212)
7. Quaking Aspen Pond (east of CSAH 153 South, south of Hwy 212)
8. Silver Maple Pond (west of County Road Drive, north of Hwy 212), and
9. White Oak Pond (east of County Road Drive, north of Hwy 212).

A majority of the ponds will be NURP ponds with filter benches. In the northeast quadrant of the Salem Ave intersection, bio infiltration will also be implemented.

A detailed drainage overview map was prepared for the project area. The map illustrates existing culverts, existing ditch flow, aquatic resources (including wetland boundaries), proposed culverts, proposed drainage boundaries and flow directions, discharge points, and proposed best management practices. A copy of the drainage overview map is available from the Carver County Project Manager (see contact information in EAW item 2).

This project falls within two sub watersheds governed by the CCWMO: the Bevens Creek sub watershed and Carver Creek (both drain to the Minnesota River).

The proposed project would not contribute to the impairment of receiving waters. The proposed stormwater management system has been designed in coordination with the CCWMO in anticipation of increased rainfall frequency, intensity, and amount due to climate change. As such, the proposed stormwater management system would support the identified roadway improvements, provide water quality treatment, volume control, and rate control. **Figure 4 in Appendix A** illustrates the location of proposed wet ponds. Stormwater best management practices have been designed and would be constructed to meet NPDES and CCWMO requirements.

#### *Stormwater Pollution Prevention Plan*

A SWPPP will be developed for this project in conjunction with the NPDES permit. The SWPPP would include best management practices for erosion control, sedimentation control, and stabilization measures.

- iii. Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Discuss how the proposed water use is resilient in the event of changes in total precipitation, large precipitation events, drought, increased temperatures, variable surface water flows and elevations, and longer growing seasons. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation. Describe contingency plans should the appropriation volume increase beyond infrastructure capacity or water supply for the project diminish in quantity or quality, such as reuse of water, connections with another water source, or emergency connections.

If temporary dewatering is necessary during project construction, groundwater appropriation permits would be obtained from Minnesota DNR for temporary dewatering activities. Any groundwater appropriations would be treated prior to discharge as per NPDES permitting requirements.

iv. Surface Waters

- a) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed and identify those probable locations.

*Physical Effects or Alterations to Aquatic Resources*

A total of 61 aquatic resources or portions thereof totaling 62.1 acres were identified within the delineation investigation area. **Figure 2** in **Appendix C** illustrates aquatic resources in the project area.

Based on the Level 2 delineation and construction limits, the proposed project would result in approximately 25.91 acres of permanent aquatic resource impacts, including 22.95 acres of wetland impacts, and 2.04 acres of wet ditch impacts. This is a worst-case scenario; the final design efforts will likely reduce permanent impacts and there will likely be temporary impacts that are restored back to their original condition. Error! Reference source not found. lists aquatic resource impacts by resource type. **Table 9** summarizes wetland impacts by community type. The Wetland Impact Assessment & Two-Part Finding form in **Appendix C** describes sequencing (avoidance, minimization, and mitigation) and anticipated aquatic resource impacts by individual resource.

Wetland impacts outlined in this EAW are based on the Wetland Impact Assessment and Two-Part Finding, which is a preliminary accounting of all wetland conflicts within the construction limit. This exercise does not distinguish between the nature of the impact or duration, and instead establishes a top end estimate for the purpose of environmental review and documentation. The specific nature of impacts would be assessed at permitting. In general terms, road expansion would necessitate a larger footprint, resulting in wetland fills. Depending on drainage and stormwater treatment needs, wetland draining, dredging/cuts, and permanent inundation are possible. Wetland impacts associated with vegetation removal is also possible, but specific situations would need to be evaluated on an individual basis.

Impacts would vary based on the roadway work completed and associated

stormwater management, but may include draining, filling, permanent inundation, dredging, and vegetative removal.

Table 8: Aquatic Resource Impacts

Aquatic Resource Types	Aquatic Resource Impacts		Compensatory Mitigation Requirements
	Permanent (acres)	Temporary	
Wetlands	22.95	N/A	Impacts are anticipated to be replaced through the use of compensatory mitigation banking credit. The Board of Soil and Water Resources (BWSR) typically develops these credits in-house and then supplies them to eligible projects at no cost.
Wet Ditches	2.04	N/A	Ditch bottoms would be shifted to the toe of the graded area and impacts would be self-mitigating.
Tributaries	0.92	N/A	Mitigation requirements associated with tributary impacts have not been identified at this time.
<b>Total</b>	<b>25.91</b>	<b>N/A</b>	

Table 9: Aquatic Resource Impacts by Community Type

Wetland Type Classification (Circular 39)	Wetland Type Classification (Eggers & Reed)	Permanent Wetland Impacts (acre)
Type 1	Seasonally Flooded Basin / Floodplain Forest	4.35
Type 2	Fresh Wet Meadow	9.38
Type 3	Shallow Marsh	9.64
Type 4	Deep Marsh	1.62
Type 5	Open Water Wetland	N/A
Type 6	Shrub Swamp	0.00
Type 7	Wooded Swamp	N/A
Type 90	Non-vegetated aquatic community <sup>1</sup>	0.91
	<b>Total</b>	<b>25.91 acres</b>

<sup>1</sup>Circular 39 Type 90 classification. Described in MN DNR’s NWI Wetland Finder as Riverine Wetland Type with a non-vegetated aquatic community as the simplified plant community.

Impacts to aquatic resources are regulated by the WCA and by the USACE under



Section 404 of the Clean Water Act (CWA). It is anticipated that wetlands will be replaced at 2:1 ratio within Bank Service Area 9 (BSA 9). Wet ditches would not require mitigation provided that the ditch is replaced and there is no loss of function. In most cases, wet ditches would be reconstructed along the project area along the outside fill slope. The specific wetland bank credits to be used, including their source minor and major watersheds, would be determined during project permitting through consultation with the USACE, WCA Local Government Units (LGUs), and BWSR Local Government Road Wetland Replacement Program.

Climate change is affecting rainfall frequencies, durations, and quantities. Wetlands play an important role in providing functions and values to lessen impacts to include flow attenuation, runoff filtration, and nutrient transformation. Although permanent wetland losses are proposed, project designers plan to install stormwater best management practices to intercept and treat runoff prior to discharge, providing similar functions and values to those that would be lost as result of the project. The project adheres to MnDOT, NPDES, and CCWMO design guidelines. Atlas 14 is the rainfall data used to analyze the various design events required. The standards vary depending on location and type (CL culvert, box culvert, entrance culvert, etc.) The goal is an attempt to match existing 100-year inundation level and the 2, 10, and 100-year discharge rates as compared to the existing conditions.

Of the project site, 52.7 acres, or 74.2% of the area is being routed to wet ponds or biofiltration basins. The remainder of site includes minor treatment benefits because of the impervious areas being disconnected and routed over grassed pervious areas. The entire site is disconnected impervious, with benefits being claimed from that. However, for the 25.8% that does not go to a pond, the disconnected benefit is all that is claimed. The final design goals are a total suspended solids (TSS) reduction of 90% and a total phosphorus (TP) reduction of 90%.

- b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

#### *Tributaries*

A total of 0.92 acres of tributary impacts (2,202 linear feet) is anticipated. 1. Mitigation requirements associated with tributary impacts have not been identified

at this time.

An unnamed stream (DNR Hydro ID: 124019, M-055-022-002), is on the east side of the project area, just east of County Road 153 (see **Figure 3, Sheet 10 of 13 in Appendix C**). This tributary is also known as Benton Township Ditch 1 (listed in the CCWMO Plan as an approximately 3-mile length system) and is connected with Meuwissen Lake as well as Benton Lake further upstream. Meuwissen Lake discharges into Benton Lake through a drainage ditch that flows northeastward. Coordination has occurred with Carver County as to the revised location for Benton 1 Public Ditch. A snow catchment ditch is planned for the north side. There is an agricultural lift station, which is a private system that will get relocated by the owner, with compensation negotiated through the right of way process.

Ditch work will be permitted through the CCWMO and through the NPDES Construction Stormwater Permit. Ditch work could potentially need to be permitted through the USACE as well. The SWPPP and associated erosion control plan will protect the ditch, all receiving water bodies, and wetlands, and aim to not have any impacts outside of the construction limits.

There will be a drainage ditch relocation on the south side of Hwy 212, east of CSAH 51. The existing condition of the ditch is further north; the new location will be slightly to the south (see **Figure 3, Appendix A**). The road stormwater drainage system, used for removing and controlling excess runoff water to the right of way, has been adequately designed to meet the CCWMO's requirements, which will help with handling the increased rainfall intensity associated with climate change.

#### *Minnesota DNR Public Waters*

The following DNR public water basins and public watercourse have been identified within 500 feet of the project area. Coordination with Minnesota DNR is ongoing. The project will follow appropriate erosion control and sediment prevention measures. All public waters will be identified as an 'Area of Environmental Sensitivity (AES)' on plans. This designation assures special protection during construction through Standard Specifications for Construction #1717 (Air, Land, and Water Pollution) and #2573.3 (A.3 stage the work to minimize sediment entering these AES areas). No DNR public water bridge or culvert crossing work is proposed/known as this time.

See **Figure 8 in Appendix A** for additional detail.

- Barnes Lake, Basin ID 10010900, DNR Hydro ID 62888, PWI Class P (public waters basin)
- Unnamed stream, DNR Hydro ID 124019, kittle number M-055-022-002.
- Meuwissen Lake, Basin ID 10007000, DNR Hydro ID 63990, PWI Class W (public waters wetland)

Myers Lake (Basin ID 10006800) is located north of Hwy 212, outside the project area.

### 13. EAW Item 13: Contamination/Hazardous Materials/Wastes

- a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing, or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

#### *Contaminated Properties*

A modified Phase I Environmental Site Assessment (ESA) was prepared for the project corridor by Braun Intertec and reviewed by MnDOT. The purpose was to serve as a screening tool to identify, to the extent possible, existing sources of contamination (based on present or former uses) at locations that could impact future construction in the corridor. The Phase I ESA identified risk sites within 500 feet of the project area. Braun Intertec evaluated all sites in the corridor to determine if they met ranking criteria established by MnDOT as *de minimis* or having a low, medium, or high potential for contamination. Based on Braun Intertec's assessment, 54 sites were identified as *de minimis* or having a low, medium, or high potential for contamination. This included 33 *de minimis* sites, two low potential for contamination sites, 17 medium potential for contamination sites, and two high potential for contamination sites.

A coordination meeting with MnDOT Contaminated Materials Management Team (CMMT) will occur to develop an investigation plan for Phase II drilling. The Phase II investigation and drilling will be completed by Braun Intertec and include sites with medium and high potential for contamination where excavation and/or acquisitions will occur as part of construction, including where farmsteads and Bongards could be impacted in the project corridor. The County will likely lead the effort on alerting property owners for Phase II drilling. See **Appendix D** for correspondence from the CMMT.

If necessary, a plan will be developed for properly handling and treating contaminated soil and/or groundwater during construction in accordance with applicable state and federal requirements. The project would not have a high risk of causing direct or indirect impacts to human health or sensitive environmental resources due to encountering contaminated materials.

#### *Regulated Materials/Wastes*

The MnDOT Regulated Materials Management Team (RMMT) reviewed the project (see **Appendix D**) and indicated that it should be evaluated whether there is any indication of whether the culverts are asbestos bonded (AB) or if there are any coatings on pipe interior or exterior. If there is no indication of asbestos contaminated materials (ACM), then no further action is needed.

The project would include a building demolition, which will need to be assessed for asbestos. This will include an evaluation of the mortar to see if there is asbestos. Any treated wood will also be properly taken to an approved facility. Carver County will complete a regulated materials assessment for the building prior to demolition. Carver County will identify and properly handle and dispose of all regulated materials / wastes that are part of building structures in line with regulatory requirements.

- b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

The disposal of solid waste generated during construction is a common occurrence associated with road construction projects. During project construction, excavation of soil would need to occur within the construction limits. Further design studies would consider selection of grade-lines and locations to minimize excess materials, and consideration will be given to using excess materials on the proposed project or other nearby projects. If the material is suitable, all excavated material would be reused onsite for construction of ramps and roadway embankments. Any excess soil material that is not suitable for use on the project site would become property of the contractor and would be disposed of in accordance with state and federal requirements in place at the time of project construction.

Excess materials and debris from the project such as concrete and asphalt would be disposed of in accordance with MnDOT specifications and applicable regulatory requirements. In particular, excess materials and debris would not be placed in wetlands or floodplains.

- c. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any new above or below ground tanks to store petroleum or other materials. Indicate the number, location, size and age of existing tanks on the property that the project will use. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

The project would not include permanent hazardous materials storage. No above- or below-ground storage tanks are planned for permanent use in conjunction with the project. Temporary storage tanks for petroleum products may be in the project area for refueling equipment during construction. Appropriate measures would be taken during construction to avoid spills that could contaminate groundwater or surface water in the project area. If a leak or spill occurs during construction, it will be responded to in accordance with the MPCA containment and remedial action procedures.

- d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

Not applicable. The project would not generate or store hazardous waste. EAW Item 13.c discusses temporary storage of fuel for construction equipment.

#### **14. EAW Item 14: Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)**

- a. Describe fish and wildlife resources as well as habitats and vegetation on or near the site.

*Fish and Wildlife Resources*

None of the aquatic resources within the construction limits are likely to have adequate habitat to support extensive fish populations, and most of the land within the construction limits has experienced some type of previous disturbance (e.g., agricultural uses, residential development). In general, wildlife species found in the project area are those species adapted to live in areas of mixed development and fragmented or partially fragmented habitats. There are known deer crossing issues to the east and west of the project. The project will include placement of four to six foot tall snow fence along the north side of Hwy 212, which could act as a deterrent to deer crossings. Right of way fence will not be installed because this is an expressway.

*Habitats and Vegetation*

Most of the land within the construction limits has been converted to transportation use. Agricultural uses and residential developments have altered the land adjacent to the project area. Vegetated areas adjacent to the project area are mostly dominated by smooth brome (*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*), reed canary grass (*Phalaris arundinacea*), and/or hybrid cattail (*Typha X glauca*).

- b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-\_\_\_\_) and/or correspondence number (ERDB\_\_\_\_\_) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

MnDOT has a liaison with Minnesota DNR who performs Natural Heritage Information System (NHIS) reviews for trunk highway projects; therefore, no LA or ERDB number has been assigned. **Appendix D** included correspondence from the DNR.

A search of the NHIS database was conducted to identify rare features within the project area. The NHIS database comprises locational records of rare plants, animals, and other features including native plant communities, sites of biodiversity significance, geologic features, and animal aggregations. To ensure protection of these features, specific location information is not provided in this EAW. Rare features in the project area are noted below in Item 14.c. Measures to avoid, minimize, or mitigate impacts to these resources are also detailed in Item 14.d.

*State Listed Endangered, Threatened and Special Concern Species*

The NHIS was queried to determine if any rare plant or animal species, native plant communities, or other significant natural features are known to occur within an approximate one-mile radius of the project area. Based on this query, rare features have been documented within the search area, including state listed rare plants (one threatened species) and animal species. The NHIS tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. All seven of Minnesota's bats, including the federally threatened northern long-eared bat (*Myotis septentrionalis*), can be found throughout Minnesota. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming

maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, tree removal will be avoided during the months of June and July. See Appendix D for DNR comments.

The northern long-eared bat is a state-listed species of special concern and a federal-listed threatened species. The project is not in a township containing documented northern long-eared bat maternity roost trees and or hibernacula entrance.<sup>9</sup> For federally protected species, the OES provides specific guidance and coordination with DNR and USFWS.

*Minnesota DNR Native Plant Communities*

There are no DNR native plant communities in the project area.

*Minnesota Biological Survey Sites of Biodiversity Significance*

There are no Minnesota Biological Survey (MBS) sites of biodiversity significance in the project area.

*Federally Listed Threatened and Endangered Species*

**Error! Reference source not found.** lists species for the project action area (see **Appendix D**).

*Table 10: list of federally threatened, endangered, proposed and candidate species, and designated and proposed critical habitat that overlaps with the action area.*

Species	Status	Habitat
Northern long-eared bat ( <i>Myotis septentrionalis</i> )	Endangered (Reclassification effective March 31, 2023)	Hibernates in caves and mines – swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during spring and summer.  Townships Containing Documented Northern Long-Eared Bat (NLEB) Maternity Roost Trees and/or Hibernacula Entrances in Carver County, MN: Jackson/Louisville (outside project area)
Tricolored Bat ( <i>Perimyotis subflavus</i> )	Proposed - Endangered	Hibernates in caves, mines, and tunnels. Roosts in live or dead trees, buildings, and bridges. Forages along forested edges and over waterways.
Monarch butterfly ( <i>Danaus plexippus</i> ) <sup>10</sup>	Candidate (12-17-2020)	Grassland habitats where milkweed and flowers are present.

Source: Information for Planning and Consultation (IPaC) web application maintained by the U.S. Fish and Wildlife Service (requested November 2022). MnDOT consults the Minnesota Department of Natural Resources Natural Heritage Information System (Copyright 2022 State of Minnesota, Department of Natural Resources), and other resources as available, to determine if proposed projects may affect listed species.

- c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project including how current Minnesota climate trends and anticipated climate

<sup>9</sup> Minnesota DNR and USFWS. June 7, 2021. Townships Containing Documented Northern Long-eared Bat (NLEB) Maternity Roost Trees and/or Hibernacula Entrances in Minnesota available at [https://files.dnr.state.mn.us/eco/ereview/minnesota\\_nleb\\_township\\_list\\_and\\_map.pdf](https://files.dnr.state.mn.us/eco/ereview/minnesota_nleb_township_list_and_map.pdf). Accessed September 19, 2022.

<sup>10</sup> Fish and Wildlife Service. Monarch butterfly (*Danaus plexippus*). Available at <https://ecos.fws.gov/ecp/species/9743>. Accessed September 21, 2022

change in the general location of the project may influence the effects. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

#### *Fish and Wildlife Resources*

The proposed project would have no direct impacts on fisheries habitat. It is expected that any indirect impacts would be limited to minor changes in water clarity during and immediately after construction.

The proposed project includes work that is expected to have minimal impact to wildlife based on the scope of work and/or the inclusion of avoidance measures (see **Appendix D**).

#### *Plant Communities and Rare Features*

The proposed project is not anticipated to adversely impact native plant communities, rare features, or notable trees and/or woody vegetation. However, approximately 10.77 acres of total tree removal is proposed with the project (see **Appendix A**). Removals will occur during the winter months.

#### *Threatened and Endangered Species*

##### **Northern long-eared bat**

The proposed project is within the range of the northern long-eared bat (*Myotis septentrionalis*), reclassified by USFWS as Endangered under the Endangered Species Act, effective January 30, 2023. The proposed project would result in approximately 10.77 acres of tree removal. The NHIS does not contain known northern long-eared bat maternity root trees or hibernacula within an approximate one-mile radius of the project.

The MnDOT Office of Environmental Stewardship (OES) submitted a Request for Concurrence to the USFWS for the Northern Long-eared Bat. The proposed project was reviewed under the USFWS Programmatic Biological Opinion for FHWA, FRA, FTA Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO). This review was processed via IPaC, and resulted in the determination of may affect, likely to adversely affect the northern long-eared bat based on tree clearing occurring 100-300' from the existing road surface. MnDOT, on behalf of FHWA, requested written concurrence that the project may rely on the PBO to comply with Section 7 of the Endangered Species Act for the Project's effects to NLEB. The USFWS concurred with the determination and commitments on December 6<sup>th</sup>, 2022, see agency correspondence in **Appendix D**. Structures will need to be re-inspected during the summer of 2023 to identify bat species using structures. If NLEB are observed, re-initiation with USFWS will be required.

Additional correspondence was received on April 19, 2023, regarding Bulk / Programmatic ESA Section 7 -- Northern Long-eared Bat Programmatic BO Likely to Adversely Affect Projects. FHWA headquarters reinitiated consultation for select projects that may affect, likely to adversely affect the northern long-eared bat. An amended biological opinion (BO) was attached that covers 350 projects (S.P. 1013-77, TH 212 is included and is characterized as having undocumented habitat) from across the county, including Minnesota. The requested re-initiation under the 2018 range wide programmatic BO ("2018 FHWA PBO") was for the Indiana bat and NLEB (due to reclassification of the NLEB). This amended BO serves as the Incidental Take coverage for the listed

projects. It was indicated that no individual letter is needed for these projects. See **Appendix D** for the correspondence and attached USFWS letter.

MnDOT OES indicated that no documented NLEB hibernacula and/or roost trees are documented within the project Action Area ([https://files.dnr.state.mn.us/eco/ereview/minnesota\\_nleb\\_township\\_list\\_and\\_map.pdf](https://files.dnr.state.mn.us/eco/ereview/minnesota_nleb_township_list_and_map.pdf)). The proposed project includes some tree removals (approximately 3.0 acres) 100 – 300' of existing roadsides. The construction of the Hwy 212/CSAH 51 overpass will require work beyond 300' of existing roadsides, but this work will be conducted in an agricultural-dominated landscape and is not within 1,000' of suitable NLEB habitat. Therefore, no impacts to NLEB are anticipated due to this work.

Evidence of a summer bat colony was observed within the granary of the farmstead property slated for demolition during a November 2022 inspection. Further details about this inspection can be found in the Request for Concurrence letter in **Appendix D**. An active season inspection (anticipated 2023) will be conducted prior to any structure work to positively identify bat species utilizing the structure. Consultation with USFWS will be re-initiated if NLEB are observed using the structure. USFWS has approved of this approach (USFWS concurrence received in December 2022). The 'winter structure demo required' provision will be followed, i.e., structures must be removed during the winter (Nov 1 to March 31). The purpose of winter demo is to avoid bat and bird impacts. Presumably these taxa are not using the structures during the winter months (bats are hibernating, birds have migrated south). This winter demo provision is for all potential structures, not just the granary.

#### **Tricolored bat**

A no jeopardy determination was made for the Tricolored bat (*Perimyotis subflavus*) by MnDOT OES. The proposed project may affect tricolored bats and/or suitable tricolored bat habitat. Stressors for the tricolored bat include tree clearing, noise (including percussives), lighting, and/or bridge and structure work in areas of documented or presumed tricolored bat habitat. Based on the proposed scope of work, project activities are not expected to appreciably diminish the quality or extent of available suitable habitat within the project's action area. Additionally, the project will incorporate bat-specific Conservation Measures to further avoid and minimize impacts to this species. Therefore, MnDOT on behalf of the FHWA, does not anticipate the proposed action will jeopardize the continued existence of this species.

#### **Rusty-patched bumble bee**

The proposed project is outside of a USFWS identified high-potential zone (HPZ) for rusty-patched bumble bee (*Bombus affinis*).<sup>11</sup>

#### **Monarch butterfly**

A no jeopardy determination was made for the Monarch butterfly (*Danaus plexippus*) by MnDOT OES. The proposed project may affect monarch butterflies and/or suitable monarch habitat. Ground and vegetation disturbing activities are not expected to appreciably diminish the quality or extent of available suitable habitat within the project's Action Area. In addition, MnDOT is enrolled under the Nationwide Candidate Conservation Agreement on Energy and Transportation Lands

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<sup>11</sup> Rusty Patched Bumble Bee – Interactive Map. <https://www.fws.gov/species/rusty-patched-bumble-bee-bombus-affinis>. Accessed September 21, 2022.



(CCAA) and adopted lands and conservation measures agreed to under the CCAA are anticipated to result in a net conservation benefit to the species. Therefore, MnDOT on behalf of the FHWA, does not anticipate the proposed action will jeopardize the continued existence of this species.

*Introduction and Spread of Invasive Species from Project Construction Operation*

During the construction phase of the project, MnDOT best management practices will be used to reduce the spread of invasive species to or from the project location. There are no infested waters within the project area, therefore aquatic invasive species issues are not anticipated. However, noxious weeds have been identified in the project area, MnDOT Standard Specification 2575.3J will be followed to meet the requirements of noxious weed control. Native seed mixes would be used for re-vegetation as specified in the SWPPP. Contractors would be required to follow all specifications related to re-vegetation and vegetation management as identified in the construction contract.

- d. Identify measures that will be taken to avoid, minimize, or mitigate the adverse effects to fish, wildlife, plant communities, ecosystems, and sensitive ecological resources.

*Wildlife Resources*

The use of erosion control blanket would be limited to “bio-netting” or “natural netting” type products (category 3N and 4N). Plastic mesh netting would not be allowed on the project. Approved standards for temporary erosion control will be used due to potential for impacts to small animals and concern for plastics to enter DNR public waters.

*Threatened and Endangered Species*

All tree clearing must occur during winter months (November 15 to March 31).

Carver County and MnDOT will ensure tree removal is limited to that specified in project plans. Carver County and MnDOT will ensure that contractors understand clearing temporary limits and how clearing limits are marked in the field (e.g., install bright colored flagging or fencing prior to any tree clearing to ensure contractors stay within clearing limits). In those locations where trees are being cleared and there are trees directly adjacent to clearing limits, prior to any other construction activities commencing, per MnDOT 2572.3A.1, the contractor will install temporary fence along the clearing limits to protect adjacent trees. See **Figure 9, Appendix A**, for a tree clearing map.

Street lighting will be limited to intersection locations. Lighting will provide zero percent upright and restrict backlight. Lighting will be directed downwards towards the roadway surface. Full cutoff luminaire lighting heads will be used.

The proposed project will follow MnDOT vegetation establishment recommendations and use native seed mixes for re-establishing vegetation in areas that are not proposed for turf grass.

**15. EAW Item 15: Historic Properties**

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO).

Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

The proposed project was reviewed by MnDOT Cultural Resources Unit (MnDOT CRU) staff for potential impacts to historic resources. **Appendix D** includes correspondence from MnDOT CRU as well as correspondence with SHPO. On July 21, 2022, MnDOT CRU staff reviewed information on state-designated and listed properties, significant archaeological and historic sites, burials/cemeteries, and other previously inventoried properties in databases maintained by the Minnesota SHPO, OSA, and the Minnesota Indian Affairs Council (MIAC), including the unrecorded historic cemeteries data layer available via the OSA Web Portal. MnDOT CRU contracted with Two Pines Resource Group, LLC, and Bolton and Menk, Inc., to conduct cultural resource surveys in the area of potential effect (APE). Two Pines conducted a Phase I archaeological literature review and Phase I survey and recommended one archaeological site for further evaluation. MnDOT CRU agreed with the results of the archaeological investigations. A letter from CRU to SHPO, dated February 9, 2023, includes a marked-up layout with the following properties: CR-YAT-012, CR-BNT-006, 21CRXXXX & CR-BNT-150, CR-BNT-140, CR-BNT-001, and CR-BNT-156. SHPO provided a response to the letter on March 8, 2023. MnDOT CRU responded to the comments in a letter to SHPO on April 17, 2023 (also included in Appendix D). Clarifying narrative was provided for Stender Farmstead (CR-BNT-006), Spieker Farm (CR-BNT-140), Commercial Building (CR-BNT-156), and Heap Farmstead (CR-YAT-012).

The following paragraphs provide information on specific properties, anticipated effects, and any measures identified.

*Stender Farmstead (CR-BNT-006)*

A 2010 planning study by Carver County and MnDOT for the project area identified Stender Farmstead, located south of Hwy 212, which will be impacted by this project. The Stender Farmstead parcels were determined to be a National Register of Historic Places (NRHP) eligible property in the study. The Stender Farmstead was identified as being NHRP-eligible in 2008. The Stender Farmstead property was previously identified by two parcels (Parcel ID: 010180400) – an eastern parcel and western parcel. Countering the original eligibility determination in 2008, the recent survey recommends the historic property is solely the western parcel. SHPO concurred with the recommended reduction in the eligible acreage for the Stender Farmstead (CR-BNT-006) property from 63 to 47 acres, with the removal of the discontinuous 16 acre-parcel. Corridor Alignment C (the preferred alternative) is on the north side of Hwy 212 at Salem Avenue and avoids the western parcel. The alignment then shifts to the south and Corridor Alignment C would impact approximately 1.5 acres of the eastern parcel. On March 8, 2023, SHPO indicated that they continue to concur with these determinations that the project be eligible for listing in the NRHP. Both SHPO and MnDOT have received communications regarding the Stender Farm. Based on a likely no adverse effect finding for the Stender Farmstead, Corridor Alignment C also likely meets the criteria for a Section 4(f) de minimis determination for historic properties.

*Bongards Cooperative Creamery (CR-BNT-001)*

Bongards Cooperative Creamery (CR-BNT-001), a farmer-owned coop specializing in cheese supply, was not previously evaluated by MnDOT but is now considered eligible under NRHP since it met the age requirement. It is regarded as an important business for the area and may fall under Section 4(f) requirements. The Bongards Creamery retail store is located at 13200 County Road 51 and consists of multiple parcels totaling approximately 183 acres that sit on either side

of the road. A Minnesota Multiple Property Inventory Form was prepared by Bolton & Menk, Inc. on 12/6/2022 indicating a recommended district evaluation of “Eligible for the National Register” and “Eligible for Local Designation.” The creamery was formed in 1908, after the local community creamery burned down, by local dairy farmers who purchased land and established the creamery. In Benton Township. A March 8, 2023, SHPO letter indicated that “there is insufficient documentation to support the eligibility determination” and to “Please clarify if the property possesses significance from the period between 1969 and 1975, when it appears that several of the core operation buildings were rebuilt.” The period of significance was updated and is now noted as circa 1950 to 1975. Comments were requested regarding the clarified evaluation of CR-BNT-001 and acknowledgement that the revised inventory forms meet documentation requirements.

*Railway Co./CMStP&P Railroad Co: H&D Division Mainline (XX-RRD-CSP010 CMStP)*

Another historic property in the Area of Potential Effects is XX-RRD-CSP010 CMStP Railway Co. / CMStP&P Railroad Co.: H&D Division Main Line. On May 4, 2021, the SHPO concurred with the following determinations as part of streamlining review #2021-0868; they continue to concur with these determinations: XX-RRD-CSP010 CMStP Railway Co./CMStP&P Railroad Co: H&D Division Mainline is eligible for listing in the National Register of Historic Places (NRHP); and XX-RRD-CSP013 H&D Railway Co./CMStP Railway Co./CMStP&P Railroad Co: Mainline is not eligible for listing in the NRHP.

The portion of the Hastings and Dakota Railway in the project APE is part of two separate railroad corridors that were studied by MnDOT CRU as part of their ongoing effort to evaluate Minnesota’s railroads. The Chicago Milwaukee and St. Paul Railway Company/Chicago Milwaukee St. Paul and Pacific Railroad Company: Hastings and Dakota Division Main Line (XX-RRD-CSP010) was determined eligible for inclusion in the National Register under Criterion A in the area of Transportation, with a period of significance of 1880-1930.

*Spieker Farm (CR-BNT-140)*

The Spieker Farm (located at 12955 County Road 153) as described in the 12/6/2022 inventory form by Bolton & Menk, Inc., consists of eight structures built circa 1913 to present day. The report indicates that “The previous evaluation cataloged 12 structures, but the current survey observed from the right-of-way that the windmill, chicken house, and hog barn (collapsed state in 2008) had all been demolished since the 2008 inventory. Additionally, a metal pole shed had been added to the property behind the implement shed.” The report further indicates that the site retains much of its historic integrity and that the previously recommended boundary and non-contributing elements (modern silo and implement shed) are still valid. On August 29, 2008, the SHPO concurred that Spieker Farm is eligible for listing in the NRHP; on March 8, 2023, SHPO indicated that they continue to concur with this determination.

*Kief-Fruetel-Bachmann Farmstead (Site 21CR0174)*

Site 21CR0174, the Kief-Fruetel-Bachmann Farmstead, is a German heritage farmstead occupied from circa 1858 through the present. It is located north of Hwy 212. Two Pines came to the conclusion that the farmstead meets the standards set forth within the context Historical Archaeology of Minnesota Farmsteads and recommended a Phase II evaluation of the site if impacts to the site cannot be avoided. Due to the site’s proximity to the NRHP-eligible Stender Farmstead (CR-BNT-006), avoidance without an evaluation was deemed not possible. An evaluation of the site is scheduled for spring 2023. The March 8, 2023, letter from SHPO indicates

that they agree with the planned Phase II evaluation as well as the recommendation for archaeological monitoring of ground-disturbing activities near St. John’s German Reformed Church Cemetery, which is part of the church property inventoried as CR-BNT-002.

*Heap Farmstead (CR-YAT-012)*

Site *CR-YAT-012*, the Heap Farmstead, is located at 15130 Highway 212. A Bolton & Menk, Inc inventory form prepared in December 2022 indicated that this property is Not Eligible for the NRHP. SHPO concurred with MnDOT CRU that the site is not eligible. A few recent changes have lessened the integrity of the farmhouse’s distinctive features. Adverse impacts to historical property are therefore not anticipated.

*Bachmann Farmstead (CR-BNT-150)*

Site *CR-BNT-150*, the Bachmann Farmstead, is located at 14180 Highway 212 East. SHPO concurred with MnDOT CRU that the site is not eligible for the NHRP. A Bolton & Menk, Inc inventory form prepared in December 2022 indicated that a previous survey evaluated the project, and there had been many changes to the original building. The determination of not eligible was deemed still valid. Adverse impacts to historical property are therefore not anticipated.

*Commercial Building (CR-BNT-156)*

A commercial building (*CR-BNT-156*) at 13245 County Road 51 is considered not eligible for the NHRP. According to the county records, the property is a two-story, low-profile hipped-roofed, wood-framed brick commercial building built in 1890. Research conducted by Bolton & Menk, Inc. did not reveal a clear purpose for the building. Adverse impacts to historical property are therefore not anticipated. SHPO concurred with MnDOT CRU that the property is not eligible for listing in the NRHP and noted that they appreciated the thorough research that informed the evaluation of significance for CR-BNT-156. Adverse impacts to historical property are therefore not anticipated.

*Status of Review*

The Section 106 process is being completed based on the preliminary design layout for the preferred alternative. This includes a re-evaluation of the eligibility status for the properties listed above as well as identification of properties within the APE. MnDOT CRU will make determinations of effect for the preferred alternative and consult with SHPO as appropriate. A final Section 106 determination from MnDOT CRU has not yet been received. There are four historic properties in the Area of Potential Effects. A No Adverse Effect is anticipated on all four, but there may be conditions attached to that finding. SHPO will not receive that finding until after the archaeology investigations are complete.

**16. EAW Item 16: Visual**

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The project area views consist of a highway corridor in a mostly agricultural area. Residential uses are along Hwy 212 and along CSAH 51. The proposed project would reconstruct Hwy 212 as a four-lane rural section divided highway. The alignment of the proposed reconstructed highway

would be shifted from its current alignment to help minimize wetland impacts. RCIs are planned at most intersections along Hwy 212. A quadrant interchange and bridge over Hwy 212 is planned at CSAH 51. Stormwater treatment facilities are planned throughout the project. The project is additionally proposing to relocate a public drainage ditch. The project does not include scenic vistas or views. The project would not introduce visual effects beyond the proposed roadway infrastructure improvements. The project will be revegetating the disturbed areas with native plantings to the extent practicable. The grass areas as viewed today will be replaced. Highway lighting is largely absent from the project area except for lighting at the Hwy 212 intersection with CSAH 51 and Tacoma Avenue. The project would not include the installation of lighting outside of proposed RCI locations and the CSAH 51 intersection.

#### **17. EAW Item 17: Air**

- a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

Not applicable. The proposed project does not include stationary source emissions.

- b. Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

#### **Air Quality Conformity**

The project is identified as exempt from regional emissions analyses (E-1: intersection channelization projects) in the 2023-2026 Metropolitan Council Transportation Improvement Program (TIP). This project does not require an air quality analysis and is exempt from Environmental Protection Agency (EPA) transportation conformity requirements in 40 CFR 93. Therefore, no air quality analysis related to the National Ambient Air Quality Standards (NAAQS) has been performed.

**Carbon Monoxide**

**What is a hot-spot analysis?**

A hot-spot analysis is defined by the US EPA as an estimation of likely future localized air pollutant concentrations and a comparison of those concentrations to the relevant NAAQS.

Carbon monoxide (CO) is the traffic-related pollutant that has previously been of concern in the Twin Cities Metropolitan Area. In 1999, the EPA re-designated all of Hennepin, Ramsey, Anoka, and portions of Carver, Scott, Dakota, Washington, and Wright Counties as a maintenance area for CO. This means the area was previously classified as a nonattainment area but has now been found to be in attainment. The 20-year maintenance period for the Twin Cities Metropolitan Area ended in November 2019 and a CO maintenance plan/project-level conformity analysis is no longer required.

Projects may still be subject to anti-backsliding regulations under the Clean Air Act (CAA). Due to these anti-backsliding requirements, a project may require a CO hot spot analysis if it is a federally funded project, if intersection volumes exceed the benchmark average annual daily traffic (AADT) of 82,300 vehicles, or if a project includes one or more of the intersections on MnDOT’s top 10 intersection list.<sup>12</sup>

CO evaluation is performed by evaluating the worst-operating (hot-spot) intersections in the project area. The EPA has approved a screening method to determine which intersections need hot-spot analysis. The hot-spot screening method uses a traffic volume threshold of 82,300 entering vehicles per day. Intersections with traffic volumes above this threshold must be evaluated using EPA-approved emission and dispersion models. Intersections with traffic volumes below this threshold are not expected to result in CO concentrations that exceed state or federal standards, and detailed modeling is not required.

Error! Reference source not found. shows intersection volumes for project area intersections under the 2040 Build Alternative. Entering traffic volumes at project area intersections are projected to be below the 82,300 vehicle per day hot-spot screening threshold. The results of the screening procedure demonstrate that additional detailed analysis is not required.

*Table 11: Intersection Volumes for the 2040 Build Alternative*

Intersection	Year 2040 Average Annual Daily Traffic		
	Hwy 212	Intersection	Total
Tacoma Ave.	25,000	3,500	28,500
Salem Ave.	25,000	6,400	31,400
CSAH 51	26,000	5,200	31,200
CR 153	23,000	2,200	25,200
CSAH 36 / Lake St. W.	22,000	1,300	23,300

<sup>12</sup> MnDOT Air Quality Process. Found at <https://www.dot.state.mn.us/project-development/subject-guidance/air-quality/process.html>

## Mobile Source Air Toxics

A qualitative MSAT analysis has been prepared for the Hwy 212 Benton Township Project. Controlling toxic air emissions became a national priority with the passage of the CAAA of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://www.epa.gov/iris/>). In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors from the 2011 National Air Toxics Assessment (NATA) (<https://www.epa.gov/national-air-toxics-assessment>). These are *1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter*. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

## Motor Vehicle Emissions Simulator (MOVES)<sup>13</sup>

According to EPA, MOVES3 is a major revision to MOVES2014 and improves upon it in many respects. MOVES3 includes new data, new emissions standards, and new functional improvements and features. It incorporates substantial new data for emissions, fleet, and activity developed since the release of MOVES2014. These new emissions data are for light- and heavy-duty vehicles, exhaust and evaporative emissions, and fuel effects. MOVES3 also adds updated vehicle sales, population, age distribution, and vehicle miles travelled (VMT) data. In the November 2020 EPA issued “MOVES3 Mobile Source Emissions Model Questions and Answers”<sup>14</sup> where EPA states that for on-road emissions, MOVES3 updated heavy-duty (HD) diesel and compressed natural gas (CNG) emission running rates and updated HD gasoline emission rates. They updated light-duty (LD) emission rates for hydrocarbon (HC), carbon monoxide (CO) and nitrogen oxide (NOx) and updated light-duty (LD) particulate matter rates, incorporating new data on Gasoline Direct Injection (GDI) vehicles.

Using EPA’s MOVES3 model, as shown in **Exhibit 2**, FHWA estimates that even if VMT increases by 31 percent from 2020 to 2060 as forecast, a combined reduction of 76 percent in the total annual emissions for the priority MSAT is projected for the same time period.

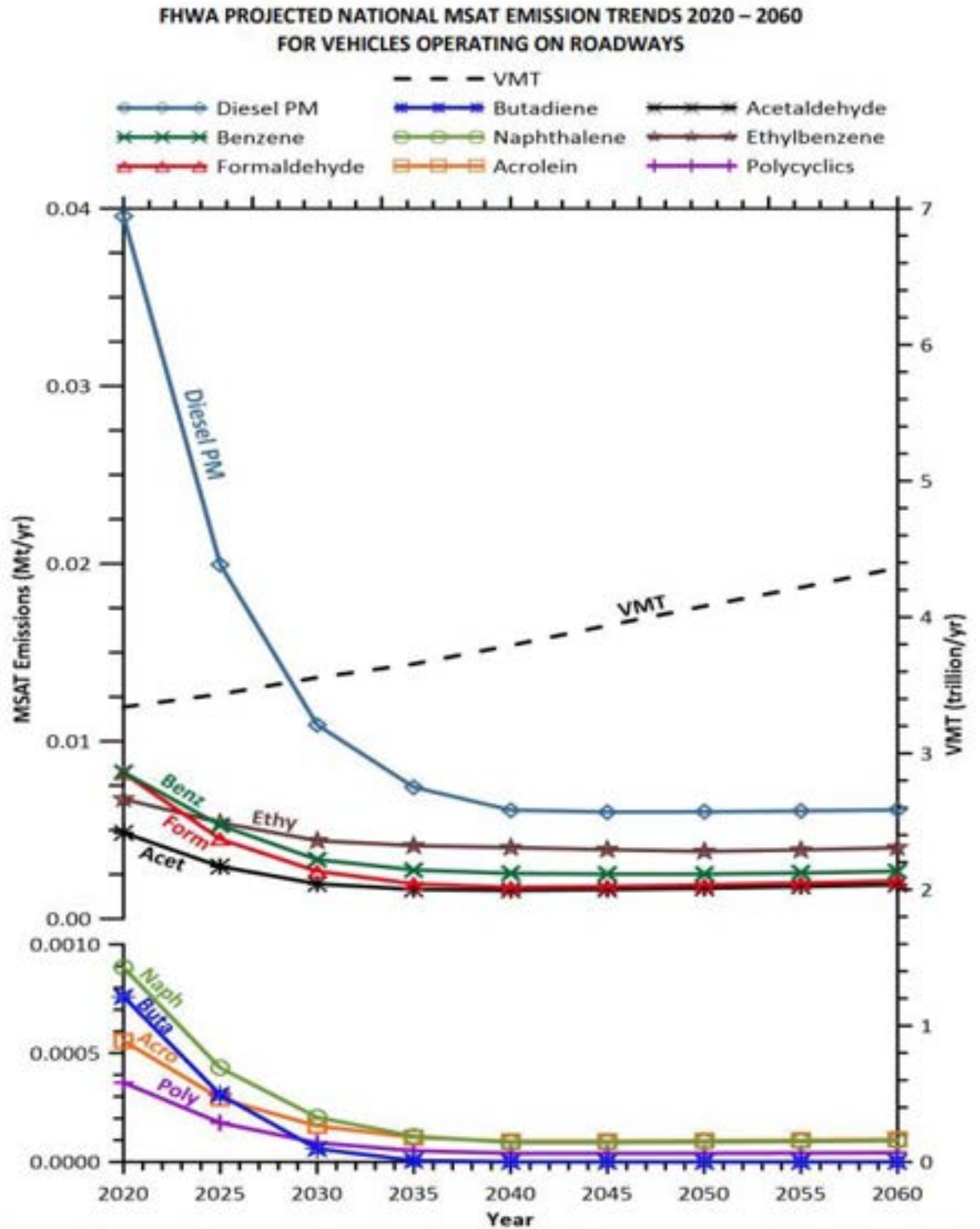
Diesel PM is the dominant component of MSAT emissions, making up 36 to 56 percent of all priority MSAT pollutants by mass, depending on calendar year. Users of MOVES3 will notice some differences in emissions compared with MOVES2014. MOVES3 is based on updated data on some emissions and pollutant processes compared to MOVES2014, and also reflects the latest Federal emissions standards in place at the time of its release. In addition, MOVES3 emissions forecasts are based on slightly higher VMT projections than MOVES2014, consistent with nationwide VMT trends.

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<sup>13</sup> FHWA. January 30, 2023. *Updated Interim Guidance on Mobile Source Air Toxic (MSAT) Analysis in National Environmental Policy Act (NEPA) Documents*. Accessed March 2023 and available at [https://www.fhwa.dot.gov/ENVIRONMENT/air\\_quality/air\\_toxics/policy\\_and\\_guidance/msat/](https://www.fhwa.dot.gov/ENVIRONMENT/air_quality/air_toxics/policy_and_guidance/msat/).

<sup>14</sup> EPA Office of Transportation and Air Quality. *EPA Releases MOVES3 Mobile Source Emissions Model: Questions and Answers*. Accessed March 2023 and available at <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P1010M06.pdf>.

Exhibit 2: FHWA Projected National MSAT Emission Trends 2020-260 For Vehicles Operating On Roadways Using EPA's MOVES3 Model



Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors.

Source: EPA MOVES3 model runs conducted by FHWA, March 2021.



## **MSAT Research**

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how potential public health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

Nonetheless, air toxics concerns continue to arise on highway projects during the NEPA process. Even as science emerges, the public and other agencies expect FHWA to address MSAT impacts in its environmental documents. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to define potential risks more clearly from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this field.

## **NEPA Context**

NEPA requires, to the fullest extent possible, that the policies, regulations, and laws of the Federal Government be interpreted and administered in accordance with its environmental protection goals, and that Federal agencies use an interdisciplinary approach in planning and decision-making for any action that adversely impacts the environment (42 U.S.C. 4332). In addition to evaluating the potential environmental effects, FHWA must also consider the need for safe and efficient transportation in reaching a decision that is in the best overall public interest (23 U.S.C. 109(h)). The FHWA policies and procedures for implementing NEPA are contained in regulation at 23 CFR Part 771.

### *Incomplete or Unavailable Information for Project Specific MSAT Health Impacts Analysis*

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in mobile source air toxic (MSAT) emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, <https://www.epa.gov/iris/>). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of

MSAT, including the Health Effects Institute (HEI). Several HEI studies are summarized in Appendix D of FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are: cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI Special Report 16, <https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects>) or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (Special Report 16, <https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA states that with respect to diesel engine exhaust, “[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk (EPA IRIS database, Diesel Engine Exhaust, Section II.C. <https://www.epa.gov/iris>).”

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in

levels of risk greater than deemed acceptable

([https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/\\$file/07-1053-1120274.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/$file/07-1053-1120274.pdf)).

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

#### *Qualitative MSAT Analysis*

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by FHWA entitled A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives, found at:

[www.fhwa.dot.gov/environment/air\\_quality/air\\_toxics/research\\_and\\_analysis/mobile\\_source\\_air\\_toxics/msatemissions.cfm](http://www.fhwa.dot.gov/environment/air_quality/air_toxics/research_and_analysis/mobile_source_air_toxics/msatemissions.cfm).

According to FHWA guidance, a highway widening project is considered minor if the design year traffic is predicted to be less than 140,000 – 150,000 vehicles per day (vpd). Forecast (year 2040) annual average daily traffic (AADT) volumes range from 14,500 to 20,000 within the project corridor. Because the design year (2040) Build Alternative projection for ADT would not exceed 150,000 vpd within the project corridor, a qualitative MSAT analysis, rather than a quantitative MSAT analysis, is warranted for the project.

For each alternative in the project, the amount of MSATs emitted would be proportional to the average daily traffic volumes, or ADT, assuming that other variables such as fleet mix are the same for each alternative. The ADT estimated for the Build Alternative is higher than that for the No Build Alternative because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in ADT would lead to higher MSAT emissions for the preferred action alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to the EPA's MOVES3 model, emissions of all the priority MSAT decrease as speed increases. The estimated ADT with the Hwy 212 Benton Township Project under each of the Build alternatives does not vary, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives (apart from the No Build Alternative). It is expected that there may be higher overall MSAT emissions for the Hwy 212 Benton Township Project due to the two to four lane expansion, though increases will likely be countered (by some magnitude) by advances in technology and regulations. Regardless of the alternative chosen, emissions will likely be lower than present levels in the design year because of EPA's national control programs that are projected to reduce annual MSAT emissions by over 76 percent between 2020 and 2060 (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, January 18, 2023). Local conditions may differ from these national projections in terms of fleet mix and turnover, ADT growth rates, and

local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for ADT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

- c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 17a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

Dust would be generated because of construction activities associated with the project.

Dust generated during construction will be minimized through standard dust control measures such as applying water to exposed soils and limiting the extent and duration of exposed soil conditions. Construction contractors will be required to control dust and other airborne particulates in accordance with the contract specifications. After construction is complete, dust levels are anticipated to be minimal because all soil surfaces exposed during construction will be in permanent cover (i.e., paved or re-vegetated areas).

The proposed project would not generate substantial odors during construction. Potential odors would likely include exhaust from diesel engines and fuel storage.

## **18. EAW Item 18: Greenhouse Gas (GHG) Emissions/Carbon Footprint**

- a. GHG Quantification: For all proposed projects, provide quantification and discussion of project GHG emissions. Include additional rows in the tables as necessary to provide project-specific emission sources. Describe the methods used to quantify emissions. If calculation methods are not readily available to quantify GHG emissions for a source, describe the process used to come to that conclusion and any GHG emission sources not included in the total calculation.

Minnesota's position near the center of North America subjects us to an exceptional variety of extreme weather. During the course of a single year, most Minnesotans will experience both blizzards and heatwaves, windstorms, strong thunderstorms, and heavy rains.

The conditions, however, have changed rapidly, and an overwhelming base of scientific evidence projects that Minnesota's climate will see additional significant changes through the end of the 21st century<sup>15</sup>. Over the last several decades, the state has experienced substantial warming during winter and at night, with increased precipitation throughout the year, often from larger and more frequent heavy rainfall events. These changes alone have damaged buildings and infrastructure, limited recreational opportunities, altered our growing seasons, impacted natural resources, and affected the conditions of lakes, rivers, wetlands, and our groundwater aquifers that provide water for drinking and irrigation. The years and decades ahead in Minnesota will bring even warmer winters and nights, and even larger rainfalls, in addition to other climatic changes not yet experienced in the state.

In the years and decades ahead, winter warming and increased extreme rainfall will continue to be Minnesota's two leading symptoms of climate change. Climate models used in the 2017

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<sup>15</sup> <https://www.pca.state.mn.us/sites/default/files/p-gen4-07c.pdf>

National Climate Assessment also project that Minnesota will have a greater tendency toward extreme heat, especially by the middle of the 21st century<sup>16</sup>. The future drought situation in Minnesota is less clear and appears to depend on how much greenhouse gas emissions increase by mid-century.

GHG’s are gases that warm the atmosphere and surface of the planet. Human activity has been increasing the amount of GHG’s in the atmosphere, leading to changes in the earth’s climate. The primary GHG’s are carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>), sulfur hexafluoride (SF<sub>6</sub>), and two classes of compounds called hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).

The most recent GHG emissions inventory from the Minnesota Pollution Control Agency (MPCA) showed that transportation overtook the electricity generation sector to become the number one source of GHG emissions in Minnesota starting in 2016<sup>17</sup>. This is consistent with trends in other states, and changes in both sectors and trends (electricity decreasing, transportation increasing) are expected to continue in the future.

A GHG analysis was completed for this project using the Minnesota Infrastructure Carbon Estimator (MICE), version 2.1.<sup>18</sup> MnDOT evaluates GHG emissions from projects due to concerns about current and future impacts of climate change in Minnesota. GHGs from transportation (carbon dioxide, methane and nitrous oxide) contribute to warming of the atmosphere, which leads to effects in Minnesota that include increases in heavy precipitation, increased flooding, and more episodes of extreme heat.

The project is expected to improve traffic flow, which may increase operational greenhouse gas emissions. The proposed project would increase the capacity of Hwy 212 in both directions (two-to-four lane expansion) and increase the roadway’s design speed to 70 mph. The existing posted speed is 60 mph. The project is also proposing a new alignment for CSAH 51 (in addition to the existing alignment), which would increase the length of CSAH 51 and vehicle miles traveled (VMT) on this roadway. Construction greenhouse gas emissions will result from production and transportation of construction materials, and from fuel used in construction equipment. Operational emissions and the cumulative difference over the project is shown in **Table 12** below.

*Table 12: Operational CO<sub>2</sub> emissions and cumulative difference over project lifetime*

<b>Operational Emissions (Base Year and Design Year)</b>	<b>CO<sub>2</sub>e, Metric Tons Per Year</b>
Base year (2022)	12,032
No Action Alternative (2040)	12,674
Build Alternative (2040)	18,971
Difference Build vs No-Build	6,297
<b>Cumulative Difference over project lifetime (18 years)</b>	<b>CO<sub>2</sub> , Metric Tons (total)</b>
	56,672

The construction CO<sub>2</sub>e Emissions are shown in **Table 13** below.

<sup>16</sup> [https://nca2018.globalchange.gov/downloads/NCA4\\_Ch21\\_Midwest\\_Full.pdf](https://nca2018.globalchange.gov/downloads/NCA4_Ch21_Midwest_Full.pdf)

<sup>17</sup> <https://www.dot.state.mn.us/sustainability/sustainability-reporting.html>

<sup>18</sup> MnDOT. Minnesota Infrastructure Carbon Estimator Tool. Available here: <http://www.dot.state.mn.us/project-development/subject-guidance/greenhouse-gas-analysis/process.html>. Accessed October 14, 2022.

Table 13: Construction CO2e Emissions

Construction CO2e Emissions (Total over Construction Period)	CO2e, Metric Tons (total)
Build Alternative	7,117
No Build (maintenance of existing system)	719

The analysis also shows that the project will increase GHG emissions compared to the No Action Alternative. The project is proposing some improvements that are not covered by the MICE tool and therefore are not included in this GHG analysis. These improvements are snow fencing, pond construction, and raised medians/curbs.

b. GHG Assessment

- i. Describe any mitigation considered to reduce the project’s GHG emissions.

MnDOT has identified several practices that can help reduce emissions from projects. These practices directly reduce emissions through decreased fuel use, or indirectly through materials reuse (i.e. less processing and transport of new materials). The project is still under design, so the emissions reductions (per mile) for all of these practices has not yet been determined.

- ii. Describe and quantify reductions from selected mitigation, if proposed to reduce the project’s GHG emissions. Explain why the selected mitigation was preferred.

Two standard mitigation practices applied to all projects include the switch from diesel to soybean-based fuel (to reflect state biofuel requirements) and alternative snow removal strategies (snow fencing, wing plows). Additional mitigation practices that are expected for this specific project are existing roadway concrete and bituminous pavement recycling. Total GHG emissions reductions from these practices are estimated to be approximately 613 metric tons of CO2e. This includes reductions in materials, transportation, construction, and maintenance.

- iii. Quantify the proposed projects predicted net lifetime GHG emissions (total tons/#of years) and how those predicted emissions may affect achievement of the Minnesota Next Generation Energy Act goals and/or other more stringent state or local GHG reduction goals.

Assuming a lifetime of 18 years for the project, the total net lifetime GHG emissions are approximately 18,971 CO2e metric tons per year x 18 years = 341,478 for operational emissions plus 7,117 for construction emissions = 348,595 total metric tons CO2e.

MnDOT was the first state agency to apply the Next Generation Energy Act GHG reduction goals to all agency operations, including fleet fuel use and electricity. Minnesota was also the first state in the country to create GHG reduction goals for the state highway construction program.<sup>19</sup> While this project may not directly contribute to the achievement of the Minnesota Next Generation Energy Act, the project will eliminate GHG emissions associated with transportation inefficiencies, mobility, and crashes. As mentioned previously, MSAT emissions are also projected to decrease over time due to increased speeds in the project area and from the EPA’s national control programs which are projected to reduce annual MSAT emissions by over 90

<sup>19</sup> Webpage. [Sustainability Reporting - Sustainability and Public Health - MnDOT \(state.mn.us\)](https://www.mn.gov/Portals/0/About/Statewide/Environment/Sustainability/Sustainability%20Reporting%20-%20Sustainability%20and%20Public%20Health%20-%20MnDOT%20(state.mn.us).pdf)



percent between 2010 and 2050 (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, October 12, 2016). MnDOT is also dedicated to other state legislation. Executive Order 19-27 requires MnDOT to report and make progress on six sustainability goals, one of which is reducing GHG emissions. In 2022, MnDOT formulated seven actions to increase understanding of sustainable pavement opportunities, all of which have potential to reduce GHG emissions.<sup>20</sup>

While agencies will need to search for a multitude of ways to reduce emissions, the net effect of the effort to meet the Minnesota Next Generation Energy Act goals may be increased innovation, collaborative opportunities, and public/private partnerships. Quantifying emissions by activity is the first step in meeting these goals.

### Summary of GHG Discussion

This section summarizes the GHG emissions associated with construction of the proposed project, and vehicle traffic associated with the project. It does not include an assessment of the potential climate effects of those emissions. In the case of GHGs and climate change, climate is driven by global cumulative changes of GHG concentrations in the atmosphere; the changes in emissions from one individual project are simply too small to justify calculation of resulting changes in temperature, sea level, precipitation, and other significant cumulative climate effects. However, estimation of emissions is still useful to the public and decisionmakers so that they can understand whether projects are contributing to progress in mitigating climate change.

Assessing GHG emissions from transportation projects is one of several strategies that MnDOT is pursuing to address the issue of climate change. Other strategies that MnDOT is pursuing include intermodal transportation, electric vehicle incentives and infrastructure, clean vehicle standards, and alternative fuels. The agency is also developing a process for evaluating flood risk to MnDOT bridges, large culverts, and pipes. Studying the performance of infrastructure under predicted extreme events will help MnDOT gain knowledge and better assess the impacts of climate changes to plan, design, build, and maintain assets for resilience. More information regarding MnDOT's efforts to address climate change can be found at Sustainability at [mndot.gov/sustainability](https://mndot.gov/sustainability).

## **19. EAW Item 19: Noise**

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

The following question format will answer the EAW question in relation to highway projects and summarizes the findings of the traffic noise analysis. **Appendix E** includes the Draft Traffic Noise Analysis Report for the Hwy 212 Benton Township Project.

### Construction Noise

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<sup>20</sup> 2021 MnDOT Sustainability Report. September 2022. [Sustainability Reporting - Sustainability and Public Health - MnDOT](#)

Construction activities associated with the proposed project would result in increased noise levels relative to existing conditions. These impacts would primarily be associated with construction equipment and pile driving. **Table 14** shows peak noise levels monitored at 50 feet from several types of construction equipment. This equipment is usually used during site grading/site preparation, which is usually the loudest phase of the roadway construction process.

Table 14: Typical Construction Equipment Noise Levels at 50 Feet

Equipment Type	Manufacturers Sampled	Total Number of Models in Sample	Peak Noise Level (dBA)	
			Range	Average
Backhoes	5	6	74-92	83
Front Loaders	5	30	75-96	85
Dozers	8	41	65-95	85
Graders	3	15	72-92	84
Scrapers	2	27	76-98	87
Pile Drivers	N/A	N/A	95-105	101

Source: United States Environmental Protection Agency and Federal Highway Administration.

Elevated noise levels are, to a degree, unavoidable for this type of project. Carver County would require that construction equipment be properly muffled and in proper working order. It is the practice of Carver County to require its contractor(s) to comply with applicable local noise restrictions and ordinances to the extent that is reasonable. Advanced notice will be provided to affected communities of any planned abnormally loud construction activities. It is anticipated that night construction may sometimes be required to expedite construction, minimize traffic impacts, and to improve safety (e.g., construction of the proposed bridge over Hwy 212). However, construction would be limited to daytime hours as much as possible. The project is expected to be under construction for two construction seasons. If necessary, a detailed nighttime construction mitigation plan will be developed during the project final design stage.

Any associated high-impact equipment noise, such as pile driving, pavement sawing, or jack hammering, will be unavoidable with construction of the proposed project. Pile-driving noise is associated with any bridge construction and sheet piling necessary for retaining wall construction. While pile-driving equipment results in the highest peak noise level, as shown in **Table 14**, it is limited in duration to the activities noted above (e.g., bridge construction). The use of pile drivers, jack hammers, and pavement sawing equipment will be prohibited during



nighttime hours.

### Traffic Noise Analysis

The Hwy 212 Benton Township Project includes additional through lanes on Hwy 212 and a new roadway on a new alignment (for the CSAH 51 overpass). As such, the proposed project is considered a federal Type I project which requires a traffic noise analysis.

The following is a summary of the *Hwy 212 Benton Township Traffic Noise Analysis Report*.

**Appendix E** of this EAW includes the complete traffic noise analysis report. This report includes background information on noise, information regarding traffic noise regulations, a discussion of the traffic noise analysis methodology, documentation of the potential traffic noise impacts associated with the proposed project, and an evaluation of noise abatement measures.

### Federal Traffic Noise Regulations

What is noise, what is a decibel, and what is a dBA?

Noise is defined as unwanted sound. Decibel is the unit of measure used to quantify sound pressure level (SPL). The terms sound and noise are often interchangeable, although noise is considered unwanted sound.

The human ear does not hear all frequencies of sound equally; we hear some frequencies better than others. The A-weighting scale was created to apply more emphasis or weight on the frequencies we hear best, and to de-emphasize or apply less weight to frequencies we don't hear well.

The FHWA's traffic noise regulation is described in 23 Code of Federal Regulations (CFR) Part 772 (Procedures for Abatement of Highway Traffic Noise and Construction Noise). 23 CFR 772 requires the identification of highway traffic noise impacts and the evaluation of potential noise abatement measures, along with other considerations, in conjunction with the planning and design of a Federal-aid highway project. The MnDOT requirements for implementation of the requirements of 23 CFR 772 is described in the MnDOT Noise Requirements for Type I Federal-aid Projects (effective July 10, 2017). The MnDOT noise requirements applies to all projects that receive Federal-aid funds or projects that are subject to FHWA approval.

In Minnesota, traffic noise is evaluated by measuring and/or modeling the equivalent steady-state sound level. The equivalent steady-state sound level contains the same acoustic energy as the time varying sound level over a stated period of time. This number is referred to as the Leq level, with Leq(h) being the hourly value of Leq. The Leq is analogous to the "average" sound level over a given period of time.

Under FHWA criteria and regulations, traffic noise impacts are determined in two ways. First, future build worst hour noise levels are compared to FHWA Noise Abatement Criteria (NAC). For example, the Federal NAC for residential land uses (Activity Category B) is 67 dBA (Leq). If a future build worst hour noise level approaches or exceeds the NAC noise level, then an impact exists.

In Minnesota, "approaching" is defined as modeled noise levels within 1 dBA of the Federal NAC noise level. Second, future build worst hour noise levels are compared with the existing no-build noise levels. If the future level is greater than the existing level by 5 dBA or more (i.e., substantial increase), an impact exists.

If modeled traffic noise levels are projected to approach or exceed Federal NAC, or result in a

What is Leq?

Measured traffic noise levels are characterized as a function of time. The Leq level is the equivalent steady-state sound level which in a stated period of time contains the same amount of acoustic energy as the time-varying sound level during the same period. In effect, it's analogous to the "average" sound level over a given period of time.

substantial increase, then a traffic noise impact is identified and noise abatement measures (e.g., noise walls) must be evaluated for noise abatement feasibility and reasonableness.

Minnesota State Noise Standards

In 2016, the Commissioners of the MPCA and MnDOT agreed that the traffic noise regulations and mitigation requirements from the FHWA are sufficient to determine reasonable mitigation measures for highway noise. By this agreement, existing and newly constructed segments of highway projects under MnDOT's jurisdiction are statutorily exempt from Minnesota State Noise Standard (Minnesota Rule 7030) if the project applies the FHWA traffic noise 39 requirements. As a result, any required noise analysis will follow FHWA criteria and regulations only. Projects will no longer directly address Minnesota Rule 7030.

Traffic Noise Analysis Methodology

Traffic noise is evaluated by modeling the traffic noise level during the hour of the day and/or night that has the loudest traffic (i.e., worst-case traffic noise hour). The worst-case traffic noise hour represents the conditions where traffic volume, speeds, and vehicle mix result in the loudest noise levels. The traffic noise model uses existing and forecasted traffic volumes, as well as characteristics of the roadway and surrounding environment to calculate traffic noise levels at receptor locations in the project study area. Modeled traffic noise levels are then compared to Federal NAC. Field measurements of existing noise levels were collected at three locations along the Hwy 212 project corridor. Field measurements were tested against model results. Noise levels from the field measurements were within 3 dBA (Leq) of modeled noise levels, validating the model.

Traffic noise modeling was done using the FHWA's noise prediction program Traffic Noise Model (TNM), version 2.5. This model uses traffic volumes, speed, class of vehicle (e.g., cars, medium trucks, heavy trucks, buses, and motorcycles), and the typical characteristics of the roadway being analyzed (e.g., roadway width, horizontal alignment, vertical profile, etc.) to predict traffic noise levels. Traffic noise levels were modeled for existing conditions, 2040 No Build Alternative, and the 2040 Build Alternative. The 11:00 a.m. to 12:00 p.m. period was identified as the worst-case traffic noise hour. Traffic noise levels were modeled at 43 receptor locations representing rural residential uses, agricultural/industrial uses, a church, and a park within the project area. The Hwy 212 Benton Township Traffic Noise Analysis Report in **Appendix E** includes additional information regarding modeling methodology and receptor locations.

Traffic Noise Analysis Results

**Table 15** includes a summary of the traffic noise analysis results and lists the number of receptors that approach or exceed noise abatement criteria for existing conditions, the 2040 No Build Alternative, and the 2040 Build Alternative. Modeled traffic noise levels are projected to increase by 0.9 dBA, Leq to 3.8 dBA, Leq from existing to 2040 No Build Alternative conditions. This increase is a result of anticipated growth and development in the study area, and the resulting

increase in traffic volumes on the project segment of Hwy 212 and the county roads involved with the project. Modeled traffic noise levels are projected to increase by 1.1 dBA, Leq to 7.9 dBA, Leq under the 2040 Build Alternative.

Table 15: Traffic Noise Analysis Results

Modeled Year	Existing Conditions	2040 No Build Alternative	2040 Build Alternative
Modeled Noise Levels (Leq)	50.1 dBA to 72.0 dBA	52.5 dBA to 73.3 dBA	55.3 dBA to 76.9 dBA
Number of Receptors Approaching or Exceeding Noise Abatement Criteria	11 Receptors	11 Receptors	11 Receptors (9 residential receptors, 1 church, and 1 park)
Number of Receptors Experiencing a Substantial Increase <sup>(1)</sup>	N/A	0 Receptors	11 Receptors (9 residential receptors, 1 industrial, and 1 vacant parcel)

<sup>(1)</sup> A substantial increase is a 5 dBA or greater change in traffic noise levels from existing to 2040 Build Alternative conditions.

Traffic Noise Abatement Analysis

Noise abatement measures were evaluated along the project area where modeled traffic noise levels are projected to approach or exceed Federal noise abatement criteria. For a noise abatement measure to be proposed as part of a project, it must be both feasible and reasonable as established in the MnDOT Noise Requirements for Type I Federal-aid Projects (effective July 10, 2017).

*Feasibility*

Noise abatement measures must meet acoustic and engineering feasibility criteria to be proposed. For a noise abatement measure to be considered acoustically feasible, it must provide a substantial reduction in noise, defined as a 5 dBA reduction by at least one impacted receptor per proposed barrier. Engineering feasibility addresses whether it is possible to design and construct a proposed noise abatement measure. Potential constructability factors could include safety, topography, drainage, utilities and maintenance.

*Reasonableness*

Three reasonableness factors or “tests” must be met for a noise abatement measure to be

considered reasonable:

- 1) noise reduction design goal of 7 dBA is met for at least one receptor,
- 2) cost effectiveness criteria of \$78,500 per individual benefited receptor must be met, and
- 3) the viewpoint of benefited residents and property owners.

Noise walls were evaluated at all locations along the proposed Hwy 212 Benton Township Project where future (2040) modeled noise levels were projected to approach or exceed noise abatement criteria, or where a substantial increase in traffic noise levels were projected. The noise wall analysis was completed for 13 potential noise wall locations. The modeled noise walls do not meet MnDOT's feasibility and reasonableness criteria; therefore, no noise walls are proposed as part of the Hwy 212 Benton Township Project. The *Hwy 212 Benton Township Traffic Noise Analysis Report* in **Appendix E** includes locations of modeled noise walls and additional details of the noise wall analysis.

#### Statement of Likelihood

The traffic noise analysis for the proposed noise wall locations described above is based upon preliminary design studies completed to date. Final noise mitigation decisions will be subject to final design considerations and the viewpoint of benefited residents and property owners.

If conditions substantially change by the time the Hwy 212 Benton Township Project reaches the final design stage, noise abatement measures may not be provided. If the final plan changes substantially, receptors that would have received benefits from noise walls, along with local officials, will be notified of plans to eliminate or substantially modify a noise abatement measure prior to the final design process. This notification will explain any changes in site conditions (if any), additional site information, any design changes implemented during the final design process, and explanation of noise wall feasibility and reasonableness. A final decision regarding installation of the proposed abatement measure will be made upon completion of the project's final design and the public involvement process.

## **20. EAW Item 20: Transportation**

- a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

### **1) Existing and proposed additional parking spaces.**

Not applicable. The project would not add parking spaces.

### **2) Estimated total average daily traffic generated.**

The proposed project will not generate new trips in the same way as a new business because the highway is not a destination or end point like a business. However; the modeling conducted as part of the study did show that the Preferred Alternative would have trips drawn from adjacent roadways to Hwy 212 due to better travel times on the highway. When travel times are reduced those trips may revert back to their original routes.

As described in the Alternatives Evaluation Report, the existing (2018/2019) Average Annual Daily Traffic (AADT) volume on Hwy 212 varies from 12,200 to 12,700 vehicles per day. The existing (2019) heavy commercial annual average daily traffic (HCAADT) volume is 1,350 freight vehicles per day.

Vehicle mobility was evaluated for this project, specifically the forecast daily traffic volumes (ADT) for 2040. For the four-lane divided section alternative, the results were as follows:

- CSAH 34 to CSAH 51, 25,000 vpd
- CSAH 51 to CR 153, 26,000 vpd
- CR 153 to CSAH 36, 23,000 vpd

Hwy 212 traffic volumes are projected to be 8,000 to 9,000 vpd greater under the 2040 Build Alternative compared to the 2040 No Build Alternative.

**Table 16** shows the changes in traffic volumes along Hwy 212 from CSAH 34 to CSAH 36 under the 2040 No Build Alternative and 2040 Build Alternative.

*Table 16: Hwy 212 Average Daily Traffic Volumes (2040 No Build Alternative and 2040 Build Alternative)*

Hwy 212 Segment	2040 No Build Alternative Vehicles Per Day	2040 Build Alternative Vehicles Per Day	Change (2040 Build – 2040 No Build)
CSAH 34 to CSAH 51	17,000	25,000	8,000
CSAH 51 to CR 153	17,000	26,000	9,000
CR 153 to CSAH 36	15,000	23,000	8,000

Source: Carver County travel demand forecasts based on Metropolitan Council approved Scenario 2. Includes Metropolitan Council Thrive MSP 2040 socio-economic forecasts with programmed roadway improvements identified in the Carver County 2018-2023 Capital Improvement Plan (CIP).

### 3) Estimated maximum peak hour traffic generated and time of occurrence.

As indicated in the Purpose and Need Statement, intersections were analyzed using VISSIM (Version 20) software. Analysis results identify a Level of Service (LOS), which indicates the quality of traffic flow through an intersection. Intersections are given a ranking from LOS A through LOS F. The LOS results are based on average delay per vehicle. LOS A indicates the best traffic operation, with vehicles experiencing minimal delays. LOS F indicates an intersection where demand exceeds capacity, or a breakdown of traffic flow.

For side-street stop and yield controlled intersections, special emphasis is given to providing an estimate for the LOS of the side-street approach. Because the mainline does not have to stop, most of the intersection delay is attributed to the side-street approaches. It is typical of intersections with higher mainline traffic volumes to experience high levels of delay (i.e., poor LOS) on the side-street approaches, but an acceptable overall intersection LOS during peak period conditions.

As described in the Alternatives Evaluation Report, an intersection operations analysis was prepared for Hwy 212 for the weekday morning and afternoon peak hours under existing conditions and the 2040 No Build Alternative. The morning peak hour is from 7:00 a.m. to 8:00

a.m. The afternoon peak period is from 4:00 p.m. to 5:00 p.m.

The Purpose and Need Statement (see **Appendix B**) indicated that most Hwy 212 intersections are projected to operate at an overall LOS A during the morning and afternoon peak hours under the 2040 Build Alternative. However, the Hwy 212/CSAH 51 northbound and southbound approaches are projected to operate at LOS F during the morning and afternoon peak hours. The Hwy 212/CSAH 153 intersection northbound and southbound approaches are projected to operate at a LOS D during the morning and afternoon peak hours. **Table 17** below shows the hour volumes and both opening day volumes and 2040 and includes the LOS to inform how that volume correlates to LOS.

*Table 17: Estimated maximum peak hour traffic generated and time of occurrence.*

Hwy 212 Segment	Opening Day (2025) Vehicles/Hour (LOS)		2040 No Build Alternative Vehicles/Hour (LOS)		2040 Build Alternative Vehicles/ Hour (LOS)	
	AM	PM	AM	PM	AM	PM
CSAH 34 to Salem Ave	1,320 (A)	1,550 (A)	1,363 (D)	1,566 (D)	1,560 (A)	1,760 (A)
Salem Ave to CSAH 51	1,320 (A)	1,545 (A)	1,356 (D)	1,558 (D)	1,550 (A)	1,760 (A)
CSAH 51 to CR 153	1,400 (A)	1,625 (A)	1,470 (D)	1,688 (D)	1,680 (A)	1,895 (A)
CR 153 to CSAH 36	1,380 (A)	1,585 (A)	1,410 (D)	1,575 (D)	1,610 (A)	1,790 (A)

### Hwy 212 and CSAH 51 Intersection

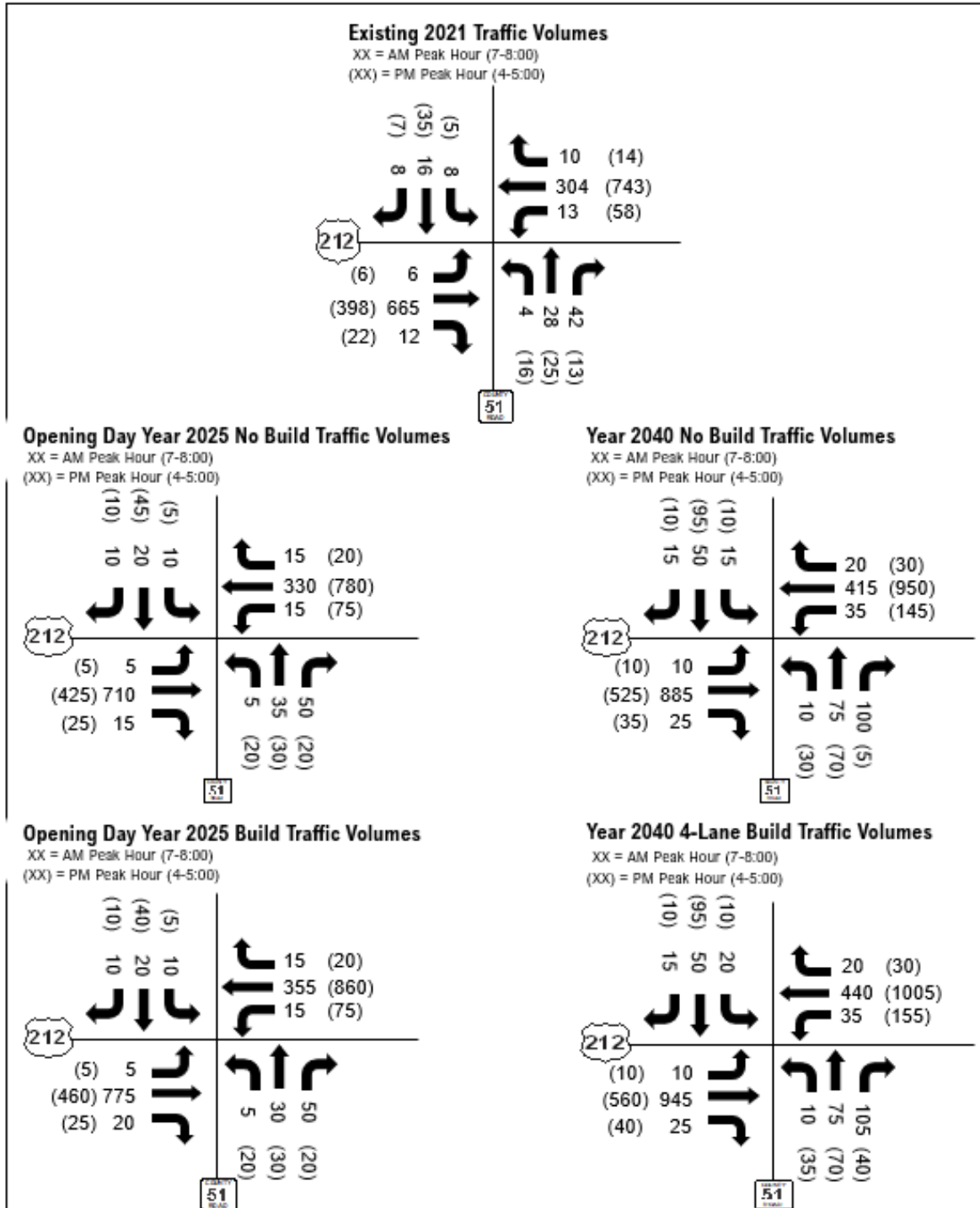
A 2010 Planning Study completed by Carver County and MnDOT noted that crash rates at Hwy 212 intersections exceed critical crash rates,<sup>21</sup> forecasted traffic volumes are projected to increase by the year 2030, and that intersections are projected to operate poorly in the future during the morning and afternoon peak hours.

Concept 6 (Grade Separated Quadrant Interchange, East Alignment Option 1) was identified as the preferred alternative for the Hwy 212 and CSAH 51 intersection. Hwy 212 and quadrant roadway intersections are projected to operate at an overall LOS A during the morning and afternoon peak hours under Concept 6. The quadrant roadway approaches are projected to operate at LOS B during the morning and afternoon peak hours, with delays less than 15 seconds. **Exhibit 3** below shows the peak hour traffic at time of occurrence for the Hwy 212 and

<sup>21</sup> The critical crash rate is a statistical comparison based on similar segments or intersections statewide. An observed crash rate greater than the critical crash rate indicates that the intersection operates outside of the expected, normal range.

CSAH 51 intersection. **Table 18** below shows the peak hour traffic at time of occurrence for the CSAH 51 segments.

Exhibit 3: Existing, Opening Day, and Future Peak Hour Traffic at Hwy 212 and CSAH 51



**Traffic Volumes**  
 Intersection Control Evaluation  
 TH 212 and CSAH 51  
 Carver County, Minnesota

Table 18: Segment peak hour traffic at time of occurrence for Hwy 212 and CSAH 51 intersection

Segment	Opening Day (2025) Vehicles/Hour (LOS)		2040 No Build Alternative Vehicles/Hour (LOS)		2040 Build Alternative Vehicles/Hour (LOS)	
	AM	PM	AM	PM	AM	PM
CSAH 51 – North of Hwy 212	110 (A)	140 (A)	181 (A)	221 (A)	190 (A)	230 (A)
CSAH 51 – South of Hwy 212	165 (A)	240 (A)	283 (B)	405 (B)	310 (A)	450 (A)

Note: Overall segment LOS, meaning both directions combined.

**4) Indicate source of trip generation rates used in this estimate.**

As noted in the Purpose and Need Statement, traffic forecasts for the 2040 No Build Alternative were prepared by considering historical traffic volume growth rates in the project area, travel demand trends observed in the Metropolitan Council regional activity-based travel demand model (ABM) and Carver County’s traffic projection factor (annual growth rate of 1.5 percent). The Metropolitan Council’s ABM is a computer model that uses travel behavior information and socio-economic forecasts to develop traffic volume forecasts. Background highway assumptions were included in the travel demand forecasts consistent with state, regional, and local improvement programs, and plans.

**5) Availability of transit and/or other alternative transportation modes.**

Not applicable. No transit and/or other alternative transportation modes are available within the project area.

- b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project’s impact on the regional transportation system. *If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW.* Use the format and procedures described in the Minnesota Department of Transportation’s Access Management Manual, Chapter 5 (available at: <http://www.dot.state.mn.us/accessmanagement/resources.html>) or a similar local guidance,

The following discussion demonstrates how Hwy 212 – Benton Township traffic operations would improve with the proposed project in comparison to having no improvement in the corridor.

The traffic modeling analyzed intersection LOS results for the morning and afternoon peak periods under existing conditions and the 2040 No Build Alternative. **Table 19** tabulates the intersection operations analysis results for the morning and afternoon peak periods under Existing Conditions,



the 2040 No Build Alternative, and the 2040 Build Alternative. The worst approach delay is the northbound direction and is due to the out-of-direction travel associated with the overpass.

Table 19: Existing Conditions, 2040 No Build, and 2040 Build LOS and Delay Results for Intersections

Hwy 212 Intersection	Morning Peak Hour LOS	Morning Peak Hour Delay (Sec)	Afternoon Peak Hour LOS	Afternoon Peak Hour Delay (Sec)
<b>Existing Conditions</b>				
CSAH 34	A/A	1/9	A/B	1/12
Salem Avenue	A/B	1/10	A/B	1/10
CSAH 51	A/C	2/16	A/C	3/17
CR 153	A/B	2/14	A/B	2/14
<b>2040 No Build Alternative</b>				
CSAH 34	A/C	2/15	A/C	2/19
Salem Avenue	A/B	1/11	A/B	1/12
CSAH 51	A/E	5/35	A/E	8/45
CR 153	A/D	2/17	A/D	3/20
<b>2040 Build Alternative</b>				
CSAH 34	A/E	5/38	A/E	3/37
Salem Avenue	A/E	1/40	A/E	1/37
CSAH 51	A/C	4/17	A/C	4/18
CR 153	A/E	2/36	A/E	2/38

Notes: All intersections are unsignalized with side street stop/yield control, where the overall LOS is presented first followed by the worst approach LOS. The delay shown represents the overall followed by the worst approach delay. The morning peak period is from 7:00 a.m. to 8:00 a.m. The afternoon peak period is from 4:30 p.m. to 5:30 p.m.

Table 20 shows the Existing Conditions, 2040 No Build, and 2040 Build LOS and Delay Results for Segments.

Table 20: Existing Conditions, 2040 No Build, and 2040 Build LOS and Delay Results for Segments

Hwy 212 Segments	Morning Peak Hour LOS	Morning Peak Hour Delay (Sec)	Afternoon Peak Hour LOS	Afternoon Peak Hour Delay (Sec)
<b>Existing Conditions</b>				
CSAH 34 to Salem Ave	C	5.8	C	6.5
Salem Ave to CSAH 51	C	4.8	C	6.8
CSAH 51 to CR 153	C	5.7	C	7.1
CR 153 to CSAH 36	C	5.5	C	7.1
<b>2040 No Build Alternative</b>				

CSAH 34 to Salem Ave	D	8.7	D	9.7
Salem Ave to CSAH 51	D	8.7	D	9.7
CSAH 51 to CR 153	D	9.5	D	11.1
CR 153 to CSAH 36	D	9.4	D	10.3
<b>2040 Build Alternative</b>				
CSAH 34 to Salem Ave	A	8.5	A	9.5
Salem Ave to CSAH 51	A	8.4	A	9.5
CSAH 51 to CR 153	A	9.2	A	10.2
CR 153 to CSAH 36	A	9.2	A	10.0

Note: Overall segment LOS and delay is shown, meaning both directions combined.

The project would be adding a new lane to Hwy 212 in each direction and analyses show that volumes on Hwy 212 would not be congested on opening day or in 2040. The level of service is expected to improve to LOS A (best performance) for the 2040 Build Alternative. The traffic modeling did not show an impact on the regional transportation system.

- c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

During construction, temporary detour routes and associated detour lengths will be detailed in the Traffic Management Plan (TMP) to be developed for the project and coordinated with MnDOT. It is anticipated that detours will be planned for CSAH 51, CR 153, Salem Ave North and South, and Tacoma Ave North and South. Crossovers on Hwy 212 are planned to maintain traffic on the mainline, though lane reduction may occur. Meetings will be held with Benton Township, emergency responders, and the Twin Cities & Western Railroad (TCWR).

## 21. EAW Item 21: Cumulative Potential Effects

(Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

- a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

The area considered for cumulative effects covers transportation projects and planned developments in the vicinity of the project, which use the same transportation network as

the project. Projects considered for cumulative potential effects are planned or programmed for construction between 2025 and 2026.

**Table 21** summarizes the project related environmental effects that could combine with other environmental effects and the geographic extent of the anticipated impacts.

*Table 21: Project Related Environmental Effects and Geographic Extent*

<b>EAW Item</b>	<b>Topic/Issue</b>	<b>Project-Related Environmental Effects</b>	<b>Geographic Extent</b>
EAW Item 11	Erosion and Sediment Control	Disturbed ground/exposed soils during construction	Throughout project area
EAW Item 12	Stormwater and Aquatic Resources	<ul style="list-style-type: none"> <li>• Increase in impervious surface area.</li> <li>• Impacts to aquatic resources.</li> <li>• Water quality impacts from runoff.</li> </ul>	Throughout project area
EAW Item 13	Existing Contamination /Potential Environmental Hazards	<ul style="list-style-type: none"> <li>• Project has medium risk of impacting potentially contaminated sites.</li> </ul>	Throughout project area
EAW Item 14	Rare Species	<ul style="list-style-type: none"> <li>• Project likely to adversely affect the NLEB</li> </ul>	Throughout project area
EAW Item 19	Construction and Traffic Noise	<ul style="list-style-type: none"> <li>• Temporary construction noise impacts</li> </ul>	Throughout project area
EAW Item 20	Transportation	<ul style="list-style-type: none"> <li>• Increase in traffic volumes compared to the 2040 No Build Alternative</li> <li>• Improved mobility, safety, and traffic operations compared to 2040 No Build Alternative</li> </ul>	Throughout project area

- b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

The MnDOT 2022-2025 State Transportation Improvement Program (STIP), the Carver County website, the Transportation section of the Carver County 2040 Comprehensive Plan, and the city

of Cologne and Norwood Young America websites were reviewed to identify present and other reasonably foreseeable future projects within the Hwy 212 – Benton Township study area. Present and reasonably foreseeable future projects are listed below.

- Carver County Capital Improvement Map:
    - 2023 Highway Preservation Plan (HPP) HPP Contract - Pavement resurfacing of Highway 153 from Highway 50 to Highway 284.
    - 2025 HPP Contract - Pavement resurfacing of Highway 34 from Highway 33 to Hwy 212.
  - Final 2022-2025 STIP:
    - STIP #1013-101 (2023): US 212, From 0.14 Mi W Of CSAH 36 (West Leg) in Cologne to 0.7 Mi E CSAH 36 (east leg) in Cologne. Bituminous Shoulder Mill and Overlay, Concrete Pavement Rehab, Rehab Bridges 10021 and 10022, Drainage and Guardrail (Associate To 1013-101s)
    - STIP #1013-101 (2023): US 212, from CSAH 36 W Junction in Cologne to E Junction In Dahlgren Twp- Install Cable Median Barrier (associate to 1013-101)
- c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

Work on Hwy 212 has been a high priority to address capacity issues and remaining bottlenecks to lessen traffic and improve safety between the city of Glencoe and the Twin Cities. This included construction of the new four-lane Dahlgren Township stretch (approximately 4.5 miles from Carver at Highway 11/Jonathan Carver Parkway to Cologne at Highway 36), which was previously a two-lane highway. These actions were considered as part of the existing conditions in the project area.

The potential environmental effects resulting from the proposed project are described in EAW Item 9 through EAW Item 21. Future development is taken into consideration in the traffic analysis, and the cumulative impact of future transportation improvements would result in improved traffic conditions. Impacts from the other projects listed above would be addressed via federal and state regulatory permitting and approval processes; therefore, they would be individually mitigated to ensure minimal cumulative impacts occur.

Considering the types of other projects listed above, and considering regulatory permitting and approval processes, the proposed project along with other reasonably foreseeable actions would have a minimal cumulative impact upon the environment.

## **22. EAW Item 22: Other Potential Environmental Effects**

If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

### **Right of Way and Relocations**

The project would require 116.2 acres new right of way, and 27.6 acres of temporary easement.

The proposed permanent right of way would come from 35 parcels and temporary easements would come from 16 parcels. Right of way acquisition will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

### **Public Involvement**

Carver County worked with MnDOT and nearby cities and townships from 2013 to 2020 to complete a corridor study for the Hwy 212 project area. The study looked at lower-cost ways to make improvements to the corridor, while working toward the long-term conversion of the corridor to a four-lane facility. This included multiple public engagement efforts including public open houses, stakeholder interviews, and public input surveys.

In 2020, Carver County conducted a community survey to identify issues and opportunities regarding safety and mobility on Hwy 212. Public engagement was conducted with a focus on environmental justice communities - including low-income populations, communities of color, and senior and youth communities. A survey was distributed to over two dozen locations, specifically chosen to include senior/assisted living and low-income housing locations, and representative of locations that use the corridor everyday as there is no other similar connecting highway serving this rural area. Through direct mail and online distribution, surveys were targeted toward populations not typically involved in transportation projects, such as residents under age 18, disabled residents, and low-income residents. There were 432 responses received, of which 70 identified as members of diverse populations (over the age of 65, or Hispanic/Latino, Asian, Black/African American, or American Indian). The survey helped identify several safety concerns and suggestions for improvements.

The survey was conducted from April 20 to May 10, 2020. Of the respondents, 49% commented about their safety concerns on this segment of Hwy 212, 43% suggested safety improvements, and 38% provided additional comments about safety. When respondents were asked to select their two largest concerns with the Hwy 212 & CSAH 51 interchange, 74% selected "turning on/off the highway" and 48% selected "safety (number of crashes)." The majority of respondents indicated that they drive along Hwy 212 between Cologne and Norwood Young America "nearly daily" or "weekly." Suggestions included, 1) Expanding the highway to four lanes would decrease traffic congestion, 2) Hwy 212 intersection improvements should accommodate vehicles of all sizes, 3) redoing the roadway would help prevent bad weather crashes and, 4) consider building a bridge with ramps at CSAH 51.

The Carver County Public Works Department also provided information regarding the proposed project on their webpage at <https://www.co.carver.mn.us/departments/public-works/projects-studies/highway-212-project-benton-township>. A project overview video was produced for the project (<https://www.youtube.com/watch?v=2Q1i7IPauGM>) as well as a testimonial video (<https://www.youtube.com/watch?v=jciQTr8mx2M>), both published in July 2021.

An open house was held on May 3, 2022, at the Cologne Community Center (1211 Village Parkway, Cologne, MN 55322). There were 110-120 attendees, with 108 on the sign-in sheet. Eight written comments were received, with strong support for grade separation at CSAH 51. An open house boards dot exercise was used. There was strong support for a quadrant option for CSAH 51.



