



Kimley-Horn
and Associates, Inc

2550 University Avenue West
Suite 345N
St. Paul, Minnesota 55114

TEL 651 645 4197
FAX 651 645 5116

DATE: January 7, 2010

TO: TH 212 Technical Advisory Committee members, and
Minnesota Environmental Quality Board distribution list

FROM: Beth Kunkel, Kimley-Horn and Associates (on behalf of Mn/DOT)

SUBJECT: *Trunk Highway 212 Improvements from the Cologne Bypass to CSAH 11*
Environmental Assessment/ Environmental Assessment Worksheet - Notice of Availability

On behalf of the Minnesota Department of Transportation, the enclosed Environmental Assessment/
Environmental Assessment Worksheet (EA/EAW) for the segment of TH 212 between the Cologne Bypass and
CSAH 11 in Carver, MN is provided for your review.

The project includes the widening of approximately 4.7 miles of TH 212 from a two-lane, undivided highway to
a four-lane, divided highway between the Cologne Bypass and CSAH 11. The project would be partially
constructed on a new horizontal alignment, but generally follows an alignment studied in a 1993 Final
Environmental Impact Statement (FEIS). A footprint for a new interchange is also being evaluated at County
Road 43. The EA/EAW documents the purpose and need of the project, along with the anticipated social,
economic and environmental impacts. The completion of this environmental review process will allow for the
preservation of right-of-way for future construction of this project.

Copies of the EA/EAW are being distributed to agencies on the current Minnesota Environmental Quality Board
(MnEQB) list and members of the TH 212 Technical Advisory Committee, among others. Availability of the
document has also been announced via newsletter to corridor residents, and will be noticed in local newspapers.
The EA/EAW can be accessed electronically via the project website
<http://www.dot.state.mn.us/metro/projects/new212>, and is also available for review in hard copy at city halls in
Carver, Cologne, and Norwood Young America. Hard copy is also available at Mn/DOT Metro District.

The comment period will begin on **January 11, 2010**. Comments will be accepted through **February 10, 2010**.
Comments should be addressed to:

Nicole Peterson, P.E., Project Manager
Minnesota Department of Transportation
1500 W. County Road B-2
Roseville, MN 55113
nicole.peterson@state.mn.us

A public hearing has also been scheduled for **January 26, 2010**, from 4:30-7:00 PM at the Cologne Community
Center, 1211 Village Parkway, Cologne, MN. Display boards will be available beginning at 4:30 PM; followed
by a presentation at 5:30 PM. Opportunity to give verbal comments for the public record will begin at 6:00 PM.

The EA/EAW can be made available in alternative formats to individuals with disabilities by calling Nicole
Peterson, Project Manager, at (651) 234-7722 or to individuals who are hearing or speech impaired by calling
the Minnesota Relay Service at (800) 627-3529 or (651) 296-9930 TTY.

If you wish to receive a copy of the document on CD, please contact Jessica Laabs at 651-643-0437 or
jessica.laabs@kimley-horn.com

This page was intentionally left blank.

ENVIRONMENTAL ASSESSMENT

**Trunk Highway 212
State Project: S.P. 1013-79
Minnesota Project: Not yet available**

**TH 212 from approximately one mile west of Kelly Avenue to CSAH 11 in
City of Carver and Dahlgren Township in
County of Carver, Minnesota
Sections 7-18, Township 115N, Range 24 W**

Submitted pursuant to 42 U.S.C 4332 and M.S. 116D

**By the
U.S. Department of Transportation
Federal Highway Administration and
Minnesota Department of Transportation
for**

Reconstruction of an approximate 4.7 mile segment of an existing two-lane roadway to a four-lane
expressway; replacement of the bridge over Carver Creek; and a future interchange at CR 43

Contacts:

FHWA:	Phil Forst Environmental Engineer Galtier Plaza 380 Jackson Street, Suite 500 St. Paul, MN 55101-2904 Phone: 651-291-6110	Mn/DOT:	Nicole Peterson, P.E. Project Manager Mn/DOT Metro District 1500 West County Road B2 Roseville, MN 55113 Phone: 651-234-7723
-------	--	---------	---

Recommended for approval by:

Th O'Keefe for 12/2/09
Mn/DOT - District Engineer Date

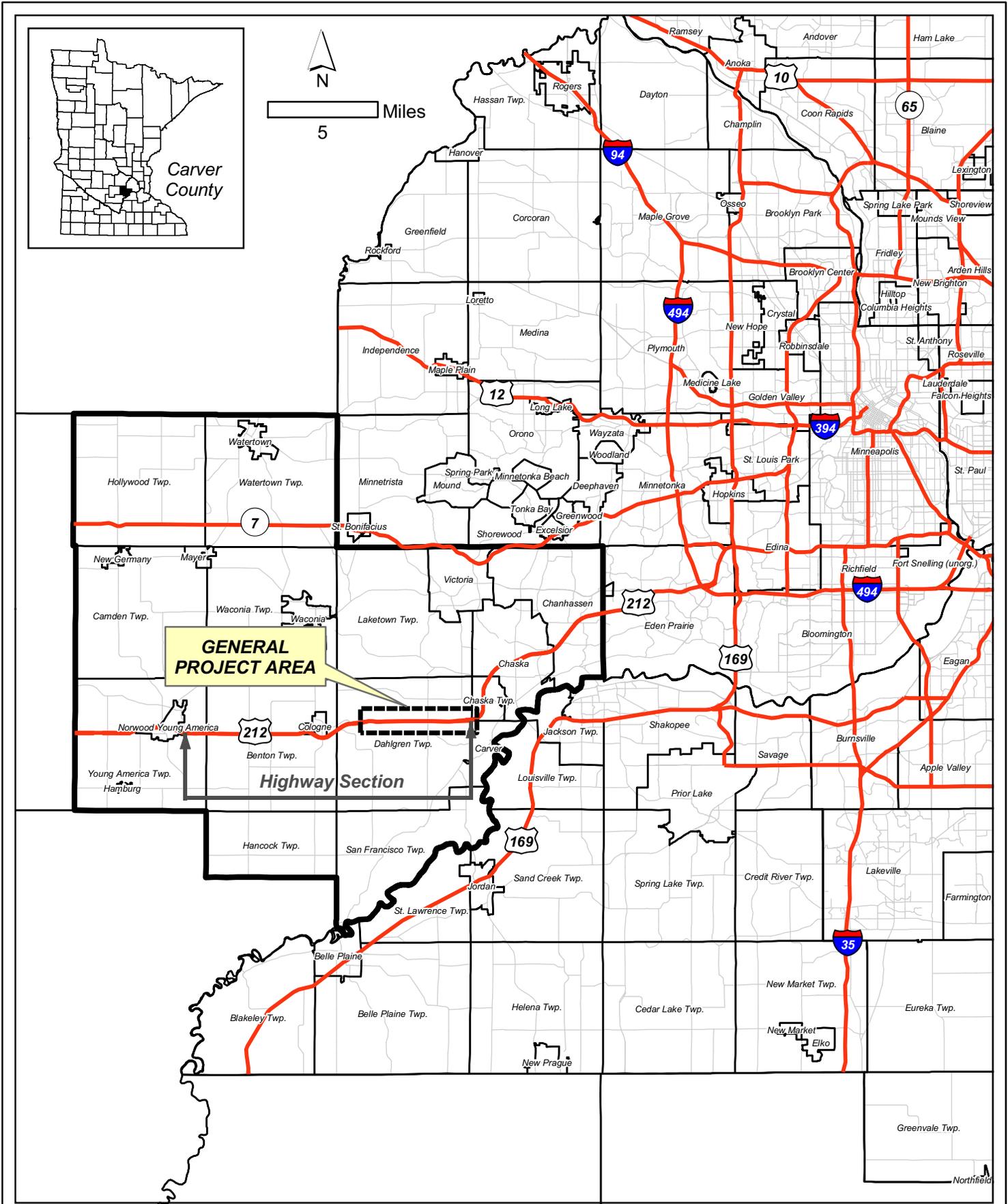
Approved by:

Fate w/peffo 12/18/09
Mn/DOT - Chief Environmental Officer Date

Approved by:

Renell E. Turner 12/31/09
FHWA - Project Development Engineer Date

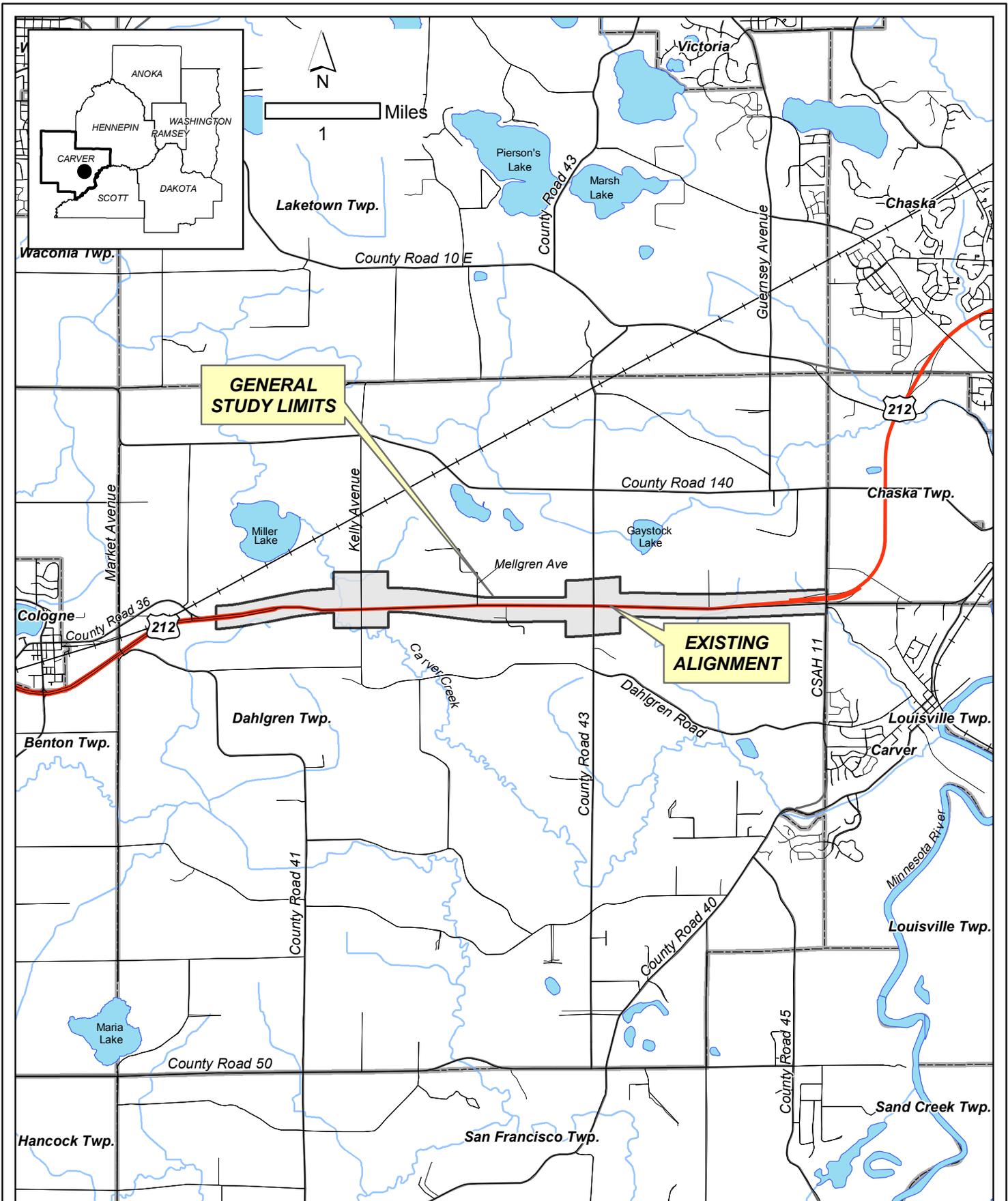
*This document is available in alternative formats to individuals with disabilities by calling the
Minnesota Relay Service at 1-800-627-3529.*