**RGU CERTIFICATION.** *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages, or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

**Marni Karnowski**

Signature \_\_\_\_\_



Digitally signed by Marni Karnowski

Date: 2023.06.21 12:50:45 -05'00'

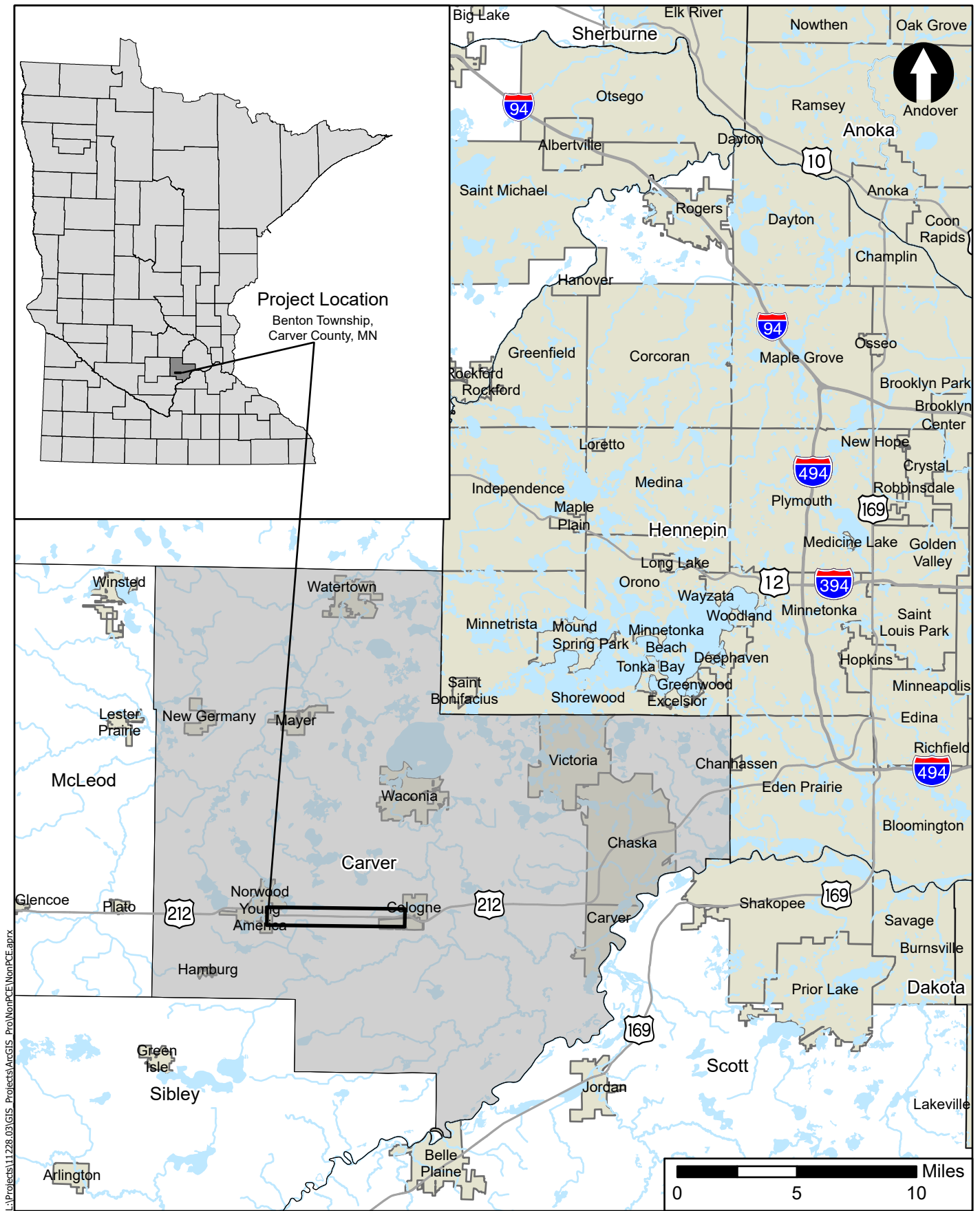
Date \_\_\_\_\_

Title Chief Environmental Officer

# Appendix A

Figures



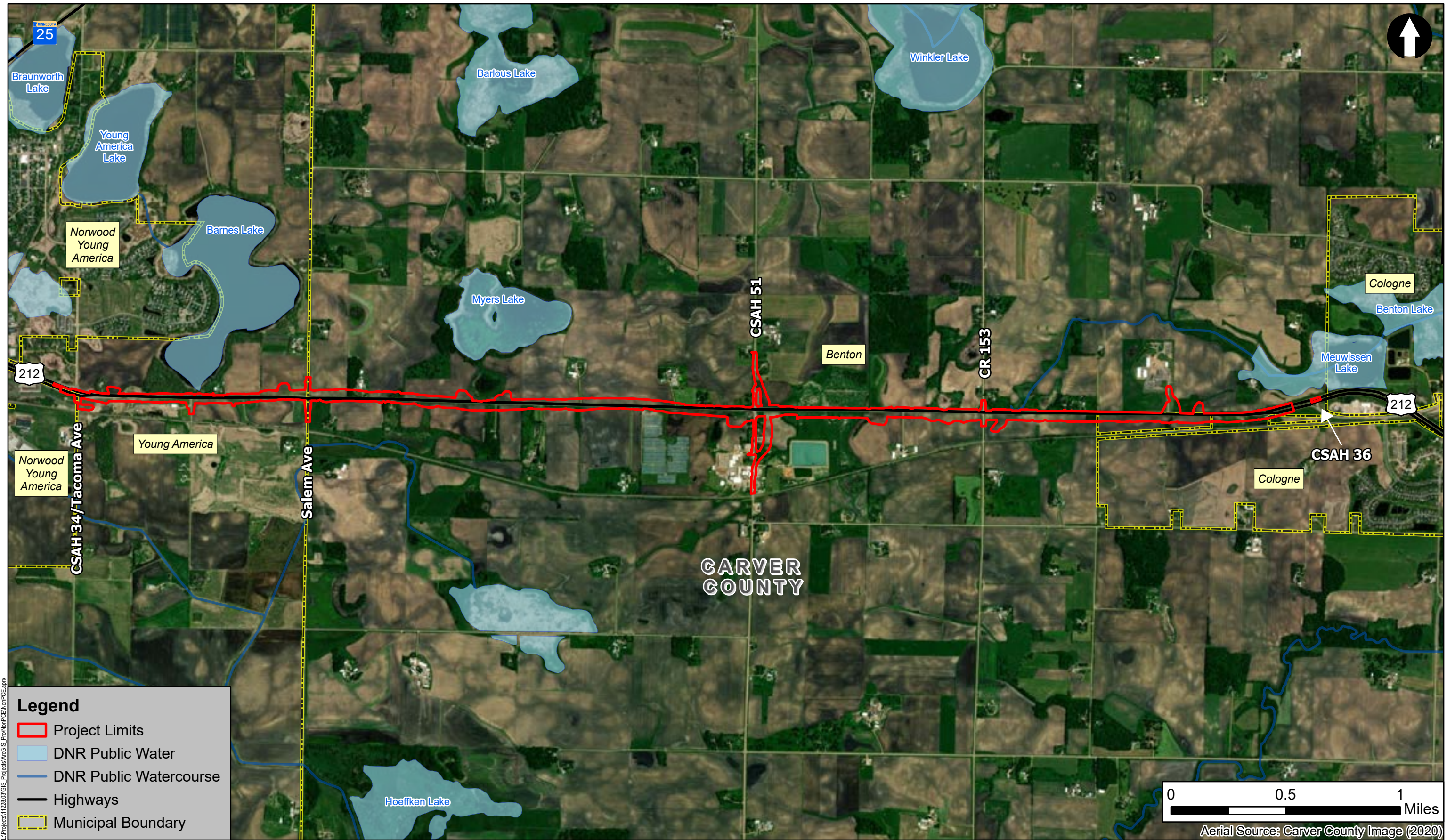


**State Location Map**

U.S. Highway 212 - Benton Township Project  
 (SP) 1013-77  
 Carver County

**Figure 1**



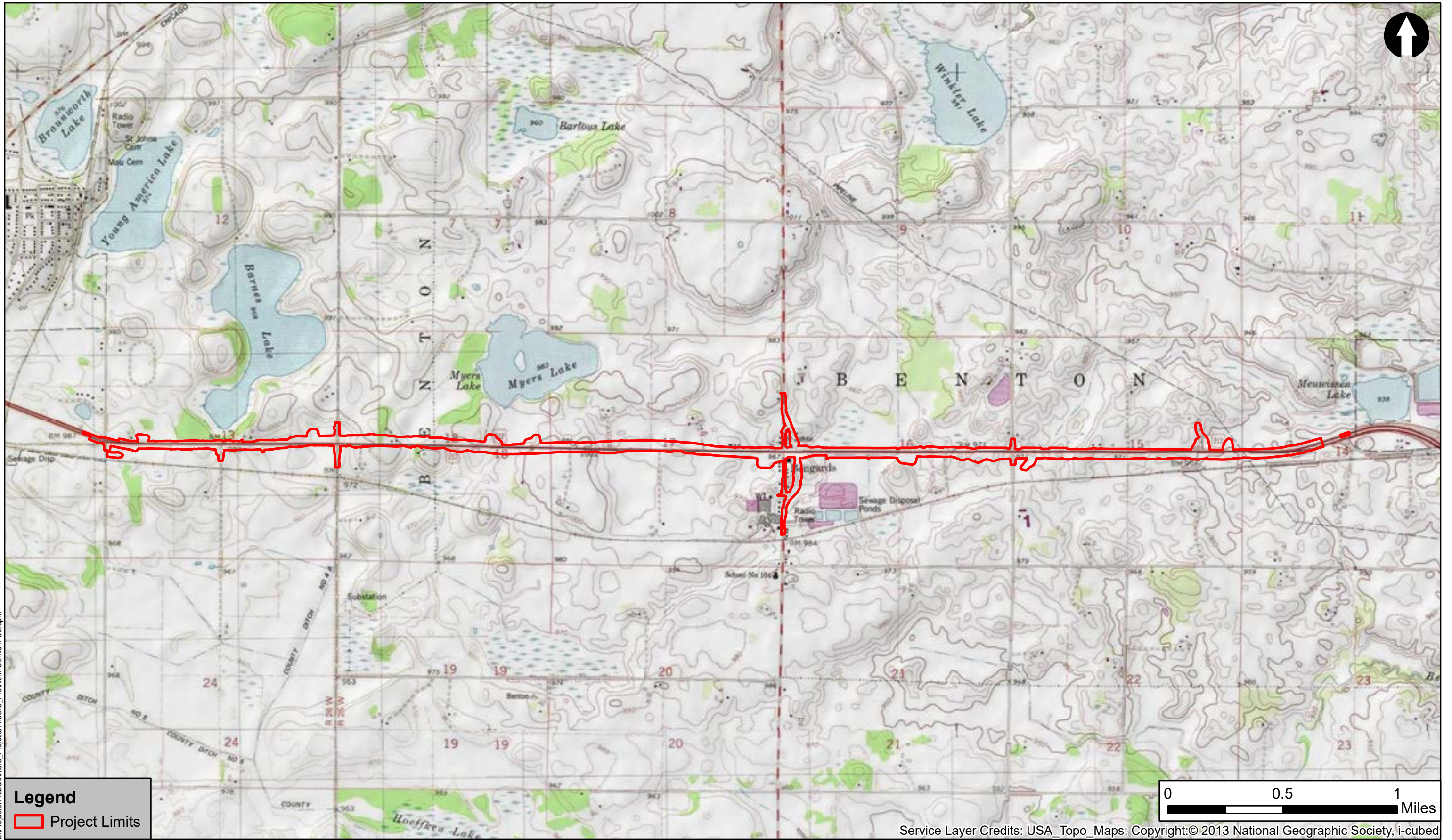


**Project Location**

U.S Highway 212 - Benton Township Project  
 (SP) 1013-77  
 Carver County

**Figure 2**





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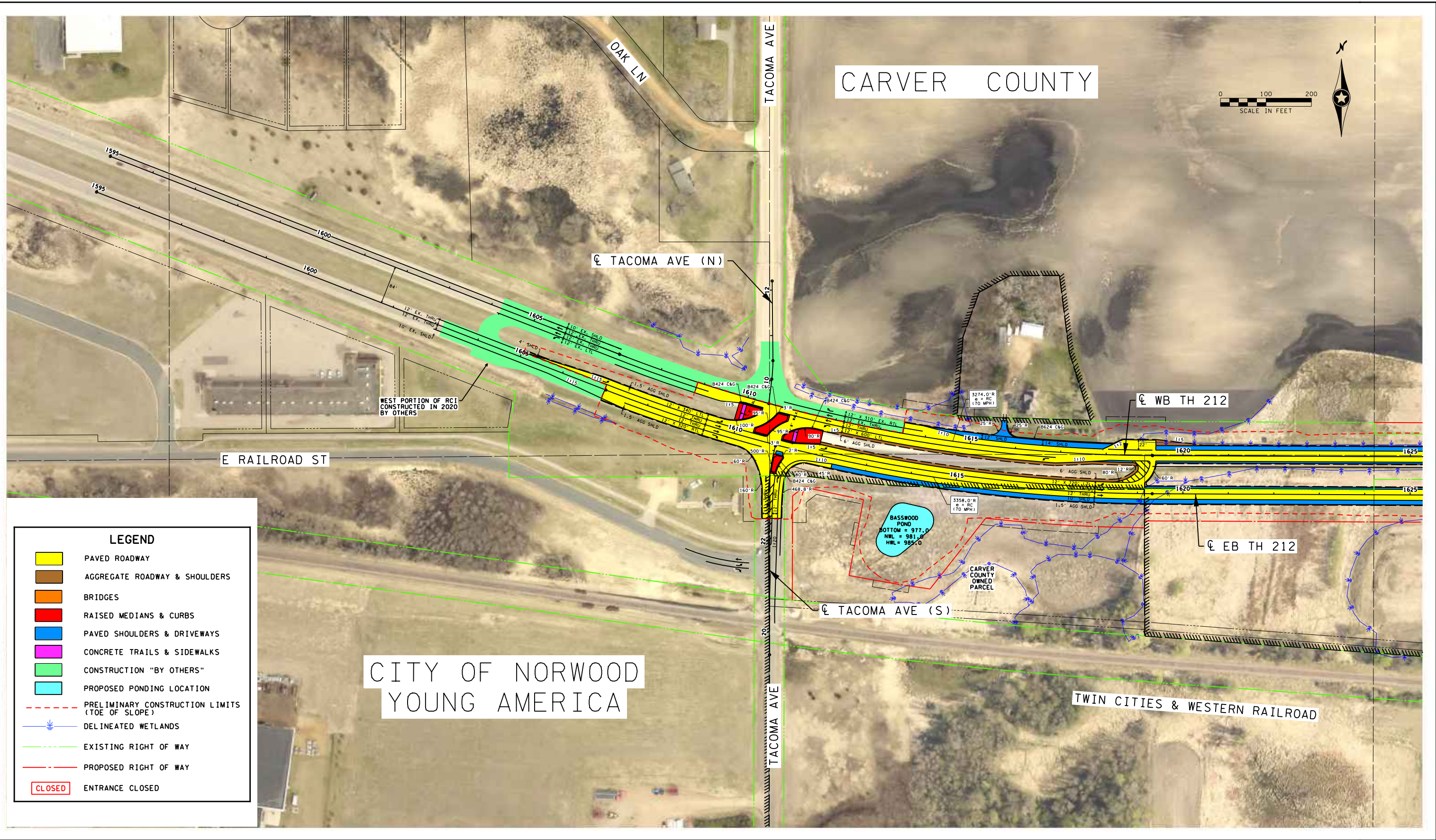
**USGS Topographic Map**

U.S Highway 212 - Benton Township Project  
 (SP) 1013-77  
 Carver County

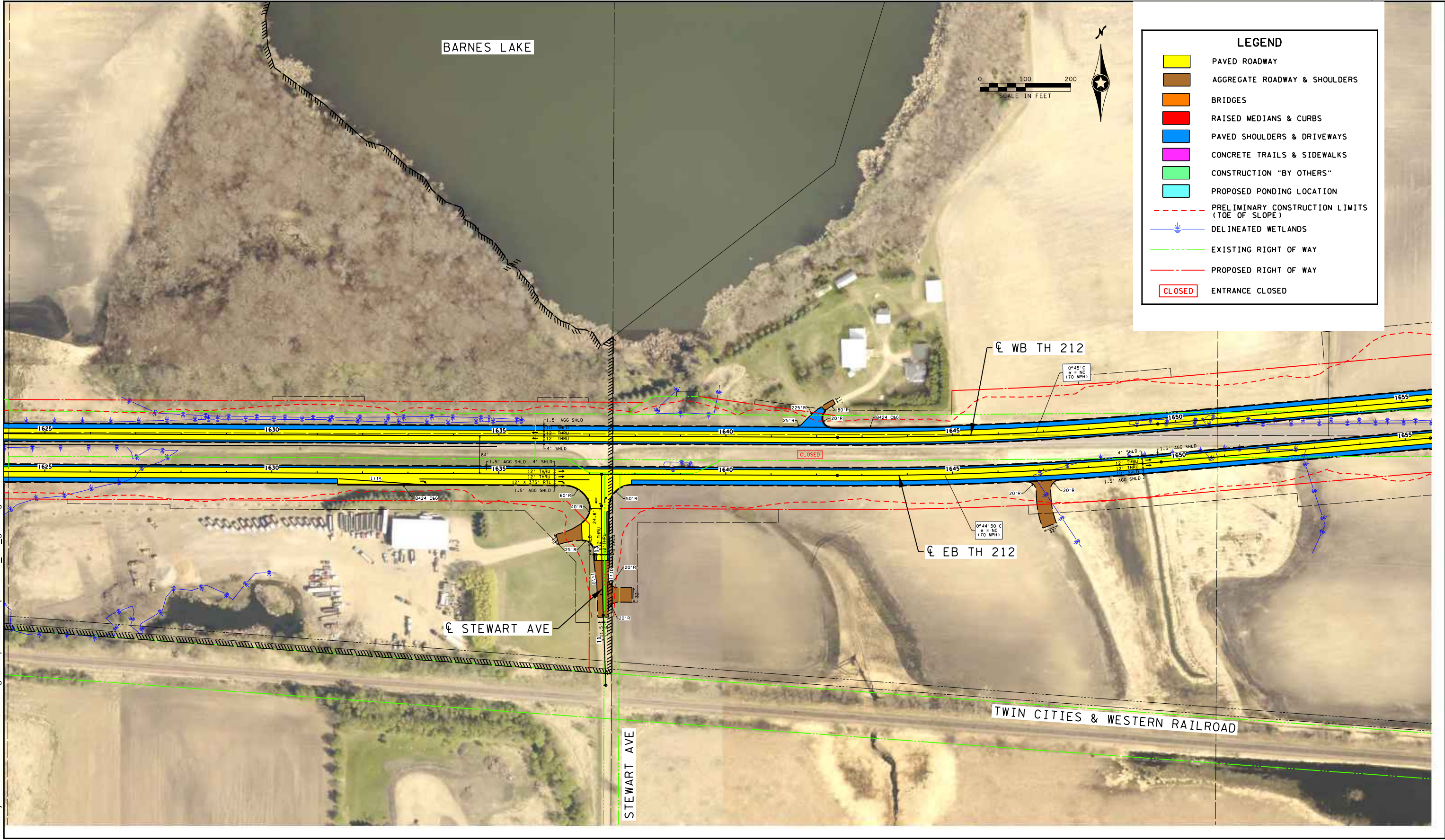
**Figure 3**



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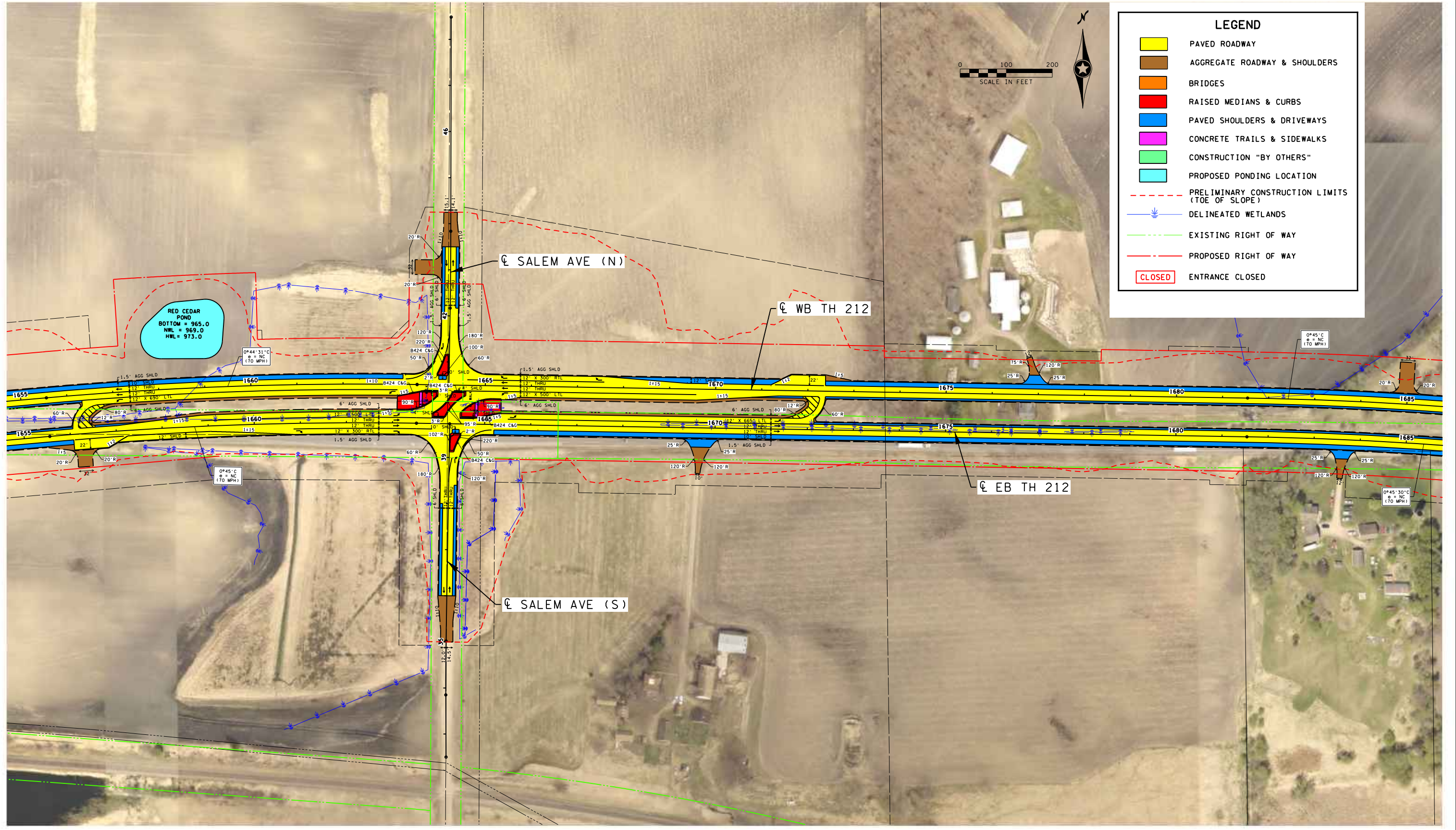


**Project Layout**  
 U.S. Highway 212 - Benton Township Project  
 Norwood Young America to Cologne, Carver County - Minnesota

Figure 4B



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**LEGEND**

- PAVED ROADWAY
- AGGREGATE ROADWAY & SHOULDERS
- BRIDGES
- RAISED MEDIANS & CURBS
- PAVED SHOULDERS & DRIVEWAYS
- CONCRETE TRAILS & SIDEWALKS
- CONSTRUCTION "BY OTHERS"
- PROPOSED PONDING LOCATION
- PRELIMINARY CONSTRUCTION LIMITS (TOE OF SLOPE)
- DELINEATED WETLANDS
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- CLOSED ENTRANCE CLOSED

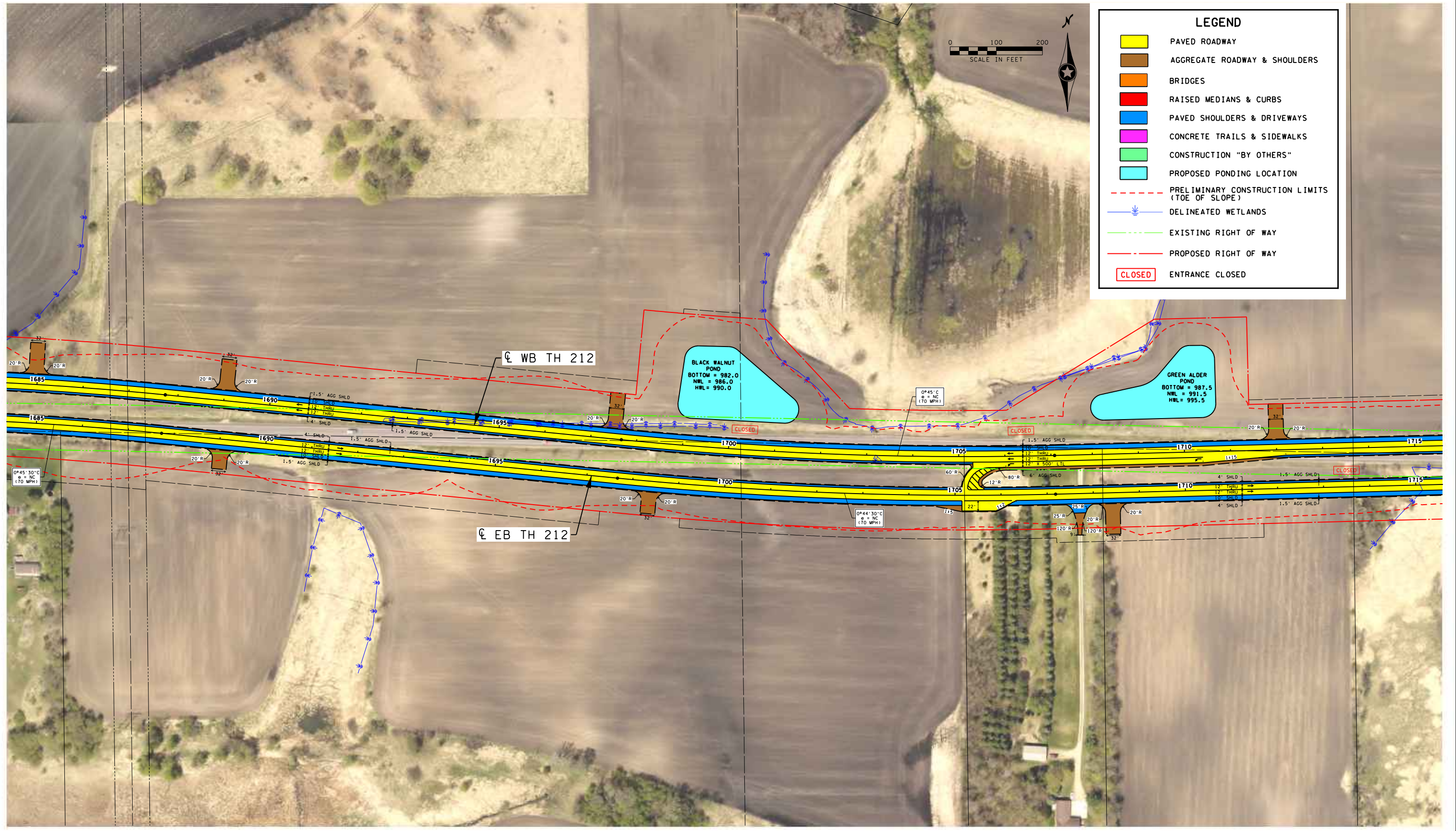


**Project Layout**  
 U.S. Highway 212 - Benton Township Project  
 Norwood Young America to Cologne, Carver County - Minnesota

Figure 4C



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### Project Layout

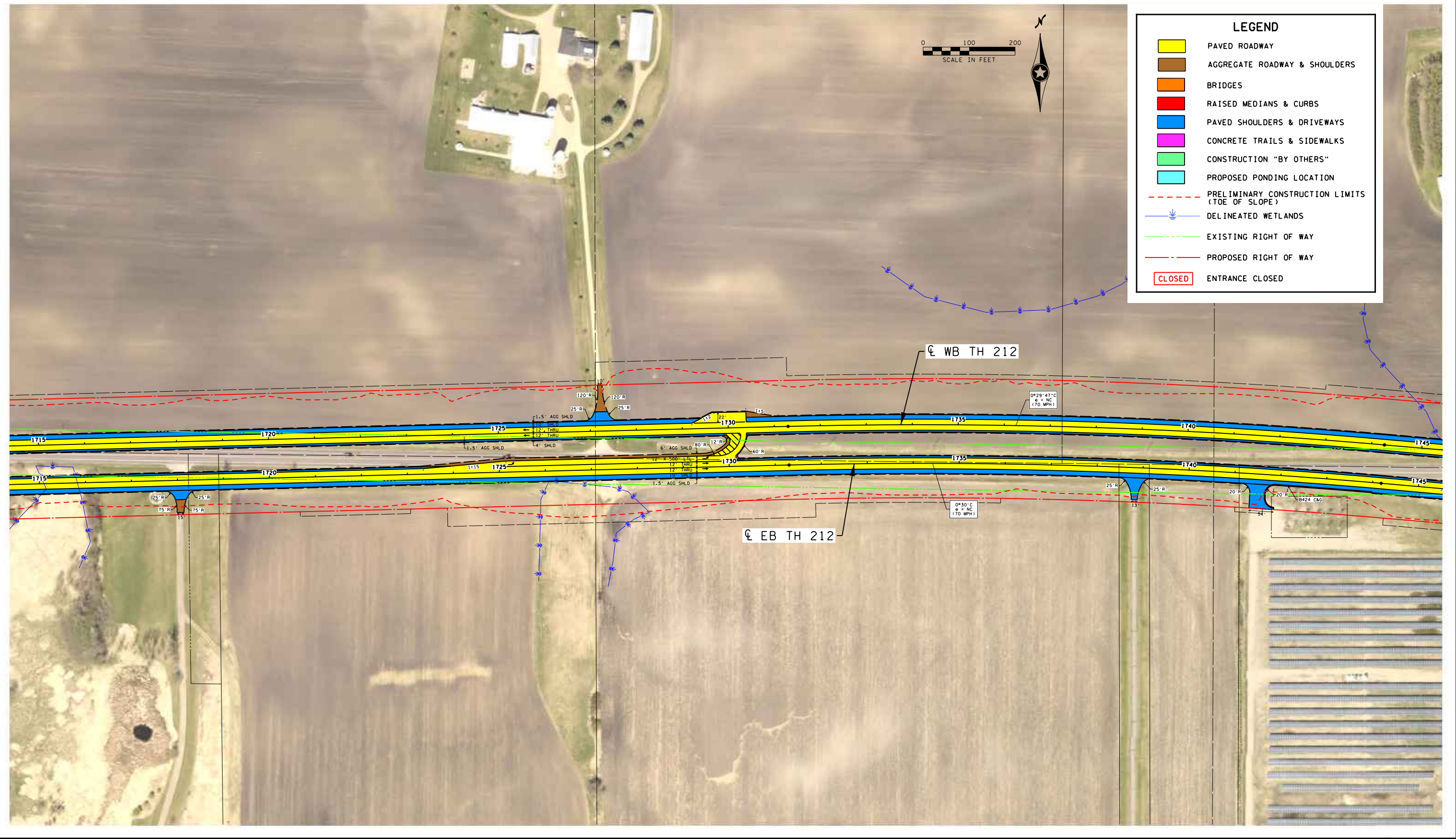
U.S. Highway 212 - Benton Township Project  
Norwood Young America to Cologne, Carver County - Minnesota

Job #  
1/18/2023

Figure 4D

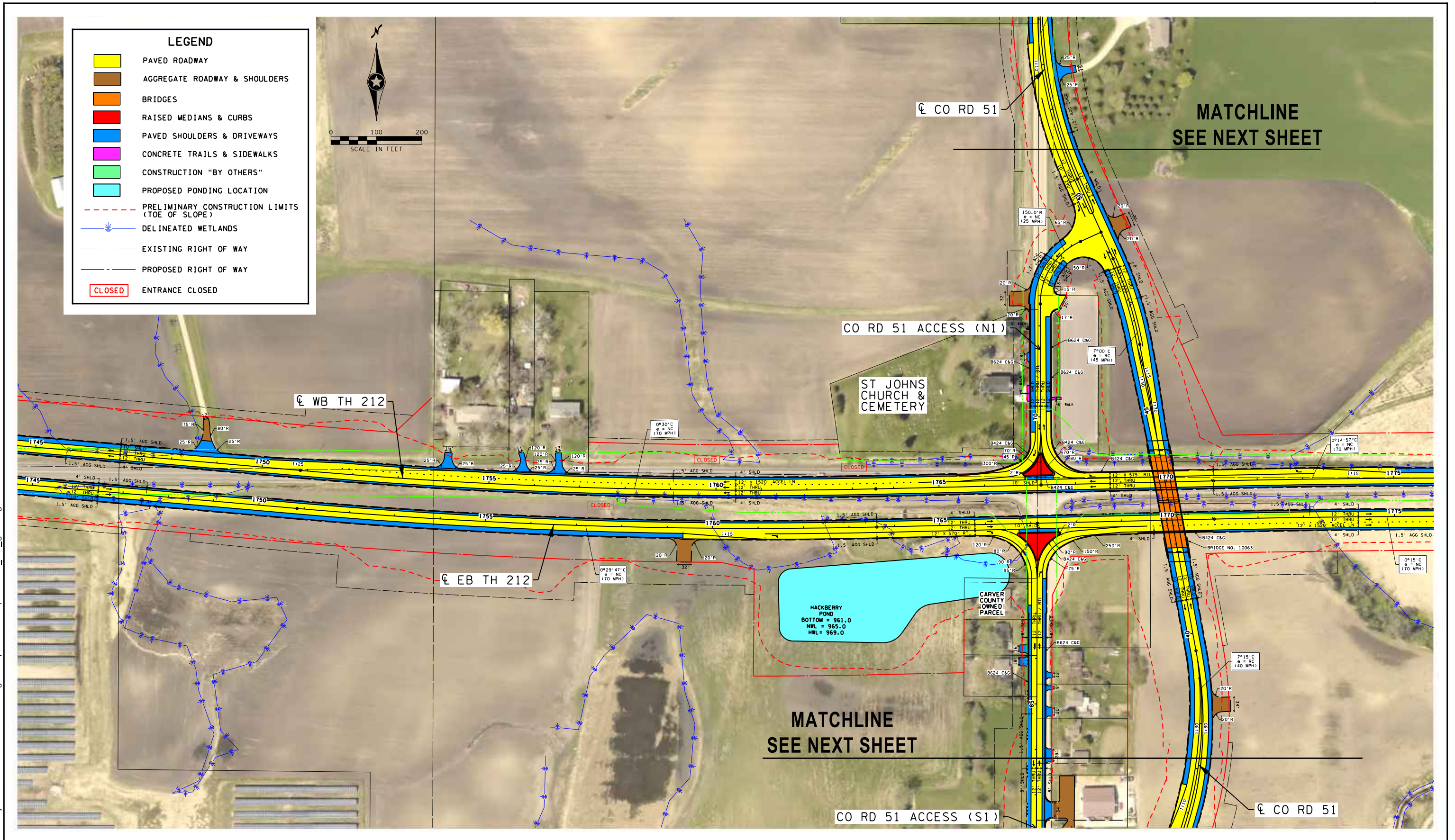


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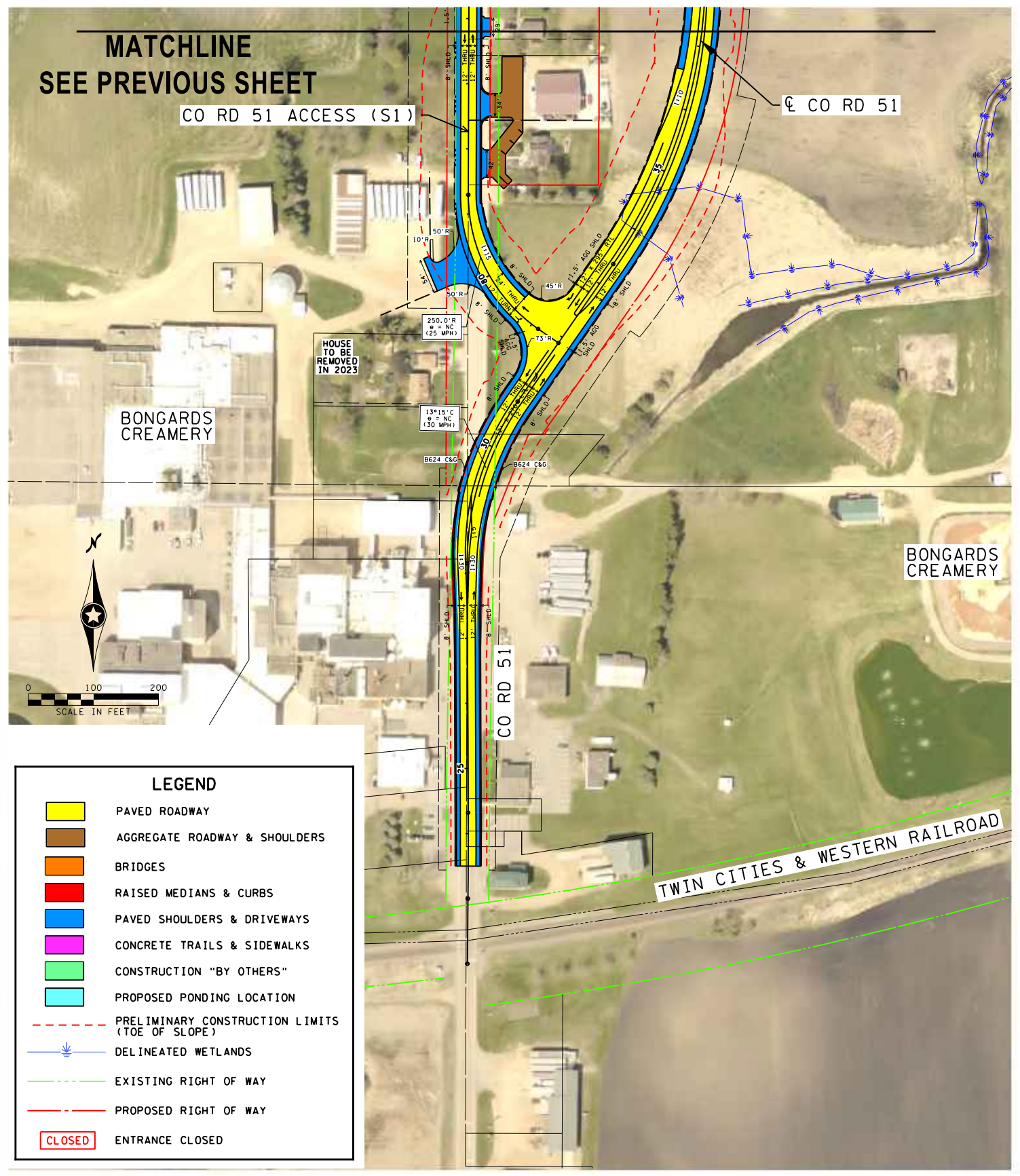
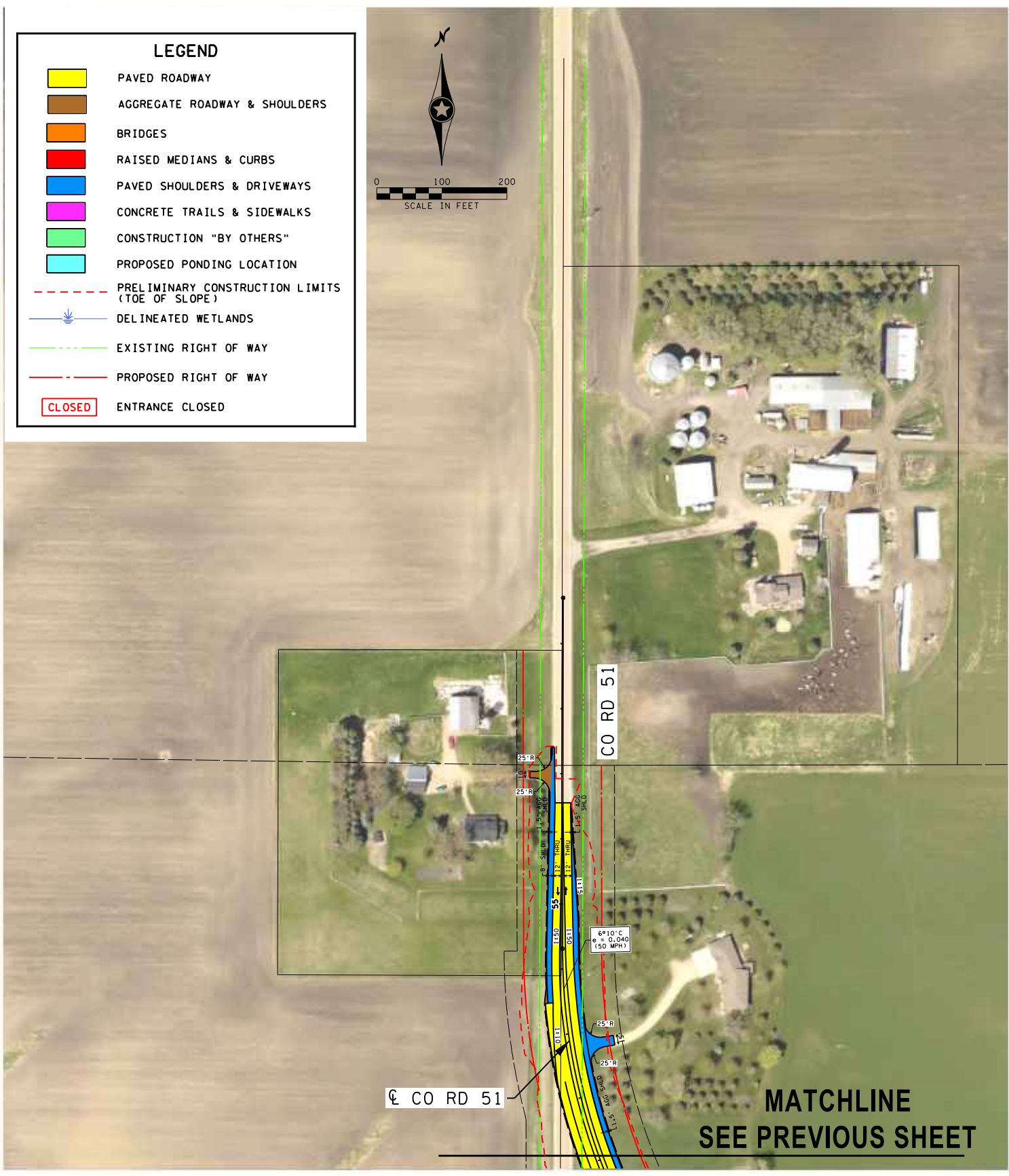


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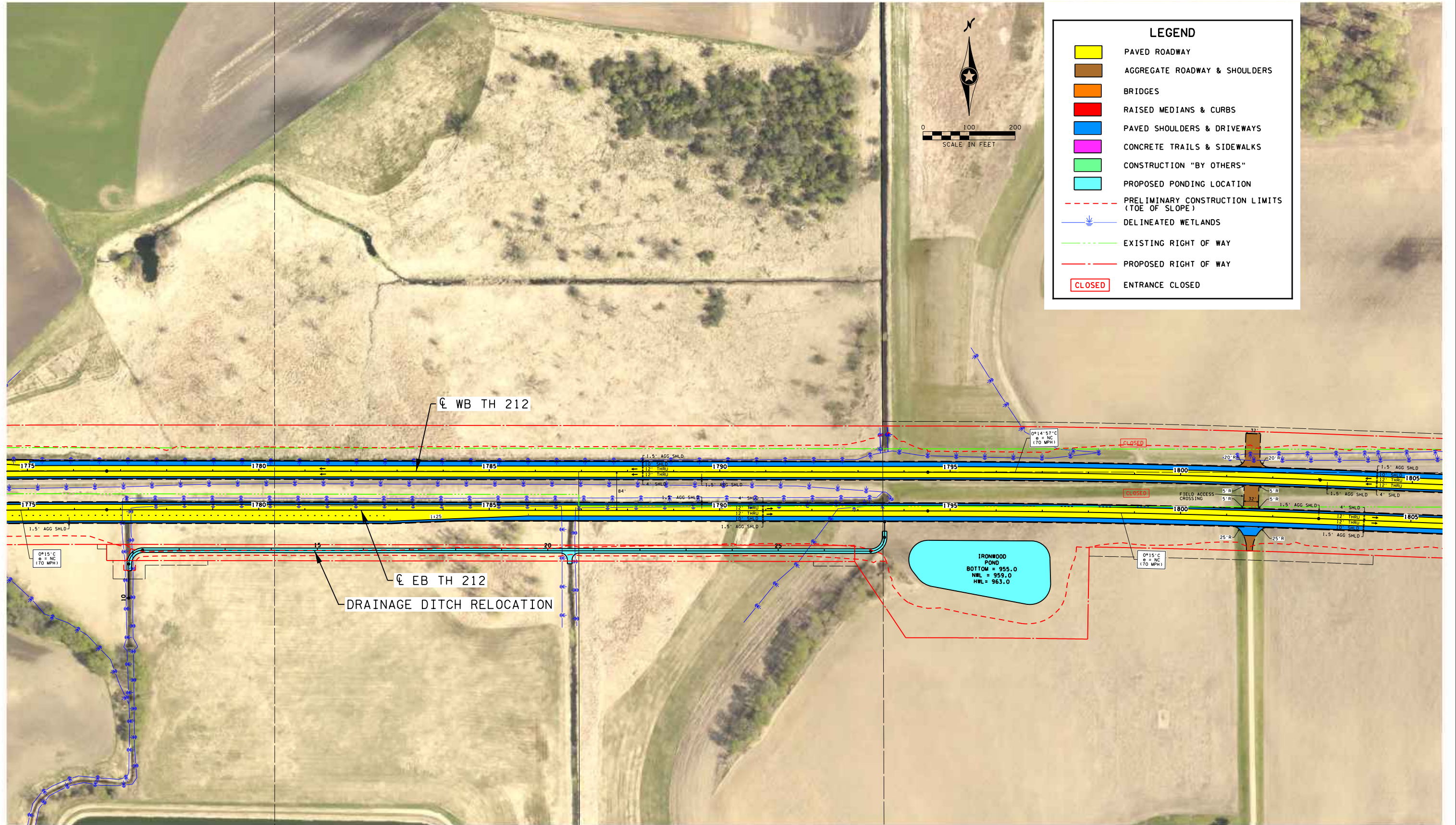


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### Project Layout

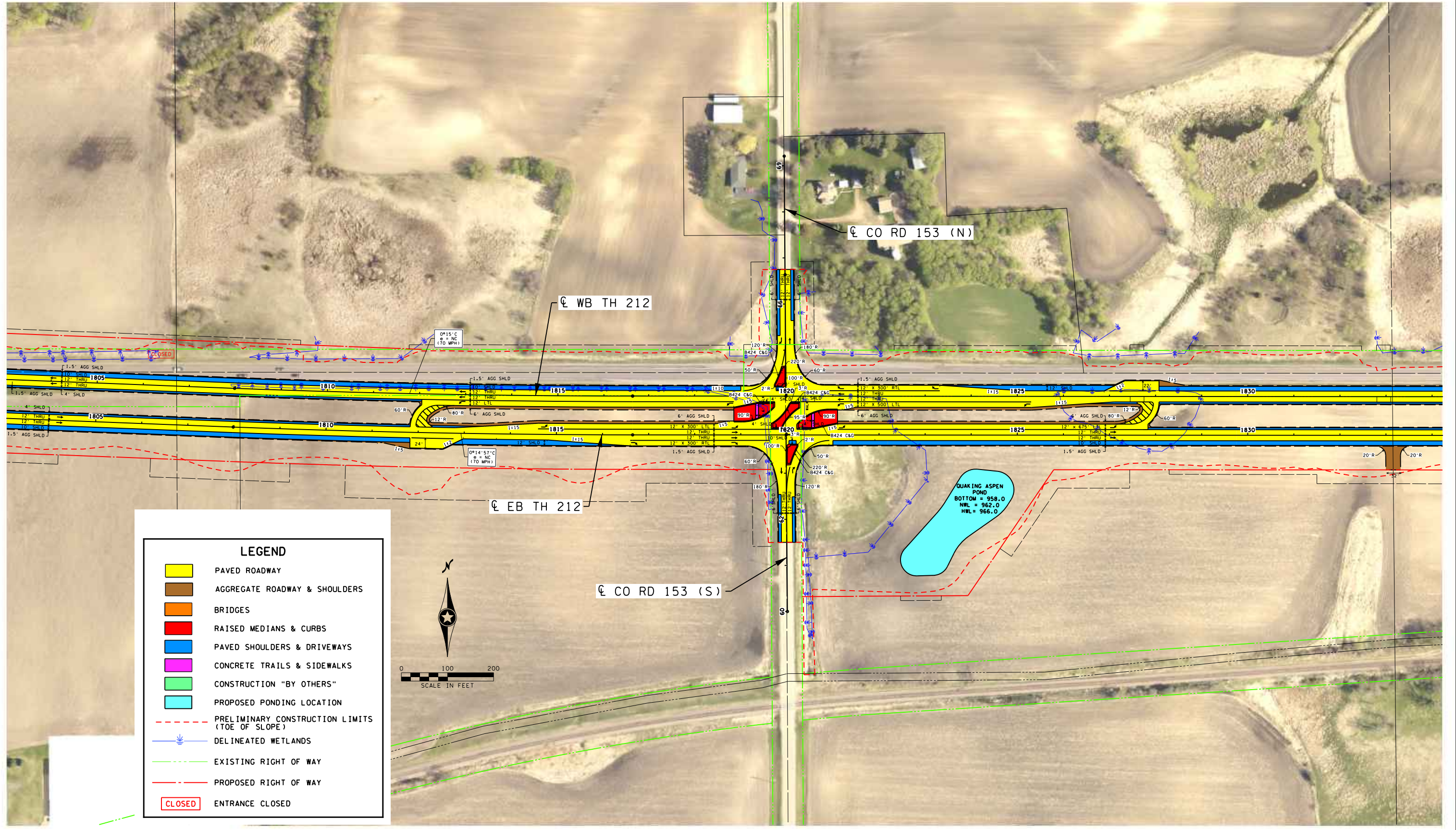
U.S. Highway 212 - Benton Township Project  
Norwood Young America to Cologne, Carver County - Minnesota

Job #  
1/18/2023

Figure 4H

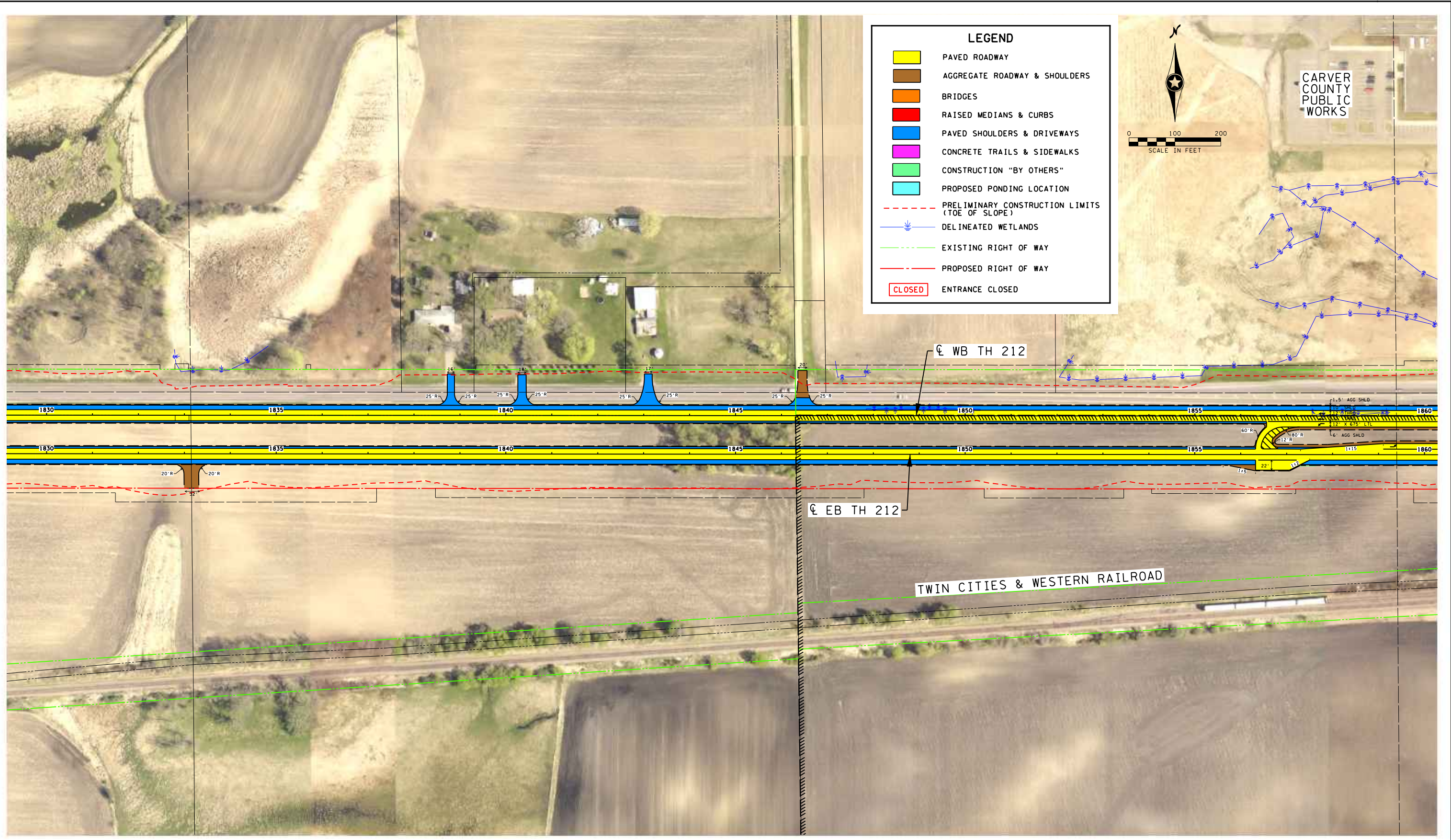


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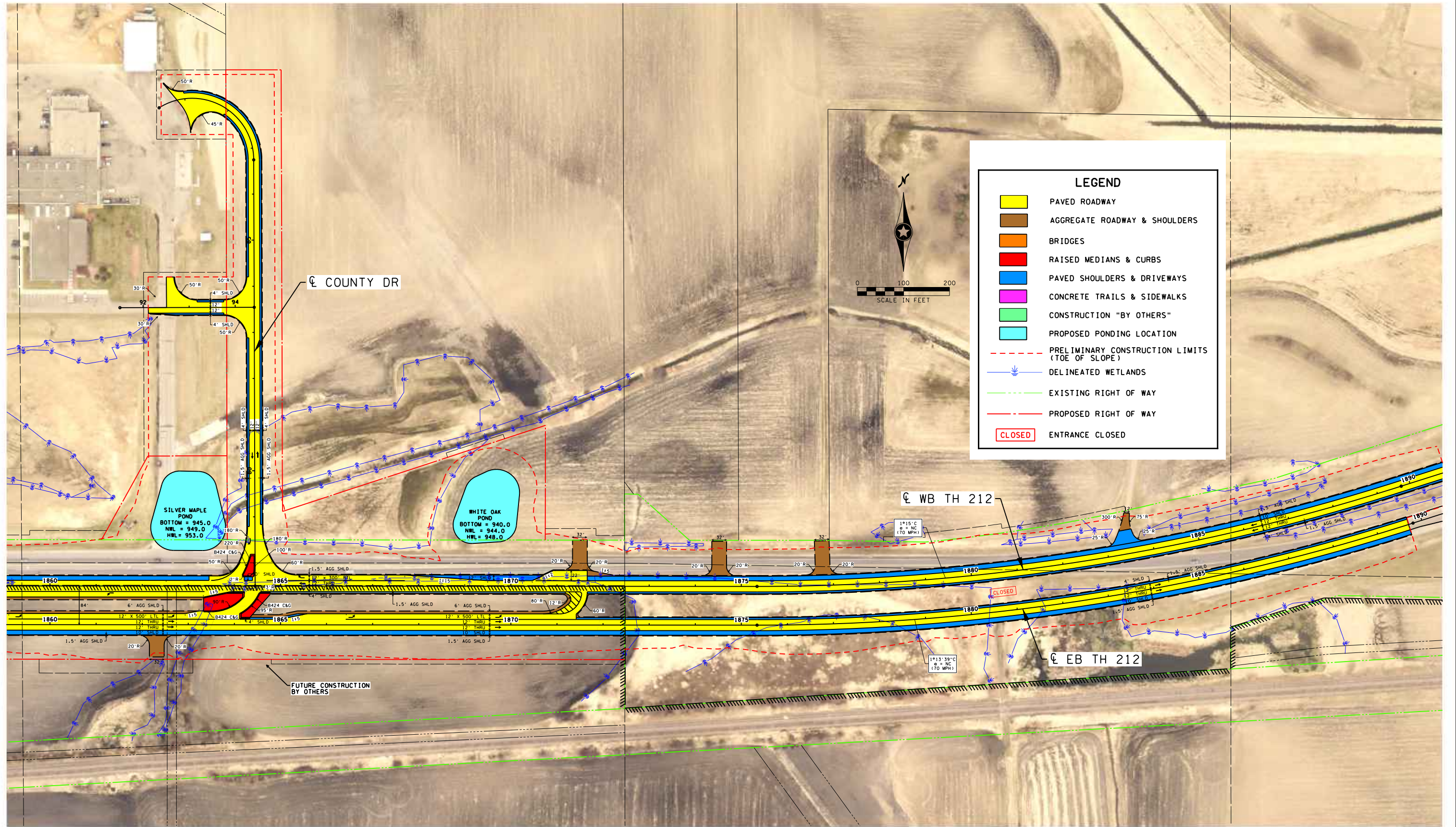


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### Project Layout

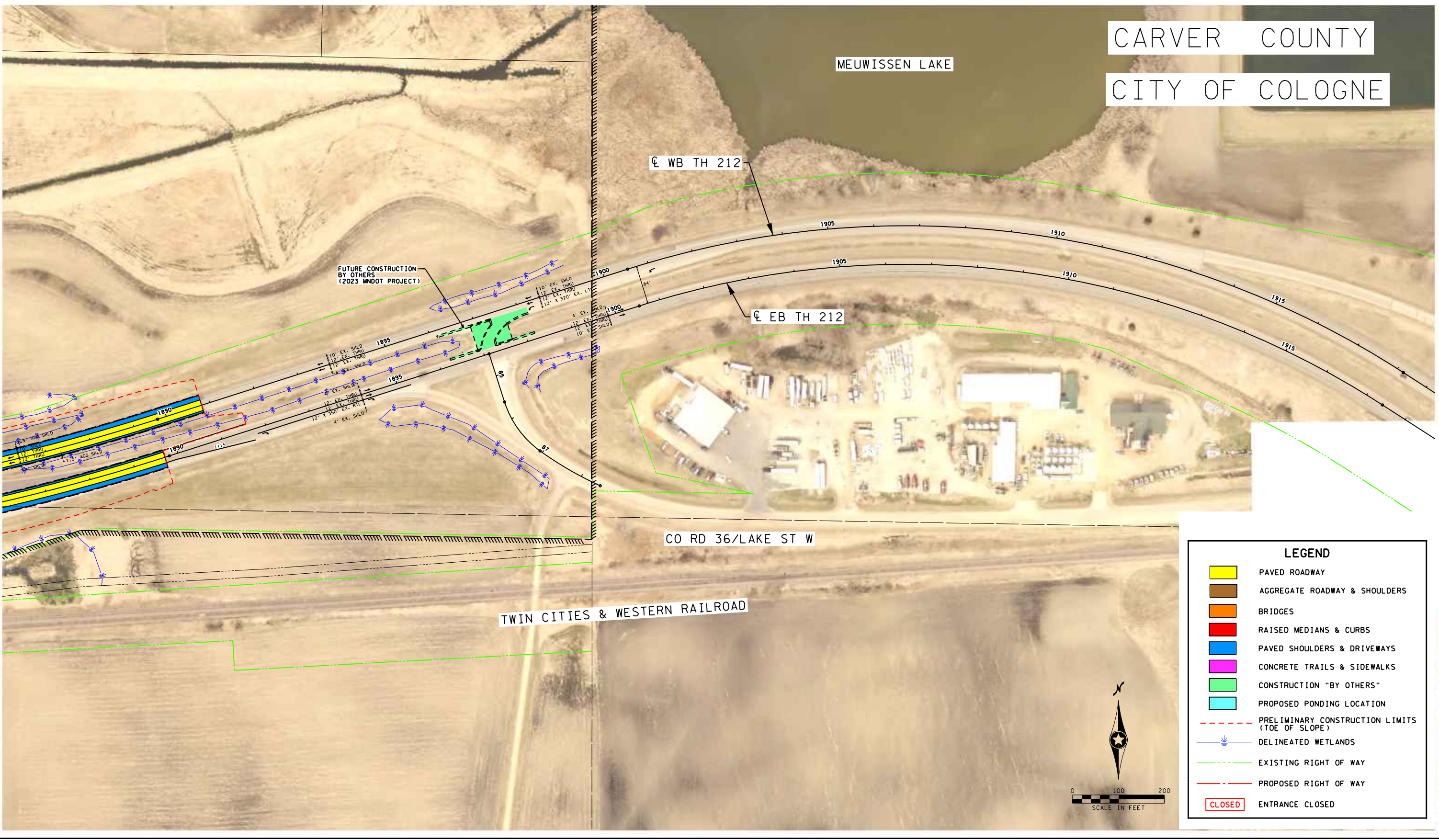
U.S. Highway 212 - Benton Township Project  
Norwood Young America to Cologne, Carver County - Minnesota

Job #  
1/18/2023

Figure 4K



CARVER COUNTY  
CITY OF COLOGNE



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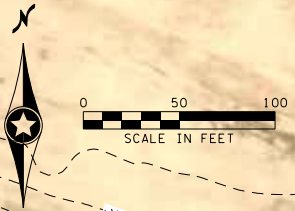
**Project Layout**  
U.S. Highway 212 - Benton Township Project  
Norwood Young America to Cologne, Carver County - Minnesota

Job #  
1/18/2023

Figure 4L



DISPOSAL AREA - 1  
23,500 CY FILL  
STAYED ON MNDOT RW - CAN EXPAND TO OUTLOT  
STAYED OUT OF WETLAND LIMITS  
USED 1:6 SLOPES  
COULD BE INCLUDED IN PLAN

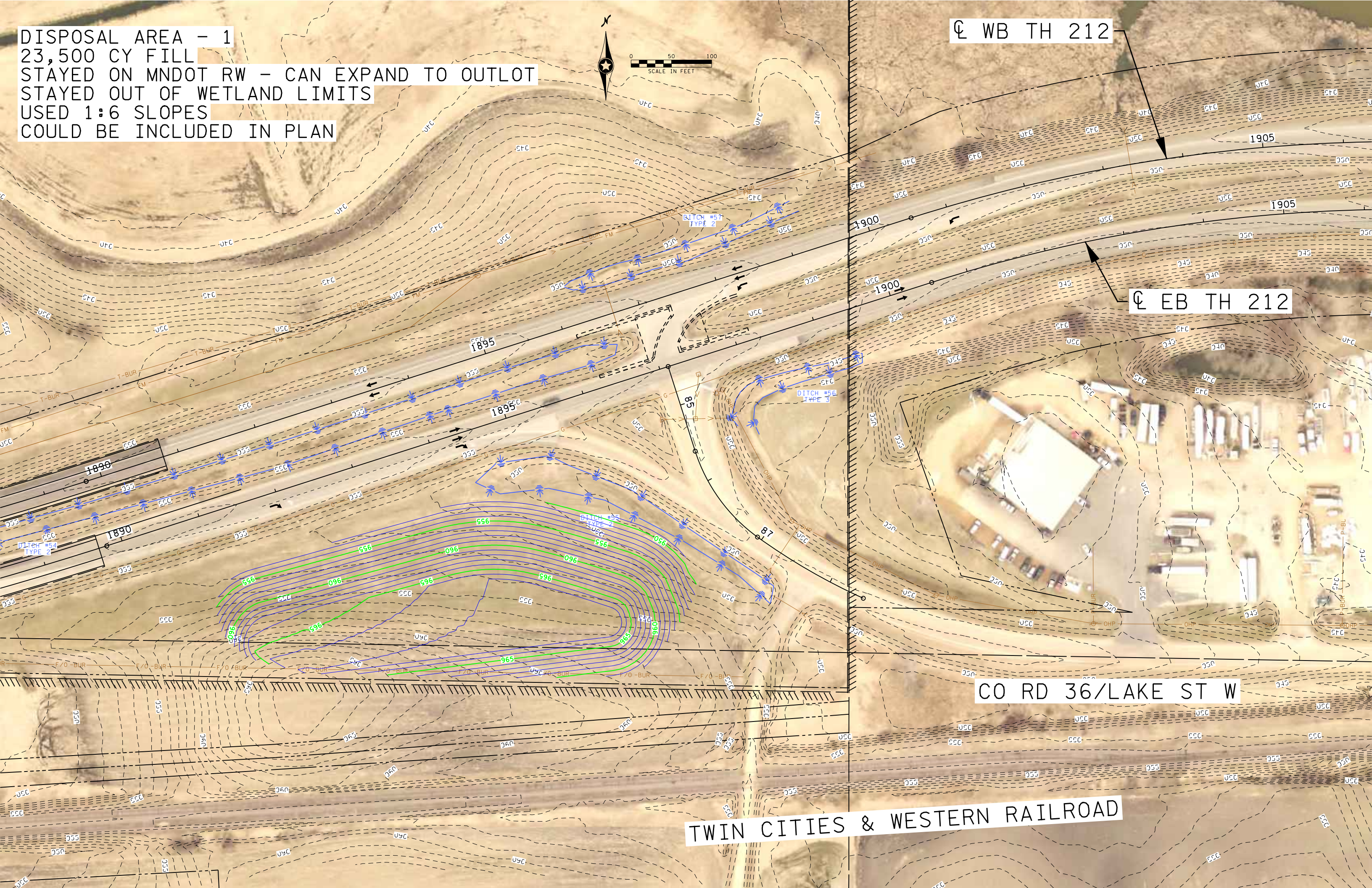


☉ WB TH 212

☉ EB TH 212

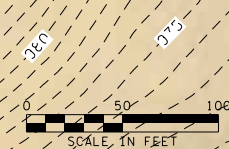
CO RD 36/LAKE ST W

TWIN CITIES & WESTERN RAILROAD





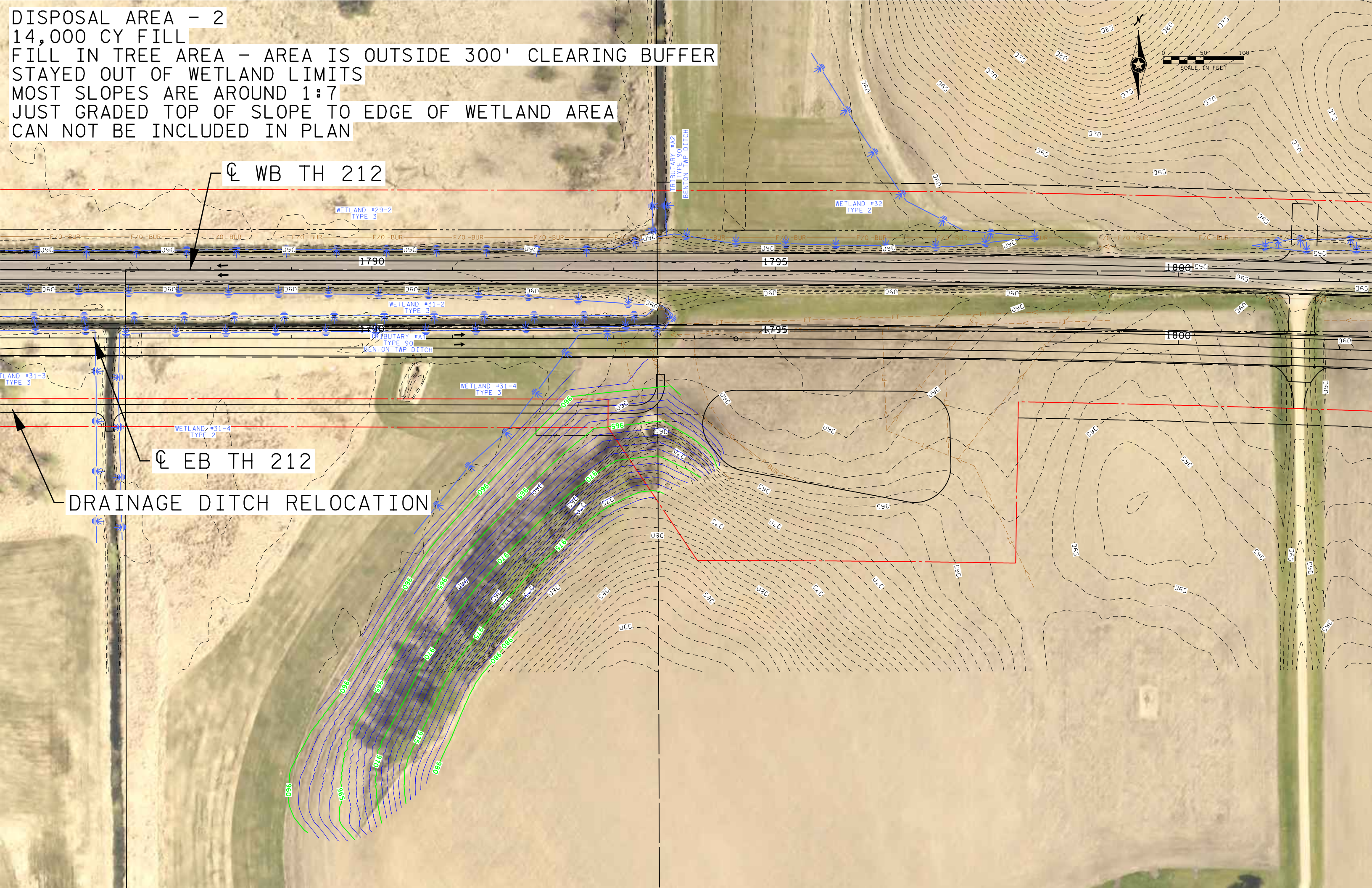
DISPOSAL AREA - 2  
14,000 CY FILL  
FILL IN TREE AREA - AREA IS OUTSIDE 300' CLEARING BUFFER  
STAYED OUT OF WETLAND LIMITS  
MOST SLOPES ARE AROUND 1:7  
JUST GRADED TOP OF SLOPE TO EDGE OF WETLAND AREA  
CAN NOT BE INCLUDED IN PLAN



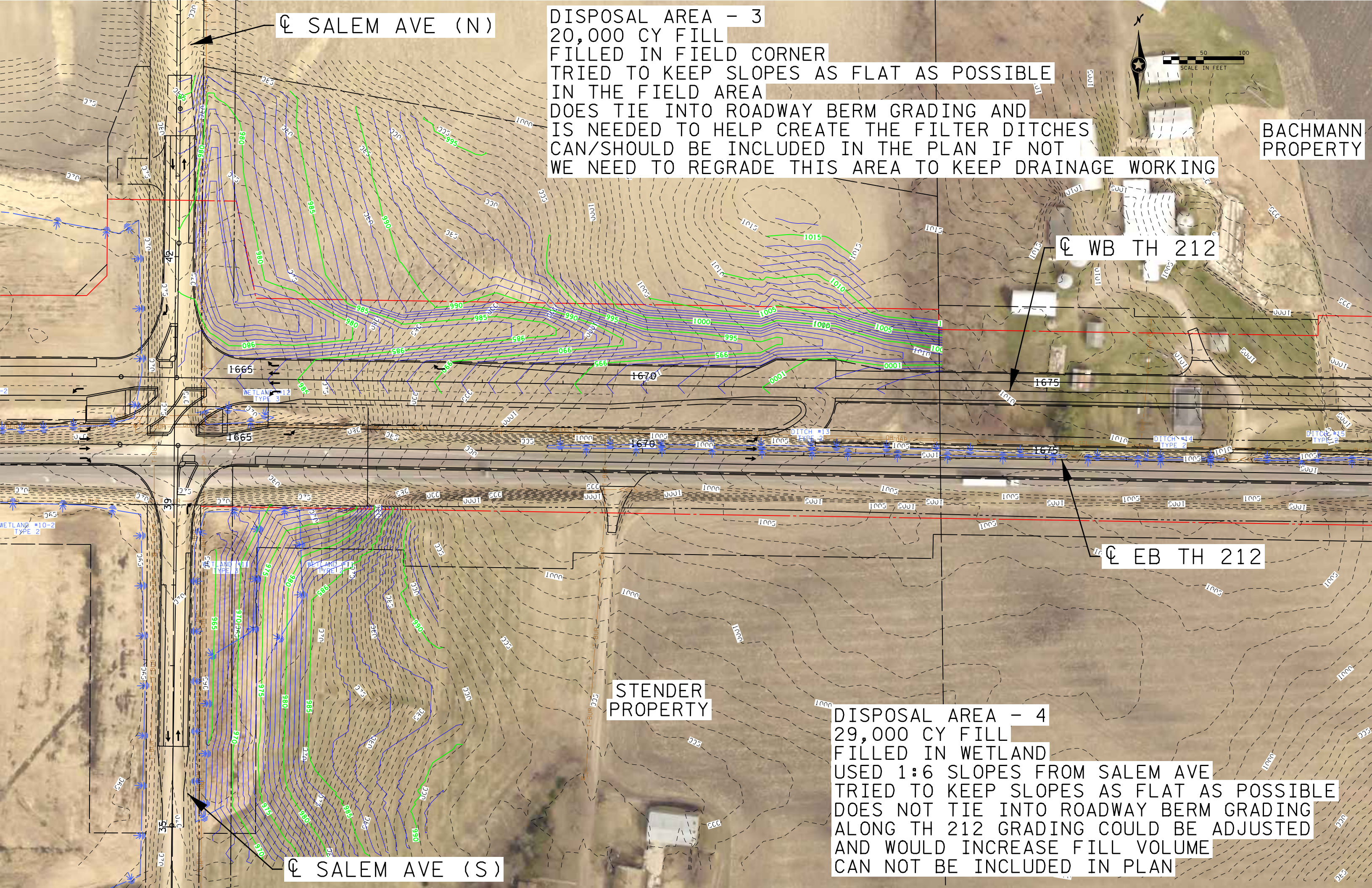
☉ WB TH 212

☉ EB TH 212

DRAINAGE DITCH RELOCATION







☪ SALEM AVE (N)

DISPOSAL AREA - 3  
20,000 CY FILL  
FILLED IN FIELD CORNER  
TRIED TO KEEP SLOPES AS FLAT AS POSSIBLE  
IN THE FIELD AREA  
DOES TIE INTO ROADWAY BERM GRADING AND  
IS NEEDED TO HELP CREATE THE FILTER DITCHES  
CAN/SHOULD BE INCLUDED IN THE PLAN IF NOT  
WE NEED TO REGRADE THIS AREA TO KEEP DRAINAGE WORKING

BACHMANN  
PROPERTY

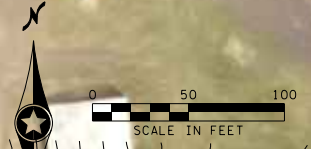
☪ WB TH 212

☪ EB TH 212

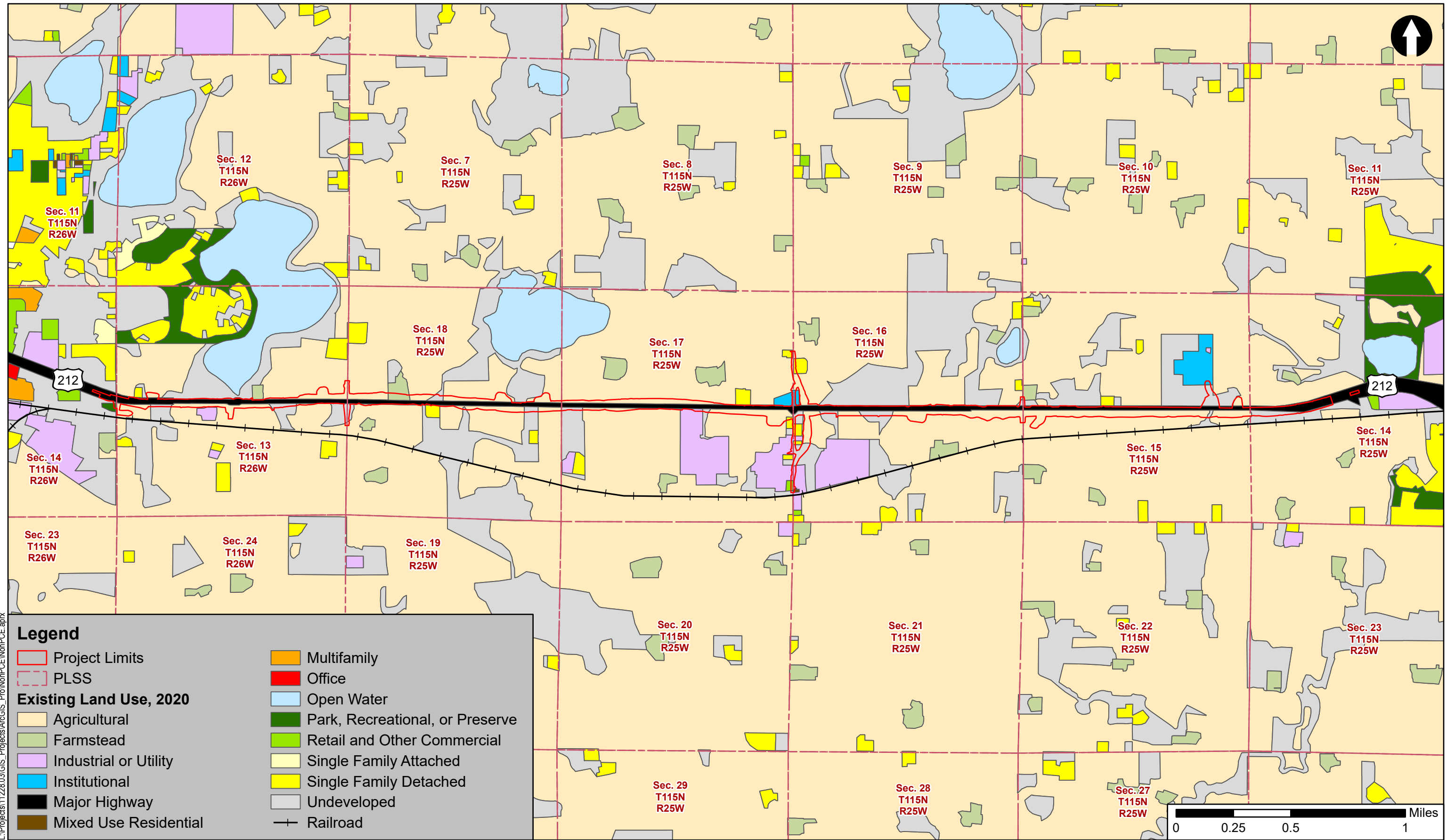
STENDER  
PROPERTY

☪ SALEM AVE (S)

DISPOSAL AREA - 4  
29,000 CY FILL  
FILLED IN WETLAND  
USED 1:6 SLOPES FROM SALEM AVE  
TRIED TO KEEP SLOPES AS FLAT AS POSSIBLE  
DOES NOT TIE INTO ROADWAY BERM GRADING  
ALONG TH 212 GRADING COULD BE ADJUSTED  
AND WOULD INCREASE FILL VOLUME  
CAN NOT BE INCLUDED IN PLAN







**Existing Land Use Map**

U.S Highway 212 - Benton Township Project  
 (SP) 1013-77  
 Carver County

Figure 5





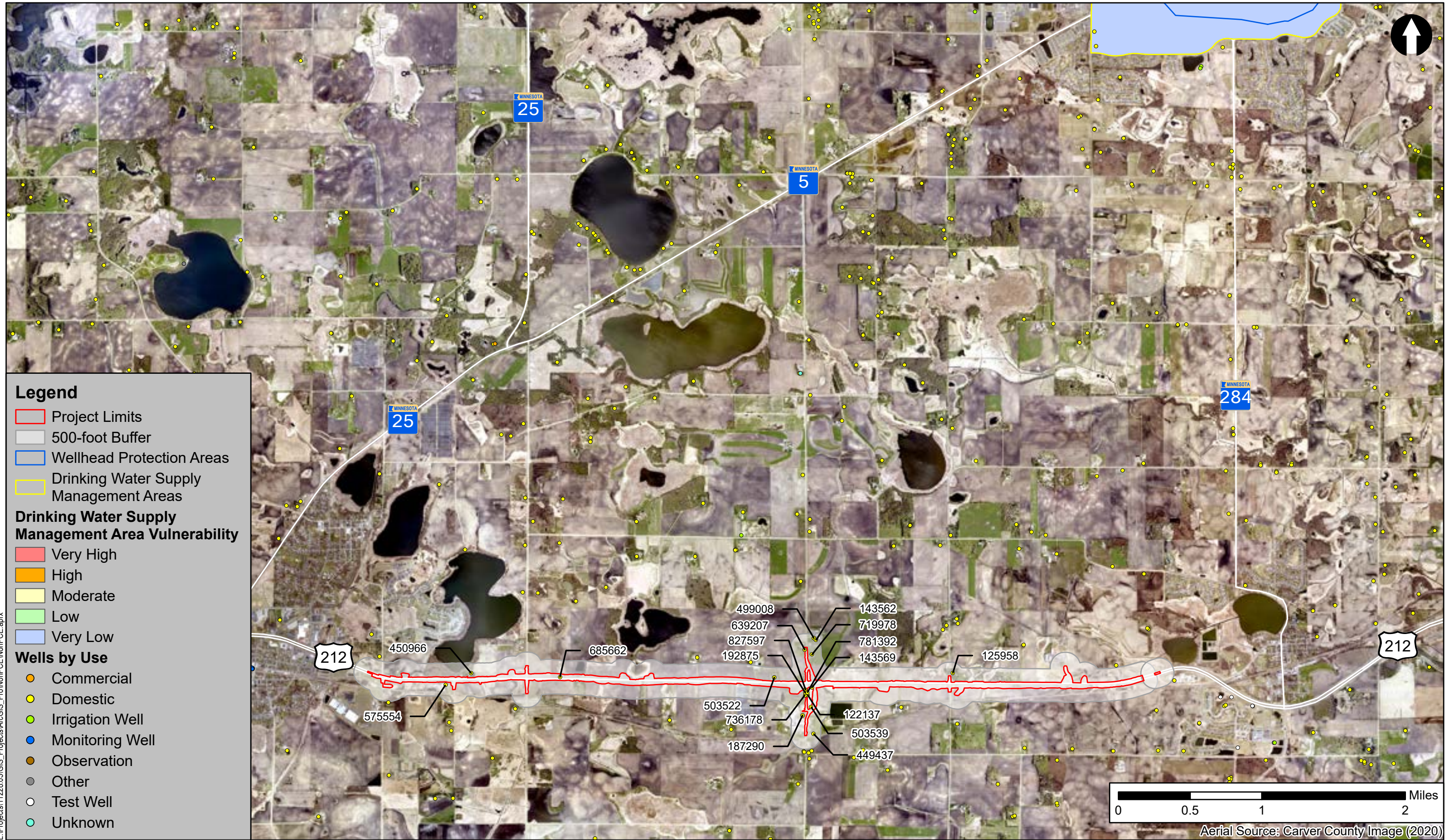
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**Farmland Impacts**

U.S Highway 212 - Benton Township Project  
(SP) 1013-77  
Carver County

Figure 6





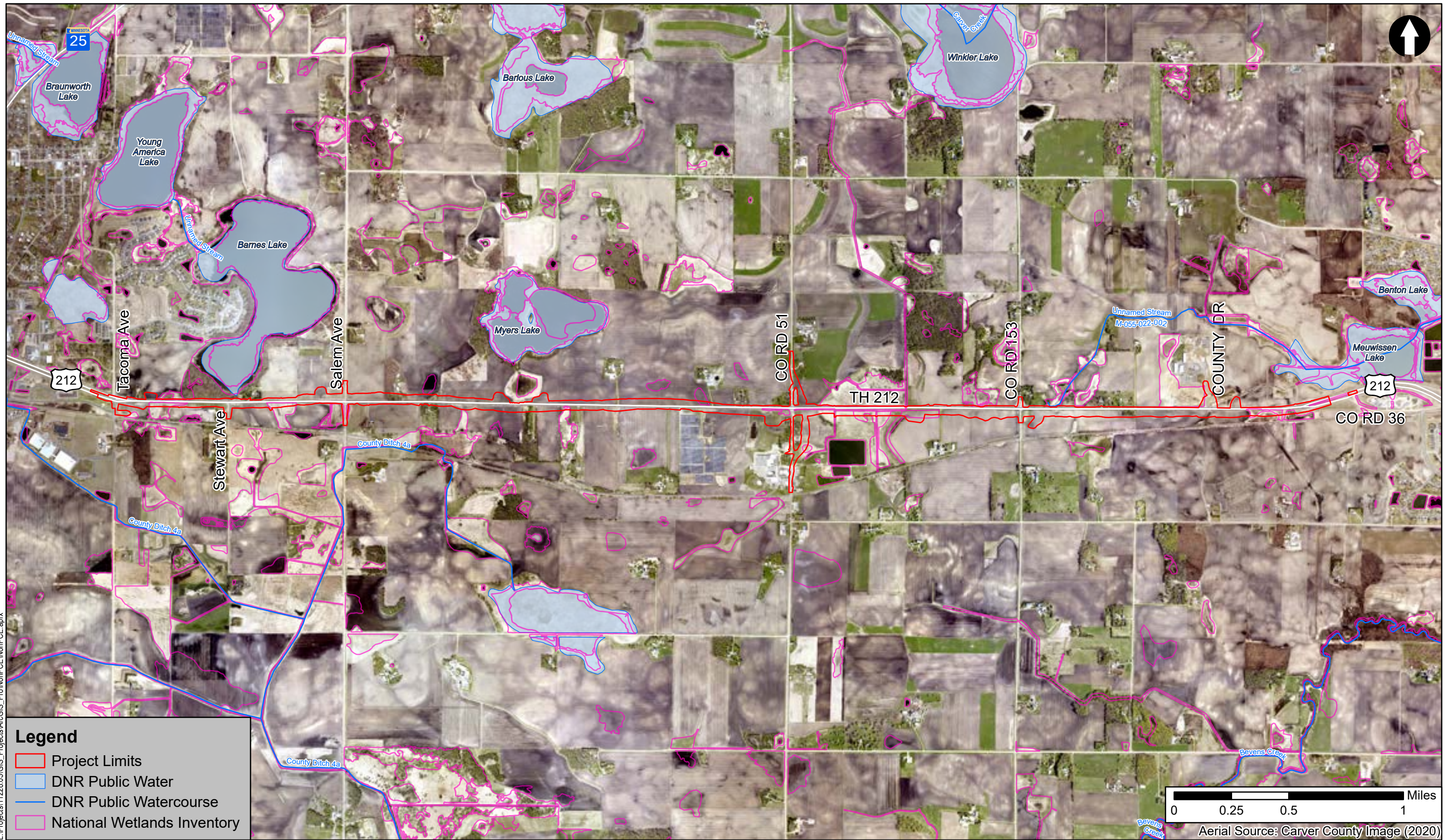
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**Wells and Drinking Water**

U.S Highway 212 - Benton Township Project  
 (SP) 1013-77  
 Carver County

Figure 7





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**Legend**

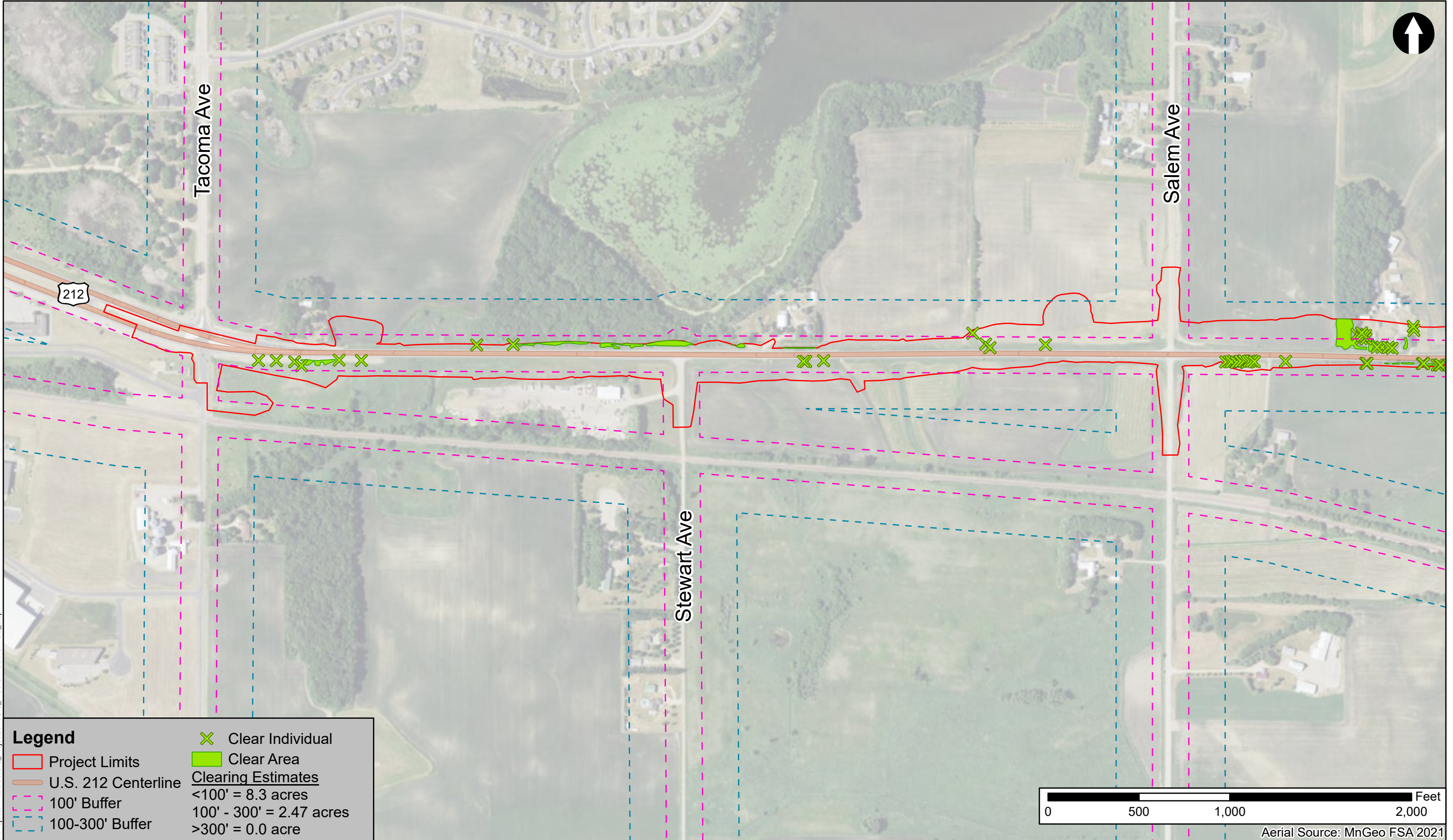
- Project Limits
- DNR Public Water
- DNR Public Watercourse
- National Wetlands Inventory

0 0.25 0.5 1 Miles  
 Aerial Source: Carver County Image (2020)

**Water Resources**  
 U.S Highway 212 - Benton Township Project  
 (SP) 1013-77  
 Carver County

Figure 8

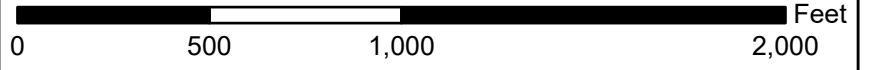




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**Legend**

Project Limits	Clear Individual
U.S. 212 Centerline	Clear Area
100' Buffer	<b>Clearing Estimates</b>
100-300' Buffer	<100' = 8.3 acres
	100' - 300' = 2.47 acres
	>300' = 0.0 acre

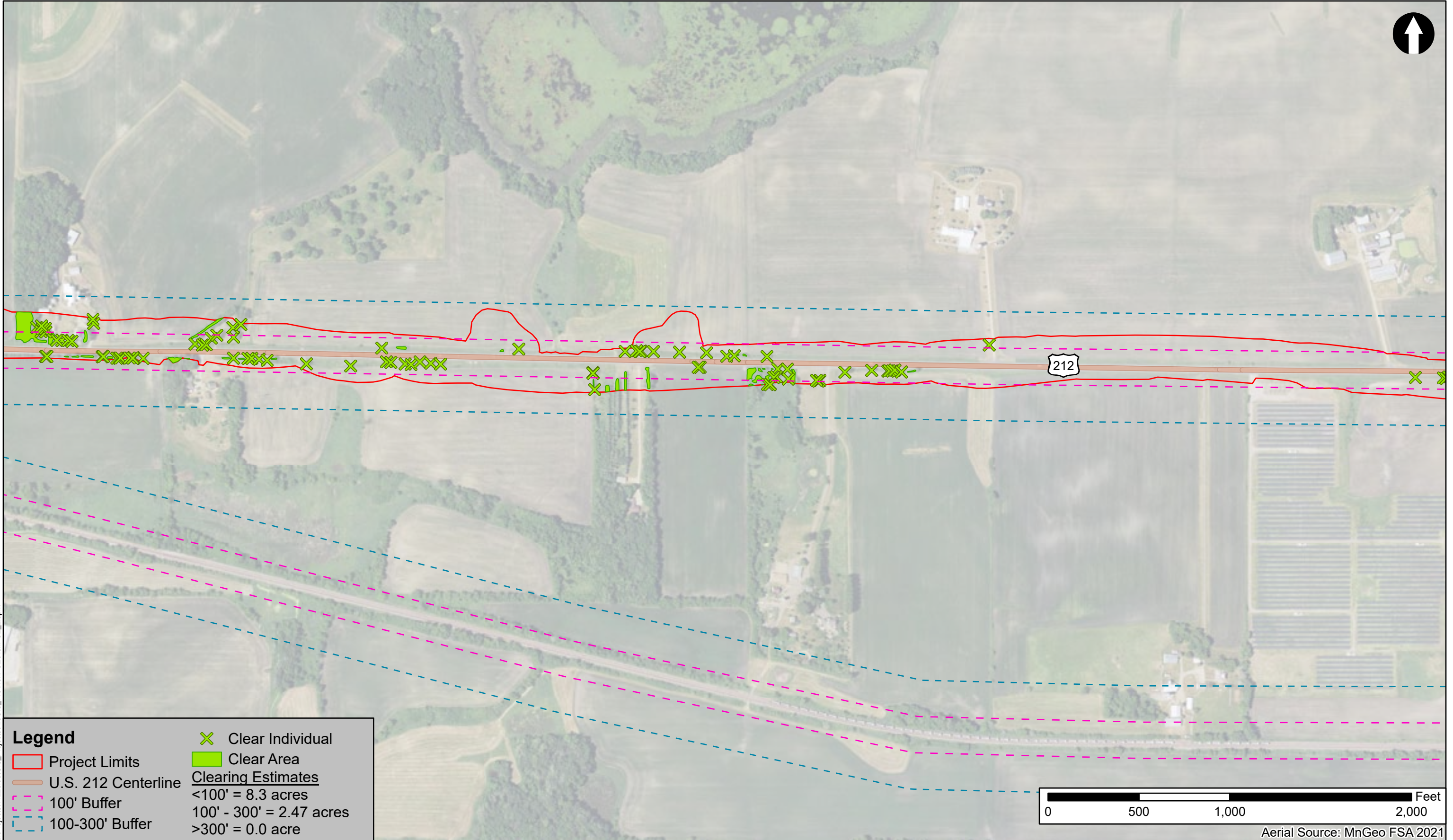


Aerial Source: MnGeo FSA 2021

**Preliminary Tree Clearing Limits**  
 U.S Highway 212 - Benton Township Project  
 (SP) 1013-77  
 Carver County

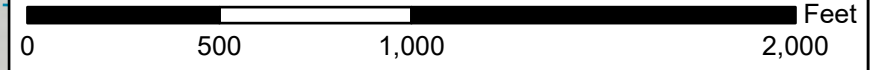
Figure 9





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	<b>Project Limits</b>		<b>Clear Individual</b>
	<b>U.S. 212 Centerline</b>		<b>Clear Area</b>
	<b>100' Buffer</b>	<b>Clearing Estimates</b>	
	<b>100-300' Buffer</b>	<100' = 8.3 acres	
		100' - 300' = 2.47 acres	
		>300' = 0.0 acre	

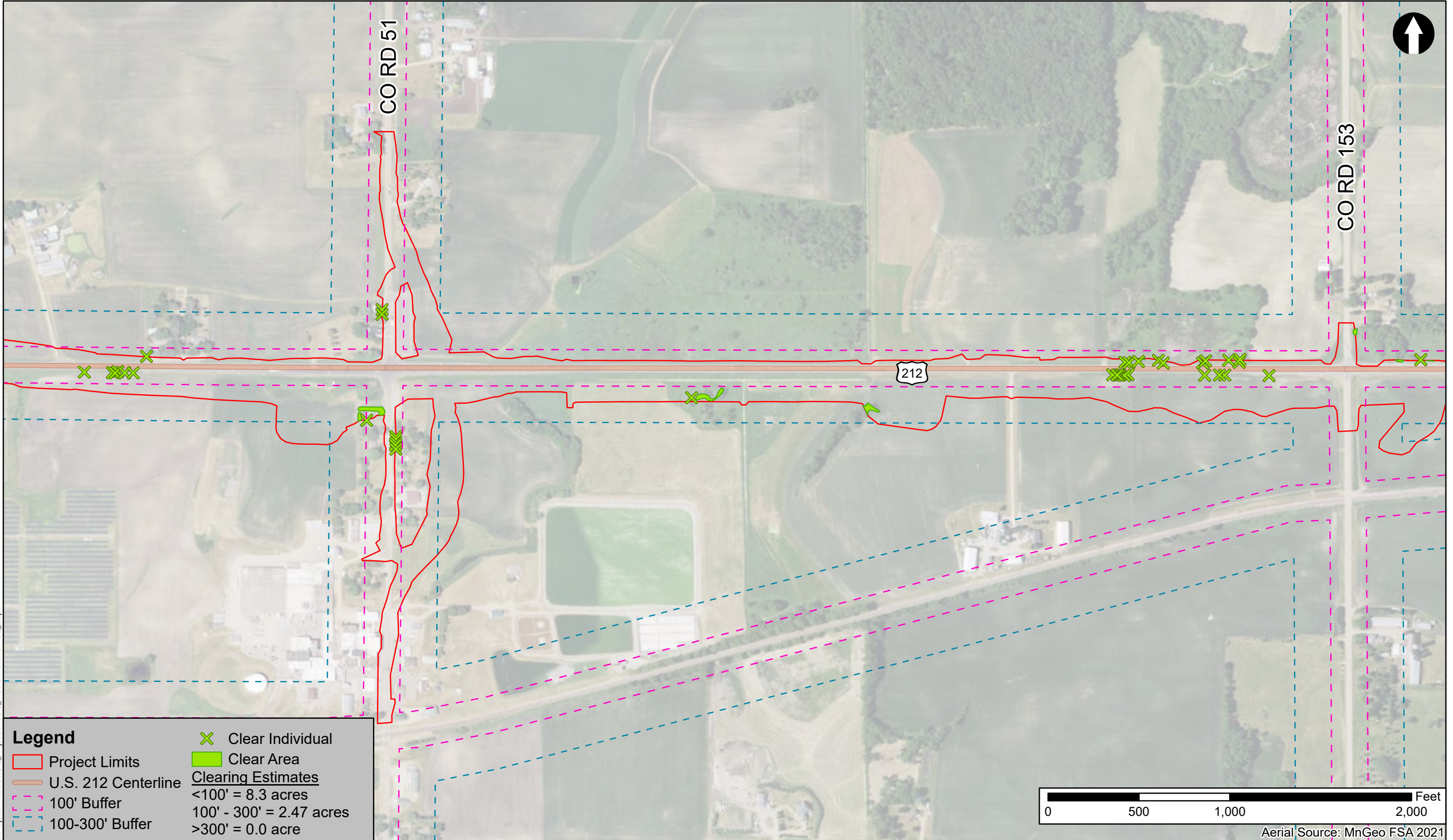


Aerial Source: MnGeo FSA 2021

**Preliminary Tree Clearing Limits**  
 U.S Highway 212 - Benton Township Project  
 (SP) 1013-77  
 Carver County

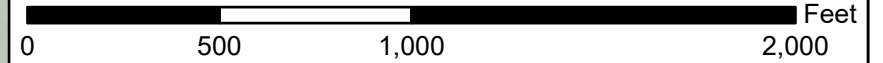
**Figure 9**





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<b>Legend</b>	Clear Individual
Project Limits	Clear Area
U.S. 212 Centerline	<b>Clearing Estimates</b>
100' Buffer	<100' = 8.3 acres
100-300' Buffer	100' - 300' = 2.47 acres
	>300' = 0.0 acre

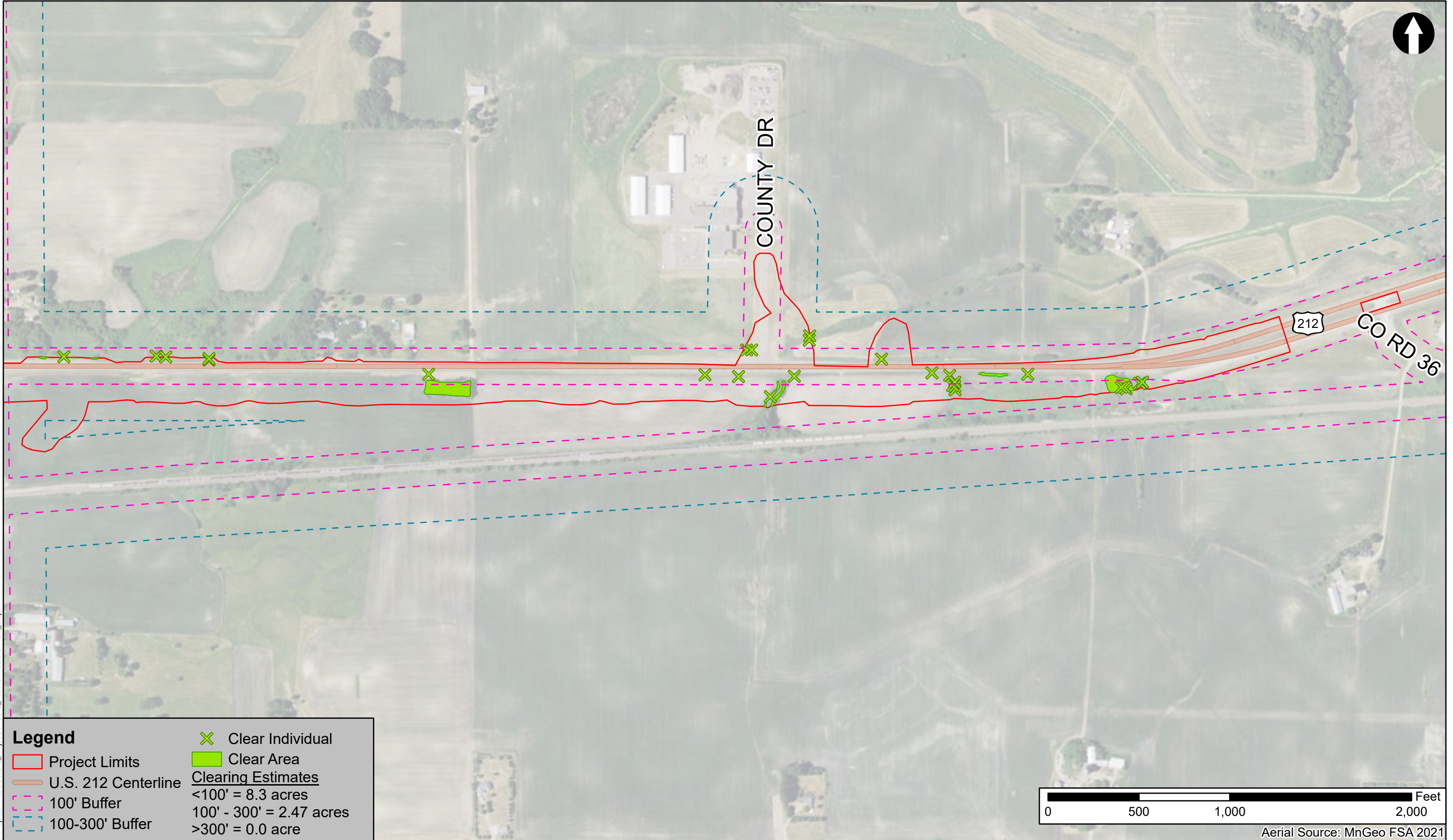


Aerial Source: MnGeo FSA 2021

**Preliminary Tree Clearing Limits**  
 U.S Highway 212 - Benton Township Project  
 (SP) 1013-77  
 Carver County

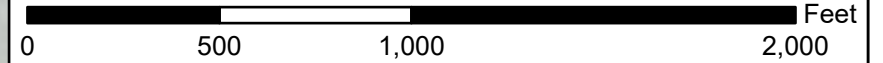
**Figure 9**





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Legend	
<span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Project Limits	<span style="color: green; font-size: 20px;">X</span> Clear Individual
<span style="border-bottom: 1px solid brown; display: inline-block; width: 20px;"></span> U.S. 212 Centerline	<span style="background-color: lightgreen; display: inline-block; width: 15px; height: 10px;"></span> Clear Area
<span style="border-bottom: 1px dashed magenta; display: inline-block; width: 20px;"></span> 100' Buffer	<u>Clearing Estimates</u>
<span style="border-bottom: 1px dashed blue; display: inline-block; width: 20px;"></span> 100-300' Buffer	<100' = 8.3 acres
	100' - 300' = 2.47 acres
	>300' = 0.0 acre

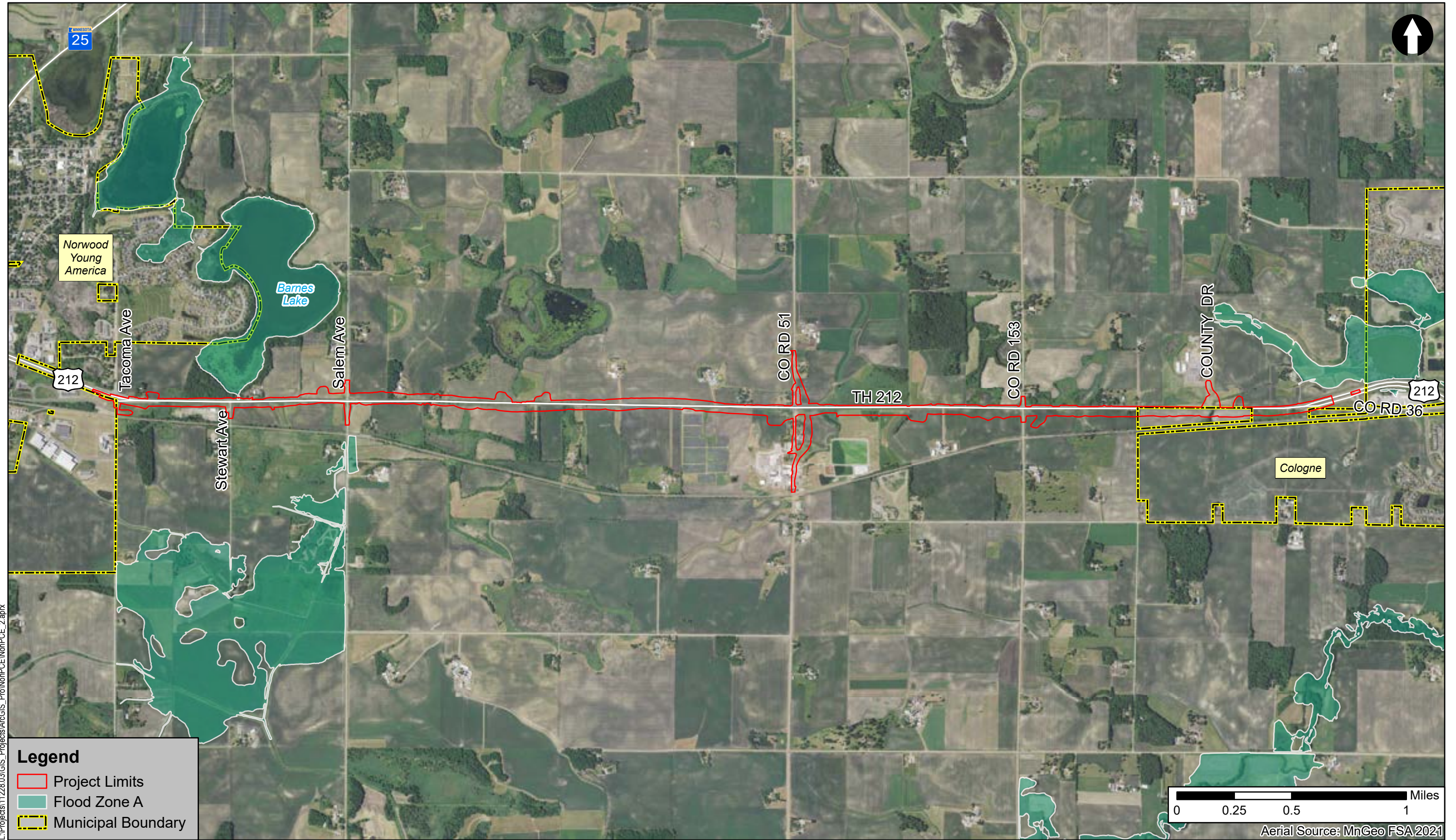


Aerial Source: MnGeo FSA 2021

**Preliminary Tree Clearing Limits**  
 U.S Highway 212 - Benton Township Project  
 (SP) 1013-77  
 Carver County

**Figure 9**





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**Legend**

- Project Limits
- Flood Zone A
- Municipal Boundary

0 0.25 0.5 1 Miles

Aerial Source: MnGeo FSA 2021

**FEMA Floodplain**  
 U.S Highway 212 - Benton Township Project  
 (SP) 1013-77  
 Carver County

Figure 10



# Appendix B

Purpose and Need Statement

# **Purpose and Need Statement**

## ***U.S. Highway 212 – Benton Township Project***

*Report Version 5.0*

### **Carver County, Minnesota**



May 2023

State Project (SP) 1013-77

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# What are Purpose and Need?