**FIGURE 1
AREA MAP**

MINNESOTA DEPARTMENT OF TRANSPORTATION
 Kimley-Horn and Associates, Inc.
 SRF

1H 212 PRELIMINARY DESIGN
 From Cologne Bypass to CSAH 11 in Carver



**FIGURE 2
PROJECT MAP**



Table of Contents

1.	BACKGROUND AND REPORT PURPOSE.....	1
2.	PURPOSE AND NEED FOR PROJECT	2
A.	PROJECT SETTING	2
B.	NEED FOR PROJECT.....	2
1)	Mobility.....	3
2)	Safety.....	4
3)	Design Consistency	6
C.	PURPOSE OF THE PROJECT.....	7
3.	ALTERNATIVES	8
A.	ALTERNATIVES DEVELOPMENT	8
1)	No-Build Alternative	8
2)	1993 FEIS Preferred Alternative	8
3)	Kelly Avenue Interchange	9
B.	PREFERRED ALTERNATIVE.....	9
C.	DIFFERENCES BETWEEN 1993 PREFERRED ALTERNATIVE AND CURRENT PREFERRED ALTERNATIVE ALIGNMENT.....	11
D.	BENEFIT COST ANALYSIS	11
4.	SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACT (SEE)	13
A.	ENVIRONMENTAL ASSESSMENT WORKSHEET	22
1)	Project Title.....	22
2)	Proposer.....	22
3)	RGU	22
4)	Reason for EAW preparation	22
5)	Project location.....	22
6)	Description.....	23
7)	Project Magnitude data	24
8)	Permits and approvals required	25
9)	Land use.....	25
10)	Cover Types.....	32
11)	Fish, wildlife and ecologically sensitive resources	32
12)	Physical impacts on water resources.....	35
13)	Water Use	40
14)	Water-related land use management district.....	42
15)	Water surface use	43
16)	Erosion and sedimentation	43
17)	Water Quality: surface water runoff	45
18)	Water quality: wastewaters	47
19)	Geologic hazards and soil conditions.....	48
20)	Solid Wastes, Hazardous Wastes, Storage Tanks	53
21)	Traffic.....	55
22)	Vehicle-Related Air Emissions	58
23)	Stationary Source Air Emissions	69

24) Odors, Noise and Dust.....	70
25) Nearby Resources.....	84
26) Visual Impacts.....	91
27) Compatibility with Plans and Land use Regulations.....	92
28) Impact on Infrastructure and Public Services.....	93
29) Cumulative Impacts.....	94
30) Other Potential Environmental Impacts.....	101
31) Summary of issues.....	101
B. ADDITIONAL FEDERAL ISSUES.....	105
1) Social Impacts.....	105
2) Considerations Relating to Pedestrians and Bicyclists.....	105
3) Section 4(f)/Section 6(f).....	106
4) Environmental Justice.....	106
5) Economics.....	109
6) Relocation.....	110
7) Right-of Way.....	111
5. PUBLIC AND AGENCY INVOLVEMENT (AND PERMITS/APPROVALS).....	113
A. INFORMATIONAL PROCESS.....	113
1) Project Committees.....	113
2) Public Outreach Techniques.....	113
B. AGENCY COORDINATION MEETINGS AND CONTACTS.....	114
C. PERMITS AND APPROVAL REQUIREMENTS.....	114
D. PUBLIC COMMENT PERIOD AND PUBLIC HEARING.....	115
E. REPORT DISTRIBUTION.....	115
F. PROCESS BEYOND THE HEARING.....	115

APPENDIX A. FIGURES (3-15)

APPENDIX B. AGENCY CORRESPONDENCE

APPENDIX C. WETLAND FINDING

APPENDIX D. Mn/DOT REFERENCE DOCUMENTS

1. BACKGROUND AND REPORT PURPOSE

The Trunk Highway (TH) 212 corridor that is the subject of this environmental review document was part of the TH 212 corridor studied under a previous environmental review process. A Final Environmental Impact Statement (FEIS) for the TH 212 project from Cologne, Minnesota Interstate 494 (I-494) in Carver and Hennepin Counties was approved in June 1993 and a Federal Record of Decision (ROD) issued in August 1993 by the Federal Highway Administration (FHWA). In accordance with Minnesota Environmental Quality Board (EQB) rules, the Minnesota Department of Transportation (Mn/DOT) is the Responsible Governmental Unit (RGU) and as such determined the FEIS was adequate in September 1993. In accordance with Minnesota law for controlled access highways, the Metropolitan Council approved the project for construction in October 1993. Construction began in 1998 between I-494 and County State Aid Highway (CSAH) 4 (Eden Prairie Road) in Eden Prairie, and was completed in 2001. This completed segment was temporarily designated as TH 312. **Figure 4** shows the segments of TH 212 evaluated in the 1993 FEIS and other previously approved environmental documents, described below.

In April 2004, a reevaluation of the 1993 FEIS was prepared, which focused on changes to the project layout from approximately 5,000 feet west of County Road (CR) 147 to approximately 2,000 feet south of CR 140. The spacing between the centerlines of east and westbound lanes decreased from 100 feet to 80 feet, and the segment between TH 41 and CSAH 4 became an urban (i.e. curb and gutter) rather than rural (i.e. ditches) section. Based on the results of the reevaluation, FHWA determined that the 1993 FEIS remained valid and a supplemental EIS was not needed. Construction of TH 212 from Eden Prairie Road to CR 147 was completed in 2008.

The proposed TH 312 interchange with existing TH 212 was replaced by an overpass of CR 147 (now called CSAH 11) over TH 212, along with ramps at TH 212/CSAH 11 to complete the interchange. A separate Environmental Assessment (EA) was prepared to review impacts of this interchange, which was not studied in the 1993 FEIS. The EA was approved in June 2004 followed by the Finding of No Significant Impact (FONSI). The interchange was completed in 2008.

The focus for planning and preservation of right-of-way for the TH 212 corridor originally studied in the EIS now lies on the portion of the Western Segment (see **Figure 4**) located within Dahlgren Township, from the east end of the Cologne Bypass to CSAH 11 in Carver. The Cologne Bypass is an existing four-lane divided highway, which bypasses the south side of downtown Cologne. The east end of the Bypass is roughly 2.2 miles east of downtown and one mile west of Kelly Avenue. The current plans for this segment now include a proposed interchange at CR 43 that was not studied in the 1993 FEIS.

This Environmental Assessment (EA)/Environmental Assessment Worksheet (EAW) document serves as a reevaluation of the 1993 FEIS for the Cologne Bypass to CSAH 11 segment. It updates the analyses completed in the previous document, and documents any impacts associated with changes to the current Preferred Alternative as compared to the 1993 Preferred Alternative, including the addition of the CR 43 interchange. Based on this reevaluation, FHWA and Mn/DOT will determine that either the findings of the 1993 Record of Decision (federal) and Adequacy

Determination (state) have not changed substantially, by issuing a federal Finding of No Significant Impact (FONSI) and state Negative Declaration, or that preparation of a supplemental EIS is needed. A supplemental EIS would only be required if the changes to the project or new information result in significant environmental impacts not identified in the FEIS.

This document is made available for public review and comment using the processes for notification and distribution outlined for EA/EAW documents in 23 CFR 771.119 (d) and Minnesota Rules 4410.1500 through 4410.1600.

2. PURPOSE AND NEED FOR PROJECT

A. PROJECT SETTING

The project setting lies between the cities of Cologne and Carver in the southwest Twin Cities Metropolitan Area (see Figures 1 through 4).

The Cologne Bypass is a four-lane divided roadway, bypassing on the south side of downtown Cologne. The Cologne Bypass is roughly 3.3 miles long. Mn/DOT constructed the bypass in the early 1970s. The east end of the bypass is approximately two miles east of downtown Cologne or 1.7 miles east of Market Avenue. The east end of this bypass is the starting point for the west end of this project.

Mn/DOT finished constructing TH 212 as a four-lane freeway as far west as the interchange with CSAH 11 in 2008. The CSAH 11 interchange is in the City of Carver. The western Twin Cities Metropolitan Urban Service Area (MUSA) boundary crosses TH 212 approximately one-tenth of a mile east of CSAH 11.

The 4.7-mile section of TH 212 between the east end of the Cologne Bypass and CSAH 11 is a two-lane rural highway. Agricultural fields, farmsteads, and low density residential housing primarily border the highway corridor. There are some scattered small businesses, a church, and higher density residential development on the east end of the corridor near Carver.

For purposes of this document, the following terms are defined and used throughout unless specifically called out otherwise:

- Study Area – area of evaluation which is typically larger than the project site
- Project Site – area within the proposed right-of-way limits
- Construction Limits – estimated area of impact within the Project Site

B. NEED FOR PROJECT

The stated project need examines the existing deficiencies and future needs of the transportation facilities in the TH 212 corridor, from approximately two miles east of Cologne to CSAH 11 in Carver. The description of the project need sets the foundation for the alternatives under evaluation.

The purpose and need statement in the previous draft and final EIS (DEIS/FEIS) focused on three primary factors: traffic, safety, and accessibility. These basic needs are consistent with current conditions. However, there has been substantial development and related growth in traffic volumes in the vicinity of the TH 212 corridor since the 1993 FEIS was published, and part of the project identified in the FEIS has been constructed.

This growth has heightened the transportation needs identified in the previous DEIS/FEIS. In addition, since development is anticipated to continue to expand further to the west, unless right-of-way for a preferred project alternative is reserved and purchased, development will continue to occur along the existing TH 212 right-of-way and may inhibit highway improvements in the future.

An Interregional Corridor (IRC) Study has also been completed for the corridor since the 1993 FEIS, and Mn/DOT has implemented an access management policy. The original needs identified in the 1993 EIS comprise the current three main factors driving the need for improvements and preservation of right-of-way in this section of the TH 212 corridor: mobility, safety, and design consistency. An updated discussion of these needs is provided below:

1) Mobility

The primary need for the project is to provide adequate capacity for forecast traffic. The overall ability of a roadway to carry traffic safely and efficiently, and to determine which, if any, elements of the roadway need improvement, is measured by the roadway Level of Service (LOS). The LOS compares the roadway under study to ideal conditions for that type of facility. LOS is characterized on a scale of A (light traffic, free flow, extremely high level of motorist comfort) to F (forced or breakdown in flow, operations characterized by extremely unstable stop-and-go waves). LOS A through D is generally considered acceptable to drivers.