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This report documents the purpose and need statement for the proposed US Highway 212 – Benton Township Project (State Project [SP] 1013-77). The purpose and need statement explains why an agency or agencies are undertaking a project and the main objectives of the project. The “need” describes the transportation deficiencies or problems to be addressed by the project. The “purpose” is a broad statement of the primary intended transportation result and other related objectives to be achieved by the project. The purpose and need act as measuring sticks for the project alternatives, helping determine to what extent each alternative meets the project’s needs. Alternatives that do not address the transportation needs of the project and do not meet the purpose of the project are not studied further. Assuming all other concerns are equal, if one alternative meets the project purpose and need better than another, then that alternative may be identified as the preferred alternative.

The purpose and need also help decide where a project will begin and end by defining the “who, what, where, when and why” of the transportation needs. This allows an agency or agencies to create alternatives that satisfy the project’s needs.

The Purpose and Need Statement for the US Highway 212 – Benton Township Project is divided into the following three chapters to help the reader better understand existing conditions, transportation needs, and the project purpose.

- **Background Information.** The Background Information chapter describes the existing characteristics of the US Highway (Hwy) 212 corridor and findings from previous transportation studies.
- **Project Needs.** The Project Need chapter discusses transportation needs (problems) under existing conditions and the future year 2040 No Build Alternative. Primary transportation needs include pavement conditions, vehicle safety, and vehicle mobility.
- **Purpose Statement.** The Purpose Statement chapter identifies the objectives for addressing the project needs.

Feasible alternatives are identified in the next step of the project development process. Alternatives are evaluated against project-specific evaluation criteria, including the need for the project; additional considerations; and social, economic, and environmental criteria. Alternatives that do not meet the transportation need for the project are not considered viable, and therefore, dismissed from further consideration. Detailed information regarding feasible project alternatives will be described in the “Alternatives Considered” section of the Categorical Exclusion document.

# Background Information

---

## Project Location

The US Highway 212 – Benton Township Project is in Benton Township and the Cities of Norwood Young America and Cologne in Carver County. The western project terminus is County State Aid Highway (CSAH) 34 (Tacoma Avenue) in the city of Norwood Young America. The eastern terminus is CSAH 36 in the city of Cologne. The total length of the project is approximately 5.5 miles. Figure 1 and Figure 2 illustrate the project location.

## Existing Conditions

Hwy 212 is an east – west principal arterial highway that connects the Twin Cities Metropolitan Area, through Carver County, to western Minnesota and beyond. Hwy 212 is a National Highway System (NHS) route and serves as a major east – west transportation corridor for local, regional, and interregional traffic. As a NHS, principal arterial route, one the primary functions of Hwy 212 is to serve through traffic along the corridor. Hwy 212 also serves an important local function, providing local mobility and access for residents, businesses, and farms.

The project segment of Hwy 212 is a rural two-lane facility with six-foot paved shoulders. West of CSAH 34 and east of CSAH 36, Hwy 212 transitions from a two-lane highway to a four-lane divided highway. The posted speed limit is 60 miles per hour (mph). The existing (2019) Average Annual Daily Traffic (AADT) volume on Hwy 212 from CSAH 34 to CSAH 51 is 12,700 vehicles per day. The existing (2018) AADT volume on Hwy 212 from CSAH 51 to CSAH 36 is 12,200 vehicles per day.

Hwy 212 has been designated by the Minnesota Department of Transportation (MnDOT) as a Critical Rural Freight Corridor in the *Minnesota Statewide Freight System and Investment Plan* (2018).<sup>1</sup> Hwy 212 provides an essential freight connection for southwest Minnesota that does not have access to the Twin Cities Metropolitan Area using the Interstate Highway System. More than 65 freight generators are located along Hwy 212 in Minnesota. Hwy 212 also moves large amounts of freight from generators in South Dakota, Wyoming, and Montana. The existing (2019) heavy commercial annual average daily traffic (HCAADT) volume on the project segment of Hwy 212 is 1,350 freight vehicles per day.

---

<sup>1</sup> Minnesota Department of Transportation. Minnesota Statewide Freight System and Investment Plan. January 2018.  
<https://www.dot.state.mn.us/planning/freightplan/pdf/statewidefreightplanrevised2018.pdf>



## Previous Studies

### 2010 Planning Study

Carver County and MnDOT completed a planning study for the Hwy 212 corridor between Norwood Young American and Cologne in 2010. The purpose of this study was to document vehicle safety and mobility deficiencies along the corridor and to collect background data that would help inform future environmental reviews of the corridor. The 2010 Planning Study noted that crash rates at Hwy 212 intersections exceed critical crash rates, forecasted traffic volumes are projected to increase by year 2030, and that intersections are projected to operate poorly in the future during the morning and afternoon peak hours. The 2010 Planning Study also included a series of public engagement activities to collect input and inform area residents of the study. Three public open houses were held between 2007 and 2009 and were attended by more than 280 individuals.

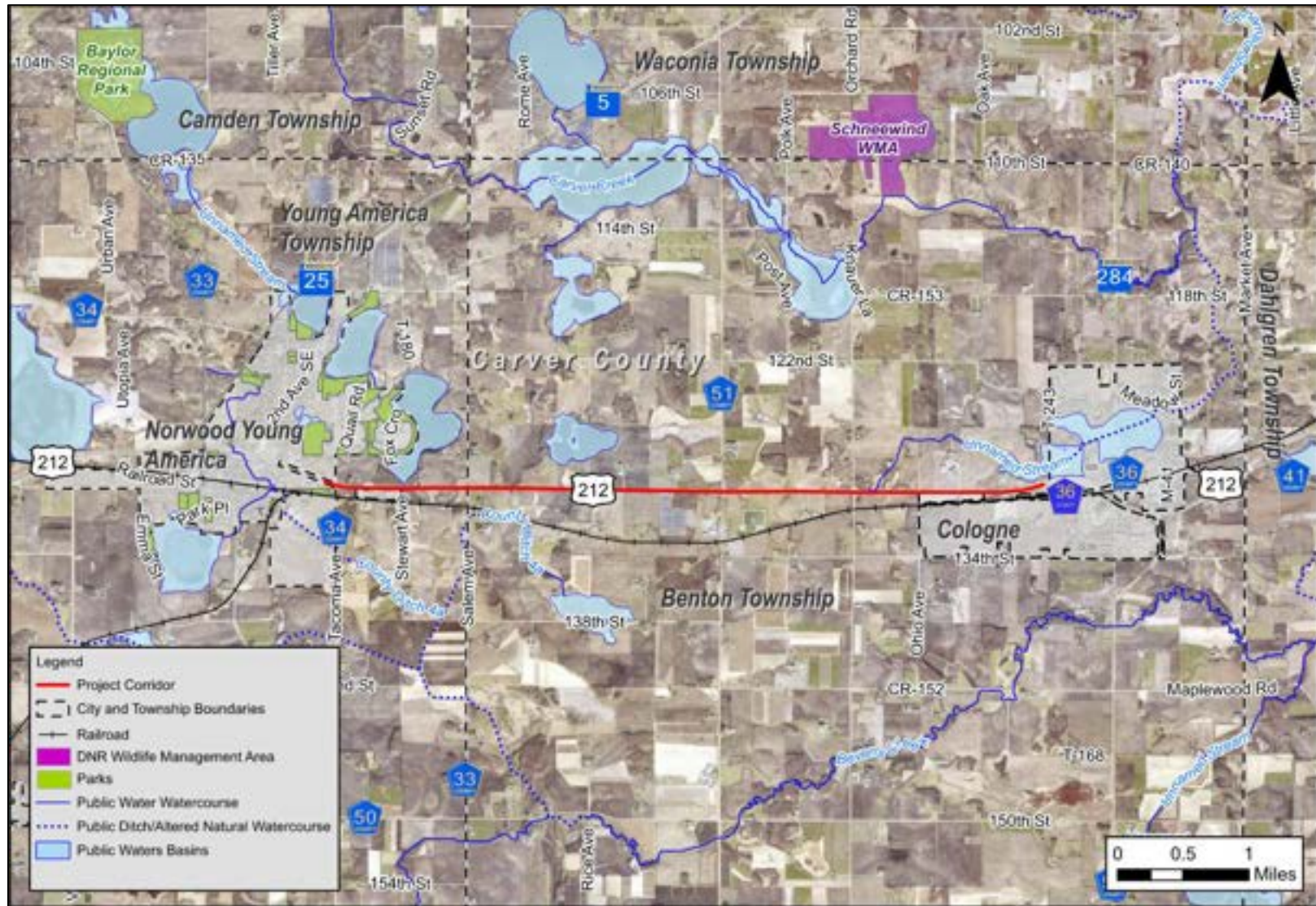
### 2020 Community Survey

Carver County completed a community survey in 2020 to better understand residents' concerns regarding the Hwy 212 corridor. More than 430 residents responded to the survey, with most indicating that they travel along Hwy 212 “nearly daily” or “weekly”. Almost half of the respondents identified safety as a major concern along Hwy 212.





Figure 2. Project Location Map



# Project Need

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The needs are the transportation problems to be addressed by the proposed action and are the main problems that led to the initiation of the project. The pavement conditions, vehicle safety, and vehicle mobility performance of Hwy 212 are considered deficient based on pavement condition ratings, occurrence of crashes, forecast traffic volumes, and intersection operations. The following pavement, vehicle safety and vehicle mobility deficiencies describe the need for the US Highway 212 – Benton Township Project.

## Pavement Condition

### Construction and Pavement Maintenance History

The Hwy 212 roadway was originally graded in 1920 and the original concrete pavement was constructed in 1930. No major expansion or reconstruction projects have occurred on this segment of Hwy 212 since this time. A bituminous surface was placed over the concrete pavement in the 1980's. A mill and overlay project was completed in 2005 on Hwy 212. Additional maintenance activities include patching and chip sealing in 2017 and 2018, respectively. In 2020, MnDOT completed a three-inch mill and overlay on Hwy 212 from Norwood Young America to Cologne. The purpose of the 2020 mill and overlay project was to provide a short-term maintenance improvement to Hwy 212 to improve ride quality and prevent further deterioration of the pavement.

MnDOT has identified an approximately 2,000-foot section of Hwy 212 near CSAH 51 with poor soil conditions. These poor soil conditions, combined with deterioration of the underlying concrete pavement, contribute to the rapid decline of pavement surface conditions on Hwy 212.

### Pavement Condition Indices

MnDOT uses several indices for reporting pavement performance: Ride Quality Index (RQI), Surface Rating (SR), and Pavement Quality Index (PQI). Each index captures a different aspect of pavement health and can be used to predict future pavement condition needs. The following sections summarize MnDOT's pavement condition indices.

- The RQI is MnDOT's ride, or smoothness, index. The RQI is intended to represent the rating that a typical road user would give to the pavement's smoothness as felt while driving his/her vehicle. RQI ranges from 0.0 to 5.0, with a higher RQI indicating a smoother road surface. Most new construction projects have an initial RQI above 4.0. Pavements are normally designed for a terminal RQI value of 2.5. When a road has reached its terminal

RQI value it does not mean the road cannot be driven on, but rather that it has deteriorated to the point where most people feel it is uncomfortable.<sup>2</sup>

- MnDOT uses SR to quantify pavement distress, or visible defects on the pavement surface. Pavement distresses are symptoms, indicating some problem or phenomenon of pavement deterioration such as cracks, patches and ruts. SR ranges from 0.0 to 4.0, with a higher SR indicating a better condition. A brand-new road with no defects is rated at 4.0. As the type, amount, and severity of defects increases, then SR will decrease. A road in need of major rehabilitation or reconstruction will generally have an SR near or below 2.5.<sup>3</sup>
- The PQI is MnDOT's measurement of overall pavement conditions, taking into account both the pavement smoothness and cracking. PQI combines RQI and SR values and ranges from 0.0 to 4.5, with a higher PQI indicating better overall pavement conditions. As overall pavement conditions deteriorate, then PQI will decrease.<sup>3</sup>

Table 1 lists the RQI, SR and PQI categories and ranges.

**Table 1. RQI, SR and PQI Categories and Ranges**

RQI Numerical Rating	SR Numerical Rating	PQI Numerical Rating	Verbal Rating
4.1 – 5.0	3.3 – 4.0	3.7 – 4.5	Very Good
3.1 – 4.0	2.5 – 3.2	2.8 – 3.6	Good
2.1 – 3.0	1.7 – 2.4	1.9 – 2.7	Fair
1.1 – 2.0	0.9 – 1.6	1.0 – 1.8	Poor
0.0 – 1.0	0.0 – 0.8	0.0 – 0.9	Very Poor

Source: Minnesota Department of Transportation. *An Overview of MnDOT's Pavement Condition Rating Procedures and Indices*. April 2018. Accessed March 27, 2023, and available at:

[https://www.dot.state.mn.us/materials/pvmtmgmtdocs/Rating\\_Overview\\_State\\_2015V\\_edited\\_2-3-2021.pdf](https://www.dot.state.mn.us/materials/pvmtmgmtdocs/Rating_Overview_State_2015V_edited_2-3-2021.pdf)

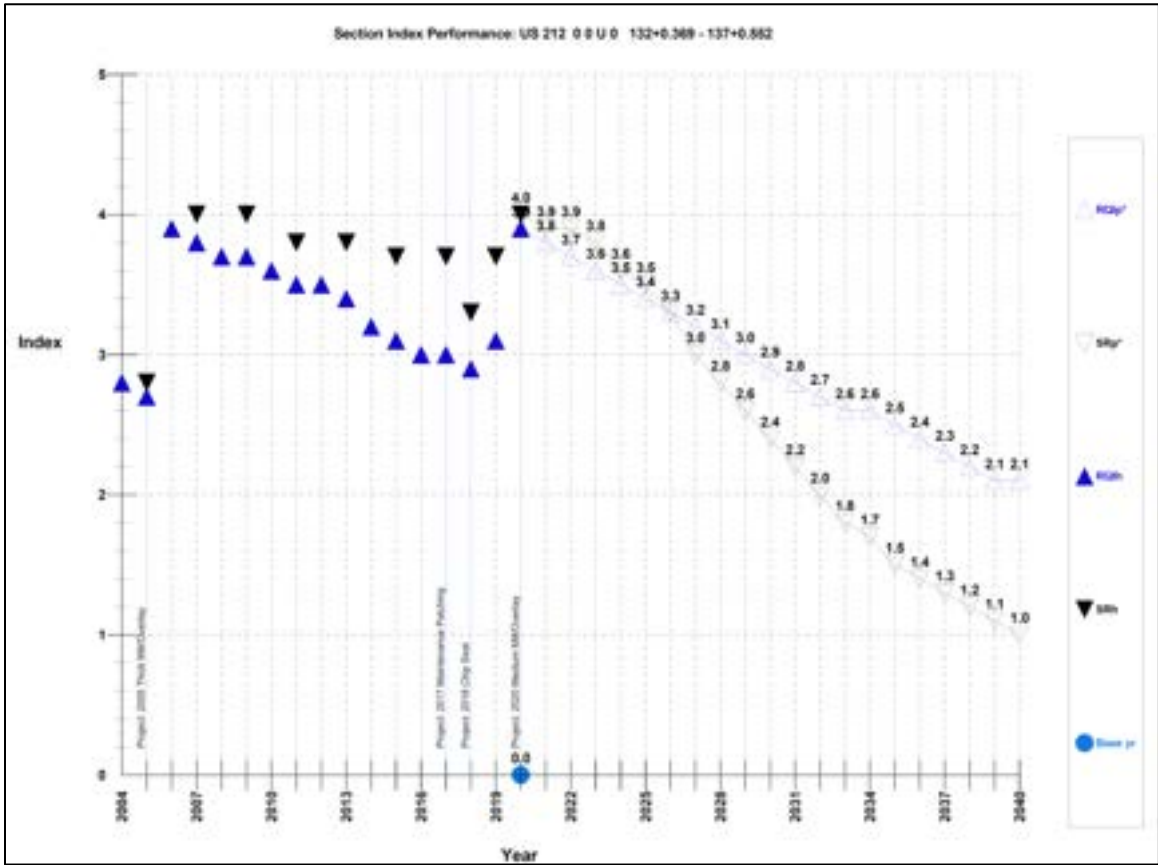
## Hwy 212 Pavement Conditions

Figure 3 shows the MnDOT Highway Pavement Management Application (HPMA) plots for existing and future conditions on Hwy 212 from CSAH 34 to CSAH 36. The blue triangles show RQI and the black triangles show SR. The RQI and SR ratings represent 2020 pavement data collected by the MnDOT Pavement Management Unit and include past pavement performance history as well as projected future pavement performance.

<sup>2</sup> Minnesota Department of Transportation. *2020 Pavement Condition Annual Report*. March 2021. Accessed 27 October 2021 and available at [https://www.dot.state.mn.us/materials/pvmtmgmtdocs/AnnualReport\\_2020.pdf](https://www.dot.state.mn.us/materials/pvmtmgmtdocs/AnnualReport_2020.pdf).

<sup>3</sup> Minnesota Department of Transportation. Office of Materials and Road Research. Pavement Management Unit. *MnDOT Pavement Distress Identification Manual*. July 2011. Accessed 11 October 2019 and available at [https://www.dot.state.mn.us/materials/manuals/pvmtmgmt/Distress\\_Manual.pdf](https://www.dot.state.mn.us/materials/manuals/pvmtmgmt/Distress_Manual.pdf).

Figure 3. HPMA Pavement Performance Plot for Hwy 212, CSAH 34 to CSAH 36



The existing RQI for Hwy 212 is 3.9 (good condition), the existing SR is 4.0 (good condition), resulting in a PQI of 3.9 (good condition), reflecting the improvements in pavement condition from the 2020 mill and overlay project. Pavement conditions on Hwy 212 are projected to steadily decline over the coming years. The RQI rating is projected to fall below 2.5 (fair condition) by year 2035. The SR rating is projected to fall into the poor category (SR < 1.6) by 2035. Overall pavement quality is projected to fall into the poor category (PQI < 1.8) between 2037 and 2038.

It is important to note that the projected pavement conditions on Hwy 212 shown in Figure 3 reflect MnDOT’s standard pavement deterioration rates. The underlying concrete pavement on Hwy 212 was originally constructed nearly 90 years ago. The roadbed and pavement have not been completely reconstructed since that time. As such, it is anticipated that pavement on Hwy 212 will deteriorate more rapidly, resulting in poor pavement conditions much sooner than the timeframes described above.



## Vehicle Safety

MnDOT's *Traffic Engineering Manual* describes the various measures used in a crash analysis.<sup>4</sup> A comparison of the crash rate and the critical crash rate is used to determine if there is a potential safety issue along a roadway segment or at an intersection. The segment crash rate is the number of crashes per million vehicle miles traveled (VMT). The intersection crash rate is the number of crashes per million entering vehicles (MEV). The critical crash rate is a statistical comparison based on similar segments or intersections statewide. An observed crash rate greater than the critical crash rate indicates that the intersection operates outside of the expected, normal range. The critical index reports the magnitude of the difference between observed crash rates and critical rates. A critical index of less than one indicates that a segment or intersection is operating within expectations. A critical index greater than one indicates there may be a vehicle safety concerns along a segment or at an intersection.

High traffic volumes, high speeds, and access have caused a vehicle safety concern on Hwy 212 between CSAH 34 and CSAH 36. A crash analysis was prepared for Hwy 212 for the five-year period from 2015 to 2019 based on data obtained from MnDOT's Minnesota Crash Mapping Analysis Tool (MnCMAT2). The five-year period from 2015 to 2019 was analyzed because this is consistent with the current version of the MnDOT Trunk Highway Segment Toolkit and Intersection Toolkit, allowing for an "apples to apples" comparison to statewide average crash rates. The crash analysis considers both segment (non-junction) crashes and intersection crashes. MnDOT currently defines intersection crashes as crashes occurring within an approximate 75-foot radius of an intersection. Crashes occurring outside of this radius are classified as segment crashes.

There was a total of 96 crashes on Hwy 212 during the five-year period from 2018 to 2023, including 63 segment crashes and 33 intersection crashes.<sup>5</sup> The following sections present the segment crash and intersection crash analyses for Hwy 212 between CSAH 34 and CSAH 36.

### Segment Crash Analysis

There was a total of 63 segment crashes Hwy 212 between CSAH 34 and CSAH 36 from 2018 to 2023, including one fatality, two incapacitating injury, five non-incapacitating injuries, and 12 possible injury crashes. Table 2 tabulates the five-year segment crash history on Hwy 212 from 2018 to 2023. Figure 4 illustrates the Hwy 212 segment crashes from 2018 to 2023.

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<sup>4</sup> Minnesota Department of Transportation. April 2021. *Traffic Engineering Manual*. Chapter 11 - Traffic Safety. Accessed March 27, 2023, and available at <https://www.dot.state.mn.us/trafficeg/publ/tem/index.html>.

<sup>5</sup> Five year period from March 2018 through March 2023.



**Table 2. Hwy 212 Segment Crashes (2018 – 2023)**

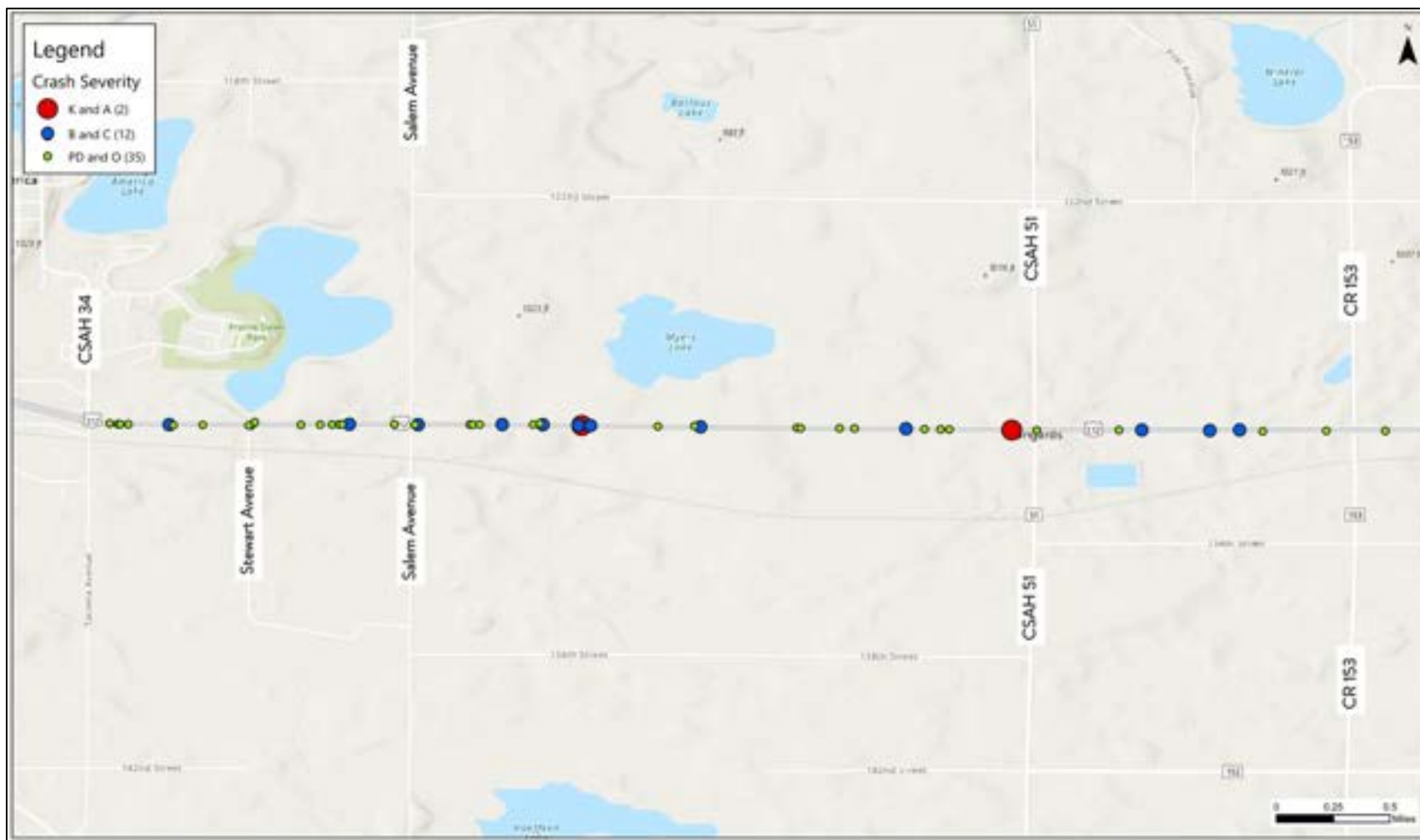
Segment	Fatal Crashes	Personal Injury	Property Damage Only Crashes	Total Crashes
CSAH 34 to Stewart Ave	0	1	8	9
Stewart Ave to Salem Ave	0	1	7	8
Salem Ave to CSAH 51	1	8	15	24
CSAH 51 to CR 153	0	3	4	7
CR 153 to CSAH 36	0	6	9	15

Table 3 summarizes the Hwy 212 segment crashes by crash type. Run-off-the-road crashes accounted for the most frequented crash type with a total of 26 crashes, or 41 percent of total crashes. High speeds, changes in the roadway boundaries, along with visibility and weather conditions are contributing factors for run-off-the-road crashes. Rear-end crashes accounted for nine crashes, or 14 percent, of total crashes. Rear-end crashes are often characteristic of congested conditions on high-speed, high-volume roadways with unexpected stops from turning vehicles or stop conditions. Single vehicle other crashes accounted for 15 crashes, or 24 percent, of total crashes. A majority of these single vehicle crashes involved collisions with animals (e.g., deer).

**Table 3. Hwy 212 Segment Crash Types (2018 – 2023)**

Crash Type	CSAH 34 to Stewart Ave	Stewart Ave to Salem Ave	Salem Ave to CSAH 51	CSAH 51 to CR 153	CR 153 to CSAH 36	Total by Crash Type
Run off Road	4 (44%)	1 (13%)	11 (46%)	6 (86%)	4 (27%)	26 (41%)
Rear End	1 (11%)	2 (25%)	5 (21%)	1 (14%)	0	9 (14%)
Sideswipe Passing	0	0	0	0	4 (27%)	4 (6%)
Right Angle	1 (11%)	0	1 (4%)	0	2 (13%)	4 (6%)
Left Turn	0	0	0	0	1 (7%)	1 (2%)
Head On	0	0	1 (4%)	0	0	1 (2%)
Sideswipe Opposing	0	0	1 (4%)	0	0	1 (2%)
Single Vehicle Other	3 (33%)	5 (63%)	4 (17%)	0	3 (20%)	15 (24%)
Other/Unknown	0	0	1 (4%)	0	1 (7%)	2 (3%)
Total	9 (100%)	8 (100%)	24 (100%)	7 (100%)	15 (100%)	63 (100%)

Figure 4. Hwy 212 Segment Crashes (2018 – 2023)



Crash severity: K = fatal crash, A = suspected serious injury crash, B = suspected minor injury crash, C = possible injury crash, PD = property damage only crash, O = other.

Table 4 tabulates the Hwy 212 segment crash rates for the five-year period from 2018 to 2023. Segment crash rates for Hwy 212 varies from 0.31 crashes per one million vehicle miles traveled to 0.78 crashes per one million vehicle miles traveled. Segment crash rates for the five-year period from 2018 to 2023 exceed the statewide average crash rate for rural two-lane highways except for the segment of Hwy 212 between CSAH 51 and CR 153. Critical indices for all segments within the project study area are below one, indicating that Hwy 212 does not deviate from statewide trends for similar facilities and is performing within expectations.

**Table 4. Hwy 212 Segment Crash Rates (2018 – 2023)**

Segment	Observed Crash Rates	Statewide Average Crash Rate	Critical Crash Rate	Critical Index
CSAH 34 to Stewart Ave.	0.78	0.35	1.07	0.73
Stewart Ave to Salem Ave.	0.68	0.35	1.06	0.64
Salem Ave. to CSAH 51	0.53	0.35	0.69	0.77
CSAH 51 to CR 153	0.31	0.35	0.85	0.37
CR 153 to CSAH 36	0.47	0.35	0.76	0.62

Segment crash rates are in crashes per one million vehicle miles traveled (VMT).

Statewide average crash rates for rural, two-lane highways with average daily traffic volumes greater than 8,000 vehicles per day, five years of crash data (2016 to 2020), from MnDOT Segment Toolkit.

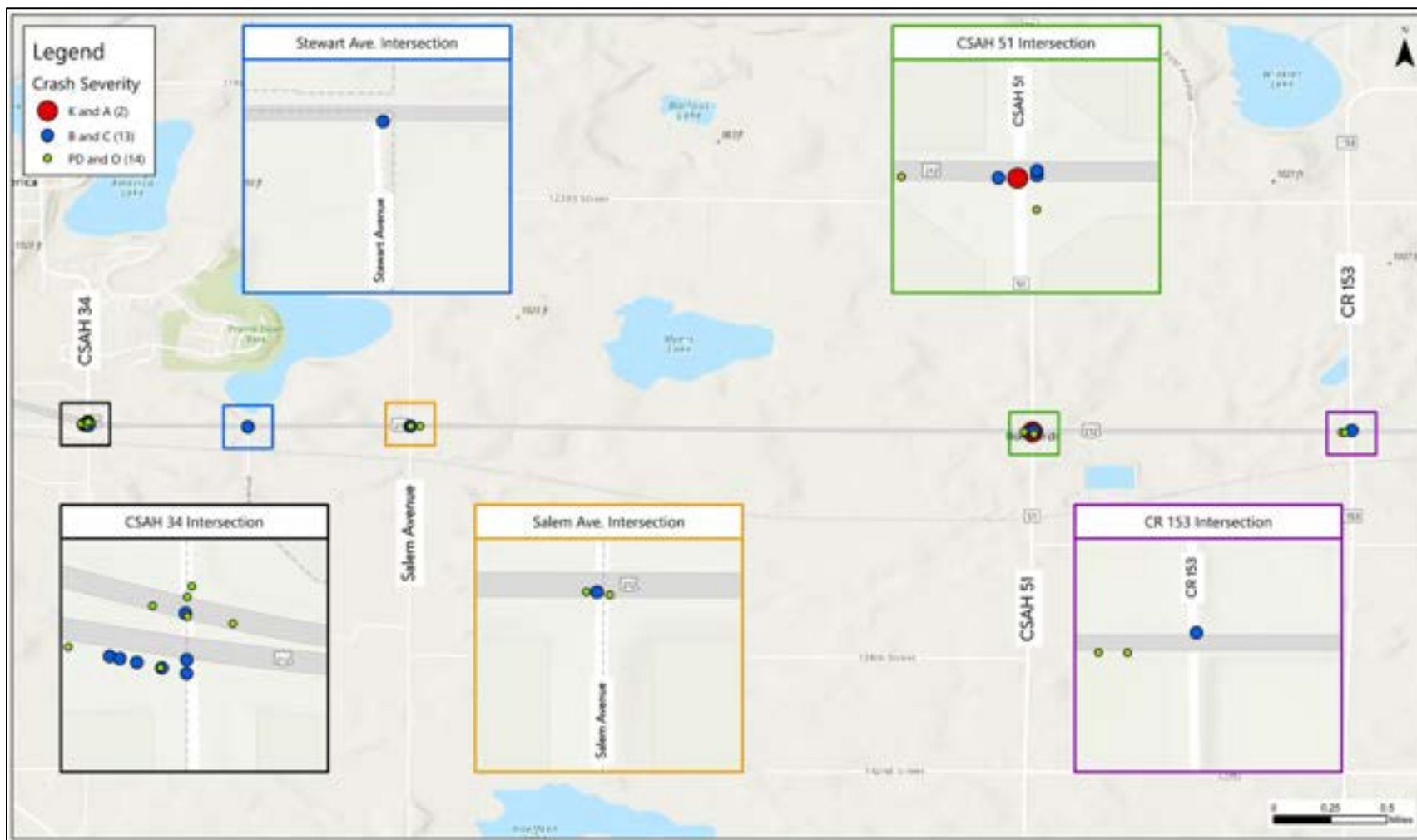
## Intersection Crash Analysis

Intersection crash data was reviewed for the five-year period from 2018 to 2023 for six intersections on Hwy 212 between CSAH 34 to CSAH 36. There was a total of 33 reported intersection crashes during this period. Nearly half of the crashes (48 percent) were property damage only crashes. One fatal crash occurred at the Hwy 212 and CSAH 51 intersection in 2018. Nearly all of the crashes (86 percent) occurred at three of the five intersections: CSAH 34, Salem Avenue, and CSAH 51. Table 5 summarizes the five-year crash history for Hwy 212 intersections from 2018 to 2023. Figure 5 illustrates Hwy 212 intersection crashes from 2018 to 2023.

**Table 5. Hwy 212 Intersection Crashes (2018 – 2023)**

Intersection	Fatal Crashes	Personal Injury	Property Damage Only Crashes	Total Crashes
CSAH 34	0	7	7	14
Stewart Ave	0	1	0	1
Salem Ave	0	2	3	5
CSAH 51	1	3	2	6
CR 153	0	1	2	3
CSAH 36	0	1	3	4

Figure 5. Hwy 212 Intersection Crashes (2018 – 2023)



Crash severity: K = fatal crash, A = suspected serious injury crash, B = suspected minor injury crash, C = possible injury crash, PD = property damage only crash, O = other.

Table 6 tabulates the Hwy 212 intersection crash types from CSAH 34 to CSAH 36 for the five-year period from 2018 to 2023. Right angle crashes accounted for the most frequent intersection crash types in the project study area with a total of 11 crashes (33 percent). In general, right-angle crashes have higher severity rates compared to other types of crashes.<sup>6</sup> Rear-end crashes accounted for 10 crashes, or 30 percent of the total intersection crashes. A rear-end crash is the most common type of crash across Minnesota and is the most common type of intersection-related crash. Run-off-road crashes accounted for five intersection crashes (15 percent) in the project study area. High speeds, changes in the roadway boundaries, along with visibility and weather conditions are contributing factors for run-off-road crashes.

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<sup>6</sup> Minnesota Department of Transportation. Office of Traffic, Safety and Technology. Revised June 2015. Traffic Safety Fundamentals Handbook. Accessed 12 November 2019 and available at <https://www.dot.state.mn.us/trafficeng/publ/fundamentals/2015-mndot-safety-handbook-reduced.pdf>.

**Table 6. Hwy 212 Intersection Crash Types (2018 – 2023)**

Crash Type	Hwy 212 and CSAH 34	Hwy 212 and Stewart Ave.	Hwy 212 and Salem Ave.	Hwy 212 and CSAH 51	Hwy 212 and CR 153	Hwy 212 and CSAH 36	Total by Crash Type
Run off Road	3 (21%)	0	1 (20%)	0	0	1 (25%)	5 (15%)
Rear End	2 (14%)	1 (100%)	2 (40%)	1 (17%)	3 (100%)	1 (25%)	10 (30%)
Sideswipe Passing	0	0	1 (20%)	0	0	1 (25%)	2 (6%)
Right Angle	6 (43%)	0	0	4 (67%)	0	1 (25%)	11 (33%)
Left Turn	2 (14%)	0	0	1 (17%)	0	0	3 (9%)
Head On	0	0	0	0	0	0	0
Sideswipe Opposing	0	0	0	0	0	0	0
Single Vehicle Other	0	0	0	0	0	0	0
Other /Unknown	1 (7%)	0	1 (20%)	0	0	0	2 (6%)
Total	14 (100%)	1 (100%)	5 (100%)	6 (100%)	3 (100%)	4 (100%)	33 (100%)

Table 7 tabulates the Hwy 212 intersection crash rates for the five-year period from 2018 to 2023. Hwy 212 intersection crash rates vary from 0.043 crashes per one million entering vehicles (Stewart Avenue) to 0.604 crashes per one million entering vehicles (CSAH 34). The critical index exceeds one at the Hwy 212 and CSAH 34 intersection. A critical index exceeding one indicates that there is safety concern at this location. Other intersections where critical indices are below one indicate that the intersections do not deviate from statewide trends (i.e., are performing within expectations).

**Table 7. Hwy 212 Intersection Crash Rates (2018 – 2023)**

Intersection	Observed Crash Rates	Statewide Average Crash Rate	Critical Crash Rate	Critical Index
CSAH 34	0.604	0.10	0.54	1.12
Stewart Ave	0.043	0.10	0.54	0.08
Salem Ave	0.179	0.10	0.51	0.35
CSAH 51	0.242	0.10	0.53	0.46
CR 153	0.044	0.10	0.54	0.24
CSAH 36	0.180	0.10	0.55	0.33

Intersection crash rates are in crashes per one million entering vehicles (MEV).

Statewide average crash rates for rural, thru/stop intersections, five years of crash data (2016 to 2020), from MnDOT Intersection Toolkit.

## Additional Crash Information

As noted in the “Background Information” section, Hwy 212 provides an essential freight connection between the Twin Cities Metropolitan Area and southwestern Minnesota and beyond. Freight vehicles were involved in 16 crashes on Hwy 212 during the five-year period from 2018 to 2023, or approximately 17 percent of total number of reported crashes. This included one fatal crash and seven personal injury crashes. One-half (50 percent) of the freight-related crashes resulted in a fatality, serious injury, minor injury, or possible injury in the five-year period from 2018 to 2023. Most recently, a fatal crash occurred on Hwy 212 approximately one mile east of Salem Avenue on May 31, 2021. The incident involved a pickup truck and semi-tractor trailer and resulted from a head-on crash.

As noted above, the critical index for the Hwy 212 and CSAH 51 intersection for the five-year period from 2018 to 2023 is 0.46. The fatal and serious injury (FAR) critical index for the Hwy 212 and CSAH 51 intersection for the five-year period from 2018 to 2023 is 0.74. Fatal and serious injury crashes at Hwy 212 and CSAH 51 since 2009 are listed below.

- A fatal rear-end crash in 2009 that resulted in two deaths.
- A serious injury right-angle crash in 2010.
- A fatal run-off-road crash in 2018. This crash is identified as a segment crash in the five-year crash analysis described above using MnDOT’s current methodology for identifying crashes in MnCMAT2.



- A fatal right-angle crash in 2018. This crash involved a passenger vehicle and a freight vehicle (semi-tractor trailer).

## Vehicle Safety Conclusions

A vehicle safety problem exists on Hwy 212 between CSAH 34 and CSAH 36 in Benton Township. There were 92 reported crashes on Hwy 212 for the five-year period from 2018 to 2023, including two fatal crashes and 16 personal injury crashes. Freight vehicles have been involved in 16 crashes on Hwy 212 since 2018. One-half (50 percent) of the crashes involving freight vehicles resulted in a fatality or personal injury. The critical crash index at the Hwy 212 and CSAH 34 intersection currently exceeds one, indicating that there is a safety problem at this location.

Traffic volumes are projected to increase in Hwy 212 under the 2040 No Build Alternative, and side street delays at intersections are expected to increase (see Vehicle Mobility section below). As traffic volumes increase, there will be fewer gaps for vehicles to turn on to Hwy 212. Drivers are anticipated to take greater risks and un-safe gaps to enter onto Hwy 212 or with turning movements from Hwy 212 to intersecting roadways. It is expected that the increased traffic volumes and delays would increase the occurrence of crashes at Hwy 212 intersections.

## Vehicle Mobility

This section summarizes the traffic forecasts and operations analysis completed for Hwy 212 for existing and future No Build Alternative conditions. This analysis indicates that there are vehicle mobility deficiencies based on daily traffic volumes and at intersections during the morning and afternoon peak periods. Volume-to-capacity ratio and intersection level of service analyses were used to evaluate mobility performance on Hwy 212 in the project study area.

## Existing and Forecast Traffic Volumes

Traffic forecasts for the 2040 No Build Alternative were prepared by considering historical traffic volume growth rates in the project area, travel demand trends observed in the Metropolitan Council regional activity-based travel demand model (ABM) and Carver County's traffic projection factor (annual growth rate of 1.5 percent). The Metropolitan Council's ABM is a computer model that uses travel behavior information and socio-economic forecasts to develop traffic volume forecasts. Background highway assumptions were included in the travel demand forecasts consistent with state, regional, and local improvement programs and plans.

Table 8 tabulates the existing daily traffic volumes and year 2040 No Build Alternative forecast volumes for Hwy 212. Existing volumes on Hwy 212 range from 12,200 vehicles per day east of CR 153 to 12,700 vehicles per day west of Stewart Ave. Hwy 212 traffic volumes are projected to increase to approximately 15,000 to 17,000 vehicles per day under the 2040 No Build Alternative. Hwy 212 traffic volumes are projected to increase by approximately 2,800 to 4,800 vehicles per day by year 2040, or an approximately 23 to 39 percent increase in vehicles per day compared to existing conditions.

**Table 8. Existing and Forecast (2040 No Build) Traffic Volumes**

Hwy 212 Segment	2018 Existing Volumes (vehicles per day)	Forecast Volumes 2040 No Build Alternative (vehicles per day)	Daily Volume Increase 2040 No Build to Existing (vehicles per day)
CSAH 34 to CSAH 51	12,700	17,000	4,300
CSAH 51 to CR 153	12,200	17,000	4,800
CR 153 to CSAH 36	12,200	15,000	2,800

### Volume to Capacity Ratios

Volume to capacity ratios were calculated for Hwy 212 for 2018 existing conditions and the 2040 No Build Alternative. A roadway with a volume to capacity ratio of less than 0.85 is considered under capacity, a volume to capacity ratio between 0.85 and 1.00 is generally considered approaching capacity, and a volume to capacity ratio greater than 1.00 is considered over capacity.

Table 9 tabulates volume to capacity ratios for Hwy 212 between CSAH 34 and CSAH 36 for existing conditions and the 2040 No Build Alternative. Existing volumes on the two-lane segment of Hwy 212 are approaching capacity. The two-lane segment of Hwy 212 from CSAH 34 to CR 153 is anticipated to exceed capacity (i.e., volume to capacity ratios greater than 1.00) under 2040 No Build conditions. The segment of Highway 212 from CR 153 to CSAH 36 is anticipated to be at capacity (i.e., volume to capacity ratio at 1.00) under 2040 No Build conditions.

**Table 9. Hwy 212 Existing and 2040 No Build Alternative Volume to Capacity Ratios**

Hwy 212 Location	Facility Type	Capacity	2018 Existing ADT	2040 No Build Alternative ADT	2018 Existing Volume to Capacity Ratio	2040 No Build Volume to Capacity Ratio
CSAH 34 to CSAH 51	2-lane undivided rural	15,000	12,700	17,000	0.85	1.13
CSAH 51 to CR 153	2-lane undivided rural	15,000	12,200	17,000	0.81	1.13
CR 153 to CSAH 36	2-lane undivided rural	15,000	12,200	15,000	0.81	1.00

## Intersection Operations Analysis

An intersection operations analysis was prepared for Hwy 212 for the weekday morning and afternoon peak hours under existing conditions and the 2040 No Build Alternative. The morning peak hour is from 7:00 a.m. to 8:00 a.m. The afternoon peak period is from 4:00 p.m. to 5:00 p.m. The intersections were analyzed using VISSIM (Version 20) software. Analysis results identify a Level of Service (LOS), which indicates the quality of traffic flow through an intersection. Intersections are given a ranking from LOS A through LOS F. The LOS results are based on average delay per vehicle. LOS A indicates the best traffic operation, with vehicles experiencing minimal delays. LOS F indicates an intersection where demand exceeds capacity, or a breakdown of traffic flow.

For side-street stop and yield controlled intersections, special emphasis is given to providing an estimate for the LOS of the side-street approach. Because the mainline does not have to stop, most of the intersection delay is attributed to the side-street approaches. It is typical of intersections with higher mainline traffic volumes to experience high levels of delay (i.e., poor LOS) on the side-street approaches, but an acceptable overall intersection LOS during peak period conditions.

Table 10 tabulates intersection LOS results for the morning and afternoon peak periods under existing conditions. All Hwy 212 intersections operate at an overall LOS A during the morning and afternoon peak periods. Side-street approaches at unsignalized intersections operate at LOS C or better.

**Table 10. Existing Conditions Intersection Level of Service (LOS) Results**

Hwy 212 Intersection	Morning Peak Hour LOS	Morning Peak Hour Delay (Sec)	Afternoon Peak Hour LOS	Afternoon Peak Hour Delay (Sec)
CSAH 34	A/A	9	A/B	12
Salem Avenue	A/A	10	A/A	10
CSAH 51	A/C	16	A/C	17
CR 153	A/B	14	A/B	14

(1) Indicates an unsignalized intersection with side street stop/yield control, where the overall LOS is presented first followed by the worst approach LOS. The delay shown represents the worst approach delay.

The morning peak period is from 7:00 a.m. to 8:00 a.m. The afternoon peak period is from 4:30 p.m. to 5:30 p.m.

Table 11 tabulates the intersection operations analysis results for the morning and afternoon peak periods under the 2040 No Build Alternative. Most Hwy 212 intersections are projected to operate at an overall LOS A during the morning and afternoon peak hours under the 2040 Build Alternative. However, the Hwy 212/CSAH 51 northbound and southbound approaches are projected to operate at LOS F during the morning and afternoon peak hours. The Hwy 212/CR 153 intersection northbound and southbound approaches are projected to operate at a LOS D during the morning and afternoon peak hours. The Hwy 212/CSAH 34 intersection approaches also are projected to operate at LOS D in the afternoon peak hour.



**Table 11. 2040 No Build Alternative Intersection Level of Service (LOS) Results**

Hwy 212 Intersection	Morning Peak Hour LOS	Morning Peak Hour Delay (Sec)	Afternoon Peak Hour LOS	Afternoon Peak Hour Delay (Sec)
CSAH 34	A/B	15	A/D	19
Salem Avenue	A/B	11	A/B	12
CSAH 51	A/F	35	A/F	45
CR 153	A/D	17	A/D	20

(1) Indicates an unsignalized intersection with side street stop/yield control, where the overall LOS is presented first followed by the worst approach LOS. The delay shown represents the worst approach delay.

The morning peak period is from 7:00 a.m. to 8:00 a.m. The afternoon peak period is from 4:30 p.m. to 5:30 p.m.

# **Project Purpose**

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The purpose of the US Highway 212 – Benton Township Project is to improve pavement conditions, vehicles safety, and vehicle mobility on Hwy 212 between CSAH 34 and CSAH 36 in Carver County.

# Appendix C

Wetland Impact Assessment and Two-Part Finding



## Wetland Impact Assessment & Two-Part Finding Form

*This form is intended to document what is known at the time the environmental document is complete and is subject to change as the project proceeds. The Wetland Assessment and Two-Part Finding Form is used to demonstrate compliance with EO 11990 and must be attached to the environmental document.*

*All projects with wetland impacts must demonstrate compliance with Executive Order (EO) 11990, specifically that:*

- (1) That there is no practicable alternative, and*
- (2) That the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.*

### Project Description

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**S.P. Number:** (SP) 1013-77

**County:** Carver

**Project Name:** U.S. Hwy 212 – Benton Township Project

**Watershed:** 33 / Minnesota River – Shakopee

The proposed project would include the expansion of U.S. Highway 212 from a rural two-lane highway to a divided four-lane highway within an approximately 5.5-mile corridor between the City of Norwood Young America and the City of Cologne in Carver County, Minnesota. This area stretches from approximately 0.15-mile West of Highway 34 to approximately 0.1-mile East of Highway 36.

The purpose of this project is to improve pavement conditions, vehicles safety, and vehicle mobility on Hwy 212 between CSAH 34 and CSAH 36 in Carver County. The needs are the transportation problems to be addressed by the proposed action and are the main problems that led to the initiation of the project. The pavement conditions, vehicle safety, and vehicle mobility performance of Hwy 212 are considered deficient based on pavement condition ratings, occurrence of crashes, forecast traffic volumes, and intersection operations.

The wetland investigation report for Carver County US 212: Cologne to Norwood Young America, Carver County, Minnesota is dated July 11, 2022. The purpose of this study was to identify areas meeting the technical criteria for wetlands, delineate the jurisdictional extent of the wetland basins, and classify the wetland habitats in the project area.

### Wetland Delineation

A Level 2 Delineation has been completed of aquatic resources within the project construction limits, which are wetlands with proposed permanent impacts. A Level 2 Delineation is based on a field survey of vegetation, soil, and hydrology characteristics, following procedures described in the *U.S. Army Corps of Engineers Wetlands*

*Delineation Manual* (Technical Report Y-87-1, 1987) and in accordance with the methods identified in the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Interim Regional Supplement) as required by both the Minnesota Wetland Conservation Act and Section 404 of the Clean Water Act.

Fieldwork for Level 2 field wetland delineation was completed by Alex Yellick and Dylan Kruzel, on September 9, September 30, October 21, and October 28, 2021. An additional site investigation was completed for an expanded project extent by Dylan Kruzel and Wyatt Benton on June 15, 2022. A final version of the delineation report (dated 9/26/2022) was approved under the Wetlands Conservation Act (WCA) on October 12, 2022.

### Overview: Total Wetland Impacts

This environmental document addresses permanent wetlands impacts. Permanent wetland impacts result in a loss in the quantity, quality or biological diversity of a wetland and will not be restored to pre-project conditions and functions within 90 days of the impact occurrence. The regulatory agencies will determine at what point the proposed duration of temporary impacts will be considered to be essentially permanent. Temporary impacts will be addressed through the permitting process.

**Table 1. Total Permanent Impacts**

	<b>Permanent Impacts (Acres)</b>
Wetland basins	<b>22.95</b>
Ditches with wetlands in the bottom (WCA* and COE*)	<b>2.04</b>
Ditches with wetlands in the bottom (COE only)	<b>N/A</b>
Other Aquatic Resources (Tributary)	<b>0.92</b>
*Corps of Engineers *Wetland Conservation Act * Use linear feet for tributary impacts	<b>25.91 acres total</b>

### Wetland Delineation

## PART 1: Avoidance Alternatives

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### No- Build Alternative

This alternative would avoid all wetland impacts (except those due to routine maintenance) but would fail to meet the project’s purpose and need. The No Build Alternative does not address the pavement condition, vehicle safety, and vehicle mobility for the project. While routine pavement maintenance may temporarily extend the service life of the Hwy 212 roadway, it does not address the long-term pavement, vehicle safety, and vehicle mobility needs of the project. It was therefore rejected from further consideration. The no-build alternative would entail routine pavement preservation activities along Hwy 212 and maintain the two-lane

rural section highway with no additional improvements to address needs beyond ongoing preventative maintenance work.

## **Alternatives Considered**

### Alternatives Evaluation Process Steps

Several alternatives for this project were considered as part of the Alternatives Evaluation Report for (SP) 1013-77. There was a three-step process. Step 1 involved evaluating a reasonable range of typical section alternatives. Step 2 included evaluating the corridor alignment. The objective of Step 3 was to determine a preferred alternative design for the Hwy 212 and CSAH 51 intersection. The Alternatives Evaluation Report is provided in **Attachment C** of the Categorical Exclusion environmental document.

#### Step 1 Evaluation:

Build Alternatives included a three-lane ("2+1") highway typical section, four-lane divided highway, and four-lane divided section. The No Build Alternative was used as the basis for comparison. Volume-to-capacity was used in the Step 1 evaluation and is a measurement of vehicle nobility. Evaluation criteria for the typical sections included pavement conditions, vehicle safety, and vehicle mobility. For the build-alternatives (Step 1), a four-lane highway was selected as it best addressed the pavement, vehicle safety, and vehicle mobility needs for the project.

#### Step 2 Evaluation:

The following corridor alignments were evaluated:

#### **Hwy 212 Corridor Alignment A**

Corridor Alignment A is on the south side of existing Hwy 212 from CSAH 34 to the CSAH 51 intersection. Corridor Alignment A was identified to avoid farmsteads and wetlands on the north side of Hwy 212. Corridor Alignment A is on the south side of Hwy 212 from CSAH 51 to the eastern project terminus at CSAH 36.

This Alignment was dismissed. The following list summarizes the rationale for why Corridor Alignment A was dismissed from further consideration:

- Corridor Alignment A results in the greatest impact to the Stender Farmstead (approximately 8.1 acres) and includes a higher risk for an adverse effect finding under Section 106).
- Corridor Alignment A requires the greatest amount of new right of way among the build alignment alternatives and impacts the greatest number of parcels.
- Corridor Alignment A impacts the solar energy generating facility on the south side of Hwy 212, west of CSAH 51. Corridor Alignment A would require relocating both the electric distribution poles and first row of solar panels to a new location on the solar farm site. This utility relocation expense would be the responsibility of the project, increasing overall project costs.



- Because Corridor Alignment A includes a higher risk for an adverse effect finding under Section 106, it also includes a higher risk for requiring an individual Section 4(f) evaluation. Hwy 212 Corridor Alignment B Results.

### **Hwy Corridor Alignment B**

Alignment B is on the north side of existing Hwy 212 from CSAH 34 to the CSAH 51 intersection. Corridor Alignment B was identified to avoid the Stender Farmstead (historic property previously determined eligible for the National Register) on the south side of Hwy 212. Corridor Alignment B is on the south side of Hwy 212 from CSAH 51 to the eastern project terminus at CSAH 36.

As estimated in the Alternatives Evaluation Report, Alignment B was dismissed as it results in the greatest amount of wetland impacts among the three build alignment alternatives. Corridor Alignment B would result in 29.1 acres of wetlands whereas Corridor Alignment A would result in 28.1 acres. Corridor Alignment C would result in 27.2 acres.

### **Hwy Corridor Alignment C**

Based on the results of the Corridor Alignment A and Corridor Alignment B evaluation, a hybrid alternative was identified for study. Corridor Alignment C combines the alignments from Corridor Alignment A and Corridor Alignment B into one alignment that shifts back and forth between the north and south sides of existing Hwy 212 from CSAH 34 to CSAH 51. Corridor Alignment C was identified to balance and minimize potential impacts to resources on both sides of the existing Hwy 212 corridor.

Corridor Alignment C starts on the south side of existing Hwy 212 east of CSAH 34 and shifts to the north side of existing Hwy 212 east of Stewart Avenue. Corridor Alignment C then shifts to the south side of existing Hwy 212 east of Salem Avenue to avoid a wetland on the north side of the corridor. Corridor Alignment C shifts back to the north side of existing Hwy 212 west of CSAH 51 to minimize impacts to a solar energy generating facility on the south side of Hwy 212. Corridor Alignment C is on the south side of Hwy 212 from CSAH 51 to the eastern project terminus at CSAH 36.

Alignment C was identified as the preferred alternative for several reasons, including that it minimizes wetland impacts. Corridor Alignment C results in the least amount of wetland impacts compared to other build corridor alignments. Opportunities for further wetland avoidance and minimization were explored as part of the preliminary and final design processes.

### Step 3 Evaluation:

The Step 3 process evaluated the following concepts for the Hwy 212 and CAH 51 intersection: Reduced Conflict Intersection (Concept 1), Staggered T-intersection (Concept 2), and two options for Grade Separated Quadrant Interchange (Concepts 3 and 4). Concept 3 (Grade Separated Quadrant Interchange, East Alignment Option 1) was identified as the preferred alternative for the Hwy 212 and CSAH 51 intersection. Concept 3 minimizes wetland impacts. Concept 3 results in approximately 0.2 acres of wetland impacts. This is two acres less than Concept 4 (Grade Separated Quadrant Interchange, West Alignment) and similar to at-grade options.

## PART 2: Minimization Measures

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It was not feasible to completely avoid all wetland impacts resulting from this *U.S. Hwy 212 and CSAH 51* improvement. Wetland impacts that are unavoidable have been minimized to the extent practicable without compromising safety. Wetland minimization measures were applied to all areas where possible. The following design measures were used to minimize these impacts. In consideration of the project goal of providing public safety, the guardrail option was considered a roadside hazard to be avoided. Adding non-recoverable slopes would not provide a safety improvement. The design currently uses the minimum recoverable side slope 1:4; typically this type of facility would use 1:6 side slopes. The design included the use of 1:6 to 1:3 break slopes on large fill slopes to minimize impacts whenever possible.

The preferred alternative includes all feasible measures that could be used to minimize harm to the wetlands, including the following:

- Steeper inslopes (1:4 or steeper)
- Utilizing guardrail if necessary and meets design standards.
- Lower vertical profiles.
- "Broken back" inslopes for roads with a high vertical profile (over 10-12 feet).
- Reduced radius curves – moved alignments
- Reduce ditch widths.
- Steeper backslopes.
- Reducing muck excavation by using light weight fill, geotextile, surcharges, etc. (if determined to be a strategy based on soil investigation conclusions)\*
- Narrow shoulders (unless needed for bikes or pedestrians).
- Minimum safe sight distances to minimize the need for cut and fill.
- Turn lanes instead of frontage roads.
- Reduced design speed.
- Designation as a "Natural Preservation Route" to allow reduced design standards in rare cases.
- Constructing ditches so that wetland outlets are not lowered.
- Ensuring that the location or design does not significantly reduce the contributing watershed of a wetland, resulting in changes to the hydrologic regime.
- Using bridges rather than culverts, in rare cases.

\*The feasibility of reducing muck excavation is under evaluation. There may be surcharges in some areas and full muck out of other areas based on conditions. Light weight fill is an option and under evaluation by MnDOT.

**Table 2. Aquatic Resources Proposed for Permanent Impacts within the Project Construction Limits (Level 2 Wetland Delineation)**

Resource ID	Wetland/Ditch/Other Aquatic Resource	Wetland Type/ Existing Plant Community Type(s)	Area Within Level 2 Review Area (Ac.)	Permitting Jurisdiction (COE, DNR, WCA)	Size of Permanent Impact of the Preferred Alternative (Acres or Square Feet or linear feet for tributary impacts)
Wet Ditch 02	Wet Ditch	1 / Seasonally Flooded Basin	254 SF	COE	58 SF
Wetland 03	Wetland	2 / Fresh Wet Meadow	0.19 Ac.	COE, WCA	0.06 Ac.
Wetland 04	Wetland	1 / Seasonally Flooded Basin	3.40 Ac.	COE, WCA	0.07 Ac.
Wetland 04	Wetland	1 / Seasonally Flooded Basin	3.40 Ac.	COE, WCA	1.62 Ac.
Wetland 05-1	Wetland	2 / Fresh Wet Meadow	0.74 Ac.	COE, WCA	0.49 Ac.
Wet Ditch 05-2	Wet Ditch	2 / Fresh Wet Meadow	0.13 Ac.	COE	0.13 Ac.
Wetland 06	Wetland	2 / Fresh Wet Meadow	0.10 Ac.	COE, WCA	0.06 Ac.
Wetland 07	Wetland	2 / Fresh Wet Meadow	0.02 Ac.	COE, WCA	0.02 Ac.
Wetland 08	Wetland	1 / Seasonally Flooded Basin	1.80 Ac.	COE, WCA	1.10 Ac.
Wet Ditch 09-1	Wet Ditch	3 / Shallow Marsh	0.21 Ac.	COE	0.21 Ac.
Wetland 09-2	Wetland	2 / Fresh Wet Meadow	2.69 Ac.	COE, WCA	2.69 Ac.
Wet Ditch 10-1	Wet Ditch	2 / Fresh Wet Meadow	0.02 Ac.	COE	0.02 Ac.
Wetland 10-2	Wetland	2 / Fresh Wet Meadow	3.66 Ac.	COE, WCA	0.19 Ac.
Wetland 11	Wetland	2 / Fresh Wet Meadow	0.54 Ac.	COE, WCA	0.36 Ac.
Wetland 11	Wetland	3 / Shallow Marsh	0.54 Ac.	COE, WCA	0.46 Ac.
Wetland 12	Wetland	3 / Shallow Marsh	0.03 Ac.	COE, WCA	0.03 Ac.
Wet Ditch 13	Wet Ditch	2 / Fresh Wet Meadow	0.09 Ac.	COE	0.09 Ac.
Wet Ditch 14	Wet Ditch	2 / Fresh Wet Meadow	0.01 Ac.	COE	0.01 Ac.
Wet Ditch 15	Wet Ditch	2 / Fresh Wet Meadow	360 SF	COE	360 SF
Wetland 16	Wetland	1 / Seasonally Flooded Basin	1.78 Ac.	COE, WCA	0.36 Ac.
Wet Ditch 18	Wet Ditch	2 / Fresh Wet Meadow	0.09 Ac.	COE	0.09 Ac.
Wetland 19-2	Wetland	1 / Seasonally Flooded Basin	>5 Ac.	COE, WCA, DNR	15 SF
Wet Ditch 20	Wet Ditch	2 / Fresh Wet Meadow	138 SF	COE	138 SF
Wetland 21	Wetland	2 / Fresh Wet Meadow	0.43 Ac.	COE, WCA	0.15 Ac.
Wetland 22	Wetland	2 / Fresh Wet Meadow	0.70 Ac.	COE, WCA	0.32 Ac.
Wetland 24	Wetland	1 / Seasonally Flooded Basin	2.98 Ac.	COE, WCA	0.69 Ac.
Wetland 25	Wetland	1 / Seasonally Flooded Basin	0.85 Ac.	COE, WCA	0.02 Ac.
Wetland 26	Wetland	3 / Shallow Marsh	1.77 Ac.	COE, WCA	0.29 Ac.
Wetland 27	Wetland	3 / Shallow Marsh	1.77 Ac.	COE, WCA	1.78 Ac.
Wet Ditch 28	Wet Ditch	2 / Fresh Wet Meadow	0.10 AC.	COE	0.10 Ac.
Wet Ditch 29-1	Wet Ditch	3 / Shallow Marsh	0.18 Ac.	COE	0.18 Ac.



**Table 2. Aquatic Resources Proposed for Permanent Impacts within the Project Construction Limits (Level 2 Wetland Delineation)**

Resource ID	Wetland/Ditch/Other Aquatic Resource	Wetland Type/ Existing Plant Community Type(s)	Area Within Level 2 Review Area (Ac.)	Permitting Jurisdiction (COE, DNR, WCA)	Size of Permanent Impact of the Preferred Alternative (Acres or Square Feet or linear feet for tributary impacts)
Wetland 29-2	Wetland	3 / Shallow Marsh	2.60 Ac.	COE, WCA	1.39 Ac.
Wetland 30	Wetland	3 / Shallow Marsh	0.60 Ac.	COE, WCA	0.22 Ac.
Wet Ditch 31-1	Wet Ditch	2 / Fresh Wet Meadow	0.19 Ac.	COE	0.19 Ac.
Wetland 31-2	Wetland	3 / Shallow Marsh	3.18 Ac.	COE, WCA	1.94 Ac.
Wetland 31-3	Wetland	3 / Shallow Marsh	5.02 Ac.	COE, WCA	2.04 Ac.
Wetland 31-4	Wetland	3 / Shallow Marsh	2.66 Ac.	COE, WCA	1.06 Ac.
Wetland 32	Wetland	2 / Fresh Wet Meadow	1.16 Ac.	COE, WCA	0.14 Ac.
Wet Ditch 33	Wet Ditch	2 / Fresh Wet Meadow	0.19 Ac.	COE	0.19 Ac.
Wetland 34	Wetland	3 / Shallow Marsh	0.14 Ac.	COE, WCA	0.02 Ac.
Wet Ditch 35	Wet Ditch	2 / Fresh Wet Meadow	0.16 Ac.	COE	0.16 Ac.
Wetland 36	Wetland	2 / Fresh Wet Meadow	0.18 Ac.	COE, WCA	0.07 Ac.
Wetland 37	Wetland	3 / Shallow Marsh	0.09 Ac.	COE, WCA	0.03 Ac.
Wet Ditch 38-1	Wet Ditch	1 / Seasonally Flooded Basin	0.02 Ac.	COE	0.04 Ac.
Wetland 38-2	Wetland	1 / Seasonally Flooded Basin	0.85 Ac.	COE, WCA	1.70 Ac.
Wetland 39	Wetland	2 / Fresh Wet Meadow	0.66 Ac.	COE, WCA	0.66 Ac.
Wet Ditch 43	Wet Ditch	3 / Shallow Marsh	0.02 Ac.	COE	0.02 Ac.
Wetland 44	Wetland	1 / Seasonally Flooded Basin	2.42 Ac.	COE, WCA	88 SF
Wet Ditch 45	Wet Ditch	2 / Fresh Wet Meadow	0.03 Ac.	COE	0.02 Ac.
Wet Ditch 46	Wet Ditch	2 / Fresh Wet Meadow	0.06 Ac.	COE	0.06 Ac.
Wetland 47	Wetland	2 / Fresh Wet Meadow	3.32 Ac.	COE, WCA	0.54 Ac.
Wet Ditch 48-1	Wet Ditch	2 / Fresh Wet Meadow	0.08 Ac.	COE	0.08 Ac.
Wetland 48-2	Wetland	2 / Fresh Wet Meadow	2.11 Ac.	COE, WCA	2.01 Ac.
Wetland 50-1	Wetland	1 / Seasonally Flooded Basin	0.09 Ac.	COE, WCA	0.04 Ac.
Wet Ditch 50-2	Wet Ditch	3 / Shallow Marsh	0.07 Ac.	COE	0.07 Ac.
Wetland 51-1	Wetland	1 / Seasonally Flooded Basin	0.09 Ac.	COE, WCA	0.33 Ac.
Wet Ditch 52	Wet Ditch	2 / Fresh Wet Meadow	0.17 Ac.	COE	0.17 Ac.
Wet Ditch 54	Wet Ditch	2 / Fresh Wet Meadow	0.52 Ac.	COE	0.20 Ac.
Tributary A1	Channel	90 / Perennial Channel	1.18 Ac. (3,366 LF)	COE	0.77 Ac. (1,855 LF)
Tributary A2	Channel	90 / Perennial Channel	1.18 Ac. (3,366 LF)	COE	0.01 Ac. (35 LF)
Tributary B1	Channel	90 / Intermittent Channel	0.56 Ac. (1,252 LF)	COE	0.06 Ac. (129 LF)

**Table 2. Aquatic Resources Proposed for Permanent Impacts within the Project Construction Limits (Level 2 Wetland Delineation)**

Resource ID	Wetland/Ditch/Other Aquatic Resource	Wetland Type/ Existing Plant Community Type(s)	Area Within Level 2 Review Area (Ac.)	Permitting Jurisdiction (COE, DNR, WCA)	Size of Permanent Impact of the Preferred Alternative (Acres or Square Feet or linear feet for tributary impacts)
Tributary B2	Channel	90 / Intermittent Channel	0.56 Ac. (1,252 LF)	COE	0.08 Ac. (183 LF)

The location of each wetland impact is illustrated on the attached exhibits (**Figure 3**).

### COMPENSATION (REPLACEMENT/ENHANCEMENTS)

Applications for wetland permits will be made to the appropriate agencies with wetland jurisdiction. Expected wetland mitigation needs are refined on a continual basis during early stages of project design, and therefore subject to change. The preferred method of wetland replacement is to use established, federally and state approved wetland bank credits. Efforts will be made to replace wetland losses within the bank service area of the wetland impact. The minimum wetland replacement ratio for the project area is 2:1, within Bank Service Area 9. The specific wetland compensation (bank credits) to be used will be determined through consultation with the Corps of Engineers and the MnDOT Office of Environmental Stewardship (OES) as the project proceeds.

### Conclusion

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In accordance with Executive Order 11990, based upon the above factors and considerations, it is determined that there is no practicable alternative to the proposed construction in the identified wetlands, and that the proposed action includes all practicable measures to minimize harm to the wetlands.

Based on the estimated 25.91 acres of permanent aquatic resource impacts, 22.95 acres of permanent impact to wetland basins, 2.04 acres of permanent impacts to ditches with wetlands in the bottom, and 0.92 acres of permanent impacts to other aquatic resources it is anticipated that the project will qualify for the following Army Corps of Engineers permit:

- General Permit
- Individual Permit

However, this finding is subject to change as continued coordination occurs with the U.S. Army Corps of Engineers as the permitting process proceeds.

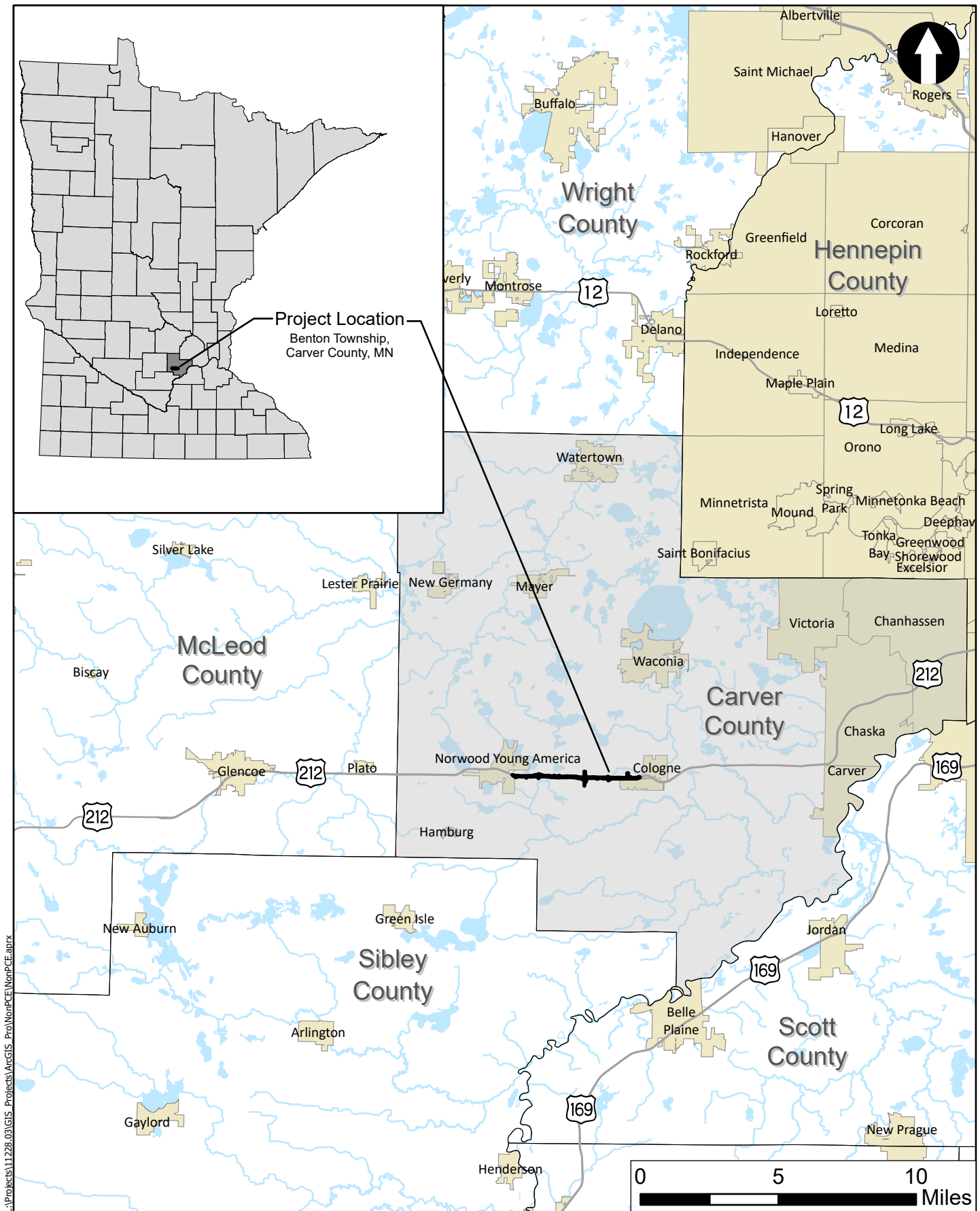
### ATTACHMENTS

Figure 1. State Location Map

Figure 2. Project Area / Index Map

Figure 3. Aquatic Resource Impacts





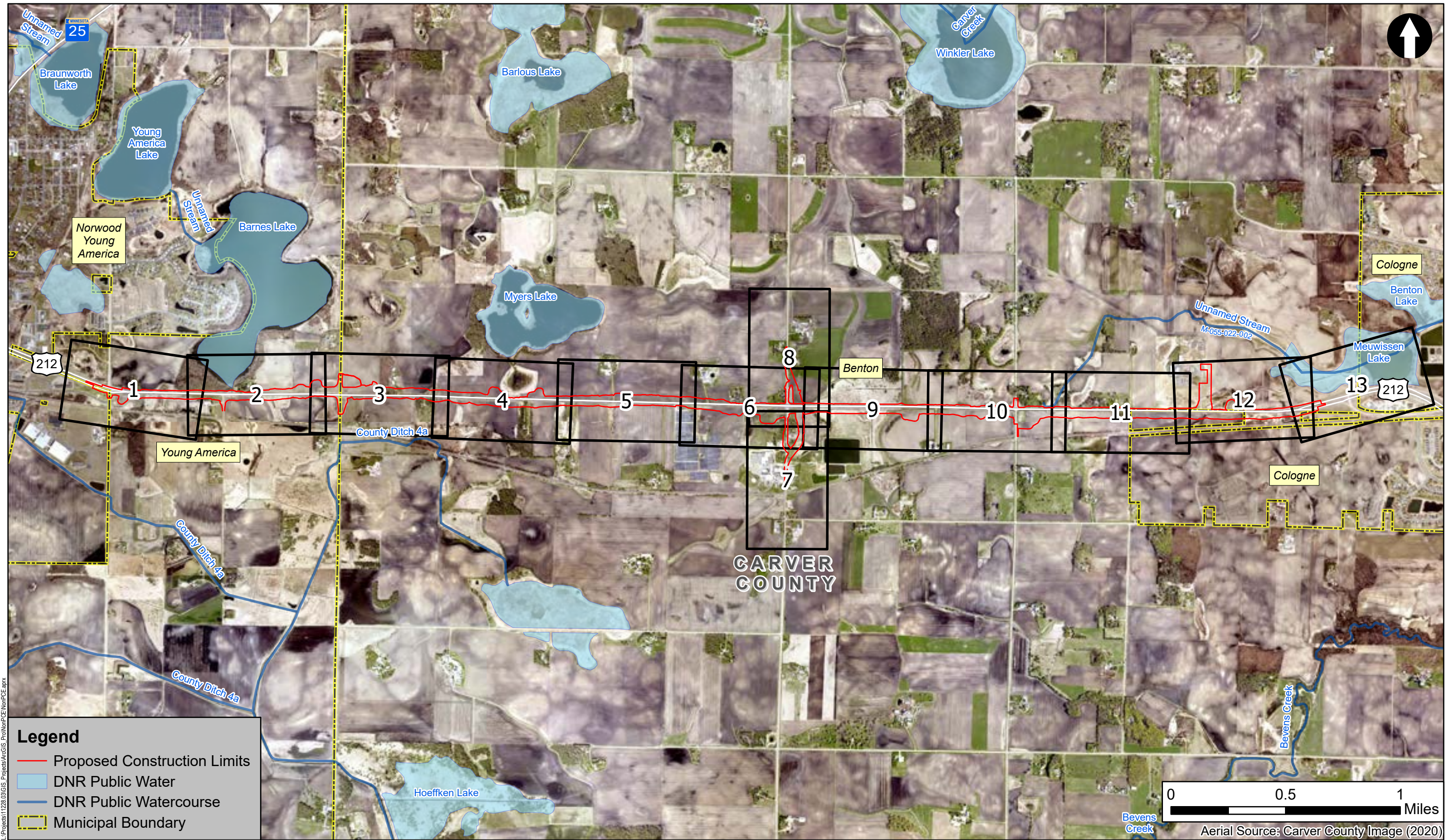
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**State Location Map**

U.S. Highway 212 - Benton Township Project  
Carver County

**Figure 1**





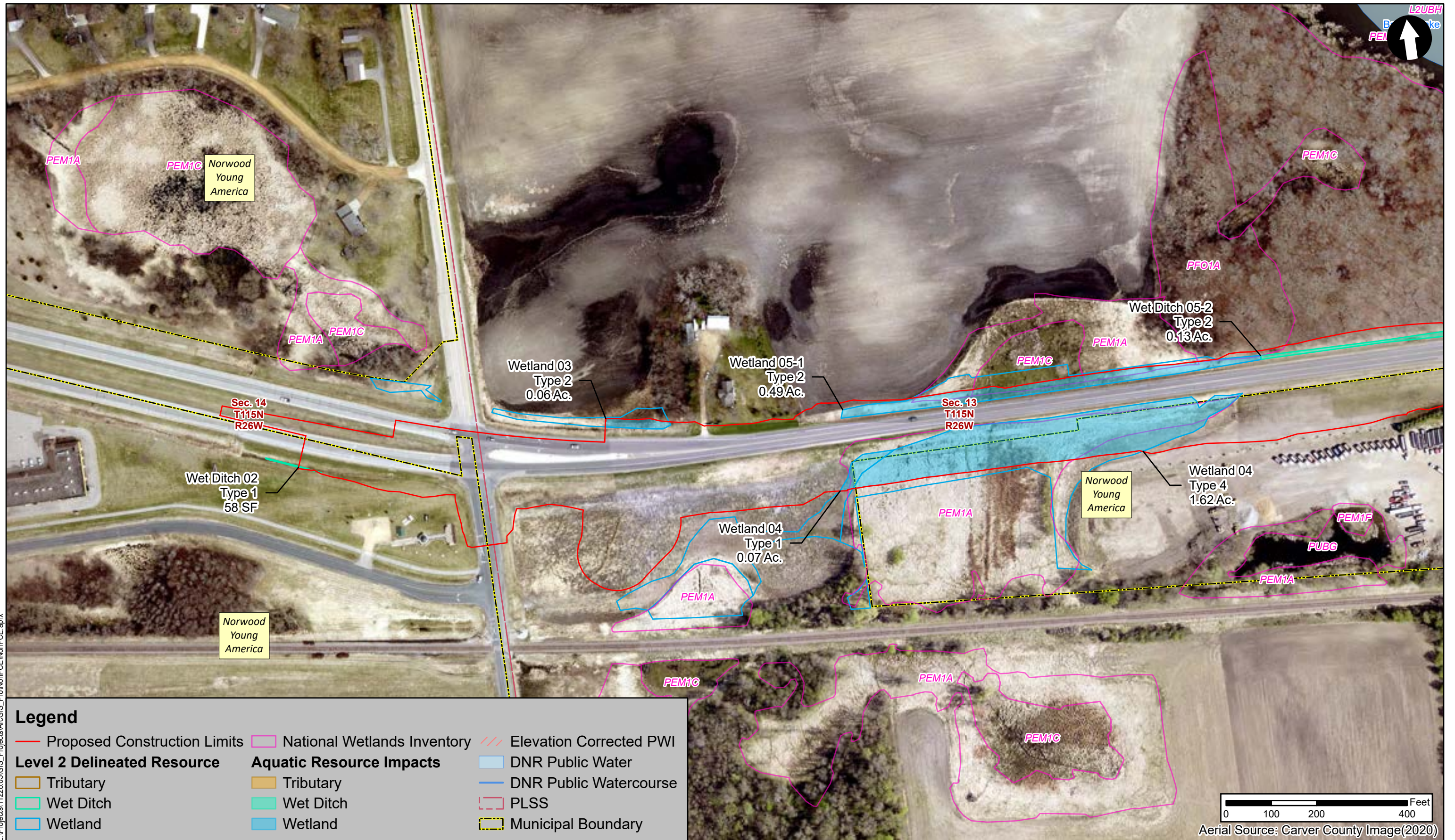
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**Project Area / Index Map**

U.S Highway 212 - Benton Township Project  
Carver County

**Figure 2**





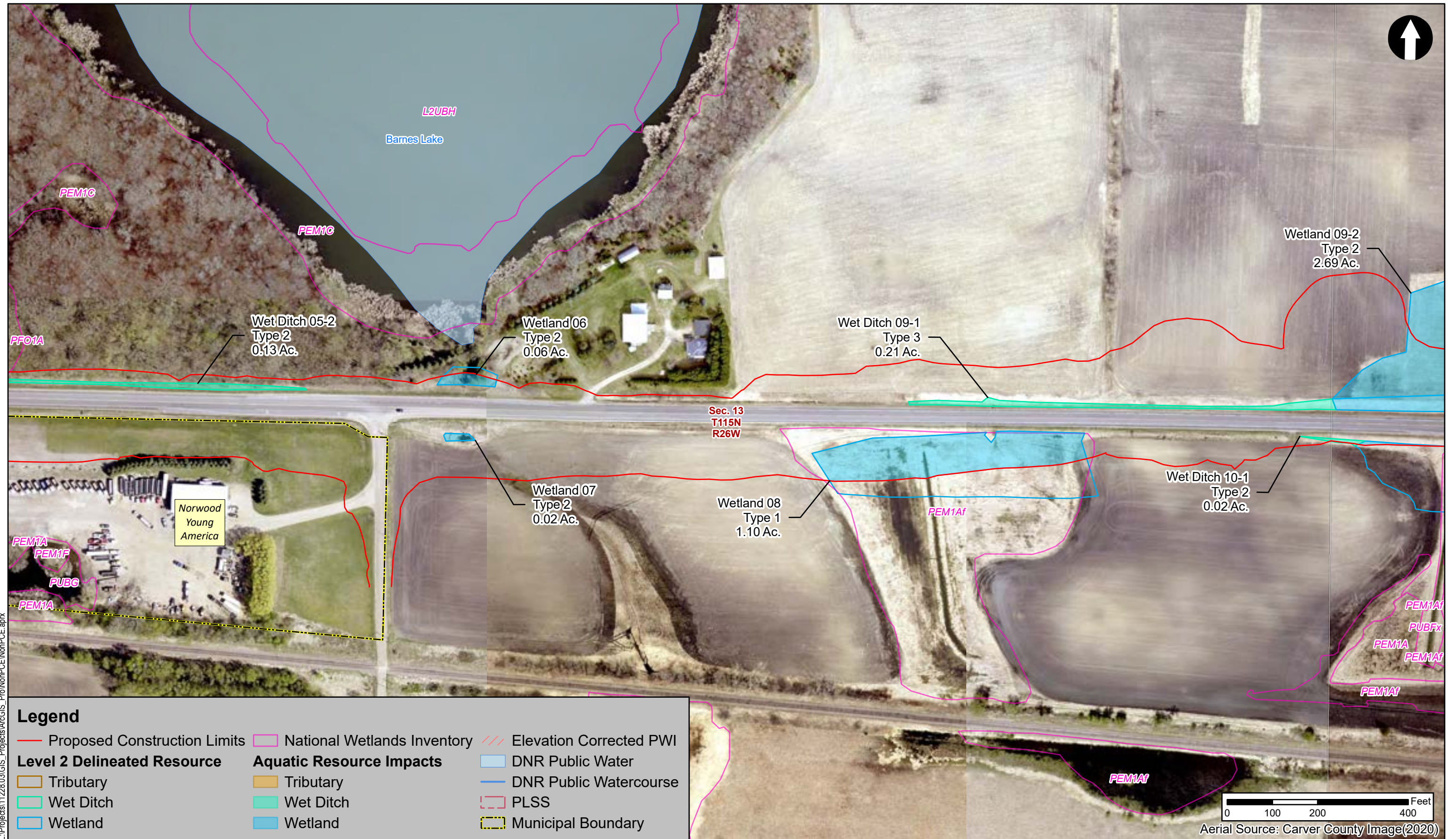
**Aquatic Resource Impacts**

U.S Highway 212 - Benton Township Project  
 Carver County

**Figure 3**  
 Sheet 1 of 13

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**Aquatic Resource Impacts**

U.S Highway 212 - Benton Township Project  
Carver County

**Figure 3**  
Sheet 2 of 13



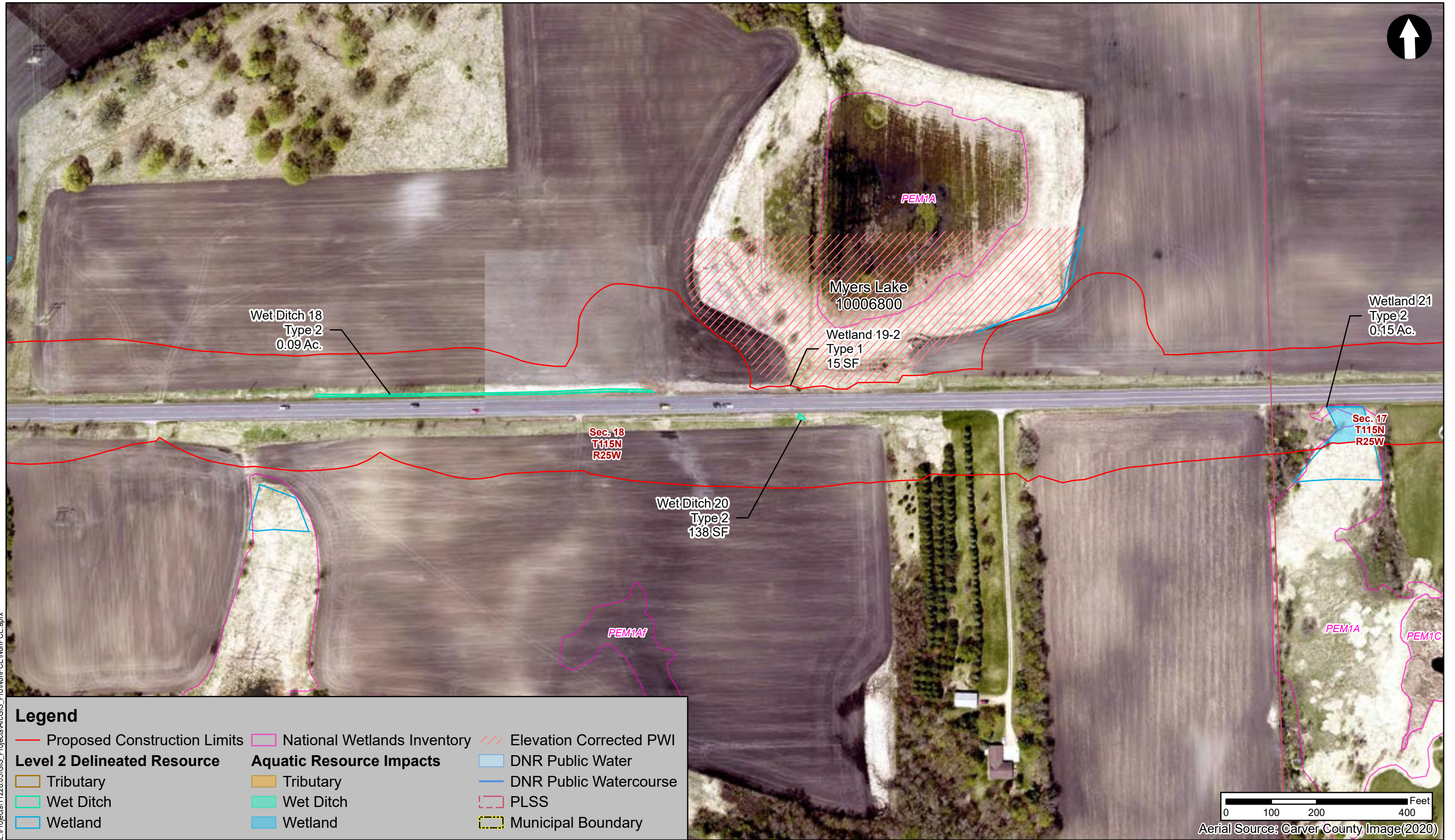


**Aquatic Resource Impacts**  
U.S Highway 212 - Benton Township Project  
Carver County

**Figure 3**  
Sheet 3 of 13

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**Aquatic Resource Impacts**

U.S Highway 212 - Benton Township Project  
Carver County

**Figure 3**





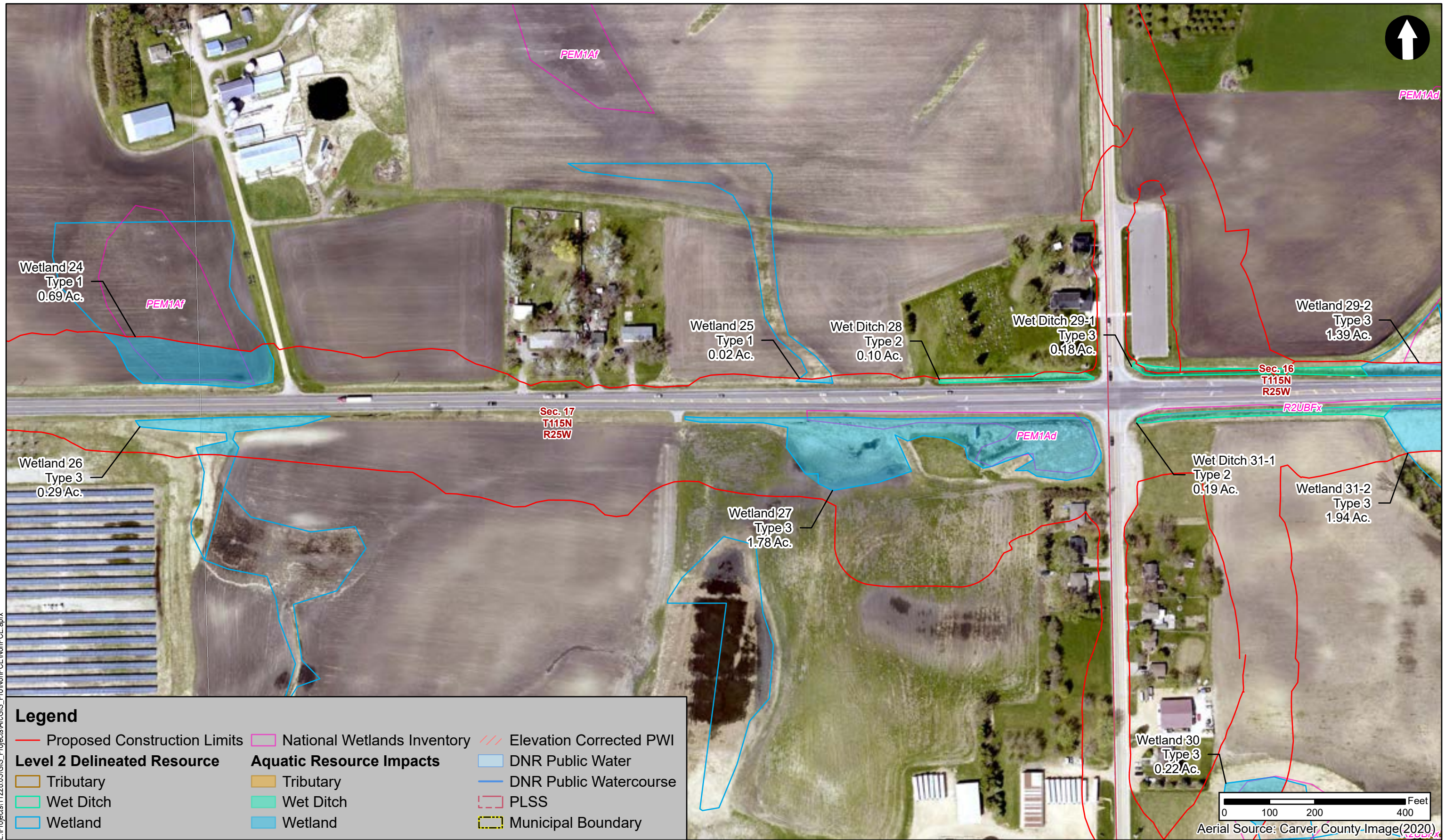
**Aquatic Resource Impacts**

U.S Highway 212 - Benton Township Project  
 Carver County

**Figure 3**  
 Sheet 5 of 13

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### Aquatic Resource Impacts