Volume to capacity (v/c) ratio is another indicator used in the study of future roadway or intersection operations. A v/c ratio equal to or greater than one 1.0 signifies a roadway or intersection is projected to operate at volumes exceeding the capacity of the existing infrastructure.

Existing (2007) daily traffic volumes between Cologne and CSAH 11 near Carver are between 10,000 and 11,000 vehicles per day (vpd). At the time of the 2007 analysis, only the northbound movement at the TH 212 / CSAH 11 intersection was experiencing LOS E during the AM peak hour. In 2008, an interchange was constructed removing this poor operation. All remaining intersections currently operate at an acceptable level of service during the AM and PM peak hours. See **Table 2-1**.

Table 2-1. Existing (2007) AM and PM Peak Hour Intersection LOS and V/C Ratios

	Existing AM Peak Hour				Existing PM Peak Hour			
	Overall LOS	Worse Movement LOS	Intersection v/c ratio		Overall LOS	Worse Movement LOS	Intersection v/c ratio	
			NB	SB			NB	SB
Kelly Avenue	A	C (SB left)	0.05	0.02	A	C (SB left)	0.01	0.01
CR 43	A	D (NB thru)	0.41	0.15	A	D (SB thru)	0.26	0.51
CSAH 11	B	E (NB right)	0.81	-	A	B (NB left)	0.15	-

The TH 212/CSAH 11 intersection was constructed as an interchange in 2008.

Traffic volumes in year 2030 are forecast to increase to between 21,000 and 28,000 vpd, or two to three times the existing traffic volumes. As shown in **Table 2-2**, with none of the proposed improvements in place, each of the intersections would operate poorly (LOS F) under the 2030 No-Build scenario.

The typical capacity of a two-lane roadway with turn-lanes (operation less than LOS D) in a greater Minnesota urban area is 15,000 vpd; typical capacity of a four-lane expressway is 30,000 vpd for (draft Minnesota Statewide Transportation Plan 2009-2028, Table 8.11 at <http://www.dot.state.mn.us/planning/stateplan/pdfs/STP%20Compiled.pdf>). The forecast traffic demand volumes exceed the capacity of the existing two-lane facility. Improvements are needed to accommodate future traffic volumes with the goal of maintaining a LOS D or better at these intersections through 2030.

Table 2-2. 2030 No-Build AM and PM Peak Hour Intersection LOS and V/C Ratios

	2030 No-Build AM Peak Hour				2030 No-Build PM Peak Hour			
	Overall LOS	Worse Movement LOS	Intersection v/c ratio		Overall LOS	Worse Movement LOS	Intersection v/c ratio	
			NB	SB			NB	SB
Kelly Avenue	F	F (SB left)	*	*	F	F (SB left)	*	*
CR 43	F	F (SB left)	*	*	F	F (SB left)	*	*
CSAH 11	-	-	-	-	-	-	-	-

The TH 212/CSAH 11 intersection was constructed as an interchange in 2008.

*Very few, if any, acceptable gaps would be available.

2) Safety

Corridor crash data was collected for years 2001, 2002, 2004 and 2005 (2003 crash data are excluded due to statewide problems with the crash information). Crash rates were calculated for both roadway segments and intersections.

Intersections

Crash rates¹ and severity rates² were calculated for key intersections in between Cologne and CSAH 11 near Carver, including Kelly Avenue, CR 43, and CSAH 11. Critical crash rates³ were also calculated for intersections by using the average crash rate for similar facilities, combined with vehicle exposure and a level of confidence constant (95 percent). Using critical crash rates identifies if a location has a statistically significant higher crash rate than similar facilities, as

expressed in the statewide average crash rate. If the crash rate at the actual location is higher than the calculated critical crash rate, the location is identified as potentially hazardous per the 2008 Mn/DOT Traffic Safety Fundamentals Handbook (page 33). The intersection of CR 43 has a crash rate above the critical crash rate, as shown in bold in **Table 2-3**.

Rear-end, right-angle and sideswipe crashes were the most common at the CR 43 intersection. Crashes at these intersections were also more severe than similar facilities, as expressed in the crash severity rates. Severity rates incorporate fatal or life-changing categories of injuries resulting from crashes. Compared to the statewide average severity rate of 0.6 (for an unsignalized, rural thru/stop), CR 43 has a severity rate of 1.26. There were no fatalities recorded at any of the study area intersections, however there were six crashes at CR 43 resulting in personal injury. The remaining crashes at CR 43 resulted in property damage only.

It is expected that increased traffic volumes over the next several years will also increase the number of crashes, in particular as it becomes more difficult for drivers on side streets and access drives to find gaps in traffic on TH 212. Mn/DOT has developed access management guidelines to improve safety; one-mile primary intersection spacing and half-mile secondary access (right in/right out only). The existing two-lane section has multiple driveways and access points connected to the roadway, causing potentially unexpected obstacles and varying speeds for drivers.

Table 2-3. Crash Rate and Critical Crash Rate by Intersection

	Number of Crashes	Entering Daily Volume	Crash Rate ¹	Critical Crash Rate	Severity Rate ²
Kelly Avenue	5	10,745	0.32	0.50	0.32
CR 43	12	11,385	0.72	0.49	1.26

Crash data collected for available years: 2001, 2002, 2004, 2005; (2003 crash data are excluded due to statewide problems with the crash information).

Rates calculated for crashes per million entering vehicles

Bold items indicate intersection where the actual crash rate is higher than the critical crash rate.

¹Year 2005-2007 statewide average for similar roadways is 0.4 crashes per million vehicles (Rural 2-lane ADT>8,000; non-junction crashes).

²Year 2005-2007 statewide average severity rate for similar roadway is 0.6.

Roadway Segments

There are three primary roadway segments identified between Cologne and CSAH 11 near Carver, from west to east: CR 36 E to Kelly Avenue; Kelly Avenue to CR 43; and CR 43 to CSAH 11. The crash rate for each of these segments was calculated, as well as crash severity rates. Both of these numbers were compared to the statewide average crash rates and severity rates for similar roadways. The CR 36 E to Kelly Avenue roadway segment exceeds both statewide crash rate average (0.4) and average crash severity rate (0.6), as shown in bold in **Table 2-4**.

¹Crash Rate: Calculation of the number of crashes divided by the exposure

²Severity Rate: Calculation providing a high weight to more severe crashes divided by the exposure

³Critical Crash Rate: A statistical method for identifying potentially hazardous locations, which compares the actual crash rate versus the rate of similar intersections increased by statistical value of conditions. This identifies locations with crash rates which are statistically significantly higher than similar locations.

Table 2-4. Crash Rate by Roadway Segment (Non-Junction)

	Number of Crashes	Entering Daily Volume	Crash Rate¹	Severity Rate²
CR 36 E to Kelly Ave	13	10,830	0.55	0.97
Kelly Ave to CR 43	11	10,600	0.36	0.55
CR 43 to CSAH 11	7	9,800	0.25	0.38

Crash data collected for available years: 2001, 2002, 2004, and 2005

Segment crash rates do not include any key intersections discussed above.

Rates calculated for crashes per million vehicle mile

Bold items indicate a roadway segment where the actual crash rate is higher than the statewide average.

¹Year 2005-2007 statewide average for similar roadways is 0.4 crashes per million vehicle miles (Rural 2-lane ADT>8,000; non-junction crashes).

²Year 2005 2007 statewide average severity rate for similar roadway is 0.6.

Of the 13 crashes recorded in the CR 36 E to Kelly Avenue segment, five resulted in personal injury and one resulted in a fatality. The remaining crashes in this segment resulted in property damage only.

Conclusion

The intersection of CR 43, as well as the TH 212 roadway segment from CR 36 E to Kelly Avenue, is above statewide average crash rate and severity rate. Mn/DOT has recognized these challenges in the *Statewide 20-Year Highway Investment Plan 2009-2028* (available on the Mn/DOT website). The TH 212 corridor between Norwood Young America (west of the project area) and Carver is identified in the as a corridor warranting consideration for traveler safety-capacity improvements. Roadway and intersection improvements, including access modifications, would reduce the crash rate at the specific locations in the corridor, and improve safety.

3) Design Consistency

With the recent construction of new TH 212 from CSAH 11 to I-494, and the presence of a four-lane section through Cologne, the existing two-lane roadway between the Cologne Bypass and CSAH 11 does not provide a consistent roadway design.

Driver expectation and perception of the transportation facility play a role in the overall safe and efficient movement of people and goods along any roadway. Three primary ways of addressing driver expectation to minimize surprises are to:

- Avoid unusual or non-standard designs and consistently apply design elements throughout a highway segment
- Maintain that consistency from one segment to another
- Remain consistent with Mn/DOT access management guidelines

The construction of new TH 212 from CSAH 11 to I-494 was completed as a full access controlled freeway section with grade separated interchanges at spacing of at least one mile. The Cologne Bypass, constructed in 1973 (SP 1013-07), meets current Mn/DOT access management guidelines of one-mile primary intersection spacing and half-mile secondary access (right in/right out). By comparison, the existing two-lane section has multiple driveways and access points connected to the roadway, causing potentially unexpected obstacles and varying speeds for drivers coming from

either of the four-lane sections. This design inconsistency compromises safety and efficiency in this roadway section.

C. PURPOSE OF THE PROJECT

The purpose of the proposed project is to cost effectively address existing and future operational and safety deficiencies. The purpose for preparing this environmental review document is to update project information, define the revised project limits, and provide basis for preserving TH 212 right-of-way for future construction of the project.

The Preferred Alternative will address the need for right-of-way preservation required to upgrade the TH 212 facility from the Cologne Bypass to CSAH 11 with improved operational efficiency, safety, and design consistency.

The following project goals and objectives have been developed based on the defined need for the project. These goals and objectives are used to provide a method of measuring the overall effectiveness of the proposed action. Goals are generalized statements that define the desired results and the objectives are more specific statements that provide more details about what steps are necessary to accomplish the goals.

The goals and objectives developed for use in the evaluation process are:

Goal 1: Improve safety for people and goods along the existing TH 212 corridor

Objectives:

- Eliminate crashes to the extent possible
- Reduce the number of direct accesses onto TH 212 to reduce the potential for highway segment crashes
- Add turn lanes to provide safe turning movements at intersections (primary and secondary intersection spacing)

Goal 2: Improve mobility for people and goods along the existing TH 212 corridor

Objectives:

- Accommodate the regional transportation needs of anticipated population and employment growth in the TH 212 corridor by increasing traffic capacity

Goal 3: Provide cost effective transportation recommendations

Objectives:

- Maximize project cost effectiveness based on benefit/cost analysis
- Provide a feasible alternative that accommodates phased implementation for constrained funding

Goal 4: Provide transportation solutions that minimize environmental impacts

Objectives:

- Avoid/minimize/mitigate impacts on environmentally, socially and culturally sensitive resources
- Minimize residential and business/commercial right-of-way impacts
- Minimize impacts from noise, and impacts upon visually sensitive resources
- Minimize construction phasing impacts

Goal 5: Effective right-of-way preservation along the existing TH 212 corridor

Objectives:

- Define required right-of-way for the project for official mapping and future acquisition
- Coordinate effectively with cities on annexation agreements and development opportunities

3. ALTERNATIVES

A. ALTERNATIVES DEVELOPMENT

The following alternatives were considered during the development of the preferred alternative for this project.