U.S Highway 212 - Benton Township Project  
Carver County

Figure 3



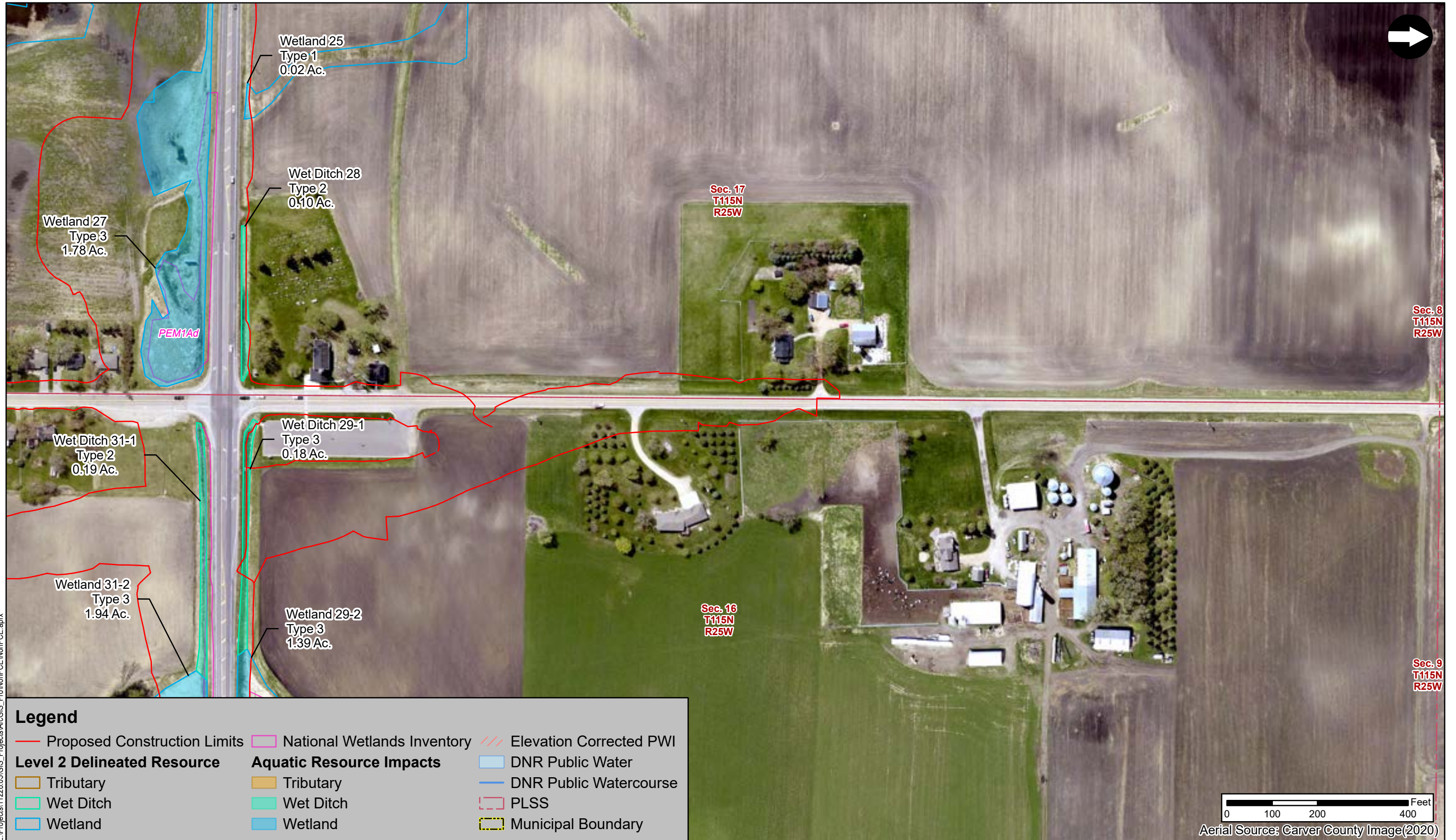


**Aquatic Resource Impacts**

U.S Highway 212 - Benton Township Project  
Carver County

**Figure 3**  
Sheet 7 of 13





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<b>Legend</b>		
— Proposed Construction Limits	— National Wetlands Inventory	— Elevation Corrected PWI
<b>Level 2 Delineated Resource</b>		
▭ Tributary	▭ Aquatic Resource Impacts	▭ DNR Public Water
▭ Wet Ditch	▭ Tributary	▭ DNR Public Watercourse
▭ Wetland	▭ Wet Ditch	▭ PLSS
	▭ Wetland	▭ Municipal Boundary

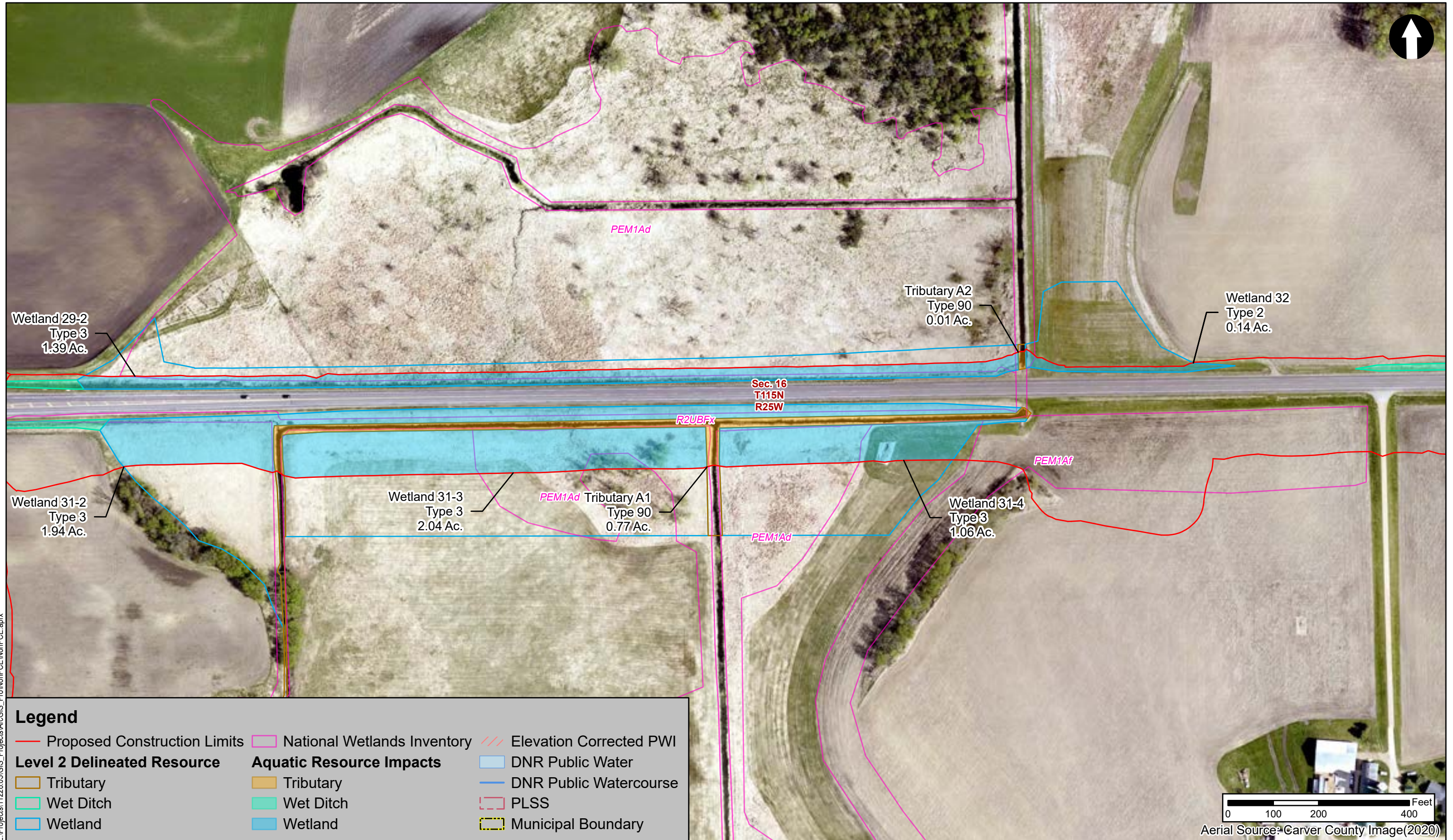
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Aerial Source: Carver County Image(2020)

**Aquatic Resource Impacts**

U.S Highway 212 - Benton Township Project  
Carver County

**Figure 3**  
Sheet 8 of 13





**Aquatic Resource Impacts**

U.S Highway 212 - Benton Township Project  
Carver County

**Figure 3**  
Sheet 9 of 13

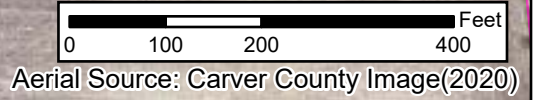
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**Legend**

— Proposed Construction Limits	— National Wetlands Inventory	— Elevation Corrected PWI
<b>Level 2 Delineated Resource</b>	<b>Aquatic Resource Impacts</b>	— DNR Public Water
— Tributary	— Tributary	— DNR Public Watercourse
— Wet Ditch	— Wet Ditch	— PLSS
— Wetland	— Wetland	— Municipal Boundary



**Aquatic Resource Impacts**

U.S Highway 212 - Benton Township Project  
Carver County

**Figure 3**  
Sheet 10 of 13

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### Aquatic Resource Impacts

U.S Highway 212 - Benton Township Project  
Carver County



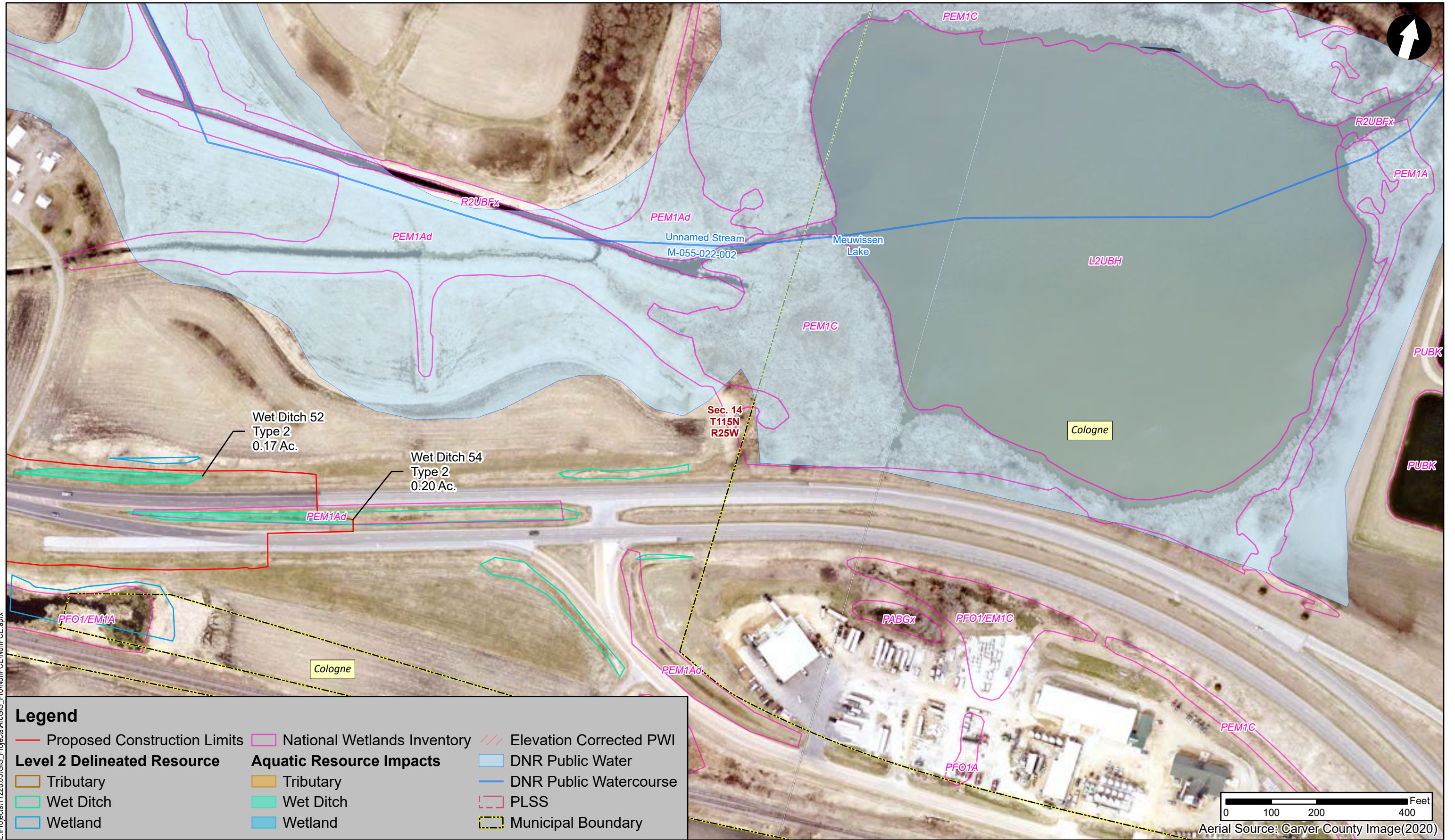


**Aquatic Resource Impacts**

U.S Highway 212 - Benton Township Project  
Carver County

**Figure 3**  
Sheet 12 of 13





**Aquatic Resource Impacts**

U.S Highway 212 - Benton Township Project  
Carver County

**Figure 3**  
Sheet 13 of 13



# Appendix D

## Agency Correspondence

1. DNR early notification response (January 30, 2023) with follow-up on April 12, 2023
2. MnDOT CMMT response (January 19, 2023)
3. MnDOT CRU letter to SHPO (February 9, 2023)
4. MnDOT CRU – Stender Farmstead, initial correspondence (September 16, 2021, and February 11, 2022)
5. MnDOT CRU letter to SHPO - Additional Information on Architecture-History Resources (April 17, 2023)
6. MnDOT Noise/Air Quality Program response (July 25, 2022)
7. MnDOT OES Section 7 Request for Concurrence email and letter (November 28, 2022)
8. MnDOT OES Section 7 - Northern Long-eared Bat Programmatic BO Likely to Adversely Affect Projects, Bulk / Programmatic ESA with attachment (April 19, 2023)
9. MnDOT OES vegetation review response (July 22, 2022)
10. MnDOT RMMT response (July 22, 2022)
11. Minnesota SHPO letter to CRU (March 8, 2023)
12. NRCS Farmland Impacts correspondence and Farmland Conversion Impact Rating (October 24, 2022)
13. USFWS response (December 6, 2022)
14. NHPA Section 106 Federal Findings Letter (will be added when available).



**From:** Fowler, Patty (DOT) <Patricia.Fowler@state.mn.us>  
**Sent:** Wednesday, April 12, 2023 1:17 PM  
**To:** Jana Guseynova  
**Cc:** Alicia Bock; Fowler, Patty (DOT)  
**Subject:** RE: DNR Comments on MnDOT Early Notification Memo for US212 Two-lane to Four-lane Roadway Expansion (SP1013-77) Carver County

**External Sender Warning:** This message was sent from an external sender. Do not click on any links or open any attachments unless you know and trust the sender.

Hi Jana,

Thank you for reminding me you are looking for follow up comments to DNR comments from January 30, 2023, below. The highlighted item from the original review was in error (likely a holdover from a different project review). I've confirmed this by revisiting the NHIS data for the project area.

Patty Fowler  
Transportation Hydrologist (DNR-MnDOT Liaison) | Division of Ecological & Water Resources

Minnesota Department of Natural Resources  
Office location: MnDOT Office of Environmental Stewardship  
1123 Mesaba Avenue  
Duluth MN 55811  
Cell Phone: 612-708-7732  
Email: [patricia.fowler@state.mn.us](mailto:patricia.fowler@state.mn.us)



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**From:** Jana Guseynova <[JGuseynova@srfconsulting.com](mailto:JGuseynova@srfconsulting.com)>  
**Sent:** Wednesday, April 12, 2023 9:26 AM  
**To:** Fowler, Patty (DOT) <[Patricia.Fowler@state.mn.us](mailto:Patricia.Fowler@state.mn.us)>  
**Cc:** Alicia Bock <[ABock@srfconsulting.com](mailto:ABock@srfconsulting.com)>  
**Subject:** FW: DNR Comments on MnDOT Early Notification Memo for US212 Two-lane to Four-lane Roadway Expansion (SP1013-77) Carver County  
**Importance:** High

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Hi Patty,

I'm following up on my email below. We reached out in February requesting information for state-listed rare species or species of special concern for SP 1013-77, the Hwy 212 Benton Township Project. Specific information for state-listed species was not included in your original review of this project, so we would like to confirm with you if for some reason they were not provided. We may still need information from you for the NEPA/MEPA documentation.

This is the extent of what we received in your original review (found below): **rare features have been documented within the search area, including state listed rare plants (one threatened species) and animal species.**

Can you please send us what those rare features are, and any mitigation measures the project should follow for state listed species?

Thank you.

**Jana Guseynova** (she/her)  
Environmental Planning Lead  
[SRF Consulting Group](#)  
Direct: 763.251.4041

---

**From:** Jana Guseynova  
**Sent:** Thursday, February 9, 2023 1:42 PM  
**To:** [Patricia.Fowler@state.mn.us](mailto:Patricia.Fowler@state.mn.us)  
**Cc:** Alicia Bock <[ABock@srfconsulting.com](mailto:ABock@srfconsulting.com)>  
**Subject:** FW: DNR Comments on MnDOT Early Notification Memo for US212 Two-lane to Four-lane Roadway Expansion (SP1013-77) Carver County  
**Importance:** High

Hi Patty,

SRF is leading the efforts with environmental documentation for this project. Brigid forwarded your recent ENM response to us, which is much appreciated. However, we have a couple of (hopefully) brief questions regarding the state-listed rare species in the project area, that are referenced below.

- Were the names of the state-listed rare species not provided below in order to keep their whereabouts protected?
- Are there any mitigation measures specifically related to those state-listed rare species that the project should follow?

Thank you.

**Jana Guseynova** (she/her)  
Environmental Planning Lead  
[SRF Consulting Group](#)  
Direct: 763.251.4041



---

**From:** Fowler, Patty (DOT) <[Patricia.Fowler@state.mn.us](mailto:Patricia.Fowler@state.mn.us)>  
**Sent:** Monday, January 30, 2023 7:49 AM  
**To:** Gombold, Brigid (DOT) <[brigid.gombold@state.mn.us](mailto:brigid.gombold@state.mn.us)>  
**Cc:** Smith, Christopher E (DOT) <[christopher.e.smith@state.mn.us](mailto:christopher.e.smith@state.mn.us)>; Drake, James F (DNR) <[James.F.Drake@state.mn.us](mailto:James.F.Drake@state.mn.us)>; DePaz, David (DNR) <[david.depaz@state.mn.us](mailto:david.depaz@state.mn.us)>; Collins, Melissa (DNR) <[Melissa.Collins@state.mn.us](mailto:Melissa.Collins@state.mn.us)>; Brown, Elizabeth A (DOT) <[elizabeth.a.brown@state.mn.us](mailto:elizabeth.a.brown@state.mn.us)>; Ellison, Daryl G (DNR) <[daryl.ellison@state.mn.us](mailto:daryl.ellison@state.mn.us)>; Strojny, Carol (DOT) <[Carol.Strojny@state.mn.us](mailto:Carol.Strojny@state.mn.us)>; Graeve, Kenneth M (DOT) <[kenneth.graeve@state.mn.us](mailto:kenneth.graeve@state.mn.us)>; Fowler, Patty (DOT) <[Patricia.Fowler@state.mn.us](mailto:Patricia.Fowler@state.mn.us)>  
**Subject:** DNR Comments on MnDOT Early Notification Memo for US212 Two-lane to Four-lane Roadway Expansion (SP1013-77) Carver County

Brigid,

This email is the DNR response for your project records. I have not sent this Early Notification Memo (ENM) out for full DNR review. As such, additional comments from DNR area managers may be received at a later date. The following comments are based on information provided in the submitted documents regarding expansion from the existing two-lane roadway to four-lane divided highway. This is a Carver County project to improve pavement conditions, vehicle safety, and vehicle mobility on Highway (Hwy) 212 between CSAH 34 and CSAH 36 in Carver County. As indicated in your review request, the project will go through an Environmental Assessment Worksheet review potentially in spring 2023. No DNR public water bridge or culvert crossing work is proposed/known as this time. The Natural Heritage Information System (NHIS) database has been reviewed, though in order to prevent the inadvertent release of a rare features location, full details are not provided. Comments on potential impacts to rare features listed in the NHIS comments are below. Please incorporate the following comments into final designs and special provisions as they are developed:

1. The MnDOT structures in or near DNR Public Waters are located at:
  - Barnes Lake (Basin ID 10010900) the basin outlets to the south under the current TH212 roadway – work unknow
  - Myers Lake (Basin ID 10006800) – work unknown
  - Meuwissen Lake (Basin ID 10007000) – work unknown
  - Unnamed Stream between RP 136 & 137 – work unknown
2. If the project includes culvert repairs, replacements or other work. Please take appropriate erosion control and sediment prevention measures in areas that drain to public waters referenced in Item # 1 above. Should plans change to include work in public waters, please contact me as further review will be required regarding the need for a DNR water permit.
3. Consideration for changes to geometry of roadway including alignment, footprint, or the addition of lanes or other impacts will require demonstrated measures to avoid or minimize fill impacts to DNR public waters. We generally prohibit fill in public waters, though may authorize minimal amounts, if justified though alternatives analysis, environment assessment, and project purpose and need. For justified impacts DNR will require a mitigation package that is of equal or greater public value. DNR would give priority to mitigation items on-site and in-kind and may include onsite replacement or enhancement measures, work elsewhere in the project area (such as at nearby DNR Management Areas) or off-site locations within the same watershed.

4. Please be aware that the **MPCA NPDES general permit** for authorization to discharge stormwater associated with construction activities (permit MN R10001) recognizes the DNR “work in water restrictions” during specified fish migration and spawning time frames for areas adjacent to water. During the restriction period, all exposed soil areas that are within 200 feet of the water’s edge and drain to these waters, must have erosion prevention stabilization activities initiated immediately after soil disturbing activity has ceased, be completed within 24 hours, and maintained for the duration.
5. Please remind contractors that a separate DNR water use permit is required if the projects construction will require the use of more than 10,000 gallons of water per day or 1 million gallons per year from any surface water or ground water. GP1997-0005 (temporary water appropriations) covers a variety of activities associated with road construction and should be applied if applicable, such as transferring water to a different waterbody (groundwater to surface water or from one pond to another), or pumping surface water for use as dust control. Typically, temporary stream diversions do not require a separate appropriations permit if there is a separate Public Waters permit for the project and diversion plans are approved through the construction method approval process. Be aware an **individual appropriations permit may be required** in areas where trout streams, calcareous fens, or other significant environmental resources may be adversely impacted. An additional Infested Water Diversion or Transportation Permit may be required if the project will pump water. Also, an individual appropriations permit may be required for projects lasting longer than one year or exceeding 50 million gallons. Information is located at: [http://www.dnr.state.mn.us/waters/watermgmt\\_section/appropriations/permits.html](http://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/permits.html)
6. All Public Waters should be identified as an ‘Area of Environmental Sensitivity’ on plans. This designation assures special protection during construction though your Standard Specifications for Construction #1717 (Air, Land, and Water Pollution), #2573.3 (A.3 stage the work to minimize sediment entering these AES areas) & use native vegetation per your vegetation establishment recommendations, as well as approved standards for temporary erosion control due to potential for impacts to small animals and concern for plastics to enter DNR public waters. See attached guidance.
7. The Minnesota Natural Heritage Information System (NHIS) has been queried to determine if any rare plant or animal species, native plant communities, or other significant natural features are known to occur within an approximate one-mile radius of the project area. **Based on this query, rare features have been documented within the search area, including state listed rare plants (one threatened species) and animal species. For details or questions, please contact me. Please note that the following rare feature may be impacted by the proposed project:**
  - a. Coordinate with MnDOT Wildlife Ecologist Chris Smith at 612-741-7678 or [christopher.e.smith@state.mn.us](mailto:christopher.e.smith@state.mn.us) regarding protection measures or enhancement opportunities measures for these species:
    - i. The Natural Heritage Information System (NHIS) tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. All seven of Minnesota’s bats, including the federally threatened northern long-eared bat (*Myotis septentrionalis*), can be found throughout Minnesota. Tree removal can negatively impact bats by destroying roosting



habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, the DNR recommends that tree removal be avoided during the months of June and July.

- ii. Being that these are also federally protected species. We rely on MnDOT's Wildlife Ecologist; Chris Smith, as he is your contact for avoidance measures or enhancement opportunities relating to federally listed species. Should active nests or roosting bats be encountered on the project, contact Chris. He is located in MnDOT Office of Environmental Stewardship (ph; 612-741-7678 ). He must be consulted for specific guidance and coordination with DNR and U.S. Fish and Wildlife Service.
- iii. We are aware of deer crossing issues to the east and west of this project reach. Are actions being considered for animal collisions within the project reach, as far as possible modifications to Right of Way fencing and/or modifications in the area?

The Natural Heritage Information System (NHIS) is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. If information becomes available indicating additional listed species or other rare features, further review may be necessary.

8. There are several basins having a 1% floodplain - unnumbered A Zones - within the project area. MnDOT design should be aware of these models and meet floodplain reporting requirements per the [MN DNR LOMC Guide \(state.mn.us\)](http://state.mn.us) . Please contact you districts representation to review design options for compliance with FEMA and local ordinance requirements due to roadway widening and other potential improvements.

This ENM has not been circulated to DNR field staff for comment. I will let you know if any additional comments on design requirements are returned to me due to this email.

DNR folks, if I've missed anything, or have any suggestions for MnDOT to consider, please respond to Brigid Gombold, and myself.

Patty Fowler

Transportation Hydrologist (DNR-MnDOT Liaison) | Division of Ecological & Water Resources

Minnesota Department of Natural Resources  
Office location: MnDOT Office of Environmental Stewardship  
1123 Mesaba Avenue  
Duluth MN 55811  
Cell Phone: 612-708-7732  
Email: [patricia.fowler@state.mn.us](mailto:patricia.fowler@state.mn.us)



# Protection Measures for Areas of Environmental Sensitivity (AES)

An Area of Environmental Sensitivity (AES) is a generic term to be utilized on plans to identify an area as containing unique characteristics that needs specific protection during construction. These areas may be any area that is identified for added protection due to habitat, wildlife, cultural resources/properties, ecological significance, geological features, visual quality, or its sensitivity to disturbance.

Areas identified on plans as an AES shall not be disturbed during construction. Commonly the actual area to be protected is adjacent to the right of way corridor and the AES identifier is utilized as a buffer. The concern is that soil disturbance, incidental herbicide exposure, hydrologic alterations, tree disturbance, competition from non-native, sod-forming grasses, introduction of weed seeds, or shading by encroaching shrubs can all lead to degradation of these sites.

MnDOT projects must adhere to processes and application of measures consistent with, but limited to, the MnDOT Highway Project Development Process Handbook (HPDP), 2014 Standard Specifications For Construction; Section 2572 (Protection and Restoration of Vegetation), and Section 2101 (Clearing and Grubbing), of which key aspects are listed below:

## Examples of an Area of Environmental Sensitivity:

Not all Areas of Environmental Sensitivity (AES) are equal. Many may have stringent levels of regulatory protection on their own, such as Threatened and Endangered Species. However, identifying a site as an AES is to be considered as a generic stay out of the area for construction purposes and does not relate to the real life reason for the designation.

Typical examples are:

- Wetlands that are not permitted for construction activities.
- Open Water (such as DNR Public Waters, and other perennial streams and waterbodies)
- Trout Lakes and Streams along with their source springs.
- Calcareous Fens. These are identified in native plant communities' though due to their unique relationships with groundwater. Impacts to groundwater may also require separate analysis and protection.
- Impaired waters, Special Waters, and/or Outstanding Resource Value Waters (ORVW) as designated by the MPCA. <http://pca-gis02.pca.state.mn.us/CSW/index.html>.
- Wooded areas with Specimen Trees, or other permanent vegetation designated for preservation.
- Prairie remnants, including but not limited to areas adjacent to Railroad Rights-of-way Prairies.
- Sites of Biodiversity Significance' areas designated by the DNR Biological Survey. These sites contain varying levels of native biodiversity such as high quality Native Plant Communities', rare plants, rare animals, and/or animal aggregations. [http://www.dnr.state.mn.us/eco/mcbs/biodiversity\\_guidelines.html](http://www.dnr.state.mn.us/eco/mcbs/biodiversity_guidelines.html).
- Native Plant Community' areas designated by the DNR Biological Survey. Native plant communities are classified and described by considering vegetation hydrology landforms soils and natural disturbance regimes <http://www.dnr.state.mn.us/npc/index.html>.
- Federal or State listed species, and their habitat.
- Historical sites
- Any natural scenic elements, such as geological features not to be disturbed as designated by project planners, project managers, or project inspectors

## Best Practices:

1. Design the project to avoid impacts to identified Area of Environmental Sensitivity.
2. Design and construction should incorporate protection and/or enhancement of adjacent AES features.
3. Label identified Areas of Environmental Sensitivity on all plans.
4. Drainage into Areas of Environmental Sensitivity may also have limitations on impacts.

## In situations where work in or adjacent to an AES is authorized:

1. Prior to in-water work in an AES, check to see if a Mussel Survey is required.
2. Protect and preserve vegetation from damage in accordance with MnDOT Spec 2572.3
3. Prohibit vehicle and construction activities, including the location of field offices, storage of equipment and other supplies at least 25 feet outside the dripline of trees or other identified Area of Environmental Sensitivity to be preserved, also in accordance with MnDOT spec 2572.3
4. In areas where there are large or numerous separate areas to protect, it may be preferred to identify those areas that are OK to be utilized, and have all other areas designated off limits for parking, staging, and/or stockpiling of materials.



5. Walk the perimeter of a sensitive area with the grading foreman so that all personnel understand and agree on the hard edge of the sensitive area.
6. Redundant sediment/erosion control Best Management Practices (BMP's) may be required for protection of areas of environmental sensitivity.
7. Revegetate disturbed soils with native species suitable to the local habitat. Revegetation plans may include woody vegetation (trees and shrubs) in addition to grasses and/or forbs.
8. Coordinate with MnDOT Office of Environmental Stewardship and/or the DNR if an Area of Environmental sensitivity is accidentally disturbed or damaged.
9. Relocate plants if harm is unavoidable (see Information on Transplanting Wildflowers and Other Plants).

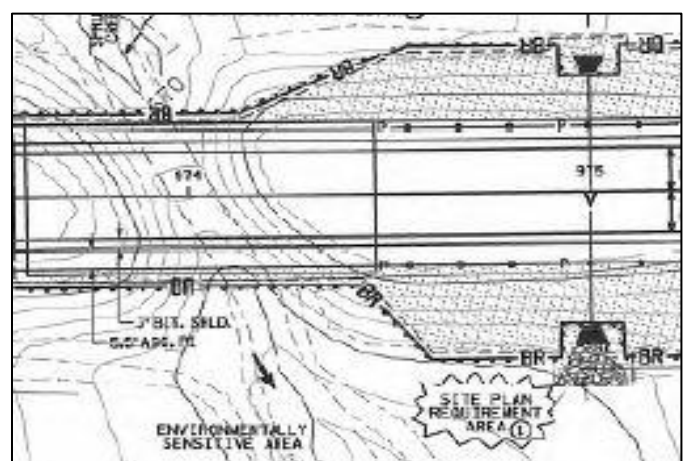
**For more information:**

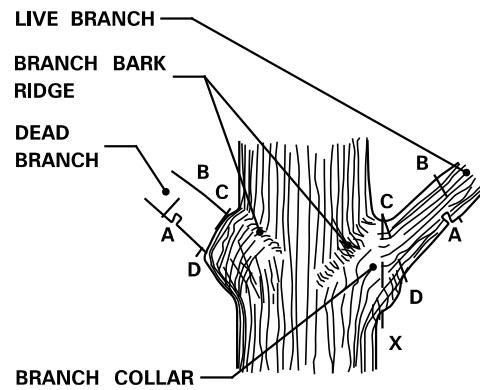
MnDOT Highway Project Development Process (HPDP): <http://www.dot.state.mn.us/planning/hpdp/environment.html>

MnDOT 2014 Standard specifications: <http://www.dot.state.mn.us/pre-letting/spec/>

DNR Sites of Biodiversity Significance: [http://www.dnr.state.mn.us/eco/mcbs/biodiversity\\_guidelines.html](http://www.dnr.state.mn.us/eco/mcbs/biodiversity_guidelines.html)

DNR Rare Species Guide: <http://www.dnr.state.mn.us/rsg/index.html>



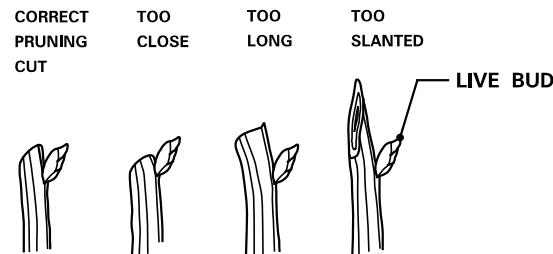


- STEPS TO PRUNING WITH PRUNING SAW:**
1. CUT PART WAY THROUGH THE BRANCH AT POINT A.
  2. CUT COMPLETELY THROUGH BRANCH FROM POINT B TO A.
  3. AT BRANCH COLLAR CUT FROM POINT C TO D.

INCORRECT CUT FROM POINT C TO X (TOO CLOSE) WILL RESULT IN DISCONTINUOUS CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

CORRECT CUT FROM POINT C TO D (LEAVING BRANCH COLLAR BUT NOT THE STUB FROM POINT B TO A) WILL RESULT IN CONTINUOUS DOUGHNUT SHAPED CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

**BRANCHES PRUNED AT TRUNK**  
(SHIGO METHOD)

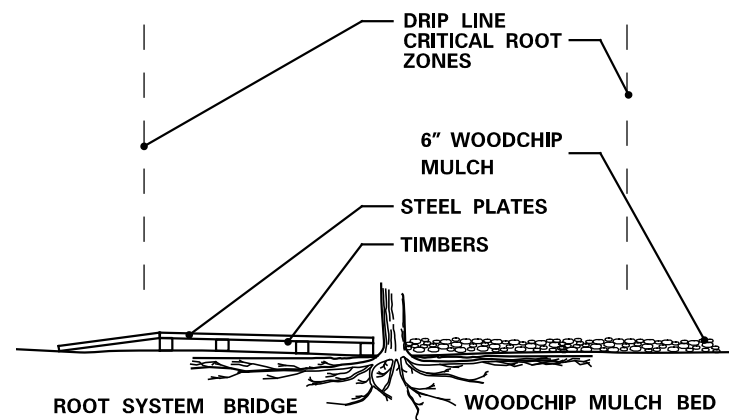


- PRUNING NOTES:**
1. PRUNE USING CLEAN AND SHARP SCISSOR-TYPE PRUNER OR PRUNING SAW.
  2. THE BEST TIME TO PRUNE IS LATE DORMANT SEASON OR EARLY SPRING.
  3. AVOID PRUNING OAKS IN APRIL, MAY, JUNE OR JULY.
  4. IF PRUNING IS NECESSARY OR IF WOUNDS OCCUR TO OAK TREES IN APRIL, MAY, JUNE OR JULY, IMMEDIATELY PAINT CUT SURFACE OR WOUND WITH LATEX PAINT OR SHELLAC.

**BRANCHES PRUNED TO LIVE BUD**

**PRUNING**

(MnDOT 2571.3K2a9 and 2571.3E1)

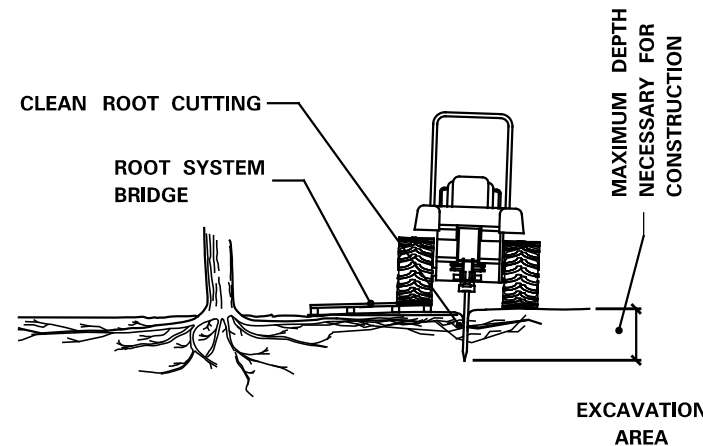


IF CONSTRUCTION VEHICLES MUST PASS OVER ROOT ZONES, THE CONTRACTOR MUST EITHER:

1. CONSTRUCT ROOT SYSTEM BRIDGES WITH STEEL PLATE SUPPORTED ON WOOD TIMBERS PLACED RADIALLY TO THE TREE TRUNK.
- OR
2. PLACE A 6 INCH LAYER OF WOODCHIP MULCH OVER A TYPE III GEOTEXTILE (MnDOT 3733).

**OTHER VEGETATION PROTECTION MEASURES**

(MnDOT 2572.3A12)



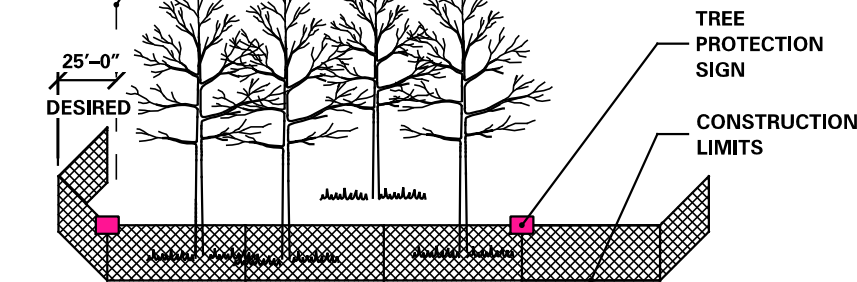
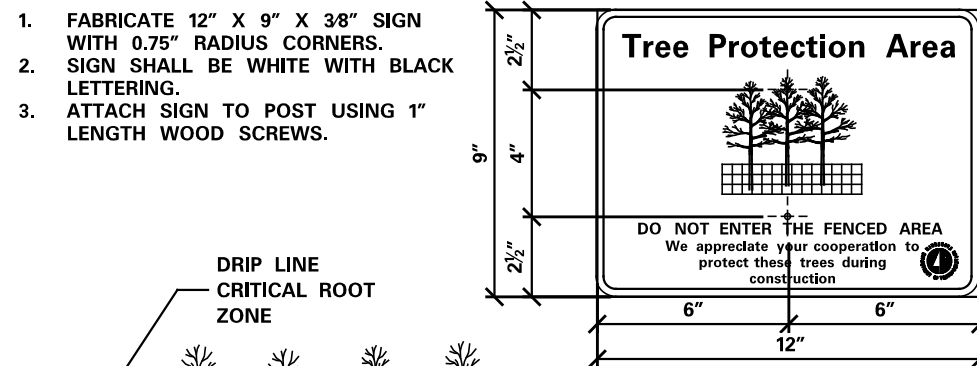
1. WHEN DESIGNATED IN THE PLAN OR DIRECTED BY THE ENGINEER, PRIOR TO EXCAVATION, ALL TREE ROOTS WILL BE CLEANLY CUT BY A VIBRATORY PLOW OR OTHER APPROVED ROOT CUTTER.
2. THE TREE ROOTS WILL BE CUT CLEANLY TO THE MAXIMUM DEPTH NECESSARY FOR CONSTRUCTION.
3. IMMEDIATELY, AND CLEANLY CUT DAMAGED AND EXPOSED ROOTS.
4. ROOT ENDS EXPOSED BY EXCAVATION ACTIVITIES SHALL BE IMMEDIATELY COVERED WITH A 6" LAYER OF ADJACENT SOIL.

**CLEAN ROOT CUTTING**

(MnDOT 2572.3A2)

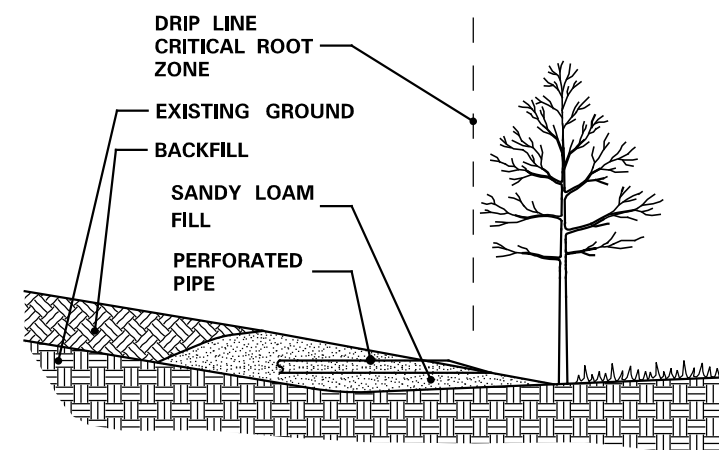
**TEMPORARY FENCE**

(MnDOT 2572.3A1)



1. FURNISH AND INSTALL TEMPORARY FENCE AT THE TREE'S DRIPLINE OR CONSTRUCTION LIMITS AS SPECIFIED, PRIOR TO ANY CONSTRUCTION.
2. WHEN POSSIBLE PLACE FENCE 25 FEET BEYOND THE DRIPLINE.
3. PLACE TREE PROTECTION SIGNS ALONG FENCE AT 50' INTERVALS.

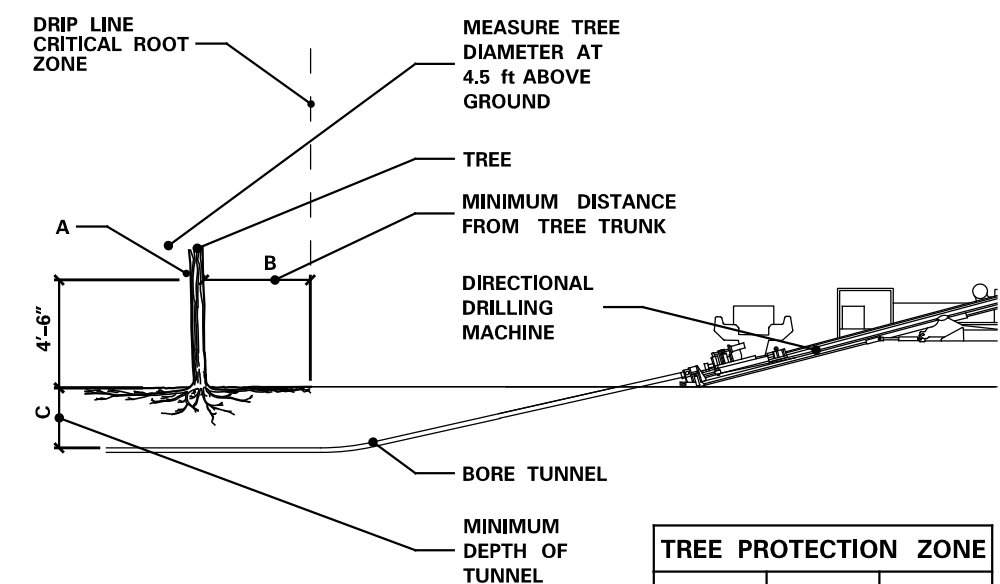
**TEMPORARY FENCE**



1. ANY FILL REQUIRED WITHIN THE DRIPLINE OF TREES, IS UNCOMPACTED SANDY LOAM TOPSOIL (WITH A COARSE SAND COMPONENT).
2. EXCESSIVE FILL MAY REQUIRE INSTALLING PERFORATED PIPE WITH AT LEAST ONE DAYLIGHTED END OPENING AS AN AERATION SYSTEM.

**SANDY LOAM TOPSOIL**

(MnDOT 2572.3A4)



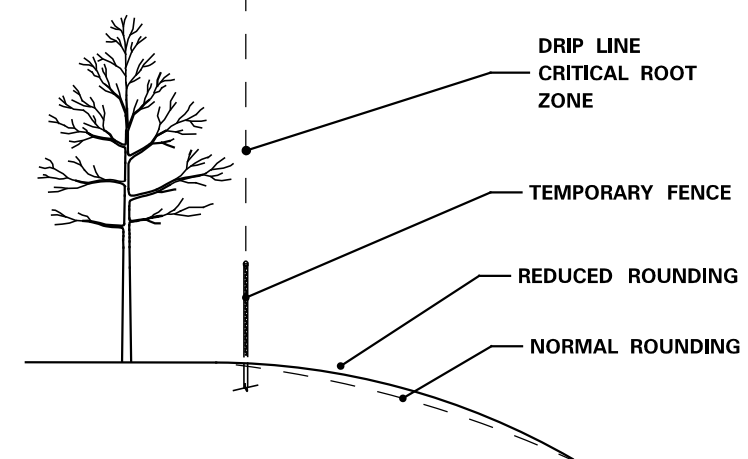
NOTE:

1. (A) IS THE DIAMETER OF TREES MEASURED 4-6 FEET ABOVE THE GROUND AND IS TERMED THE "DIAMETER AT BREAST HEIGHT," (DBH).
2. USING A TREE DIAMETER TAPE, WRAP THE TAPE AROUND THE GIRTH OF THE TREE, AT THE DBH, BEING CAREFUL NOT TO TWIST THE TAPE.

TREE PROTECTION ZONE		
A	B	C
< 2"	2'	2'
2-4"	4'	2.5'
> 4-9"	6'	2.5'
> 9-14"	10'	3'
> 14-19"	12'	3.25'
> 19"	15'	4'

**UTILITY CONSTRUCTION**

(MnDOT 2572.3A5)



SIGNIFICANT TREES NEAR THE PROPOSED CONSTRUCTION LIMITS WILL BE IDENTIFIED IN THE PLAN OR BY THE ENGINEER AND WILL BE PRESERVED BY THE CONTRACTOR.

1. PLACE THE TEMPORARY FENCE.
2. REDUCE SLOPE ROUNDING WHERE ROOT ZONES ARE DISTURBED BY NORMAL SLOPE ROUNDING.
3. VARY BACKSLOPE STEEPNESS TO AVOID TREE LOSS OR UNNECESSARY ROOT DAMAGE.

**SLOPE ROUNDING**

DATE PRINTED:  
JANUARY / 01 / 2013

PROJECT MANAGER  
DAVID LARSON

DRAWN BY  
OFFICE OF ENVIRONMENTAL STEWARDSHIP



STATE OF MINNESOTA  
DEPARTMENT OF TRANSPORTATION  
OFFICE OF ENVIRONMENTAL STEWARDSHIP  
ENV. PLANNING AND DESIGN UNIT  
TRANSPORTATION BUILDING  
ST. PAUL, MINNESOTA 55155-1899

**PROTECTION AND RESTORATION OF VEGETATION**

STATE PROJECT 9210-99

(T.H. 60)

SHEET NO. 100 OF XX SHEETS



## Brett Danner

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**From:** Gombold, Brigid (DOT) <brigid.gombold@state.mn.us>  
**Sent:** Thursday, January 19, 2023 4:00 PM  
**To:** Brett Danner  
**Subject:** FW: ENM Review for US212 SP:1013-77 Benton Township Carver County Reply By 8/8/2022

FYI

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**From:** Berger, John (DOT) <John.Berger@state.mn.us>  
**Sent:** Thursday, January 19, 2023 3:56 PM  
**To:** Gombold, Brigid (DOT) <brigid.gombold@state.mn.us>  
**Cc:** Langenbach, Diane (DOT) <diane.langenbach@state.mn.us>  
**Subject:** RE: ENM Review for US212 SP:1013-77 Benton Township Carver County Reply By 8/8/2022

Hey Brigid,

I thought I had sent this out! I apologize.

ENM response below. Phase I, Phase II requested. Let me know if there are any questions.

The Contaminated Materials Management Team (CMMT) reviewed the Minnesota Pollution Control Agency (MPCA) and Minnesota Department of Agriculture (MDA) databases to check for known contaminated sites in the project area. The databases searched included: leaking underground storage tank facilities, landfills, salvage yards, voluntary investigation and cleanup (VIC) sites, Superfund sites and dump sites. A review of these MPCA files is a component of a Phase I Environmental Site Assessment (Phase I ESA). A complete Phase I ESA includes at least two other components: research on historic land use, and site reconnaissance. It should be noted that the MPCA database files are continually being updated. Although this information is the most up-to-date available, some of the information may be incomplete or inaccurate. There is also a possibility that undiscovered contaminated and/or regulated materials exist in the project area.

Based on the database review, multiple leaking underground storage tank sites and former MDA spill sites are located within approximately 500 feet of the project area.

Given the nature and location of the project area, and based on the HPDP threshold criteria as summarized below, this project has a medium risk of impacting potentially contaminated sites. Therefore, additional evaluation of the project area for potential contamination is necessary:

1. The project involves acquisition of right-of-way. **Because right-of-way acquisition is proposed, please provide pertinent information by completing the EDD-1 form in REALMS. If, based on the project specifics, the EDD forms do not need to be completed, please notify the CMMT.**
2. Project excavation and grading are fairly extensive for construction activities, including the intersection improvements, bridge overpass, and stormwater ponds. This increases the chances of encountering contaminants that may have originated from an off-site source and migrated into the right of way.
3. The project is in a rural, minimally developed area. This decreases the chances of encountering contaminants that may have originated from an off-site source and migrated into the right of way.

4. The project may require groundwater dewatering.

**A Phase I Environmental Site Assessment and Drilling Investigation need to be completed for this project.** Please provide all excavation locations and depths as the areas are finalized. They will be re-evaluated as we obtain the information.

If new information obtained indicates the project may be impacted by a contaminated site, the project will be evaluated, and soil and groundwater testing completed, as appropriate. If necessary, a plan will be developed for properly handling and treating contaminated soil and/or groundwater during construction in accordance with all applicable state and federal requirements.

Based on our review of the Early Notification Memo and subsequent additional evaluations noted above and MnDOT's commitment to implementation of any necessary management of contaminated materials during construction, the project will not have a high risk of causing direct or indirect impacts to human health or sensitive environmental resources due to encountering contaminated materials.

**John Berger, PG, CHMM**

Hydrogeologist

**\*\*Work cell: 651-508-3469\*\***

[John.Berger@state.mn.us](mailto:John.Berger@state.mn.us)

---

**From:** Gombold, Brigid (DOT) <[brigid.gombold@state.mn.us](mailto:brigid.gombold@state.mn.us)>

**Sent:** Thursday, January 19, 2023 2:13 PM

**To:** Berger, John (DOT) <[John.Berger@state.mn.us](mailto:John.Berger@state.mn.us)>

**Cc:** Langenbach, Diane (DOT) <[diane.langenbach@state.mn.us](mailto:diane.langenbach@state.mn.us)>

**Subject:** FW: ENM Review for US212 SP:1013-77 Benton Township Carver County Reply By 8/8/2022

Hi John

I don't think I received your ENM response on this one. If you can send that to me and I'll pass this on to the consultant.

Thanks Brigid

*Brigid Gombold*

MnDOT – Metro District

Environmental Documentation Supervisor

1500 County Road B2

Roseville, MN 55112

[Brigid.gombold@state.mn.us](mailto:Brigid.gombold@state.mn.us)

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**From:** Gombold, Brigid (DOT)

**Sent:** Thursday, July 7, 2022 11:31 AM

**To:** Fowler, Patty (DOT) <[Patricia.Fowler@state.mn.us](mailto:Patricia.Fowler@state.mn.us)>; MN\_DOT\_Protected Species

<[protectedspecies.dot@state.mn.us](mailto:protectedspecies.dot@state.mn.us)>; MN\_DOT\_CulturalResources <[CulturalResources.dot@state.mn.us](mailto:CulturalResources.dot@state.mn.us)>; Berger, John

(DOT) <[John.Berger@state.mn.us](mailto:John.Berger@state.mn.us)>; Swanson, Victoria (DOT) <[Victoria.Swanson@state.mn.us](mailto:Victoria.Swanson@state.mn.us)>; Shekur, Hailu (DOT)

<[hailu.shekur@state.mn.us](mailto:hailu.shekur@state.mn.us)>; Ries, Natalie (DOT) <[natalie.ries@state.mn.us](mailto:natalie.ries@state.mn.us)>; Voigt, Paul (DOT)

<[paul.voigt@state.mn.us](mailto:paul.voigt@state.mn.us)>; Milkert, Anjani (DOT) <[minnie.milkert@state.mn.us](mailto:minnie.milkert@state.mn.us)>

**Cc:** Langenbach, Diane (DOT) <[diane.langenbach@state.mn.us](mailto:diane.langenbach@state.mn.us)>; Darin Mielke <[dmielke@co.carver.mn.us](mailto:dmielke@co.carver.mn.us)>; Craig Hass

<[chass@srfconsulting.com](mailto:chass@srfconsulting.com)>; Alex Yellick <[AYellick@srfconsulting.com](mailto:AYellick@srfconsulting.com)>; Jacobson, Nani (DOT)

<[Nani.Jacobson@state.mn.us](mailto:Nani.Jacobson@state.mn.us)>; Kobilarcsik, Curt (DOT) <[Curt.Kobilarcsik@state.mn.us](mailto:Curt.Kobilarcsik@state.mn.us)>; Brown, Colleen (DOT)



<colleen.brown@state.mn.us>; 'bdanner@srfconsulting.com' <bdanner@srfconsulting.com>

**Subject:** ENM Review for US212 SP:1013-77 Benton Township Carver County Reply By 8/8/2022

Hi Reviewers,

Carver County has a new project on US212 that will expand the highway from two lanes to four lanes in Benson Township which they will be letting in 2024. The Environmental Documentation is going through the OES/Trunk Highway side of MnDOT and the Design will go through State Aid. This Early Notification Memo notice is being sent to you by Metro's Environmental Documentation staff to coordinate review of the project for the NonPCE and EAW that will be required for documentation. The project received the following funding sources: Federal (\$23.5M) & State (\$31.1M) & County (\$4.5M)

The ENM can be downloaded at the following link:

External:

[https://edocs-public.dot.state.mn.us/edocs\\_public/DMResultSet/download?docId=19288165](https://edocs-public.dot.state.mn.us/edocs_public/DMResultSet/download?docId=19288165)

Some of you are just an FYI, as you will be involved later in design (Water Resources and ROW)

Please respond by: **8/8/2022**

Let me know if you have any questions.

Thank you,

Brigid

Brigid Gombold

Environmental Documentation Supervisor

1500 CR B2

Roseville, MN 55112



Cultural Resources Unit, Environmental Stewardship  
395 John Ireland Boulevard, Mail Stop 620  
Saint Paul, MN 55155-1800

February 9, 2023

Nicole Foss, Environmental Review Transportation Liaison  
Minnesota State Historic Preservation Office  
Administration Building #203  
50 Sherburne Avenue  
Saint Paul, MN 55155

Re: Reconstruction of TH 212 from Norwood Young America to Cologne (SP 1013-77 "Part A")  
Benton Township, Carver County  
T115N, R25W, Sections 14-18 and T 115N, R26W, Sections 13-14  
SHPO #2008-3318  
Federal and State Review

Dear Ms. Foss:

Minnesota Department of Transportation Cultural Resources Unit (MnDOT CRU) staff meeting the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-44739) in archaeology, history, and architectural history have reviewed the above-referenced project pursuant to our Federal Highway Administration (FHWA)-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act (54 USC 300108) and its implementing regulations, 36 CFR 800, and under the terms of the *Programmatic Agreement Among the Federal Highway Administration, the Minnesota State Historic Preservation Office, the Advisory Council on Historic Preservation; the Department of the Army, Corps of Engineers, St. Paul District; and the Minnesota Department of Transportation; Regarding Implementation of the Federal-Aid Highway Program in Minnesota (Statewide PA)*. The project will receive funding from the FHWA and may receive permits from the US Army Corps of Engineers.

We also reviewed the above-referenced project to determine whether MnDOT has responsibilities under Minnesota Statutes regarding cultural resources. Compliance with Minnesota Statute is the responsibility of the entity doing, funding, or licensing the work under the Minnesota Historic Sites Act (2022 Minn. Stat. 138.661-138.669); or the agency controlling any public lands that may be affected by proposed work (e.g., right-of-way or through temporary or permanent easements) for the Minnesota Field Archaeology Act (2022 Minn. Stat. 138.31-138.42). MnDOT is responsible for compliance with the Minnesota Historic Sites Act for this project since it is funding or permitting the project. MnDOT is also responsible for



compliance with the Minnesota Field Archaeology Act for the portions of the project within TH 212 right-of-way; Carver County also has responsibilities under the same act.

We are writing to consult with the Minnesota State Historic Preservation Office (MnSHPO) pursuant to MnDOT's duties and responsibilities under federal law and the Statewide PA. Because there are no properties in the Area of Potential Effects (APE) that are listed in the National Register of Historic Places (National Register), designated as part of the state historic site network, or included in the State Register of Historic Places, no consultation is necessary under the Minnesota Historic Sites Act. Although preliminary results of archaeological investigations are included below, a site evaluation is still underway; we will assess the need to consult with MnSHPO under the Minnesota Field Archaeology Act once that evaluation is completed.

### Past Consultation and Current Project Description

Carver County, in coordination with MnDOT's Metro District, will reconstruct Trunk Highway (TH) 212 between Norwood Young America and the west end of the Cologne bypass, expanding it from two to four lanes.

In 2008, MnDOT originally proposed this project as "Part A" of a larger project that also included as "Part B" reconstruction of TH 212 east of Cologne (SP 1013-79; SHPO #2008-3318). On September 8, 2008, MnDOT CRU requested comments from MnSHPO on identification efforts and findings of effect for both Parts A and B.<sup>1</sup> With that letter our office submitted an archaeology survey report prepared by Two Pines Resource Group, LLC (Two Pines) entitled *Phase I Archaeological Investigations, Trunk Highway 212 Improvement Project (Parts A and B), Carver County, Minnesota*, by Two Pines Resource Group, LLC (Two Pines, July 2008) (SHPO File No. CR-08-03) and an architecture-history survey report entitled *Phase I and II (Identification and Evaluation) Investigation of Historic Structures Near US Highway 212 From Norwood Young America to Co. Rd. 147 (CSAH 11) in Carver County, Minnesota*, by Gemini Research (Gemini Research, July 2008).

In a response letter to that submittal, MnSHPO agreed that there were no National Register-listed or eligible archaeological properties in the APE for Part A, concurred that four architecture-history properties in Part A met National Register criteria, disagreed that one property met National Register criteria, and agreed that the remaining properties inventoried did not meet National Register criteria. Further, MnSHPO concurred that the project as proposed at that time would have an adverse effect on the Stender Farm (CR-BNT-006) but would not adversely affect the other historic properties in the APE: Feltman Barn and Silo (CR-YNT-004), Speiker Farm (CR-BNT-140) and the Hastings and Dakota Railroad (including

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<sup>1</sup> Project submittal from Jackie Sluss, MnDOT, to Dennis Gimmestad, MnSHPO, September 8, 2008, re: SP 1013-77 (Part A) and SP 1013-79 (Part B), TH 212, Carver County (SHPO #2008-3318).

segments documented as CR-NWC-008, CR-YAT-010, CR-BNT-136, and CR-CLC-027).<sup>2</sup> Although the project as originally proposed was never completed, MnDOT CRU resubmitted “Part B” in January 2020 and, taking into consideration additional information and project changes, MnSHPO ultimately concurred with a finding of No Adverse Effect for that portion of the larger project in October 2020.<sup>3</sup>

“Part A” of the original project has changed since originally proposed (see attached roll plot, June 2022). According to the current project’s Early Notification Memo, dated July 7, 2022, reduced conflict intersections are proposed west of County Road 36 at County Drive, County Road 153, Salem Avenue, and Tacoma Avenue. The County Road 51 intersection with TH 212 will be reconfigured as a bridge overpass. Several treatment ponds and drainage improvements are proposed and, therefore, a US Army Corps of Engineers permit is anticipated. Snow fencing is also proposed at locations to be determined along TH 212. Right-of-way impacts and acquisitions are anticipated and include a potential residential relocation. Construction staging is anticipated in the highway median west of Tacoma Avenue and west of County Road 36.

Based on the information provided by the project proposer and pursuant to 36 CFR 800.3 and Stipulation 3.C of the Statewide PA, MnDOT CRU has determined that the project, as revised, constitutes a federal undertaking as defined in 36 CFR 800.16(y) that has the potential to cause effects to historic properties. Further, MnDOT CRU has also determined that the proposed project is a state undertaking subject to the Minnesota Historic Sites Act and the Minnesota Field Archaeology Act.

### Area of Potential Effects (APE)

Based on the project’s June 2022 layout, and pursuant to 36 CFR 800.4 and Stipulation 3.C of the Statewide PA, MnDOT CRU has established an Area of Potential Effects (APE) as shown in the attached map. The project APE varies slightly from the original APE proposed for the project in 2008 and includes all areas of right-of-way acquisition as well as the horizontal and vertical extent of all ground-disturbing activities. In addition, the APE extends 150 feet from the construction limits to account for potential visual effects, construction-related noise and vibration, and any changes in access to adjacent properties. At the new grade separation and roadway at County Road 51, the APE extends 300 feet from the construction limits to account for the additional visual effects, possible vibratory effects caused by pile driving (if needed), and possible changes in access. The archaeological review area was limited to the construction limits and areas of right-of-way acquisition and anticipated easements to date; the architecture-history review area included properties with parcels intersecting the APE. The APE

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<sup>2</sup> Although the Feltmann Barn and Silo (CR-YAT-004) was within the APE for “Part A” of the original project, it is not located within the current APE. The Hastings and Dakota Railroad segments have been incorporated into new inventory numbers: XX-RRD- CSP010 and XX-RRD-CSP013.

<sup>3</sup> Letters from Andrew Kurth to Sarah Beimers, January 31, March 26, August 12, and August 25, 2020; Letters from Sarah Beimers to Andrew Kurth March 10 and October 15, 2020.



and cultural resource review areas will continue to be reviewed and refined if needed as project plans are developed.

## Consultation & Public Involvement

On July 21, 2022, MnDOT CRU reviewed the undertaking's proposed activities for exemptions in existing consultation protocol agreements between FHWA and certain tribes. After initial review of these agreements, MnDOT CRU notified the following Tribal Nations about the undertaking, pursuant to 36 CFR 800 and 2022 Minn. Stat. 10.65: Fort Peck Tribes, Lower Sioux Indian Community, Prairie Island Indian Community, Santee Sioux Nation, Shakopee Mdewakanton Sioux Community, Sisseton Wahpeton Oyate of the Lake Traverse Reservation, and Upper Sioux Community. We specifically requested input into the process of identifying historic properties of religious or cultural significance and sought the Tribal Nation's interest in becoming a consulting party. The Shakopee Mdewakanton Sioux requested copies of archaeological reports for the previous project and the Fort Peck Tribes responded that they had no concerns. MnDOT received no other responses.

The project area is not represented by a local heritage preservation commission. The project team has engaged the public using FHWA and MnDOT's environmental compliance procedures conducting a community survey in 2020 and a public open house in May 2022. Following the public open house, both MnSHPO and MnDOT received communications regarding the Stender Farm (CR-BNT-006), one of the historic properties in the APE.

## Identification of Properties

On July 21, 2022, MnDOT CRU staff reviewed information on state-designated and listed properties, significant archaeological and historic sites, burials/cemeteries, and other previously inventoried properties in databases maintained by the MnSHPO, OSA, and the Minnesota Indian Affairs Council (MIAC), including the unrecorded historic cemeteries data layer available via the OSA Web Portal. In addition to the consultation with Tribal Nations described above, we also sent an Information Request to OSA and MIAC on July 21, 2022, asking if they had additional information on sites we had identified or if they were aware of any sites in the APE that were not identified in our searches. OSA recommended a thorough Phase Ia literature review of the proposed project area and MIAC confirmed that they did not have any records of additional sites in the APE.

MnDOT CRU contracted with Two Pines Resource Group, LLC, and Bolton and Menk, Inc., to conduct cultural resource surveys in the APE. Two Pines conducted a Phase Ia archaeological literature review and Phase I survey, as described below, and recommends one archaeological site for further evaluation. MnDOT CRU agrees with the results of the archaeological investigations; an evaluation of the site is scheduled for spring 2023. Bolton and Menk reviewed the previous Phase I and II architecture-history survey, revisiting 23 architecture-history properties to determine whether the previous recommendations remained appropriate

and newly inventorying nine (9) properties.<sup>4</sup> They identified four (4) historic architecture-history properties in the APE. MnDOT agrees with and is adopting their results.

Based on the identification efforts described above and pursuant to 36 CFR 800.4 and Stipulations 3.D and 3.E of the Statewide PA, MnDOT CRU has determined there are four (4) historic architecture-history properties in the APE, as described below. None of the properties evaluated to date is subject to the above-referenced Minnesota Statutes. However, MnDOT CRU will revisit its need to consult with MnSHPO and the OSA under the Minnesota Field Archaeology Act following additional archaeological investigations.

### Archaeological Investigations

Two Pines completed supplemental Phase I archaeological investigations in 2022, revisiting previous work conducted in 2008; see enclosed *Supplemental Phase I Archaeological Investigations for the Trunk Highway 212 Improvements Project – Norwood Young America to Cologne, Carver County, Minnesota* (Two Pines, January 2023). The supplemental Phase I archaeological investigations included a literature search and archaeological assessment of 24 study areas. Two Pines assessed eight (8) study areas as having moderate to high potential to contain archaeological resources; these were included in the Phase I survey.

One (1) archaeological site was identified within Study Area 8.<sup>5</sup> Site 21CR0174, the Kief-Fruetel-Bachmann Farmstead, is a German heritage farmstead occupied from circa 1858 through the present. Two Pines recommends that the farmstead meets the standards set forth within the context *Historical Archaeology of Minnesota Farmsteads* and recommends a Phase II evaluation of the site if impacts to the site cannot be avoided. Due to the site's proximity to the National Register-eligible Stender Farmstead (CR-BNT-006; see below), avoidance without an evaluation is not possible. A Phase II evaluation is planned for spring 2023.

In addition to the newly identified archaeological site, Two Pines recommends archaeological construction monitoring of grading and other ground-disturbing activities near St. John's German Reformed Church Cemetery in Study Area 19.<sup>6</sup> Since neither the church nor the cemetery is considered a historic property, this will be addressed as part of a future submittal to OSA under Minnesota's Private Cemeteries Act (2022 Minn. Stat. 307.08).

The Minnesota Field Archaeology Act obligates "state and other governmental agencies" to submit project plans to MnSHPO and OSA when the project could affect "significant archaeological or historic sites" that are either known or predicted to exist on public lands or waters under their control. When those sites are suspected to be American Indian, MnDOT also

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<sup>4</sup> Due to the change in APE, not all properties from the original 2008 survey were revisited.

<sup>5</sup> A light surface artifact scatter was also identified in Study Area 19. Because it does not meet the standards set forth within the *Historical Archaeology of Minnesota Farmsteads*, a site number was not assigned.

<sup>6</sup> This cemetery is associated with St. Johanness German Evangelical Reformed Church (CR-BNT-002), inventoried as part of the Architecture-Historic Investigations.



provides project plans to MIAC. MnDOT CRU currently defines “significant archaeological and historic sites” as archaeological sites that are listed in, or eligible for inclusion in, the National Register of Historic Places (National Register) and archaeological sites associated with the state historic sites on federally owned land (2022 Minn. Stat. 138.57), the state historic sites on lands owned by governmental units outside the state (2022 Minn. Stat. 138.581), and properties designated as part of the state historic site network (2022 Minn. Stat. 138.662). Because archaeological investigations are not yet complete, a determination has not yet been made as to whether any sites subject to the Minnesota Field Archaeology Act are in the APE. This will be included in a future submittal.

### Architecture-History Investigations

Architecture-history resources located within 11 parcels intersecting the APE were excluded from survey (see Table 1).

Table 1. Above-Ground Resources Excluded from Survey

<b>Parcel No.</b>	<b>Property Type</b>	<b>Address</b>	<b>Date<sup>7</sup></b>	<b>Primary Reason Excluded<sup>8</sup></b>
580141100	Veterans Park	700 Railroad St E	ca. 2012	Age
110130900	House & Garage	13155 Tacoma Avenue	1988	Age, proximity of buildings to APE
580130300	Industrial (bus garage)	13050 Stewart Avenue	ca. 1990s	Age
010180110	House & Garage	13715 Highway 212	1985	Age, proximity of buildings to APE
010172400	Farmstead	13575 Highway 212	2005	Age, proximity of buildings to APE
010171910	Farmstead	13255 Highway 212	1905	Proximity of buildings to APE
010161520	House	12855 County Road 51	2005	Age
010161510	Farmstead	12755 County Road 51	1900	Proximity of buildings to APE
010150300	House & Outbuilding	11610 Highway 212	1915	Proximity of buildings to APE
010150200	Public (Carver County Administration)	11360 Highway 212	ca. 2001	Age

<sup>7</sup> Dates obtained from Carver County Property Information, including historic aerial property viewers, available online at [gis.co.carver.mn.us/publicparcel/](https://gis.co.carver.mn.us/publicparcel/), accessed January 2023.

<sup>8</sup> “Age” includes properties where no potential for exceptional significance was identified as part of the assessment of the review area or during field survey. “Proximity of buildings to APE” includes properties where the primary buildings or associated resources are outside the APE, no changes in access are anticipated, and any temporary or permanent easements are so minor that they would not affect a historic property, if it existed.

<b>Parcel No.</b>	<b>Property Type</b>	<b>Address</b>	<b>Date<sup>7</sup></b>	<b>Primary Reason Excluded<sup>8</sup></b>
400140700	Industrial	700 Lake Street W	ca 1970s	Proximity of buildings to APE

Bolton and Menk conducted Phase I and Phase II architecture-history fieldwork in September 2022, revisiting previous survey work conducted in 2008 and confirming recent evaluations made for Trunk Highway 212 and a railroad within the APE; see enclosed inventory forms and the *Phase I and II Architecture/History Survey: US Highway 212 Expansion from Norwood Young America to Cologne (SP 1013-77), Carver County, Minnesota* (Bolton and Menk, December 2022). The Phase I and Phase II architecture/history investigation identified a total of 32 properties (Table 2). Of these, 23 previously inventoried properties were revisited and 9 properties were newly inventoried (see property map overlaid with APE in Appendix A of the report for additional information). Four (4) properties within the APE are recommended eligible for inclusion in the National Register. Assessments of effect are underway and will be submitted at a future date.

Table 2. Architecture-History Investigations

<b>Inventory No.</b>	<b>Property Name</b>	<b>Address</b>	<b>Previous Evaluation</b>	<b>Eligibility</b>
CR-BNT-001	Bongards Creamery	13200 County Road 51	Not evaluated	Eligible
CR-BNT-002	St. Johannes German Evangelical Reformed Church	12984 County Road 51	Not Eligible	Not Eligible
CR-BNT-006	Stender Farm	14325 Highway 212 East	Eligible	Eligible
CR-BNT-138	Jorissen Farmstead	11020 Highway 212 East	Not Eligible	Not Eligible
CR-BNT-139	Wolter Farmstead	12819 County Road 51	Not Eligible	Not Eligible
CR-BNT-140	Spieker Farm	12955 Country Road 153	Eligible	Eligible
CR-BNT-141	House	13030 County Road 51	Not Eligible	Not Eligible
CR-BNT-142	House	13040 County Road 51	Not Eligible	Not Eligible
CR-BNT-143	House	13045 County Road 51	Not Eligible	Not Eligible
CR-BNT-144	House	13055 County Road 51	Not Eligible	Not Eligible
CR-BNT-145	Peschken Farmstead	13060 County Road 51	Not Eligible	Not Eligible
CR-BNT-146	House	13075 County Road 51	Not Eligible	Not Eligible
CR-BNT-147	“Heifer Hotel” Farmstead	13110 Highway 212 East	Not Eligible	Not Eligible
CR-BNT-148	House	13125 County Road 51	Not Eligible	Not Eligible
CR-BNT-149	Farmstead	13440 Highway 212 East	Not Eligible	Not Eligible



<b>Inventory No.</b>	<b>Property Name</b>	<b>Address</b>	<b>Previous Evaluation</b>	<b>Eligibility</b>
CR-BNT-150	Bachmann Farmstead	14180 Highway 212 East	Not Eligible*	Not Eligible
CR-BNT-151	Farmstead	14105 Highway 212 East	Not Eligible	Not Eligible
CR-BNT-152	Farmstead	12225 Highway 212 East	Not Eligible	Not Eligible
CR-BNT-156	Commercial Building	13245 County Road 51	n/a	Not Eligible
CR-BNT-157	House	13050 County Road 51	n/a	Not eligible
CR-BNT-158	House	13150 Country Road 51	n/a	Not eligible
CR-BNT-159	House	13030 Highway 212	n/a	Not eligible
CR-BNT-160	House	13010 Highway 212	n/a	Not eligible
CR-BNT-161	House	12990 Highway 212	n/a	Not eligible
CR-BNT-162	House	12920 County Road 153	n/a	Not eligible
CR-BNT-163	House	11730 Highway 212	n/a	Not eligible
CR-BNT-164	House	11680 Highway 212	n/a	Not eligible
CR-YAT-011	Falk Farmstead	14750 Highway 212 East	Not Eligible	Not eligible
CR-YAT-012	Heap Farmstead	15130 Highway 212 East	Not Eligible	Not eligible
XX-ROD-039	Trunk Highway 212	n/a	Not Eligible	Not Eligible
XX-RRD-CSP010	CMStP Railway Co. / CMStP&P Railroad Co.: H&D Division Main Line	n/a	Eligible	Eligible
XX-RRD-CSP013	H&D Railway Co. / CMStP Railway Company / CMStP&P Railroad Co.: Main Line	n/a	Not Eligible	Not Eligible

\*Please note that the Bachmann Farmstead (CR-BNT-150) was determined not eligible for inclusion in the National Register as part of the architecture-history survey. This determination will be reassessed at the conclusion of the additional Phase II archaeological investigations of Site 21CR0174.

TH 212 (XX-ROD-039) was previously studied by MnDOT CRU as part of our ongoing effort to evaluate Minnesota’s trunk highways. It was determined not eligible in 2020 and submitted to your office as part of consultation on “Part B” of this project in 2020; your office concurred. No changes have been made to the highway that would suggest it needs to be reevaluated.

The portion of the Hastings and Dakota Railway in the project APE is part of two separate railroad corridors that were studied by MnDOT CRU as part of our ongoing effort to evaluate Minnesota’s railroads. The Chicago Milwaukee and St. Paul Railway Company/Chicago Milwaukee St. Paul and Pacific Railroad Company: Hastings and Dakota Division Main Line (XX-RRD-CSP010) was determined eligible for inclusion in the National Register under Criterion A in

the area of Transportation, with a period of significance of 1880-1930. The Hastings and Dakota Railway Company/Chicago Milwaukee and St. Paul Railway Company/Chicago Milwaukee St. Paul and Pacific Railroad Company: Main Line (XX-RRD-CSP013) was determined not eligible. Your office concurred with these determinations in May 2021 and November 2022. Neither of these railroad properties have been submitted as part of a federal undertaking previously and, therefore, their eligibility determinations are being made as part of this submittal.<sup>9</sup>

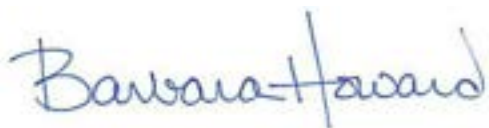
The Minnesota Historic Sites Act obligates the “state, state department, agencies, and political subdivisions” carrying out, funding, or licensing a project to consult with MnSHPO when the project could affect properties designated as part of the state historic site network (2022 Minn. Stat. 138.662), selected for inclusion in the State Register of Historic Places (2022 Minn. Stat. 138.664), or listed in the National Register. Identification efforts indicate there are no properties subject to the Minnesota Historic Sites Act in the APE.

## Conclusion & Request for Comments

Pursuant to Stipulations 3.C and 3.D of the Statewide PA and to facilitate meeting MnDOT responsibilities under the Minnesota Field Archaeology Act, we request any comments from your office within 21 days of receipt of this letter. Specifically, we are requesting comments on the APE, the determinations of eligibility for architecture-history resources, and the results of archaeological investigations to date.

Please do not hesitate to contact me if you have any questions, require additional information on the historic properties or potential effects, or would like to schedule a meeting to discuss the project.

Sincerely,



Barbara A.M. Howard, Historian  
[Barbara.Howard@state.mn.us](mailto:Barbara.Howard@state.mn.us) | 651-366-3636

- Encl. Roll plot, June 2022  
Area of Potential Effects (APE) Map  
*Phase I and II Architecture/History Survey: US Highway 212 Expansion from Norwood Young America to Cologne (SP 1013-77), Carver County, Minnesota (Bolton and Menk, December 2022)*  
*Supplemental Phase I Archaeological Investigations for the Trunk Highway 212 Improvements Project – Norwood Young America to Cologne, Carver County, Minnesota (Two Pines, February 2023)*

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<sup>9</sup> The most recent inventory forms are on file at MnSHPO and are not being resubmitted as part of this submittal.



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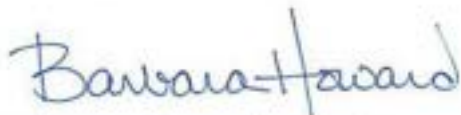
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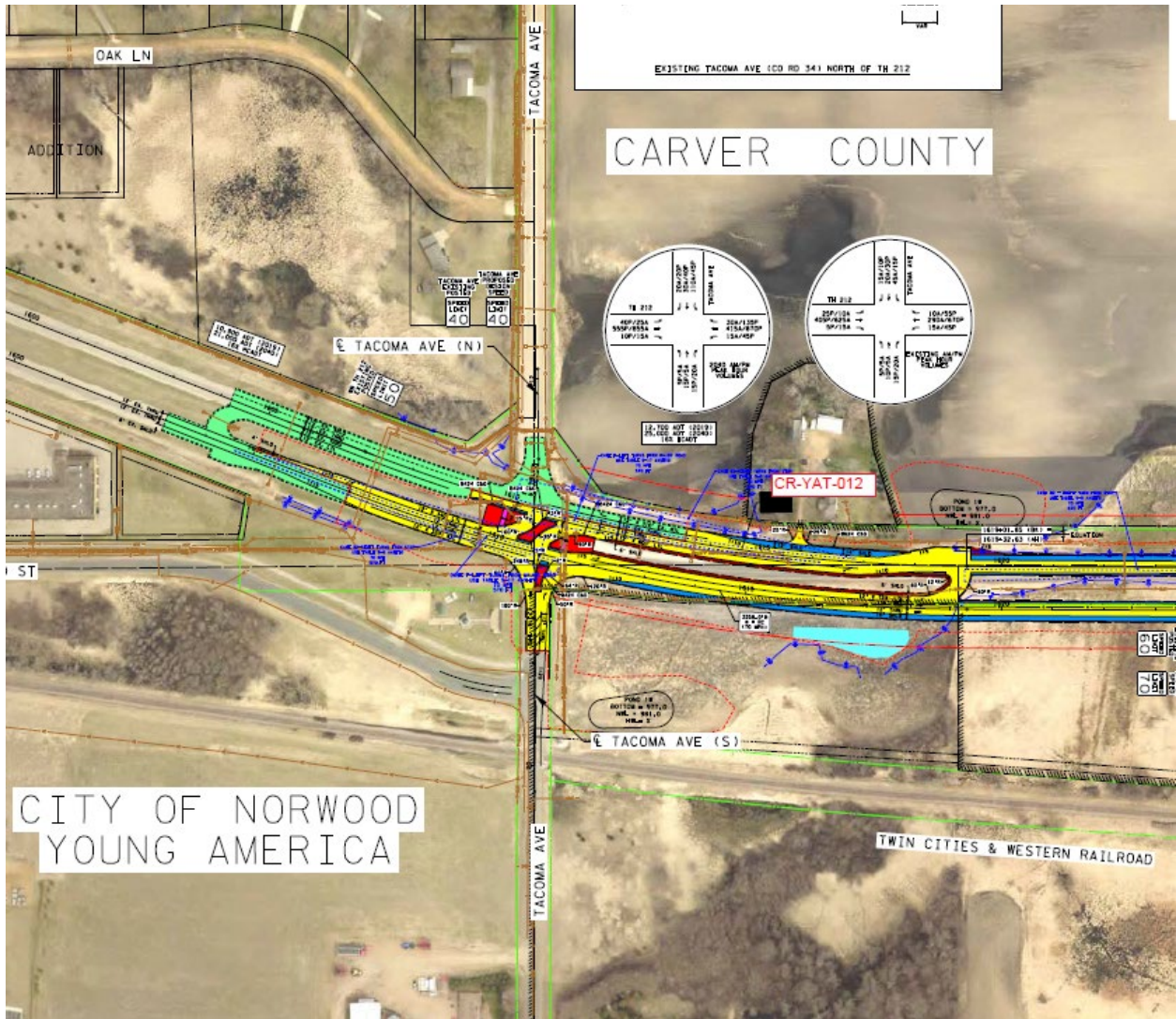
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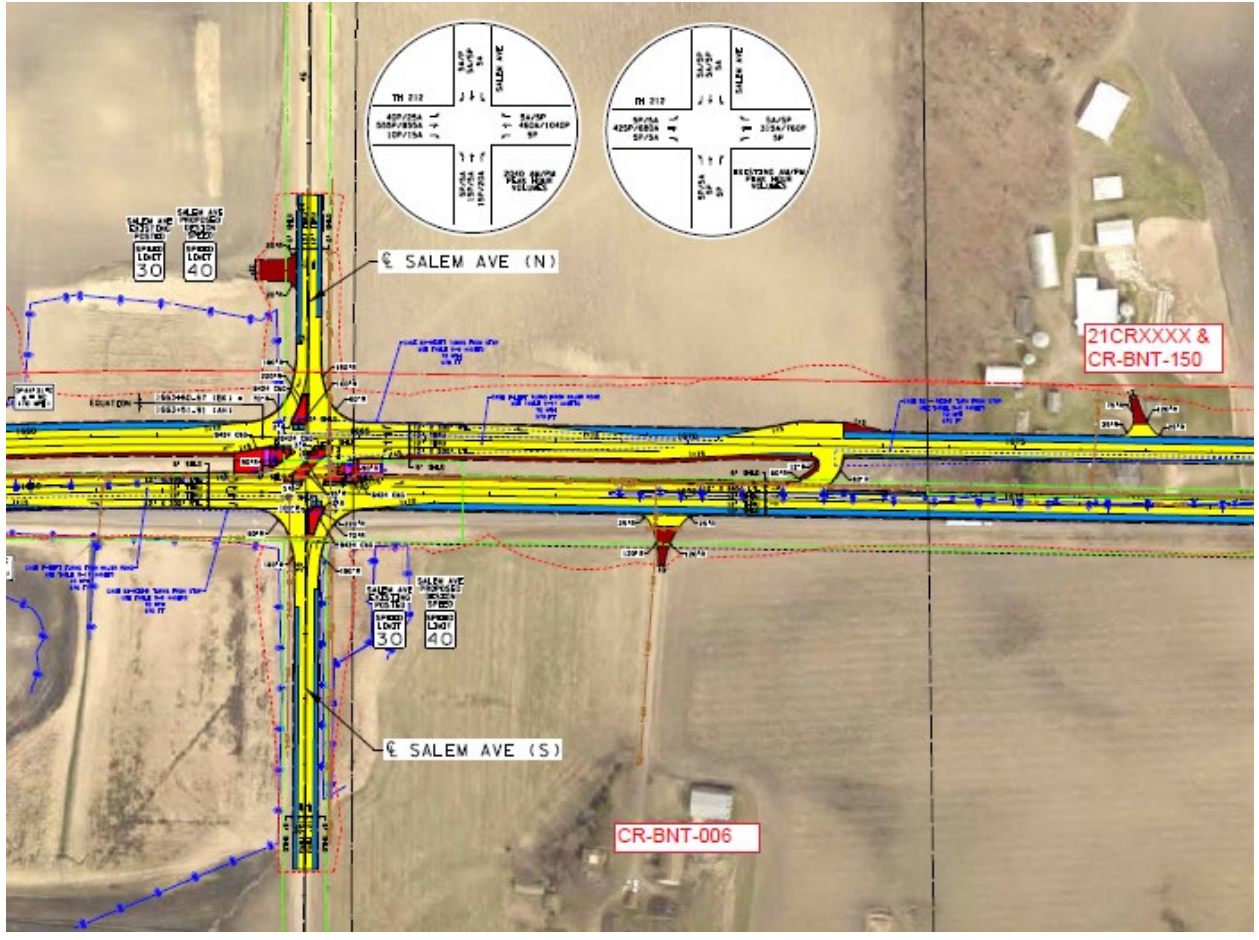
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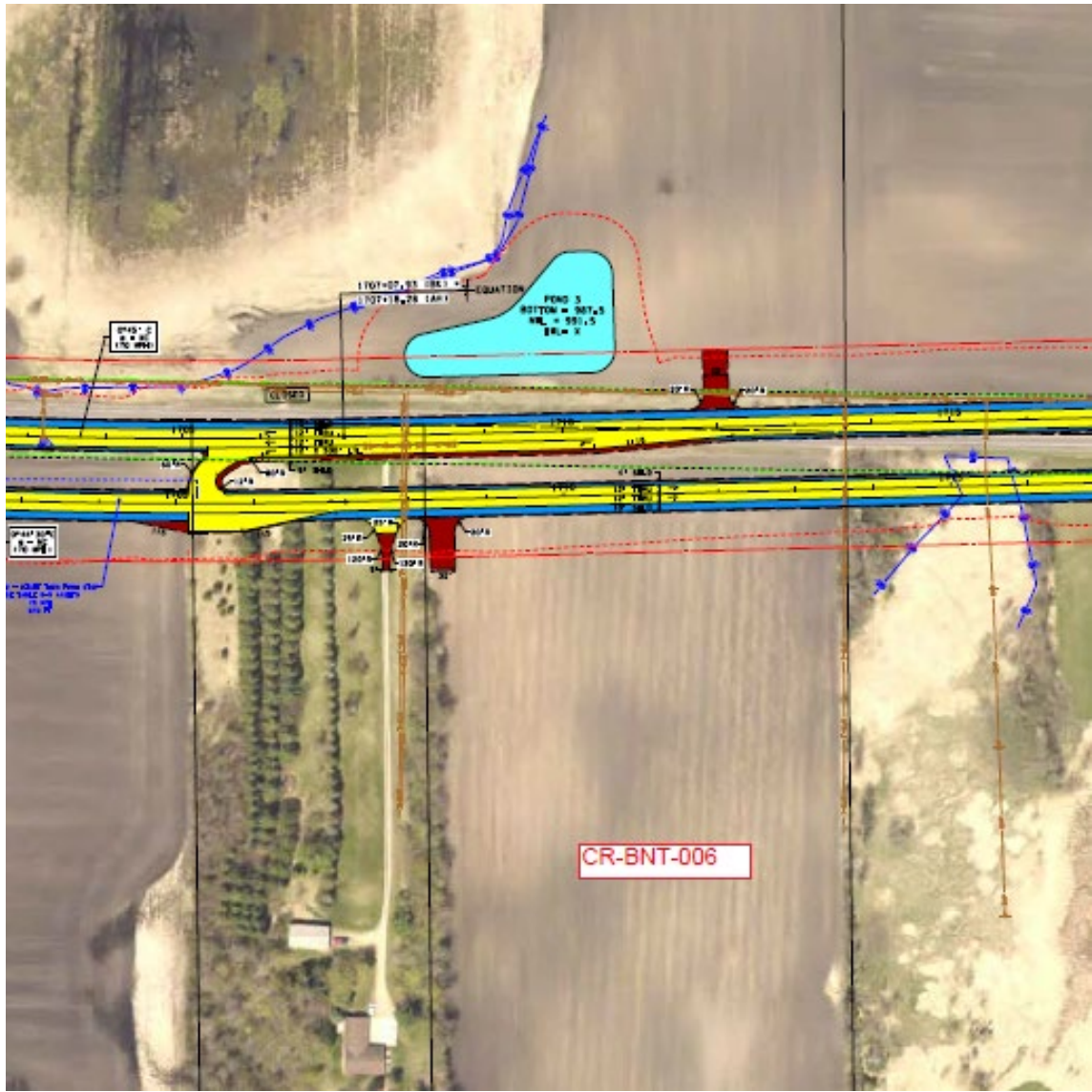
CC: CRIS (Administrative Record)  
Diane Langenbach, MnDOT  
Darien Mielke, Carver County  
Craig Hass, SRF Consulting  
Alex Yellick, SRF Consulting  
Jennifer Tworzyanski, Office of the State Archaeologist  
Renée Barnes, Bolton and Menk, Inc.  
Michelle Terrell, Two Pines Resource Group, LLC

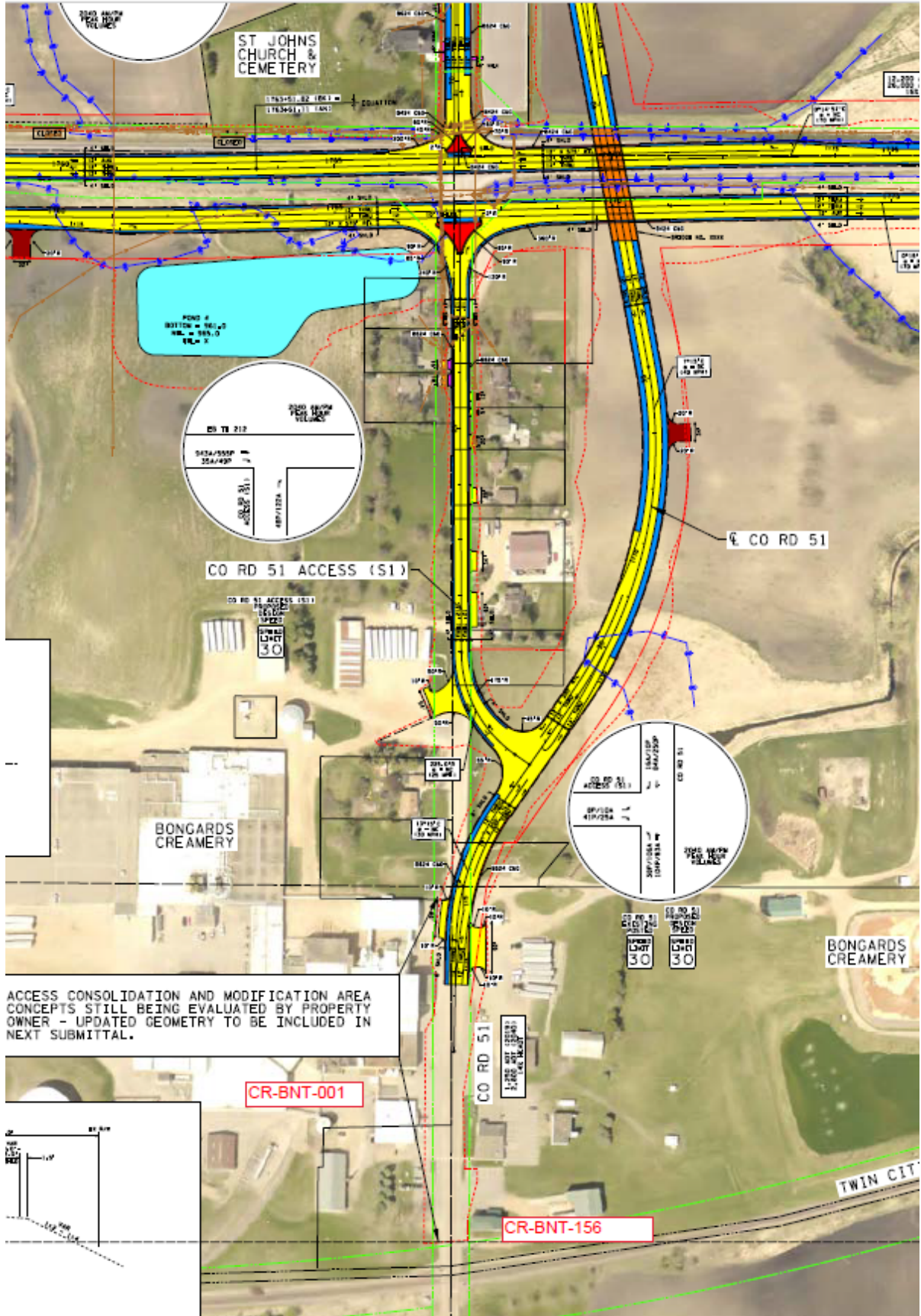




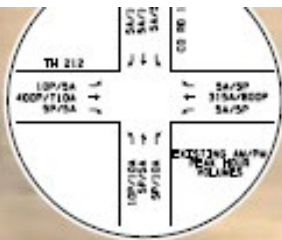
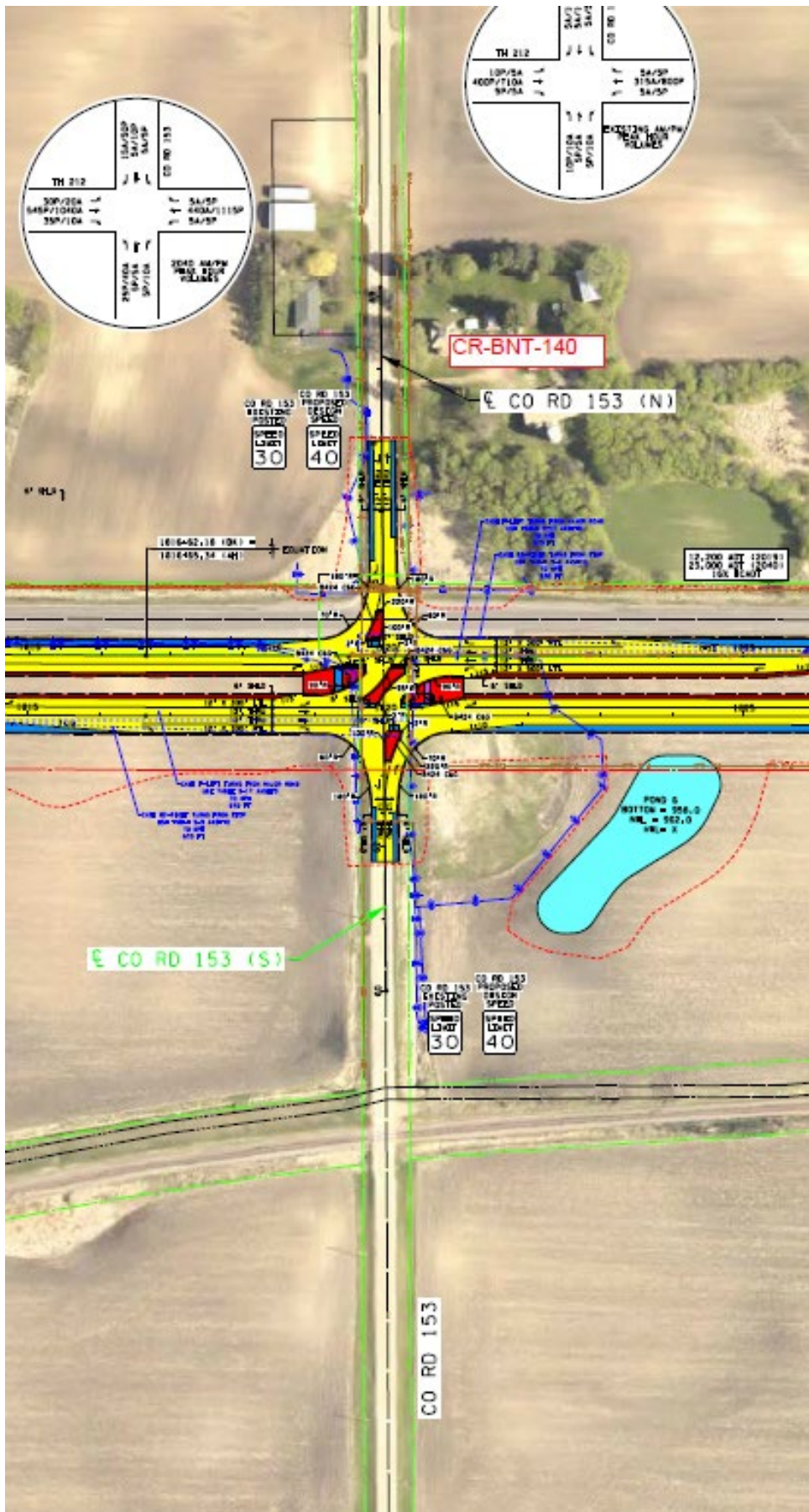