1) No-Build Alternative

The No-Build Alternative is defined as maintenance of the existing two-lane TH 212 roadway facility. No improvements would be made to the roadway segment, with the exception of regularly scheduled maintenance activities such as resurfacing. This alternative would not address existing and projected operational and safety concerns in the roadway segment and at key intersections. Leaving the roadway as a two-lane facility would not be consistent with adjacent four-lane facilities in terms of driver expectation and would not meet the goal of preserving right-of-way for future transportation use.

This alternative does not adequately address the deficiencies in mobility, safety, and design consistency as identified in the Purpose and Need for the project; therefore it is not considered the Preferred Alternative.

2) 1993 FEIS Preferred Alternative

Because this document is a reevaluation of the environmental analysis work previously completed in 1993, a brief description of the alignment evaluated in that EIS is provided as the baseline for developing a preferred alternative for this document. The method of evaluating and selecting the 1993 preferred alternative is described fully in Section 2 of the 1993 FEIS. In summary, a total of eleven corridor segments between the eastern edge of the Cologne Bypass and the intersection of I-94/TH 5 were initially considered. These segments were then narrowed and combined into five build alternatives that moved forward for study in the DEIS. Ultimately, Alternative 2, consisting of the Western, North Lake Riley, and Residential segments, was selected as the 1993 preferred

alternative because it had the least impact on social, economic and natural environments of all the evaluated alternatives. There was also a high level of public support for this alternative. Between Cologne and Chaska Township, the 1993 preferred alternative was defined as a four-lane expressway with limited at-grade access, with a centerline spacing of 104 feet. **Figure 5** shows the 1993 alignment.

2) Kelly Avenue Interchange

The need for an interchange at Kelly Avenue was recently evaluated, and it was determined not to be needed prior to 2030. The traffic model results showed this intersection operating at an acceptable LOS (D or better) with a traffic signal through the year 2030.

Based on the year 2030 build analysis (four-lane expressway), the TH 212/Kelly Avenue intersection would operate at an overall LOS C with the worse approach at LOS E during the PM peak hour under traffic signal control. The intersection would operate better during the AM peak hour. The operation at this intersection would be considered acceptable, even with the worst approach operating at LOS E. This is common for cross-street approaches at high volumes/high speed roadways to have long delays, as mainline green times and cycle lengths are longer to accommodate traffic. Cross-street delays could be improved, but at the expense of higher delay for mainline traffic and increasing the overall delay at the intersection.

Existing Kelly Avenue at TH 212 could become part of the county roadway system, as shown in the Carver County's Transportation Plan (50 year plan). The plan shows a more continuous north-south route of CR 41 using Kelly Avenue near TH 212. Evaluation of this intersection would need further study depending on if the continuous County Road is implemented at this location. Additionally, when CR 43 and Market Avenue intersections become interchanges, having an at-grade signalized intersection at Kelly Avenue could become the bottleneck in the system reducing the carrying capacity of TH 212. At that time, Mn/DOT would evaluate the need for improvements at Kelly Avenue.

B. PREFERRED ALTERNATIVE

The Preferred Alternative includes two components, 1) the mainline TH 212 roadway improvements between Cologne and Carver, and 2) the CR 43 interchange footprint.

Roadway

The roadway portion of the Preferred Alternative generally follows the 1993 FEIS preferred alternative alignment (1993 alignment), with changes as outlined below and shown in **Table 3-1** and **Figure 5**. The current Preferred Alternative begins along existing TH 212 alignment at the east end of the Cologne four-lane bypass. It then shifts north of the existing alignment and 1993 alignment to cross Kelly Avenue approximately 600 feet north of the TH 212/Kelly Avenue intersection (200 feet further north than the 1993 alignment). It meets existing TH 212 and 1993 alignments near Mellgren Lane, then shifts south of both alignments (50 feet further south than the 1993 alignment) near CR 43 before rejoining the existing TH 212 alignment and connecting with the recently constructed interchange at CSAH 11. Improvements would include a four-lane divided expressway constructed on new alignment and existing alignment for a distance of approximately 4.7 miles. Associated turning lane improvements to north-south roadway intersections are also incorporated, and there are also new access roads and several access closures

or changes identified in accordance with current Mn/DOT access management guidelines, as shown in **Figure 5**. Centerline spacing would be 84 feet.

This alternative has been designed to continue four lanes between the existing four-lane facilities to the east and west. The 84 foot centerline spacing also provides room for the future addition of a third thru lane and full width shoulder within the median. This new alignment will provide a route with mobility and safety benefits, and will also provide consistency in roadway design.

County Road 43 Interchange Footprint

The Preferred Alternative also includes preservation of an interchange footprint at CR 43 to meet the project purpose (Goal 2, improve mobility and Goal 5, right-of-way preservation). In 1993, the FEIS did not identify or evaluate the need for an interchange at this location, and it is therefore addressed in this reevaluation document. Current traffic projections have estimated that an interchange will be needed at this location by the year 2025 to maintain a level of service D or better, based on the County and local comprehensive plans development projections. However it is unknown what future development will look like in this location at that time, and how that development may further impact traffic operations. Therefore, rather than selecting one interchange alignment to identify the right-of-way needed for an interchange, a footprinting exercise was completed. A number of potential interchange layout concepts were identified, allowing flexibility to accommodate future development and to select in the future an appropriate interchange design that will support the development. The CR 43 interchange footprint shown in **Figure 5** represents three different interchange configurations that were considered to accommodate projected traffic, including:

- Conventional diamond interchange
- Folded diamond interchange to the west
- Folded diamond interchange to the east

By identifying a footprint at this location, Mn/DOT and the local jurisdictions can maintain oversight on access control and can work together to ensure standard access spacing requirements are met to the extend possible.

By selecting a Preferred Alternative, Mn/DOT, Carver County and the cities can preserve right-of-way for the identified future roadway improvements, and communities can plan for future developments. Although, Mn/DOT's Statewide 20-Year Highway Investment Plan 2009-2028 explains the lack of available funding to address transportation needs. It explains that this section of TH 212 warrants consideration as a roadway safety capacity improvement needed to meet safety performance targets. This document represents a longer term vision for TH 212. As a High Priority Interregional Corridor, Mn/DOT and local stakeholders recognize the importance of filling in the 2-lane gap highway segments between the Twin Cities and TH 22, west of Glencoe. However, Mn/DOT's Metro District realizes that purchasing right-of-way and constructing this project will require staged construction, as funds from federal, state and local sources become available. As the Preferred Alternative advances to final design, Mn/DOT will continue to look for opportunities to reduce project impacts to the environment and right-of-way footprint throughout the process of advancing the design.

The Preferred Alternative includes the CR 43 interchange footprint, unless otherwise noted.

C. DIFFERENCES BETWEEN 1993 PREFERRED ALTERNATIVE AND CURRENT PREFERRED ALTERNATIVE ALIGNMENT

In addition to the CR 43 interchange footprint area, there are four other key areas in which the current Preferred Alternative alignment differs from the preferred alternative identified in the 1993 FEIS. Each of these areas, and the reason for the change, are summarized in **Table 3-1**. **Figure 5** illustrates the changes between the two alignments.

The 104-foot centerline spacing presented in the 1993 FEIS is not consistent with current Mn/DOT centerline spacing guidelines. A centerline spacing distance of 84 feet is proposed under the current Preferred Alternative. This is a smaller area of potential impact, so any impacts as a result of centerline spacing under the current Preferred Alternative would be less than those identified in the 1993 FEIS.

The alignment proposed at Kelly Avenue under the current Preferred Alternative shifts approximately 200 feet north of the 1993 FEIS alignment. The Preferred Alternative alignment decreases the impact to Carver Creek by crossing in a straight area versus a stream meander. This shift also increases the distance from surrounding historic resources. The type and amount of impact to adjacent farmland is very similar between the two alignments.

At CR 43, the Preferred Alternative proposes an alignment shift that is approximately 50 feet south of the 1993 FEIS alignment. The type and amount of impact to adjacent farmland is very similar between the two alignments. The current Preferred Alternative would incur a slightly greater impact to one farm access (making it shorter), but this impact is not substantially different than the 1993 FEIS alignment. Access changes/closures are also addressed.

Overall, no substantial changes in impact are anticipated as a result of the alignment modifications discussed above. This summary reflects shifts in the physical alignment. Changes to existing conditions and regulatory requirements since 1993 are discussed in each of the applicable impact discussions in Section 4. **Table 4-1** in the introduction to Section 4 compares the impacts of the preferred alternative identified and approved in the 1993 FEIS versus the currently proposed roadway portion of the Preferred Alternative, to inform the reevaluation of the EIS. However, the detailed discussion of impacts and mitigation in Sections 4A and 4B focus only on the current Preferred Alternative.

D. BENEFIT COST ANALYSIS

A benefit/cost analysis (B/C Analysis) was completed for the proposed project in June 2009, detailed in *Results for Trunk Highway 212 Preliminary Design Benefit-Cost Analysis from Cologne Bypass to CSAH 11 in the City of Carver*, June 30, 2009. The purpose of a B/C Analysis is to bring all of the direct effects of a transportation investment into a common measure (dollars), and to allow for the fact that benefits accrue over a long period of time while costs are incurred primarily in the initial years. The primary elements that can be monetized for transportation projects are travel time, changes in vehicle operating costs, accidents, and remaining capital value. The B/C Analysis can provide an indication of the economic desirability of an alternative, but

results must be weighed by decision-makers along with the assessment of other effects and impacts.

The B/C Analysis that was completed for this project evaluated the difference in transportation user costs between the No Build and roadway portion of the Preferred Alternative and indicated that the Preferred Alternative would result in a benefit/cost ratio of 3.2. This does not include the CR 43 interchange footprint. Because specific interchange configurations are not being considered at this time, a B/C ratio cannot be calculated.

Table 3-1. Summary of Alignment Changes between 1993 and Current Preferred Alternatives

	1993 FEIS Preferred Alternative	Current Preferred Alternative	Reason for Alignment Change
CR 43 interchange footprint	No interchange footprint at CR 43	Evaluate interchange footprint reflecting possible future configurations at CR 43	<ul style="list-style-type: none"> · Traffic forecasts anticipate failing operations at this intersection by year 2025
Centerline spacing	104 feet	84 feet	<ul style="list-style-type: none"> · 104-foot centerline spacing is not consistent with current Mn/DOT centerline spacing guidance
Alignment shift at Kelly Avenue	Crosses Kelly Avenue 400 feet north of existing TH 212/Kelly Avenue intersection	Crosses Kelly Avenue 600 feet north of existing TH 212/Kelly Avenue intersection	<ul style="list-style-type: none"> · DNR prefers the alignment cross perpendicular to Carver Creek rather than at an angle or over a meander in the channel – reduces amount of linear stream length affected, and does not inhibit natural stream meandering · Avoidance of potential archaeological site near Carver Creek and TH 212 · Minimize impacts to NRHP-eligible Frank House and Klepperich barn
Alignment shift at CR 43	Crosses CR 43 25 feet south of existing TH 212/CR 43 intersection	Crosses CR 43 75 feet south of existing TH 212/CR 43 intersection	<ul style="list-style-type: none"> · Accommodates future intersection improvement needs at CR 43
TH 212 Access changes/closures	Not quantified	33 direct TH 212 access points removed	<ul style="list-style-type: none"> · Several 1993 access considerations do not meet current Mn/DOT access management guidelines

4. SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACT (SEE)

This section discusses environmental impacts of the alternatives identified in Section 3. It contains two sub-sections:

- A. State Environmental Assessment Worksheet (EAW)
- B. Additional Federal Issues

The federal EIS completed in 1993 addresses the potential impacts of this project, however due to the time that has passed since it was completed, the minor changes to the project alignment, and changes in regulations, a reevaluation is being completed under the federal EA and state EAW format to document those changes and their resulting environmental impacts.