CR-BNT-140

E CO RD 153 (N)

CO RD 153  
PROPOSED  
DRIVEWAY  
SPEED  
LIMIT  
30

CO RD 153  
PROPOSED  
DRIVEWAY  
SPEED  
LIMIT  
40

1815-42, 18 10A  
1815-45, 18 14H

COUNTDOWN

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25,000 AFT 12040  
TAX BENCH

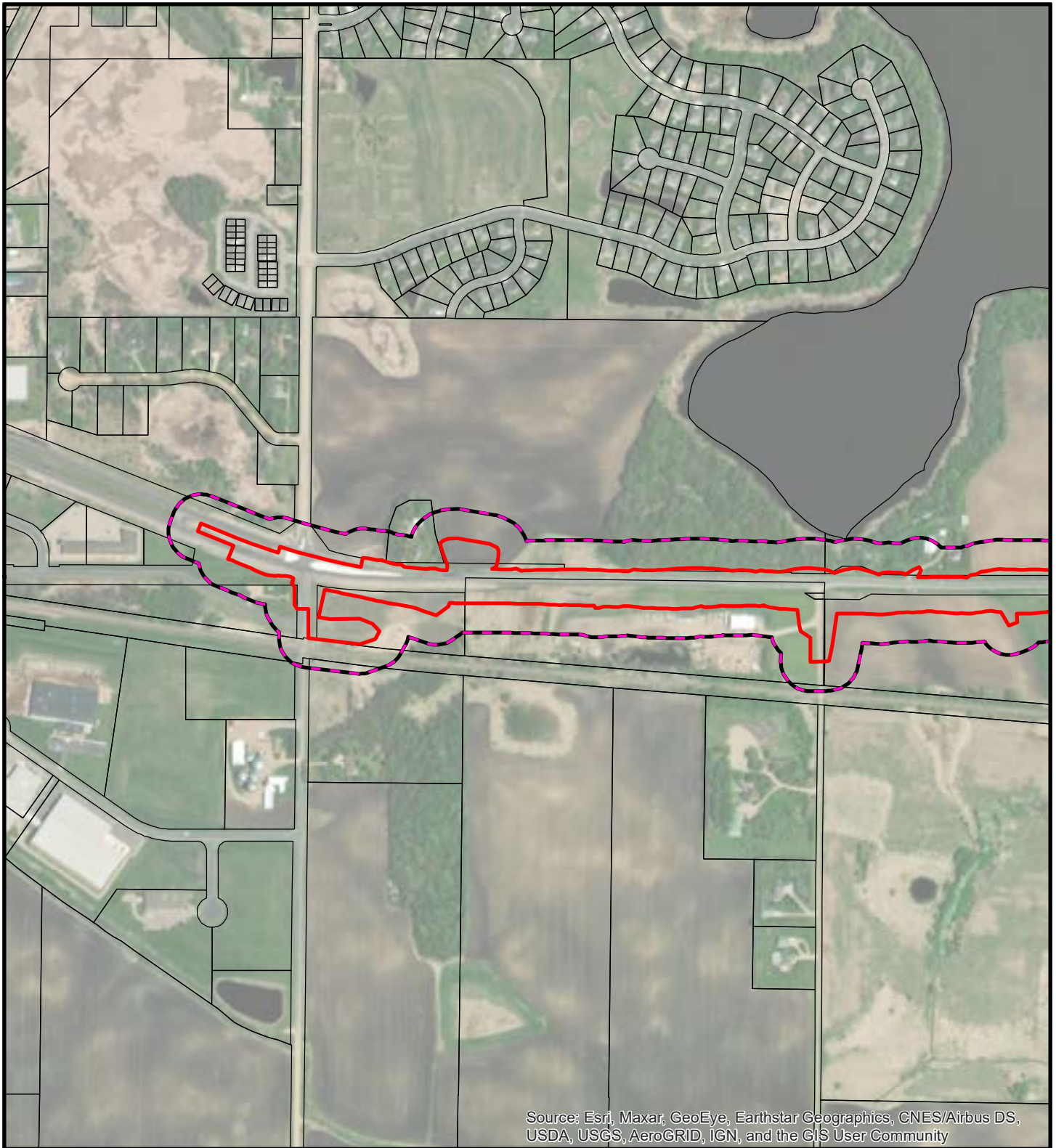
POND 2  
BOTTOM = 558.0  
H/L = 552.0  
H/L = X

E CO RD 153 (S)

CO RD 153  
PROPOSED  
DRIVEWAY  
SPEED  
LIMIT  
30

CO RD 153  
PROPOSED  
DRIVEWAY  
SPEED  
LIMIT  
40

CO RD 153



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Area of Potential Effects  
February 2023**

**TH 212 Reconstruction  
Norwood Young America to Cologne  
Carver County  
SP 1013-77 (SHPO #2008-3318)**






0 130 Meters



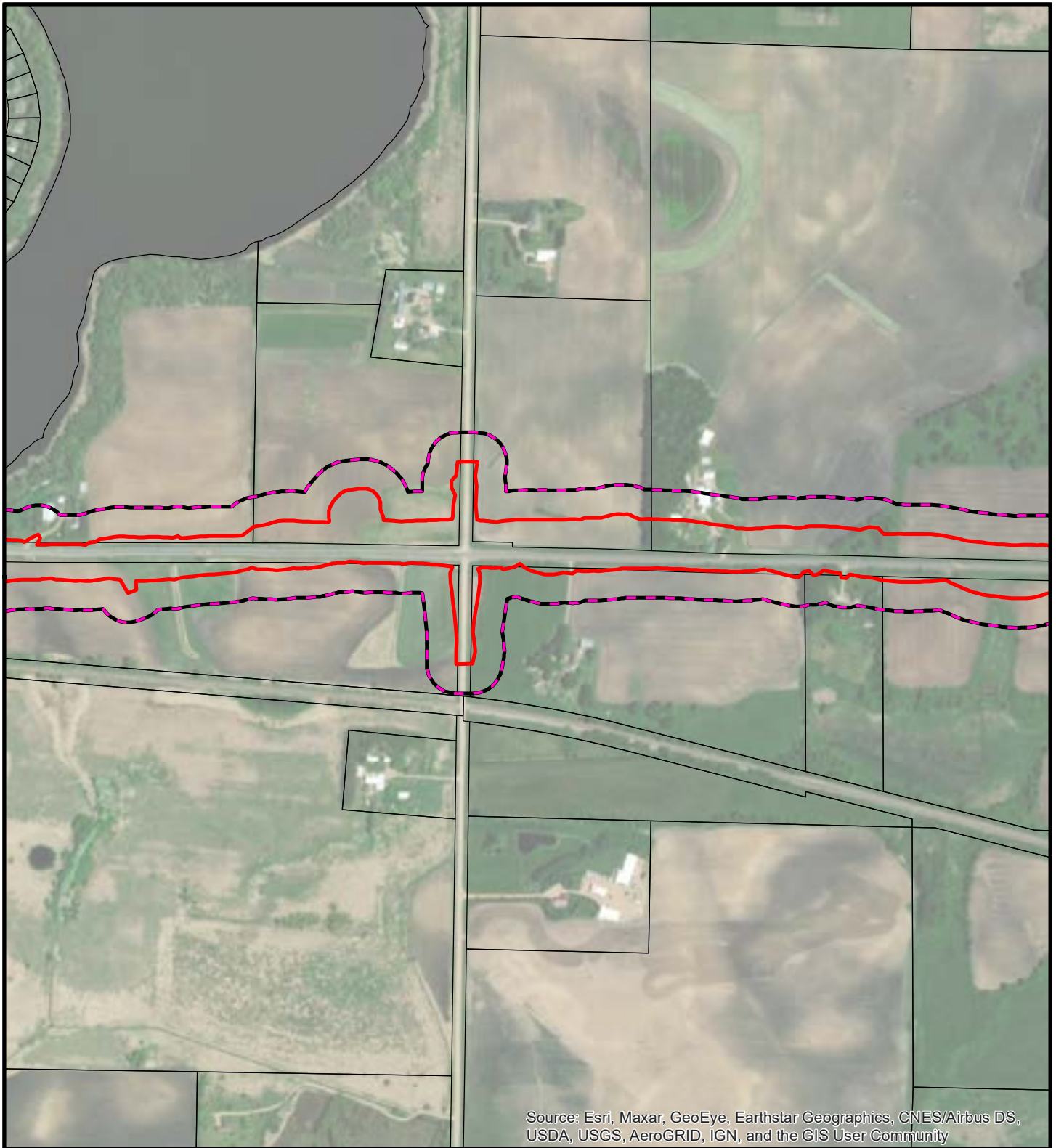
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Date Saved: 2/1/2023 10:51:51 AM

**Legend**

-  Area of Potential Effects
-  Construction Limits 2022-06
-  Parcels

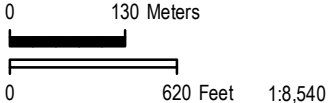




Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community




**Area of Potential Effects  
February 2023**

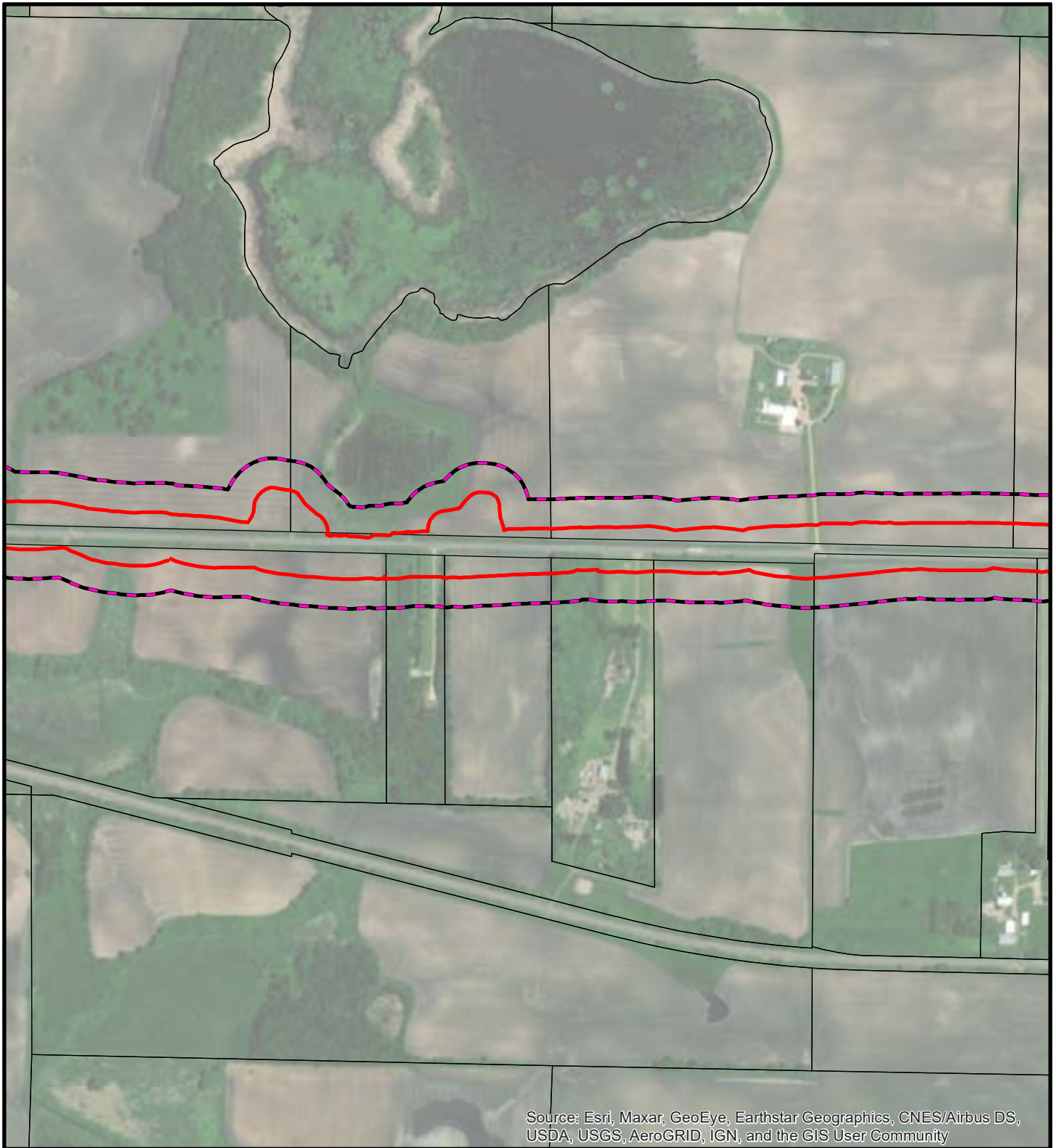
**TH 212 Reconstruction  
Norwood Young America to Cologne  
Carver County  
SP 1013-77 (SHPO #2008-3318)**



Date Saved: 2/1/2023 10:51:51 AM

**Legend**

-  Area of Potential Effects
-  Construction Limits 2022-06
-  Parcels



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Area of Potential Effects  
February 2023**

**TH 212 Reconstruction  
Norwood Young America to Cologne  
Carver County  
SP 1013-77 (SHPO #2008-3318)**






0 130 Meters



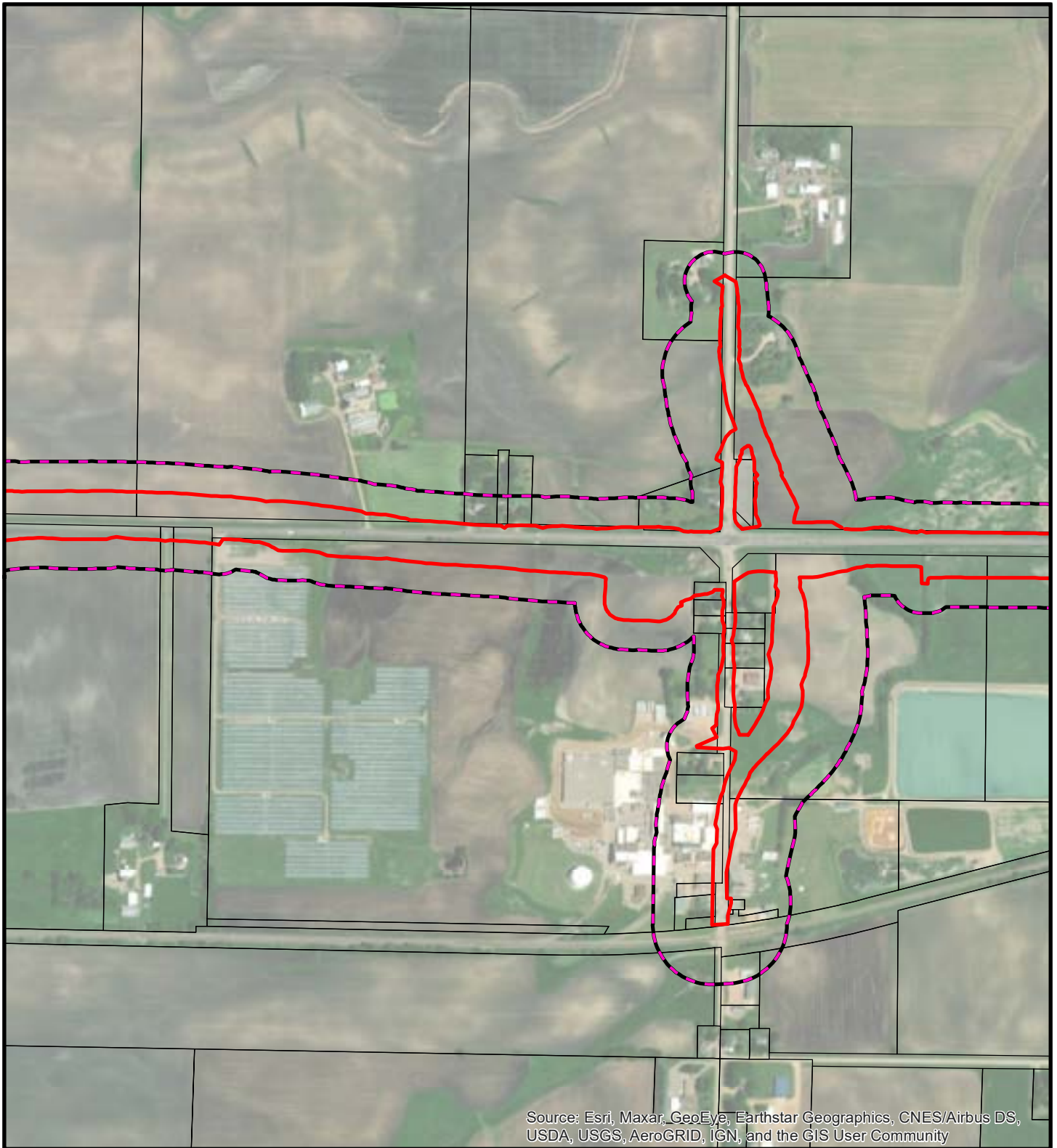
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Date Saved: 2/1/2023 10:51:51 AM

**Legend**

-  Area of Potential Effects
-  Construction Limits 2022-06
-  Parcels





Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Area of Potential Effects  
February 2023**

**TH 212 Reconstruction  
Norwood Young America to Cologne  
Carver County  
SP 1013-77 (SHPO #2008-3318)**






0 130 Meters

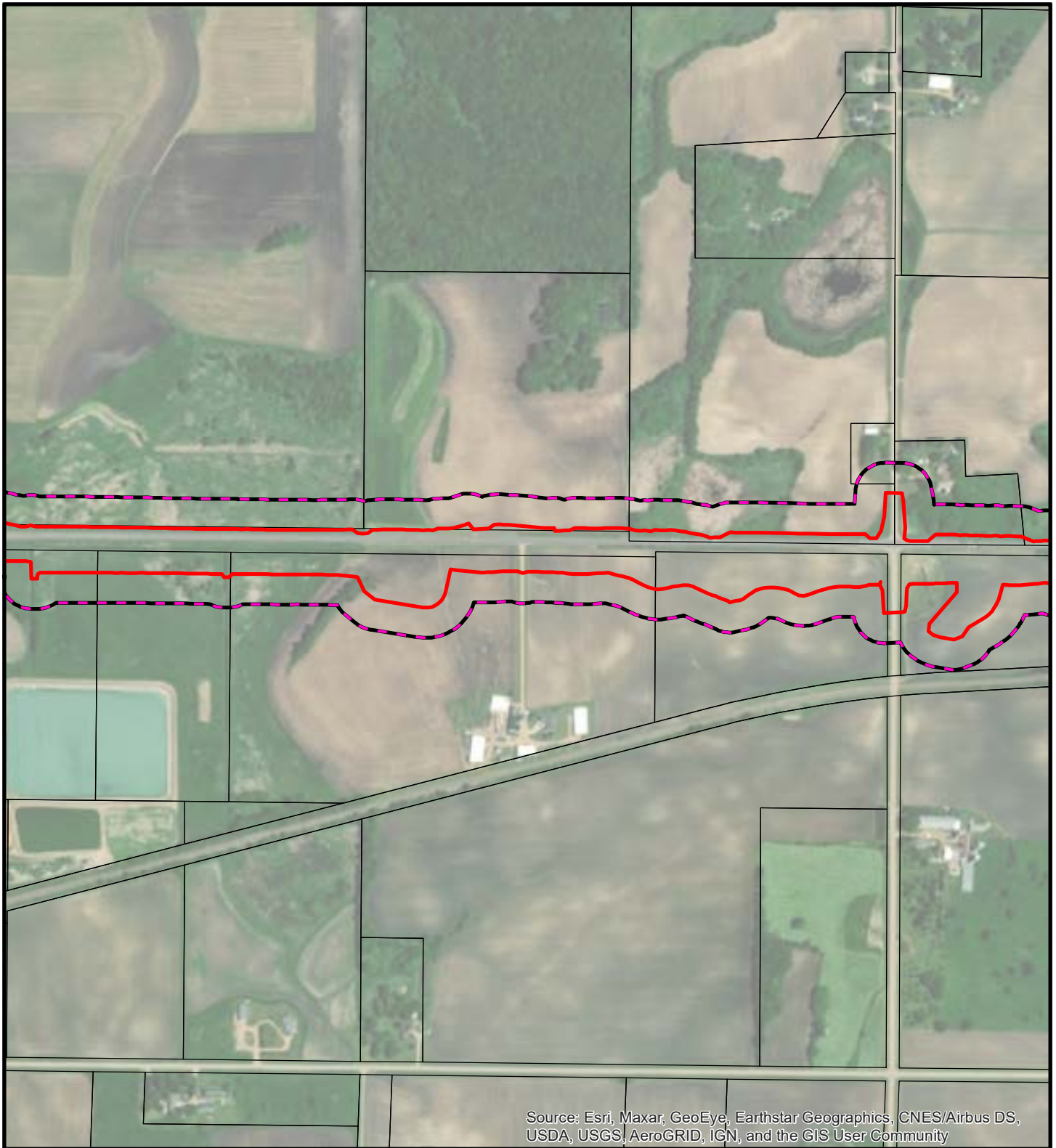


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**Legend**

-  Area of Potential Effects
-  Construction Limits 2022-06
-  Parcels



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Area of Potential Effects  
February 2023**

**TH 212 Reconstruction  
Norwood Young America to Cologne  
Carver County  
SP 1013-77 (SHPO #2008-3318)**






0 130 Meters



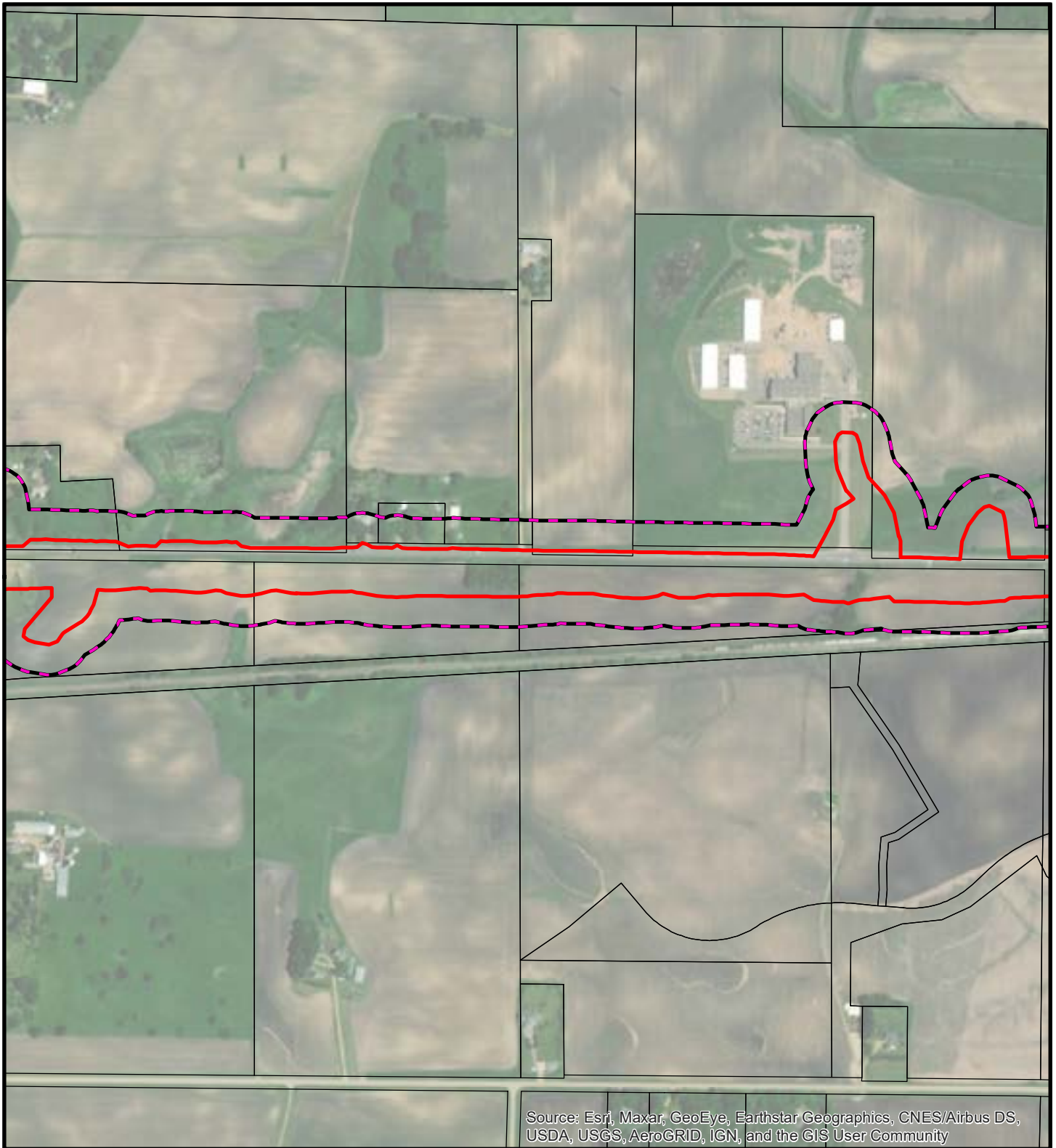
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Date Saved: 2/1/2023 10:51:51 AM

**Legend**

-  Area of Potential Effects
-  Construction Limits 2022-06
-  Parcels





Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Area of Potential Effects  
February 2023**

**TH 212 Reconstruction  
Norwood Young America to Cologne  
Carver County  
SP 1013-77 (SHPO #2008-3318)**






0 130 Meters

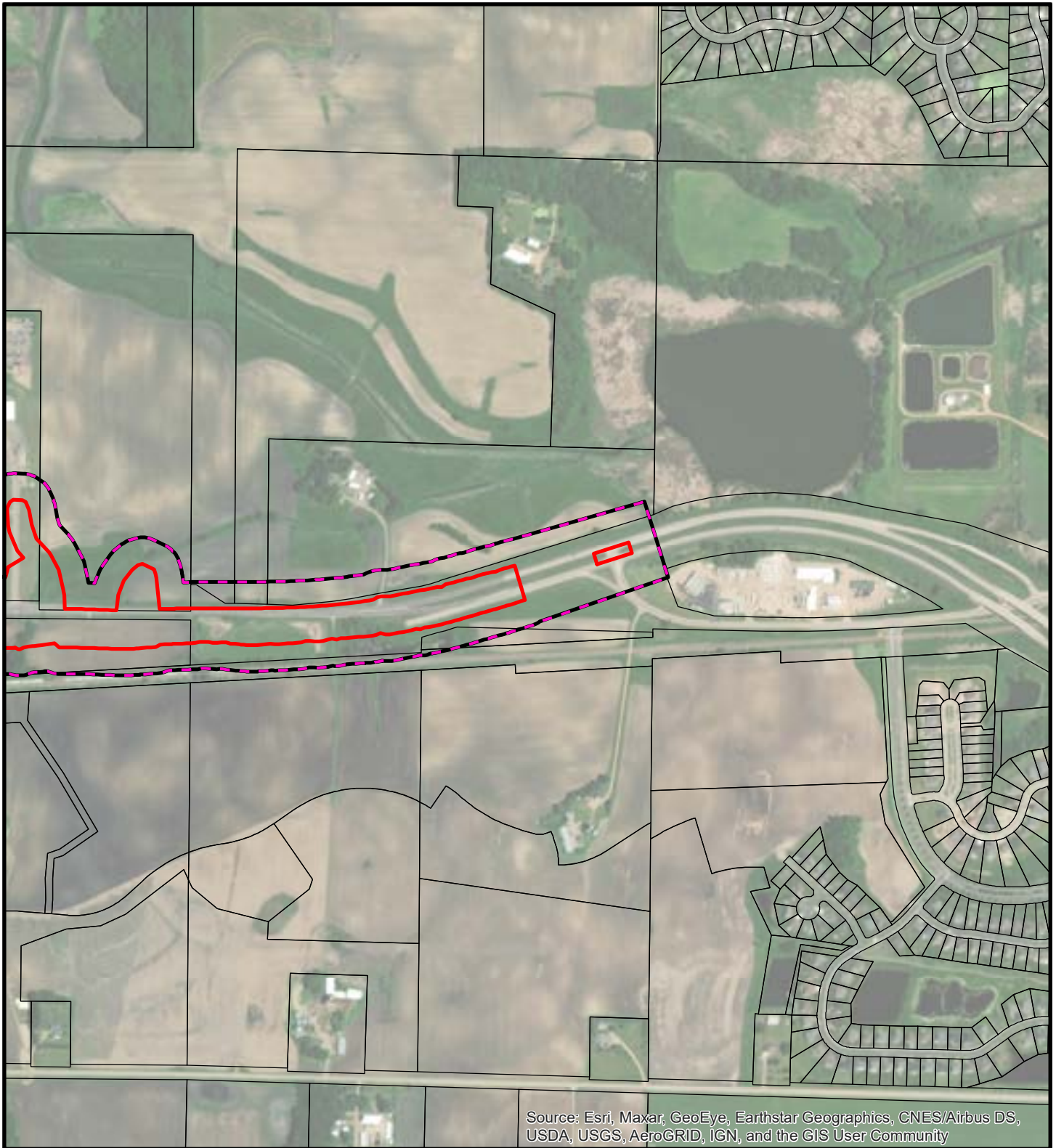


0 600 Feet 1:8,320

Date Saved: 2/1/2023 10:51:51 AM

**Legend**

-  Area of Potential Effects
-  Construction Limits 2022-06
-  Parcels



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Area of Potential Effects  
February 2023**

**TH 212 Reconstruction  
Norwood Young America to Cologne  
Carver County  
SP 1013-77 (SHPO #2008-3318)**






0 150 Meters



0 690 Feet 1:9,520

Date Saved: 2/1/2023 10:51:51 AM

**Legend**

-  Area of Potential Effects
-  Construction Limits 2022-06
-  Parcels



**From:** Brett Danner  
**Sent:** Thursday, September 16, 2021 11:32 AM  
**To:** 'Barnes, Renee (DOT)'  
**Cc:** Craig Hass  
**Subject:** 1013-77 - TH 212 (Benton Township) - Stender Farmstead  
**Attachments:** [1013-77\\_\\_TH212\\_BentonTwnshp\\_LocationMaps.pdf](#); [1013-77\\_TH212\\_CultResources\\_2008.pdf](#)

Hi Renee,

SRF is assisting Carver County and MnDOT Metro District with the TH 212 Benton Township Project (SP 1013-77). This project includes improvements to TH 212 between the cities of Norwood Young America and Cologne. Past work has indicated a two-lane to four-lane expansion is warranted. A project location map is attached.

The project is funded and is moving into the preliminary design and NEPA/MEPA phases. We've been coordinating with Metro, OES, and FHWA regarding the environmental review process. A non-programmatic Categorical Exclusion and State Environmental Assessment Worksheet (EAW) will be prepared for the project. An early notification memo (ENM) has not been developed yet. We'll circulate this to MnDOT functional groups after the project is through the alternatives evaluation process.

CRU previously evaluated the corridor as part of TH 212 study in 2008/2009. The Stender Farmstead and acreage (CR-BNT-006, south side of TH 212 and east of Salem Avenue) was identified as eligible for the National Register of Historic Places (NRHP). CRU and SHPO correspondence from this previous study are attached.

We would like to meet with you to discuss the Stender Farmstead and project elements that may contribute to a no adverse effect vs. adverse effect determination under Section 106. I'm thinking a short meeting (30 minutes) for this initial discussion. Could you please send a few times that you are available to meet next week and/or the week of 9/27. I coordinate schedules on our end and then send out a Zoom meeting invite. Please feel free to give me a call with any questions. Thanks!

Brett

**Brett Danner**  
Senior Associate  
[SRF Consulting Group](#)  
3701 Wayzata Boulevard, Suite 100, Minneapolis, MN 55416-3791  
Direct: 763-267-6606 | [bdanner@srfconsulting.com](mailto:bdanner@srfconsulting.com)



[srfconsulting.com](http://srfconsulting.com) | [Facebook](#) | [LinkedIn](#) | [Twitter](#) | [YouTube](#) | [Instagram](#)

CONFIDENTIALITY NOTICE: The contents of this email message and any attachments are confidential and are intended solely for addressee. The information may also be legally privileged. This transmission is sent in trust, for the sole purpose of delivery to the intended recipient.

**From:** Kurth, Andrew (DOT) <andrew.kurth@state.mn.us>  
**Sent:** Friday, February 11, 2022 9:13 AM  
**To:** Gombold, Brigid (DOT)  
**Cc:** Brett Danner; Jana Guseynova; Langenbach, Diane (DOT); Darin Mielke  
**Subject:** RE: PRE-ENM for CRU input - TH 212 Expansion and the Stender Farmstead

Hi Brigid,

Thank you for the information regarding the project. I will coordinate with the rest of CRU to determine who is best suited to assist you and have them follow-up with you directly.

Sincerely,

**Andrew Kurth** (he/him/his)  
T: 612-263-5188  
*Currently working from home*



---

**From:** Gombold, Brigid (DOT) <[brigid.gombold@state.mn.us](mailto:brigid.gombold@state.mn.us)>  
**Sent:** Friday, February 11, 2022 6:57 AM  
**To:** Kurth, Andrew (DOT) <[andrew.kurth@state.mn.us](mailto:andrew.kurth@state.mn.us)>  
**Cc:** 'bdanner@srfconsulting.com' <[bdanner@srfconsulting.com](mailto:bdanner@srfconsulting.com)>; Jana Guseynova <[JGuseynova@srfconsulting.com](mailto:JGuseynova@srfconsulting.com)>; Langenbach, Diane (DOT) <[diane.langenbach@state.mn.us](mailto:diane.langenbach@state.mn.us)>; Darin Mielke <[dmielke@co.carver.mn.us](mailto:dmielke@co.carver.mn.us)>  
**Subject:** PRE-ENM for CRU input - TH 212 Expansion and the Stender Farmstead

Hi Andrew

I have another Pre-ENM for a Carver Co project on US212. The County received funding to expand US 212 from two to four lanes with some intersection improvements.

A planning study was done in 2010 that looked at this area, one being the Stender Farmstead, which will be impacted by this project. The Stender Farmstead parcels were determined to be a NHRP-eligible property in the study, see Figure 4 in the PRE-ENM. Correspondence between MnDOT and the State Historic Preservation Office (SHPO) is attached to the end of the document. Impacts to this property are anticipated, though the extent of these impacts is yet to be determined by the corridor option that will move forward in project development. See Table 1 after Figures 1-4 for quantitative impacts of each corridor option. Early coordination with MnDOT CRU is requested

We would like someone in CRU assigned to help us with the Section 106 impacts and process due to expected impacts to this historic property. We are currently in the alternatives selection process and want CRU input.



Internal:

[https://edocs/edocs\\_employee/DMResultSet/download?docId=15854026](https://edocs/edocs_employee/DMResultSet/download?docId=15854026)

External:

[https://edocs-public.dot.state.mn.us/edocs\\_public/DMResultSet/download?docId=15854026](https://edocs-public.dot.state.mn.us/edocs_public/DMResultSet/download?docId=15854026)

Let me know if you have any questions – Thanks

Brigid

Brigid Gombold  
MnDOT Metro District  
Environmental Coordinator  
1500 CR B2  
Roseville, MN 55113  
651.234.7674



Cultural Resources Unit, Environmental Stewardship  
395 John Ireland Boulevard, Mail Stop 620  
Saint Paul, MN 55155-1800

April 17, 2023

Nicole Foss, Environmental Review Transportation Liaison  
Minnesota State Historic Preservation Office  
Administration Building #203  
50 Sherburne Avenue  
Saint Paul, MN 55155

Re: Reconstruction of TH 212 from Norwood Young America to Cologne (SP 1013-77 "Part A")  
Benton Township, Carver County  
T115N, R25W, Sections 14-18 and T 115N, R26W, Sections 13-14  
Additional Information on Architecture-History Resources  
SHPO #2008-3318  
Federal and State Review

Dear Ms. Foss:

I am writing to continue consultation on the above-referenced project. Thank you for your March 8, 2023, response to our recent submittal of architecture-history investigations for this project. We appreciate your concurrence with most of the determinations and for the time you and Ginny Way took to speak with us on March 30, 2023. We would like to respond to your comments and submit updated inventory forms for six properties, including clarification of our finding for Bongards' Coop Creamery.

Thank you for noting that the previously inventoried railroad properties are considered contributing to the National Register-eligible Chicago Milwaukee and St. Paul Railway Company/Chicago Milwaukee St. Paul and Pacific Railroad Company: Hastings and Dakota Division Main Line (XX-RRD-CSP010). These will be noted as such in the assessment of effects and reflected in the project's administrative record.

In addition to providing higher resolution photographs, assessments of integrity, and updated form fields for the following four properties, as requested, clarifying narrative has been provided where appropriate:

- Stender Farmstead (CR-BNT-006)
- Spieker Farm (CR-BNT-140)
- Commercial Building (CR-BNT-156)
- Heap Farmstead (CR-YAT-012)



A corrected version of the inventory form for the house at 12920 County Road 51 (CR-BNT-162) is enclosed with this submittal.


Per our discussion on March 30, the period of significance for Bongards' Coop Creamery (CR-BNT-001, revised form enclosed) has been updated and is now noted as circa 1950 to 1975. We recognize that although the significant history of the company goes back to the early 1900s and portions of pre-1950 construction are said to still exist within the complex, this period of significance reflects the most visible and intact resources. The period from circa 1950 to 1975 encompasses several periods of expansion related to Bongards' dominance in the local cheese-making industry, including their rebuilding following the tragic 1969 explosion. In addition to clarifying the period of significance for the historic property, Bolton and Menk has made additional clarifications about the number and location of contributing and noncontributing resources.

### Conclusion & Request for Comments

Pursuant to Stipulations 3.D and 3.E of the Statewide PA, we request any comments from your office within 21 days of receipt of this letter. Specifically, we are requesting comments on the clarified evaluation of Bongards' Coop Creamery (CR-BNT-001) and acknowledgement that the revised inventory forms meet documentation requirements.

Please do not hesitate to contact me if you have any questions, require additional information on the historic properties or potential effects, or would like to schedule a meeting to discuss the project.

Sincerely,



Barbara A.M. Howard, Historian  
[Barbara.Howard@state.mn.us](mailto:Barbara.Howard@state.mn.us) | 651-366-3636

Encl. Updated inventory forms for six properties

CC: CRIS (Administrative Record)  
Diane Langenbach, MnDOT  
Darin Mielke, Carver County  
Craig Hass, SRF Consulting  
Renée Barnes, Bolton and Menk, Inc.

March 8, 2023

VIA E-MAIL

Barbara A.M. Howard  
Cultural Resources Unit  
MN Department of Transportation  
395 John Ireland Blvd, MS 620  
St. Paul, MN 55155-1899

RE: MnDOT SP 1013-77 "Part A", Reconstruction of TH 212 from Norwood Young America to Cologne  
Benton Township, Carver County (Federal and State Review)  
SHPO Number: 2008-3318

Dear Ms. Howard,

Thank you for initiating consultation with our office regarding the above-referenced project. Information received in our office via e-mail on February 9, 2023 has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), its implementing federal regulations, "Protection of Historic Properties" (36 CFR Part 800), and per the terms of the 2014 Amended Programmatic Agreement (PA) executed among the Federal Highway Administration, the U.S. Army Corps of Engineers (Corps), the Advisory Council on Historic Preservation, and the Minnesota State Historic Preservation Office.

We have also reviewed this project pursuant to the responsibilities given the State Historic Preservation Office by the Minnesota Historic Sites Act (Minn. Stat. 138.665-666) and the Minnesota Field Archaeology Act (Minn. Stat. 138.40).

We have completed a review of your letter dated February 9, 2023, a submittal which included the following documentation:

- Table 1. Above-Ground Resources Excluded from Survey (MnDOT CRU, 2/9/2023);
- Table 2. Architecture-History Investigations (MnDOT CRU, 2/9/2023);
- Roll plot (SRF, 6/2/2022, 1 pg.);
- Area of Potential Effects Maps (MnDOT, 2/1/2023, 7 pp.);
- Report titled *Phase I and II Architecture/History Survey: US Highway 212 Expansion from Norwood Young America to Cologne (SP 1013-77), Carver County, Minnesota* (Bolton and Menk, December 2022); and
- Report titled *Supplemental Phase I Archaeological Investigations for the Trunk Highway 212 Improvements Project – Norwood Young America to Cologne, Carver County, Minnesota* (Two Pines, February 2023).

Our comments are provided below.

### Definition of Federal Undertaking and Area of Potential Effect

We understand by your February 9<sup>th</sup> letter that the proposed federal undertaking consists of the reconstruction of Trunk Highway (TH) 212 between Norwood Young America and the west end of the Cologne bypass, expanding it from two to four lanes, and that this project was originally proposed in 2008 as "Part A" of a larger project that also included "Part B." In 2020, the SHPO concurred with a No Adverse Effect Finding for Part B, and we understand that the current submittal consists of Part A, with some changes from the original Part A. This undertaking includes the construction of Reduced Conflict Intersections (RCIs) west of County Road (CR) 36 at County Drive, CR 153, Salem Avenue, and Tacoma Avenue; the reconfiguration of the intersection of CR 51 and TH 212 as a bridge overpass; the construction of several treatment ponds and drainage improvements which will likely involve Corps permitting; the construction of snow fencing along TH 212 in yet-to-be-determined locations; right-of-way impacts and acquisitions, including a potential residential relocation; and construction staging in the highway median west of Tacoma Avenue and west of CR 36.

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### MINNESOTA STATE HISTORIC PRESERVATION OFFICE

50 Sherburne Avenue ■ Administration Building 203 ■ Saint Paul, Minnesota 55155 ■ 651-201-3287 [mn.gov/admin/shpo](http://mn.gov/admin/shpo) ■ [mnshpo@state.mn.us](mailto:mnshpo@state.mn.us)

AN EQUAL OPPORTUNITY AND SERVICE PROVIDER



Based upon our understanding of the scope and nature of the federal undertaking, we agree that your agency’s definition of the Area of Potential Effects (APE), as defined in narrative and documented in the APE map of your February 9<sup>th</sup> submission, is generally appropriate to take into account both direct and indirect effects that the proposed undertaking may have on historic properties.

## Consultation and Public Engagement

Thank you for providing a summary of consulting party engagement efforts your agency has completed to date.

## Identification of Historic Properties

### **Archaeology**

We concur that the effort to identify archaeological sites within the APE is reasonable relative to the proposed scope and extent of the federal undertaking, and agree with the planned Phase II evaluation for **Site 21CR0174, the Kief-Fruetel-Bachmann Farmstead**, as well as the recommendation for archaeological monitoring of ground-disturbing activities near St. John’s German Reformed Church Cemetery, which is part of the church property inventoried as **CR-BNT-002**.

### **Architectural History**

On May 4, 2021, the SHPO concurred with the following determinations as part of streamlining review #2021-0868; we continue to concur with these determinations:

- **XX-RRD-CSP010 CMStP Railway Co./CMStP&P Railroad Co: H&D Division Mainline** is **eligible** for listing in the National Register of Historic Places (NRHP); and
- **XX-RRD-CSP013 H&D Railway Co./CMStP Railway Co./CMStP&P Railroad Co: Mainline** is **not eligible** for listing in the NRHP.

In 2008, the SHPO concurred that the following properties were **eligible** for listing in the NRHP as part of SHPO #2008-3318; these properties are considered **contributing to the NRHP-eligible XX-RRD-CSP010**<sup>1</sup>:

- **CR-BNT-136 Hastings and Dakota Railway - Benton Township Segment;**
- **CR-CLC-027 Hastings and Dakota Railway - Cologne Segment;**
- **CR-NWC-008 Hastings & Dakota Railroad, Norwood-Young America Township Segment;** and
- **CR-YAT-010 Hastings & Dakota Railroad, Young America Township Segment.**

Also in 2008, the SHPO concurred that the following properties were not eligible for listing in the NRHP as part of SHPO #2008-3318. Thank you for preparing inventory form updates, as over 10 years has passed since these were surveyed. We agree that these properties **remain not eligible**:

- **CR-BNT-002 St. Johannes German Evangelical Reformed Church**
- **CR-BNT-138 Jorissen Farmstead**
- **CR-BNT-139 Wolter Farmstead**
- **CR-BNT-142 House**
- **CR-BNT-143 House**
- **CR-BNT-144 House**
- **CR-BNT-146 House**
- **CR-BNT-147 “Heifer Hotel” Farmstead**
- **CR-BNT-148 House**
- **CR-BNT-149 Farmstead**
- **CR-BNT-150 Bachmann Farmstead**
- **CR-BNT-151 Farmstead**
- **CR-BNT-152 Farmstead**
- **CR-YAT-011 Falk Farmstead**
- **CR-YAT-012 Heap Farmstead**
- **XX-ROD-039 TH 212**

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<sup>1</sup> Beginning in January 2019, newly identified railroad properties (including corridors that had not yet been assigned inventory numbers for their entirety) are assigned inventory numbers following the new railroad numbering scheme (e.g., XX-RRD-CSP001). Railroad resources such as segments that already had numbers assigned retain their original numbers, and the individual properties are considered contributing, non-contributing, or unevaluated resources within the larger branches and corridors.

We concur that the following nine properties, which were newly inventoried as they now meet the 45-year threshold and/or are within the current APE, are **not eligible** for listing in the NRHP. We appreciate the thorough research that informed the evaluation of significance for CR-BNT-156:

- **CR-BNT-156 Commercial Building**
- **CR-BNT-157 House**
- **CR-BNT-158 House**
- **CR-BNT-159 House**
- **CR-BNT-160 House**
- **CR-BNT-161 House**
- **CR-BNT-162 House**
- **CR-BNT-163 House**
- **CR-BNT-164 House**

Thank you for preparing updates for **CR-BNT-141 House** and **CR-BNT-145 Peschken Farmstead** documenting that these properties have been demolished since the 2008 survey and are **non-extant**.

On August 29, 2008, the SHPO concurred that the following two properties are **eligible** for listing in the NRHP as part of SHPO #2008-3318; we continue to concur with these determinations:

- **CR-BNT-006 Stender Farmstead**; and
- **CR-BNT-140 Spiecker Farm**.

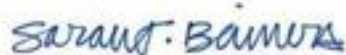
We concur with the recommended reduction in the eligible acreage for the **Stender Farmstead (CR-BNT-006)** property from 63 to 47 acres, with the removal of the discontinuous 16 acre-parcel.

Please submit new versions of the inventory forms for **CR-BNT-006**, **CR-BNT-140**, **CR-BNT-156** (including a photo showing the full façade), and **CR-YAT-012** with higher resolution photographs, and include an assessment of the seven aspects of integrity for **CR-BNT-140** and **CR-BNT-156**. The first three pages of frontmatter in the inventory form for **CR-BNT-162** contain data for CR-BNT-161; please submit a corrected version of the inventory form for CR-BNT-162.

Based upon information provided in the recently completed survey, it is our opinion that there is insufficient documentation to support the eligibility determination for **Bongards' Coop Creamery (CR-BNT-001)**. According to National Register Bulletin 16A, a property "must possess historic integrity for all periods of significance entered." While Bongards' Coop Creamery (CR-BNT-001) has significance from 1908 to 1975, it does not appear to retain integrity for the 1908 to 1960s period, therefore it would not be eligible for listing in the NRHP for this period of significance. Please clarify if the property possesses significance from the period between 1969 and 1975, when it appears that several of the core operation buildings were rebuilt.

We look forward to continuing consultation with your agency as historic property identification efforts and assessments of potential adverse effects to historic properties are completed. Please feel free to contact Nicole Foss, Environmental Review Transportation Liaison, at [nicole.foss@state.mn.us](mailto:nicole.foss@state.mn.us) or (651) 201-3248 if you have any questions regarding our review of this project.

Sincerely,



Sarah J. Beimers  
Environmental Review Program Manager

**From:** Gombold, Brigid (DOT) <[brigid.gombold@state.mn.us](mailto:brigid.gombold@state.mn.us)>  
**Sent:** Monday, July 25, 2022 9:25 AM  
**To:** Brett Danner; Ries, Natalie (DOT)  
**Subject:** FW: ENM Review for US212 SP:1013-77 Benton Township Carver County  
Reply By 8/8/2022

Hi Brett

Below is the noise response from Natalie. Can you confirm that GHG/MICE analysis will be completed.

Natalie – Yes SRF is completing the noise analysis. I'm not sure what they have contracted for air.

Brigid

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**From:** Ries, Natalie (DOT) <[natalie.ries@state.mn.us](mailto:natalie.ries@state.mn.us)>  
**Sent:** Friday, July 15, 2022 9:13 AM  
**To:** Gombold, Brigid (DOT) <[brigid.gombold@state.mn.us](mailto:brigid.gombold@state.mn.us)>  
**Subject:** RE: ENM Review for US212 SP:1013-77 Benton Township Carver County Reply By 8/8/2022

Hi Brigid,

Noise – I concur that this is a Type 1 noise project. Has Carver County hired a noise consultant (maybe SRF?)

Air Quality – This project will require a qualitative air quality analysis. Quantitative MSAT/MOVES modeling would not be required.

GHG – This project will require a GHG/MICE analysis.

Thanks,

**Natalie Ries**

Noise/Air Quality Program Supervisor  
MnDOT Metro District

**Address:** 1500 West County Road B2 • Roseville, MN 55113

**Email:** [Natalie.Ries@state.mn.us](mailto:Natalie.Ries@state.mn.us)

**Phone:** (651) 234-7681

**Pronouns:** She/Her



---

**From:** Gombold, Brigid (DOT) <[brigid.gombold@state.mn.us](mailto:brigid.gombold@state.mn.us)>  
**Sent:** Thursday, July 7, 2022 11:31 AM  
**To:** Fowler, Patty (DOT) <[Patricia.Fowler@state.mn.us](mailto:Patricia.Fowler@state.mn.us)>; MN\_DOT\_Protected Species  
<[protectedspecies.dot@state.mn.us](mailto:protectedspecies.dot@state.mn.us)>; MN\_DOT\_CulturalResources



<[CulturalResources.dot@state.mn.us](mailto:CulturalResources.dot@state.mn.us)>; Berger, John (DOT) <[John.Berger@state.mn.us](mailto:John.Berger@state.mn.us)>; Swanson, Victoria (DOT) <[Victoria.Swanson@state.mn.us](mailto:Victoria.Swanson@state.mn.us)>; Shekur, Hailu (DOT) <[hailu.shekur@state.mn.us](mailto:hailu.shekur@state.mn.us)>; Ries, Natalie (DOT) <[natalie.ries@state.mn.us](mailto:natalie.ries@state.mn.us)>; Voigt, Paul (DOT) <[paul.voigt@state.mn.us](mailto:paul.voigt@state.mn.us)>; Milkert, Anjani (DOT) <[minnie.milkert@state.mn.us](mailto:minnie.milkert@state.mn.us)>

**Cc:** Langenbach, Diane (DOT) <[diane.langenbach@state.mn.us](mailto:diane.langenbach@state.mn.us)>; Darin Mielke <[dmielke@co.carver.mn.us](mailto:dmielke@co.carver.mn.us)>; Craig Hass <[chass@srfconsulting.com](mailto:chass@srfconsulting.com)>; Alex Yellick <[AYellick@srfconsulting.com](mailto:AYellick@srfconsulting.com)>; Jacobson, Nani (DOT) <[Nani.Jacobson@state.mn.us](mailto:Nani.Jacobson@state.mn.us)>; Kobilarcsik, Curt (DOT) <[Curt.Kobilarcsik@state.mn.us](mailto:Curt.Kobilarcsik@state.mn.us)>; Brown, Colleen (DOT) <[colleen.brown@state.mn.us](mailto:colleen.brown@state.mn.us)>; 'bdanner@srfconsulting.com' <[bdanner@srfconsulting.com](mailto:bdanner@srfconsulting.com)>

**Subject:** ENM Review for US212 SP:1013-77 Benton Township Carver County Reply By 8/8/2022

Hi Reviewers,

Carver County has a new project on US212 that will expand the highway from two lanes to four lanes in Benson Township which they will be letting in 2024. The Environmental Documentation is going through the OES/Trunk Highway side of MnDOT and the Design will go through State Aid. This Early Notification Memo notice is being sent to you by Metro's Environmental Documentation staff to coordinate review of the project for the NonPCE and EAW that will be required for documentation. The project received the following funding sources: Federal (\$23.5M) & State (\$31.1M) & County (\$4.5M)

The ENM can be downloaded at the following link:

External:

[https://edocs-public.dot.state.mn.us/edocs\\_public/DMResultSet/download?docId=19288165](https://edocs-public.dot.state.mn.us/edocs_public/DMResultSet/download?docId=19288165)

Some of you are just an FYI, as you will be involved later in design (Water Resources and ROW)  
Please respond by: **8/8/2022**

Let me know if you have any questions.

Thank you,

Brigid

Brigid Gombold  
Environmental Documentation Supervisor  
1500 CR B2  
Roseville, MN 55112

**From:** Foley, Ryan (DOT) <[Ryan.Foley@state.mn.us](mailto:Ryan.Foley@state.mn.us)>  
**Sent:** Monday, November 28, 2022 11:43 AM  
**To:** Marsh, Dawn S <[dawn\\_marsh@fws.gov](mailto:dawn_marsh@fws.gov)>  
**Cc:** Langenbach, Diane (DOT) <[diane.langenbach@state.mn.us](mailto:diane.langenbach@state.mn.us)>; Brett Danner <[bdanner@srfconsulting.com](mailto:bdanner@srfconsulting.com)>; Gombold, Brigid (DOT) <[brigid.gombold@state.mn.us](mailto:brigid.gombold@state.mn.us)>; Forst, Phil (FHWA) <[phil.forst@dot.gov](mailto:phil.forst@dot.gov)>; [william.lohr@dot.gov](mailto:william.lohr@dot.gov)  
**Subject:** Request for Concurrence, SP 1013-77, ESA (Section 7) - PBO LAA

Ms. Marsh:

Attached is my **Request for Concurrence** and consistency letter for the federal aid project number 1013-77. The proposed project was reviewed under the USFWS Programmatic Biological Opinion for FHWA, FRA, FTA Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO). This review was processed via IPaC, and resulted in the determination of *may affect, likely to adversely affect* the northern long-eared bat based on tree clearing occurring 100-300' from the existing road surface. ***MnDOT, on behalf of FHWA, is requesting written concurrence that the project may rely on the PBO to comply with Section 7 of the Endangered Species Act for the Project's effects to NLEB.***

***Note: Some questions within the NLEB Determination Key were interpreted and answered in consultation with USFWS (November 2022).***

Diane:

The proposed project was reviewed under the USFWS Programmatic Biological Opinion for FHWA, FRA, FTA Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO), which was published in February 5, 2018. Per the PBO, we must submit the attached notice of determination to USFWS and USFWS will try to respond within 30 days to verify whether the project is consistent with the PBO. **We need to wait for USFWS' written response before our ESA Section 7 obligations are complete.** I will forward you a copy of the USFWS correspondence when received.

"Conservation Measures" identified in this review represent project commitments and must be incorporated into project documents (e.g., specifications, special provisions, green sheets, etc.). Measures specific to the northern long-eared bat (NLEB) are included in the attached as Avoidance and Minimization Measures (AMMs). Please consult the OES protected species program coordinator ([Christopher.E.Smith@state.mn.us](mailto:Christopher.E.Smith@state.mn.us)) if modifications are requested.

Migratory Bird Treaty Act ([link](#))

Protected birds are not anticipated to be impacted by the proposed action – structure demolition will occur during the winter months.

Bald and Golden Eagle Protection Act ([link](#))

Based on the best available information, the proposed action is not anticipated to disturb, harm, or destroy a bald eagle or a bald eagle nest.

Please let me know if you have any questions, comments, or concerns.

Take care,  
Ryan

--

**Ryan Foley**  
Fish and Wildlife Specialist

**Minnesota Department of Transportation**  
Office of Environmental Stewardship  
395 John Ireland Blvd.  
St. Paul, Minnesota 55155  
[mndot.gov](http://mndot.gov)





November 28, 2022

Dawn Marsh  
U.S. Fish and Wildlife Service  
Minnesota-Wisconsin ES Field Office  
4101 American Blvd East  
Bloomington, MN 55425-1665

**S.P. 1013-77, TH 212**

Project Code: 2023-0014271  
Cologne and Norwood Young America, Carver County, Minnesota

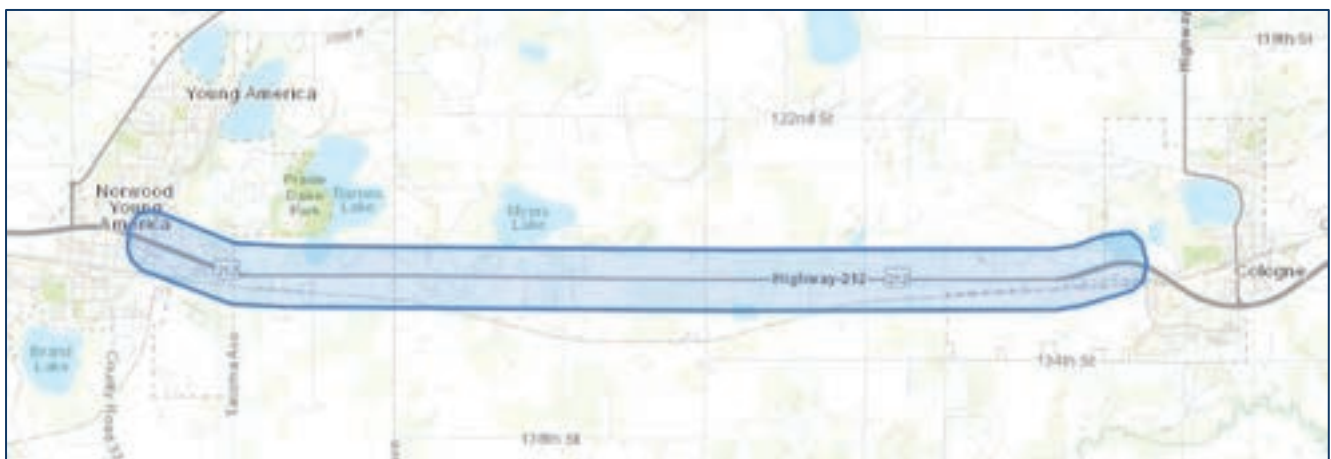
**Request for Concurrence** – May affect, likely to adversely affect – Northern long-eared bat (*Myotis septentrionalis*)

No Jeopardy Determination – Tricolored bat (*Perimyotis subflavus*)

No Jeopardy Determination – Monarch butterfly (*Danaus plexippus*)

**Project Description:**

The purpose of this proposed project is to expand Trunk Highway (TH) 212 from two to four lanes between Norwood Young America and Cologne, Minnesota. Additional project components include the construction of reduced conflict intersections (RCIs) at multiple locations throughout the approximately 6-mile-long corridor, the reconfiguration of the TH 212/County State Aid Highway (CSAH) 51 intersection as an overpass, construction of stormwater ponds to accommodate the roadway expansion, and snow fence installation. Roadway expansion will result in the removal of up to 12.0 acres of trees with removals occurring during the winter months (November 1 to March 31, inclusive). No bridge work is proposed. Roadway expansion will require the acquisition and demolition of a residential property and associated outbuildings (e.g., barn, garage, granary, corn crib). Evidence of bat use was observed within the granary (inspected November 2022; Attachment 1). No evidence of bat use was observed in other structures. The project area is characterized by agriculture and sporadic wooded stands with urban development at both ends of the corridors in the cities of Norwood Young America and Cologne, Minnesota.



Action Area identified for the proposed project.

**Conservation Measures:**

Required Avoidance and Minimization Measures (AMMs). See MnDOT boiler plate special provisions (e.g., *Protection of Fish and Wildlife Resources*).

- **General AMM 1:** Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. *Notify contractor(s) during the pre-construction meeting. Bat sightings (including sick, injured, and/or dead bats) on the project must be reported to OES wildlife ecologist (612-741-7678).*
- **Lighting AMM 1 & AMM 2:** Direct temporary lighting, if used, away from wooded areas during the bat active season (April 1 to Oct 31, inclusive). If installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable. *Please contact Susan Zarling (MnDOT Lighting Engineer) at 651-234-7052 with questions about approved products.*
- **Tree Removal AMM 3:** Tree removal must be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

Additional Required Conservation Measures:

- **Winter tree clearing required** – tree clearing allowed November 1 to March 31, inclusive.
- **Winter structure demolition required** – structure removals allowed November 1 to March 31, inclusive.
- Active season (April 1 to October 31, inclusive) structure inspection required prior to removals.
- Revegetation of disturbed soils must follow district Vegetation Establishment Recommendations (<http://www.dot.state.mn.us/environment/erosion/vegetation.html>) and use 3#-### series seed mixes that contain native species in areas that are *not proposed* for frequently mowed lawn. Include mowing and weed spraying as indicated in the District Vegetation Establishment Recommendations. For additional information, visit: <http://www.dot.state.mn.us/environment/erosion/vegetation.html>.

**Species List for the Project Action Area**

A list of federally threatened, endangered, proposed and candidate species, and designated and proposed critical habitat that overlaps with the action area, was requested via the Information for Planning and Consultation (IPaC) web application maintained by the U.S. Fish and Wildlife Service (requested November 2022). Based on this list, the project is within the range of the following:

Species	Status	Habitat
<a href="#">Tricolored Bat</a> <i>Perimyotis subflavus</i>	Proposed - Endangered	Hibernates in caves, mines, and tunnels. Roosts in live or dead trees, buildings, and bridges. Forages along forested edges and over waterways.
<a href="#">Northern long-eared bat</a> <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during spring and summer.
<a href="#">Monarch butterfly</a> <i>Danaus plexippus</i>	Candidate	Grassland habitats where milkweed and flowers are present.

MnDOT consults the Minnesota Department of Natural Resources Natural Heritage Information System (Copyright 2022 State of Minnesota, Department of Natural Resources), and other resources as available, to determine if proposed projects may affect listed species.

## Endangered Species Act – Section 7 Consultation

Section 7 of Endangered Species Act of 1973, as amended (Act), requires each Federal agency to review any action that it funds, authorizes or carries out to determine whether it may affect threatened, endangered, proposed species or listed critical habitat. Federal agencies (or their designated representatives) must consult with the U.S. Fish and Wildlife Service (Service) if any such effects may occur as a result of their actions. Consultation with the Service is not necessary if the proposed action will not directly or indirectly affect listed species or critical habitat. If a federal agency finds that an action will have no effect on listed species or critical habitat, it should maintain a written record of that finding that includes the supporting rationale.

### Concurrence Requests

Northern long-eared bat (*Myotis septentrionalis*) – May affect, likely to adversely affect

No documented NLEB hibernacula and/or roost trees are documented within the project Action Area ([https://files.dnr.state.mn.us/eco/ereview/minnesota\\_nleb\\_township\\_list\\_and\\_map.pdf](https://files.dnr.state.mn.us/eco/ereview/minnesota_nleb_township_list_and_map.pdf)). The proposed project includes some tree removals (approximately 3.0 acres) 100 – 300' of existing roadsides. The construction of the TH 212/CSAH 51 overpass will require work beyond 300' of existing roadsides, but this work will be conducted in an agricultural-dominated landscape and is not within 1,000' of suitable NLEB habitat. Therefore, no impacts to NLEB are anticipated due to this work.

A farmstead residence and associated outbuildings (e.g., barn, garage, etc.) are slated for demolition due to roadway expansion. Evidence of a summer bat colony was observed within the granary during a November 2022 inspection (see Attachment 1). The second level of the granary contained evidence of past and recent bat use: several piles of guano near the windows, droppings relatively widespread throughout the second level floor, and staining on walls and rafters. While it is likely that a summer colony of bats are using the structure, due to landscape factors (agricultural landscape; few wooded areas) and declining NLEB populations, it is unlikely that this structure is being utilized by NLEB. An active season inspection (anticipated 2023) will be conducted prior to any structure work to positively identify bat species utilizing the structure. **Consultation with USFWS will be re-initiated if NLEB are observed using the structure.** USFWS has approved of this approach (November 2022).

This project review relies on the USFWS-issued species-specific rangewide programmatic agreement and associated biological opinion for FHWA, FRA, FTA Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 et seq.). The review was completed using the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) system. The U.S. Fish and Wildlife Service's consistency letter is attached (Attachment 2).

### No Jeopardy Determinations

Tricolored bat (*Perimyotis subflavus*) – No jeopardy determination

The proposed project *may affect* tricolored bats and/or suitable tricolored bat habitat. Stressors for the tricolored bat include tree clearing, noise (including percussives), lighting, and/or bridge and structure work in areas of documented or presumed tricolored bat habitat. Based on the proposed scope of work, project activities are not expected to appreciably diminish the quality or extent of available suitable habitat within the project's action area. Additionally, the project will incorporate bat-specific Conservation Measures to further avoid and minimize impacts to this species. **Therefore, MnDOT on behalf of the FHWA, does not anticipate the proposed action will jeopardize the continued existence of this species.**

Monarch butterfly (*Danaus plexippus*) – No jeopardy determination

The proposed project *may affect* monarch butterflies and/or suitable monarch habitat. Ground and vegetation disturbing activities are not expected to appreciably diminish the quality or extent of available suitable habitat within the project's Action Area. In addition, MnDOT is enrolled under the Nationwide Candidate Conservation Agreement on Energy and Transportation Lands (CCAA) and adopted lands and conservation measures agreed to under the CCAA are anticipated to result in a net conservation benefit to the species. **Therefore, MnDOT on behalf of the FHWA, does not anticipate the proposed action will jeopardize the continued existence of this species.**



Please contact me if there are questions or concerns.

Thank you,



Digitally signed by Ryan Foley  
Date: 2022.11.28 11:27:42  
-06'00'

**Ryan Foley**

Fish and Wildlife Specialist

**Minnesota Department of Transportation**

Office of Environmental Stewardship

395 John Ireland Blvd., M.S. 620








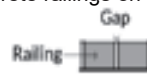

St. Paul, Minnesota 55155

Ryan.Foley@state.mn.us

[mndot.gov](http://mndot.gov)

Attachment 1: Structure Inspection Reports

# Bridge/Structure Bat Assessment Form

Date & Time of Assessment	11/18/22; 1pm	DOT Project Number	1013-77 (TH 212)	Route/Facility Carried	n/a	County	Carver
Federal Structure ID	n/a	Structure Coordinates (latitude and longitude)	44.7685, -93.8841	Structure Height (approximate)	20 ft (2 levels)	Structure Length	20 x 30 ft.
<b>Structure Type (check one)</b>				<b>Structure Material (check all that apply)</b>			
<i>Bridge Construction Style</i>				<i>Deck Material</i>			
<input type="radio"/> Cast-in-place 	<input type="radio"/> Pre-stressed Girder 	<input type="checkbox"/> Metal		<input type="checkbox"/> None		<input type="checkbox"/> Concrete	
<input type="radio"/> Flat Slab/Box 	<input type="radio"/> Steel I-beam 	<input type="checkbox"/> Concrete		<input type="checkbox"/> Concrete		<input type="checkbox"/> Timber	
<input type="radio"/> Truss 	<input type="radio"/> Covered 	<input type="checkbox"/> Timber		<input type="checkbox"/> Steel		<input type="checkbox"/> Stone/Masonry	
<input type="radio"/> Parallel Box Beam 	<input type="radio"/> Other:	<input type="checkbox"/> Open grid		<input type="checkbox"/> Timber		<input type="checkbox"/> Other:	
						<b>Creosote Evidence</b>	
<i>Culvert Type</i>				<i>Culvert Material</i>		<input type="radio"/> Yes <input type="radio"/> No	
<input type="radio"/> Box		<input type="radio"/> Other Structure		<input type="checkbox"/> Metal		<input checked="" type="radio"/> Unknown	
<input type="radio"/> Pipe/Round		<input checked="" type="radio"/> Granary/workshop. 2 levels.		<input type="checkbox"/> Concrete		<b>Notes:</b> Wood structure	
<input type="radio"/> Other:				<input type="checkbox"/> Plastic			
				<input type="checkbox"/> Stone/Masonry			
<b>Crossings Traversed (check all that apply)</b>				<b>Surrounding Habitat (check all that apply)</b>			
<input type="checkbox"/> Bare ground	<input type="checkbox"/> Open vegetation	<input checked="" type="checkbox"/> Agricultural	<input type="checkbox"/> Grassland				
<input type="checkbox"/> Rip-rap	<input type="checkbox"/> Closed vegetation	<input type="checkbox"/> Commercial	<input type="checkbox"/> Ranching				
<input type="checkbox"/> Flowing water	<input type="checkbox"/> Railroad	<input type="checkbox"/> Residential-urban	<input type="checkbox"/> Riparian/wetland				
<input type="checkbox"/> Standing water	<input type="checkbox"/> Road/trail - Type:	<input checked="" type="checkbox"/> Residential-rural	<input type="checkbox"/> Mixed use				
<input type="checkbox"/> Seasonal water	<input type="checkbox"/> Other:	<input checked="" type="checkbox"/> Woodland/forested	<input type="checkbox"/> Other:				
<b>Areas Assessed (check all that apply)</b>				Check all areas that apply. If an area is not present in the structure, check the "not present" box. Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.			
<b>Area (check if assessed)</b>		<b>Assessment Notes</b>		<b>Evidence of Bats (include photos if present)</b>			
<input checked="" type="checkbox"/> All crevices and cracks: <b>Bridges/culverts:</b> rough surfaces or imperfections in concrete <b>Other structures:</b> soffits, rafters, attic areas		<input type="checkbox"/> Not present Evidence of colony of bats on upper level of granary. Several piles of droppings, staining on walls and rafters. See attached pictures.		<input type="checkbox"/> Visual - live #      dead #		<input type="checkbox"/> Audible <input type="checkbox"/> Species	
<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/> Guano		<input checked="" type="checkbox"/> unk.	
<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/> Staining			
<input type="checkbox"/> Concrete surfaces (open roosting on concrete)		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead #		<input type="checkbox"/> Audible <input type="checkbox"/> Species	
<input type="checkbox"/>				<input type="checkbox"/> Guano		<input type="checkbox"/> Odor	
<input type="checkbox"/>				<input type="checkbox"/> Staining		<input type="checkbox"/> Photos	
<input type="checkbox"/> Spaces between concrete end walls and the bridge deck		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead #		<input type="checkbox"/> Audible <input type="checkbox"/> Species	
<input type="checkbox"/>				<input type="checkbox"/> Guano		<input type="checkbox"/> Odor	
<input type="checkbox"/>				<input type="checkbox"/> Staining		<input type="checkbox"/> Photos	
<input type="checkbox"/> Crack between concrete railings on top of the bridge deck 		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead #		<input type="checkbox"/> Audible <input type="checkbox"/> Species	
<input type="checkbox"/>				<input type="checkbox"/> Guano		<input type="checkbox"/> Odor	
<input type="checkbox"/>				<input type="checkbox"/> Staining		<input type="checkbox"/> Photos	
<input type="checkbox"/> Vertical surfaces on concrete I-beams		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead #		<input type="checkbox"/> Audible <input type="checkbox"/> Species	
<input type="checkbox"/>				<input type="checkbox"/> Guano		<input type="checkbox"/> Odor	
<input type="checkbox"/>				<input type="checkbox"/> Staining		<input type="checkbox"/> Photos	
<input type="checkbox"/> Spaces between walls, ceiling joists		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead #		<input type="checkbox"/> Audible <input type="checkbox"/> Species	
<input type="checkbox"/>				<input type="checkbox"/> Guano		<input type="checkbox"/> Odor	
<input type="checkbox"/>				<input type="checkbox"/> Staining		<input type="checkbox"/> Photos	
<input type="checkbox"/> Weep holes, scupper drains, and inlets/pipes		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead #		<input type="checkbox"/> Audible <input type="checkbox"/> Species	
<input type="checkbox"/>				<input type="checkbox"/> Guano		<input type="checkbox"/> Odor	
<input type="checkbox"/>				<input type="checkbox"/> Staining		<input type="checkbox"/> Photos	
<input type="checkbox"/> All guiderails		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead #		<input type="checkbox"/> Audible <input type="checkbox"/> Species	
<input type="checkbox"/>				<input type="checkbox"/> Guano		<input type="checkbox"/> Odor	
<input type="checkbox"/>				<input type="checkbox"/> Staining		<input type="checkbox"/> Photos	
<input type="checkbox"/> All expansion joints		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead #		<input type="checkbox"/> Audible <input type="checkbox"/> Species	
<input type="checkbox"/>				<input type="checkbox"/> Guano		<input type="checkbox"/> Odor	
<input type="checkbox"/>				<input type="checkbox"/> Staining		<input type="checkbox"/> Photos	
Name: Ryan Foley, Chris Smith, Andrew Krinke				Signature:  Digitally signed by Ryan Foley Date: 2022.11.23 16:01:18 -06'00'			



1013-77 (TH 212)

Benton Township, Minnesota

November 18, 2022 Building Inspections



Photograph 1: Granary at Bachmann residence, Benton Township.



Photograph 2: Pile of bat droppings on upper level of granary.








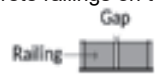



Photograph 3: Evidence of staining along rafters/walls of upper level of granary.










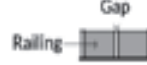

Photograph 4: Bat droppings, upper level of granary.

# Bridge/Structure Bat Assessment Form

Date & Time of Assessment	11/18/22, 1 pm	DOT Project Number	1013-77 (TH 212)	Route/Facility Carried	n/a	County	Carver
Federal Structure ID	n/a	Structure Coordinates (latitude and longitude)	44.7682, -93.8837	Structure Height (approximate)	25 ft.	Structure Length	40 ft. x 40 ft.
<b>Structure Type (check one)</b>				<b>Structure Material (check all that apply)</b>			
<i>Bridge Construction Style</i>				<i>Deck Material</i>			
<input type="radio"/> Cast-in-place 		<input type="radio"/> Pre-stressed Girder 		<input type="checkbox"/> Metal <input type="checkbox"/> Concrete <input type="checkbox"/> Timber <input type="checkbox"/> Open grid <input type="checkbox"/> Other:		<input type="checkbox"/> None <input type="checkbox"/> Concrete <input type="checkbox"/> Steel <input type="checkbox"/> Timber <input type="checkbox"/> Other:	
<input type="radio"/> Flat Slab/Box 		<input type="radio"/> Steel I-beam 		<input type="checkbox"/> Concrete <input type="checkbox"/> Plastic <input type="checkbox"/> Stone/Masonry <input type="checkbox"/> Other:		<input type="checkbox"/> Concrete <input type="checkbox"/> Timber <input type="checkbox"/> Stone/Masonry <input type="checkbox"/> Other:	
<input type="radio"/> Truss 		<input type="radio"/> Covered 		<input type="checkbox"/> Culvert Material		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> No	
<input type="radio"/> Parallel Box Beam 		<input type="radio"/> Other:		<input type="checkbox"/> Metal <input type="checkbox"/> Concrete <input type="checkbox"/> Plastic <input type="checkbox"/> Stone/Masonry <input type="checkbox"/> Other:		<input type="checkbox"/> Notes: Wood structure	
<b>Culvert Type</b>				<b>Other Structure</b>			
<input type="radio"/> Box <input type="radio"/> Pipe/Round <input type="radio"/> Other:				<input checked="" type="radio"/> 2 story house			
<b>Crossings Traversed (check all that apply)</b>				<b>Surrounding Habitat (check all that apply)</b>			
<input type="checkbox"/> Bare ground <input type="checkbox"/> Rip-rap <input type="checkbox"/> Flowing water <input type="checkbox"/> Standing water <input type="checkbox"/> Seasonal water		<input type="checkbox"/> Open vegetation <input type="checkbox"/> Closed vegetation <input type="checkbox"/> Railroad <input type="checkbox"/> Road/trail - Type: <input type="checkbox"/> Other:		<input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Residential-urban <input checked="" type="checkbox"/> Residential-rural <input checked="" type="checkbox"/> Woodland/forested		<input type="checkbox"/> Grassland <input type="checkbox"/> Ranching <input type="checkbox"/> Riparian/wetland <input type="checkbox"/> Mixed use <input type="checkbox"/> Other:	
<b>Areas Assessed (check all that apply)</b>							
Check all areas that apply. If an area is not present in the structure, check the "not present" box. Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.							
<b>Area (check if assessed)</b>		<b>Assessment Notes</b>		<b>Evidence of Bats (include photos if present)</b>			
<input type="checkbox"/> All crevices and cracks: <b>Bridges/culverts:</b> rough surfaces or imperfections in concrete <b>Other structures:</b> soffits, rafters, attic areas		<input type="checkbox"/> Not present No bat sign observed. Homeowner says no bats seen in house in decades.		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Concrete surfaces (open roosting on concrete)		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Spaces between concrete end walls and the bridge deck		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Crack between concrete railings on top of the bridge deck 		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Vertical surfaces on concrete I-beams		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Spaces between walls, ceiling joists		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Weep holes, scupper drains, and inlets/pipes		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> All guiderails		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> All expansion joints		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
Name: Ryan Foley, Chris Smith, Andrew Krinke				Signature: 			
				Digitally signed by Ryan Foley Date: 2022.11.23 16:06:56 -06'00			










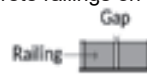

# Bridge/Structure Bat Assessment Form

Date & Time of Assessment	11/18/22, 1 pm	DOT Project Number	1013-77 (TH 212)	Route/Facility Carried	n/a	County	Carver
Federal Structure ID	n/a	Structure Coordinates (latitude and longitude)	44.7686, -93.8844	Structure Height (approximate)	25 ft.	Structure Length	30 ft. x 50 ft.
<b>Structure Type (check one)</b>				<b>Structure Material (check all that apply)</b>			
<i>Bridge Construction Style</i>				<i>Deck Material</i>			
<input type="radio"/> Cast-in-place 	<input type="radio"/> Pre-stressed Girder 	<input type="checkbox"/> Metal	<input type="checkbox"/> Concrete	<input type="checkbox"/> None	<input type="checkbox"/> Concrete	<input type="checkbox"/> Concrete	<input type="checkbox"/> Timber
<input type="radio"/> Flat Slab/Box 	<input type="radio"/> Steel I-beam 	<input type="checkbox"/> Timber	<input type="checkbox"/> Open grid	<input type="checkbox"/> Concrete	<input type="checkbox"/> Steel	<input type="checkbox"/> Stone/Masonry	<input type="checkbox"/> Other:
<input type="radio"/> Truss 	<input type="radio"/> Covered 	<input type="checkbox"/> Other:	<input type="checkbox"/> Other:		<b>Creosote Evidence</b>		
<input type="radio"/> Parallel Box Beam 	<input type="radio"/> Other:	<b>Culvert Material</b>		<input type="radio"/> Yes <input type="radio"/> No			
<b>Culvert Type</b>		<b>Other Structure</b>		<input type="checkbox"/> Metal		<input checked="" type="radio"/> Unknown	
<input type="radio"/> Box	<input checked="" type="radio"/> Metal/cinder block barn - 2 stories	<input type="checkbox"/> Concrete		<b>Notes:</b>			
<input type="radio"/> Pipe/Round		<input type="checkbox"/> Plastic		2 story barn (main + hay loft)			
<input type="radio"/> Other:		<input type="checkbox"/> Stone/Masonry					
		<input type="checkbox"/> Other:					
<b>Crossings Traversed (check all that apply)</b>				<b>Surrounding Habitat (check all that apply)</b>			
<input type="checkbox"/> Bare ground	<input type="checkbox"/> Open vegetation	<input checked="" type="checkbox"/> Agricultural	<input type="checkbox"/> Grassland				
<input type="checkbox"/> Rip-rap	<input type="checkbox"/> Closed vegetation	<input type="checkbox"/> Commercial	<input type="checkbox"/> Ranching				
<input type="checkbox"/> Flowing water	<input type="checkbox"/> Railroad	<input type="checkbox"/> Residential-urban	<input type="checkbox"/> Riparian/wetland				
<input type="checkbox"/> Standing water	<input type="checkbox"/> Road/trail - Type:	<input checked="" type="checkbox"/> Residential-rural	<input type="checkbox"/> Mixed use				
<input type="checkbox"/> Seasonal water	<input type="checkbox"/> Other:	<input checked="" type="checkbox"/> Woodland/forested	<input type="checkbox"/> Other:				
<b>Areas Assessed (check all that apply)</b>							
Check all areas that apply. If an area is not present in the structure, check the "not present" box. Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.							
<b>Area (check if assessed)</b>		<b>Assessment Notes</b>		<b>Evidence of Bats (include photos if present)</b>			
<input type="checkbox"/> All crevices and cracks: <b>Bridges/culverts:</b> rough surfaces or imperfections in concrete <b>Other structures:</b> soffits, rafters, attic areas		<input type="checkbox"/> Not present <b>No bat sign observed.</b>		<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #	<input type="checkbox"/> Audible	<input type="checkbox"/> Species
<input checked="" type="checkbox"/> Concrete surfaces (open roosting on concrete)		<input type="checkbox"/> Not present <b>No bat sign observed on cinder blocks</b>		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining	<input type="checkbox"/> Odor	<input type="checkbox"/> Photos
<input type="checkbox"/> Spaces between concrete end walls and the bridge deck		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #	<input type="checkbox"/> Audible	<input type="checkbox"/> Species
<input type="checkbox"/> Crack between concrete railings on top of the bridge deck 		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining	<input type="checkbox"/> Odor	<input type="checkbox"/> Photos
<input type="checkbox"/> Vertical surfaces on concrete I-beams		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #	<input type="checkbox"/> Audible	<input type="checkbox"/> Species
<input type="checkbox"/> Spaces between walls, ceiling joists		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining	<input type="checkbox"/> Odor	<input type="checkbox"/> Photos
<input type="checkbox"/> Weep holes, scupper drains, and inlets/pipes		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #	<input type="checkbox"/> Audible	<input type="checkbox"/> Species
<input type="checkbox"/> All guiderails		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining	<input type="checkbox"/> Odor	<input type="checkbox"/> Photos
<input type="checkbox"/> All expansion joints		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #	<input type="checkbox"/> Audible	<input type="checkbox"/> Species
				<input type="checkbox"/> Guano	<input type="checkbox"/> Staining	<input type="checkbox"/> Odor	<input type="checkbox"/> Photos
Name: Ryan Foley, Chris Smith, Andrew Krinke				Signature:  Digitally signed by Ryan Foley Date: 2022.11.23 16:17:37 -06'00'			

# Bridge/Structure Bat Assessment Form

Date & Time of Assessment	11/18/22, 1 pm	DOT Project Number	1013-77 (TH 212)	Route/Facility Carried	n/a	County	Carver
Federal Structure ID	n/a	Structure Coordinates (latitude and longitude)	44.7683, -93.8842	Structure Height (approximate)	10 ft.	Structure Length	20 ft. x 25 ft.
<b>Structure Type (check one)</b>				<b>Structure Material (check all that apply)</b>			
<i>Bridge Construction Style</i>				<i>Deck Material</i>			
<input type="radio"/> Cast-in-place		<input type="radio"/> Pre-stressed Girder		<input type="checkbox"/> Metal <input type="checkbox"/> Concrete <input type="checkbox"/> Timber <input type="checkbox"/> Open grid <input type="checkbox"/> Other:		<input type="checkbox"/> None <input type="checkbox"/> Concrete <input type="checkbox"/> Steel <input type="checkbox"/> Timber <input type="checkbox"/> Other:	
<input type="radio"/> Flat Slab/Box		<input type="radio"/> Steel I-beam		<input type="checkbox"/> Concrete <input type="checkbox"/> Plastic <input type="checkbox"/> Stone/Masonry <input type="checkbox"/> Other:		<input type="checkbox"/> Concrete <input type="checkbox"/> Timber <input type="checkbox"/> Stone/Masonry <input type="checkbox"/> Other:	
<input type="radio"/> Truss		<input type="radio"/> Covered				<input type="checkbox"/> Creosote Evidence <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Unknown	
<input type="radio"/> Parallel Box Beam		<input type="radio"/> Other:		<input type="checkbox"/> Culvert Material <input type="checkbox"/> Metal <input type="checkbox"/> Concrete <input type="checkbox"/> Plastic <input type="checkbox"/> Stone/Masonry <input type="checkbox"/> Other:		<input type="checkbox"/> Notes: Open slat corn crib - open to elements and dilapidated	
<b>Culvert Type</b>				<b>Other Structure</b>			
<input type="radio"/> Box <input type="radio"/> Pipe/Round <input type="radio"/> Other:				<input checked="" type="radio"/> Timber corn crib			
<b>Crossings Traversed (check all that apply)</b>				<b>Surrounding Habitat (check all that apply)</b>			
<input type="checkbox"/> Bare ground <input type="checkbox"/> Rip-rap <input type="checkbox"/> Flowing water <input type="checkbox"/> Standing water <input type="checkbox"/> Seasonal water		<input type="checkbox"/> Open vegetation <input type="checkbox"/> Closed vegetation <input type="checkbox"/> Railroad <input type="checkbox"/> Road/trail - Type: <input type="checkbox"/> Other:		<input checked="" type="checkbox"/> Agricultural <input type="checkbox"/> Commercial <input type="checkbox"/> Residential-urban <input checked="" type="checkbox"/> Residential-rural <input checked="" type="checkbox"/> Woodland/forested		<input type="checkbox"/> Grassland <input type="checkbox"/> Ranching <input type="checkbox"/> Riparian/wetland <input type="checkbox"/> Mixed use <input type="checkbox"/> Other:	
<b>Areas Assessed (check all that apply)</b>							
Check all areas that apply. If an area is not present in the structure, check the "not present" box. Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.							
<b>Area (check if assessed)</b>		<b>Assessment Notes</b>		<b>Evidence of Bats (include photos if present)</b>			
<input type="checkbox"/> All crevices and cracks: <b>Bridges/culverts:</b> rough surfaces or imperfections in concrete <b>Other structures:</b> soffits, rafters, attic areas		<input type="checkbox"/> Not present  <b>No sign observed.</b>		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Concrete surfaces (open roosting on concrete)		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Spaces between concrete end walls and the bridge deck		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Crack between concrete railings on top of the bridge deck 		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Vertical surfaces on concrete I-beams		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Spaces between walls, ceiling joists		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> Weep holes, scupper drains, and inlets/pipes		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> All guiderails		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
<input type="checkbox"/> All expansion joints		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #      dead # <input type="checkbox"/> Guano <input type="checkbox"/> Staining		<input type="checkbox"/> Audible <input type="checkbox"/> Odor <input type="checkbox"/> Photos <input type="checkbox"/> Species	
Name: Ryan Foley, Chris Smith, Andrew Krinke				Signature:  Digitally signed by Ryan Foley Date: 2022.11.28 08:47:46 -06'00'			

# Bridge/Structure Bat Assessment Form

Date & Time of Assessment	11/18/22, 1 pm	DOT Project Number	1013-77 (TH 212)	Route/Facility Carried	n/a	County	Carver
Federal Structure ID	n/a	Structure Coordinates (latitude and longitude)	44.7685, -93.8835	Structure Height (approximate)	15 ft.	Structure Length	25 ft. x 25 ft.
<b>Structure Type (check one)</b>				<b>Structure Material (check all that apply)</b>			
<i>Bridge Construction Style</i>				<i>Deck Material</i>			
<input type="radio"/> Cast-in-place 	<input type="radio"/> Pre-stressed Girder 	<input type="checkbox"/> Metal	<input type="checkbox"/> Concrete	<input type="checkbox"/> None	<input type="checkbox"/> Concrete	<input type="checkbox"/> Concrete	<input type="checkbox"/> Timber
<input type="radio"/> Flat Slab/Box 	<input type="radio"/> Steel I-beam 	<input type="checkbox"/> Concrete	<input type="checkbox"/> Timber	<input type="checkbox"/> Concrete	<input type="checkbox"/> Steel	<input type="checkbox"/> Stone/Masonry	<input type="checkbox"/> Other:
<input type="radio"/> Truss 	<input type="radio"/> Covered 	<input type="checkbox"/> Open grid	<input type="checkbox"/> Other:	<input type="checkbox"/> Timber	<input type="checkbox"/> Other:	<b>Creosote Evidence</b>	
<input type="radio"/> Parallel Box Beam 	<input type="radio"/> Other:	<b>Culvert Material</b>		<input type="checkbox"/> Metal	<input type="checkbox"/> Concrete	<input type="checkbox"/> Plastic	<input type="checkbox"/> Stone/Masonry
<b>Culvert Type</b>		<b>Other Structure</b>		<input type="checkbox"/> Other:	<b>Notes:</b>		
<input type="radio"/> Box	<input type="radio"/> Pipe/Round	<input checked="" type="radio"/> Garage			Garage - cinder block and wood construction		
<input type="radio"/> Other:							
<b>Crossings Traversed (check all that apply)</b>				<b>Surrounding Habitat (check all that apply)</b>			
<input type="checkbox"/> Bare ground	<input type="checkbox"/> Rip-rap	<input type="checkbox"/> Flowing water	<input type="checkbox"/> Standing water	<input type="checkbox"/> Seasonal water	<input type="checkbox"/> Open vegetation	<input type="checkbox"/> Closed vegetation	<input type="checkbox"/> Railroad
<input type="checkbox"/> Road/trail - Type:	<input type="checkbox"/> Other:	<input checked="" type="checkbox"/> Agricultural	<input checked="" type="checkbox"/> Commercial	<input type="checkbox"/> Residential-urban	<input checked="" type="checkbox"/> Residential-rural	<input checked="" type="checkbox"/> Woodland/forested	<input type="checkbox"/> Grassland
<input type="checkbox"/> Other:			<input type="checkbox"/> Ranching	<input type="checkbox"/> Riparian/wetland	<input type="checkbox"/> Mixed use	<input type="checkbox"/> Other:	
<b>Areas Assessed (check all that apply)</b>							
Check all areas that apply. If an area is not present in the structure, check the "not present" box. Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.							
<b>Area (check if assessed)</b>		<b>Assessment Notes</b>		<b>Evidence of Bats (include photos if present)</b>			
<input type="checkbox"/> All crevices and cracks: <b>Bridges/culverts:</b> rough surfaces or imperfections in concrete <b>Other structures:</b> soffits, rafters, attic areas		<input type="checkbox"/> Not present <b>No sign observed.</b>		<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #	<input type="checkbox"/> Audible	<input type="checkbox"/> Species
<input checked="" type="checkbox"/> Concrete surfaces (open roosting on concrete)		<input type="checkbox"/> Not present <b>No sign observed on cinder blocks.</b>		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining	<input type="checkbox"/> Odor	<input type="checkbox"/> Photos
<input type="checkbox"/> Spaces between concrete end walls and the bridge deck		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #	<input type="checkbox"/> Audible	<input type="checkbox"/> Species
<input type="checkbox"/> Crack between concrete railings on top of the bridge deck 		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining	<input type="checkbox"/> Odor	<input type="checkbox"/> Photos
<input type="checkbox"/> Vertical surfaces on concrete I-beams		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #	<input type="checkbox"/> Audible	<input type="checkbox"/> Species
<input type="checkbox"/> Spaces between walls, ceiling joists		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining	<input type="checkbox"/> Odor	<input type="checkbox"/> Photos
<input type="checkbox"/> Weep holes, scupper drains, and inlets/pipes		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #	<input type="checkbox"/> Audible	<input type="checkbox"/> Species
<input type="checkbox"/> All guiderails		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Guano	<input type="checkbox"/> Staining	<input type="checkbox"/> Odor	<input type="checkbox"/> Photos
<input type="checkbox"/> All expansion joints		<input checked="" type="checkbox"/> Not present		<input type="checkbox"/> Visual - live #	<input type="checkbox"/> dead #	<input type="checkbox"/> Audible	<input type="checkbox"/> Species
				<input type="checkbox"/> Guano	<input type="checkbox"/> Staining	<input type="checkbox"/> Odor	<input type="checkbox"/> Photos
Name: Ryan Foley, Chris Smith, Andrew Krinke				Signature: 			
				Digitally signed by Ryan Foley Date: 2022.11.28 08:53:27 -06'00'			



Attachment 2: USFWS Consistency Verification Letter



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Minnesota-Wisconsin Ecological Services Field Office  
4101 American Blvd E  
Bloomington, MN 55425-1665  
Phone: (952) 252-0092 Fax: (952) 646-2873

In Reply Refer To:  
Project code: 2023-0014271  
Project Name: S.P. 1013-77 (TH 212)

November 28, 2022

Subject: Consistency letter for the 'S.P. 1013-77 (TH 212)' project under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated November 28, 2022 to verify that the **S.P. 1013-77 (TH 212)** (Proposed Action) may rely on the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures, and may affect, and is likely to adversely affect the endangered Indiana bat (*Myotis sodalis*) and/or the threatened Northern long-eared bat (*Myotis septentrionalis*). Consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required.

This "may affect - likely to adversely affect" determination becomes effective when the lead Federal action agency or designated non-federal representative requests the Service rely on the PBO to satisfy the agency's consultation requirements for this project. Please provide this consistency letter to the lead Federal action agency or its designated non-federal representative for review, and as the agency deems appropriate, transmit to this Service Office for verification that the project is consistent with the PBO.

This Service Office will respond by letter to the requesting Federal action agency or designated non-federal representative within 30 calendar days after receiving request for verification to:

- verify that the Proposed Action is consistent with the scope of actions covered under the PBO;
- verify that all applicable avoidance, minimization, and compensation measures are included in the action proposal;
- identify any action-specific monitoring and reporting requirements, consistent with the monitoring and reporting requirements of the PBO, and
- identify anticipated incidental take.

ESA Section 7 compliance for this Proposed Action is not complete until the Federal action agency or its designated non-federal representative receives a verification letter from the Service.

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or Northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required.

**For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:** If your initial bridge/culvert or structure assessments failed to detect Indiana bats, but you later detect bats prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office. In these instances, potential incidental take of Indiana bats may be exempted provided that the take is reported to the Service.

If the Proposed Action may affect any other federally-listed or proposed species and/or designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please advise the lead Federal action agency accordingly.

The following species may occur in your project area and **are not** covered by this determination:

- Monarch Butterfly *Danaus plexippus* Candidate
-



## **Project Description**

The following project name and description was collected in IPaC as part of the endangered species review process.

### ***Name***

S.P. 1013-77 (TH 212)

### ***Description***

The purpose of this proposed project is to expand Trunk Highway (TH) 212 from two to four lanes between Norwood Young America and Cologne, Minnesota. Additional project components include the construction of reduced conflict intersections (RCIs) at multiple locations throughout the approximately 6 mile long corridor, the reconfiguration of the TH 212/County State Aid Highway (CSAH) 51 intersection as an overpass, construction of stormwater ponds to accommodate the roadway expansion, and snow fence installation. Roadway expansion will result in the removal of up to 12.0 acres of trees with removals occurring during the winter months (November 1 to March 31, inclusive). No bridge work is proposed. Roadway expansion will require the acquisition and demolition of a residential property and associated outbuildings (e.g., barn, garage, granary, corn crib). Evidence of bat use was observed within the granary (inspected November 2022; Attachment 1). No evidence of bat use was observed in other structures. The project area is characterized by agriculture and sporadic wooded stands with urban development at both ends of the corridors in the cities of Norwood Young America and Cologne, Minnesota.

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## Determination Key Result

Based on your answers provided, this project is likely to adversely affect the endangered Indiana bat and/or the threatened Northern long-eared bat. Therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the conclusion and Incidental Take Statement provided in the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

## Qualification Interview

1. Is the project within the range of the Indiana bat<sup>[1]</sup>?

[1] See [Indiana bat species profile](#)

**Automatically answered**

No

2. Is the project within the range of the Northern long-eared bat<sup>[1]</sup>?

[1] See [Northern long-eared bat species profile](#)

**Automatically answered**

Yes

3. Which Federal Agency is the lead for the action?

A) *Federal Highway Administration (FHWA)*

4. Are *all* project activities limited to non-construction<sup>[1]</sup> activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

[1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces<sup>[1]</sup>?

[1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

Yes

6. Are *all* project activities **greater than** 300 feet from existing road/rail surfaces<sup>[1]</sup>?

[1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

No

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7. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum<sup>[1]</sup>?

[1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

*No*

8. Is the project located **within** a karst area?

*No*

9. Is there *any* suitable<sup>[1]</sup> summer habitat for Indiana Bat or NLEB **within** the project action area<sup>[2]</sup>? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the [User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat](#).

*Yes*

10. Will the project remove *any* suitable summer habitat<sup>[1]</sup> and/or remove/trim any existing trees **within** suitable summer habitat?

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

*Yes*

11. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

*No*

12. Have presence/probable absence (P/A) summer surveys<sup>[1][2]</sup> been conducted<sup>[3][4]</sup> **within** the suitable habitat located within your project action area?

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

[3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

[4] Negative presence/probable absence survey results obtained using the [summer survey guidance](#) are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

*No*

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13. Does the project include activities **within documented NLEB habitat**<sup>[1][2]</sup>?

[1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry triangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

[2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

No

14. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

Yes

15. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

*B) During the inactive season*

16. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

Yes

17. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

Yes

18. Will *any* tree trimming or removal occur **greater than** 300 feet from existing road/rail surfaces?

No

19. Are *all* trees that are being removed clearly demarcated?

Yes

20. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

No

21. Does the project include maintenance of the surrounding landscape at existing facilities (e.g., rest areas, stormwater detention basins)?

No

22. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

No

23. Does the project include slash pile burning?

No

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24. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

No

25. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

Yes

26. Is there *any* suitable habitat<sup>[1]</sup> for Indiana bat or NLEB **within** 1,000 feet of the structure? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's current [summer survey guidance](#) for our current definitions of suitable habitat.

Yes

27. Has a structure assessment<sup>[1]</sup> been conducted **within** the last 24 months<sup>[2]</sup> to determine if bats are using the structure(s)?

[1] Structure assessment for occupied buildings means a cursory inspection for bat use. For abandoned buildings a more thorough evaluation is required (See [User Guide Appendix D](#) for bridge/abandoned structure assessment guidance).

[2] Assessments must be completed no more than 2 years prior to conducting any work on the structures, regardless of whether assessments have been conducted in the past. Due to the transitory nature of bat use, a negative result in one year does not guarantee that bats will not use that structure in subsequent years.

Yes

#### **SUBMITTED DOCUMENTS**

- [1013-77\\_Building\\_Inspections\\_Compiled.pdf https://ipac.ecosphere.fws.gov/project/IKDZSF4J4JDKVIUFKRR4GYNAFU/projectDocuments/119568608](https://ipac.ecosphere.fws.gov/project/IKDZSF4J4JDKVIUFKRR4GYNAFU/projectDocuments/119568608)

28. Did the structure assessment detect *any* signs of Indiana bats and/or NLEBs roosting in/under the structure (bats, guano, etc.)<sup>[1]</sup>?

[1] If bridge assessment detects signs of *any* species of bats, coordination with the local FWS office is needed to identify potential threatened or endangered bat species. Additional studies may be undertaken to try to identify which bat species may be utilizing the bridge prior to allowing *any* work to proceed.

No

29. Will the structure removal, replacement, and/or maintenance activities include installing new or replacing existing **permanent** lighting?

No

30. Will the project involve the use of **temporary** lighting *during* the active season?

Yes

31. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **temporary** lighting will be used?

Yes

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32. Will the project install new or replace existing **permanent** lighting?

Yes

33. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **permanent** lighting will be installed or replaced?

Yes

34. Does the project include percussives or other activities (**not including tree removal/trimming or bridge/structure work**) that will increase noise levels above existing traffic/background levels?

Yes

35. Will the activities that use percussives (**not including tree removal/trimming or bridge/structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the active season<sup>[1]</sup>?

[1] Coordinate with the local Service Field Office for appropriate dates.

Yes

36. Will *any* activities that use percussives (**not including tree removal/trimming or bridge/structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the inactive season<sup>[1]</sup>?

[1] Coordinate with the local Service Field Office for appropriate dates.

Yes

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37. Are *all* of the project activities that will be conducted **greater than** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum<sup>[1]</sup> and **greater than** 300 feet from the existing road/rail surface<sup>[2]</sup> limited to one or more of the following activities:

- maintenance of the surrounding landscape at existing facilities (e.g., rest areas, stormwater detention basins);
- wetland or stream protection activities associated with compensatory wetland/stream mitigation that will not clear suitable habitat (i.e. tree removal/trimming);
- involves slash pile burning;
- within an area with negative presence/probable absence (P/A) summer surveys<sup>[3]</sup>;
- limited to activities that **DO NOT** cause any stressors to the bat species, including, but not limited to those described in the BA/BO (i.e. do not involve habitat removal, tree removal/trimming, bridge or structure activities, temporary or permanent lighting, or use of percussives) (e.g., lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.))?

[1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

[2] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast. (example activities include road line painting)

[3] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

*Yes, all of the project activities that are greater than 0.5 miles from a hibernaculum and greater than 300' from the road/rail surface are limited to one or more of these activities*

38. Are *all* project activities that are **not associated with** habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

*Yes*

39. Will the project raise the road profile **above the tree canopy**?

*No*

40. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) consistent with a Not Likely to Adversely Affect determination in this key?

**Automatically answered**

*Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the active season within undocumented habitat.*

41. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) and/or increase noise levels above existing traffic/background levels consistent with a No Effect determination in this key?

**Automatically answered**

*Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the inactive season*

42. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

**Automatically answered**

*Yes, because the tree removal/trimming that occurs outside of the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.*

43. Is the habitat removal portion of this project consistent with a Likely to Adversely Affect determination in this key?

**Automatically answered**

*Yes, because the tree removal that occurs outside the NLEB's active season is 100-300 feet from the existing road/rail surface, and is not in documented roosting/foraging habitat or travel corridors.*

44. Is the structure removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

**Automatically answered**

*Yes, because the structure has been assessed using the criteria documented in the BA and no signs of bats were detected*

45. **General AMM 1**

Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

*Yes*

46. **Tree Removal AMM 1**

Can *all* phases/aspects of the project (e.g., temporary work areas, alignments) be modified, to the extent practicable, to avoid tree removal<sup>[1]</sup> in excess of what is required to implement the project safely?

Note: Tree Removal AMM 1 is a minimization measure, the full implementation of which may not always be practicable. Projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented and LAA as long as Tree Removal AMMs 3, 5, 6, and 7 are implemented.

[1] The word "trees" as used in the AMMs refers to trees that are suitable habitat for each species within their range. See the USFWS' current summer survey guidance for our latest definitions of suitable habitat.

*No*

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47. **Tree Removal AMM 3**

Can tree removal be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits)?

Yes

48. **Lighting AMM 1**

Will *all* **temporary** lighting be directed away from suitable habitat during the active season?

Yes

49. **Lighting AMM 2**

Does the lead agency use the BUG (Backlight, Uplight, and Glare) system developed by the Illuminating Engineering Society<sup>[1]</sup> to rate the amount of light emitted in unwanted directions?

[1] Refer to [The BUG System—A New Way To Control Stray Light](#)

Yes

50. **Lighting AMM 2**

Will the **permanent** lighting be designed to be as close to 0 for all three BUG ratings as possible, with a priority of "uplight" of 0 and "backlight" as low as practicable?

Yes

51. For Indiana bat, if applicable, compensatory mitigation measures are required to offset adverse effects on the species (see Section 2.10 of the BA). Please select the mechanism in which compensatory mitigation will be implemented:

6. *Not Applicable*

## Project Questionnaire

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

Yes

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

No

3. How many acres<sup>[1]</sup> of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

[1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

9.0

4. How many acres<sup>[1]</sup> of trees are proposed for removal between 100-300 feet of the existing road/rail surface?

[1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

---



3.0

5. **Please verify:**

All tree removal will occur greater than 0.5 mile from any hibernaculum.

*Yes, I verify that all tree removal will occur greater than 0.5 miles from any hibernaculum.*

6. Is the project location 0-100 feet from the edge of existing road/rail surface?

*Yes*

7. Is the project location 100-300 feet from the edge of existing road/rail surface?

*Yes*

8. **Please verify:**

No documented NLEB roosts or surrounding summer habitat within 150 feet of documented roosts will be impacted between June 1 and July 31.

*Yes, I verify that no documented NLEB roosts or surrounding summer habitat within 150 feet of documented roosts will be impacted during this period.*

9. Please describe the proposed structure work:

*Demolition*

10. Please state the timing of all proposed structure work:

*Winter months (November 1 to March 31, inclusive).*

11. Please enter the date of the structure assessment:

*11/18/22*

12. You have indicated that the following Avoidance and Minimization Measures (AMMs) will be implemented as part of the proposed project:

- *Lighting AMM 1*
- *Lighting AMM 2*
- *Tree Removal AMM 3*
- *General AMM 1*

## **Avoidance And Minimization Measures (AMMs)**

This determination key result includes the commitment to implement the following Avoidance and Minimization Measures (AMMs):

### **LIGHTING AMM 1**

Direct temporary lighting away from suitable habitat during the active season.

### **LIGHTING AMM 2**

When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable.

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**TREE REMOVAL AMM 3**

Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

**GENERAL AMM 1**

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

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## **Determination Key Description: FHWA, FRA, FTA Programmatic Consultation For Transportation Projects Affecting NLEB Or Indiana Bat**

This key was last updated in IPaC on October 11, 2022. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the threatened **Northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's [February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects](#). The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

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## **IPaC User Contact Information**

Agency: Minnesota Department of Transportation

Name: Ryan Foley

Address: 395 John Ireland Blvd.

City: St. Paul

State: MN

Zip: 55155

Email: ryan.foley@state.mn.us

Phone: 6513663597

## **Lead Agency Contact Information**

Lead Agency: Federal Highway Administration

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## Brett Danner

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**From:** Gombold, Brigid (DOT) <brigid.gombold@state.mn.us>  
**Sent:** Wednesday, April 19, 2023 2:56 PM  
**To:** Brett Danner  
**Cc:** Langenbach, Diane (DOT)  
**Subject:** FW: Bulk / Programmatic ESA Section 7 -- Northern Long-eared Bat Programmatic BO Likely to Adversely Affect Projects  
**Attachments:** March 2023\_Final Amendment to 2018 FHWA Bat PBO.pdf  
**Importance:** High

**External Sender Warning:** This message was sent from an external sender. Do not click on any links or open any attachments unless you know and trust the sender.

Hi Brett

Use the attached and the email below for our Section 7 Clearance. Brigid

*Brigid Gombold*

MnDOT – Metro District  
Environmental Documentation Supervisor  
1500 County Road B2  
Roseville, MN 55112  
Brigid.gombold@state.mn.us

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**From:** Smith, Christopher E (He/Him/His) (DOT) <christopher.e.smith@state.mn.us>  
**Sent:** Wednesday, April 19, 2023 1:18 PM  
**To:** Alcott, Jason (DOT) <jason.alcott@state.mn.us>; Cann, Staci (DOT) <staci.cann@state.mn.us>; Meister, Benjamin (DOT) <benjamin.meister@state.mn.us>; Dretsch, Gabriel (DOT) <gabriel.dretsch@state.mn.us>; Gombold, Brigid (DOT) <brigid.gombold@state.mn.us>; Novak, Rebecca (DOT) <rebecca.novak@state.mn.us>; Gregor, Nathan (DOT) <nathan.gregor@state.mn.us>; Athmann, Kirk (DOT) <kirk.athmann@state.mn.us>  
**Cc:** Jacobson, Nani (DOT) <Nani.Jacobson@state.mn.us>; Lind, Katherine (DOT) <Katherine.Lind@state.mn.us>; Carson, Tara (DOT) <tara.carson@state.mn.us>; Gade, Dale (DOT) <dale.gade@state.mn.us>; Brown, Elizabeth A (DOT) <elizabeth.a.brown@state.mn.us>; Philip Forst <phil.forst@dot.gov>  
**Subject:** Bulk / Programmatic ESA Section 7 -- Northern Long-eared Bat Programmatic BO Likely to Adversely Affect Projects  
**Importance:** High

All,

FHWA HQ reinitiated consultation for select projects that **may affect, likely to adversely affect** the northern long-eared bat. The attached amended BO covers 350 FHWA / FRA / FTA projects from across the county, including in Minnesota. The requested reinitiation under the 2018 rangewide programmatic BO (“2018 FHWA PBO”) for Indiana bat and NLEB (due to reclassification of the NLEB). The projects are listed in the attached. This amended BO serves as the Incidental Take coverage for the listed projects and the DOTs and Division Offices should retain this for their files. No individual letter is needed for these projects.

If you have a project that has not completed construction that as an effect determination of ***may affect, likely to adversely affect*** the NLEB under the 2018 FHWA PBO prior to April 1, 2023, **AND it is not included on the attached list**, please let me know as soon as possible.

Note that you will need to update your project’s environmental document with this determination. To fulfill this, complete an Addendum to Categorical Exclusion Determination, a template of which is located [here](#). You can complete one Addendum for all Programmatic Categorical Exclusions and one Addendum for all Non-Programmatic Categorical Exclusions, as applicable, that identifies all the listed projects in your district and include this correspondence as an Attachment. Environmental Assessments and Environmental Impact Statement will need to have individual addendums. The Addendum must become part of each project file to which it is being completed. Also see attached for an example of how to upload the addendum in eDOCS.

-Chris

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**Christopher E. Smith, CWB®**

Wildlife Ecologist | Protected Species Program Coordinator

*(he/him/his)*

**Minnesota Department of Transportation**

Office of Environmental Stewardship

395 John Ireland Blvd., M.S. 620

St. Paul, Minnesota 55155

C: 612-741-7678

[mndot.gov](http://mndot.gov)







# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

5600 American Blvd West, Suite 990  
Bloomington, Minnesota 55437-1458

IN REPLY REFER TO:

FWS/R3/ES-ARD/DTS 078395

Ms. Emily Biondi  
Director, Office of Project Development and Environmental Review  
Federal Highway Administration  
1200 New Jersey Avenue, SE  
Washington, DC 20590

Dear Ms. Biondi,

The U.S. Fish and Wildlife Service (Service) has received your request dated December 12, 2022, to reinstate consultation on projects within the scope of the Service's February 5, 2018, Programmatic Biological Opinion for Transportation Projects in the Range of the Indiana bat and Northern Long-eared bat (BO)<sup>1</sup>. As stated in the transportation agencies' original programmatic biological assessment in 2016, the primary objectives of the consultation have been to streamline consultation process and to bring about better conservation outcomes for the two bat species.

Reinitiation was requested to address changes in the take prohibitions that apply to the northern long-eared bat (NLEB), as explained in the next two paragraphs. This reinitiation addresses future project-specific actions that will be implemented within the scope of the 2018 programmatic BO, as well as 350 actions that have already undergone consultation on the NLEB under this programmatic consultation, but whose activities have not yet been implemented.

The Service listed the NLEB as a threatened species on April 2, 2015 (80 FR 17974) and issued a species-specific 4(d) rule on January 14, 2016 (81 FR 1900). Under the 4(d) rule, incidental take of the NLEB was not prohibited (81 FR 1900, 50 CFR 17) except in certain situations described in the rule. Your request is in response to the reclassification of the NLEB as an endangered species on November 30, 2022 (87 FR 73488) that has resulted in a change to the take prohibitions that apply to the species, which become effective on March 31, 2023.

The 350 actions proposed by the transportation agencies and previously addressed by the 2018 BO specifically excluded any actions that would have resulted in incidental take that would have

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<sup>1</sup> <https://www.fws.gov/media/programmatic-biological-opinion-transportation-projects-range-indiana-bat-and-northern-long>

been prohibited under the 4(d) rule. With the promulgation of the new listing rule for the NLEB, however, the incidental take expected to occur because of these actions would now be prohibited. Therefore, in response to your request for reinitiation, the Service is providing an Incidental Take Statement (ITS) with terms and conditions to ensure that the incidental take of the NLEB that occurs as a result of the 350 actions previously addresses by the 2018 BO, as well as future proposed actions implemented within the scope of the amended 2018 programmatic BO are not prohibited when the new listing rule becomes effective on March 31, 2023. This incidental take will not be prohibited because it is not likely to jeopardize the continued existence of the NLEB and because the transportation agencies will implement the terms and conditions of the ITS.

This enclosed document responds to your request and constitutes an amendment to the Service's 2018 programmatic BO for the 350 projects identified in the table below, as well as future proposed actions within its scope. The amended 2018 programmatic BO includes an updated Status of the Species section for NLEB, updated jeopardy analysis for NLEB (conclusion section in amendment below), a combined ITS for the Indiana bat and NLEB, and a Reinitiation Notice. The proposed action for each of these 350 projects and for future projects implemented under the amended 2018 programmatic BO remains unchanged from the initial section 7 consultation as described in the 2016 biological assessment and the 2018 programmatic BO. The projects are within the scope of the programmatic action as described in the 2018 BO, including all applicable avoidance and minimization measures (AMMs<sup>2</sup>).

It is the Service's Opinion that the action, as proposed, is not likely to jeopardize the continued existence of the NLEB. This concludes consultation on the identified list of projects (350) that are likely to adversely affect the NLEB, but whose activities have not yet been implemented, and future implementation of the Program within the scope of the Service's amended 2018 programmatic BO. No further correspondence is necessary for project reinitiation except for conditions outlined in the Reinitiation Section of the enclosed amendment to the 2018 PBO.

For further information, please contact Catherine Liller, FWS National Transportation Liaison at [Catherine\\_Liller@fws.gov](mailto:Catherine_Liller@fws.gov) or Brian Yanchik, FHWA Lead Ecologist at [Brian.Yanchik@dot.gov](mailto:Brian.Yanchik@dot.gov).

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<sup>2</sup> <https://www.fws.gov/sites/default/files/documents/appendix-c-avoidance-and-minimization-measures-february-2018.pdf>

**SIGNATURE PAGE**

LORI NORDSTROM Digitally signed by LORI  
NORDSTROM  
Date: 2023.03.23  
08:33:58 -05'00'

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Lori H. Nordstrom      Date

*Assistant Regional Director for Ecological Services, Region 3*



## Amendment to the February 5, 2018, Programmatic Biological Opinion for Transportation Projects in the Range of the Indiana bat and Northern Long-eared bat

### **STATUS OF THE SPECIES AND CRITICAL HABITAT – NLEB Only [no change to the Indiana bat *Status of the Species and Critical Habitat* sections in 2018 BO]**

Per ESA section 7 regulations (50 CFR 402.14(g)(2)), it is the Service's responsibility to "evaluate the current status of the listed species or critical habitat" during formal consultation. Below, we provide an overview of the biology and conservation needs of the NLEB and summarize relevant information regarding the status and distribution of the species that is pertinent to the "Effects of the Action" section (e.g., a description of the annual life cycle, spring emergence habitat, fall swarming habitat).

#### *Northern Long-Eared Bat Conservation Needs*

The Service listed the NLEB as a threatened species on April 2, 2015 (80 FR 17974) and issued a species-specific 4(d) rule on January 14, 2016 (81 FR 1900). On April 27, 2016, the Service determined that it was not prudent to designate critical habitat for the NLEB (81 FR 24707). The Service reclassified the NLEB as an endangered species on November 30, 2022, effective on March 31, 2023, and reaffirmed our determination that it is not prudent to designate critical habitat for the NLEB.

To assess the status of the species, it is helpful to understand the species' conservation needs which are generally described in terms of reproduction, numbers, and distribution (RND). The Service frequently characterizes RND for a given species via the conservation principles of resiliency (ability of species/populations to withstand stochastic events which is measured in metrics such as numbers and growth rates), redundancy (ability of a species to withstand catastrophic events which is measured in metrics such as number of populations and their distribution), and representation (variation/ability of a species to adapt to changing conditions which may include behavioral, morphological, genetics, or other variation) (collectively known as the 3 Rs) (Shaffer et al. 2002, Wolf et al. 2015, Smith et al. 2018).

The following is a summary of NLEB needs from the Species Status Assessment Report (Service 2022). For survival and reproduction at the individual level, the NLEB requires access to food and water resources when not hibernating, along with suitable habitat throughout its annual life cycle. During the spring, summer and fall seasons, NLEB requires suitable foraging, roosting, traveling (between summer and winter habitat) and swarming habitat with appropriate conditions for maternity colony members; during the winter, NLEB requires habitat with suitable conditions for prolonged bouts of torpor. For NLEB populations to be healthy, they require a population size and growth rate sufficient to withstand natural environmental fluctuations, habitat of sufficient quantity and quality to support all life stages, gene flow among populations, and a matrix of interconnected habitats that support spring migration, summer maternity colony formation, fall swarming, and winter hibernation.

- b. The number of bridge/culvert and/or structure projects where signs of bat use or occupancy was observed (five or fewer bats observed) that could likely result in the harm or death of Indiana bat and/or NLEBs.
  - b. All project bat survey reports.
  - c. All project bridge bat assessment forms.
  - d. A description of bridge projects where bats were detected during project implementation, and if so, the number of bats observed, and where possible, the species observed.
  - e. A description of project compensatory mitigation that the Transportation Agencies or their representatives implemented through in-lieu fee funds (ILF), conservation banks, project-proponent-sponsored mitigation, or through other means. For compensatory mitigation implemented through means besides ILF and conservation banks, the applicable Transportation Agency will provide a summary description of where, when, and how the mitigation was accomplished.
2. The Transportation Agencies, their cooperators, and any contractors must take care when handling dead or injured Indiana bats, NLEB, or any other federally listed species that are found at project sites in order to preserve biological material in the best possible state and to protect the handler from exposure to diseases, such as rabies. Project personnel are responsible for ensuring that evidence for determining the cause of death or injury is not unnecessarily disturbed. Reporting the discovery of dead or injured listed species is required in all cases to enable the USFWS to determine whether the level of incidental take exempted by this BO is exceeded and to ensure that the terms and conditions are appropriate and effective. Parties finding a dead, injured, or sick specimen of any endangered or threatened species must promptly notify the USFWS Field Office of applicable jurisdiction.

**CONSERVATION RECOMMENDATIONS** [no change to 2018 BO]

**REINITIATION NOTICE – Indiana bat and NLEB**

Consultation with the Transportation Agencies on their limited range-wide program for transportation projects that may affect the Indiana bat and NLEB is concluded. Reinitiation of consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if:

1. The amount or extent of incidental take of Indiana bat or NLEB is exceeded;
2. New information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this BO;
3. The agency action is subsequently modified in a manner that causes an effect to listed species or designated critical habitat not considered in this BO; or
4. A new species is listed or critical habitat designated that may be affected by the action.

Per condition #1 above, the anticipated incidental take is exceeded when, in one calendar year:

- Transportation projects implemented under this program remove trees from more than 7,040 acres of habitat suitable for the Indiana bat; or
- Transportation projects implemented under this program remove trees from more than 12,160 acres of habitat suitable for the NLEB; or

measures (avoidance, minimization, and compensation) in the project proposals submitted to the Service for ESA section 7 compliance using this BO.

#### Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the Transportation Agencies must comply with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. The Transportation Agencies or their representatives will offer annual instruction to appropriate personnel who are involved in developing and implementing the projects listed. This instruction shall inform personnel about:
  - a. The criteria for determining that a project is eligible for such inclusion;
  - b. Developing the information required in the Project Submittal Form and describing the process for using the IPaC Assisted Determination Key;
  - c. The required avoidance and minimization measures; and
  - d. The administrative process for using this BO as the mechanism for project-level ESA section 7 compliance.
  
2. The Transportation Agencies and State/local transportation agencies will make all reasonable efforts to educate personnel to immediately report any sick, injured, and/or dead bats (regardless of species) located in the project action area during construction, operations, maintenance, or monitoring activities to the local Service Field Office. Due to the number of staff/contractors, it is not expected or required to educate all personnel working in the project action area, but only those who are most likely to observe bats during normal working conditions.

#### Monitoring and Reporting Requirements

"In order to monitor the impacts of incidental take, the federal agency or any applicant must report the progress of the action and its impact on the species to the USFWS as specified in the incidental take statement" (50 CFR 5402.14(i)(3)).

1. The Transportation Agencies will provide an annual report to the POC's (as described in the adaptive management section of this BO), not later than March 31, for the preceding calendar year, of all project-level activity under their programmatic action. The report will provide the information listed below, or alternative information that the Transportation Agencies and USFWS agree is appropriate.
  - a. The acreage of tree removal from habitats that is suitable for the Indiana bat and/or NLEB per project and a total for all projects. This acreage serves as a surrogate measure of incidental take per project and for the program as a whole.



- The anticipated take of Indiana bat and NLEBs will occur because of the bridge/culvert or structure work associated with these specific projects. Therefore, there is a causal link between the work associated with these projects and the anticipated take.
- It is not practical to monitor take-related impacts in terms of individuals of the listed species. The small size and cryptic behavior of Indiana bats and NLEBs roosting at these bridges/culverts or structures will prevent accurate enumeration of the number taken.
- The number of projects that include work on a bridge/culvert or structure where signs of bat use are recorded is a number that is readily tracked, and it will be clear if and when the number of such projects is exceeded.

**The Service estimates that construction activities conducted during the active season at up to 10 bridge/culverts or structure projects range-wide<sup>11</sup> per annual reporting year, when signs of bat use or occupancy was observed (five or fewer bats observed), could likely result in the harm or death of Indiana bat and/or NLEBs during the implementation of the Program.**

Bridge/culvert or structures activities conducted during the active season, with no signs of a maternity colony present (five or fewer bats observed), in which bats are likely to be disturbed or killed may result in take in the form of injury or death. In addition, bridge/culvert and structure bat assessments may fail to initially detect bats, but during construction, a small number of bats may be encountered, such that take may occur in the form of injury or death. The Service anticipates that in either of these instances, incidental take of a small number (five or fewer individuals) of Indiana bats and/or NLEBs may result from activities on existing bridges, culverts, and structures.

#### **Effect of the Take**

In the accompanying BO, the Service determined that this level of anticipated take is not likely to jeopardize the continued existence of the Indiana bat and NLEB.

#### **Reasonable and Prudent Measures**

The proposed action includes several measures (section 2.9 of the BO) that avoid and minimize the incidental take of Indiana bats and NLEBs resulting from projects that the Transportation Agencies fund or approve. Further, the avoidance and minimization measures required to avoid and minimize impacts to the Indiana bat and NLEB (section 2.9 of the BO) are also implemented for most of the projects listed. Because the Transportation Agencies will not typically carry out the projects they fund or approve under the proposed action, we find that that the following reasonable and prudent measure is necessary and appropriate to minimize the incidental take resulting from such projects:

The Transportation Agencies will ensure that State/local transportation agencies, which choose to include eligible projects under this programmatic action, incorporate all applicable conservation

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<sup>11</sup> Annual reports completed each year as described in the *Monitoring and Reporting* section have verified that the 17 bridge projects in the list of 350 actions did not exceed 10 projects range-wide per annual reporting year.

**estimate that 7,040 acres of potential Indiana bat habitat per year and 12,160 acres<sup>9</sup> of potential NLEB habitat per year could be removed during the implementation of the Program.**

The number of bats taken within this acreage is greatly influenced by the implementation of the proposed avoidance and minimization measures (Section 2.9). Our analysis in Section 5 of the BO, which supports the Conclusion of Section 7.1 and 7.2, assumes full compliance with these measures. Several avoidance and minimization measures are particularly influential for projects within the proposed action:

- No tree-removal will occur within suitable Indiana bat habitat outside of documented areas between May 1 and July 31 of any year except under the following circumstances:
  - The project affects a limited number of trees such that all trees can be visually assessed as potential roost trees; and
  - Visual bat emergence surveys are conducted on larger trees; or
  - No trees greater than 9 inches dbh are removed.
- No tree removal will occur within documented Indiana bat roosting/foraging habitat or travel corridors between May 1 and July 31 (except in the case of emergency removal);
- No known occupied Indiana bat maternity trees will be removed during the active season;
- No documented NLEB maternity roosts and trees within 150 feet of those roosts will be removed between June 1 and July 31.
- No known or potential roost trees<sup>10</sup> within 0.5 miles of a known or suspected hibernaculum will be removed;
- The maximum acreage of tree removal anticipated for any given project is approximately 20 acres per five linear miles of project.

If the avoidance and minimization measures are not implemented, or if the current anticipated level of tree removal is exceeded, we expect the number of bats taken to increase as well.

#### *Bridge/Culvert and Structure Work*

As with tree removal, the number of bridge/culvert and structure projects that will be implemented where signs of bat use are observed (five or fewer bats observed), will serve as the surrogate measure for the anticipated incidental take of Indiana bats and NLEBs. This is an appropriate surrogate for the following reasons, as required at 50 CFR 402.14(i)(1)(i):

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<sup>9</sup> The 741.30 acres of project-related tree removal attributed to the 350 actions covered by this amendment are part of these 12,160 total annual acreages for NLEB.

<sup>10</sup> i.e., live trees and/or snags  $\geq 5$  inches dbh [12.7 centimeter] that have exfoliating bark, cracks, crevices, and/or hollows

We express the anticipated incidental take with surrogate measures. 50 CFR 402.14(i)(1)(i) states that surrogates may be used to express the amount or extent of anticipated take provided that the biological opinion or ITS: (1) describes the causal link between the surrogate and take of the listed species; (2) describes why it is not practical to express the amount of anticipated take or to monitor take-related impacts in terms of individuals of the listed species; and (3) sets a clear standard for determining when the amount or extent of the taking has been exceeded.

#### *Tree Removal*

For impacts from tree removal, the following ITS will use acres of habitat from which trees are removed as a surrogate. In this situation, acres of habitat impacted by tree removal is a reasonable and appropriate surrogate for incidental take of both the Indiana bat and NLEB as required at 50 CFR 402.14(i)(1)(i) for the following reasons:

- There is a causal link between the surrogate and the incidental take – tree removal within suitable habitat is what will directly and indirectly cause the anticipated incidental take.
- For the Indiana bat and NLEB, it is not practical to express the amount of anticipated take in terms of individuals because there is no density or abundance estimate for the portion of the action area where take is anticipated. As a result, predicting the precise number of individuals that will be taken is not possible. Additionally, it is not practical to monitor take-related impacts in terms of individual Indiana bats and NLEBs for the following reasons: (1) both species have a small body size, are drab in color, which makes encountering dead or injured individuals unlikely; (2) Indiana bats and NLEBs both occupy summer habitats (heavily forested) where they are difficult to locate (multiple roosts located within and outside of the action area); (3) both species spend a substantial portion of their lifespan underground; (4) take may occur offsite (e.g., the bat dies outside of the action area); (5) starvation or failure to reproduce cannot be detected; and (6) losses may be masked by fluctuations in numbers associated with WNS. Because the location, timing, and acreage of habitat impacts can be readily identified, measured, and monitored, this surrogate is the most reasonable means for detecting when take may be exceeded.
- The extent in acres of tree removal in suitable habitat provides a clear standard because each project that includes tree removal in suitable habitat for the two bat species will be tracked and reported as described in Section 8.2 of the BO.

State DOTs and Transportation Agencies estimated the annual acreage of cleared trees from edge of road surface to 300 ft (see Table 1). To calculate anticipated take using this surrogate measure, we used the average annual tree clearing within a State from 0 to 300 ft (320 acres) multiplied by the numbers of states within the range of the Indiana bat (22 states) and NLEB (37 states + D.C.). **Therefore, we**



resulting from these projects will be dispersed; will affect only a small proportion of the area where the species may be present; and will be significantly minimized in areas where it is known to occur. The Service finds that such impacts are not likely to result in harm, or mortality at a level that would reduce appreciably the reproduction, numbers, or distribution of the NLEB, and therefore, we do not anticipate a reduction in the likelihood of both survival and recovery of the species. It is the Service's Opinion that this range-wide program of transportation activities, as proposed, is not likely to jeopardize the continued existence of the NLEB. No critical habitat has been designated for the NLEB.

#### **INCIDENTAL TAKE STATEMENT – Indiana bat and NLEB**

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the USFWS to include significant habitat modification or degradation that results in death or injury to wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering (50 CFR § 17.3). Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are nondiscretionary, and must be undertaken by the Transportation Agencies so that they become binding conditions of any grant or permit issued, as appropriate, for the exemption in section 7(o)(2) to apply. The Transportation Agencies have a continuing duty to regulate the activity covered by this incidental take statement. If the Transportation Agencies: (1) fail to assume and implement the terms and conditions; or (2) fail to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse.

To monitor the impact of incidental take, the Transportation Agencies and/or State DOT's must report the progress of the action and its impact on the species to the USFWS as specified in the incidental take statement (50 CFR 402.14(i)(3)), which we describe below.

#### **Indiana bat and NLEB**

##### Amount or Extent of Take Anticipated

In this section, we describe the incidental take of Indiana bats and NLEBs that is reasonably certain to occur from the implementation of the proposed program of transportation activities (Section 2 of the BO). We anticipate that take is reasonably certain to occur resulting from tree removal, and from some activities on existing bridges, culverts, and/or other structures, based on the stressor exposure-response analyses of section 5 of the BO.

Projects with more than 20 acres of tree removal that are distributed across more than 5 miles (8 km), may have similar impacts to multiple maternity colonies rather than one colony. This harm is anticipated during the first spring/summer after tree removal has occurred by causing a shift in roost trees, foraging patterns, and home range. We expect that given the linear nature and small amount of tree removal along existing road/rail surfaces, that in most cases, alternative roosting and foraging areas are generally available for each maternity colony to use near the action area; therefore, the impact of inactive season tree removal will likely diminish in subsequent years.

#### Bridge/Culvert and Structure Activities

NLEBs have been documented using bridges, culverts, and other structures as day and/or nighttime summer roosts (See Section 5.3 of the BO), but few assessments conducted in relation to this consultation between 2015 and 2019 have documented bat use, and none have detected presence of NLEBs. A review of 2,378 bridge/culvert and structure bat assessment forms that used the BO during this time revealed that 11% of structures assessed showed evidence of bat use (260 projects). Of these, 184 assessments included information on the species using the structure, and no NLEBs were observed across all structure types. In addition, 689 of the 2,378 structures assessed were culverts, and although evidence of bats was observed in culverts, none of the species identified were NLEBs.

Despite bat use of only 11% of structures assessed thus far related to this programmatic consultation, and the lack of any sign of NLEBs, we still think it is likely that NLEBs will be adversely affected during the implementation of this program. Occasional use of bridges, culverts, and other structures by the NLEB for roosting (See Section 5.3 of the BO), the potential for assessments to have missed NLEB use, and the potential for NLEBs to colonize the structures after the assessment and before work begins indicates to us that harm to individual NLEBs from at least one site is likely to occur. However, we do not think it is likely that maternity colonies as a whole will be harmed, as the implementation of the Bridge AMMs<sup>8</sup> further reduce the likelihood of adverse effects, particularly to maternity colonies on bridges, culverts, and/or structures. Although individual bats or small numbers (<5) of bats may have been missed during an assessment, we think it is unlikely that any assessment missed a maternity colony of bats. Therefore, incidental take of NLEBs in the form of harm or kill may occur from limited bridge/culvert or structure activities conducted in the active season and five or fewer NLEBs would be adversely affected in each incident.

#### Conclusion

We considered the current overall declining range-wide status of the NLEB and the similar condition of the species within the action area (environmental baseline). We then assessed the effects of the proposed action and the potential for cumulative effects in the action area on individuals, populations, and the species as a whole. The NLEB is distributed widely across all or parts of 37 states. The impacts

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<sup>8</sup> <https://www.fws.gov/sites/default/files/documents/appendix-c-avoidance-and-minimization-measures-february-2018.pdf>

- The acreage estimates were based on trees cleared, but not all the trees cleared are suitable habitat.
- FHWA estimates that 90%<sup>4</sup> of the projects will implement inactive season tree clearing, which reduces the impacts to NLEBs by avoiding direct effects to the species.
- Transportation Agencies will conduct bat surveys that indicate bats are not likely present.
- Transportation Agencies will assume species presence in suitable habitat and apply conservation measures in such areas, when in fact the habitat may not be occupied by the species at the time of project construction. As such, not all habitat removal will cause adverse effects to the NLEB.
- It is reasonably likely that many projects will involve less than 2 acres<sup>5</sup> of tree removal in a widely dispersed arrangement across the range of the NLEB, which includes 282,351,352 acres of suitable habitat<sup>6</sup> range-wide.
- Based upon projects that used this consultation from 2017-2021, we have estimated clearing of approximately 743 acres of NLEB habitat resulted in take of NLEB. This is total acreage (not acres/year).
- There is no removal of documented NLEB maternity roosts or trees within 150 ft. (45.7 m) of the roosts between June 1 and July 31. Although we recognize that a small percentage of roosts are currently documented, AMMs<sup>7</sup> (see Section 2.9 of the BO) included in the proposed action will often prevent direct injury and mortality when undocumented NLEBs may be present in the project area.

The Service anticipates incidental take of a small number of NLEBs per LAA project resulting from tree removal under this programmatic consultation. Incidental take from tree removal during the active season (excluding May to August) 0 to 300 ft from road surface/rail surface in documented or assumed NLEB habitat is expected to be in the form of harm or kill. Tree removal during the inactive season 100 to 300 ft from road/rail surface in documented NLEB habitat may result in harm to returning individuals that will be required to find each other and sufficient suitable roosts. We anticipate harm from inactive season tree removal to a small percentage of NLEBs associated with a maternity colony whose members travel, roost, and forage within the project action area during the active season. Such harm is limited to the cleared acreage identified for each project (limited to less than 20 acres of forest per project per 5-mile segment) and the associated degradation of remaining forest in close proximity to expanded road/rail surfaces.

<sup>4</sup> FHWA originally estimated 25% in the 2018 BO, but data reports for projects that used this consultation between 2017 and 2021 show that 90% of the projects implemented inactive season tree clearing.

<sup>5</sup> The 2018 BO originally estimated tree clearing of less than 5 acres per project, but data reports for projects that used this consultation between 2017 and 2021 show most projects involved less than 2 acres of tree removal.

<sup>6</sup> The extent of suitable habitat for the NLEB is estimated per state using a rule-based model rather than simply acres of forested habitat. The model merges National Land Cover Dataset data (including all forest layers and canopy coverage of greater than 45% to identify areas with larger contiguous forest stands) with suitable habitat for the species. Only areas with greater than 10 acres of forested area were included in the acreage of suitable habitat, as smaller fragments of habitat were considered unlikely to support the species

<sup>7</sup> <https://www.fws.gov/sites/default/files/documents/appendix-c-avoidance-and-minimization-measures-february-2018.pdf>



### **Environmental Baseline**

In accordance with 50 CFR 402.02, the environmental baseline refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline.

Because of the programmatic nature and geographic extent of this consultation, the environmental baseline is considered the same as the range-wide status of the species and critical habitat.

**CONCLUSION** – NLEB Only [no change to the Indiana bat *Conclusion* section in 2018 BO]

### **Northern Long-eared Bat**

In Section 5 of this BO, we identified the stressors associated with the various types of transportation activities included in the proposed action, and analyzed how bat individuals would respond if exposed to these stressors. From this analysis, we determined that:

1. Projects that are proposed within 0.5 mile of hibernacula are limited to types with stressors that should not result in any response from NLEB and are not likely to modify the environment of the hibernacula.
2. Projects that are proposed beyond 0.5 mile of hibernacula will cause various stressors for which exposure may cause adverse NLEB responses.
3. The proposed AMMs will frequently avoid exposure or reduce adverse responses.
4. The proposed AMMs protect known NLEB maternity roosts.
5. In the range of the Indiana bat, proposed AMMs for the Indiana bat will also frequently avoid exposure or reduce adverse responses for the NLEB.
6. The proposed compensation measures in the range of the Indiana bat will also likely benefit NLEB.

### Tree Removal

When NLEBs use a project action area for active-season habitat, tree removal is the most likely stressor to cause adverse responses.

However, not all tree removal will cause take of individuals for the following reasons:

currently impaired ability to withstand stochasticity, catastrophic events, and novel changes will worsen under the range of plausible future scenarios.

#### Critical Habitat

On April 27, 2016, the Service determined that it is not prudent to designate critical habitat for the NLEB (81 FR 24707). The Service reclassified the NLEB as an endangered species on November 30, 2022, effective on March 31, 2023. The Service reaffirmed our determination that it is not prudent to designate critical habitat for the NLEB.

#### **Life History and Biology** [no change to 2018 BO]

#### **Factors Affecting the Species Needs**

##### Northern Long-eared bat

The following paragraph is a summary from the NLEB SSA Report (Service 2022a). Unquestionably, WNS is the primary driver (or influence) that has led to the species' current condition and is predicted to continue to be the primary influence into the future. Wind energy related mortality is projected to be a more impactful influence in the future as annual mortality is projected to increase. Incidences of climatic extremes (e.g., drought, excessive summer precipitation) will likely increase, leading to increased NLEB mortality and reduced reproductive success. Although we consider habitat loss pervasive across the NLEB range, impacts to NLEB and its habitat are often realized at the individual or colony level. Also, loss of hibernation sites (or modifications such that the site is no longer suitable) can result in impacts to winter colonies.

While forest habitat is not generally considered a limited resource across the range of the northern long-eared bat, the species' strong site fidelity contributes to the importance of forest where the species occurs. In other words, the impacts are associated with the losses of forest within the home range of northern long-eared bat colonies. Further, where northern long-eared bat colonies remain after WNS has been present on the landscape for over 10 years magnifies the importance of that occupied habitat for the remaining survivors of WNS. So now, more than ever, identification and protection of maternity sites is imperative for even the short-term survival and eventual recovery of the species.

##### Northern Long-eared Bat Summary

In summary, the range-wide status of the species is declining. The primary threat of WNS continues to spread and effects are expected to continue across the range for years to come as are other ongoing threats (e.g., climate change, wind turbines) to the bats and their habitats. Given the species' limited reproductive potential, populations are not likely to rebound in the near term. In short, over the past decade WNS has increased the species' risk of extinction as the resiliency, redundancy, and representation of its remaining populations have declined and are expected to continue to decline.

The NLEB continues to be distributed across much of its historical range, but there are many gaps within the range where bats are no longer detected or captured, and in other areas, their occurrence is sparse. Since WNS was documented, multiple hibernacula have no reported northern long-eared bats. Frick et al. (2015) documented the local extinction of northern long-eared bats from 69% of sites included in their analyses (468 sites where WNS had been present for at least 4 years in VT, NY, PA, MD, WV, and VA).

The following is a summary from the NLEB Species Status Assessment (SSA) Report (Service 2022a). Although there are countless stressors affecting the NLEB, the primary factor influencing the viability of the NLEB is WNS. Other key factors that influence the NLEB's viability include wind energy mortality, effects from climate change, and habitat loss. Available evidence, including both winter and summer data, indicates that NLEB abundance has and will continue to decline substantially over the next 10 years under current demographic conditions. Winter abundance (from known hibernacula) has declined range-wide (49%) and across most RPU's (0–90%). In addition, the number of extant winter colonies declined range-wide (81%) and across all RPU's (40–88%). There has also been a noticeable shift towards smaller colony sizes, with a 96–100% decline in the number of large hibernacula ( $\geq 100$  individuals). Declining trends in abundance and occurrence are also evident across much of NLEB's summer range. Range-wide summer occupancy declined by 80% from 2010–2019. Data collected from mobile acoustic transects found a 79% decline in range-wide relative abundance from 2009–2019 and summer mist-net captures declined by 43–77% compared to pre-WNS capture rates. Declines are anticipated to continue.

In conclusion, multiple data sources and analyses indicate downward trends in NLEB population abundance and distribution over the last 14 years. Consequently, we found no evidence to suggest that this downward trend will change soon. NLEB abundance (winter and summer), number of occupied hibernacula, spatial extent, probability of persistence, and summer habitat occupancy across the range and within all RPU's are decreasing. Since the arrival of WNS, NLEB abundance has steeply declined. At these low population sizes, colonies are vulnerable to extirpation from stochastic events. Furthermore, NLEB's ability to recover from these low abundances is limited given their low reproduction output (1 pup per year). Therefore, NLEB's resiliency is greatly compromised in its current condition and is projected to decline under future scenarios. Additionally, because NLEB's abundance and spatial extent are projected to decline dramatically, NLEB will also become more vulnerable to catastrophic events. NLEB's representation has also been reduced. The steep and continued declines in abundance have likely led to reductions in genetic diversity, and thereby reduced NLEB adaptive capacity. Further, the projected widespread reduction in the distribution of hibernacula will lead to losses in the diversity of environments and climatic conditions occupied, which will impede natural selection and further limit NLEB's ability to adapt. Moreover, at its current low abundance, loss of genetic diversity via genetic drift will likely accelerate. Consequently, limiting natural selection processes and decreasing genetic diversity will further lessen NLEB's ability to adapt to novel changes (currently ongoing as well as future changes) and exacerbate declines due to continued exposure to WNS, mortality from wind turbines, and impacts associated with habitat loss and climate change. Thus, even without further WNS spread and additional wind energy development, NLEB's viability is likely to rapidly decline over the next 10 years. Given the projected low abundance and the few numbers and restricted distribution of winter colonies, NLEB's



At the species level, NLEB viability requires having a sufficient number and distribution of healthy populations to ensure NLEB can withstand annual environmental and demographic variation (resiliency), catastrophes (redundancy), and novel or extraordinary changes in its environment (representation).

## Distribution

### Northern Long-eared bat

The current range of the NLEB includes 37 States, the District of Columbia, and 13 Canadian Provinces (Figure 4). In the SSA<sup>3</sup>, we have also identified five representation units (RPU): Eastern Hardwoods, Southeast, Midwest, Subarctic, and East Coast.



Range of the NLEB<sup>3</sup> (Service 2022b).

Prior to the documentation of WNS, NLEBs were consistently caught during summer mist-net surveys and detected during acoustic surveys in the eastern U.S. (80 FR 17974) and were commonly encountered, especially during swarming and hibernation in eastern Canada and New England (Caceres and Barclay 2000). However, throughout most of the species' range it was patchily distributed and was historically less common in the southern and western portions of the range than in the northern portion of the range (Amelon and Burhans 2006).

<sup>3</sup> U.S. Fish and Wildlife Service (Service). 2022. Species Status Assessment Report for the Northern long-eared bat (*Myotis septentrionalis*) Version 1.1. Bloomington, MN.

- Work on existing bridges/culverts or structures implemented under this program includes take of Indiana bats and/or NLEBs at more than 10 bridges/culverts or structures range-wide in a 12-month period.

Excerpt (pg. 34) from table showing all 350 FHWA / FRA / FTA projects from across the county, including in Minnesota.

Federal Lead Agency	State	Project Title	Species	NLEB Incidental Take (acres)	NLEB Incidental Take (individuals)	Timing of Activity (bat season)	Documented or Undocumented Habitat
FHWA	Minnesota	S.P. 7002-53, TH 21	NLEB	1.00		inactive season	undocumented
FHWA	Minnesota	S.P. 7212-21, TH 93	NLEB	5.00	5	active season	undocumented
FHWA	Minnesota	S.P. 1013-77, TH 212	NLEB	3.00		inactive season	undocumented
FHWA	Missouri	453088 & B Clay County Route 169	Indiana bat and NLEB	0.72		inactive season	undocumented
FHWA	Missouri	LPA-Missouri FHWA Federal Trans Project St. Charles Co CMAQ-7302(674) RtN/RtZ	Indiana bat and NLEB	0.47		inactive season	undocumented
FHWA	Missouri	Schwede Road Realignment	Indiana bat and NLEB	0.013		inactive season	undocumented
FHWA	Missouri	Clark County Bridge 11000371	Indiana bat and NLEB	0.11		inactive season	undocumented
FHWA	Missouri	FHWA - LPA Fed Trans Project, Platte, STP-3451(402), NW Waukomis, Old Maid's Cr and E Fork Line Cr	Indiana bat and NLEB	0.90		inactive season	undocumented
FHWA	Missouri	FHWA - LPA Fed Trans Project, St. Charles Co., STP-5414(638); Interstate Drive	Indiana bat and NLEB	0.20		inactive season	undocumented
FHWA	Missouri	Old Lemay Ferry Rd STP-5461 (609)	Indiana bat and NLEB	0.45		inactive season	undocumented
FHWA	Missouri	9P3169 Ozark County Route 160	Indiana bat and NLEB	3.40		inactive season	undocumented



## Memo

**To:** Diane Langenbach - MnDOT Metro District Project Manager  
Craig Hass - SRF Consulting Project Designer  
Brigid Gombold - Metro District Environmental Documentation Supervisor

**From:** Paul Voigt  
O.E.S. - Roadside Vegetation Management Specialist

**Date:** July 22, 2022

**Subject:** ENM Vegetation review for S.P. 1013-77 T.H.212

I reviewed the proposed project areas identified in the ENM dated July 7, 2022 to determine the potential for impacts to vegetation within and directly adjacent to the proposed project area. The following are my observations and recommendations based on background information and images from GIS layers, and Google Earth™ maps and Street View™, as well as information contained within the ENM.

### Project Description

This project will include:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Road Construction (Expansion from 2 to 4 lanes) | <input checked="" type="checkbox"/> Pond Construction                     |
| <input type="checkbox"/> Road Construction (Mill & Overlay)                         | <input checked="" type="checkbox"/> Drainage Structure Repair/Replacement |
| <input type="checkbox"/> Turn Lane/Bypass Lane/Auxiliary Lane Additions             | <input type="checkbox"/> Noise Wall Repair/Replacement                    |
| <input type="checkbox"/> Addition/Extension of Acceleration Lane(s)                 | <input type="checkbox"/> Noise Wall Construction                          |
| <input type="checkbox"/> Addition/Extension of Ramp(s)                              | <input type="checkbox"/> Addition of a Multi-Use Trail                    |
| <input checked="" type="checkbox"/> Road Widening                                   | <input type="checkbox"/> Soil Disturbance Beyond Inslope                  |
| <input checked="" type="checkbox"/> Reduced Conflict Intersections                  | <input type="checkbox"/> ADA (Curb Ramps Upgrades/Additions)              |
| <input checked="" type="checkbox"/> Bridge Construction                             | <input type="checkbox"/> ADA (Sidewalk Upgrades or Additions)             |
| <input type="checkbox"/> Bridge Replacement   | <input type="checkbox"/> Curb & Gutter Repair/Replacement/Additions       |
| <input type="checkbox"/> Guardrail Improvements Replacements                        | <input type="checkbox"/> Guardrail Additions                              |
| <input type="checkbox"/> Median Guardrail Additions                                 | <input type="checkbox"/> Landscaping Work                                 |
| <input type="checkbox"/> Staging Beyond Current Project Limits                      | <input type="checkbox"/> Grade Separated Bridge Construction              |
| <input type="checkbox"/> Signal Replacements  | <input type="checkbox"/> Concrete Median Replacement                      |
| <input type="checkbox"/> Other (See comments below)                                 |   |

**Add any additional comments related to project description below:**

*Snow fencing is also proposed at locations to be determined along this segment of TH 212. Snow fences will address blowing snow issues that create unsafe winter driving conditions for the travelling public.*

### Vegetation

#### Roadside Vegetation

Based on subject guidance for vegetation in the [MnDOT TDPD](#), vegetation categories present within, and close to the proposed areas of work include:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Functional Vegetation | <input checked="" type="checkbox"/> Noxious Weeds/Invasive Plants |
| <input type="checkbox"/> Protected Plant Species          | <input type="checkbox"/> High Risk Trees                          |
| <input checked="" type="checkbox"/> Landscaped Vegetation | <input type="checkbox"/> Native Plant Communities                 |

The woody vegetation within, and close to the proposed areas of work consists of:

- Deciduous  Coniferous  Mix of Deciduous & Coniferous
- Trees  Shrubs  Mix of Trees & Shrubs
- Non-Native (Planted)  Native (Planted)
- Non-Native (Naturally occurring)  Native (Naturally occurring)
- Mix of Native & Non-Native (Planted)  Mix of Native & Non-Native (naturally occurring)

The herbaceous vegetation within, and adjacent to the proposed areas of work consists of:

- Non-native grasses  Native grasses
- Non-native forbs  Native forbs
- Mix of Non-native grasses & Non-native forbs  Mix of native grasses & native forbs

**Add any additional comments related to vegetation below:**

NA

**Threatened and Endangered Species**

Current information based on Minnesota DNR Natural Heritage Information System (NHIS) **does not** indicate Threatened, Endangered or Special Concern plant species as present on MnDOT right-of-way.

For more information about Minnesota's Endangered, Threatened, and Special Concern Species visit: [https://files.dnr.state.mn.us/natural\\_resources/ets/endlist.pdf](https://files.dnr.state.mn.us/natural_resources/ets/endlist.pdf)

**Remnant Rail Prairie**

Based on review of a Geographic Information System (GIS) layer containing data gathered in a survey of Minnesota railroad rights-of-way there **are no** rail prairie remnants identified along this project.

**Areas of Environmental Sensitivity**

Based on reviews of several GIS layers there **are no** known areas of **vegetation** that qualify as Areas of Environmental Sensitivity (AES) along or directly adjacent to this project.

- |  |   |
|--|---|
| <input type="checkbox"/> MCBS Sites of Biodiversity Significance | <input type="checkbox"/> State Park                   |
| <input type="checkbox"/> MCBS Native Plant Communities           | <input type="checkbox"/> State Forest                 |
| <input type="checkbox"/> Railroad Prairies                       | <input type="checkbox"/> National Park                |
| <input type="checkbox"/> Tribal Boundaries                       | <input type="checkbox"/> National Forest              |
| <input type="checkbox"/> Wildlife Management Area (WMA)          | <input type="checkbox"/> Regional Park                |
| <input type="checkbox"/> Scientific & Natural Area (SNA)         | <input checked="" type="checkbox"/> No AES Identified |

**Potential Impacts**

There will be some impacts to roadside vegetation as a result of this project as presented in the ENM.

Potential impacts to roadside vegetation as a result of this project include:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Impacts to woody vegetation     | <input checked="" type="checkbox"/> Impacts to herbaceous vegetation |
| <input type="checkbox"/> Potential for impacts unknown at this time | <input type="checkbox"/> No vegetation impacts expected              |

**Add any additional comments related to vegetation impacts below:**

*The ENM states this project anticipates the need to clear over 10 acres of trees.*

## Vegetation Mitigation/Restoration & Vegetation Protection

### Turf Establishment

Turf establishment/re-establishment will not be necessary for this project.

Soil disturbance is likely and there will be the need for turf establishment with this project. For general seed mix recommendations related to your District go to:

<http://www.dot.state.mn.us/environment/erosion/vegetation.html>

### Add any additional comments related to turf establishment below:

NA

### Woody Vegetation Establishment

There is no need for woody vegetation establishment/re-establishment.

There may be a need for woody vegetation establishment/re-establishment at some locations:

*Due to the anticipated tree loss along this corridor, consideration should be given to planting new trees after construction is complete. This mitigation restores the ecological services provided by trees and other woody vegetation removed during construction and it facilitates pedestrian, bicycle, and Complete Streets design guidance. If it hasn't already happened, I recommend you reach out to Carol Zoff in the Office of Environmental Stewardship's Environmental Planning & Design Unit for information related to landscape design assistance and discuss the potential need to include the work package as follow up to this project. Carol's contact info is: 612-449-0754/[carol.zoff@state.mn.us](mailto:carol.zoff@state.mn.us)*

### Add any additional comments related to woody vegetation mitigation/restoration below:

*Depending on the level of trees taken and their locations, mitigation of these losses may be necessary.*

### Protection of Vegetation

No areas of vegetation have been identified for protection at this time.

There will likely be the opportunity to protect vegetation during this project:

- Woody vegetation - Trees & Shrubs
- Herbaceous vegetation - Grasses/Turf
- Herbaceous vegetation - Forbs/Perennials
- Vegetated areas considered to be Areas of Environmental Sensitivity (AES)
- Native Prairie Remnants

Vegetation Protection opportunities may include the following (Based on MnDOT 2572)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Temporary Fence - 2572.3A.1                            | <input checked="" type="checkbox"/> Clean Root Cutting - 2572.3A.2 |
| <input type="checkbox"/> Watering - 2572.3A.3  | <input type="checkbox"/> Rooting Topsoil Borrow - 2572.3A.4        |
| <input type="checkbox"/> Pruning - 2572.3A.6   | <input type="checkbox"/> Tree Growth Retardant - 2572.3A.9         |
| <input type="checkbox"/> Other Vegetation Protection Measures - 2572.3A.10                 | <input type="checkbox"/> No Vegetation Protection Anticipated      |
| <input type="checkbox"/> Other Protection Measures/Special Provisions (See comments Below) |  |



**Add any additional comments related to vegetation protection below:**

Depending on the construction limits, tree protection may be necessary. This will be determined by a review once plan sheets showing construction limits are available (30% plan).

**Noxious Weeds**

Minnesota State listed noxious weeds can be found at the following web address:

<http://www.mda.state.mn.us/plants/pestmanagement/weedcontrol/noxiouslist.aspx>

GIS layers **do** identify noxious weeds within the general limits of this project. Even if noxious weeds have not been previously mapped, there may still be noxious weeds present. Following are some general guidelines that can help to limit the spread of noxious weeds prior to and during the construction phase:

**Preconstruction**

- **Identify where weeds are present.**
- Prioritize these areas for weed control.

**During construction**

- Prevent movement of soil harboring a strong seed bank (soil under a weed infestation).
- Prevent the spread of reproductive weed parts (seed and roots) by cleaning equipment before it is moved from one site to another.

**Post construction**

- Monitor for noxious and control as necessary.

For specific noxious weed identification and basic control information visit:

<https://www.dot.state.mn.us/roadsides/vegetation/pdf/noxiousweeds.pdf>

***MnDOT Standard Specification 2575.3J describes the requirements of the Contractor in regards to weed control on all MnDOT projects.***

**Add any additional comments related to noxious weeds below:**

NA

**Further Review**

Further review of this project **will** be needed. Because there is no P6 schedule associated with the project, it is highly recommended that during the design process, when plans are sent out for functional group reviews, that myself or somebody from the Roadside Vegetation Management Unit in the Office of Environmental Stewardship be included in those reviews.

Please feel free at any time during this project to call on me for questions related to vegetation impacts and/or protection.

Thank you for the opportunity to review this project for vegetation concerns.

Paul  
Voigt



Digitally signed  
by Paul Voigt  
Date: 2022.07.22  
12:40:09 -05'00'

**From:** Gombold, Brigid (DOT) <[brigid.gombold@state.mn.us](mailto:brigid.gombold@state.mn.us)>  
**Sent:** Friday, July 15, 2022 6:17 AM  
**To:** Brett Danner  
**Subject:** FW: ENM Review for US212 SP:1013-77 Benson Township Carver County  
Reply By 8/8/2022

FYI - Brigid

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**From:** Swanson, Victoria (DOT) <[Victoria.Swanson@state.mn.us](mailto:Victoria.Swanson@state.mn.us)>  
**Sent:** Thursday, July 14, 2022 4:28 PM  
**To:** Langenbach, Diane (DOT) <[diane.langenbach@state.mn.us](mailto:diane.langenbach@state.mn.us)>  
**Cc:** Gombold, Brigid (DOT) <[brigid.gombold@state.mn.us](mailto:brigid.gombold@state.mn.us)>; Craig Hass <[chass@srfconsulting.com](mailto:chass@srfconsulting.com)>  
**Subject:** RE: ENM Review for US212 SP:1013-77 Benson Township Carver County Reply By 8/8/2022

Good afternoon Diane

I have reviewed the ENM for Sp1013-77(212) Benson Township and these Regulated Materials may need special handling:

**Potential Asbestos Culverts**

RMU Staff contact Project manager and see if there is indication on plans indicate any of the culverts are asbestos bonded (AB) or if there are any coatings on pipe interior or exterior. Pm may have to reach out to District Hydraulics to find more information.

- If No indication of ACM, then no further action.
- If unknown or suspected ACM - RMU will have to hire consultant to investigate. Further questions to ask district:
  1. Are the pipe/coatings accessible for testing?
  2. Do the (hydraulic) plans identify coatings?

If ACM on pipes, use Special Provision (2104) ABATE ASBESTOS-CONTAINING PIPES OR CULVERTS.

**Building Demolitions** was also indicated on the ENM for expanding this road so therefore if you take down any buildings, they will need to be assessed for asbestos and regulated materials once acquired by MnDOT.

{If the retaining walls are coming down, they will need to be assessed for asbestos. The mortar needs to be checked (most likely no asbestos) and it looks like it could have some type of product brushed on the concrete and maybe caulk... }

{All treated wood must be taken to a MPCA permitted industrial or sanitary landfill with a documentation trail.}

When this project gets moving and you have an idea of how many buildings will be affected please advise so I can hire a consultant to assess each building acquired with this road expansion.

Regards

Victoria Swanson

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**From:** Gombold, Brigid (DOT) <[brigid.gombold@state.mn.us](mailto:brigid.gombold@state.mn.us)>

**Sent:** Thursday, July 7, 2022 11:31 AM

**To:** Fowler, Patty (DOT) <[Patricia.Fowler@state.mn.us](mailto:Patricia.Fowler@state.mn.us)>; MN\_DOT\_Protected Species <[protectedspecies.dot@state.mn.us](mailto:protectedspecies.dot@state.mn.us)>; MN\_DOT\_CulturalResources <[CulturalResources.dot@state.mn.us](mailto:CulturalResources.dot@state.mn.us)>; Berger, John (DOT) <[John.Berger@state.mn.us](mailto:John.Berger@state.mn.us)>; Swanson, Victoria (DOT) <[Victoria.Swanson@state.mn.us](mailto:Victoria.Swanson@state.mn.us)>; Shekur, Hailu (DOT) <[hailu.shekur@state.mn.us](mailto:hailu.shekur@state.mn.us)>; Ries, Natalie (DOT) <[natalie.ries@state.mn.us](mailto:natalie.ries@state.mn.us)>; Voigt, Paul (DOT) <[paul.voigt@state.mn.us](mailto:paul.voigt@state.mn.us)>; Milkert, Anjani (DOT) <[minnie.milkert@state.mn.us](mailto:minnie.milkert@state.mn.us)>

**Cc:** Langenbach, Diane (DOT) <[diane.langenbach@state.mn.us](mailto:diane.langenbach@state.mn.us)>; Darin Mielke <[dmielke@co.carver.mn.us](mailto:dmielke@co.carver.mn.us)>; Craig Hass <[chass@srfconsulting.com](mailto:chass@srfconsulting.com)>; Alex Yellick <[AYellick@srfconsulting.com](mailto:AYellick@srfconsulting.com)>; Jacobson, Nani (DOT) <[Nani.Jacobson@state.mn.us](mailto:Nani.Jacobson@state.mn.us)>; Kobilarcsik, Curt (DOT) <[Curt.Kobilarcsik@state.mn.us](mailto:Curt.Kobilarcsik@state.mn.us)>; Brown, Colleen (DOT) <[colleen.brown@state.mn.us](mailto:colleen.brown@state.mn.us)>; 'bdanner@srfconsulting.com' <[bdanner@srfconsulting.com](mailto:bdanner@srfconsulting.com)>

**Subject:** ENM Review for US212 SP:1013-77 Benton Township Carver County Reply By 8/8/2022

Hi Reviewers,

Carver County has a new project on US212 that will expand the highway from two lanes to four lanes in Benson Township which they will be letting in 2024. The Environmental Documentation is going through the OES/Trunk Highway side of MnDOT and the Design will go through State Aid. This Early Notification Memo notice is being sent to you by Metro's Environmental Documentation staff to coordinate review of the project for the NonPCE and EAW that will be required for documentation. The project received the following funding sources: Federal (\$23.5M) & State (\$31.1M) & County (\$4.5M)

The ENM can be downloaded at the following link:

External:

[https://edocs-public.dot.state.mn.us/edocs\\_public/DMResultSet/download?docId=19288165](https://edocs-public.dot.state.mn.us/edocs_public/DMResultSet/download?docId=19288165)

Some of you are just an FYI, as you will be involved later in design (Water Resources and ROW)

Please respond by: **8/8/2022**

Let me know if you have any questions.

Thank you,

Brigid

Brigid Gombold  
Environmental Documentation Supervisor  
1500 CR B2  
Roseville, MN 55112



March 8, 2023

VIA E-MAIL

Barbara A.M. Howard  
Cultural Resources Unit  
MN Department of Transportation  
395 John Ireland Blvd, MS 620  
St. Paul, MN 55155-1899

RE: MnDOT SP 1013-77 "Part A", Reconstruction of TH 212 from Norwood Young America to Cologne  
Benton Township, Carver County (Federal and State Review)  
SHPO Number: 2008-3318

Dear Ms. Howard,

Thank you for initiating consultation with our office regarding the above-referenced project. Information received in our office via e-mail on February 9, 2023 has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), its implementing federal regulations, "Protection of Historic Properties" (36 CFR Part 800), and per the terms of the 2014 Amended Programmatic Agreement (PA) executed among the Federal Highway Administration, the U.S. Army Corps of Engineers (Corps), the Advisory Council on Historic Preservation, and the Minnesota State Historic Preservation Office.

We have also reviewed this project pursuant to the responsibilities given the State Historic Preservation Office by the Minnesota Historic Sites Act (Minn. Stat. 138.665-666) and the Minnesota Field Archaeology Act (Minn. Stat. 138.40).

We have completed a review of your letter dated February 9, 2023, a submittal which included the following documentation:

- Table 1. Above-Ground Resources Excluded from Survey (MnDOT CRU, 2/9/2023);
- Table 2. Architecture-History Investigations (MnDOT CRU, 2/9/2023);
- Roll plot (SRF, 6/2/2022, 1 pg.);
- Area of Potential Effects Maps (MnDOT, 2/1/2023, 7 pp.);
- Report titled *Phase I and II Architecture/History Survey: US Highway 212 Expansion from Norwood Young America to Cologne (SP 1013-77), Carver County, Minnesota* (Bolton and Menk, December 2022); and
- Report titled *Supplemental Phase I Archaeological Investigations for the Trunk Highway 212 Improvements Project – Norwood Young America to Cologne, Carver County, Minnesota* (Two Pines, February 2023).

Our comments are provided below.

### Definition of Federal Undertaking and Area of Potential Effect

We understand by your February 9<sup>th</sup> letter that the proposed federal undertaking consists of the reconstruction of Trunk Highway (TH) 212 between Norwood Young America and the west end of the Cologne bypass, expanding it from two to four lanes, and that this project was originally proposed in 2008 as "Part A" of a larger project that also included "Part B." In 2020, the SHPO concurred with a No Adverse Effect Finding for Part B, and we understand that the current submittal consists of Part A, with some changes from the original Part A. This undertaking includes the construction of Reduced Conflict Intersections (RCIs) west of County Road (CR) 36 at County Drive, CR 153, Salem Avenue, and Tacoma Avenue; the reconfiguration of the intersection of CR 51 and TH 212 as a bridge overpass; the construction of several treatment ponds and drainage improvements which will likely involve Corps permitting; the construction of snow fencing along TH 212 in yet-to-be-determined locations; right-of-way impacts and acquisitions, including a potential residential relocation; and construction staging in the highway median west of Tacoma Avenue and west of CR 36.

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### MINNESOTA STATE HISTORIC PRESERVATION OFFICE

50 Sherburne Avenue ■ Administration Building 203 ■ Saint Paul, Minnesota 55155 ■ 651-201-3287 [mn.gov/admin/shpo](http://mn.gov/admin/shpo) ■ [mnshpo@state.mn.us](mailto:mnshpo@state.mn.us)

AN EQUAL OPPORTUNITY AND SERVICE PROVIDER

Based upon our understanding of the scope and nature of the federal undertaking, we agree that your agency’s definition of the Area of Potential Effects (APE), as defined in narrative and documented in the APE map of your February 9<sup>th</sup> submission, is generally appropriate to take into account both direct and indirect effects that the proposed undertaking may have on historic properties.

## Consultation and Public Engagement

Thank you for providing a summary of consulting party engagement efforts your agency has completed to date.

## Identification of Historic Properties

### **Archaeology**

We concur that the effort to identify archaeological sites within the APE is reasonable relative to the proposed scope and extent of the federal undertaking, and agree with the planned Phase II evaluation for **Site 21CR0174, the Kief-Fruetel-Bachmann Farmstead**, as well as the recommendation for archaeological monitoring of ground-disturbing activities near St. John’s German Reformed Church Cemetery, which is part of the church property inventoried as **CR-BNT-002**.

### **Architectural History**

On May 4, 2021, the SHPO concurred with the following determinations as part of streamlining review #2021-0868; we continue to concur with these determinations:

- **XX-RRD-CSP010 CMStP Railway Co./CMStP&P Railroad Co: H&D Division Mainline** is **eligible** for listing in the National Register of Historic Places (NRHP); and
- **XX-RRD-CSP013 H&D Railway Co./CMStP Railway Co./CMStP&P Railroad Co: Mainline** is **not eligible** for listing in the NRHP.

In 2008, the SHPO concurred that the following properties were **eligible** for listing in the NRHP as part of SHPO #2008-3318; these properties are considered **contributing to the NRHP-eligible XX-RRD-CSP010**<sup>1</sup>:

- **CR-BNT-136 Hastings and Dakota Railway - Benton Township Segment;**
- **CR-CLC-027 Hastings and Dakota Railway - Cologne Segment;**
- **CR-NWC-008 Hastings & Dakota Railroad, Norwood-Young America Township Segment;** and
- **CR-YAT-010 Hastings & Dakota Railroad, Young America Township Segment.**

Also in 2008, the SHPO concurred that the following properties were not eligible for listing in the NRHP as part of SHPO #2008-3318. Thank you for preparing inventory form updates, as over 10 years has passed since these were surveyed. We agree that these properties **remain not eligible**:

- |   |  |
|---|--|
| • <b>CR-BNT-002 St. Johannes German Evangelical Reformed Church</b> | • <b>CR-BNT-148 House</b>              |
| • <b>CR-BNT-138 Jorissen Farmstead</b>                              | • <b>CR-BNT-149 Farmstead</b>          |
| • <b>CR-BNT-139 Wolter Farmstead</b>                                | • <b>CR-BNT-150 Bachmann Farmstead</b> |
| • <b>CR-BNT-142 House</b>   | • <b>CR-BNT-151 Farmstead</b>          |
| • <b>CR-BNT-143 House</b>   | • <b>CR-BNT-152 Farmstead</b>          |
| • <b>CR-BNT-144 House</b>   | • <b>CR-YAT-011 Falk Farmstead</b>     |
| • <b>CR-BNT-146 House</b>   | • <b>CR-YAT-012 Heap Farmstead</b>     |
| • <b>CR-BNT-147 “Heifer Hotel” Farmstead</b>                        | • <b>XX-ROD-039 TH 212</b>             |

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<sup>1</sup> Beginning in January 2019, newly identified railroad properties (including corridors that had not yet been assigned inventory numbers for their entirety) are assigned inventory numbers following the new railroad numbering scheme (e.g., XX-RRD-CSP001). Railroad resources such as segments that already had numbers assigned retain their original numbers, and the individual properties are considered contributing, non-contributing, or unevaluated resources within the larger branches and corridors.

We concur that the following nine properties, which were newly inventoried as they now meet the 45-year threshold and/or are within the current APE, are **not eligible** for listing in the NRHP. We appreciate the thorough research that informed the evaluation of significance for CR-BNT-156:

- CR-BNT-156 Commercial Building
- CR-BNT-157 House
- CR-BNT-158 House
- CR-BNT-159 House
- CR-BNT-160 House
- CR-BNT-161 House
- CR-BNT-162 House
- CR-BNT-163 House
- CR-BNT-164 House

Thank you for preparing updates for **CR-BNT-141 House** and **CR-BNT-145 Peschken Farmstead** documenting that these properties have been demolished since the 2008 survey and are **non-extant**.

On August 29, 2008, the SHPO concurred that the following two properties are **eligible** for listing in the NRHP as part of SHPO #2008-3318; we continue to concur with these determinations:

- **CR-BNT-006 Stender Farmstead**; and
- **CR-BNT-140 Spiecker Farm**.

We concur with the recommended reduction in the eligible acreage for the **Stender Farmstead (CR-BNT-006)** property from 63 to 47 acres, with the removal of the discontinuous 16 acre-parcel.

Please submit new versions of the inventory forms for **CR-BNT-006**, **CR-BNT-140**, **CR-BNT-156** (including a photo showing the full façade), and **CR-YAT-012** with higher resolution photographs, and include an assessment of the seven aspects of integrity for **CR-BNT-140** and **CR-BNT-156**. The first three pages of frontmatter in the inventory form for **CR-BNT-162** contain data for CR-BNT-161; please submit a corrected version of the inventory form for CR-BNT-162.

Based upon information provided in the recently completed survey, it is our opinion that there is insufficient documentation to support the eligibility determination for **Bongards' Coop Creamery (CR-BNT-001)**. According to National Register Bulletin 16A, a property "must possess historic integrity for all periods of significance entered." While Bongards' Coop Creamery (CR-BNT-001) has significance from 1908 to 1975, it does not appear to retain integrity for the 1908 to 1960s period, therefore it would not be eligible for listing in the NRHP for this period of significance. Please clarify if the property possesses significance from the period between 1969 and 1975, when it appears that several of the core operation buildings were rebuilt.

We look forward to continuing consultation with your agency as historic property identification efforts and assessments of potential adverse effects to historic properties are completed. Please feel free to contact Nicole Foss, Environmental Review Transportation Liaison, at [nicole.foss@state.mn.us](mailto:nicole.foss@state.mn.us) or (651) 201-3248 if you have any questions regarding our review of this project.

Sincerely,



Sarah J. Beimers  
Environmental Review Program Manager



**From:** Alicia Bock  
**Sent:** Monday, October 24, 2022 12:59 PM  
**To:** Veith, Stuart - NRCS, Rochester, MN <stuart.veith@usda.gov>  
**Cc:** Julie Apolinario <JApolinario@srfconsulting.com>; Dan Symanietz <DSymanietz@srfconsulting.com>  
**Subject:** RE: [External Email]SP 1013-77 (TH 212) Carver County - Farmland Conversion

Hi Stuart,  
That's great news! Thanks so much for your assistance. Please see the attached completed form with the 107.5 acres and today's date.  
Sincerely,  
Alicia

**Alicia Bock**  
She/Her/Hers

Environmental Planning Lead  
[SRF Consulting Group](#)  
3701 Wayzata Boulevard, Suite 100, Minneapolis, MN 55416-3791  
Direct: 763-340-1824 | [abock@srfconsulting.com](mailto:abock@srfconsulting.com)



[srfconsulting.com](http://srfconsulting.com) | [Facebook](#) | [LinkedIn](#) | [Twitter](#) | [Vimeo](#) | [Instagram](#)

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[\\*Why are pronouns important?](#)

**From:** Veith, Stuart - NRCS, Rochester, MN <[stuart.veith@usda.gov](mailto:stuart.veith@usda.gov)>  
**Sent:** Monday, October 24, 2022 11:58 AM  
**To:** Alicia Bock <[ABock@srfconsulting.com](mailto:ABock@srfconsulting.com)>  
**Subject:** RE: [External Email]SP 1013-77 (TH 212) Carver County - Farmland Conversion

Alicia,

Finally able to complete the form! Thank you so much for taking the time and having the patience to work through this. If you could be so kind as to return the completed form to me I would appreciate it very much. Also, if you have any further questions, comments or concerns please don't hesitate to ask.

Thanks,

Stuart Veith  
*Area Resource Soil Scientist*  
USDA-NRCS  
3555 9<sup>th</sup> ST NW Bld 350  
Rochester, MN 55901  
Office: 507-289-7454 ext. 3581

Cell: 507-298-4300

**From:** Alicia Beattie <[ABeattie@srfconsulting.com](mailto:ABeattie@srfconsulting.com)>  
**Sent:** Thursday, September 15, 2022 10:23 AM  
**To:** Veith, Stuart - NRCS, Rochester, MN <[stuart.veith@usda.gov](mailto:stuart.veith@usda.gov)>  
**Cc:** Julie Apolinario <[JApolinario@srfconsulting.com](mailto:JApolinario@srfconsulting.com)>; Brett Danner <[bdanner@srfconsulting.com](mailto:bdanner@srfconsulting.com)>;  
Darin Mielke <[dmielke@co.carver.mn.us](mailto:dmielke@co.carver.mn.us)>  
**Subject:** [External Email]SP 1013-77 (TH 212) Carver County - Farmland Conversion

Dear Stuart,

Carver County is proposing to undertake a project on Highway 212 that would expand the roadway from two lanes to four lanes between the Cities of Cologne and Norwood Young America, Benton Township. Unavoidable farmland conversion is anticipated, and the environmentally preferred alternative has been scored using Form CPA-106. Please find the enclosed farmland conversion impact rating worksheet, figure, and construction limits shapefile for your review.

This correspondence was originally emailed to Daniel Nath on September 2, 2022, as he was listed as the contact on the Minnesota NRCS Resource Soil Scientist Regions map for the region that includes Carver County. However, Jim Fritz confirmed that you are the new contact for the Rochester office.

Please let me know if you have questions or need

additional information. Thank you.

Sincerely,

Alicia

**Alicia Beattie**  
She/Her/Hers

Environmental Planning Lead  
[SRF Consulting Group](#)  
3701 Wayzata Boulevard, Suite 100, Minneapolis, MN 55416-3791  
Direct: 763-340-1824 | [abeattie@srfconsulting.com](mailto:abeattie@srfconsulting.com)



[srfconsulting.com](http://srfconsulting.com) | [Facebook](#) | [LinkedIn](#) | [Twitter](#) | [YouTube](#) | [Instagram](#)

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[\\*Why are pronouns important?](#)

**FARMLAND CONVERSION IMPACT RATING  
FOR CORRIDOR TYPE PROJECTS**

<b>PART I (To be completed by Federal Agency)</b>		3. Date of Land Evaluation Request <b>9/26/22</b>	4. Sheet 1 of <b>1</b>
1. Name of Project <b>Hwy 212 Benton Township</b>		5. Federal Agency Involved <b>FHWA</b>	
2. Type of Project <b>Highway Reconstruction</b>		6. County and State <b>Carver County</b>	
<b>PART II (To be completed by NRCS)</b>		1. Date Request Received by NRCS <b>9/29/22</b>	2. Person Completing Form <b>Stuart Veith</b>
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated <b>552</b>	Average Farm Size <b>230 acres</b>
5. Major Crop(s) <b>corn, soybeans</b>	6. Farmable Land in Government Jurisdiction Acres: <b>190,167</b> % <b>79.04</b>	7. Amount of Farmland As Defined in FPPA Acres: <b>179,573</b> % <b>74.64</b>	
8. Name Of Land Evaluation System Used <b>Crop Productivity Index</b>	9. Name of Local Site Assessment System <b>N/A</b>	10. Date Land Evaluation Returned by NRCS <b>10/24/22</b>	

<b>PART III (To be completed by Federal Agency)</b>	<b>Alternative Corridor For Segment</b>			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	<b>107.5</b>			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	<b>0</b>			
C. Total Acres In Corridor	<b>107.5</b>			

<b>PART IV (To be completed by NRCS) Land Evaluation Information</b>	
A. Total Acres Prime And Unique Farmland	72.9
B. Total Acres Statewide And Local Important Farmland	19.7
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	<b>0.0497</b>
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	<b>68.85</b>

<b>PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)</b>	
	<b>81</b>

<b>PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))</b>	Maximum Points				
1. Area in Nonurban Use	15				
2. Perimeter in Nonurban Use	10				
3. Percent Of Corridor Being Farmed	20				
4. Protection Provided By State And Local Government	20				
5. Size of Present Farm Unit Compared To Average	10				
6. Creation Of Nonfarmable Farmland	25				
7. Availability Of Farm Support Services	5				
8. On-Farm Investments	20				
9. Effects Of Conversion On Farm Support Services	25				
10. Compatibility With Existing Agricultural Use	10				
<b>TOTAL CORRIDOR ASSESSMENT POINTS</b>	<b>160</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

<b>PART VII (To be completed by Federal Agency)</b>					
Relative Value Of Farmland (From Part V)	100	81	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment)	160	0	0	0	0
<b>TOTAL POINTS (Total of above 2 lines)</b>	<b>260</b>	<b>81</b>	<b>0</b>	<b>0</b>	<b>0</b>

1. Corridor Selected: <b>Corridor A</b>	2. Total Acres of Farmlands to be Converted by Project: <b>107.5</b>	3. Date Of Selection: <b>10/24/22</b>	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
--	---	--	---

5. Reason For Selection:  
**The Preferred Alternative addresses pavement condition, vehicle safety, and vehicle mobility needs for the project. Impacts to farmland have been minimized to the extent feasible.**

Signature of Person Completing this Part: <b>Alicia Beattie, SRF Consulting</b>	DATE <b>10/20/22</b>
--	-------------------------

NOTE: Complete a form for each segment with more than one Alternate Corridor





**Farmland Impacts**

U.S. Highway 212 Project - Benton Township  
(SP) 1013-77  
Carver County

**Figure 1**





## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Minnesota-Wisconsin Field Office  
3815 American Boulevard East  
Bloomington, Minnesota 55425-1665



December 6, 2022

Philip Forst  
U.S. Department of Transportation  
Federal Highway Administration  
380 Jackson Street, Suite 500  
Saint Paul, MN 55101

ECOSphere: 2023-0014271

RE: S.P. 1013-77, TH 212

Dear Mr. Forst:

The U.S. Fish and Wildlife Service (Service) is responding to your request dated November 28, 2022, to verify that the S.P. 1013-77, TH 212 project (the Project) in Carver County, Minnesota may rely on the February 5, 2018, Programmatic Biological Opinion (BO) for federally funded or approved transportation projects that may affect the federally listed threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). We received your request and the associated Likely to Adversely Affect (LAA) Consistency Letter on November 28, 2022. This letter provides the Service's response as to whether the Federal Highway Administration may rely on the BO to comply with Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) for the Project's effects to the NLEB.

The Federal Highway Administration has determined that the Project is *likely to adversely affect* the NLEB. The Service concurs with this determination because no more than 12 acres of suitable roosting habitat will be removed within 300 feet of existing road surface during the NLEB inactive season (November 1 to March 31, inclusive). Approximately 3 acres of the proposed tree clearing will occur between 100 to 300 feet of existing roadsides. No bridge work is anticipated as a result of the project. Buildings slated for removal will be inspected for bat use prior to building demolition. If northern long-eared bats are observed or documented using any buildings, MnDOT will reinitiate consultation on behalf of the Federal Highway Administration. Building removal will occur during the winter months (November 1 – March 31, inclusive). This concurrence concludes your ESA Section 7 responsibilities relative to NLEB for this Project, subject to the Reinitiation Notice below.

On July 5, 2022, the U.S. District Court of the Northern District Court of California vacated the 2019 regulations implementing section 7 of the ESA. On September 21, 2022, the Ninth Circuit Court of Appeals granted a request to stay the U.S. District Court of Northern California's July 5, 2022, order that vacated the 2019 ESA regulations. As a result, the 2019 regulations are again in effect, and the Service has relied upon the 2019 regulations in issuing our written concurrence on the action agency's "may affect, likely to adversely affect" determination. However, because the outcome of the legal challenges to the 2019 ESA regulations is still unknown, we considered whether our substantive analyses and conclusions would have been different if the pre-2019 regulations were applied in this informal consultation. Our analysis included the prior definition of "effects of the action." We considered all the "direct and indirect effects" and the "interrelated and interdependent activities" when determining the

“effects of the action.” We then considered whether any “effects of the action” that overlap with applicable ranges of listed species would be wholly beneficial, insignificant, or discountable to the species. As a result, we determined the substantive analysis and conclusions would have been the same, irrespective of which regulations applied.

#### Conclusion

The Service has reviewed the effects of the proposed Project, which includes the Federal Highway Administration’s commitment to implement any applicable mitigation measures as indicated on the LAA Consistency Letter. We confirm that the proposed Project’s effects are consistent with those analyzed in the BO. The Service has determined that projects consistent with the conservation measures and scope of the program analyzed in the BO are not likely to jeopardize the continued existence of the NLEB. In coordination with your agency and the other sponsoring Federal Transportation Agencies, the Service will reevaluate this conclusion annually in light of any new pertinent information under the adaptive management provisions of the BO.

#### Incidental Take

##### *Northern Long-eared Bat*

The Service anticipates that tree and building removal associated with the Project will cause incidental take of NLEBs. However, the Project is consistent with the BO, and such projects will not cause take of NLEB that is prohibited under the ESA section 4(d) rule for this species (50 CFR §17.40(o)). Therefore, the incidental take of NLEBs resulting from the Project does not require exemption from the Service.

#### Reporting Dead or Injured Bats

The Federal Highway Administration, its State/Local cooperators, and any contractors must take care when handling dead or injured NLEBs, or any other federally listed species that are found at the Project site to preserve biological material in the best possible condition and to protect the handler from exposure to diseases, such as rabies. Project personnel are responsible for ensuring that any evidence about determining the cause of death or injury is not unnecessarily disturbed. Reporting the discovery of dead or injured listed species is required in all cases to enable the Service to determine whether the level of incidental take exempted by this BO is exceeded, and to ensure that the terms and conditions are appropriate and effective. Parties finding a dead, injured, or sick specimen of any endangered or threatened species must promptly notify this Service Office.

#### Reinitiation Notice

This letter concludes consultation for the Project, which qualifies for inclusion in the BO issued to the Federal Transportation Agencies. To maintain this inclusion, a reinitiation of this Project-level consultation is required where the Federal Highway Administration’s discretionary involvement or control over the Project has been retained (or is authorized by law) and if:

1. new information reveals that the Project may affect listed species or critical habitat in a manner or to an extent not considered in the BO;
2. the Project is subsequently modified in a manner that causes an effect to listed species or designated critical habitat not considered in the BO; or
3. a new species is listed or critical habitat designated that the Project may affect.



We appreciate your continued efforts to ensure that this Project is fully consistent with all applicable provisions of the BO. If you have any questions regarding our response or if you need additional information, please contact Ms. Dawn Marsh, Fish and Wildlife Biologist at 612-283-8054 or via email at dawn\_marsh@fws.gov.

Sincerely,

**BETSY  
GALBRAITH**

Digitally signed by  
BETSY GALBRAITH  
Date: 2022.12.07  
06:25:58 -06'00'

Betsy Galbraith  
Deputy Field Supervisor

cc: Chris Smith, MnDOT

# Appendix E

Traffic Noise Analysis Report

# Traffic Noise Analysis Report

## *U.S. Highway 212 – Benton Township Project*

*Report Version 2.0*

**Carver County, Minnesota**



April 18, 2023

State Project (SP) 1013-77



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# Chapter 1 Introduction

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The purpose of this noise analysis is to evaluate and document the effect of the US Highway (Hwy) 212 Benton Township Project on traffic generated noise levels. The proposed project includes Federal-aid funding sources; therefore, an environmental review under the National Environmental Policy Act (NEPA) is required. The project has been identified as a Class II action under NEPA. A Minnesota Department of Transportation (MnDOT) trunk highway Categorical Exclusion determination will be prepared for the project, as well as a State Environmental Assessment Worksheet (EAW).

This traffic noise analysis was completed following the procedures and guidance described in the 2017 MnDOT Noise Requirements for Type I Federal-aid Projects as per 23 CFR 772 (effective July 10, 2017).<sup>1</sup> MnDOT's noise requirements apply to all projects administered by MnDOT that exceed mandatory Environmental Quality Board (EQB) thresholds for highway projects and/or Federal Highway Administration (FHWA) Title 23 Code of Federal Regulations (CFR) Part 772 impact criteria.

## 1.1 General Project Description

The Hwy 212 Benton Township Project is in Benton Township and the Cities of Norwood Young America and Cologne in Carver County, Minnesota. The western project terminus is Tacoma Avenue (County Road 34) in the City of Norwood Young America. The eastern project terminus is Lake Street West (County Road 36) in the City of Cologne. The total length of the project is approximately 5.5 miles. Figure 1 and Figure 2 illustrate the project location.

Within the project area, Hwy 212 is a rural two-lane undivided roadway with six-foot paved shoulders. West of Tacoma Avenue and east of Lake Street West, Hwy 212 transitions from a two-lane highway to a four-lane divided highway. The posted speed limit is 50 to 60 miles per hour (mph).

Hwy 212 is an east – west principal arterial highway that connects the Twin Cities Metropolitan Area, through Carver County, to western Minnesota and beyond. Hwy 212 is a National Highway System (NHS) route and serves as a major east – west transportation corridor for local, regional, and interregional traffic.

---

<sup>1</sup> The 2017 MnDOT noise requirements document is available online on the MnDOT Office of Environmental Stewardship webpage at <http://www.dot.state.mn.us/environment/noise/pdf/2017-noise-requirements.pdf>.

Figure 1.1 State Location Map

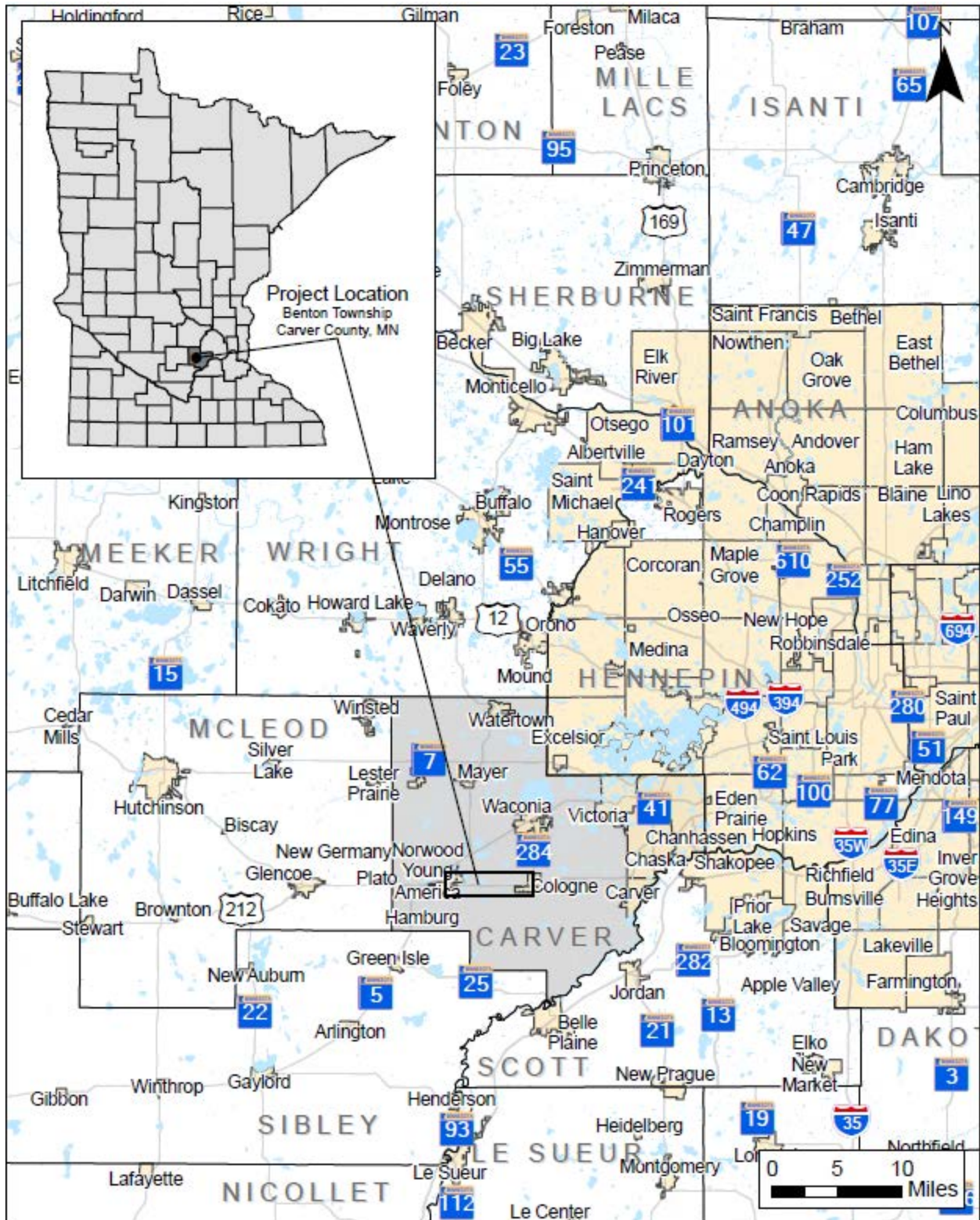




Figure 1.2 Project Location Map and Proposed Improvements



The purpose of this project is to improve pavement conditions, vehicle safety and vehicle mobility on Hwy 212 between Tacoma Avenue and Lake Street West. This project includes reconstruction of the existing two-lane roadway to a four-lane divided highway. Reduced Conflict Intersections (RCIs) are proposed at Tacoma Avenue, Salem Ave, County Road 153, and County Drive. The County Road 51 intersection with Hwy 212 is proposed to be reconfigured as a bridge overpass just to the east of the existing intersection. Several stormwater treatment ponds and drainage improvements are proposed to accommodate the additional impervious from the roadway expansion. Lastly, snow fencing is proposed along Hwy 212 within the project limits to address visibility issues from blowing snow in the winter season.

## 1.2 Background Information On Noise

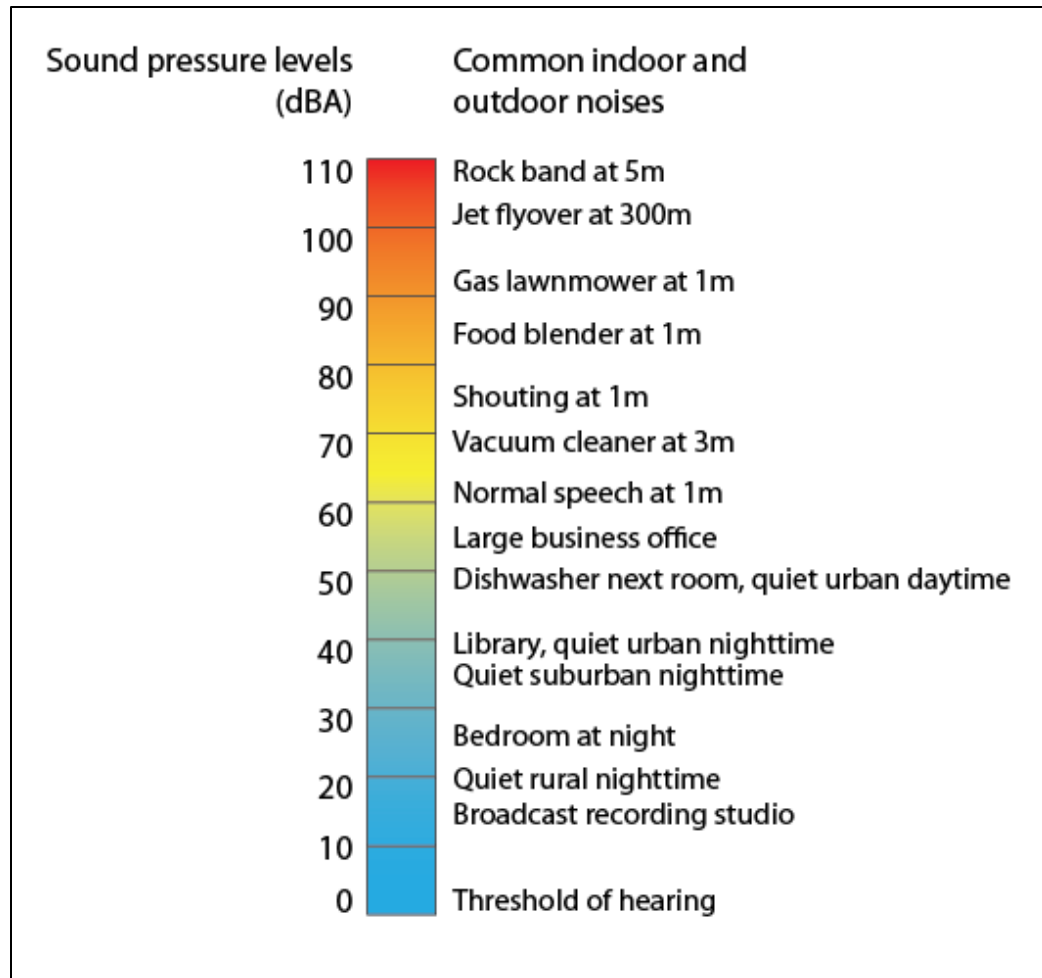
Noise is defined as any unwanted sound. Sound travels in a wave motion and produces a sound pressure level. This sound pressure level is commonly measured in decibels. Decibels (dB) represent the logarithm of the ratio of a sound energy relative to a reference sound energy. For highway traffic noise, an adjustment, or weighting, of the high- and low- pitched sound is made to approximate the way that an average person hears sound. The adjusted sound levels are stated in units of “A-weighted decibels” (dBA). A sound increase of 3 dBA is barely noticeable by the human ear, a 5 dBA increase is clearly noticeable, and a 10 dBA increase is heard as twice as loud. For example, if the sound energy is doubled (i.e., the amount of traffic doubles), there is a 3 dBA increase in noise, which is just barely noticeable to most people. On the other hand, if traffic increases by a factor of ten times, the resulting sound level will increase by about 10 dBA and be heard to be twice as loud.

In Minnesota, traffic noise impacts are evaluated by measuring and/or modeling the Leq sound level. The Leq sound level equals the level of a time average of the total acoustic energy in a signal during a given amount of time. Leq(h) is the hourly value of Leq. The Leq is analogous to the “average” sound level over a given period of time.

Along with the volume of traffic and other factors (e.g., topography of the area and vehicle speed) that contribute to the loudness of traffic noise, the distance of a receptor from a sound’s source is also a key factor. Sound level decreases as distance from a source increases. A general rule regarding sound level decrease due to increasing distance from a line source (roadway) that is commonly used is: beyond approximately 50 feet from the sound source, each doubling of distance from the line source over hard ground (such as pavement or water) will reduce the sound level by 3 dBA, whereas each doubling of distance over soft ground (such as vegetated or grassy ground) results in a sound level decrease of 4.5 dBA.

Figure 1.3 provides a rough comparison of the noise levels of some common noise sources.

Figure 1.3 Decibel Level of Common Noise Sources



Source: Minnesota Pollution Control Agency. Noise Pollution accessed April 16, 2022 and available at <https://www.pca.state.mn.us/air/noise-pollution>.