The EAW is a standard format used in Minnesota for environmental review of projects meeting certain thresholds at Minnesota Rule 4410.4300. Federal environmental regulations not addressed in the EAW are addressed in the Additional Federal Issues sub-section (Section 4B).

As detailed in Section 3 Alternatives, there have been some specific changes to the alignment and design of the project as it was presented and evaluated in the 1993 FEIS. The FEIS identified the corridor from Cologne to Audubon Road in Chaska as the “Western Segment.” The Dahlgren Township portion of this segment encompasses the current project corridor. The resulting changes in impact assessment between the current Preferred Alternative and the Western Segment/Dahlgren Township portion of the 1993 FEIS alignment are summarized in **Table 4-1**. For this comparison, the Preferred Alternative does not include the CR 43 interchange footprint because that portion of the project was not evaluated in the 1993 FEIS.

Table 4-1. Impact Changes Between 1993 FEIS Alignment and Current Preferred Alternative (Excluding CR 43 Interchange Footprint)

Impact Category and Section No.	1993 FEIS Alignment	Current Preferred Alternative (excluding CR 43 Interchange Footprint)	Explanation of Impact Change
Categories under Environmental Assessment Worksheet			
Land use (Section 4.A.9)	The primary land uses within the Western Segment of the preferred alignment were identified as commercial agriculture and rural residential.	The primary land uses in the study area remain commercial agriculture and rural residential.	No change.
Environmental hazards (Section 4.A.9)	Three potentially contaminated sites were identified within Segment 4 (located within the Western Segment). The previous assessment did not report the specific location or environmental concern for the sites, nor did the assessment assign rankings.	Based on updated record search information, eight low-ranked sites and 13 medium-ranked sites would be partially acquired by the project for right-of-way.	Change is result of more detailed information, which was not available in 1993.

Impact Category and Section No.	1993 FEIS Alignment	Current Preferred Alternative (excluding CR 43 Interchange Footprint)	Explanation of Impact Change
Cover types (Section 4.A.10)	Cover types within the Western Segment were calculated; however, quantities for the Dahlgren Township portion of the preferred alignment were not separated out. Additionally, the evaluation only included existing conditions. Post-construction conditions were not available for comparison.	Existing and post-construction cover types were analyzed. Types were split into 7 categories with dominant types being cropland and other (ROW, roads).	Change is result of more detailed information, which was not available in 1993.
Fish, wildlife and ecologically sensitive resources (Section 4.A.11)	<p>The Western Segment would result in impacts to wildlife habitat, including woodlots and grasslands. In addition, Carver Creek would be impacted within the Dahlgren Township portion of the Western Segment.</p> <p>No federally-listed species were documented as occurring within the study area.</p>	<p>The Preferred Alternative would affect wildlife habitat, including woodlots and grasslands, and would result in grading within Carver Creek to install a new crossing of TH 212. Carver Creek is designated as a DNR Public Water.</p> <p>No federally-listed species were documented as occurring within the study area.</p>	No change.
Physical impacts on water resources (Section 4.A.12)	The study area for the wetland evaluation was 300 feet either side of centerline of the preferred alignment. No impacts to wetlands were identified within the applicable project site. However, Carver Creek would be impacted (amount not quantified; only that minimal fill would be required for the creek crossing).	The study area for the wetland evaluation was 500 feet either side of centerline of the existing alignment. Impacts (grading or fill) to wetlands would total up to 11.83 acres, affecting 14 wetlands. Of the total impacts, up to 1.05 acres would be in Carver Creek as a result of the proposed creek crossing located approximately 600 feet north of the existing crossing.	<p>Change is result of more detailed information, which was not available in 1993. The Preferred Alternative alignment was also shifted to further reduce impacts.</p> <p>Additionally, change is also a result of modified wetland regulations.</p>
Water use (Section 4.A.13)	Limited information is included in the FEIS regarding water use as it relates to nearby wells; only general requirements are discussed for potential well abandonments.	Ten private wells are located adjacent to or within the project limits, of which three wells would require permanent abandonment. Four wells in the project vicinity have completed source water assessments. No designated Wellhead Protection Areas are located in the general vicinity.	Change is result of more detailed information, which was not available in 1993.

Impact Category and Section No.	1993 FEIS Alignment	Current Preferred Alternative (excluding CR 43 Interchange Footprint)	Explanation of Impact Change
Water-related land use management districts (Section 4.A.14)	<p>The FEIS indicates that Carver Creek would be impacted, but does not discuss the creek in relation to land use management districts (e.g., shoreland zoning).</p> <p>No designated 100-year floodplains were identified within the Dahlgren Township portion of the preferred alignment.</p>	<p>Carver Creek, a DNR Public Water, is covered by a shoreland zoning ordinance. The project requires a new crossing through the Shoreland Zoning District.</p> <p>No 100-year floodplains, as designated by the FEMA, are located within the project site.</p>	Change is a result of modified regulations.
Water surface use (Section 4.A.15)	No information is included in the FEIS regarding watercraft usage.	The Preferred Alternative would not change the number or type of watercraft used within the project vicinity.	No change.
Erosion and sedimentation (Section 4.A.16)	<p>The area of land disturbance for the Western Segment was not estimated.</p> <p>No information was included in the FEIS regarding steep slopes or erodible soils. However, the FEIS did include information pertaining to standard erosion and sediment control measures.</p>	<p>Approximately 184 acres of land would be disturbed.</p> <p>Steep slopes and erodible soils are located within the project site. The Preferred Alternative would result in greater than one acre of ground disturbance; therefore, a General Stormwater Permit for Construction Activity would be required. The General Permit mandates the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP); a SWPPP would be completed.</p>	<p>Change is result of more detailed information, which was not available in 1993.</p> <p>Change is a result of modified regulations.</p>
Water quality: surface water runoff (Section 4.A.17)	<p>Post-construction turbidity, chloride, phosphorus, and oil levels for Carver and Chaska Creeks would be less than or equal to pre-construction conditions. The analysis took into account the proposed installation of stormwater treatment ponds.</p> <p>No information was included in the FEIS regarding anticipated changes in impervious area due to the preferred alignment.</p>	<p>Receiving water bodies in the project vicinity would include Carver Creek, West Chaska Creek, Gaystock Lake, and Minnesota River. Appropriate control measures would be utilized to manage and treat stormwater runoff prior to discharge.</p> <p>The Preferred Alternative would result in an increase in impervious area of approximately 30 acres. To mitigate the impacts of additional runoff, stormwater would be treated using permanent treatment ponds.</p>	<p>Change is result of more detailed information, which was not available in 1993.</p> <p>Change is a result of modified regulations.</p>

Impact Category and Section No.	1993 FEIS Alignment	Current Preferred Alternative (excluding CR 43 Interchange Footprint)	Explanation of Impact Change
Water quality: wastewaters (Section 4.A.18)	No information was included in the FEIS regarding sources of wastewater. However, the FEIS indicates that three rural residential units would likely be impacted by the Dahlgren Township portion of the preferred alignment (it is assumed that these sites have, or had, subsurface sewage treatment systems).	Subsurface sewage treatment systems (i.e., septic tanks) would be abandoned at two locations where existing building sites would be removed. No other sources of wastewater, existing or created, would be impacted.	No substantial change.
Geologic hazards and soil conditions (Section 4.A.19)	Limited information was included in the FEIS regarding geology, hydrogeology, geologic hazards, and soil conditions. Also, limited discussion was provided regarding the sensitivity of groundwater to contamination.	Covered karsts may be present below portions of the study area; however, any covered karsts that may be present would not likely cause environmental problems for the Preferred Alternative. There is potential for groundwater contamination from construction wastes, chemicals, and/or petroleum products due to the shallow water table and high groundwater sensitivity in portions of the study area.	Change is result of more detailed information, which was not available in 1993.
Solid wastes, hazardous wastes, storage tanks (Section 4.A.20)	The FEIS included limited discussion regarding solid wastes and hazardous substances used and/or generated during construction.	The Preferred Alternative would generate construction demolition debris. Asbestos-containing materials, lead-based paint, and other regulated materials/wastes may be generated during structure demolitions. It is expected that temporary ASTs would be utilized on-site to store petroleum products and other materials during construction.	No change.
Traffic (Section 4.A.21)	Traffic congestion and travel time would decrease. Safety conditions would improve. No Level of Service ratings were reported for the build alternative.	Traffic congestion and travel time would decrease. Safety conditions would improve. Overall, Level of Service within the project limits would improve.	No change.

Impact Category and Section No.	1993 FEIS Alignment	Current Preferred Alternative (excluding CR 43 Interchange Footprint)	Explanation of Impact Change
Vehicle-related air emissions (Section 4.A.22)	<p>Located within a nonattainment area for Carbon Monoxide (CO). The worst-case CO concentrations for the preferred alignment were projected to be well below current state and federal standards.</p> <p>Mobile Source Air Toxics (MSATs) were not evaluated.</p>	<p>The Twin Cities seven county metro area was re-designated in 1999 as a maintenance area for CO. The worst-case CO concentrations for the Preferred Alternative would be well below current state and federal standards.</p> <p>The Preferred Alternative may increase MSAT emissions in the immediate area due to a projected increase in vehicle miles traveled. However, based on several factors, a substantial decrease in regional MSAT levels are predicted.</p>	<p>No change.</p> <p>Change is a result of modified regulations.</p>
Stationary source air emissions (Section 4.A.23)	No stationary sources of air emissions were planned for the project.	No stationary sources of air emissions are planned for the project.	No change.
Odors, noise and dust (Section 4.A.24)	<p><u>During Construction</u> Construction activities may result in temporary increased noise levels relative to existing conditions.</p> <p><u>During Operation</u> Noise levels would increase approximately 4.0 dBA within the Western Segment. Noise barriers for this segment were determined to be acoustically ineffective and/or excessive in cost.</p>	<p><u>During Construction</u> Construction activities may result in temporary increased noise levels.</p> <p><u>During Operation</u> Noise levels would increase at several receptors. Noise abatement measures would be part of future environmental reviews.</p>	<p>No change.</p> <p>Change is result of more detailed information, which was not available in 1993.</p>