### 1.3 Federal Traffic Noise Regulations

The FHWA's traffic noise regulation is described in 23 Code of Federal Regulations (CFR) Part 772 (Procedures for Abatement of Highway Traffic Noise and Construction Noise). 23 CFR 772 requires the identification of highway traffic noise impacts and the evaluation of potential noise abatement measures, along with other considerations, in conjunction with the planning and design of a Federal-aid highway project. The MnDOT requirements for implementation of the requirements of 23 CFR 772 is described in the *MnDOT Noise Requirements for Type I Federal-aid Projects* (effective July 10, 2017). The MnDOT noise requirements applies to all projects that receive Federal-aid funds or projects that are subject to FHWA approval.



A traffic noise impact analysis is required for all Type I Federal-aid projects. Type I projects are defined in 23 CFR 772.5. The Hwy 212 Benton Township Project meets the definition of a Type I project. The project includes adding capacity in both directions of Hwy 212 and construction of an overpass on a new alignment for County Road 51. Therefore, a traffic noise analysis is required for the project.

### 1.3.1 Traffic Noise Impact Criteria

#### Federal Noise Abatement Criteria

Under FHWA criteria and regulations, traffic noise impacts are determined in two ways. First, future build worst hour noise levels are compared to FHWA Noise Abatement Criteria (NAC). Table 1.1 lists the FHWA noise abatement criteria by land use activity category. If a future build worst hour noise level approaches or exceeds the NAC noise level, then an impact exists. A noise level approaches NAC when it is within 1 dBA of the NAC noise level. For example, 66 dBA (Leq) is defined as “approaching” the noise abatement criterion for residential land uses (Activity Category B). Second, future build worst hour noise levels are compared with the existing no-build noise levels. If the future level is greater than the existing level by 5 dBA or more (i.e., substantial increase), an impact exists.

**Table 1.1 23 CFR 772: Federal Noise Abatement Criteria**

Activity Category	Activity Criteria Leq(h) <sup>(1)</sup>	Evaluation Location	Activity Descriptions
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential, if the area is to continue to serve its intended purpose.
B	67	Exterior	Residential.
C	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.

(1) The Leq(h) Activity Criteria values are for impact determination only and are not design standards for noise abatement measures.

(2) Includes undeveloped lands permitted for this activity category.

(3) Hotels and motels that function as apartment buildings are classified under Activity Category B.

**Table 1.1 23 CFR 772: Federal Noise Abatement Criteria (continued)**

Activity Category	Activity Criteria Leq(h) <sup>(1)</sup>	Evaluation Location	Activity Descriptions
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E <sup>(2) (3)</sup>	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	–	–	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	–	–	Undeveloped lands that are not permitted.

(1) The Leq(h) Activity Criteria values are for impact determination only and are not design standards for noise abatement measures.

(2) Includes undeveloped lands permitted for this activity category.

(3) Hotels and motels that function as apartment buildings are classified under Activity Category B.

### Minnesota State Noise Standards

In 2016, the Commissioners of the Minnesota Pollution Control Agency (MPCA) and MnDOT agreed that the traffic noise regulations and mitigation requirements from the FHWA are sufficient to determine reasonable mitigation measures for highway noise. By this agreement, existing and newly constructed segments of highway projects under MnDOT's jurisdiction are statutorily exempt from Minnesota State Noise Standard (Minnesota Rule 7030) if the project applies the FHWA traffic noise requirements. As a result, any required noise analysis will follow FHWA criteria and regulations only. Projects will no longer directly address Minnesota Rule 7030.

# Chapter 2 Analysis Methodology

---

## 2.1 Affected Environment

The project is in Benton Township; a rural area west of the Twin Cities, within Carver County, Minnesota. Existing land uses along the project segment of Hwy 212 include low-density residential and homesteads, agricultural/industrial uses, commercial uses, a church/cemetery, a park, and undeveloped land. St. John's United Church of Christ and Cemetery is located at the intersection of Hwy 212 and County Road 51. Veterans Park is on the west end of the project, south of Hwy 212.

## 2.2 Traffic Noise Monitoring

### 2.2.1 Noise Level Monitoring Results

Noise level monitoring is commonly performed during a noise study to document existing noise levels and to validate the noise model for the project (see discussion of "Field Measurements and Predicted Noise Levels" below). Existing noise levels were monitored at three representative locations in the project area along Hwy 212. Monitoring Site 1 (Site M1) is located on the north side of Hwy 212, west of County Drive. Monitoring Site 2 (Site M2) is located on the north side of Hwy 212, just west of County Road 51, at St. John's United Church. Monitoring Site 3 (Site M3) is located on the south side of Hwy 212, just west of Tacoma Avenue, at Veterans Park. Appendix B includes field measurement data sheets illustrating the field measurement locations.

Daytime noise levels were collected on August 23, 2022 at the three field monitoring locations described above. Noise levels were monitored at each location for 30 minutes. A trained noise monitoring technician was present at each session for the entire field measurement session to ensure correct operation of the sound level meter (SLM). Table 2.1 presents the field measurement results.



**Table 2.1 Field Measurement Summary Results**

Receptor ID	Location Description	Start Time	End Time	Measured Level, Leq, dBA
Site M1	North of Hwy 212, west of County Drive	10:05 a.m.	10:35 a.m.	<b>72.4</b>
Site M2	St. John's United Church (12984 County Rd 51, Norwood Young America)	11:04 a.m.	11:34 a.m.	<b>67.4</b>
Site M3	Veterans Park (South of Hwy 212, west of Tacoma Ave)	12:34 p.m.	1:04 p.m.	59.1

**Bold** numbers approach or exceed the Federal noise abatement criterion (see Table 1.1).

## 2.2.2 Field Measurements and Modeled Noise Levels

Table 2.2 lists the field measurements and computer modeling results for existing traffic noise levels. Computer modeling results are based on classified traffic counts for Hwy 212 during the field measurement period (i.e., cars, medium trucks, heavy trucks). The speeds used for Hwy 212 were the existing posted speeds (i.e., 50 to 60 mph).

**Table 2.2 Field Measurements and Modeled Noise Levels**

Receptor ID	Measured Level, Leq, dBA	Modeled Noise Level, Leq, dBA	Difference (Measured – Modeled) (Leq, dBA)	Difference ≤ 3.0 dBA, Leq
Site M1	<b>72.4</b>	<b>69.6</b>	-2.8	Yes
Site M2	<b>67.4</b>	<b>67.8</b>	0.4	Yes
Site M3	59.1	62.1	3.0	Yes

**Bold** numbers approach or exceed the Federal noise abatement criterion (see Table 1.1).

A discrepancy equal to or less than 3.0 dBA between field measurements and modeled levels is considered acceptable for noise model validation. Field measurements at the three locations are within 3.0 dBA of modeled levels; therefore, no adjustments to the noise model inputs are necessary.

## 2.3 Worst Hourly Traffic Noise Analysis

In general, higher traffic volumes, vehicle speeds, and greater numbers of heavy trucks increase the loudness of highway traffic noise. The worst hourly traffic noise impact typically occurs when traffic is flowing more freely (e.g., level of service C

conditions) and when heavy truck volumes are the greatest. For determining the worst-case traffic noise hour for the proposed project, traffic noise levels for three time periods were modeled at 43 representative receptor locations within the project area (morning, midday, afternoon). The worst hourly traffic noise analysis considered the appropriate classified traffic mix (cars, medium trucks, heavy trucks) and directional split (eastbound and westbound on Hwy 212, and northbound and southbound for County Road 51) in traffic during each analysis period. The speeds used for the model predictions were existing posted speeds for Hwy 212 and County Road 51.

Table 2.3 summarizes the modeled Leq levels for each of the three time periods. Based on this analysis, it was determined that the midday period represents the worst-case traffic noise hour. Modeled noise levels for representative receptor locations along Hwy 212 were the highest for the greatest number of receptors during the 11:00 a.m. to 12:00 p.m. period. The 11:00 a.m. to 12:00 p.m. hour represents a period of higher truck volumes compared to other times of the day.

**Table 2.3 Worst Hourly Traffic Noise Summary (Existing Modeled Noise Levels by Time Period)**

Receptor ID	Activity Description	Federal Activity Category	7:00-8:00 a.m. dBA, Leq	11:00 a.m. - 12:00 p.m. dBA, Leq	4:00-5:00 p.m. dBA, Leq
A1	Agricultural	F	52.1	54.0	50.1
A2	Municipal	C	54.5	56.2	52.6
A3	Residential	B	<b>68.7</b>	<b>69.8</b>	<b>67.1</b>
A4	Residential	B	<b>69.0</b>	<b>70.2</b>	<b>67.5</b>
A5	Residential	B	60.4	62.1	58.7
A6	Residential	B	58.1	59.9	56.3
A7	Residential	B	50.6	52.9	50.0
A8	Residential	B	47.5	49.7	46.8
B1	Residential	B	51.5	54.2	52.0
B2	Church	C	<b>67.4</b>	<b>68.6</b>	65.7
B3	Residential	B	<b>69.1</b>	<b>70.4</b>	<b>67.8</b>
B4	Residential	B	<b>69.8</b>	<b>71.0</b>	<b>68.4</b>
B5	Residential	B	<b>69.9</b>	<b>71.1</b>	<b>68.5</b>
B6	Agricultural	F	55.6	57.5	53.6
B7	Residential	B	51.3	53.4	49.2
B8	Residential	B	<b>70.5</b>	<b>72.0</b>	<b>69.4</b>
B9	Residential	B	<b>67.9</b>	<b>68.9</b>	65.9
B10	Residential	B	<b>69.6</b>	<b>70.8</b>	<b>68.3</b>
B11	Residential	B	56.0	58.0	54.2

Receptor ID	Activity Description	Federal Activity Category	7:00-8:00 a.m. dBA, Leq	11:00 a.m. - 12:00 p.m. dBA, Leq	4:00-5:00 p.m. dBA, Leq
B12	Residential	B	56	57.7	53.9
B13	Residential	B	57	58.7	54.9
B14	Residential	B	58.3	59.8	56.2
B15	Residential	B	58.9	60.4	56.9
C1	Offices	E	54.6	56.1	52.6
C2	Park	C	65.0	<b>66.0</b>	62.7
C3	Industrial	F	63.2	65.0	62.2
C4	Residential	B	57.3	59.2	55.6
C5	Residential	B	65.4	<b>67.1</b>	63.8
C6	Residential	B	53.3	55.3	51.3
C7	Agricultural	F	<b>66.6</b>	<b>68.2</b>	65.5
C8 <sup>(1)</sup>	County Parcel	G	62.4	64.0	61.4
C9	Residential	B	60.0	61.8	59.0
C10	Residential	B	57.9	59.7	56.9
C11	Residential	B	56.9	57.3	57.7
D1	Residential	B	58.2	60.0	57.2
D2	Residential	B	56.6	58.4	55.6
D3	Residential	B	55.8	57.4	54.9
D4	Residential	B	56.3	57.6	55.6
D5	Agricultural	F	49.6	50.6	49.6
D6	Residential	B	50.1	50.9	50.1
D7	Agricultural	F	54.2	54.4	54.2
D8	Residential	B	50.2	52	48.4
D9	Industrial	F	62.2	59.4	60.1

**Bold numbers** approach or exceed Federal noise abatement criteria (see Table 1.1).

(1) Former residential land use, prior to acquisition by Carver County (see Section 3.1.1 for more information)



## 2.4 Traffic Noise Modeling

Noise modeling was done using the FHWA’s noise prediction program Traffic Noise Model (TNM), version 2.5. This model uses traffic volumes, speed, class of vehicle (e.g., cars, medium trucks, heavy trucks, buses, and motorcycles), and the typical characteristics of the roadway being analyzed (e.g., roadway width, horizontal alignment, vertical profile, etc.) to predict traffic noise levels.

Traffic data for noise model input files included existing and future (year 2040) No Build Alternative and Build Alternative forecast traffic volumes for Hwy 212, Tacoma Avenue, Salem Avenue, County Road 51, and County Road 153. Year 2040 was identified as the future year for analysis because this is the horizon year for travel demand forecasts prepared for the project. The modeled speeds for Hwy 212 under existing conditions were 50 to 60 mph because these are the existing posted speeds. The modeled speeds for the 2040 Build Alternative were 50 to 70 mph because this is the existing posted speed and proposed design speed for the project. The modeled speed for Tacoma Avenue under existing conditions and the 2040 Build Alternative was 30-40 mph because that is the existing posted speed and the proposed design speed. The modeled speed for County Road 51 under existing conditions and the 2040 Build Alternative was 30-50 mph because that is the existing posted speed and the proposed design speed. The modeled speed for Salem Avenue and County Road 153 under existing conditions and the 2040 Build Alternative was 30 mph because that is the existing posted speed and the proposed design speed.

The hour of analysis was the 11:00 a.m. to 12:00 p.m. hour (see Worst Hourly Traffic Noise Analysis discussion above). The 11:00 a.m. to 12:00 p.m. hour was determined to represent approximately 12 percent of the Hwy 212 daily traffic volumes. Table 2.4 includes the directional split and traffic characteristics on Hwy 212 during the worst noise hour for existing conditions and the future (year 2040) No Build and Build Alternatives.

**Table 2.4 Project Traffic Characteristics (Worst Traffic Noise Hour)**

Roadway	Directional Split	Vehicle Mix (% Cars)	Vehicle Mix (% Medium Trucks)	Vehicle Mix (% Heavy Trucks)	Vehicle Mix (% Buses)	Vehicle Mix (% Motor cycles)
Eastbound Hwy 212	48.0%	78.5%	4.9%	16.6%	0%	0%
Westbound Hwy 212	52.0%	76.2%	5.2%	18.6%	0%	0%
Northbound County Road 51 – South of Hwy 212	56.7%	84.3%	3.9%	11.8%	0%	0%
Southbound County Road 51 – South of Hwy 212	43.3%	84.3%	3.9%	11.8%	0%	0%
Northbound County	48.8%	81.0%	9.5%	9.5%	0%	0%

<b>Roadway</b>	<b>Directional Split</b>	<b>Vehicle Mix (% Cars)</b>	<b>Vehicle Mix (% Medium Trucks)</b>	<b>Vehicle Mix (% Heavy Trucks)</b>	<b>Vehicle Mix (% Buses)</b>	<b>Vehicle Mix (% Motor cycles)</b>
Road 51 – North of Hwy 212						
Southbound County Road 51 – North of Hwy 212	51.2%	81.0%	9.5%	9.5%	0%	0%
Northbound Tacoma Avenue – South of Hwy 212	50%	84.0%	8.0%	8.0%	0%	0%
Southbound Tacoma Avenue – South of Hwy 212	50%	84.0%	8.0%	8.0%	0%	0%
Northbound Tacoma Avenue – North of Hwy 212	50%	92.5%	7.5%	0%	0%	0%
Southbound Tacoma Avenue – North of Hwy 212	50%	92.5%	7.5%	0%	0%	0%
Salem Avenue – South of Hwy 212	50%	50.0%	50.0%	0%	0%	0%
Salem Avenue – North of Hwy 212	50%	100.0%	0%	0%	0%	0%
County Road 153 – North and south of Hwy 212	50%	100.0%	0%	0%	0%	0%

Note: This analysis utilized data that SRF collected in July of 2021, turning movement counts were retrieved using Miovision Traffic Detection.

## Chapter 3 Predicted Noise Levels and Noise Impacts

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### 3.1 Noise Receptors

#### 3.1.1 Noise Sensitive Areas

The project area was divided into three Noise Sensitive Areas (NSA) based on location and land use. Traffic noise impacts were assessed by modeling noise levels at receptor sites in each NSA likely to be affected by the proposed project. Traffic noise levels were modeled at 43 receptor locations along Hwy 212 and County Road 51 within the project limits under existing conditions, 2040 No Build Alternative, and the 2040 Build Alternative. Modeled receptors represent rural residences, agricultural/industrial land uses, a church and cemetery, a county municipal building, a park, and an office building.

The layout figure in Appendix A illustrates modeled receptor locations. Table 3.1 identifies the land use, Activity Category, and the Federal noise abatement criterion (NAC) for each modeled receptor location. Noise Sensitive Areas are summarized below.

#### Noise Sensitive Area A

Noise Sensitive Area (NSA) A is on the north side of Hwy 212 and east of County Road 51. Land uses in NSA A include residential, agricultural, and municipal uses. Traffic noise levels were modeled at 8 receptor locations in NSA A.

#### Noise Sensitive Area B

NSA B is on the north side of Hwy 212 and west of County Road 51. Land uses in NSA B include residential uses, agricultural uses, and a church/cemetery. Traffic noise levels were modeled at 15 receptor locations in NSA B.

#### Noise Sensitive Area C

NSA C is on the south side of Hwy 212 and west of County Road 51. Land uses in NSA C include residential uses, agricultural/industrial uses, offices, a park, and a vacant county-owned parcel. The vacant county-owned parcel (Receptor C8) is a former residential land use, prior to acquisition by Carver County. The home on the parcel recently burned down and no longer exists, therefore, the receptor is classified as Activity Category G. Traffic noise levels were modeled at 11 receptor locations in NSA C.



### **Noise Sensitive Area D**

NSA D is on the south side of Hwy 212 and east of County Road 51. Land uses in NSA D include residential and agricultural uses. Traffic noise levels were modeled at nine receptor locations in NSA D.

## **3.2 Noise Model Results**

Table 3.1 tabulates the results of the noise modeling analysis for existing conditions, the 2040 No Build Alternative, and the 2040 Build Alternative. The results of the traffic noise modeling analysis are summarized below.

### **3.2.1 Existing Conditions**

Existing Leq noise levels at modeled receptor locations in the project area range from 50.1 dBA to 72.0 dBA. Modeled noise levels under existing conditions approach the Federal noise abatement criteria for Activity Category B at nine receptor locations. Modeled noise levels under existing conditions approach the Federal noise abatement criteria for Activity Category C at two receptor locations.

### **3.2.2 2040 No Build Alternative**

Future Leq noise levels under the 2040 No Build Alternative are projected to range from 52.5 dBA to 73.3 dBA. Modeled traffic noise levels are predicted to increase by 0.9 dBA to 3.8 dBA under the 2040 No Build Alternative compared to existing conditions. Modeled Leq noise levels are projected to approach and exceed the Federal noise abatement criterion for Activity Category B at nine receptor locations under the 2040 No Build Alternative. Modeled Leq noise levels are projected to approach and exceed the Federal noise abatement criterion for Activity Category C at two receptor locations under the 2040 No Build Alternative.

### **3.2.3 2040 Build Alternative**

Future Leq noise levels under the 2040 Build Alternative are projected to range from 55.3 dBA to 76.9 dBA. Modeled Leq noise levels are projected to approach and exceed the Federal noise abatement criterion for Activity Category B at nine receptor locations under the 2040 Build Alternative. Modeled Leq noise levels are projected to approach and exceed the Federal noise abatement criterion for Activity Category C at two receptor locations under the 2040 Build Alternative. Modeled Leq noise levels at all other receptor locations are below Federal noise abatement criteria.

Modeled traffic noise levels are predicted to change by 1.1 dBA to 7.9 dBA under the 2040 Build Alternative compared to existing conditions. Eleven (11) of the modeled receptor locations are projected to experience a substantial increase in noise levels (i.e., increase of 5 dBA or greater from existing to 2040 Build Alternative

conditions). Two of the eleven modeled receptor locations that are predicted to experience a substantial increase are classified as either Activity Category G (Receptor C8) or Activity Category F (Receptor D7). Activity Category G represents undeveloped and unpermitted lands, therefore noise abatement for this land is not eligible for federal-aid funding. Activity Category F receptors are not considered noise sensitive land uses, as defined by MnDOT's 2017 Noise Requirements, therefore, noise abatement was not evaluated at this receptor location.

The proposed project would result in one residential relocation due to the property's proximity to Hwy 212 expansion. Receptor B8 represents this residential relocation. This receptor is not considered impacted in the 2040 Build Alternative due to the anticipated relocation of the residence.

The Hwy 212 Benton Township Project includes geometric changes on Hwy 212 and County Road 51. The proposed project would increase capacity on Hwy 212 (two-to-four lane expansion) and shift the eastbound and westbound alignments to the north and south (depending on the location within the project area). This proposed expansion includes Hwy 212's conversion to a divided highway in the project area, which increases the width/footprint of the corridor. Between Tacoma Avenue and Salem Avenue, the eastbound alignment would be shifted to the south, thereby decreasing the distance between the roadway and the receptors in this area. Between Salem Avenue and County Road 51, the eastbound and westbound divided lanes shift slightly to the north and south, in an alternating pattern. Between County Road 51 and the eastern terminus, the eastbound and westbound alignments shift primarily to the south, thereby increasing the distance between the roadway and the receptors to the north (but decreasing the distance between the roadway and the receptors to the south). The County Road 51 intersection would be modified with a new overpass, so that Hwy 212 remains divided at this location. The County Road 51 overpass would be a new alignment on a new location, just east of the existing intersection. These geometric changes contribute to the change in modeled traffic noise levels between the 2040 No Build Alternative and the 2040 Build Alternative conditions.

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**Table 3.1 Hwy 212 Benton Township Traffic Noise Model Results**

Receptor ID <sup>(1)</sup>	Activity Description	Federal Activity Category	Modeled Existing Leq, dBA	Modeled 2040 No Build Alternative Leq, dBA	Difference (2040 No Build – Existing) Leq, dBA	Modeled 2040 Build Alternative Leq, dBA	Difference (2040 Build – Existing) Leq, dBA
A1 (1)	Agricultural	F	54.5	55.4	0.9	58.6	4.1
A2 (1)	Municipal	C	56.3	57.2	0.9	59.7	3.4
A3 (1)	Residential	B	<b>69.8</b>	<b>70.7</b>	0.9	<b>71.0</b>	1.2
A4 (1)	Residential	B	<b>70.2</b>	<b>71.1</b>	0.9	<b>71.3</b>	1.1
A5 (1)	Residential	B	62.1	63.1	1.0	65.7	3.6
A6 (1)	Residential	B	60	61.2	1.2	64.2	4.2
A7 (1)	Residential	B	53.4	56.1	2.7	58.5	<u>5.1</u>
A8 (1)	Residential	B	50.1	52.5	2.4	55.3	<u>5.2</u>
B1 (1)	Residential	B	54.9	58.2	3.3	60.0	<u>5.1</u>
B2 (1)	Church	C	<b>67.1</b>	<b>68.7</b>	1.6	<b>69.7</b>	2.6
B3 (1)	Residential	B	<b>70.4</b>	<b>71.7</b>	1.3	<b>73.9</b>	3.5
B4 (1)	Residential	B	<b>71</b>	<b>72.3</b>	1.3	<b>74.3</b>	3.3
B5 (1)	Residential	B	<b>71.1</b>	<b>72.3</b>	1.2	<b>74.5</b>	3.4
B6 (1)	Agricultural	F	57.5	58.8	1.3	62.0	4.5
B7 (1)	Residential	B	53.4	54.7	1.3	58.3	4.9
B8 (Relocation) (1)	Residential	B	<b>72</b>	<b>73.3</b>	1.3	NA	NA
B9 (1)	Residential	B	<b>68.9</b>	<b>70.1</b>	1.2	<b>72.8</b>	3.9
B10 (1)	Residential	B	<b>70.9</b>	<b>72.1</b>	1.2	<b>76.9</b>	<u>6.0</u>
B11 (1)	Residential	B	58.6	59.9	1.3	62.5	3.9

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

Underlined numbers are receptors that have substantial increases in noise levels (i.e., increase from existing to 2040 Build Alternative equal to or greater than 5.0 dBA).

NA = Not applicable

(1) Number in “Receptor ID” column is the number of residences, business/commercial establishments, or industrial establishments represented by each modeled receptor location.



**Table 3.1 continued Hwy 212 Benton Township Traffic Noise Model Results**

Receptor ID <sup>(1)</sup>	Activity Description	Federal Activity Category	Modeled Existing Leq, dBA	Modeled 2040 No Build Alternative Leq, dBA	Difference (2040 No Build – Existing) Leq, dBA	Modeled 2040 Build Alternative Leq, dBA	Difference (2040 Build – Existing) Leq, dBA
B12 (1)	Residential	B	57.7	58.8	1.1	60.9	3.2
B13 (1)	Residential	B	58.7	59.8	1.1	61.9	3.2
B14 (1)	Residential	B	59.8	60.9	1.1	63.0	3.2
B15 (1)	Residential	B	60.4	61.5	1.1	63.6	3.2
C1 (1)	Offices	E	62	63.1	1.1	66.0	4.0
C2 (1)	Park	C	<b>66.5</b>	<b>67.6</b>	1.1	<b>71.1</b>	4.6
C3 (1)	Industrial	F	65	66.2	1.2	72.9	<u>7.9</u>
C4 (1)	Residential	B	59.3	60.5	1.2	63.5	4.2
C5 (1)	Residential	B	<b>67.1</b>	<b>68.4</b>	1.3	<b>70.6</b>	3.5
C6 (1)	Residential	B	55.3	56.5	1.2	60.5	<u>5.2</u>
C7 (1)	Agricultural	F	68.2	69.5	1.3	72.9	4.7
C8 (1) <sup>(2)</sup>	County Parcel	G	64.3	65.9	1.6	71.3	<u>7.0</u>
C9 (1)	Residential	B	62.1	63.9	1.8	68.2	<u>6.1</u>
C10 (1)	Residential	B	60.2	62.1	1.9	65.5	<u>5.3</u>
C11 (1)	Residential	B	57.7	61.4	3.7	59.6	1.9
D1 (1)	Residential	B	60.6	62.6	2.0	65.6	<u>5.0</u>
D2 (1)	Residential	B	59	61.1	2.1	63.8	4.8
D3 (1)	Residential	B	58.2	60.6	2.4	62.8	4.6
D4 (1)	Residential	B	58	60.2	2.2	61.7	3.7

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

Underlined numbers are receptors that have substantial increases in noise levels (i.e., increase from existing to 2040 Build Alternative equal to or greater than 5.0 dBA).

- (1) NA = Not applicable Number in “Receptor ID” column is the number of residences, business/commercial establishments, or industrial establishments represented by each modeled receptor location.
- (2) Former residential land use, prior to acquisition by Carver County. It is now a vacant county parcel.(see Section 3.1.1 for more information)

Receptor ID <sup>(1)</sup>	Activity Description	Federal Activity Category	Modeled Existing Leq, dBA	Modeled 2040 No Build Alternative Leq, dBA	Difference (2040 No Build – Existing) Leq, dBA	Modeled 2040 Build Alternative Leq, dBA	Difference (2040 Build – Existing) Leq, dBA
D5 (1)	Agricultural	F	50.9	53.9	3.0	55.4	4.5
D6 (1)	Residential	B	58.1	61.9	3.8	62.2	4.1
D7 (1)	Agricultural	F	54.6	58.3	3.7	58.8	4.2
D8 (1)	Residential	B	51.7	53	1.3	58	<u>6.3</u>
D9 (1)	Industrial	F	63.5	64.4	0.9	68.0	4.5
Federal Activity Category B	--	B	67	67	--	67	--
Federal Activity Category C	--	C	67	67	--	67	--
Federal Activity Category E	--	E	72	72	--	72	--
Federal Activity Category F	--	F	--	--	--	--	--
Federal Activity Category G	--	G	--	--	--	--	--

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

Underlined numbers are receptors that have substantial increases in noise levels (i.e., increase from existing to 2040 Build Alternative equal to or greater than 5.0 dBA).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

(1) Number in “Receptor ID” column is the number of residences, business/commercial establishments, or industrial establishments represented by each modeled receptor location.

# Chapter 4 Consideration of Noise Abatement

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MnDOT's noise requirements (July 10, 2017) describes noise abatement measures that are to be considered when a traffic noise impact has been identified with a highway improvement project (i.e., modeled traffic noise levels approach or exceed Federal noise abatement criteria in the future Build Alternative, or a 5 dBA or greater increase in noise levels from existing to future Build Alternative conditions). These noise abatement measures are described below.

- Construction of noise barriers (noise walls or earthen berms), including acquisition of property rights, either within or outside the highway right of way. Landscaping is not a viable noise abatement measure.
- Traffic management measures, including, but not limited to, traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive lane designations.
- Alteration of horizontal and vertical alignments.
- Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise.
- Noise insulation of certain facilities, including auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.

## 4.1 Noise Barrier Evaluation

The policies and procedures for evaluating noise barrier feasibility and reasonableness are set forth in Section 5.2 (Feasibility) and Section 5.3 (Reasonableness) of MnDOT's noise requirements (July 10, 2017). The factors for determining noise barrier feasibility and reasonableness as described in the MnDOT noise requirements document are summarized below.

### 4.1.1 Noise Barrier Feasibility

Noise barrier feasibility is determined based on a consideration of two factors: 1) acoustic feasibility and 2) engineering feasibility.

- **Acoustic feasibility:** For a noise barrier to be considered acoustically effective, it must achieve a noise reduction of at least 5 dBA at the impacted receptors for those receptors to be considered benefited by a noise barrier. Not every



impacted receptor must receive this minimum 5 dBA reduction; however, at least one impacted receptor must meet the minimum 5 dBA reduction for a noise barrier to achieve acoustic feasibility.

- **Engineering feasibility:** Engineering feasibility addresses whether it is possible to design and construct a proposed noise abatement measure. A sample of potential constructability considerations includes safety, topography, drainage, utilities, and maintenance considerations. Engineering considerations are also taken into consideration in determining noise barrier height. MnDOT has established a maximum noise barrier height of 20 feet above the finished ground line at the noise barrier.

The feasibility of noise barrier construction is sometimes dependent on design details that are not known until the final design phase of the project. For this traffic noise analysis, it was assumed that noise barriers were feasible with respect to engineering feasibility/constructability considerations. It was assumed that utilities in existing right of way could be relocated, existing and proposed drainage could be maintained, and no soil corrections would be necessary for the construction of noise walls.

#### 4.1.2 Noise Barrier Reasonableness

Noise barrier reasonableness decisions are based on a consideration of three reasonableness factors: 1) noise reduction design goal, 2) cost effectiveness, and 3) the viewpoint of benefited residents and property owners.

##### Noise Reduction Design Goal

A minimum 7 dBA reduction must be achieved for at least one benefited receptor behind the noise barrier to meet MnDOT's noise reduction design goal.

##### Cost Effectiveness

To be considered cost-effective, the cost per individual benefited receptor (e.g., residence, commercial entity, industrial entity) should be equal to, or less than \$78,500. To assess cost effectiveness, at least one benefited receptor behind the noise barrier must meet the noise reduction design goal described above. The following formula is used to determine the cost-effectiveness of the barrier:

*The cost-effectiveness index is equal to the cost of the noise barrier divided by the number of individual benefited receptors (i.e., residences, commercial entities, industrial entities) that are predicted to experience noise level reductions of 5 dBA or more. Only those receptors that experience a 5 dBA or greater decibel decrease are considered in this formula. The result is a cost per benefited receptor value (residence, commercial entity, or industrial entity represented by each modeled receptor). The cost of a noise barrier is calculated using an estimated construction cost of \$36 per square foot of*

*barrier. This price is for an acoustically absorbent concrete post/ concrete panel type barrier.<sup>2</sup> To be considered cost-effective, the cost per individual benefited receptor must be equal to or less than \$78,500 per receptor.*

There are several steps to assessing the cost effectiveness of a noise barrier. First, the cost-effective noise barrier height is determined for each segment of the project area. If this noise barrier meets the reasonableness criteria and is feasible, it would be proposed for construction. Noise barrier heights up to MnDOT's maximum noise wall height of 20 feet are studied. Noise barrier cost effectiveness is studied up to the point where a modeled barrier does not meet the noise reduction design goal of a minimum 7 dBA reduction for at least one benefited receptor.

### **Viewpoint of Benefited Residents and Property Owners**

The third criterion in determining noise barrier reasonableness is the viewpoint of benefited residents and property owners. A benefited property is defined as a receptor adjacent to a proposed noise abatement measure that receives a noise reduction equal to or greater than 5 dBA. If benefited residents and property owners indicate that a proposed noise barrier is not desired, then the noise barrier is removed from further consideration and would not be constructed with the project.

There are two steps in determining the desires of the benefited property owners and residents regarding the construction of a proposed noise abatement measures. First, the viewpoint of benefited property owners and residents is solicited through a public involvement process (e.g., open house meeting, direct mailing of a solicitation form). Second, the input received from benefited property owners and residents through this public involvement process is expressed in a vote that is weighted as follows:

*The owner of a benefited property immediately adjacent to the highway right of way for the proposed project (i.e., first-row properties) receives 4 points and the resident (owner or renter) receives 2 points. The owner/ resident of a benefited property receives a total of 6 points.*

*The owner of a benefited property not immediately adjacent to the highway right of way for the proposed project (e.g., second-row properties, third-row properties) receives 2 points and the resident (owner or renter) receives 1 point. The owner/ resident of a benefited property receives a total of 3 points.*

*When there is no outdoor area of frequent human use associated with a benefited property, the owner of the benefited property receives a total of 4 points if the property is located immediately adjacent to the highway right of way (i.e., first-row properties). If the property is not immediately adjacent to the*

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<sup>2</sup> The concrete post and concrete panel noise wall is MnDOT's standard noise wall design.

*highway right of way (i.e., second-row properties, third-row properties), the owner of the benefited property receives a total of 2 points.*

Only those benefited property owners and residents, including individual units of multi-family residential buildings that are benefited receptors, regardless of floor location (e.g., first floor, second floor, etc.), have a vote according to the point system described above. Non-benefiting receptors do not receive points. MnDOT's noise requirements allows for up to two solicitation periods to request votes and determine the outcome regarding proposed noise abatement measures.

- **Initial Solicitation:** If at least 50 percent of all possible voting points from eligible voters are received after the initial request for votes, a simple majority of points cast will determine whether the proposed noise barrier will be constructed. If less than 50 percent of the possible voting points for a barrier are received after this initial request, then a second ballot will be distributed to the benefited property owners who did not respond to the first solicitation.
- **Second Request:** If the combination of the first and second solicitation results in responses for at least 25 percent of all possible points for a barrier, a simple majority of voting points cast will determine whether the proposed noise barrier will be constructed. If fewer than 25 percent of total possible points for a noise barrier are received after the second request for votes, then the barrier will not be constructed. If there is a tie, where there are equal numbers of points for and against a noise barrier, then the noise barrier will be constructed.

#### 4.1.3 Noise Barrier Analysis Results

Noise barriers (i.e., noise walls) were evaluated at modeled receptor locations adjacent to Hwy 212 and County Road 51 where traffic noise levels are predicted to approach or exceed Federal noise abatement criteria under the 2040 Build Alternative, or where modeled receptor locations are projected to experience a substantial increase in noise levels from existing conditions to the 2040 Build Alternative. The layout figures in Appendix A illustrate the locations of modeled noise walls. Table C.1 through Table C.19 in Appendix C tabulate the modeled noise wall cost-effectiveness results.

#### **Noise Wall 1, North Side of Hwy 212 Between Lake Street W and County Road 153 (Receptors A3 and A4)**

Modeled receptor locations on the north side of Hwy 212 between Lake Street W and County Road 153 primarily represent residential land uses. Receptors A3 and A4 represent rural residences north of Hwy 212. Modeled traffic noise levels at Receptor A3 and A4 are projected to approach or exceed the noise abatement criterion for Activity Category B under the 2040 Build Alternative; therefore, a noise wall was



modeled and evaluated along the north side of Hwy 212 between Lake Street W and County Road 153.

An approximately 620-foot long, 20-foot-high noise wall was modeled on the north side of Hwy 212 between Lake Street W and County Road 153. The modeled wall was within proposed highway right of way. The 20-foot-high noise wall provides a 2.7 dBA to 5.0 dBA reduction in traffic noise levels (see Table C.1 in Appendix C). The approximately 620-foot long, 20-foot-high noise wall did not achieve a 7 dBA reduction or greater at any receptor, however, it did achieve a 5 dBA reduction or greater at one receptor. The properties represented by Receptors A3 and A4 have existing driveway access to Hwy 212, which must be maintained. Therefore, the modeled wall has spatial gaps in it, which decreases the wall's acoustical effectiveness (see Figure 3, Appendix A). The approximately 620-foot long, 20-foot-high wall did not achieve MnDOT's noise reduction design goal of 7 dBA for at least one receptor; therefore, Noise Wall 1 is not proposed.

### **Noise Wall 2, East Side of County Road 51 and North of Hwy 212 (Receptors A7 and A8)**

Modeled receptor locations (Receptors A7 and A8) along the east side of County Road 51 and north of Hwy 212 represent rural residential land uses. Modeled traffic noise levels at Receptors A7 and A8 are projected to experience a substantial increase (i.e., increase of 5 dBA or greater from existing to 2040 Build Alternative conditions); therefore, a noise wall was modeled and evaluated along the east side of County Road 51, north of Hwy 212.

An approximately 1,420-foot long, 20-foot-high noise wall was modeled on the east side of County Road 51, north of Hwy 212. The modeled wall was within proposed highway right of way. The 20-foot-high noise wall provides a 3.0 dBA to 3.1 dBA reduction in traffic noise levels (see Table C.2 in Appendix C). The approximately 1,420-foot long, 20-foot-high noise wall did not achieve a 5 dBA reduction or greater at any receptor. The properties represented by Receptors A7 and A8 have existing driveway access to County Road 51, which must be maintained. Therefore, the modeled wall has spatial gaps in it, which decreases the wall's acoustical effectiveness. The dominant source of traffic noise for these receptors is County Road 51, however, traffic noise from Hwy 212 may still be reaching these receptors, further decreasing the modeled wall's effectiveness (see Figure 5 and Figure 6, Appendix A). The approximately 1,420-foot long, 20-foot-high wall did not meet MnDOT's acoustic feasibility criterion of a 5 dBA reduction for at least one receptor; therefore, Noise Wall 2 is not proposed.

### **Noise Wall 3, West Side of County Road 51 and North of Hwy 212 (Receptor B1)**

A modeled receptor location (Receptor B1) along the west side of County Road 51 and north of Hwy 212 represents a rural residence. Modeled traffic noise levels at Receptor B1 are projected to experience a substantial increase (i.e., increase of 5 dBA or greater from existing to 2040 Build Alternative conditions); therefore, a noise wall was modeled and evaluated along the west side of County Road 51, north of Hwy 212.

An approximately 715-foot long, 20-foot-high noise wall was modeled on the west side of County Road 51, north of Hwy 212. The modeled wall was within proposed highway right of way. The 20-foot-high noise wall provides a 5.7 dBA reduction in traffic noise levels (see Table C.3 in Appendix C). The approximately 715-foot long, 20-foot-high noise wall did not achieve a 7 dBA reduction or greater at any receptor. The property represented by Receptor B1 has existing driveway access to County Road 51, which must be maintained. Therefore, the modeled wall has a spatial gap in it, which decreases the wall's acoustical effectiveness. The dominant source of traffic noise for this receptor is County Road 51, however, traffic noise from Hwy 212 may still be reaching this receptor, further decreasing the modeled wall's effectiveness (see Figure 6, Appendix A). The approximately 715-foot long, 20-foot-high wall did not meet MnDOT's noise reduction design goal of 7 dBA reduction for at least one receptor; therefore, Noise Wall 3 is not proposed.

### **Noise Wall 4, North Side of Hwy 212 and West of County Road 51 (Receptor B2)**

A modeled receptor location (Receptor B2) along the north side of Hwy 212 and west of County Road 51 represents a church. Modeled traffic noise levels at Receptor B2 are projected to approach or exceed the noise abatement criterion for Activity Category C under the 2040 Build Alternative; therefore, a noise wall was modeled and evaluated along the north side of Hwy 212, just west of County Road 51.

An approximately 400-foot long, 20-foot-high noise wall was modeled on the north side of Hwy 212, just west of County Road 51. The modeled wall was within proposed highway right of way. The 20-foot-high noise wall provides a 3.9 dBA reduction in traffic noise levels (see Table C.4 in Appendix C). The approximately 400-foot long, 20-foot-high noise wall did not achieve a 5 dBA reduction or greater at any receptor. The proposed right of way at this location is minimal and would not be able to support a continuous noise wall along the corner of Hwy 212 and County Road 51, therefore the noise wall was modeled only along Hwy 212 (the dominant source of traffic noise). The dominant source of traffic noise for this receptor is Hwy 212, however, traffic noise from County Road 51 may still be reaching this receptor, further decreasing the modeled wall's effectiveness (see Figure 6, Appendix A). The approximately 400-foot long, 20-foot-high wall did not meet MnDOT's acoustic

feasibility criterion of 5 dBA reduction for at least one receptor; therefore, Noise Wall 4 is not proposed.

#### **Noise Wall 5, North Side of Hwy 212 Between County Road 51 and Salem Avenue (Receptor B3 through B5)**

Modeled receptor locations along the north side of Hwy 212 between County Road 51 and Salem Avenue represent residential and agricultural land uses. Receptors B3 through B5 represent rural residential land uses. Modeled traffic noise levels at Receptor B3 through B5 are projected to approach or exceed the noise abatement criterion for Activity Category B under the 2040 Build Alternative; therefore, a noise wall was modeled and evaluated along the north side of Hwy 212 between County Road 51 and Salem Avenue.

An approximately 630-foot long, 20-foot-high noise wall was modeled on the north side of Hwy 212 between County Road 51 and Salem Avenue. The modeled wall was within proposed highway right of way. The 20-foot-high noise wall provides a 4.9 dBA to 6.3 dBA reduction in traffic noise levels (see Table C.5 in Appendix C). The approximately 630-foot long, 20-foot-high noise wall achieved a 5 dBA reduction or greater at one receptor, however, it did not achieve a 7 dBA reduction or greater at any receptor. The properties represented by Receptors B3 through B5 have existing driveway access to Hwy 212, which must be maintained. Therefore, the modeled wall has spatial gaps in it, which decreases the wall's acoustical effectiveness (see Figure 6, Appendix A). The approximately 630-foot long, 20-foot-high wall does not meet MnDOT's noise reduction design goal of 7 dBA or greater reduction for at least one receptor; therefore, Noise Wall 5 is not proposed.

#### **Noise Wall 6, North Side of Hwy 212 Between Salem Avenue and Tacoma Avenue (Receptor B9)**

A modeled receptor location (Receptor B9) along the north side of Hwy 212 between Salem Avenue and Tacoma Avenue represents a rural residence. Modeled traffic noise levels at Receptor B9 are projected to approach or exceed the noise abatement criterion for Activity Category B under the 2040 Build Alternative; therefore, a noise wall was modeled and evaluated along the north side of Hwy 212 between Salem Avenue and Tacoma Avenue.

An approximately 745-foot long, 20-foot-high noise wall was modeled on the north side of Hwy 212 between Salem Avenue and Tacoma Avenue. The modeled wall was within proposed highway right of way. The 20-foot-high noise wall provides a 7.8 dBA reduction in traffic noise levels (see Table C.6 in Appendix C). The approximately 745-foot long, 20-foot-high noise wall achieved a 7 dBA reduction or greater at one receptor. The cost-effectiveness of the noise wall is \$514,800 per



benefited receptor. The approximately 745-foot long, 20-foot-high wall exceeds MnDOT's cost effectiveness criterion of \$78,500 per benefited receptor.

A 17-foot-high noise wall was the maximum noise wall height identified to achieve a 7 dBA reduction or greater at Receptor B9 on the north side of Hwy 212; therefore, a 17-foot-high noise wall was evaluated.

An approximately 720-foot long, 17-foot-high noise wall was modeled along the north side of Hwy 212 between Salem Avenue and Tacoma Avenue. The modeled wall was within proposed highway right of way. The 17-foot-high noise wall provides a 7.1 dBA reduction in traffic noise levels (see Table C.7 in Appendix C). The approximately 720-foot long, 17-foot-high noise wall achieved a 7 dBA reduction or greater at one receptor, and a 5 dBA reduction or greater at one receptor. The cost-effectiveness of the noise wall is \$425,520 per benefited receptor. The approximately 720-foot long, 17-foot-high wall exceeds MnDOT's cost effectiveness criterion of \$78,500 per benefited receptor.

An approximately 720-foot long, 16-foot-high noise wall was modeled along the north side of Hwy 212 between Salem Avenue and Tacoma Avenue. The modeled wall was within proposed right of way. The 16-foot-high noise wall provides a 6.8 dBA reduction in traffic noise levels (see Table C.8 in Appendix C). The approximately 720-foot long, 16-foot-high noise wall does not meet MnDOT's noise reduction design goal of 7 dBA or greater for at least one receptor; therefore, Noise Wall 6 is not proposed.

### **Noise Wall 7, North Side of Hwy 212 and East of Tacoma Avenue (Receptor B10)**

A modeled receptor location (Receptor B10) along the north side of Hwy 212 and east of Tacoma Avenue represents a rural residence. Modeled traffic noise levels at Receptor B10 are projected to approach or exceed the noise abatement criterion for Activity Category B under the 2040 Build Alternative; therefore, a noise wall was modeled and evaluated along the north side of Hwy 212 and east of Tacoma Avenue.

An approximately 400-foot long, 20-foot-high noise wall was modeled on the north side of Hwy 212 and east of Tacoma Avenue. The modeled wall was within proposed highway right of way. The 20-foot-high noise wall provides a 4.4 dBA reduction in traffic noise levels (see Table C.9 in Appendix C). The approximately 400-foot long, 20-foot-high noise wall did not achieve a 5 dBA reduction or greater at any receptor. The property represented by Receptor B10 has existing driveway access to Hwy 212, which must be maintained. Therefore, the modeled wall has spatial gaps in it, which decreases the wall's acoustical effectiveness (see Figure 12, Appendix A). The approximately 400-foot long, 20-foot-high wall does not meet MnDOT's acoustic feasibility criterion of a 5 dBA reduction or greater for at least one receptor; therefore, Noise Wall 7 is not proposed.

### **Noise Wall 8, South Side of Hwy 212 and West of Tacoma Avenue (Receptor C2)**

A modeled receptor location (Receptor C2) along the south side of Hwy 212 and west of Tacoma Avenue represents a park. Modeled traffic noise levels at Receptor C2 are projected to approach or exceed the noise abatement criterion for Activity Category C under the 2040 Build Alternative; therefore, a noise wall was modeled and evaluated along the south side of Hwy 212 and west of Tacoma Avenue.

An approximately 445-foot long, 20-foot-high noise wall was modeled on the south side of Hwy 212 and west of Tacoma Avenue. The modeled wall was within proposed highway right of way. The 20-foot-high noise wall provides a 10.8 dBA reduction in traffic noise levels (see Table C.10 in Appendix C). The approximately 445-foot long, 20-foot-high noise wall achieved a 7 dBA reduction or greater at one receptor. The cost-effectiveness of the noise wall is \$298,800 per benefited receptor. The approximately 445-foot long, 20-foot-high wall does not meet MnDOT's cost-effectiveness criterion of \$78,500 per benefited receptor.

A 14-foot-high noise wall was the maximum noise wall height identified to achieve a 7 dBA reduction or greater at Receptor C2 on the south side of Hwy 212; therefore, a 14-foot-high noise wall was evaluated.

An approximately 415-foot long, 14-foot-high noise wall was modeled on the south side of Hwy 212 and west of Tacoma Avenue. The modeled wall was within proposed highway right of way. The 14-foot-high noise wall provides a 7.7 dBA reduction in traffic noise levels (see Table C.11 in Appendix C). The approximately 415-foot long, 14-foot-high noise wall achieved a 7 dBA reduction or greater at one receptor. The cost-effectiveness of the noise wall is \$200,520 per benefited receptor. The approximately 415-foot long, 14-foot-high wall does not meet MnDOT's cost-effectiveness criterion of \$78,500 per benefited receptor.

An approximately 405-foot long, 13-foot-high noise wall was modeled along the south side of Hwy 212 and west of Tacoma Avenue. The modeled wall was within proposed highway right of way. The 13-foot-high noise wall provides a 6.5 dBA reduction in traffic noise levels (see Table C.12 in Appendix C). The approximately 405-foot long, 13-foot-high noise wall does not meet MnDOT's noise reduction design goal of 7 dBA or greater for at least one receptor; therefore, Noise Wall 8 is not proposed.

### **Noise Wall 9, South Side of Hwy 212 Between Salem Avenue and County Road 51 (Receptor C5)**

A modeled receptor location (Receptor C5) along the south side of Hwy 212 between Salem Avenue and County Road 51 represents a rural residence. Modeled traffic noise levels at Receptor C5 are projected to approach or exceed the noise abatement criterion for Activity Category B under the 2040 Build Alternative;

therefore, a noise wall was modeled and evaluated along the south side of Hwy 212 between Salem Avenue and County Road 51.

An approximately 590-foot long, 20-foot-high noise wall was modeled on the south side of Hwy 212 between Salem Avenue and County Road 51. The modeled wall was within proposed highway right of way. The 20-foot-high noise wall provides a 4.7 dBA reduction in traffic noise levels (see Table C.13 in Appendix C). The approximately 590-foot long, 20-foot-high noise wall did not achieve a 5 dBA reduction or greater at any receptor. The property represented by Receptors C5 has existing driveway access to Hwy 212, which must be maintained. Therefore, the modeled wall has spatial gaps in it, which decreases the wall's acoustical effectiveness (see Figure 10, Appendix A). The approximately 590-foot long, 20-foot-high wall does not meet MnDOT's acoustic feasibility criterion of a 5 dBA reduction or greater for at least one receptor; therefore, Noise Wall 9 is not proposed.

### **Noise Wall 10, South Side of Hwy 212 Between Salem Avenue and County Road 51 (Receptor C6)**

A modeled receptor location (Receptor C6) along the south side of Hwy 212 between Salem Avenue and County Road 51 represents a rural residence. Modeled traffic noise levels at Receptor C6 are projected to experience a substantial increase (i.e., increase of 5 dBA or greater from existing to 2040 Build Alternative conditions); therefore, a noise wall was modeled and evaluated along the south side of Hwy 212 between Salem Avenue and County Road 51.

An approximately 1,580-foot long, 20-foot-high noise wall was modeled on the south side of Hwy 212 between Salem Avenue and County Road 51. The modeled wall was in proposed highway right of way. The 20-foot-high noise wall provides a 2.2 dBA reduction in traffic noise levels (see Table C.14 in Appendix C). The approximately 1,580-foot long, 20-foot-high noise wall did not achieve a 5 dBA reduction or greater at any receptor. The low projected noise reduction of this modeled noise wall is likely due to the distance between the proposed roadway and Receptor C6, which is over 550 feet. Acoustically effective noise walls typically require a length that is four times the distance between the receptor and the noise wall. This length was attempted; however, it would not be cost-effective. The approximately 1,580-foot long, 20-foot-high wall does not meet MnDOT's acoustic feasibility criterion of a 5 dBA reduction or greater for at least one receptor; therefore, Noise Wall 10 is not proposed.

### **Noise Wall 11, South Side of Hwy 212 and West of County Road 51 (Receptors C8 through C10)**

Modeled receptor locations along the south side of Hwy 212 and west of County Road 51 represent rural residential land uses. Modeled traffic noise levels at



Receptors C8 through C10 are projected to approach or exceed the noise abatement criterion for Activity Category B under the 2040 Build Alternative; therefore, a noise wall was modeled and evaluated along the south side of Hwy 212 and west of County Road 51.

As previously mentioned in Section 3.1.1, Receptor C8 once had a home on the property, however, this home no longer exists; the vacant parcel's ownership was recently transferred to Carver County. Therefore, Receptor C8 is not being considered in the cost-effectiveness calculations of this Noise Wall 11.

An approximately 1,055-foot long, 20-foot-high noise wall was modeled on the south side of Hwy 212 and west of County Road 51. The modeled wall was in proposed highway right of way. The 20-foot-high noise wall provides a 4.9 dBA to 7.5 dBA reduction in traffic noise levels (see Table C.15 in Appendix C). The approximately 1,055-foot long, 20-foot-high noise wall achieved a 7 dBA reduction or greater at one receptor. The cost-effectiveness of this noise wall is \$738,000 per benefited receptor. The approximately 1,055-foot long, 20-foot-high wall does not meet MnDOT's cost-effectiveness criterion of \$78,500 per benefited receptor.

An approximately 880-foot long, 20-foot-high noise wall was modeled on the south side of Hwy 212 and west of County Road 51. The modeled wall was in proposed highway right of way. The 20-foot-high noise wall provides a 4.6 dBA to 7.4 dBA reduction in traffic noise levels (see Table C.16 in Appendix C). The approximately 880-foot long, 20-foot-high noise wall achieved a 7 dBA reduction or greater at one receptor. The cost-effectiveness of this noise wall is \$612,000 per benefited receptor. The approximately 880-foot long, 20-foot-high wall does not meet MnDOT's cost-effectiveness criterion of \$78,500 per benefited receptor.

An approximately 880-foot long, 19-foot-high noise wall was modeled on the south side of Hwy 212 and west of County Road 51. The modeled wall was in proposed highway right of way. The 19-foot-high noise wall provides a 3.8 dBA to 6.6 dBA reduction in traffic noise levels (see Table C.17 in Appendix C). The approximately 880-foot long, 19-foot-high noise wall did not achieve a 7 dBA reduction or greater at any receptors. The approximately 880-foot long, 19-foot-high wall does not meet MnDOT's noise reduction design goal of a 7 dBA reduction or greater for at least one receptor; therefore, Noise Wall 11 is not proposed.

### **Noise Wall 12, South of Hwy 212 along the West Side of the Proposed County Road 51 Overpass (Receptor D1)**

Modeled receptor locations along the south side of Hwy 212 along the west side of the proposed County Road 51 overpass represent rural residential land uses. Modeled traffic noise levels at Receptor D1 is projected to experience a substantial increase (i.e., increase of 5 dBA or greater from existing to 2040 Build Alternative

conditions); therefore, a noise wall was modeled and evaluated along the south side of Hwy 212 between County Road 51 and the proposed County Road 51 overpass.

An approximately 805-foot long, 20-foot-high noise wall was modeled south of Hwy 212 along the west side of the proposed County Road 51 overpass. The modeled wall was in proposed highway right of way. The 20-foot-high noise wall provides a 0.9 dBA to 2.5 dBA reduction in traffic noise levels (see Table C.18 in Appendix C). The approximately 805-foot long, 20-foot-high noise wall did not achieve a 5 dBA reduction or greater at any receptors. In the 2040 Build Alternative, Receptor D1 will have a new roadway to the east, while the existing County Road 51 roadway will remain to the west. The property represented by Receptors D1 has driveway access to the existing County Road 51 roadway, which would require spatial gaps in the noise wall if it was placed there, thereby decreasing its acoustical effectiveness (see Figure 6, Appendix A). Therefore, the noise wall was evaluated on the east side of Receptor D1, in order to avoid gaps in the modeled noise wall and shield traffic noise from the new County Road 51 overpass alignment. The nature of this area and the proposed roadway creates a scenario where every alternative location of the noise wall can only shield a fraction of the traffic noise from Hwy 212. The approximately 805-foot long, 20-foot-high wall does not meet MnDOT's acoustic feasibility criterion of a 5 dBA reduction or greater for at least one receptor; therefore, Noise Wall 12 is not proposed.

### **Noise Wall 13, South Side of Hwy 212 Between the Proposed County Road 51 Overpass and County Road 153 (Receptor D8)**

A modeled receptor location (Receptor D8) along the south side of Hwy 212 between the proposed County Road 51 overpass and County Road 153 represents a rural residence. Modeled traffic noise levels at Receptor D8 are projected to experience a substantial increase (i.e., increase of 5 dBA or greater from existing to 2040 Build Alternative conditions); therefore, a noise wall was modeled and evaluated along the south side of Hwy 212 between the proposed County Road 51 overpass and County Road 153.

An approximately 1,350-foot long, 20-foot-high noise wall was modeled on the south side of Hwy 212 between the proposed County Road 51 overpass and County Road 153. The modeled wall was in highway right of way. The 20-foot-high noise wall provides a 2.4 dBA reduction in traffic noise levels (see Table C.19 in Appendix C). The approximately 1,350-foot long, 20-foot-high noise wall did not achieve a 5 dBA reduction or greater at any receptor. The home represented by Receptor D8 is more than 700 feet away from the proposed Hwy 212 (see Figure 4, Appendix A). The low projected noise reduction of this modeled noise wall is likely due to the distance between the proposed roadway and Receptor D8. Acoustically effective noise walls typically require a length that is four times (4X) the distance between the receptor and the noise wall. The 4X length would not be cost-effective. The wall

length of 1,350 feet was modeled due to a drainage ditch to the west and the parcel boundary to the east. The approximately 1,350-foot long, 20-foot-high wall does not meet MnDOT's acoustic feasibility criterion (i.e., a 5 dBA reduction or greater for at least one receptor); therefore, Noise Wall 13 is not proposed.

#### **4.1.4 Other Noise Mitigation Techniques**

Noise abatement measures other than noise walls were considered, but determined not feasible and reasonable for the proposed project. These measures are summarized below.

##### **Traffic Management Measures**

Traffic management measures include such items as prohibition of certain vehicle types and time-use restrictions for certain vehicle types. These traffic management measures are not reasonable for the Hwy 212 corridor. These measures would be inconsistent with the function of Hwy 212 as a principal arterial roadway, regional connections, and statewide connections in south-central Minnesota.

##### **Modified Speed Limits**

In general, a decrease in speed of approximately 20 mph is necessary for a noticeable decrease in noise levels. The existing posted speed limit in the project area along Hwy 212 is 50 to 60 mph. The existing posted speed limits for County Road 51 are 30 to 50 mph. The design speed for the project segment of Hwy 212 is 50 to 70 mph. Lowering the speed limit on Hwy 212 or County Road 51 would be inconsistent with their function as a principal arterial roadway (Hwy 212) and a major collector (County Road 51). In addition, motorists would likely not obey a substantially lower speed limit.

##### **Vertical and Horizontal Alignment**

The proposed overpass from County Road 51 south of Hwy 212 to County Road 51 north of Hwy 212 includes construction on a new alignment to the east side of the existing County Road 51 alignment. The vertical profile of the proposed overpass was identified to meet design clearance requirements over Hwy 212. In addition, the proposed project would increase traffic capacity on Hwy 212 with a two-to-four lane expansion. The expansion includes Hwy 212's conversion to a divided highway, which increases the width/footprint of the corridor. The proposed project does not include major changes in the vertical profile of Hwy 212; the vertical profile of the mainline follows the existing profile and topography. However, the project includes changes to the horizontal alignment of Hwy 212. The proposed project would shift the eastbound and westbound Hwy 212 alignments to the north or south, depending on the location within the project area.



Between Tacoma Avenue (eastern terminus) and County Road 51, the eastbound and westbound alignments shift to the south, thereby shifting Hwy 212 away from receptors to the north (see Figures 1 through 4 and Figure 6, Appendix A). Between County Road 51 and Salem Avenue, the eastbound and westbound alignments shift to the north and south, in an alternating pattern (see Figure 6 and Figure 8 through 10, Appendix A). Between Salem Avenue and Stewart Avenue, the eastbound and westbound alignments shift to the north, then to the south (see Figure 10 and Figure 11, Appendix A). Between Stewart Avenue and Tacoma Avenue (western terminus), the westbound alignment remains where the current Hwy 212 alignment is, while the eastbound alignment would be shifted to the south (see Figure 11 and Figure 12, Appendix A).

Changes to the horizontal alignment associated with the two-four-lane expansion would increase traffic noise levels for receptors on either side of the corridor, depending on the specific alignment. If the alignment were to be shifted away from some receptors, then traffic noise levels would be reduced on one side of the corridor at the expense of increasing traffic noise levels on the opposite side of the corridor.

### **Landscaping/Natural Noise Screening**

Vegetation is only effective for reducing noise levels if it is at least 100 feet to 200 feet deep, a minimum of 15 feet above the line of sight, and dense enough that it cannot be seen through (e.g., evergreen vegetation that maintains its foliage year-round). It is not feasible to plant enough vegetation within existing and proposed right of way to achieve substantial noise level reductions. As such, vegetation is not a reasonable noise mitigation measure.

### **Exclusive Land Use Designations**

Buffer zones are undeveloped, open spaces adjacent to a roadway corridor. Some undeveloped areas currently exist in this area between roadways and the existing residential uses. Residential and agricultural land currently reside in the project area, and the mainline roadways are established. Acquisition of land to create buffer zones is not feasible because of the large amount of land necessary to accommodate buffer zones.

### **Noise Insulation of Non-Residential Building**

Under MnDOT's noise requirements, only non-residential buildings such as schools, hospitals, and places of worship should be considered for acoustical insulation if there are no exterior areas of frequent human use associated with the property. These land uses fall under Federal Activity Category D. The Federal noise abatement

criterion for interior locations under Activity Category D is 52 dBA (Leq) (see Table 1.1).

If there are impacts to exterior areas of frequent human uses at an Activity Category C receptor, and exterior noise abatement is not feasible or reasonable, then an interior noise analysis is completed if the receptor also falls under Activity Category D. Interior noise mitigation is proposed only if the modeled interior noise level exceeds Activity Category D threshold of 52 dBA (L<sub>eq</sub>).

One modeled receptor location is classified under Activity Category D in the project study area. There are no other schools, daycares, medical facilities, places of worship, or other land uses identified under Activity Category D in the project study area.

St. John's United Church of Christ (Receptor B2) is located in the northwest quadrant of the Hwy 212 and County Road 51 intersection (see Figure 6, Appendix A). Receptor B2 is within 10 feet of the façade of the church wall which faces Hwy 212. The modeled noise level at Receptor B2 under the 2040 Build Alternative is 69.3 dBA (Leq). Exterior noise abatement is not reasonable for Receptor B2 (see Section 4.1.3).

St. John's United Church of Christ is a place of worship; therefore, it also falls under Activity Category D. Activity Category D applies to interior uses. The Federal noise abatement criterion for Activity Category D is 52 dBA (see Table 1.1).

An interior traffic noise analysis was prepared for Receptor B2 following MnDOT guidance.<sup>3</sup> Table 4.1 tabulates the exterior noise levels for Receptor B2 and the results of the interior noise analysis.

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<sup>3</sup> Minnesota Department of Transportation. Interior Noise Analysis Flowchart for Category D Facilities (Version 2/22/2017) accessed 12 February 2022 and available at <http://www.dot.state.mn.us/environment/noise/policy/index.html>.

**Table 4.1 Receptor B2 (St. John's United Church of Christ) Interior Noise Analysis Results**

Receptor ID	Land Use	Federal Activity Category	Modeled 2040 Build Alternative Exterior Noise Level Leq, dBA	Exterior Wall Noise Rating (EWNR) Leq, dBA	Modeled 2040 Build Alternative Interior Noise Level Leq, dBA
B2	Church	D	69.3	22.0	47.3

Interior noise levels at Receptor B2 are projected to be below the Federal noise abatement criterion of 52 dBA for Activity Category D uses; therefore, interior noise mitigation is not proposed.

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## Chapter 5 Land Use Planning

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The prevention of future traffic noise impacts is a critical component of noise control. Local governments, through their authority to regulate land development, can help prevent future traffic noise impacts by prohibiting noise-sensitive land uses from being located adjacent to a highway or by ensuring that developments are planned, designed, and implemented in such a way as to minimize traffic noise impacts. The following analysis provides information regarding modeled noise levels adjacent to Hwy 212 for use in land use planning.

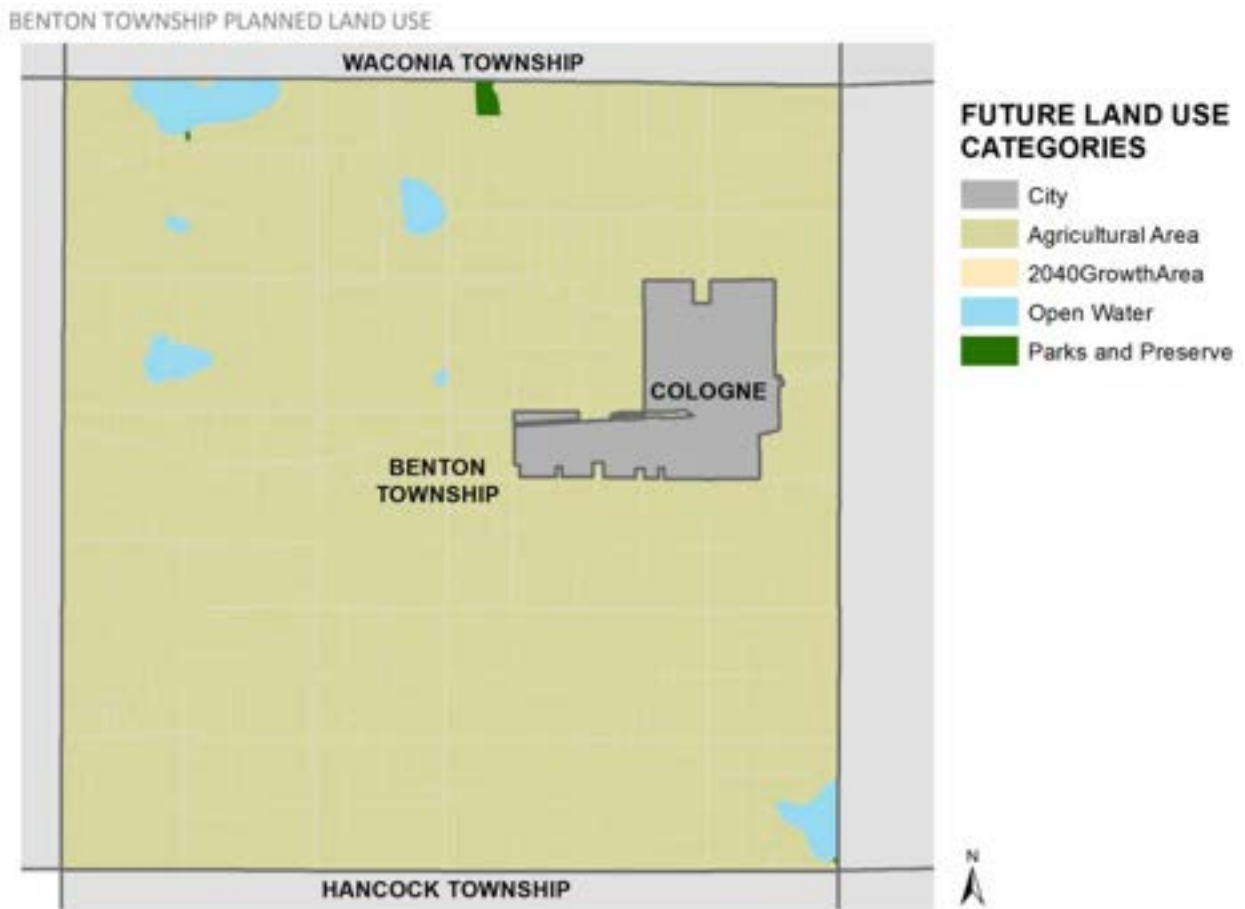
Undeveloped (agricultural) land is located along much of Hwy 212 in Benton Township. Comprehensive Plans created by city or county governments guide future land uses in their prospective jurisdictions. The Carver County 2040 Comprehensive Plan shows no planned rural residential land use along Hwy 212 in the project area.

Figure 5.1 illustrates the Benton Township Planned Land Use Map.

Traffic noise levels were modeled at representative receptor locations on the north and south sides of Hwy 212 between County Road 153 and County Road 51. Representative receptors were placed at the highway right of way limits and at incremental distances from the right of way limits (approximately 50 feet, 100 feet, 150 feet, 200 feet, 250 feet, 300 feet, 350 feet, 400 feet, 450 feet, and 500 feet). This analysis was based on existing topography in the project study area and assumes no intervening barriers or structures between the representative receptor locations and project area roadways.

Table 5.1 lists the results of the land use planning analysis for 2040 Build Alternative conditions.

Figure 5.1 Benton Township Planned Land Use



Source: Carver County. 2040 Comprehensive Plan adopted February 2020 and available at [Carver County 2040 Comprehensive Plan](#)

**Table 5.1 Traffic Noise Analysis and Land Use Planning**

Distance from Proposed Roadway	North Side of Hwy 212 between County Road 153 and County Road 51	South Side of Hwy 212 between County Road 51 and County Road 153
50 feet	77.1	77.1
100 feet	73.6	73.7
150 feet	70.6	70.7
200 feet	<b>68.4</b>	<b>68.4</b>
250 feet	<b>66.7</b>	<b>66.6</b>
300 feet	65.3	64.9
350 feet	64	64.2
400 feet	62.9	63.2
450 feet	61.8	62.1
500 feet	60.9	61.0

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

Results from the land use planning analysis indicate that modeled traffic noise levels under the 2040 Build Alternative would approach or exceed the Federal noise abatement criterion for Activity Category B at more than 250 feet from Hwy 212 on both sides of the roadway. Modeled traffic noise levels would be below the Federal noise abatement criterion for Activity Category B at 300 feet from the edges of the proposed Hwy 212 alignments.

The land use planning analysis was completed at these locations because the section of the Hwy 212 corridor between County Road 153 and County Road 51 experiences higher traffic volumes. Much of the undeveloped land along this corridor is currently being used for agriculture and is also planned for agricultural use in Carver County's 2040 Comprehensive Plan.

It is important to note that these results are a representation of traffic noise levels, given the assumptions listed above (e.g., existing topography, no intervening structures or barriers, etc.). The results of this analysis can be used as a guide for local governments responsible for land use planning and land use controls to help prevent future traffic noise impacts on currently undeveloped lands. Setback distances, along with other techniques (e.g., earthen berms, noise barriers, site plan elements/design), can be used to ensure that the desired compatibility between the Hwy 212 corridor and potential future development is achieved.



## Chapter 6 Construction Noise

The construction activities associated with implementation of the proposed project will result in increased noise levels relative to existing conditions. These impacts will primarily be associated with construction equipment and pile driving.

Table 5.1 shows peak noise levels monitored at 50 feet from various types of construction equipment. This equipment is primarily associated with site grading/site preparation, which is generally the roadway construction phase associated with the greatest noise levels.

**Table 6.1 Typical Construction Equipment Noise Levels at 50 Feet**

Equipment Type	Manufacturers Sampled	Total Number of Models in Sample	Peak Noise Level (dBA) (Range)	Peak Noise Level (dBA) (Average)
Backhoes	5	6	74-92	83
Front Loaders	5	30	75-96	85
Dozers	8	41	65-95	85
Graders	3	15	72-92	84
Scrapers	2	27	76-98	87
Pile Drivers	N/A	N/A	95-105	101

Source: United States Environmental Protection Agency and Federal Highway Administration

Elevated noise levels are, to a degree, unavoidable for this type of project. Carver County will require that construction equipment be properly muffled and in proper working order. While Carver County and its contractor(s) are exempt from local noise ordinances, it is the practice to require contractor(s) to comply with applicable local noise restrictions and ordinances to the extent that is reasonable. Advanced notice will be provided to affected communities of any planned abnormally loud construction activities. It is anticipated that night construction will be needed for certain key construction activities throughout the project to minimize impacts to traffic on Hwy 212. However, construction will be limited to daytime hours as much as possible. This project is expected to be under construction for two construction seasons. If necessary, a detailed nighttime construction mitigation plan will be developed during the project final design stage.

Any associated high-impact equipment noise, such as pile driving, pavement sawing, or jack hammering, will be unavoidable with construction of the proposed project. Pile-driving noise is associated with bridge construction and sheet piling necessary for retaining wall construction. While pile-driving equipment results in the highest peak noise level, as shown in Table 5.1, it is limited in duration to the activities noted

above (e.g., bridge construction, retaining wall construction). The use of pile drivers, jack hammers, and pavement sawing equipment will be prohibited within 500 feet of residences and other sensitive areas from 9:00PM to 7:00AM with the exception of saw cutting joints into new concrete pavement.

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# Chapter 7 Conclusions and Recommendations

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## 7.1 Traffic Noise Analysis Results

Modeled Leq noise levels are predicted to range from 55.3 dBA to 76.9 dBA under the 2040 Build Alternative. Modeled Leq traffic noise levels are predicted to change by 1.1 dBA to 7.9 dBA under the 2040 Build Alternative compared to existing conditions. Modeled Leq noise levels are projected to approach and exceed the Federal noise abatement criterion for Activity Category B at nine receptor locations under the 2040 Build Alternative. Federal noise abatement criterion for Activity Category C at two receptor locations under the 2040 Build Alternative. Modeled Leq noise levels at all other receptor locations are below Federal noise abatement criteria.

Eleven (11) of the modeled receptor locations are predicted to experience a substantial increase in traffic noise levels (i.e., increase of 5 dBA or greater from existing to 2040 Build Alternative conditions). Two of the eleven modeled receptor locations that are predicted to experience a substantial increase are either Activity Category G (undeveloped/unpermitted lands) or Activity Category F (agricultural or industrial land uses), which do not have Federal noise abatement criteria. Activity Category F receptors are not considered noise sensitive land uses, as defined by MnDOT's 2017 Noise Requirements.

## 7.2 Consideration of Noise Abatement Measures

Noise walls were evaluated at modeled receptor locations that are projected to approach or exceed Federal noise abatement criteria under the 2040 Build Alternative. Thirteen (13) noise walls were modeled. The modeled noise walls did not achieve MnDOT's cost effectiveness criteria of \$78,500 per benefited receptor or did not meet MnDOT's noise reduction design goal of 7 dBA or greater to be considered reasonable; therefore, noise abatement measures are not proposed with the Hwy 212 Benton Township Project. Section 4.1.3 describes the noise wall cost-effectiveness results.

## 7.3 Statement of Likelihood

The traffic noise analysis for the Hwy 212 Benton Township Project is based upon preliminary design studies completed to date. If conditions substantially change by the time the project reaches the final design stage, additional analysis would be required. If impacts are identified with the final plan changes, then traffic noise abatement measures would be evaluated and proposed if the measures meet feasibility and reasonableness requirements.



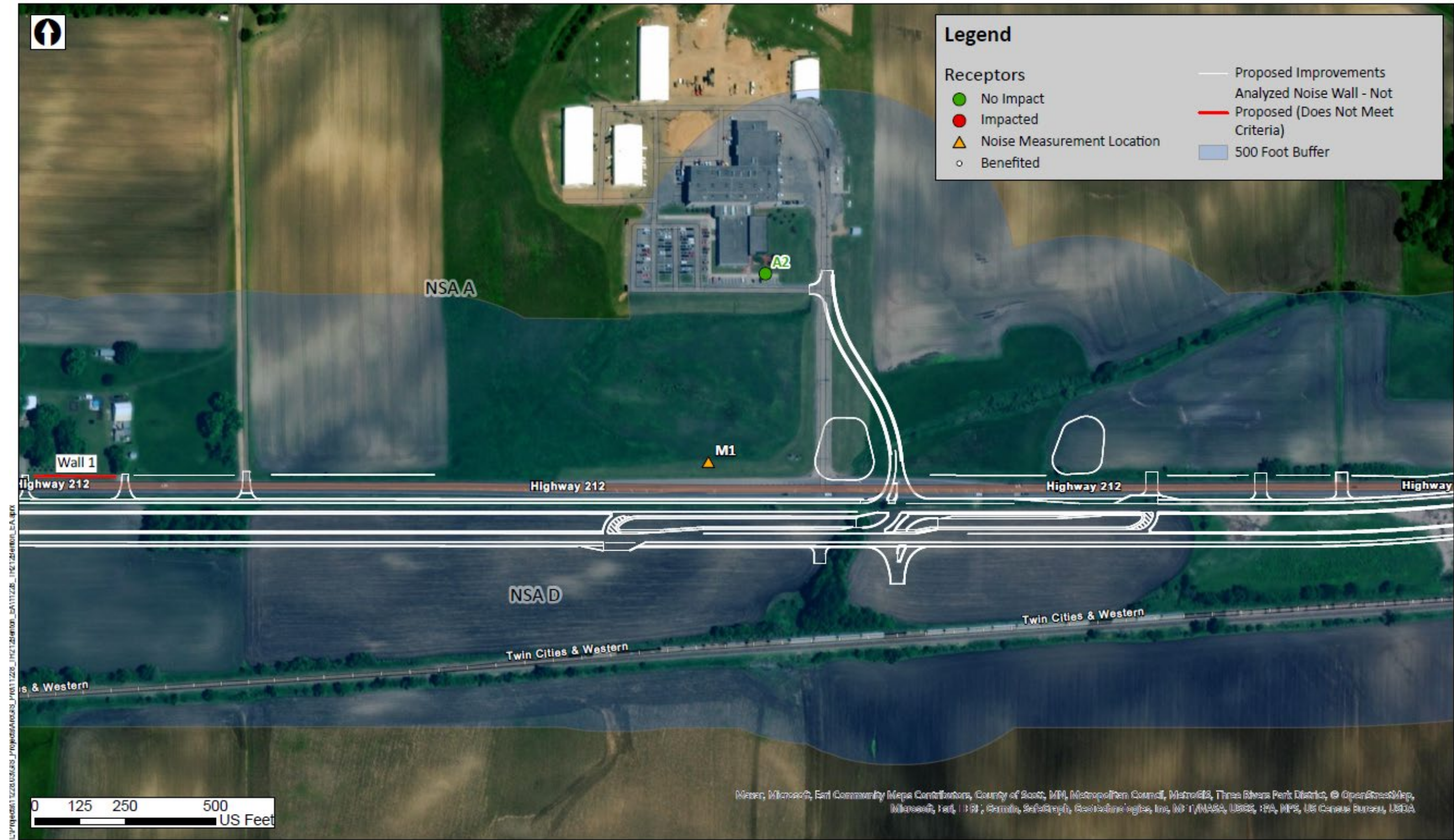
# Appendix A

## Figures





Appendix A. Figure 2: Hwy 212 Benton Township Noise Analysis (Receptor Locations and Modeled Wall Locations)



**SRF** Noise Receptors and Analyzed Noise Wall Locations  
 SP 1013-77 Hwy 212 Benton Township  
 Carver County

Figure 2



Appendix A. Figure 3: Hwy 212 Benton Township Noise Analysis (Receptor Locations and Modeled Wall Locations)

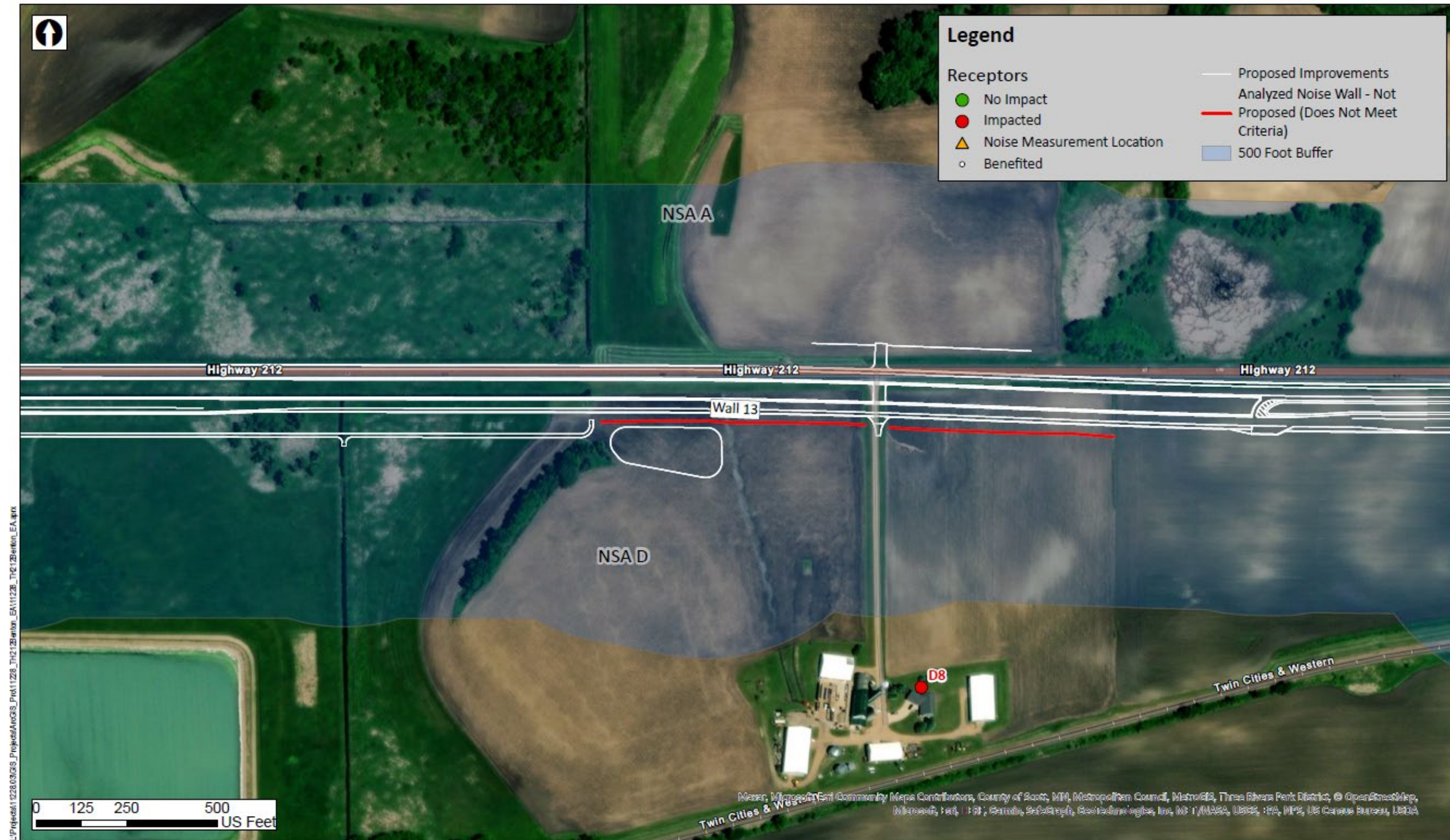


**SRF** Noise Receptors and Analyzed Noise Wall Locations  
SP 1013-77 Hwy 212 Benton Township  
Carver County

Figure 3



Appendix A. Figure 4: Hwy 212 Benton Township Noise Analysis (Receptor Locations and Modeled Wall Locations)

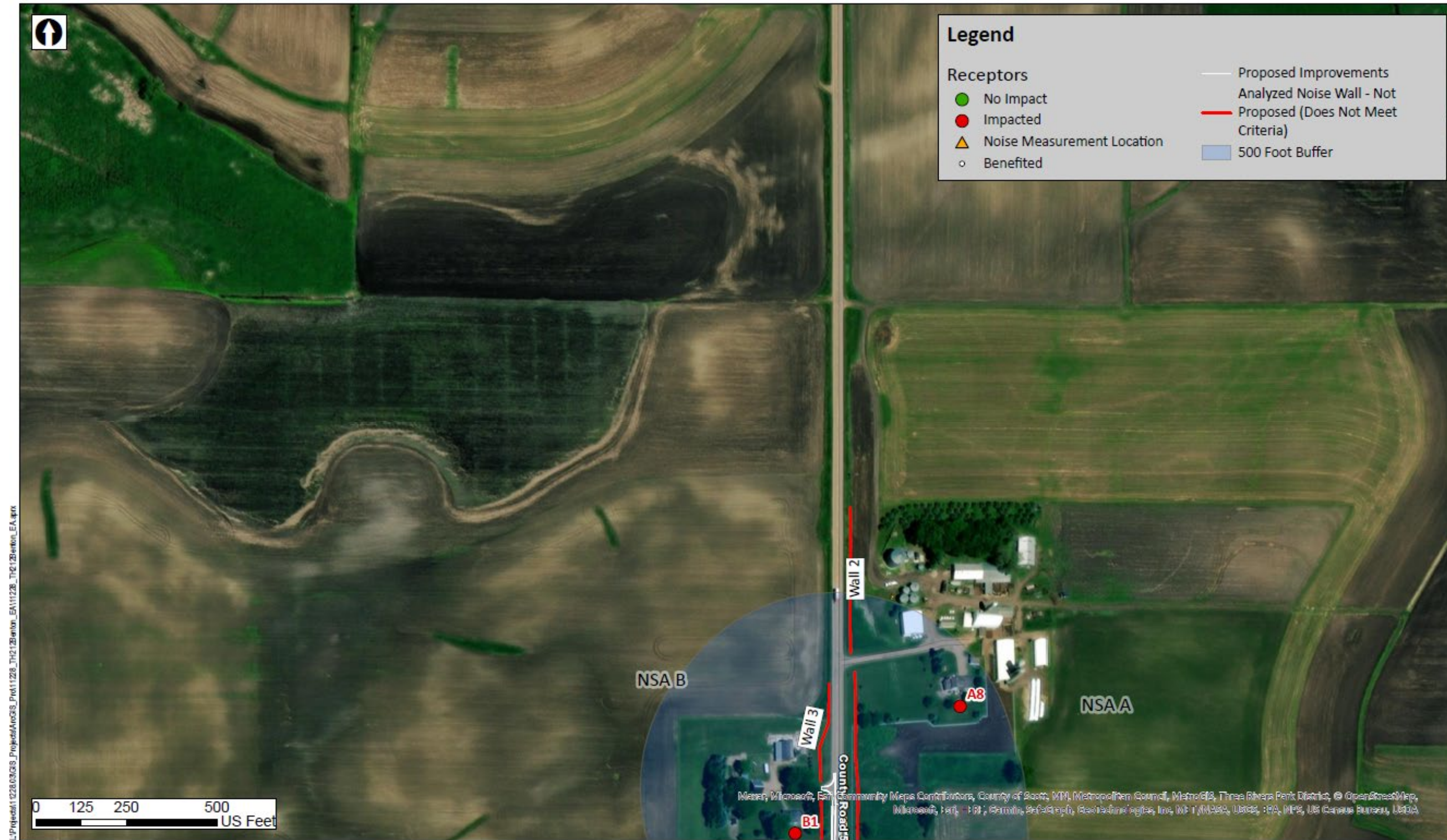


**SRF** Noise Receptors and Analyzed Noise Wall Locations  
 SP 1013-77 Hwy 212 Benton Township  
 Carver County

Figure 4



Appendix A. Figure 5: Hwy 212 Benton Township Noise Analysis (Receptor Locations and Modeled Wall Locations)



**SRF** Noise Receptors and Analyzed Noise Wall Locations  
 SP 1013-77 Hwy 212 Benton Township  
 Carver County

Figure 5



Appendix A. Figure 6: Hwy 212 Benton Township Noise Analysis (Receptor Locations and Modeled Wall Locations)



**SRF** Noise Receptors and Analyzed Noise Wall Locations  
 SP 1013-77 Hwy 212 Benton Township  
 Carver County

Figure 6



Appendix A. Figure 7: Hwy 212 Benton Township Noise Analysis (Receptor Locations and Modeled Wall Locations)



**SRF** Noise Receptors and Analyzed Noise Wall Locations  
 SP 1013-77 Hwy 212 Benton Township  
 Carver County

Figure 7



Appendix A. Figure 8: Hwy 212 Benton Township Noise Analysis (Receptor Locations and Modeled Wall Locations)

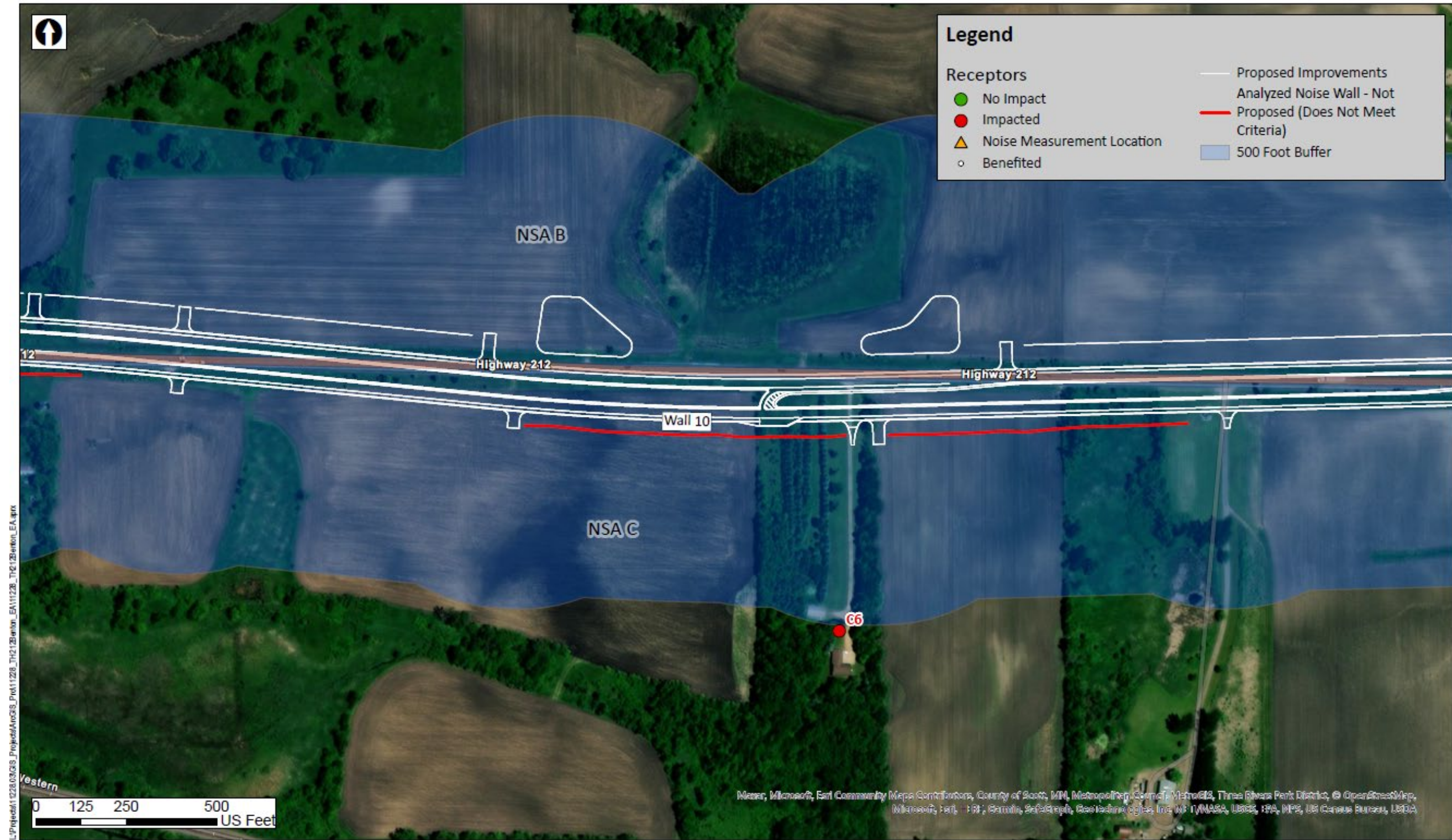


**SRF** Noise Receptors and Analyzed Noise Wall Locations  
SP 1013-77 Hwy 212 Benton Township  
Carver County

Figure 8



Appendix A. Figure 9: Hwy 212 Benton Township Noise Analysis (Receptor Locations and Modeled Wall Locations)



**SRF** Noise Receptors and Analyzed Noise Wall Locations  
 SP 1013-77 Hwy 212 Benton Township  
 Carver County

Figure 9



Appendix A. Figure 10: Hwy 212 Benton Township Noise Analysis (Receptor Locations and Modeled Wall Locations)



**SRF** Noise Receptors and Analyzed Noise Wall Locations  
SP 1013-77 Hwy 212 Benton Township  
Carver County

Figure 10



Appendix A. Figure 11: Hwy 212 Benton Township Noise Analysis (Receptor Locations and Modeled Wall Locations)



**SRF** Noise Receptors and Analyzed Noise Wall Locations  
 SP 1013-77 Hwy 212 Benton Township  
 Carver County

Figure 11



Appendix A. Figure 12: Hwy 212 Benton Township Noise Analysis (Receptor Locations and Modeled Wall Locations)



**SRF** Noise Receptors and Analyzed Noise Wall Locations  
 SP 1013-77 Hwy 212 Benton Township  
 Carver County

Figure 12



# **Appendix B**

## **Field Measurement Data Sheets**

Appendix B. Field Measurement Data Sheet, Site M1

FIELD MEASUREMENT DATA SHEET

Sound Level Meter (SLM) Settings  
 Name: Benton Township  
 Time: Fast                                      Slow                                      Date: August 23, 2022  
 Weighting: Lin.                                      A                                      Project Name: TH 212 from Cologne to Norwood Young /  
 Mic. Setting: Fr.                                      Rnd                                      Project Number: SP 1013-77

Sound Level Meter (SLM)                                      Calibrator  
 Manufacturer Bruel & Kjaer                                      Manufacturer Bruel & Kjaer  
 Model 2238 Mediator                                      Model 4231  
 Serial No. 2231384                                      Serial No. 2774372  
 Microphone 4188                                      Calibrator Frequency (Hz) 1000 Hz

Calibration  
 Initial Calibration 93.9 dB                                      Time 10:00 AM  
 Final Calibration 93.9 dB                                      Time 10:43 AM

Monitor Location and Terrain Conditions Site 1 (North side of TH 212, East of CR 153), 11360 US-212, Cologne  
flat terrain  
 Dominant and Observed Noise Sources: Traffic noise generated by vehicles traveling on TH 212

MEASUREMENT INFORMATION					
Test Number	1	2	3	4	5
Date	8/23/2022				
Start Time	10:05 AM				
End Time	10:35 AM				
Weather	Partly Cloudy				
Temp (°F)	73				
Rel. Humidity (%)					
Wind (mph)	2.9				
Wind direction	SE				
Road conditions	Dry				

TRAFFIC	15 mins	15 mins			
Test Number	WB TH 212	EB TH 212	3	4	5
Autos	40	73			
Med Trucks	11	3			
Heavy Trucks	18	12			
Buses	0	0			
Motorcycles	0	2			
Total	69	90			
Speed Limit	60 MPH	60 MPH			

MONITOR RESULTS (dBA)					
Test Number	1	2	3	4	5
L1	82.5				
L5	79.0				
L10	76.0				
L50	66.5				
L90	58.0				
L99	56.5				
Leq	72.4				
Lmax	91.0				
Lmin	55.6				

(See other side for plan view and cross section images)



**Appendix B. Field Measurement Data Sheet, Site M1 continued**

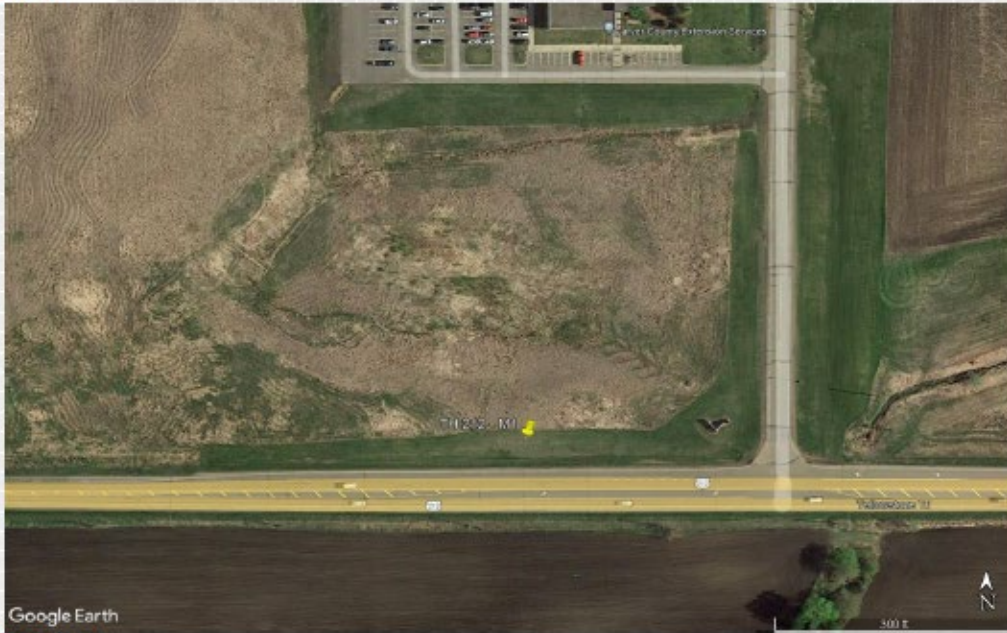
**Plan view and cross section images**

*(Include noise source, receiver, microphone location, reflecting objects, obstructions, landmarks and approximate distances)*

GPS Coordinates: X: -93.813499 Y: 44.7679

Comments: \_\_\_\_\_

**PLAN VIEW**



**CROSS SECTION**



Appendix B. Field Measurement Data Sheet, Site M2

**FIELD MEASUREMENT DATA SHEET**

Sound Level Meter (SLM) Settings  
 Time: Fast Slow  
 Weighting: Lin. A  
 Mic. Setting: Fr. Rnd  
 Name: Benton Township  
 Date: August 23, 2022  
 Project Name: TH 212 from Cologne to Norwood Young /  
 Project Number: SP 1013-77

Sound Level Meter (SLM) Calibrator  
 Manufacturer Bruel & Kjaer Manufacturer Bruel & Kjaer  
 Model 2238 Mediator Model 4231  
 Serial No. 2231384 Serial No. 2774372  
 Microphone 4188 Calibrator Frequency (Hz) 1000 Hz

Calibration  
 Initial Calibration 93.9 dB Time 10:59 AM  
 Final Calibration 93.9 dB Time 11:39 AM

Monitor Location and Terrain Conditions Site 2 (North side of TH 212, West of CR 51), 12984 County Rd 51, Norwood Young A flat terrain

Dominant and Observed Noise Sources: Traffic noise generated by vehicles traveling on TH 212

MEASUREMENT INFORMATION					
Test Number	1	2	3	4	5
Date	8/23/2022				
Start Time	11:04 AM				
End Time	11:34 AM				
Weather	Mostly Sunny				
Temp (°F)	75				
Rel. Humidity (%)					
Wind (mph)	3.9				
Wind direction	SE				
Road conditions	Dry				

TRAFFIC	15 mins	15 mins			
Test Number	WB TH 212	EB TH 212	3	4	5
Autos	39	41			
Med Trucks	11	7			
Heavy Trucks	19	16			
Buses	0	0			
Motorcycles	0	1			
Total	69	65			
Speed Limit	60 MPH	60 MPH			

MONITOR RESULTS (dBA)					
Test Number	1	2	3	4	5
L1	76.0				
L5	73.0				
L10	71.0				
L50	64.0				
L90	58.5				
L99	56.0				
Leq	67.4				
Lmax	80.9				
Lmin	54.9				

(See other side for plan view and cross section images)



Appendix B. Field Measurement Data Sheet, Site M2 continued

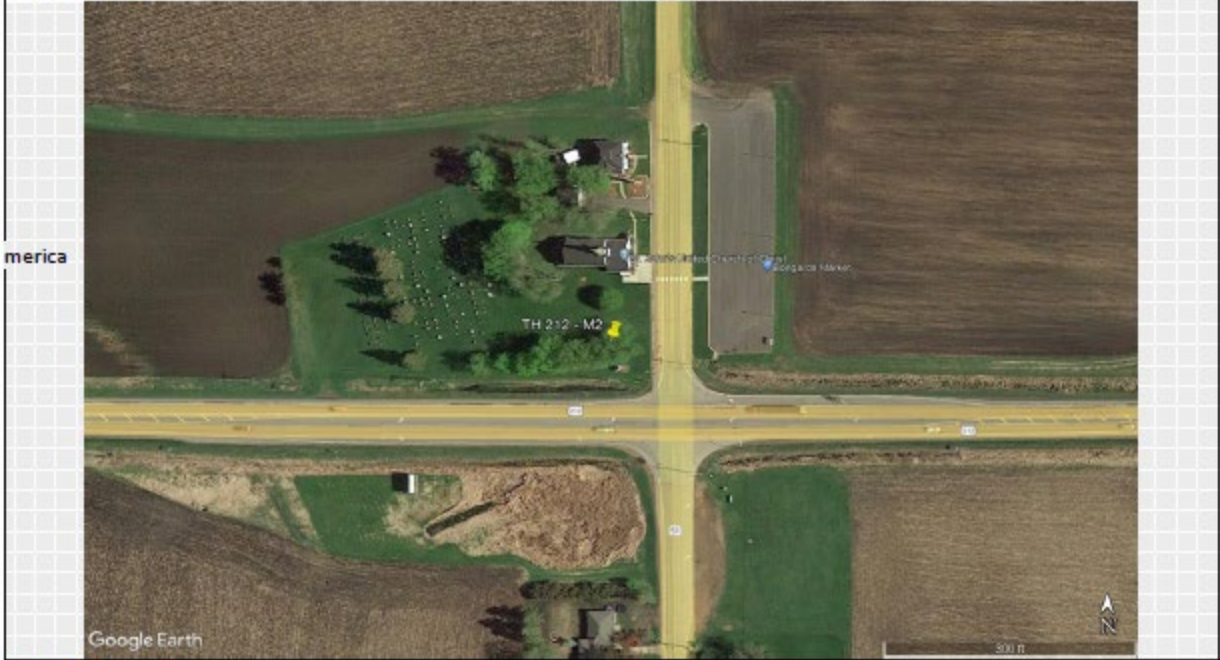
Plan view and cross section images

(Include noise source, receiver, microphone location, reflecting objects, obstructions, landmarks and approximate distances)

GPS Coordinates: X: -93.84922 Y: 44.76798

Comments: \_\_\_\_\_

PLAN VIEW



CROSS SECTION





Appendix B. Field Measurement Data Sheet, Site M3

**FIELD MEASUREMENT DATA SHEET**

Sound Level Meter (SLM) Settings  
 Time: Fast Slow Date: Benton Township  
 Weighting: Lin. A Project Name: August 23, 2022  
 Mic. Setting: Fr. Rnd Project Number: TH 212 from Cologne to Norwood Young / SP 1013-77

Sound Level Meter (SLM) Calibrator  
 Manufacturer Bruel & Kjaer Manufacturer Bruel & Kjaer  
 Model 2238 Mediator Model 4231  
 Serial No. 2231384 Serial No. 2774372  
 Microphone 4188 Calibrator Frequency (Hz) 1000 Hz

Calibration  
 Initial Calibration 93.9 dB Time 12:32 PM  
 Final Calibration 93.9 dB Time 1:08 PM

Monitor Location and Terrain Conditions Site 3 (South side of TH 212, West of Tacoma Ave), Veterans Memorial, Norwood Young / flat terrain

Dominant and Observed Noise Sources: Traffic noise generated by vehicles traveling on TH 212

MEASUREMENT INFORMATION					
Test Number	1	2	3	4	5
Date	8/23/2022				
Start Time	12:34 PM				
End Time	1:04 PM				
Weather	Partly Cloudy				
Temp (°F)	77				
Rel. Humidity (%)					
Wind (mph)	4.6				
Wind direction	SSE				
Road conditions	Dry				

TRAFFIC	15 mins	15 mins			
Test Number	WB TH 212	EB TH 212	3	4	5
Autos	64	66			
Med Trucks	2	10			
Heavy Trucks	14	17			
Buses	0	0			
Motorcycles	0	0			
Total	80	93			
Speed Limit	60 MPH, slowing to 50 MPH, speeding up from 50 MPH				

MONITOR RESULTS (dBA)					
Test Number	1	2	3	4	5
L1	68.5				
L5	65.0				
L10	63.0				
L50	54.5				
L90	49.0				
L99	45.5				
Leq	59.1				
Lmax	77.1				
Lmin	42.3				

(See other side for plan view and cross section images)

**Appendix B. Field Measurement Data Sheet, Site M3 continued**

**Plan view and cross section images**

*(Include noise source, receiver, microphone location, reflecting objects, obstructions, landmarks and approximate distances)*

GPS Coordinates: X: -93.909584 Y: 44.767832  
Comments: \_\_\_\_\_



# Appendix C

## Noise Wall Cost Effectiveness Results



**Table C.1 Noise Mitigation Cost Effectiveness Results (Modeled Wall 1: North Side of Hwy 212 between Lake St W (County Road 36) and County Road 153) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
A3	<b>69.1</b>	<b>66.4</b>	2.7	1	0	0	620	11,800	\$424,800	N/A
A4	<b>71.1</b>	<b>66.1</b>	5.0	1	1	0				

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

**Table C.2 Noise Mitigation Cost Effectiveness Results (Modeled Wall 2: East Side of County Road 51, North of Hwy 212) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
A7	58.7	55.6	3.1	1	0	0	1,420	27,800	\$1,000,800	N/A
A8	54.1	51.1	3.0	1	0	0				

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

**Table C.3 Noise Mitigation Cost Effectiveness Results (Modeled Wall 3: West Side of County Road 51, North of Hwy 212) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
B1	60.2	54.5	5.7	1	1	0	715	12,985	\$467,460	N/A

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.