Impact Category and Section No.	1993 FEIS Alignment	Current Preferred Alternative (excluding CR 43 Interchange Footprint)	Explanation of Impact Change
Archaeological, historical and architectural resources (Section 4.A.25a)	<p>One archaeological site (115-24-8:1) with eligibility for listing on the National Register of Historic Places was identified. It was determined that this site would be adversely impacted by the Dahlgren Township portion of the Western Segment.</p> <p>Several eligible historical structures (Frank House and Chaska Brick structures) were identified within the applicable area of potential effect; however, it was determined that these structures would not be impacted.</p>	<p>Site 115-24-8:1 was studied and is no longer considered eligible for listing. No additional archaeological sites were identified that retain sufficient archaeological integrity to yield information important to understanding the site's history.</p> <p>The Preferred Alternative moves further away from the Frank House and would not affect any NRHP-eligible Chaska Brick structures. Two properties, the Klepperich Farmstead (barn) and Zoar Church (parsonage), are eligible for listing on the National Register of Historic Places under Criterion C. Potential indirect adverse effects to these properties were avoided. No archaeological or historical resources would be impacted by the Preferred Alternative.</p>	<p>Change is result of more detailed information, which was not available in 1993.</p> <p>No change.</p>
Prime or unique farmlands and land within an agricultural preserve (Section 4.A.25b)	<p>Approximately 160 acres of prime farmland would be impacted within the Dahlgren Township portion of the Western Segment. Farmlands of statewide importance were not reported.</p> <p>Eight agricultural preserves within Dahlgren Township would be impacted by the preferred alignment, with an estimated impact of approximately 36 acres.</p>	<p>Approximately 73 acres of prime farmland and 53 acres of farmland of statewide importance would be converted to non-farmland by the Preferred Alternative.</p> <p>Three parcels with agricultural preserves would be converted. The total area of agricultural preserve land affected would be approximately 43 acres.</p>	<p>Change is result of more detailed information, which was not available in 1993.</p> <p>Changes in impact are due to changes in areas enrolled in agricultural preserve programs.</p>

Impact Category and Section No.	1993 FEIS Alignment	Current Preferred Alternative (excluding CR 43 Interchange Footprint)	Explanation of Impact Change
Designated parks, recreation areas and trails (Section 4.A.25c)	<p>The Dahlgren Township portion of the preferred alignment would not impact existing parks, recreational areas, or trails.</p> <p>The City of Carver reserved an area in the northeast portion of the community for the Minnesota Valley Refuge and Trail System. This location is found outside the applicable project site.</p>	<p>No existing publicly-owned parks, recreational areas, trails, or wildlife and/or waterfowl refuges would be impacted.</p> <p>The City of Carver is conducting a search in the Dahlgren Township annexation area for a future city park location. The search areas for all future parks are located outside the project limits; therefore, impacts are not anticipated. The Metropolitan Council has also identified potential future parks and trails in areas outside of the project limits.</p>	No change.
Scenic views and vistas (Section 4.A.25d)	The overall visual impacts within the corridor would be slight.	The Preferred Alternative is not anticipated to have adverse visual impacts to this rural landscape.	No change.
Other unique resources (Section 4.A.25e)	The FEIS identified Dahlgren Golf Club as a “unique” resource within the greater project vicinity.	No “unique” resources are located within the project limits. Dahlgren Golf Club is located outside the study area and construction limits.	No change.
Visual impacts (Section 4.A.26)	No information was included in the FEIS regarding visual impacts during construction and operation.	The Preferred Alternative would not result in adverse visual impacts during construction and operation.	No change.
Compatibility with plans and land use regulations (Section 4.A.27)	The Western Segment of the preferred alignment would be consistent with adopted plans and land use regulations.	Preferred Alternative would be compatible with Mn/DOT and local planning documents.	No change.
Impact on infrastructure and public services (Section 4.A.28)	No information was included in the FEIS regarding the need to expand infrastructure and public services in order to serve the project.	All required changes in local roadways are included in the project definition and impact assessments. No new utilities or public services would be needed. However, some utility relocation would be required.	No change.
Cumulative impacts (Section 4.A.29)	A specific evaluation of cumulative impacts was not conducted. However, the FEIS includes information regarding other planning and development activities.	It is not anticipated that the Preferred Alternative would result in significant environmental effects due to cumulative impacts.	Change is result of more detailed information, which was not available in 1993.

Impact Category and Section No.	1993 FEIS Alignment	Current Preferred Alternative (excluding CR 43 Interchange Footprint)	Explanation of Impact Change
Categories under Additional Federal Issues			
Social impacts (Section 4.B.1)	The Dahlgren Township portion of the preferred alignment would not adversely impact any community or neighborhood. No categories of people uniquely sensitive to transportation (such as children, elderly, minorities, and persons with mobility impairments) would be unduly impacted.	The Preferred Alternative would not adversely impact any community or neighborhood. No categories of people uniquely sensitive to transportation would be unduly impacted.	No change.
Considerations relating to pedestrians and bicyclists (Section 4.B.2)	The FEIS did not indicate the presence of any sidewalks, pedestrian crossings, multi-use recreational trails, or bikeways within the Dahlgren Township portion of the preferred alignment.	There are no existing sidewalks, pedestrian crossings, or multi-use recreational trails within the project site. Existing TH 212 is designated as a bikeway; however, it is not considered a dedicated recreational facility.	No change.
Section 4(f) / Section 6(f) (Section 4.B.3)	No Section 4(f) resources would be impacted by the Dahlgren Township portion of the preferred alignment. The Frank House was included in the Draft Section 4(f) Evaluation; however, the FEIS eliminated potential impact to the Frank House by shifting the alignment. No information is included in the FEIS regarding Section 6(f) resources.	The project avoids potential indirect impacts to the Klepperich barn and Zoar Church parsonage, both eligible historic properties; therefore, there are no Section 4(f) impacts. The Preferred Alternative would not involve Section 6(f) resources.	No change. No change.
Environmental Justice (Section 4.B.4)	No neighborhoods with concentrations of ethnic, elderly, or low-income households would be affected.	Disproportionately high and adverse human health or environmental effects to minority or low-income populations would not occur as a result of the Preferred Alternative.	No change.
Economics (Section 4.B.5)	Approximately 0.01 percent of the 1988 municipal tax base would be removed.	The Preferred Alternative would result in minor fiscal impacts to the Carver County tax base.	No substantial change.
Relocation (Section 4.B.6)	Three residential relocations would occur as a result of the Dahlgren portion of the Western Segment. The FEIS does not indicate whether business relocations would be necessary within the applicable project site.	Up to two relocations would occur as a result of the Preferred Alternative (one is listed by the county as residential; the other is listed as agricultural/residential). No business relocations are anticipated.	No substantial change.

Impact Category and Section No.	1993 FEIS Alignment	Current Preferred Alternative (excluding CR 43 Interchange Footprint)	Explanation of Impact Change
Right-of-way and access (Section 4.B.7)	<p>No specific information was included in the 1993 FEIS regarding the amount of right-of-way needed for the preferred alignment.</p> <p>Limited information regarding access was discussed. The FEIS stated that the project would not adversely impact accessibility.</p>	<p>There is a total of 103 acres of land within existing Mn/DOT right-of-way. Approximately 149 acres of new right-of-way would be acquired, which would affect 24 parcels.</p> <p>There are 47 access points serving 51 parcels within the corridor. Currently, this section of TH 212 does not have access control. In an effort to move toward meeting Mn/DOT's access management guidelines (adopted since the 1993 FEIS), 34 direct access points would be eliminated. Although modified, access to facilities would be maintained upon project completion.</p>	<p>Change is result of more detailed information, which was not available in 1993.</p> <p>Change is result of more detailed information, which was not available in 1993.</p>

The change in impact between the 1993 FEIS alignment and the roadway portion of the current Preferred Alternative is largely attributed to changes resulting from the lapse of time between the 1993 FEIS and the current analysis. Over the past 16 years there have been a number of changes in corridor conditions, as well as changes to regulations governing the analysis of different environmental and social issues. In some cases, as reflected in the table above, more detailed information is available than was accessible for the 1993 analysis. An increase in projected traffic and development has also necessitated an evaluation of a potential future interchange at CR 43. For ease of capturing these overall changes in condition, project definition, and documenting any further impacts that may result, the following impact sections focus on an analysis of the current roadway portion of the Preferred Alternative, and the CR 43 interchange footprint portion of the Preferred Alternative.

For purposes of this evaluation, it has been determined that the No-Build Alternative is not anticipated to incur additional impacts above those identified in the sections below. Therefore, unless otherwise noted, the No-Build Alternative is not discussed under each impact section.

A. ENVIRONMENTAL ASSESSMENT WORKSHEET

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) Project Title** S.P.1013-79, Trunk Highway 212,
From Cologne Bypass to CSAH 11 in Carver
- 2) Proposer** Minnesota Department of Transportation
Contact person Nicole Peterson, P.E.
Title Project Manager
Address Metro District Office, 1500 West County Road B2, MS 050
City, State, ZIP Roseville, Minnesota 55113
Phone (651) 234-7723
Fax (651) 234-7709
E-mail Nicole.Peterson@dot.state.mn.us
- 3) RGU** Minnesota Department of Transportation
Contact person Rick Dalton
Title Environmental Coordinator
Address 1500 West County Road B2, MS 050
City, State, ZIP Roseville, Minnesota 55113
Phone (651) 234-7677
Fax (651) 234-7608
E-mail Richard.Dalton@dot.state.mn.us

4) Reason for EAW preparation (check one)

EIS scoping Mandatory EAW Citizen petition RGU discretion
 Proposer volunteered

5) Project location

County: Carver
City/township: City of Carver, Dahlgren and Chaska townships
Township 115 North, Range 24 West, Sections 7-18

Attach each of the following to the EAW:

- County map showing the general location of the project; See **Figures 1 and 2**.
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); See **Figure 3**.
- Site plan showing all significant project and natural features. See **Figures 4- 15**.

6) Description

a. Provide a project summary of 50 words or less to be published in the EQB Monitor.

Response: The TH 212 project (S.P. 1013-79) includes the widening of TH 212 from a two-lane, undivided highway to a four-lane, divided highway between the Cologne Bypass and CSAH 11. The project will be partially constructed on a new horizontal alignment. A footprint for a new interchange is also being evaluated at CR 43. The project also includes the construction of turn lanes and stormwater management ponds, reconstruction of roadside drainage ditches, extension or replacement of culverts, and the relocation of existing utilities. The project will require the acquisition of approximately 149 acres of new right-of-way.

b. Give a complete description of the proposed project and related new construction. Attach additional sheets as necessary. Emphasize construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes. Include modifications to existing equipment or industrial processes and significant demolition, removal or remodeling of existing structures. Indicate the timing and duration of construction activities.

Response: See Section 3 for a description of the Preferred Alternative. See Section 4.B.7 for a description of right-of-way needs, including the removal of several structures in the project corridor.