**Table C.4 Noise Mitigation Cost Effectiveness Results (Modeled Wall 4: North Side of Hwy 212, West Side of County Road 51) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
B2	<b>70.2</b>	<b>66.3</b>	3.9	1	0	0	400	7,000	\$252,000	N/A

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

**Table C.5 Noise Mitigation Cost Effectiveness Results (Modeled Wall 5: North Side of Hwy 212, between County Road 51 and Salem Avenue) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction ≥ 7 dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
B3	<b>74.3</b>	<b>69.4</b>	4.9	1	0	0	630	10,860	\$390,960	N/A
B4	<b>74.8</b>	<b>69.9</b>	4.9	1	0	0				
B5	<b>75.0</b>	<b>68.7</b>	6.3	1	1	0				

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of ≥ 7 dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT’s noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

**Table C.6 Noise Mitigation Cost Effectiveness Results (Modeled Wall 6: North Side of Hwy 212, between Salem Ave and Tacoma Ave) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
B9	<b>73.0</b>	65.2	7.8	1	1	1	745	14,300	\$514,800	\$514,800

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.



**Table C.7 Noise Mitigation Cost Effectiveness Results (Modeled Wall 6: North Side of Hwy 212, between Salem Ave and Tacoma Ave) (17-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
B9	<b>73.0</b>	65.9	7.1	1	1	1	720	11,820	\$425,520	\$425,520

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

**Table C.8 Noise Mitigation Cost Effectiveness Results (Modeled Wall 6: North Side of Hwy 212, between Salem Ave and Tacoma Ave) (16-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
B9	<b>73.0</b>	<b>66.1</b>	6.9	1	1	0	720	11,160	\$401,760	N/A

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

**Table C.9 Noise Mitigation Cost Effectiveness Results (Modeled Wall 7: North Side of Hwy 212, East of Tacoma Ave) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
B10	<b>77.0</b>	<b>72.6</b>	4.4	1	0	0	400	7,400	\$266,400	N/A

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.



**Table C.10 Noise Mitigation Cost Effectiveness Results (Modeled Wall 8: South Side of Hwy 212, West of Tacoma Ave) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
C2	<b>71.3</b>	60.5	10.8	1	1	1	445	8,300	\$298,800	\$298,800

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

**Table C.11 Noise Mitigation Cost Effectiveness Results (Modeled Wall 8: South Side of Hwy 212, West of Tacoma Ave) (14-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
C2	<b>71.3</b>	63.6	7.7	1	1	1	415	5,570	\$200,520	\$200,520

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

**Table C.12 Noise Mitigation Cost Effectiveness Results (Modeled Wall 8: South Side of Hwy 212, West of Tacoma Ave) (13-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
C2	<b>71.3</b>	64.8	6.5	1	1	0	405	5,085	\$183,060	N/A

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.



**Table C.13 Noise Mitigation Cost Effectiveness Results (Modeled Wall 9: South Side of Hwy 212, between Salem Avenue and County Road 51) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
C5	<b>70.9</b>	<b>66.2</b>	4.7	1	0	0	590	11,200	\$403,200	N/A

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT’s noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

**Table C.14 Noise Mitigation Cost Effectiveness Results (Modeled Wall 10: South Side of Hwy 212, between Salem Avenue and County Road 51) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction ≥ 7 dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
C6	60.4	58.2	2.2	1	0	0	1,580	31,000	\$1,116,000	N/A

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of ≥ 7 dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT’s noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

**Table C.15 Noise Mitigation Cost Effectiveness Results (Modeled Wall 11: South Side of Hwy 212, West of County Road 51) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
C8 <sup>(4)</sup>	<b>72.6</b>	62.3	10.3	0	0	0	1,055	20,500	\$738,000	\$738,000
C9	<b>69.2</b>	61.7	7.5	1	1	1				
C10	<b>66.3</b>	61.4	4.9	1	0	0				

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT’s noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

(4) The property represented by this receptor is a former residential land use; however, it is now a vacant parcel owned by Carver County. Therefore, it is not considered benefited.



**Table C.16 Noise Mitigation Cost Effectiveness Results (Modeled Wall 11: South Side of Hwy 212, West of County Road 51) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction ≥ 7 dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
C8 <sup>(4)</sup>	<b>72.6</b>	62.4	10.2	0	0	0	880	17,000	\$612,000	\$612,000
C9	<b>69.2</b>	61.8	7.4	1	1	1				
C10	<b>66.3</b>	61.7	4.6	1	0	0				

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of ≥ 7 dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT’s noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

(4) The property represented by this receptor is a former residential land use; however, it is now a vacant parcel owned by Carver County. Therefore, it is not considered a benefited.

**Table C.17 Noise Mitigation Cost Effectiveness Results (Modeled Wall 11: South Side of Hwy 212, West of County Road 51) (19-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
C8 <sup>(4)</sup>	<b>72.6</b>	63.0	9.6	0	0	0	880	16,180	\$582,480	N/A
C9	<b>69.2</b>	62.6	6.6	1	1	0				
C10	<b>66.3</b>	62.5	3.8	1	0	0				

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT’s noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

(4) The property represented by this receptor is a former residential land use; however, it is now a vacant parcel owned by Carver County. Therefore, it is not considered a benefited.

**Table C.18 Noise Mitigation Cost Effectiveness Results (Modeled Wall 12: South Side of Hwy 212, between County Road 51 and the Proposed County Road 51 Overpass) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction $\geq 7$ dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
D1	65.5	63.0	2.5	1	0	0	805	15,500	\$558,000	N/A
D2	63.7	61.3	2.4	1	0	0				
D3	62.5	60.4	2.1	1	0	0				
D4	61.5	60.6	0.9	1	0	0				

**Numbers** approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic numbers* exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of  $\geq 7$  dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT's noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.



**Table C.19 Noise Mitigation Cost Effectiveness Results (Modeled Wall 13: South Side of Hwy 212, between the Proposed County Road 51 Overpass and County Road 153) (20-foot Tall Noise Wall)**

Receptor ID	Leq Noise Level, 2040 Build (No Noise Wall)	Leq Noise Level, 2040 Build (With Noise Wall)	Reduction (in dBA) With Noise Wall	Number of Residences, Commercial, or Industrial Establishments	Number of Benefited Residences, Commercial, or Industrial Establishments <sup>(1)</sup>	Design goal reduction ≥ 7 dBA <sup>(2)</sup>	Length of Wall (feet)	Wall Area (sq. ft.) <sup>(3)</sup>	Total Cost of Wall (\$36/sq. ft.)	Cost per Benefited Receptor
D8	58.1	55.7	2.4	1	0	0	1,350	26,400	\$950,400	N/A

**Bold** numbers approach or exceed Federal noise abatement criteria (see Table 1.1).

*Italic* numbers exceed 23 CFR 774.15(f)(2) or 23 CFR 774.15(f)(3).

N/A = not applicable because none of the receptors adjacent to the modeled noise wall meet the noise reduction design goal criterion of ≥ 7 dBA.

(1) Number of benefited residences, commercial establishments, or industrial establishments with a minimum 5 dBA or greater reduction.

(2) Noise barrier must meet MnDOT’s noise reduction design goal of at least 7 dBA at a minimum of one benefited receptor behind each noise barrier.

(3) Area of the barrier includes tapers on both ends.

# Appendix F

Floodplain Assessment

**FLOODPLAIN ASSESSMENT**  
 U.S. Hwy 212 – Benton Township Project  
 SP 1013-77

Federal Insurance Administration Flood Boundary and Floodway maps for Carver (effective 12/21/2018, panel number 27019C0170D) have been examined for this project (See **Figure 1**, Project Area Floodplain).

The Hwy 212 Benton Township Project is in Benton Township and the cities of Norwood Young America and Cologne in Carver County, Minnesota. The western project terminus is Tacoma Avenue (CSAH 34) in the city of Norwood Young America. The eastern project terminus is Lake Street W (CSAH 36) in the city of Cologne. The total length of the project is approximately 5.5 miles.

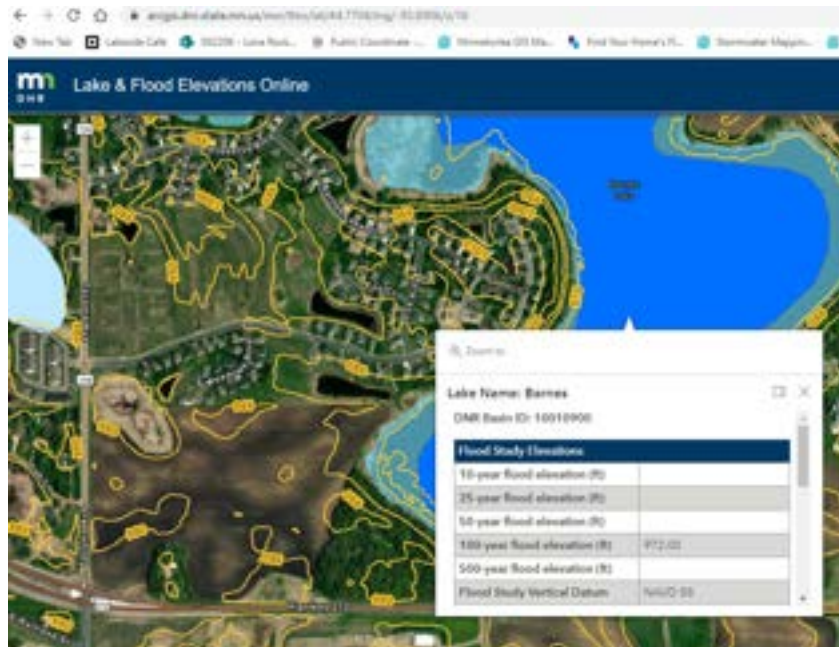
The floodplain of Barnes Lake, designated as Zone A, extends to the shoulder of the existing Hwy 212. Barnes Lake is north of Hwy 212 near the intersection with Stewart Avenue. The southern tip of the floodplain is within the project area (See **Figure 2**, Floodplain Encroachment Area).

<b>Floodplain</b>	<b>Type of Encroachment</b>
Barnes Lake Zone A (No Base Flood Elevation)	Longitudinal (50 feet)

**IMPACT ANALYSIS**

1. There is no significant potential for interruption of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route.
  - a. Is the roadway grade above the 100-year flood elevation?  
**YES** Roadway elevation(s): 980 feet  
 100-year flood elevation: No base flood elevation (Zone A) provided by FEMA, but MnDNR Lake and Flood Elevations Online service shows the 100-year elevation to be 972 feet: <https://arcgis.dnr.state.mn.us/ewr/lfeo/lat/44.7704/lng/-93.8906/z/16>.

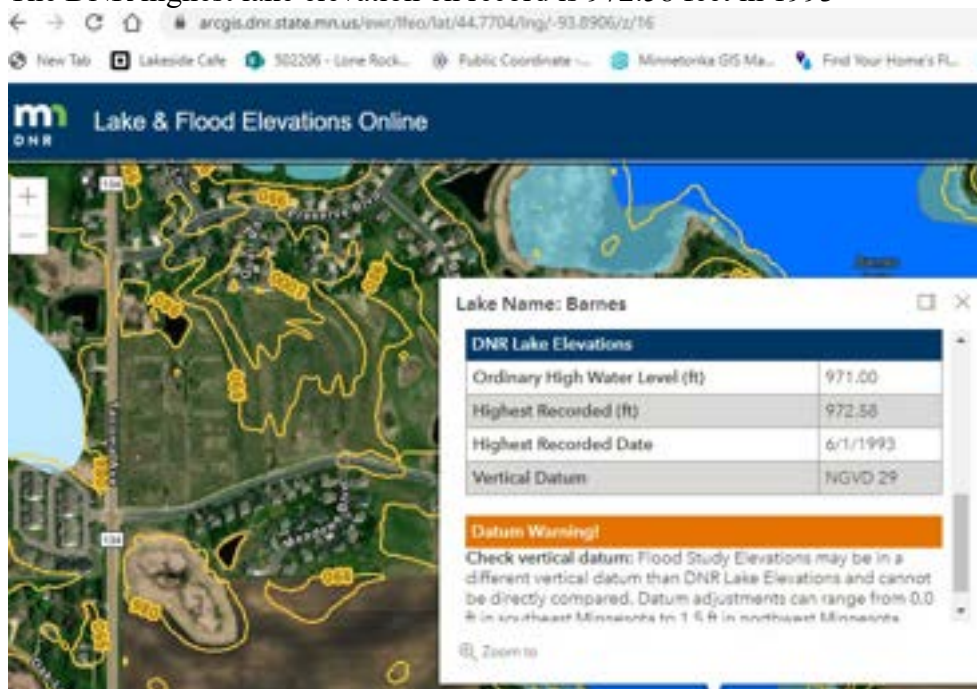




NO Frequency of overtopping: N/A.  
 Reason(s) why roadway grade will not be raised: N/A.  
 Are there reasonable alternative routes available that are above the 100-year flood elevations? N/A

b. If the 100-year flood elevation is not known, does roadway have a history of overtopping?

**NO** Reference and length of record: The road overtopping road elevation is 980 feet. The DNR highest lake elevation on record is 972.58 feet in 1993



YES Discuss correcting deficiency: N/A

c. Describe how emergency services will be maintained during construction:

A transportation management plan (TMP) will be prepared by MnDOT during the final design phase of the project. This includes coordination with emergency services in the area and planning alternate routes as needed during construction of this project. While no closures are anticipated for Hwy 212, it is anticipated that detours will be planned for CSAH 51, Co Rd 153, Salem Ave, and Tacoma Ave (CSAH 34). There will be no permanent impacts to vehicle navigation in this corridor. Therefore, the project will not have an impact on emergency vehicle access or evacuation routes.

2. There is no significant impact on natural and beneficial floodplain values.

a. Impacts:

	<b>Beneficial Impacts</b>	<b>Adverse Impacts</b>
Fisheries	Not applicable	No adverse impacts. In-water work will be prohibited during the fish spawning and migration period. Erosion control best management practices (BMPs) will be maintained throughout construction
Wetlands	Wetland impacts will be mitigated at an anticipated 2:1 ratio.	The project will result in approximately 22.95 acres wetland basins, 2.04 acres wet ditches, and 0.92 acres tributaries of impacts (25.91 total acres).
Plants	Disturbed soils will be revegetated with a native seed mix in line with MnDOT standards.	Disturbed soil will be revegetated as soon as possible after construction.
Open Space/Aesthetics	Minimal changes to the existing road corridor	Construction activities will impact open space and agricultural areas (i.e., tree removal, grading). Tree removal has been minimized to the extent possible.
Public Access (boat/canoe)	Not applicable	Not applicable.
Channel Changes	Not applicable	Not applicable.
Boat Passage	Not applicable	Not applicable.
Threatened and Endangered Species	Not applicable	Mitigation measures have been identified to minimize impacts to Federal and State-listed threatened and endangered species, which are summarized in the Categorical Exclusion document.
Water Quality	Not applicable	The project will disturb one or more acres of land area. Therefore, a Phase II National Pollutant Discharge Elimination System (NPDES) permit is required. The project will increase the total amount of impervious area by over one acre compared to existing conditions. Stormwater BMPs will be designed and constructed to meet NPDES and watershed district requirements.
Other	Not applicable	Not applicable

b. Minimization/Mitigation Measures:

**Table 12** of the Categorical Exclusion document identifies mitigation and commitment measures that will be implemented as part of this project.

3. There is no significant increased risk of flooding.

a. Does the project result in any headwater or tailwater elevations that would endanger life or property?

Stage Increase: 0.00 feet

No, the project would not result in any permanent headwater or tailwater elevations that would endanger life or property. Any culvert modifications will be done such that the future hydraulic conditions mimic the current hydraulic conditions. The hydraulic analysis is part of the regulatory permit process with the Carver County Water Management Organization (CCWMO) and the Floodplain Administrator. The hydraulic memorandum is located at the end of this assessment.

b. Are there any special hydraulic features? What is their purpose?

Yes, the floodplain and normal water elevation of Barnes Lake is governed by a concrete weir at the entrance of a 4 feet wide by 6 feet tall concrete box culvert. The weir is 4 feet wide with a top elevation of 970.61 feet. If the culvert requires modification during final design, it will be reconstructed to mimic the current hydraulic conditions. The drawings for the weir are attached (see **Figure 3**, Barnes Lake Outlet Construction Drawings).

4. The project will not support and/or result in incompatible floodplain development.

Reason(s) why project will not cause incompatible floodplain development:

The project is strictly for transportation purposes. The project will not result in incompatible floodplain development because the project does not provide new access to floodplain areas for development. This project is an expansion of an existing roadway and associated right of way.

## **LONGITUDINAL ENCROACHMENT**

This longitudinal encroachment cannot be practicably avoided. A total of 30 cubic yards of fill is anticipated. Hwy 212 will be expanded from two lanes to a divided four-lane highway to improve safety and mobility for the traveling public. All three corridor alignments evaluated would entail the same longitudinal floodplain encroachment due to the expansion of the road. The No Build Alternative (no encroachment) would not meet the needs of the project. The proposed improvements are predominantly proposed opposite of the floodplain, in order to avoid it. The minor impacts are a result of bringing the slopes up to current standards while employing the existing roadbed.



## **COORDINATION**

The proposed project will require a Clean Water Act (CWA) Section 404 permit from the U.S. Army Corps of Engineers (USACE), and an associated CWA Section 401 Water Quality Certification. The Section 404 and Section 401 authorizations will be obtained prior to the start of construction.

## **CONCLUDING STATEMENT**

Based on the above assessment, no significant floodplain impacts are expected.

# National Flood Hazard Layer FIRMette



93°54'13"W 44°46'19"N

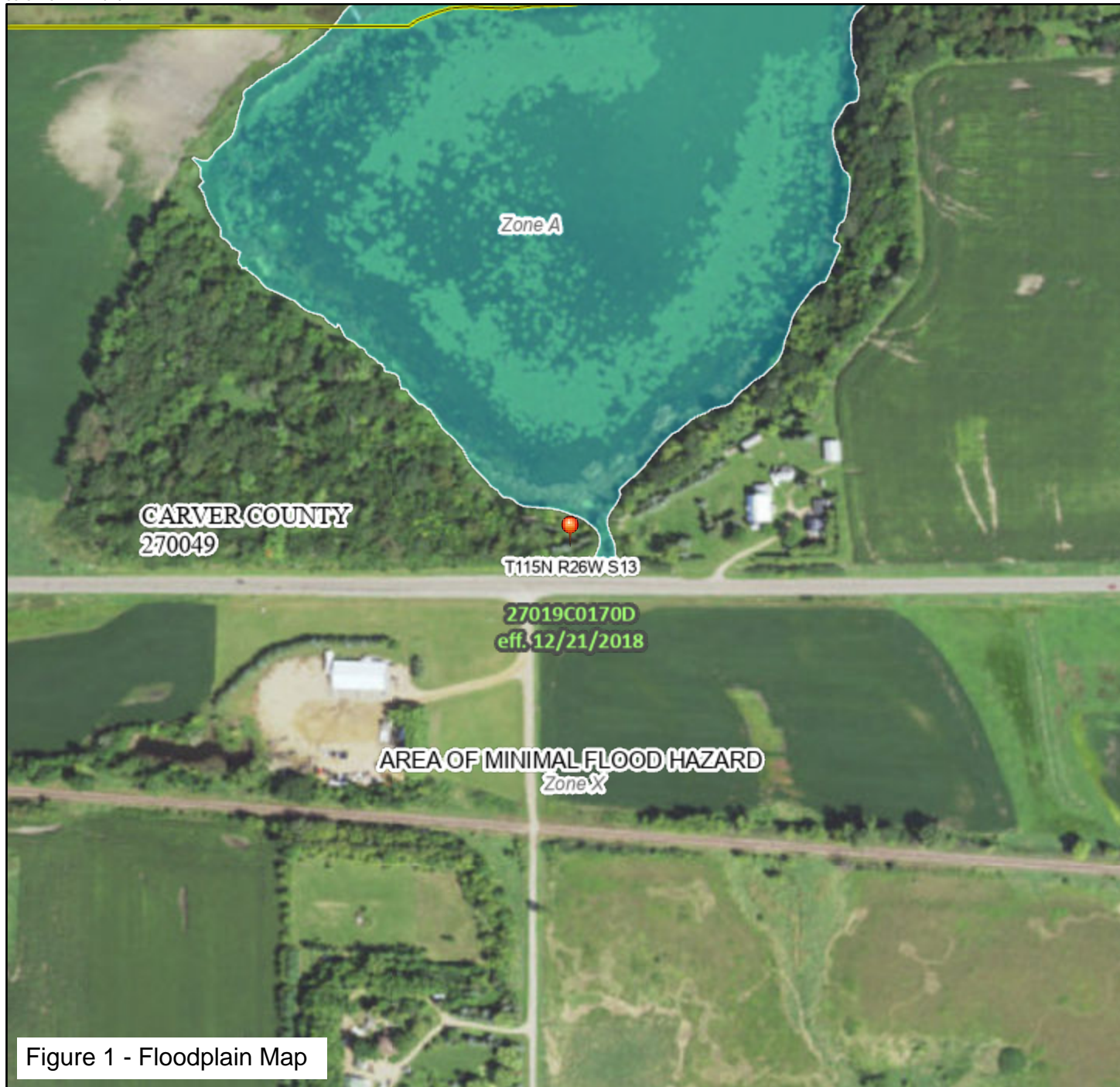


Figure 1 - Floodplain Map

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance 17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped

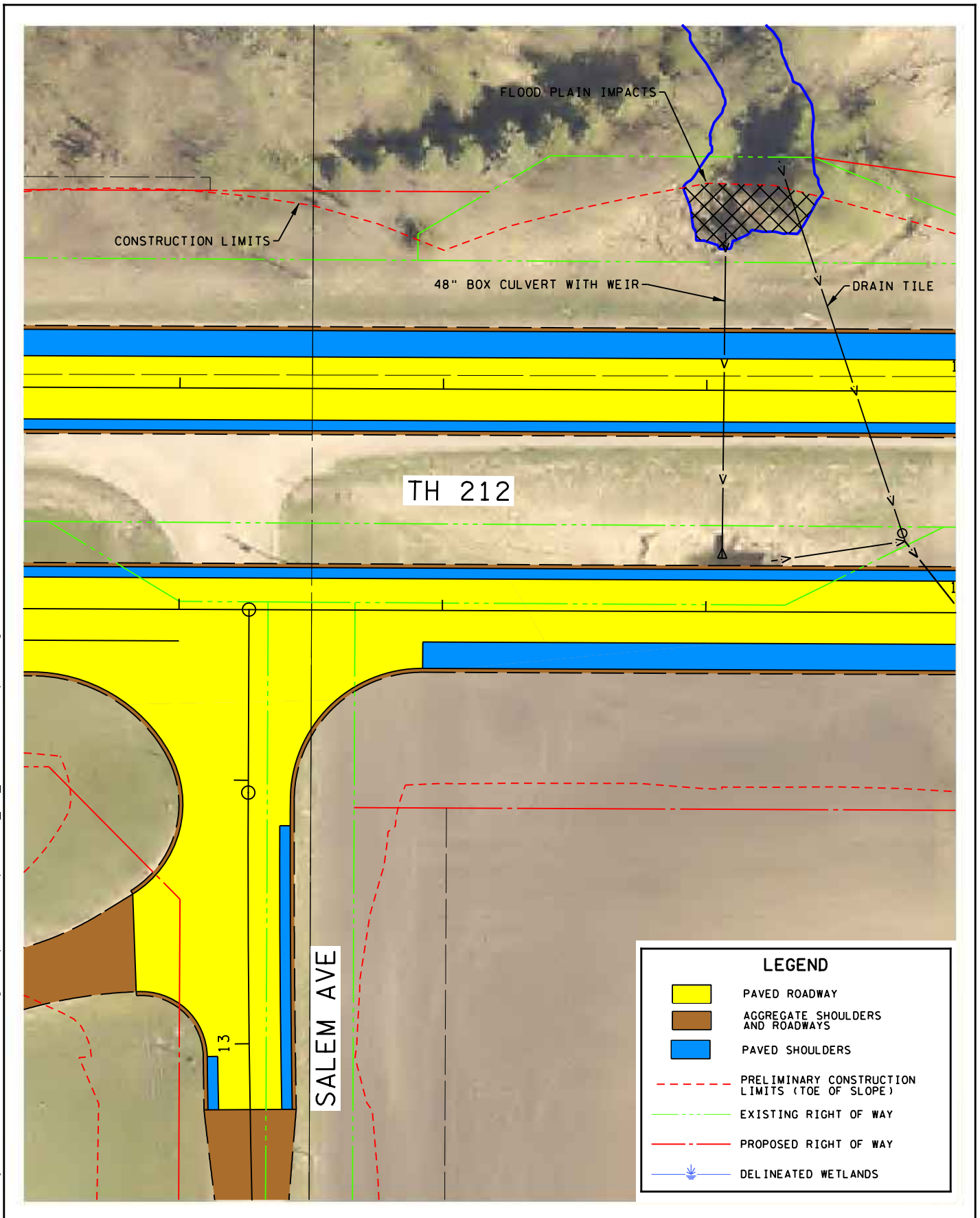
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/18/2022 at 2:36 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

H:\Projects\11000\11228.03\Design\Graphics\EIS\cp101377\_EA\_Flood Plain Impacts.dgn



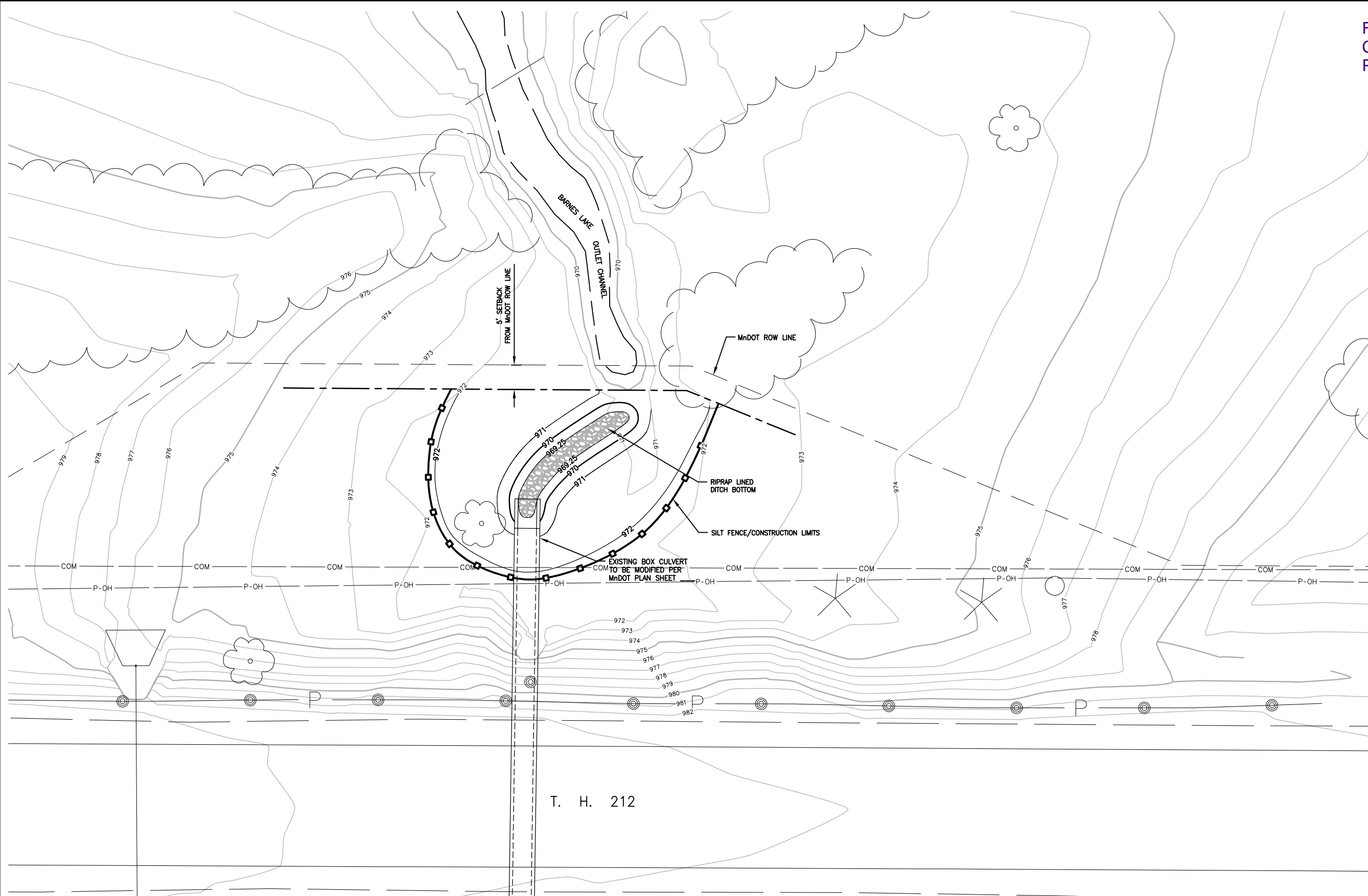
### Floodplain Impacts

U.S. Highway 212 - Benton Township Project  
Norwood Young America to Cologne, Carver County - Minnesota

Figure 2



Figure 3: Barnes Lake Outlet Construction Drawings  
Page 1 of 3



**LEGEND**

- == 975 == PROPOSED CONTOURS
- 975 — EXISTING CONTOURS
- - - - - EXISTING EASEMENT LINE
- - - - - COM EXISTING COMMUNICATION LINE
- - - - - P-OH EXISTING OVERHEAD POWER LINE

**GENERAL NOTE:**

- CONTRACTOR TO CLEAR AND GRUB WITHIN CONSTRUCTION LIMITS.

T. H. 212

REV	REVISION DESCRIPTION	DWN	APP	REV DATE

SEAL

PRIME CONSULTANT

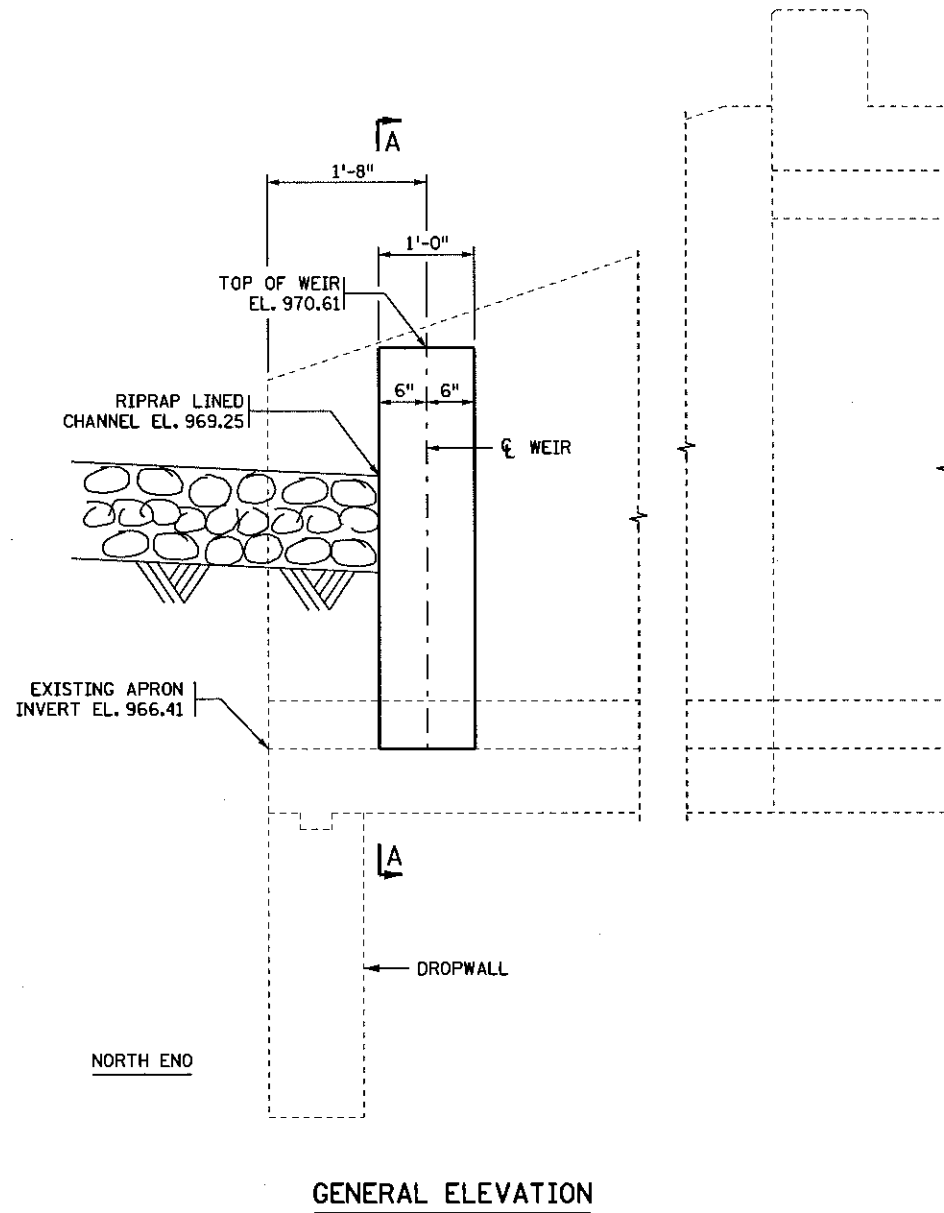
Wenck Consulting Engineers  
1800 PIONEER CREEK CENTER  
MAPLE PLAIN, MN 55359

763-479-4200  
763-479-4242

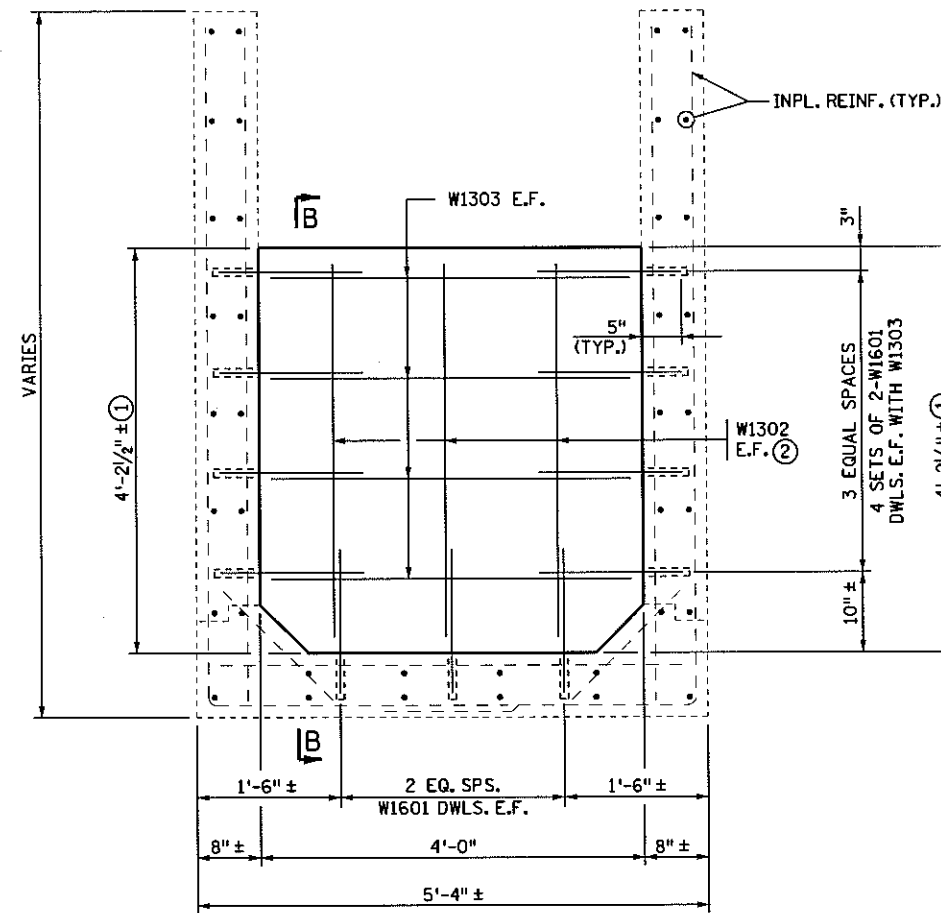
PROJECT TITLE  
**BARNES LAKE OUTLET**

CARVER COUNTY

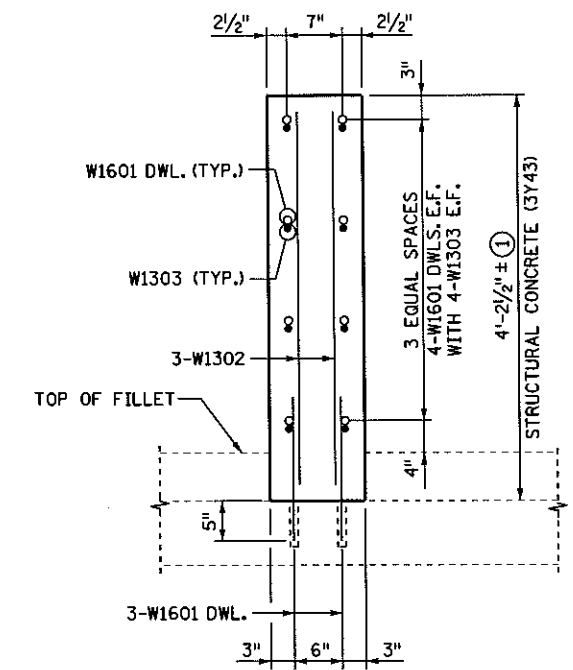
SHEET TITLE			
<b>GRADING PLAN (BARNES LAKE OUTLET)</b>			
DWN BY CVE	CHK'D KCT	APP'D KCT	DWG DATE MAY 2011
PROJECT NO. 1097-01	SHEET NO. C1	SCALE AS SHOWN	REV NO.



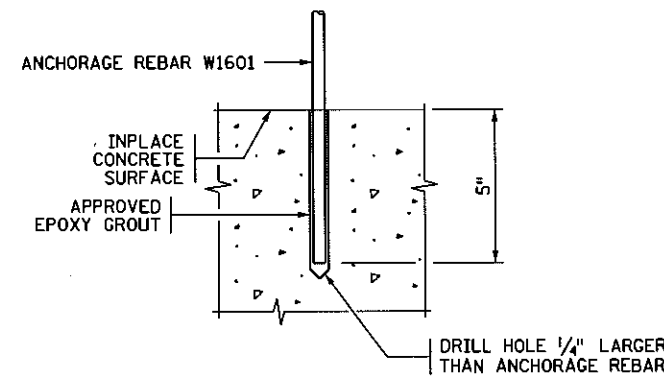
**GENERAL ELEVATION**



**SECTION A-A**



**SECTION B-B**



**ANCHORAGE DETAIL**

BILL OF REINFORCEMENT FOR CONCRETE WEIR				
BAR	NO.	LENGTH	SHAPE	LOCATION
W1601	22	1'-6"	—	ANCHORAGE
W1302	8	5'-0"	—	VERTICAL
W1303	6	3'-9"	—	HORIZONTAL

NOTE: BILL OF REINFORCEMENT IS FOR INFORMATION ONLY.

**NOTES:**

CONCRETE TO BE MIX NO. 3Y43.  
QUANTITY NEEDED IS APPROXIMATELY 4 CU. FT. (0.16 CU. YD.)

REINFORCEMENT BAR QUANTITY IS APPROXIMATELY 80 POUNDS AND INCLUDES ANCHORAGES.

QUANTITIES ARE FOR INFORMATION ONLY.

E.F. DENOTES EACH FACE.

① CONSTRUCT TO ELEVATION 970.61.

② CUT BARS TO FIT.

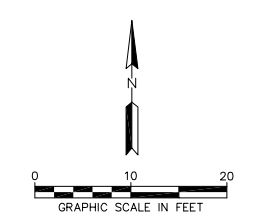
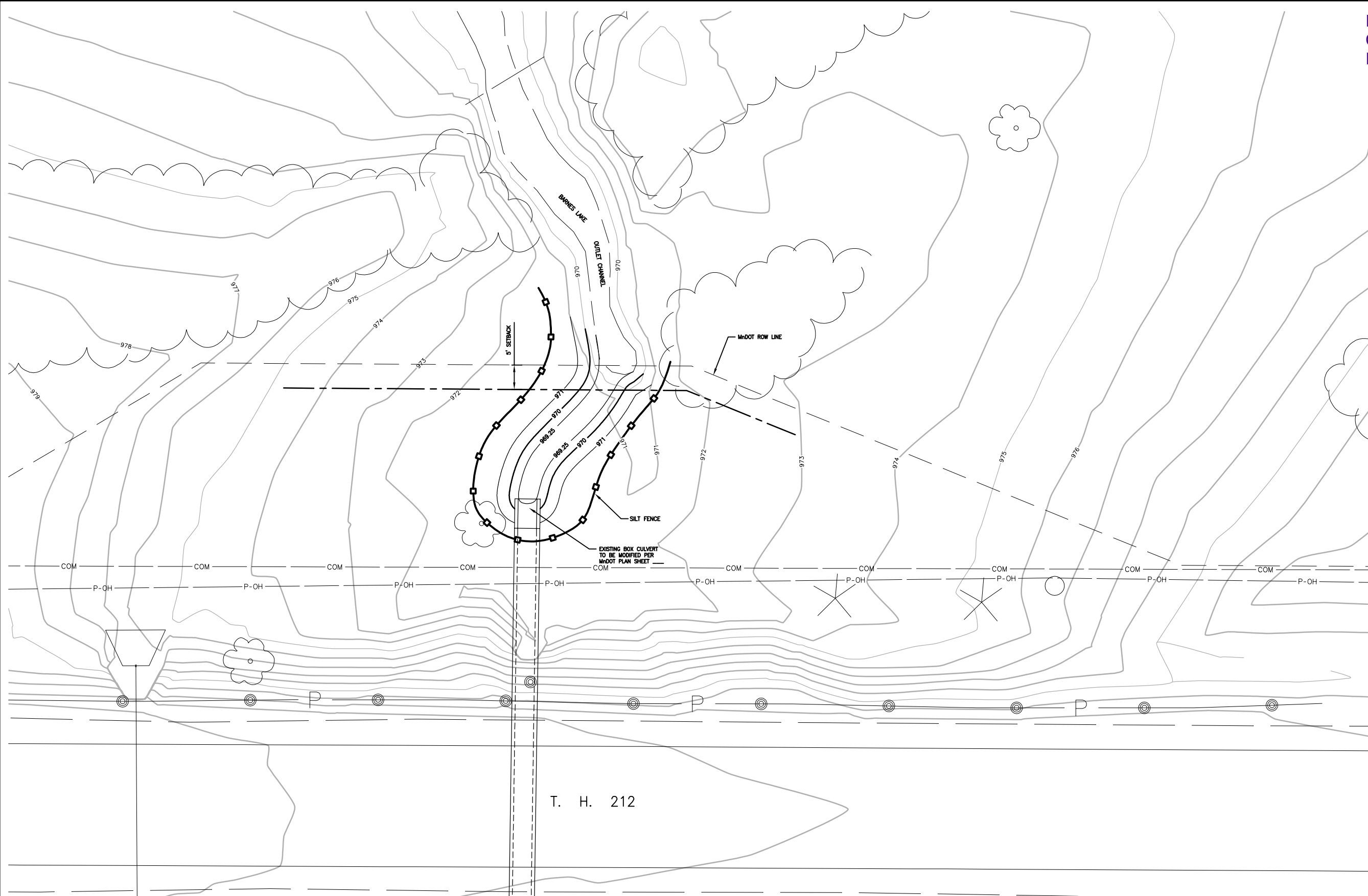
CERTIFIED BY Manjula P. Louis 4/22/11 DATE  
LICENSED PROFESSIONAL ENGINEER  
NAME: MANJULA P. LOUIS LIC. NO. 22499

TITLE: **CONCRETE WEIR**

DES: \_\_\_\_\_ DR: LKL APPROVED: \_\_\_\_\_  
CHK: \_\_\_\_\_ CHK: NKL  
SHEET NO. 1 OF 1 SHEETS

BRIDGE NO. S.P. 1013-73

Figure 3: Barnes Lake Outlet Construction Drawings  
Page 3 of 3



**LEGEND**

	975	PROPOSED CONTOURS
		SILT FENCE
	975	EXISTING CONTOURS
		EXISTING EASEMENT LINE
	COM	EXISTING COMMUNICATION LINE
	P-OH	EXISTING OVERHEAD POWER LINE

**GENERAL NOTE:**  
1. CONTRACTOR TO REMOVE TREES/MISCELLANEOUS BRUSH AND SCRUB WITHIN AREAS TO BE GRADED.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE

SEAL

PRIME CONSULTANT

© Wenck Associates, Inc.  
Consulting Engineers  
1800 PIONEER CREEK CENTER  
MAPLE PLAIN, MN 55359

Web Site: www.wenck.com  
763-479-4200  
763-479-4242

PROJECT TITLE  
**BARNES LAKE OUTLET**

CARVER COUNTY

SHEET TITLE			
<b>GRADING PLAN (BARNES LAKE OUTLET) (ALTERNATE)</b>			
DWN BY CVE	CHK'D KCT	APP'D KCT	DWG DATE MAY 2011
PROJECT NO. 1097-01	SHEET NO. C1	SCALE AS SHOWN	REV NO.





## Memorandum

SRF No. 11228.03

**To:** Darin Mielke, PE  
Carver County Public Works

**From:** Eric Roerish, PE  
Davis Redmond

**Date:** February 9, 2023

**Subject:** Replacement of TH 212 Box Culvert (TAMS ID 2188819) - Hydraulic analysis of proposed culvert crossing at the outlet of Barnes Lake.

### Introduction

SRF Consulting Group, Inc. has completed a hydraulic analysis of the Barnes Lake outlet under TH 212. The crossing is located in Carver County at the southern end of Barnes Lake, approximately 0.9 miles east of Norwood Young America. The roadway will be improved and widened, and the existing 4'Wx6'H cattle crossing will be replaced and extended to the south at the same crossing location. This memo discusses the hydraulic analysis of the proposed culvert replacement for TH 212 and includes the 'No-Rise' Certification.

### Existing Modeling

Barnes Lake is located north of TH 212. Barnes Lake outlets at the south end via a small channel, which is first regulated by an earthen berm with an 18" corrugated plastic culvert through it. This is immediately upstream of the TH 212 4'Wx6'H box culvert (former cattle pass) that is 100' long and has a 4' wide concrete weir with a crest elevation of 970.35' cast within the inlet apron. The weir dictates the normal water surface elevation of Barnes Lake, as well as regulates the 100-year floodplain elevation. From the downstream side of the culvert, the water is conveyed through drain tile and overland to the railroad culvert, and ultimately discharges to County Ditch Number Four A. The Minnesota Department of Natural Resources (DNR) 2011 Barnes Lake outlet permit for the weir implementation is attached. This further outlines the conveyance attributes upstream and downstream of the TH 212 culvert crossing.

There are three drainage areas draining through this crossing: 1) 679.25 acre area that encompasses Norwood Young America and some area to the north, 2) 47.84 acre area that encompasses a wetland to the west of Barnes Lake, and 3) 527.37 acre drainage area that drains directly to Barnes Lake.

Barnes Lake is designated as a Zone A on FIRM 27019C0170D with no 100-year water surface elevation (WSEL) listed. The FIRMette is attached. Review of the DNR Lake & Flood Elevations Online (<https://arcgis.dnr.state.mn.us/ewr/lfeo/lat/44.7724/lng/-93.8914/z/16>), indicates that Barnes Lake has a 100-year WSEL of 971.80' (NAVD 88) with a Study Date of 12/20/2018. A screen capture is attached.

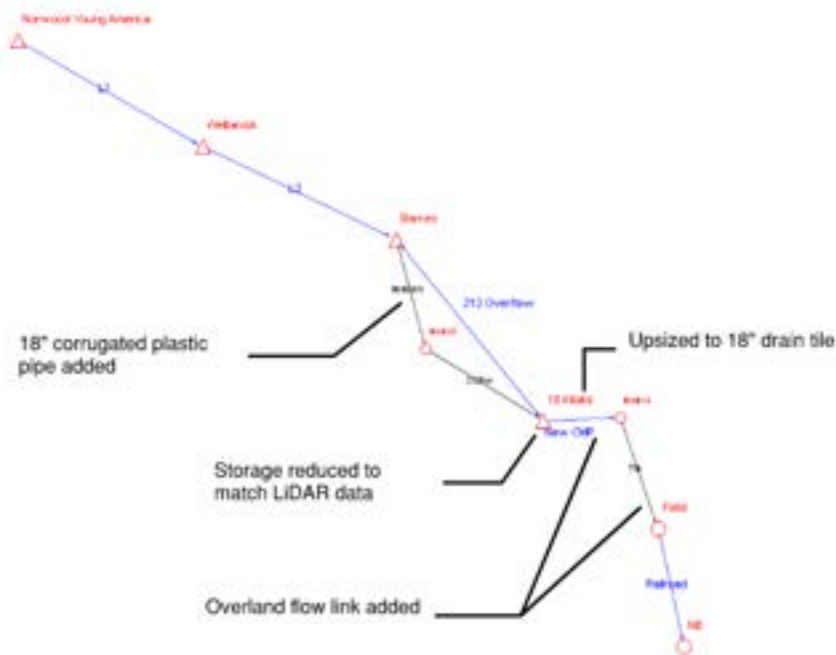
## Duplicate Effective

The Duplicate Effective XP-SWMM model was received from the Carver County Watershed Management Organization (CCWMO) on 10/05/2022. The model produced a 100-year WSEL for Barnes Lake of 971.87', which is 0.07' higher than the value provided by the DNR. (See table below)

## Corrected Effective

Review of the Duplicate Effective model indicated that it did not match the 2011 Barnes Lake outlet permit or current survey data in several locations. As such, the Corrected Effective model was created based off the Effective Model to better represent the current and permitted conditions. The following changes were made:

- The 18" pipe through the upstream berm proposed in the 2011 permit was added.
- The storage at the downstream side of the box culvert was downsized to match existing conditions derived from LiDAR data. The Duplicate Effective model over estimated storage.
- The 12" drain tile at the downstream outlet was upsized to 18" to match the 2011 permit.
- An earthen weir at the 18" downstream drain tile inlet was added to represent overland flow when the storage pocket at the downstream side of the box culvert is full.
- A link was added in conjunction with the downstream drain tile to model the overland flow through the field to the railroad ditch. This replaced the overestimated storage at the box culvert outlet.



With these updates implemented in the model, a 100-year WSEL of 971.86' was simulated, which is 0.06' higher than the DNR published value and 0.01' less than the Duplicate Effective model.

## Proposed Conditions

Review of the Corrected Effective model suggested that the 4'Wx6'H box culvert is not the controlling hydraulic factor and that it can be downsized as part of the TH 212 road expansion. It appears that the weir, in conjunction to the large storage area of Barnes Lake, is the major control over the 100-year WSEL. To assess the options and simulate the impacts to Barnes Lake's 100-year WSEL by reducing the culvert size, a Proposed Model was developed from the Corrected Effective model. Through this exercise it was determined that a 36" diameter reinforced concrete pipe (RCP), 240' long and set at the same inlet and outlet elevations as the 4'Wx6'H box culvert will not impact the 100-year WSEL. The proposed pipe will be extended to the south and the Barnes Lake 4' weir outlet will remain in the same location and elevation.

High water elevations for the 5-year, 10-year, and 100-year storm events were collected from the XP-SWMM models and are shown below.

<b>Barnes Lake</b>	<b>5-Year (ft)</b>	<b>10-Year (ft)</b>	<b>100-Year (ft)</b>
<b>Duplicate Existing HW Elevation</b>	970.94	971.15	971.87
<b>Corrected Existing HW Elevation</b>	970.90	971.12	971.86
<b>Proposed HW Elevation</b>	970.90	971.13	971.86

Based on the 100-year WSEL result, the proposed culvert replacement will comply with FEMA and MnDNR requirements for 'No-Rise' Certification (attached).

EDR/DGR

Attachments (4): 'No-Rise' Certification  
FIRMette  
DNR Lake & Flood Elevation  
2011 Barnes Lake Outlet Permit (DNR)

CC: Salam Murtada, MnDNR  
Taylor Huinker, MnDNR  
Patty Fowler, MnDNR/MnDOT

Source:

"H:\Projects\11000\11228.03\WaterResources\DOC\Hydraulic Memo and No-Rise\11228.03\_Hydraulic\_Memo\_BarnesLake-212.docx"



## MINNESOTA "NO-RISE" CERTIFICATION

This is to certify that I am a duly qualified professional engineer licensed to practice in the State of Minnesota.

It is further to certify that the attached technical data supports the fact that the proposal to replace the Barnes Lake outlet box culvert (*development name / short project description*)

will not impact the floodway width or 100-year flood elevation (will not raise or lower by more than 0.00 feet) on Barnes Lake, (*Name of stream*) at published sections in the Flood Insurance Study for Carver County, Map Number 27019C0170D, (*Name of Community*) dated December 11 2016 (*Study Date*) and will not impact the 100-year flood elevation (will not raise or lower by more than 0.00 feet) at unpublished cross-sections in the vicinity of the proposed development / project.

Attached are the following documents that support my findings:

Memorandum and associated attachments (XP-SWMM output data and FIRMette)

---

Date: February 10, 2023

Signature:  License # 53569 {SEAL}

Title: Director, SRF Consulting Group, Inc.



**Carver County Planning and Zoning**

Government Center – Administration Building

600 East 4<sup>th</sup> Street

Chaska, Minnesota 55318

Phone: (952)361-1820

Fax: (952)361-1828

[www.co.carver.mn.us/water](http://www.co.carver.mn.us/water)

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## Memo

**To:** Jack Gleason  
**From:** Paul Moline, County Watershed Administrator  
**Date:** June 13, 2011  
**Re:** Barnes Lake Outlet Permitting

Enclosures: Application w/ attachments

---

Attached you will find an application for reconstruction of the Barnes Lake outlet in Carver County.

During the last decade the run-out elevation of Barnes Lake has been lowered in two steps to the current elevation of approximately 967.0 feet, without permits from the MnDNR. The intent of the reconstruction is to restore the run-out elevation of Barnes Lake to historical level, which was observed by MnDNR in 1994 to be 970.1 feet.

Carver County has examined the Barnes Lake watershed during its watershed planning and has determined that the above described action is necessary for the following reasons: 1) to restore the OHW of the lake and 2) ensure that the lake levels can not be altered by private parties in the future.

There have been several proposals for the reconstruction of the lake outlet over the last five years. The project has had to consider the needs and comments of the County, local landowners and MnDOT due to the proximity of the proposed project to the right-of-way for Hwy 212. The final agreed upon project includes the installation of a sharp-crested weir within the existing MnDOT box-culvert.

Attached to this memo are the following:

- Application Form
- Construction Drawings for the proposed project including the following:
  - o Primary Grading Plan prepared by Wenck Associates
  - o Weir design prepared by MnDOT
  - o Alternate Grading Plan which will be followed if the landowner consents to allowing work on his property, prepared by Wenck Associates
- An outlet analysis memo prepared by Wenck Associates that details the results of XP-SWMM modeling to document the OHW as well as the 5-yr, 10-yr and 100-yr run-out elevations.

If you have any questions or concerns regarding the above requests or should you require any further documentation to complete this permit application, please do not hesitate to contact me.

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# **DNR Application**

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# Minnesota Local/State/Federal Application Forms for Water/Wetland Projects

## USE THIS APPLICATION FOR ANY PROJECT AFFECTING A LAKE, RIVER, STREAM OR WETLAND, INCLUDING:

Local Government Unit Approval Pursuant to Minnesota Wetlands Conservation Act (WCA)  
 Minnesota Department of Natural Resources (DNR) Permit to Work in Public Waters  
 Department of the Army Permit (33 CFR 325)

Note: The U.S. Army Corps of Engineers (COE) will forward application forms to the Minnesota Pollution Control Agency (MPCA) for processing if state water quality certification is required from the MPCA. You **do not** need to send this application to the MPCA.

This application packet includes :

**Part I:** The **BASIC APPLICATION** and the **COE APPLICATION** to be filled out by all applicants (see Instructions).

**PART II:** The **REPLACEMENT PLAN SUPPLEMENT** to be completed *only for* projects that impact wetlands and require a replacement plan for wetland mitigation. **If you're not sure** whether your project requires a replacement plan, call your Local Government Unit (LGU) or Soil and Water Conservation District (SWCD) office for guidance.

**Do not proceed with your project** until you have received all required approvals from your LGU, the DNR and the COE. If you wish to confirm the status of your application at any time, contact the agencies directly (see Instructions, page 2). **Proceeding with work before all required authorizations are obtained may result in fines or other penalties, and may include a requirement to restore the project site to original condition.**

**If you have questions or need assistance** with filling out these forms, contact your local SWCD office, your LGU, your Area DNR Waters office, or your COE field office (see Instructions, page 2).

**If you believe that your project may be subject to watershed district, local zoning, or any other local regulations besides those of your LGU,** contact those office(s) directly. **If you are a Federal Farm Program participant** and your project affects a wetland or water body on agricultural land, your eligibility for USDA benefits may be affected. Contact a Natural Resources Conservation Service office for further information.

## A QUICK LOOK AT THE PROJECT APPLICATION PROCESS

**Electronic files:** Forms can be downloaded and filled out using Microsoft Word. Your input will be restricted to fill-in fields where users can enter text or check boxes. These areas appear gray on the screen, but not on the printed document.

Send copies of these completed application forms to your LGU, your Area DNR Waters office, and your COE regulatory office.

Any of the agencies may make initial contact with you to: a) inform you that it has no jurisdiction over your project; b) request additional information needed; or c) inform you of applicable fees.

When your application is considered complete and appropriate fees have been received (if requested) it will be distributed for appropriate review.

Following agencies' reviews, you will be informed if it has been approved, approved with changes or conditions, withdrawn, or denied.

For information about state laws, rules and regulations that direct this process go to the web site [www.revisor.leg.state.mn.us](http://www.revisor.leg.state.mn.us). For information on U.S. Army Corps of Engineers regulations go to the web site [www.mvp.usace.army.mil](http://www.mvp.usace.army.mil).

## Instructions for Part I

**HELP 1: Every applicant must fill out Section 1.** The applicant is the person, agency, company, corporation, or other organization that owns, leases, or holds other legal rights to the land where the project is located. Indicate names of multiple applicants on a separate sheet.

**HELP 1A: Fill out Section 1A only if you have designated an authorized agent.** An authorized agent may be an attorney, builder, consultant, contractor, engineer, or any other person or organization designated by the applicant to represent him/her in this process. An agent is not required.

**HELP 5: Purpose, description and dimensions of project:** State briefly (in a sentence or two) what you propose to do and why it is needed.

Also, describe whether your project will involve any of the following:

- Construction of structures, filling, draining, dewatering, removing, excavating or repair.
- Construction of an access path, bridge, culvert, dam, ditch, dock, driveway, riprap, road, sand blanket, shore protection, or tile line.
- Construction of any structures on fill, piles or a float-supported platform. If so, describe.
- Dredging or discharging (placing fill material) into a wetland or other water body (including the temporary placement of material). If so, explain the specific purpose of the placement of the material (such as erosion control) and indicate how it will be done (such as with a backhoe or dragline). If dredged material is to be discharged on an upland site, identify the location of the site.

**Include an overhead view drawing showing the work to be undertaken and its relative location on the property.** Show items such as property boundaries or lot dimensions; location and extent of shoreline, wetlands and water; location and dimensions and footprint of the proposed project, structure or activity (include length, width, elevation and other measurements as appropriate); points of reference such as existing homes, structures, docks or landscape features; indication of north; and location of spoil and disposal sites (if applicable). Hand drawn, computer generated or professionally prepared drawings are acceptable, as long as they contain all necessary information clearly, accurately, and in adequate detail. Please include specific dimensions whenever possible. You may also include photos, if you wish. Paper copies should be limited to maximum dimensions of 11" by 17". Computer files should be viewable in a PDF format; contact the agency for other usable formats.

**HELP 7: For information regarding adjacent landowners,** contact the tax assessor where the project is to be developed.

**HELP 8: If any part of the work has already been completed,** describe the area already developed. Include a description of structures completed; any dredged or fill material already discharged (including type of material and volume in cubic yards); acres or square feet filled (if a wetland or other water body); and whether the work was done under an existing permit (if so identify the authorization, if possible).

**HELP 9: Other permits, reviews or approval related to the project may include the following:** conditional use permit; plat approval; zoning variance; National Pollutant Discharge Elimination System permit; state disposal system permit (includes dredged material disposal); watershed district/watershed management organization permit (stormwater, erosion, floodplain); environmental assessment worksheet/environmental impact statement; hazardous waste site; feedlot permit; groundwater appropriation permit; or county/township driveway/road permit. Are you aware of any archeological or cultural resource determinations or surveys completed concerning the project or replacement site by the State Historic Preservation Office (SHPO) or others? If yes, please explain on a separate sheet or attach a copy of any determinations or surveys.

### **Final Checklists (Part I)**

- Have you completed all of Part I** (Page 1), plus the Federal application (Page 2)?
- Did you (and your agent, if applicable) sign Section 10** on page 1?
- Have you signed the Application for the Department of the Army Permit** (Page 2) to seek Federal authorization of your project?
- Have you included the necessary attachments for Part I?**

**Attachments must include:**

- Site Locator Map (Section 3)
- Type of Project (Section 4) (if additional space was needed)
- Overhead View of Project (Section 5 and HELP 5)
- Project Purpose, Description and Dimensions (Section 5) (if additional space was needed)

**Attachments may also include:**

- Applicant Contact Information (HELP 1) (if additional space was needed)
- Project Location (Section 3) (if additional space was needed)
- Project Alternatives (Section 6) (if additional space was needed)
- Photographs
- Adjoining Property Owners (Section 7) (if additional space was needed)
- Work Already Completed Section (Section 8) (if you answered YES)
- State Historic Preservation Office determination or survey

### **Submitting Your Application**

**Make three copies of the entire application and all attachments.** Keep the original, and mail a complete copy of your application to each of the local, state, and Federal entities listed below. Be sure to include Part I and all attachments with each application.

**LOCAL:** Send to the appropriate Local Government Unit (LGU). If necessary, contact your county Soil and Water Conservation District (SWCD) office or visit the Board of Water and Soil Resources (BWSR) web site ([www.bwsr.state.mn.us](http://www.bwsr.state.mn.us)) to determine the appropriate LGU.

**STATE:** Send to your Area DNR Waters office, attention Area Hydrologist. If necessary, contact your county Soil and Water Conservation District (SWCD) office or visit the DNR website ([www.dnr.state.mn.us](http://www.dnr.state.mn.us)) to locate the Area Hydrologist for your location, or contact a Regional DNR office:

<b>NW Region:</b>	<b>NE Region:</b>	<b>Central Region:</b>	<b>Southern Region:</b>
2115 Birchmont Beach Road N.E. Bemidji, MN 56601 Phone: 218-755-3973	1201 East Highway 2 Grand Rapids, MN 55744 Phone: 218-327-4416	1200 Warner Road St. Paul, MN 55106 Phone: 651-772-7910	261 Highway 15 South New Ulm, MN 56073 Phone: 507 359-6053

**FEDERAL:** Send to the appropriate U.S. Army Corps of Engineers regulatory field office:

<b>Brainerd:</b> U.S. COE, Regulatory Branch 10867 E. Gull Lake Drive N.W. Brainerd, MN 56401-9051 Phone: 218-829-8402	<b>St. Paul:</b> U.S. COE, Regulatory Branch Army Corps of Engineers Centre 190 5 <sup>th</sup> Street East St. Paul, MN 55101-9051 Phone: 651-290-5375	<b>La Crescent:</b> U.S. COE, Regulatory Branch 1114 South Oak Street La Crescent, MN 55947-1338 Phone: 507-895-8059	<b>Two Harbors:</b> U.S. COE, Regulatory Branch 1554 Highway 2, Suite 2 Two Harbors, MN 55616 Phone: 218-834-6630
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**WEB SITES:** BWSR: [www.bwsr.state.mn.us](http://www.bwsr.state.mn.us)    U.S. ACOE: [www.mvp.usace.army.mil](http://www.mvp.usace.army.mil)    DNR: [www.dnr.state.mn.us](http://www.dnr.state.mn.us)    MPCA: [www.pca.state.mn.us](http://www.pca.state.mn.us)

# Minnesota Local/State/Federal Application Form for Water/Wetland Projects

<b>For Internal Use Only</b>			
Application No.	Field Office Code	Date Initial Application Received	Date initial Application Deemed Complete

## PART I: BASIC APPLICATION

“See **HELP**” directs you to important additional information and assistance in Instructions, Page 1.

**1. LANDOWNER/APPLICANT CONTACT INFORMATION (See Help 1)**

Name: Carver County Phone: 952-361-1825 E-mail:  
 Complete mailing address: Government Center Administration Building, 600 East 4<sup>th</sup> Street, Chaska, MN 55318

**1A. AUTHORIZED AGENT (See Help 1A) (Only if applicable; an agent is not required)**

Name: Paul Moline, Watershed Administrator Phone: 952-361-1825 E-mail: PMoline@co.carver.mn.us  
 Complete mailing address: Government Center Administration Building, 600 East 4th Street, Chaska, MN 55318

**2. NAME, TYPE AND SIZE OF PUBLIC WATERS or WETLANDS IMPACTED (Attach Additional Project Area sheets if needed)**

Name or I.D. # of Waters Impacted (if applicable; if known): Barnes Lake, 10-0109  
 (Check all that apply):  Lake  River  Circular 39 Wetland type:  1,  1L,  2,  3,  4,  5,  6,  7,  8

**Wetland plant community type<sup>1</sup>:**  shallow open water,  deep marsh,  shallow marsh,  sedge meadow,  fresh meadow,  
 wet to wet-mesic prairie,  calcareous fen,  open bog or coniferous bog,  shrub-carr/alder thicket,  
 hardwood swamp or coniferous swamp,  floodplain forest,  seasonally flooded basin

Indicate size of entire lake or wetland (check one):  Less than 10 acres (indicate size: )  10 to 40 acres  Greater than 40 acres

**3. PROJECT LOCATION (Information can be found on property tax statement, property title or title insurance):**

Project street address: Fire #: City (if applicable): Young America  
 ¼ Section: Section: Township #: Range #: County: Carver  
 Lot #: Block: Subdivision: Watershed (name or #) UTM location: N 44.77500 E 93.89443

Attach a simple site locator map. If needed, include on the map written directions to the site from a known location or landmark, and provide distances from known locations. Label the sheet *SITE LOCATOR MAP*.

**4. TYPE OF PROJECT:** Describe the type of proposed work. Attach *TYPE OF PROJECT* sheet if needed.  
 See attached.

**5. PROJECT PURPOSE, DESCRIPTION AND DIMENSIONS:** Describe what you plan to do and why it is needed, how you plan to construct the project with dimensions (length, width, depth), area of impact, and when you propose to construct the project. **This is the most important part of your application. See HELP 5 before completing this section; see What To Include on Plans** (Instructions, page 1). Attach *PROJECT DESCRIPTION* sheet.  
 See attached.

Footprint of project: acres or square feet drained, filled or excavated.

**6. PROJECT ALTERNATIVES:** What alternatives to this proposed project have you considered that would avoid or minimize impacts to wetlands or waters? List at least **TWO** additional alternatives to your project in Section 5 that avoid wetlands (one of which may be “no build” or “do nothing”), and explain why you chose to pursue the option described in this application over these alternatives. Attach *PROJECT ALTERNATIVES* sheet if needed.  
 See attached.

**7. ADJOINING PROPERTY OWNERS:** For projects that impact more than 10,000 square feet of water or wetlands, list the complete mailing addresses of adjacent property owners on an attached separate sheet. (See **HELP 7**)

**8. PORTION OF WORK COMPLETED:** Is any portion of the work in wetland or water areas already completed?  Yes  No. If yes, describe the completed work on a separate sheet of paper labeled **WORK ALREADY COMPLETED**. (See **HELP 8**)

**9. STATUS OF OTHER APPROVALS:** List any other permits, reviews or approvals related to this proposed project that are either **pending** or **have already been approved or denied on a separate attached sheet**. See **HELP 9**.

**10. I am applying for state and local authorization** to conduct the work described in this application. I am familiar with the information contained in this application. To the best of my knowledge and belief, all information in Part I is true, complete, and accurate. I possess the authority to undertake the work described, or I am acting as the duly authorized agent of the applicant.

\_\_\_\_\_  
*Signature of applicant (Landowner)*                      *Date*                      *Signature of agent (if applicable)*                      *Date*

This block must be signed by the person who desires to undertake the proposed activity and has the necessary property rights to do so. If only the Agent has signed, please attach a separate sheet signed by the landowner, giving necessary authorization to the Agent.

<sup>1</sup>See *Wetland Plants and Plant Communities of Minnesota and Wisconsin (Eggers and Reed, 1997)* as modified by the Board of Water and Soil Resources, United States Army Corps of Engineers.



The public burden for this collection of information is estimated to average 10 hours per response, although the majority of applications should require 5 hours or less. This includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003), Washington, DC 20503. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of these addresses. Completed applications must be submitted to the District engineer having jurisdiction over the location of the proposed activity.

**PRIVACY ACT STATEMENT:** Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research and Sanctuaries Act, 33 USC 1413, Section 103. Principal purpose: Information provided on this form will be used in evaluating the application for a permit. Routine uses: This information may be shared with the Department of Justice and other Federal, state, and local government agencies. Submission of requested information is voluntary; however, if information is not provided, the permit application cannot be evaluated nor can a permit be issued.

## ITEMS 1 THROUGH 4 TO BE FILLED IN BY THE CORPS

1. APPLICATION NO.

2. FIELD OFFICE CODE

3. DATE RECEIVED

4. DATE APPLICATION COMPLETED

**YOU DO NOT NEED TO COMPLETE ITEMS 6-10 and 12-25 in the SHADED AREAS.**

All applicants must complete **non-shaded** items 5 and 26. If an agent is used, **also** complete items 8 and 11. This optional Federal form is valid for use **only** when included as part of this entire state application packet.

5. APPLICANT'S NAME  
Carver County8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required)  
Paul Moline, Watershed Administrator

6. APPLICANT'S ADDRESS

9. AGENT'S ADDRESS

7. APPLICANT'S PHONE NO.

10. AGENT'S PHONE NO.

**11. STATEMENT OF AUTHORIZATION** (if applicable; complete **only** if authorizing an agent)

I hereby authorize \_\_\_\_\_ to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

12. PROJECT NAME OR TITLE (see instructions)	
13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
15. LOCATION OF PROJECT	
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)	
17. DIRECTIONS TO THE SITE	18. NATURE OF ACTIVITY
19. PROJECT PURPOSE	20. REASON(S) FOR DISCHARGE
21. TYPES OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS	
22. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED	
23. IS ANY PORTION OF THE WORK ALREADY COMPLETE? YES _____ NO ____ IF YES, DESCRIBE COMPLETED WORK.	
24. ADDRESSES OF ADJOINING PROPERTY OWNERS,	
25. LIST OF OTHER CERTIFICATIONS OR APPROVALS/DENIALS RECEIVED FROM OTHER FEDERAL, STATE OR LOCAL AGENCIES FOR WORK DESCRIBED IN THIS APPLICATION.	

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Signature of applicant \_\_\_\_\_

Date \_\_\_\_\_

Signature of agent (if any) \_\_\_\_\_

Date \_\_\_\_\_

The application must be signed by the person who desires to undertake the proposed activity (applicant), or it may be signed by a duly authorized agent if the statement in Block 11 has been filled out and signed. **18 U.S.C. Section 1001** provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up with any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

ENG FORM 4345, Jul 97

EDITION OF FEB 94 IS OBSOLETE.

(Proponent: CECW-OR)

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**FOR LGU USE ONLY:**

**Determination for Part 1:**

- No WCA Jurisdiction
- Exempt: No. \_\_\_\_ (per MN Rule 8420.0122)
- No Loss: \_\_\_\_ (A,B, . . .G, per MN Rule 8420.0220)
- Wetland Boundary or type
- Replacement required – applicant must complete Part II

**COMPLETE THE SECTION BELOW ONLY IF REPLACEMENT IS NOT REQUIRED:**

Application is (check one):  Approved  Approved with conditions (conditions attached)  Denied

Comments/Findings: \_\_\_\_\_

\_\_\_\_\_  
*LGU official signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Name and Title*

**For Agricultural and Drainage exemptions (MN Rule 8420.0122 Subps. 1 and 2B), LGU has received proof of recording of restrictions (per MN Rule 8420.0115):**

\_\_\_\_\_  
*County where recorded*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Document # assigned by recorder*

\_\_\_\_\_  
*LGU official signature*

\_\_\_\_\_  
*Date*

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## **Technical Memo with Model Results**

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## **TECHNICAL MEMORANDUM**

**TO:** Paul Moline, Carver County

**FROM:** Todd Shoemaker, P.E.  
Kent Torve, P.E.

**DATE:** August 4, 2010

**SUBJECT:** Barnes Lake Outlet Analysis

**CC:**

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Wenck understands that Carver County wishes to replace the existing Barnes Lake outlet. The existing outlet is a deteriorated 15-inch clay tile that runs from Barnes Lake to the south under US Highway 212 and daylights on the south side of Highway 212. Wenck recommends that Carver County install an 18" reinforced concrete pipe (RCP) as the new outlet for the lake.

### **BACKGROUND**

During the last decade, the run-out elevation of Barnes Lake has been lowered in two steps without permits from the Minnesota Department of Natural Resources (DNR) to the current elevation of approximately 967.0. The intent of reconstruction is to restore the run-out elevation of Barnes Lake to the historical level.

Classified as a DNR Public Water, replacing the outlet requires that Carver County obtain a permit from the DNR to conduct the work. This memorandum accompanies the permit application to further describe the project location, type, purpose, and alternatives per the DNR permit application requirements.

### **PROJECT LOCATION**

Barnes Lake is located in Carver County just east of the City of Young America (Figure 1). Young America Lake is located upstream, and Barnes Lake discharges to the county ditch system south of the railroad adjacent to Highway 212.

The Minnesota Pollution Control Agency (MPCA) website indicates that Barnes Lake has a surface area of approximately 99 acres. The DNR has assigned it identification number 10-0109.

## **PROJECT TYPE**

The project type is considered a repair and maintenance project. The current outlet pipe has deteriorated significantly, has been crushed in some locations, and requires regular maintenance to prevent debris from clogging the outlet. The proposed work will abandon the existing agricultural draitile and install a new reinforced concrete pipe to serve as the outlet.

## **PROJECT PURPOSE**

Carver County has examined the Barnes Lake watershed during its watershed planning and has determined that action is necessary:

1. To reduce sustained high lake elevations,
2. To restore the OHW of the lake, and
3. To ensure that lake levels cannot be altered by private parties in the future.

## **PROJECT DESCRIPTION**

Existing Outlet. The existing discharge capacity of the Barnes Lake outlet is controlled by four main features:

1. The lake drains over its bank into a small channel which leads to the open end of an 18-inch drain tile.
2. The drain tile leads under US Hwy 212 to approximately 750 feet of drain tile that discharges to a culvert under the railroad.
3. There is a large box culvert (4' x 6') under US Hwy 212 with an upstream invert elevation of 967.1 and a downstream invert elevation of 967.08. However, an earthen berm to elevation approximately 971.5 separates the 18-inch drain tile from the box culvert.
4. There is an additional 12-inch drop inlet to the drain tile on the south side of US Hwy 212. Water impounded at that point must reach elevation 972.7 before it begins to flow overland to the railroad culvert. Therefore, until the lake reaches 972.7, the drain tile is the only conduit for water to reach the railroad culvert.

OHW Determination. The DNR determined the OHW elevation for Barnes Lake in September 1994 and December 2004. On both occasions, the OHW was found to be 971.0. The determination was made based on physical indicators around the lakeshore

such as locations of trees and aquatic vegetation. Therefore, the OHW is independent of the previous attempts to lower the run-out elevation and is indicative of the long-term elevation of the lake.

Water Level Measurements. The DNR “Lake Finder” reports only two water level measurements for the lake. Therefore, there is not sufficient data to plot a lake level hydrograph and compare it to the OHW, 5-, 10-, and 100-year water levels.

XP-SWMM Model. According to the DNR, the new outlet must perform such that the peak elevations for the 5- and 10-year storm events “bracket” the OHW elevation. Wenck constructed an XP-SWMM computer model to evaluate the adequacy of the Barnes Lake outlet and compared peak elevations with the OHW. XP-SWMM was necessary to evaluate the combined effect of multiple controlling structures on the outlet and relatively flat pipe slopes.

The hydrologic model was constructed according to the SCS Curve Number method with the inputs listed in Table 1. The watershed boundaries are shown in Figure 2.

**Table 1. Hydrologic input data for the Barnes Lake XP-SWMM model.**

<b>Watershed</b>	<b>Number of Subwatersheds</b>	<b>Total Area (ac)</b>	<b>Average Curve Number</b>	<b>Discharges To:</b>
Young America Lake	5	679.15	77	Wetland A
Wetland A	1	47.84	80	Barnes Lake
Barnes Lake	3	527.37	78	Field South of Hwy 212
Field	1	19.81	70	County Ditch No. 5
<b>Total</b>		<b>1,274.17</b>		

Wenck executed the XP-SWMM model for three rainfall depths: 5-year (3.55 inches), 10-year (4.20 inches), and 100-year (5.95 inches). The duration for each storm was 24 hours, and the rainfall was fit to a Type II distribution.

Design Recommendations. Design recommendations for the reconstructed outlet include:

1. Installation of an 18-inch RCP at elevation 967.3 with the inlet near the existing drain tile inlet and the outlet near the existing 4' x 6' box culvert.
2. Maintain the earthen berm (elevation approximately 971.5) between the 18-inch RCP inlet and 4' x 6' box culvert inlet.
3. Adjust in-place drain tile inlet standpipe downstream (south) of 4' x 6' box culvert from elevation 969.6 to 967.25.

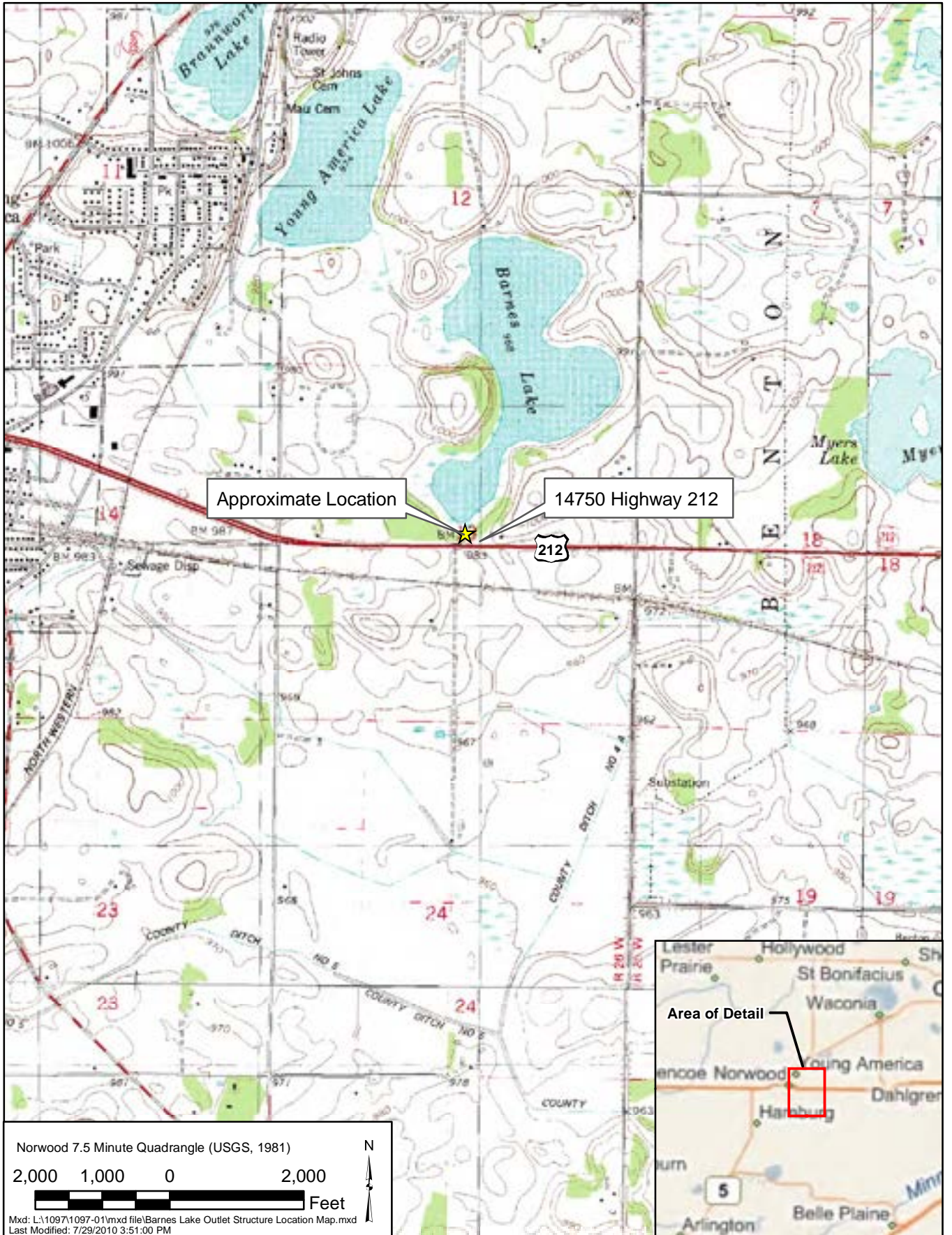


4. Increase 12-inch drain tile downstream (south) of US Hwy 212 to 18-inch diameter.

Table 2 summarizes the results of these design recommendations. Figures 3 and 4 show the proposed work in plan and profile views.

**Table 2. Water level elevations for the Barnes Lake XP-SWMM model.**

<b>Storm Event</b>	<b>Barnes Starting Elevation (ft, NGVD)</b>	<b>Barnes Peak Elevation (ft, NGVD)</b>	<b>Barnes Peak Discharge (cfs)</b>
OHW	971.0		--
5-year	970.3	970.9	6.2
10-year	970.3	971.1	6.5
100-year	970.3	971.7	7.3



CARVER COUNTY

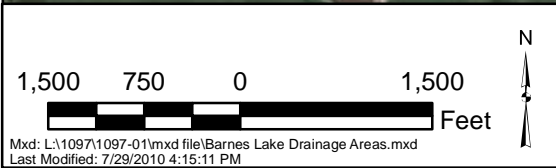
Barnes Lake Outlet Structure Location Map

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Environmental Engineers Maple Plain, MN 55359-0429

JULY 2010

Figure 1



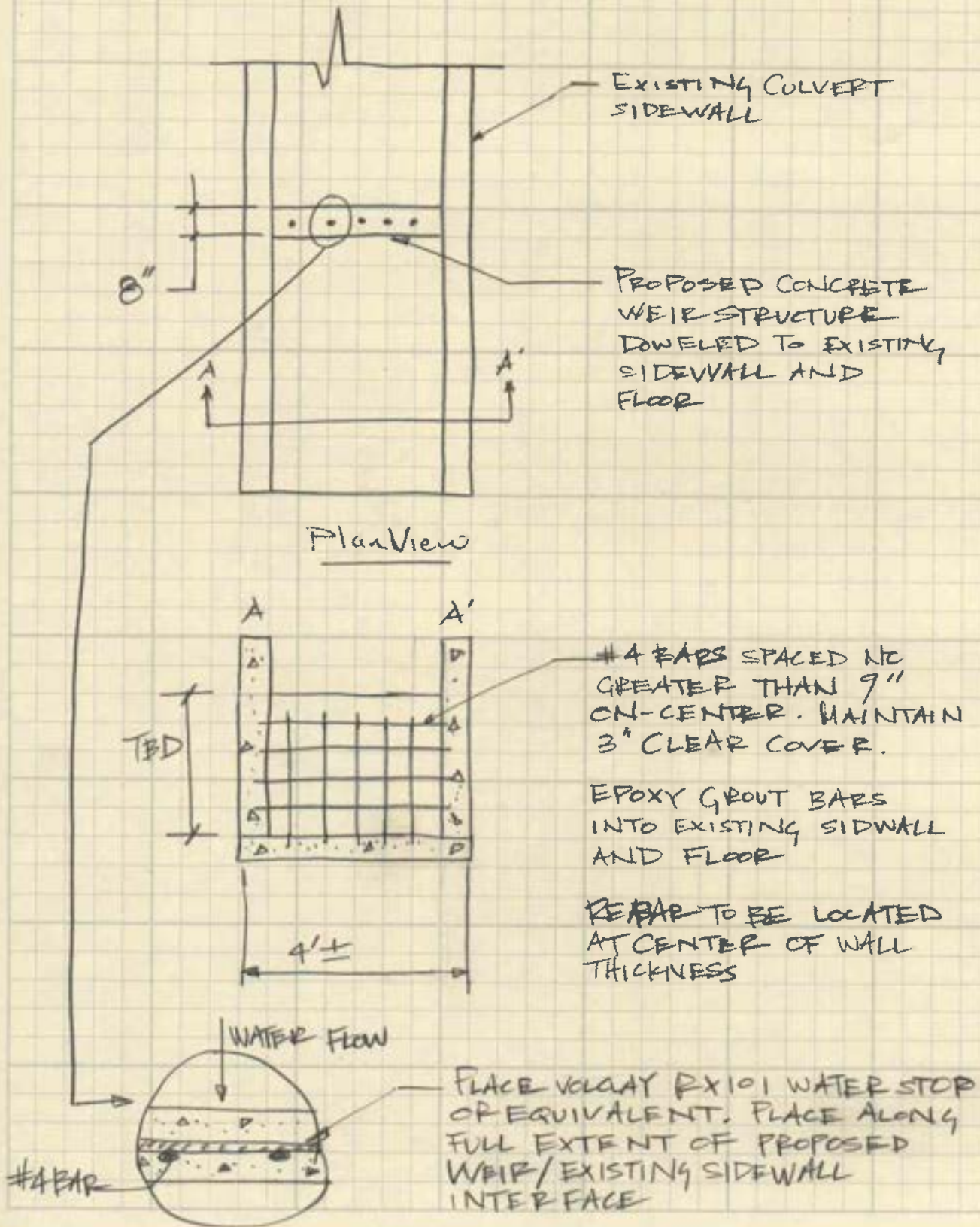


CARVER COUNTY  
Barnes Lake Drainage Areas

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Figure 2

Figure 3. Structural design of Barnes Lake outlet weir.







8-inch Poured  
Weir @ Elev  
970.35

Flow →

Figure 4. Concept design of Barnes Lake outlet weir.

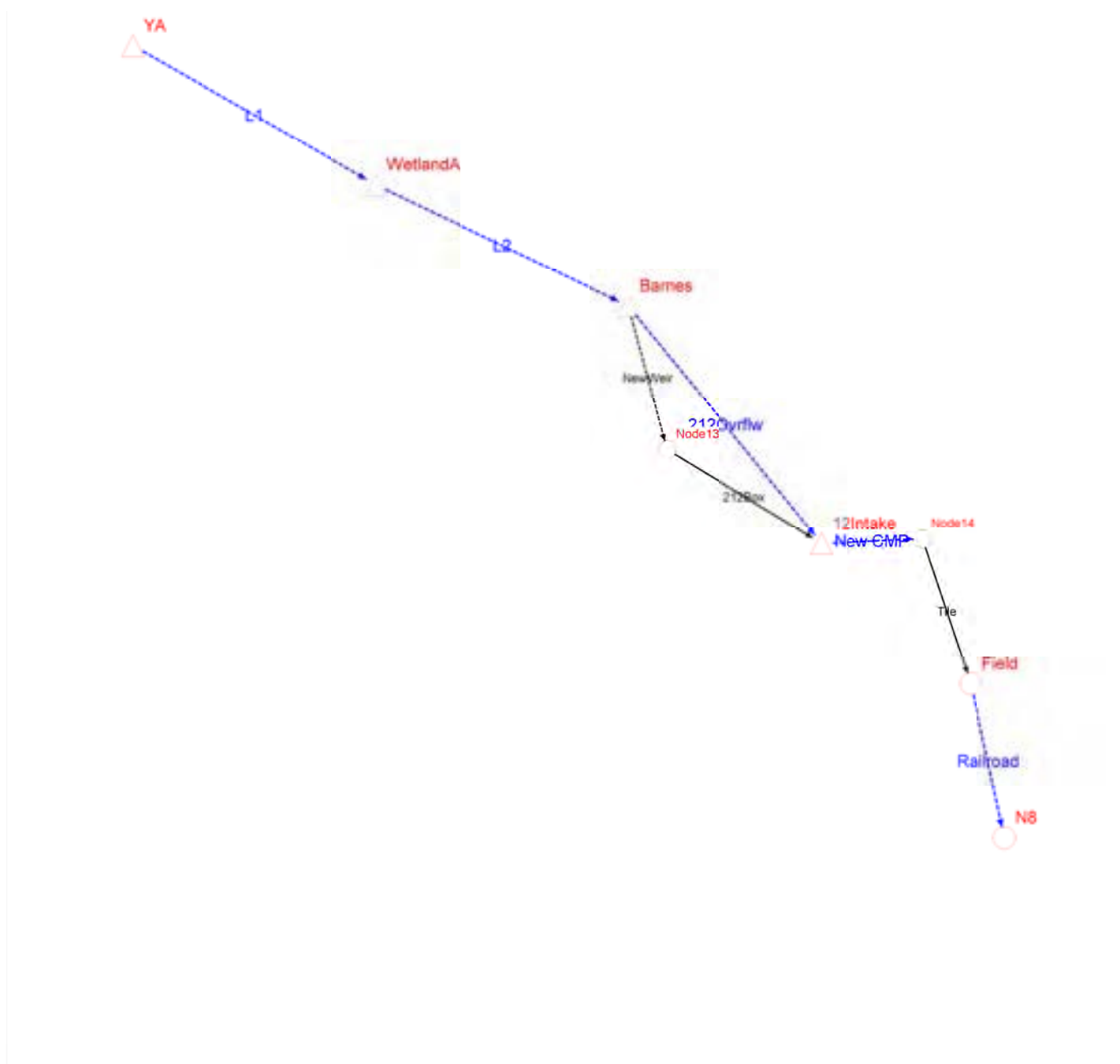


Figure 5. XP-SWMM model diagram for Barnes Lake.