The Preferred Alternative is approximately 4.7 miles, from the east end of the Cologne Bypass to CSAH 11. Where the new alignment deviates from the existing alignment, portions of the existing roadway will be utilized as frontage roads, while other parts will be abandoned and removed. Roadway debris will be handled in accordance with applicable state disposal guidelines. The roadway portion of the Preferred Alternative will affect an estimated 252 acres of total right-of-way area (149 acres of new right-of-way; 103 of existing right-of-way). Of this total 252 acres, approximately 184 acres would be graded and/or excavated during construction. The CR 43 interchange footprint would add up to 44 acres of new right-of-way, for a total of 296 acres if both portions of the project are constructed.

Standard Mn/DOT construction methods would be used to construct this project. The pavement type and other final design details have not been determined. There are substantial areas of grading necessary, however all disturbance would occur within the construction limits identified. It is possible the project could be constructed in more than one phase, as determined by traffic congestion, safety problems, and funding availability.

The purpose of this study is to identify a corridor for future construction and right-of-way preservation.

c. 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.

Response: Refer to Section 2, Purpose and Need for Project.

Following completion of the environmental review process, the right-of-way for the Preferred Alternative will be officially mapped; allowing the purchase of right-of-way as funding becomes available and as the properties within the Official Map area become available for sale.

d. Are future stages of this development including development on any outlots planned or likely to happen? Yes No

The roadway section between Norwood Young America and the west end of the Cologne Bypass is also being considered for conversion from a two-lane to a four-lane segment. An EA/EAW is currently being prepared for this project.

Studies are also taking place for a potential future interchange at Market Avenue, just east of Cologne. At this time, an environmental screening report is being prepared that evaluates the impacts of an interchange footprint, which accommodates several potential interchange configurations.

Neither of these projects are programmed or funded; therefore a construction schedule has not been identified.

e. Is this project a subsequent stage of an earlier project: Yes No

Response: This project was included as part of an overall roadway expansion project between the eastern edge of the existing four-lane bypass section of TH 212 at Cologne and the I-494/TH 5 interchange in Eden Prairie. As described in Section 1 Background and Report Purpose, this overall project was evaluated in an EIS process that concluded in 1993, and subsequent reevaluation documents have been prepared to address minor changes in the project or updated information. This segment between the Cologne Bypass and CSAH 11 in Carver is the only segment reviewed in the 1993 FEIS that has not been constructed.

7) Project Magnitude data

Total project acreage: Approximately 252 acres (estimated roadway right-of-way area, which includes 149 acres of new right-of-way to be acquired and 103 acres of existing right-of-way) for the roadway portion of the Preferred Alternative. The CR 43 interchange would require approximately 44 acres of additional right-of-way, for a total of 296 acres if both portions of the project are constructed.

Number of residential units: unattached NA attached NA

Maximum units per building: NA

Commercial, industrial or institutional building area (gross floor space): NA

Indicate areas of specific uses (in square feet): NA

Office
Retail
Warehouse
Light industrial
Other commercial (specify)
Building height (if over 2 stories, compare to heights of nearby buildings)

Manufacturing
Other industrial
Institutional
Agricultural

8) Permits and approvals required

List all known local, state and federal permits, approvals 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.

Response: Refer to Section 5C for a list of necessary permits and approvals.

9) Land use

Describe current and recent past land use and development on the site and on adjacent lands. Discuss project compatibility with adjacent and nearby land uses. Indicate whether any potential conflicts involve environmental matters. Identify any potential environmental hazards due to past site uses, such as soil contamination or abandoned storage tanks, or proximity to nearby hazardous liquid or gas pipelines.

Response:

Land Use and Compatibility

Conversion of land to right-of-way is reported in Section 4.B.7. Based on the proposed construction limits, the Preferred Alternative would need to acquire 193 acres of additional right-of-way for this project, affecting 24 parcels. Carver County and the cities in the TH 212 corridor are actively planning for growth and are aware that TH 212 is planned to be expanded to four lanes. The purpose of this environmental document is to preserve the highway corridor and promote good planning to preserve right-of-way for future development. Compatibility with existing community land use plans is discussed below.

Carver County Land Use

According to the draft *Carver County 2030 Comprehensive Plan (Carver County Plan)*, the far western portion of the county is predominantly rural and the eastern portion is experiencing the majority of urbanization. The draft *Carver County Plan* states that urban development should occur within the municipalities of the county; the area outside the municipalities should remain rural in character, with agriculture as the principal land use, to preserve farmland, wetlands, and open space. The Preferred Alternative is consistent with this goal, because it would serve the existing municipalities in the study area.

The *Carver County Plan* identifies two transition areas (lands that are shown in a city's comprehensive plan as being urbanized in approximately the next 20 years) in the TH 212 project vicinity, one on the east side of Cologne and the other on the west side of Carver. The *Carver County Plan* also calls for three new regional parks to be developed after 2030 in areas identified as the Miller Lake, Ravine, and Minnesota River Bluff Park areas (see **Figure 6**). A trail connection between the future Ravine Park in Carver (approximately 1.5 miles south of TH 212) and the future Miller Lake Park (approximately one mile north of TH 212) is envisioned once the parks are established and slated for development (see **Figure 6**). This trail would cross TH 212 at an undetermined location.

In Carver County, land use planning is done by the cities within their corporate limits and by the county in the unincorporated area with active participation by the township governments. The TH 212 project runs through Dahlgren Township. The primary land use in Dahlgren Township is commercial agriculture. The TH 212 project would not preclude existing or future land uses within the township.

City of Cologne

The western project limits do not extend into the City of Cologne, even under future conditions when the city annexes a portion of Benton Township eastward to Market Avenue. The Preferred Alternative is consistent with existing and future land use because the city's Comprehensive Plan anticipates the expanded roadway capacity that would serve planned development.

City of Carver

The eastern project limits do not extend into the City of Carver. However, the City of Carver plans to expand its boundary westward by annexing a portion of Dahlgren township, from CSAH 11 to about one-quarter mile west of CR 43. The *City of Carver Comprehensive Plan* identifies the area along TH 212 between CSAH 11 and CR 43 as the Hampshire Road Opportunity Area and identifies this area as planned for commercial, industrial, and residential uses at urban density. These land uses would most likely require municipal services. By designing the future conversion of TH 212 to a four-lane divided highway, this project supports these potential future land uses.

City of Chaska

The project limits do not extend into the City of Chaska, which is located east and north of the project site, though the City of Chaska is considering the possibility of expanding its western border, through annexation, to CSAH 11 in northeastern Dahlgren Township.

Impacts: Right-of-way preservation would set aside land for roadway improvements and allow development to occur in areas adjacent to the roadway in a manner that would not require costly acquisitions, relocations, and community impacts in the future. Development and redevelopment may encroach on the future TH 212 corridor, unless an alignment is protected, resulting in greater potential for social and economic impacts at the time the project is funded.

The Preferred Alternative would impact agricultural land in areas outside of existing cities. Farmland impacts are addressed in Section 4.A.25b. Wetland and open space (parkland) impacts are addressed in Section 4.A.12 and 4.A.25c, respectively. In areas that are planned for

annexation, the TH 212 project would impact planned future land uses, such as agricultural, residential, and commercial/industrial. The proposed expansion of TH 212 to a four-lane expressway is anticipated and is compatible with adjacent and nearby land uses and with future land uses in the proposed annexation areas.

The CR 43 interchange, if constructed, has potential to change future land use within the footprint area. Interchange areas often draw commercial development, such as gas stations, restaurants, and retail stores. Dahlgren Township, City of Carver, and Carver County can use zoning laws and land use regulations to control land use change within the CR 43 interchange footprint.

Mitigation: The Preferred Alternative will not preclude existing or planned land uses and will provide surrounding cities, townships, and Carver County with better guidance in future land use planning and decision making. In areas of planned development, such as proposed annexation areas, the Preferred Alternative will provide greater roadway capacity and improved accessibility. In areas where planned future land use is intended to remain agricultural or undeveloped, Dahlgren Township and Carver County can use zoning laws and land use regulations to control land use change. Mitigation measures for anticipated direct farmland impacts are addressed in Section 4.A.25b. Mitigation for wetland and open space (parkland) impacts are addressed in Section 4.A.12 and 4.A.25c, respectively.

Environmental Hazards

Response: The presence of contaminated properties (properties where soil and/or groundwater are known or suspected to be impacted with pollutants, contaminants, or hazardous wastes, as defined in Minnesota Statutes, Section 115B.02) is a concern in the development of highway projects because of potential cleanup costs and safety concerns associated with construction personnel encountering hazardous materials. Contaminated properties are also a concern because they can cause construction delays and increase overall project costs. Hazardous materials identified during highway construction projects must be properly handled and treated. Improper management of hazardous materials can worsen their impact on the environment.

Methodology

A Limited Phase I Environmental Site Assessment (Phase I ESA) was performed in accordance with Mn/DOT guidance and provides information on potentially contaminated properties. This assessment is labeled as “limited” as it did not include interviews or contact with private landowners or access to property outside of existing public right-of-way. Potentially contaminated properties were identified through review of historical maps, aerial photographs, fire insurance maps, city and county records, and regulatory agency files including, but not limited to, Minnesota Pollution Control Agency (MPCA) files regarding Underground Storage Tank (UST) sites; Aboveground Storage Tank (AST) sites; Leaking Underground/Aboveground Storage Tank (LUST/LAST) sites; Voluntary Investigation and Cleanup (VIC) sites; Resource Conservation and Recovery Act (RCRA) sites; Minnesota Environmental Response and Liability Act (MERLA) sites; and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) sites. Information regarding potentially contaminated properties was also obtained by observing current site conditions from the existing right-of-way.

A Limited Phase I ESA for the project was conducted between May and October 2007. The assessment included all properties within or partially within 500 feet of the preferred highway alignment identified in the 1993 FEIS. The properties were ranked as having a *high, medium, low, or unlikely* potential for contamination.

- Sites with **high** potential for contamination include all active and inactive VIC and MERLA sites, all active and inactive dump sites, and all active LUST sites;
- Sites with **medium** potential for contamination include all closed LUST sites, all sites with USTs or ASTs, all sites with vehicle repair activities, and all sites with historical demolitions;
- Sites with **low** potential for contamination include small hazardous waste generators and possibly farmsteads and residences; and
- Sites that are classified as **unlikely** appear to have an unlikely chance of contamination.

The results of the Limited Phase I ESA are summarized below. Copies of the complete report (dated October 10, 2007) are on file at Mn/DOT Office of Environmental Services, Central Office, and available by request from the Project Manager.

A total of 85 sites are located within or partially within the project site. All sites were ranked during the Limited Phase I ESA as having a high, medium, low, or unlikely potential for contamination (see ranking criteria above). The assessment identified no sites with high potential, 20 sites with medium potential, 20 sites with low potential, and 45 sites with unlikely potential for contamination. **Figure 7** shows the locations of the sites (site rankings are also indicated). **Table 4-2** summarizes the low- and medium-ranked sites (no high-ranked sites were identified during the Limited Phase I ESA); grey highlighting in the **Table 4-2** and on **Figure 7** indicates where the Preferred Alternative right-of-way may be acquired from sites with a potential for contamination.

Table 4-2. Sites with Potential for Contamination – Preferred Alternative

Site #	Site Name	Location	Rank and Rationale
B01	Residential	8820 TH 212 Dahlgren Township	Medium – An historical demolition occurred onsite.
B02	Farmstead	8816 TH 212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B03	Verizon Wireless (cell tower)	8810 TH 212 Dahlgren Township	Medium – Potential for AST at base of cell tower.
B05	Farmstead	8780 TH 212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B07	Farmstead	8572 TH 212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B08	Farmstead	8570 TH 212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.

Site #	Site Name	Location	Rank and Rationale
B09	Farmstead	8350 TH 212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B22	Parcels B22, B23, and B24 have been merged	12620 Kelly Avenue Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities (farmstead observed on parcel B24 during review of historical aerial photos).
B23	Parcels B22, B23, and B24 have been merged	12620 Kelly Avenue Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities (farmstead observed on parcel B24 during review of historical aerial photos).
B24	Alpacas by the Brook, also Residential	12620 Kelly Avenue Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities (farmstead observed on parcel B24 during review of historical aerial photos).
B27	Farmstead	7950 TH 212 Dahlgren Township	Medium – Evidence of UST onsite (fuel pump).
B29	Farmstead and Gravel Pit	7410 TH 212 Dahlgren Township	Medium – Potential gravel pit located in northern portion of property (identified during review of historical topographic maps).
B32	Shady Acres Herb Farm, parcel 1 of 3	No street address Dahlgren Township T115N, R24W, S16	Medium – ASTs observed onsite.
B33	Shady Acres Herb Farm, parcel 2 of 3	No street address Dahlgren Township T115N, R24W, S16	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with type of business.
B34	Farmstead	7535 TH 212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B35	Shady Acres Herb Farm, parcel 3 of 3	7815 TH 212 Dahlgren Township	Medium – ASTs observed onsite.
B37	Farmstead	7545 TH212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B41	Farmstead	7215 TH 212 Dahlgren Township	Medium – Evidence of AST in basement (fill port).
B43	Farmstead	7180 TH 212 Dahlgren Township	Medium – AST observed onsite.
B44	Zoar Church and Cemetery, also Residential	7030 TH 212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, including embalming chemicals associated with burial practices.
B47	Farmstead	6510 TH 212 Dahlgren Township	Medium – Spill of 400 gallons of fuel oil and diesel occurred at the CR 43 and TH 212 intersection (see Site BX1).

Site #	Site Name	Location	Rank and Rationale
B49	Dahlgren Golf Club	6940 Dahlgren Road Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with golf course maintenance.
B55	Farmstead	6675 TH 212 Dahlgren Township	Medium – Spill of 400 gallons of fuel oil and diesel occurred at the CR 43 and TH 212 intersection (see Site BX1).
B57	Farmstead	6610 Dahlgren Road	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B58	Minnesota Valley Baptist Church	12575 CR 42 Dahlgren Township	Medium – Spill of 400 gallons of fuel oil and diesel occurred at the CR 43 and TH 212 intersection (see Site BX1).
B60	Farmstead	6080 TH 212 Dahlgren Township	Medium – AST observed onsite; potential fill material of unknown origin onsite.
B62	Farmstead	5730 TH 212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B63	Farmstead	6175 TH 212 Dahlgren Township	Medium – Spill of 400 gallons of fuel oil and diesel occurred at the CR 43 and TH 212 intersection (see Site BX1).
B64	Vickerman Company, also Mid-America Bank and Vernco Maintenance	12775 CR 43 Dahlgren Township	Medium – Closed LUST site.
B66	The Mustard Seed	6055 TH 212 Dahlgren Township	Medium – ASTs observed onsite.
B67	Farmstead	5985 TH 212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B69	Farmstead	5725 TH 212 Dahlgren Township	Medium – 55 gallon drum observed onsite; abandoned vehicles.
B71	Farmstead	5610 TH 212 Dahlgren Township	Medium – Site may have been a manufacturing facility (identified during city directory review).
B73	Farmstead	5280 TH 212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B75	Farmstead	5120 TH 212 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B76	Farmstead	12450 CR 147 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B77	Farmstead	12460 CR 147 Dahlgren Township	Low – Potential for use/storage of hazardous materials, petroleum products, and/or other chemicals associated with farming activities.
B78	Farmstead	5435 TH 212	Medium – Potential fill material of unknown origin onsite.

Site #	Site Name	Location	Rank and Rationale
B83	Cultivated Cropland	4875 TH 212 Dahlgren Township	Medium – An historical demolition occurred onsite.
BX1	Spill Site	Intersection of TH 212 and CR 43 Chaska	Medium – In regards to contamination, this incident has a medium potential to affect Mn/DOT right-of-way and Sites B47, B55, B58, and B63 (due to quantity of fuel oil and diesel released and incomplete information regarding final clean-up).

Grey highlighting indicates an anticipated acquisition from parcels with potential for contamination. Unidentified environmental hazards may also be located within the study area.

Regulatory Context: All pollutants, contaminants, and hazardous wastes (as defined in Minnesota Statutes, Section 115B.02) identified during highway construction projects must be properly handled and treated in accordance with appropriate federal and state regulations.

Impacts: Based on the design of the roadway portion of the Preferred Alternative, eight low-ranked sites and 13 medium-ranked sites would be affected by the project through construction activities and/or right-of-way acquisition (see **Table 4-2** and **Figure 7**). These sites, especially those ranked as medium, are potentially contaminated and may result in additional cleanup costs, safety hazards, and/or environmental liability.

The CR 43 interchange footprint could result in additional right-of-way acquisition from sites that would also be affected by the roadway (B47, B55, B58, B60, B63, and/or BX1 - all ranked as medium). These sites include in all four quadrants of the interchange footprint, therefore, at this time the footprint area was not refined based on avoidance of potential contamination.

Mitigation: If needed, the area(s) of concern for any potentially contaminated site that may be impacted by the project would be further assessed to determine the presence, type, and magnitude of contaminated soil and/or groundwater. The results of the investigation would be used to determine if impacts to the contaminated materials can be avoided, or at the very least minimized; especially with regard to the selection of the CR 43 interchange design. A plan would be developed, if necessary, for properly handling and treating contaminated soil and/or groundwater during construction.

Mn/DOT would work with the MPCA VIC Program, MPCA Voluntary Petroleum Investigation and Cleanup Program, and Minnesota Department of Agriculture (MDA) Incident Response Program, as appropriate, to obtain assurances that Mn/DOT's contaminated site cleanup work and/or contaminated site acquisition would not associate the agency with long-term environmental liability for the contamination, and to obtain approvals for any contamination management and clean up plans.

If previously unknown hazardous materials are discovered during construction, the Contractor shall notify the Mn/DOT Project Engineer immediately and follow Mn/DOT Office of Environmental Services management protocol. The materials would be handled in accordance with appropriate federal and state regulations.

10) Cover Types

Estimate the acreage of the site with each of the following cover types before and after development: *If Before and after totals are not equal, explain why:*

Preferred Alternative:	Before	After		Before	After
Types 1-8 Wetlands	12	0	Lawn/Landscaping	4	0
Wooded/Forest	4	0	Impervious Surfaces	24	54
Ponds (treatment)	0	4	Other (ROW, roads)	78	194
Cropland	130	0			

Roadway Portion of the Preferred Alternative TOTAL: Before and after is 252 acres (based on estimated proposed ROW limits as shown in **Figure 14**).

CR 43 Interchange:	Before	After		Before	After
Types 1-8 Wetlands	1.7	0	Lawn/Landscaping	8	0
Wooded/Forest	0.1	0	Impervious Surfaces ¹	0	11
Ponds (treatment)	0	0	Other (ROW, roads)	0	33
Cropland	34.2	0			

¹Impervious was estimated at 25% of footprint.

CR 43 Interchange Footprint Portion of the Preferred Alternative TOTAL: Before and after is 44 acres (based on estimated proposed ROW limits as shown in **Figure 14**).

11) Fish, wildlife and ecologically sensitive resources

a. Identify fish and wildlife resources and habitats on or near the site and describe how they would be affected by the project. Describe any measures to be taken to minimize or avoid impacts.

Response: Vegetation within the study area includes a mix of naturally-occurring and landscaped plant species. Land use primarily consists of rural residential, agricultural fields, and maintained right-of-way grasslands, with linear tree windbreaks, small-to-medium-sized woodlots, and various wetlands scattered throughout. Carver Creek (designated as a Department of Natural Resources or DNR Public Water) is also located within the study area. The greater project vicinity is comprised of similar land use.

The rural residential/agricultural landscape serves as wildlife habitat due to woodlots and tree windbreaks around residences and agricultural fields. These areas support wildlife, though the habitat is considered relatively low quality. Wildlife in these areas generally includes songbirds and small mammals, but may include raptors, woodpeckers, waterfowl, deer, raccoon, skunk, muskrat, snakes, turtles, and amphibians.

Grassland within the existing right-of-way is occasionally maintained during the growing season via mowing and/or other methods. Vegetation is comprised of grasses and forbs, generally including smooth brome, bluegrass, goldenrod, milkweed, and asters. These areas typically have low diversity, and therefore low quality habitat, but may provide nesting habitat for ground nesting birds such as pheasant, and for small mammals such as mice and gophers, which also provide food sources for hawks and owls.

Woodlots within and adjacent to the study area are consistent with the Mesic Hardwood Forest (MH) and Fire-Dependent Forest/Woodland (FD) Systems (*Field Guide to the Native Plant Communities of Minnesota: the Eastern Broadleaf Forest Province*, DNR, 2005). MH communities are generally characterized by basswood, maples, and oaks; other dominant tree species include a mixture of elms, paper birch, quaking and big-toothed aspen, black and green ash, bitternut hickory, black cherry, and hackberry. FD communities are primarily dominated by aspen and oaks, with bur oaks as the most common species. The woodlots within the study area consist of similar tree species. Basswood, maples, oaks, elms, birch, and ash trees were identified as dominant species during field observations. Other less extensive but common tree species identified were spruce, aspen, hackberry, pignut hickory, buckthorn, and eastern cottonwood. These scattered woodlots support much of the same wildlife as mentioned above.

A Site of Biodiversity Significance (SBS) is located immediately southeast of the TH 212 and County Road 43 intersection. The SBS was designated as moderate by the Minnesota County Biological Survey, a DNR sponsored program, based on this woodland's moderate level of diversity. The SBS is not located within the project study area; however contiguous woodlands of lower diversity extend into the study area.

There are numerous wetlands of various types within the study area. The most common wetland type is shallow marsh, which typically is dominated with cattails and other emergent vegetation. Seasonally flooded basins are also common, many of which are planted annually to agricultural crops. These and other wetlands in the study area provide habitat for ducks, geese, muskrat, other small mammals and birds, frogs, turtles and salamanders. Further details on wetlands can be found in Section 4.A.12.

Impacts: Based on the design alignment of the roadway portion of the Preferred Alternative, Carver Creek would be impacted by the project via construction activities and/or right-of-way acquisition. A new channel crossing would be constructed based on this alignment. These impacts are further described in the wetlands section (4.A.12) of this document. Woodlots, grasslands, and wetlands would also be impacted by the project via construction activities and right-of-way acquisition. The design of the roadway portion of the Preferred Alternative has been modified to avoid impacts to the contiguous non-SBS woodlands that are located within the project site.

The CR 43 interchange footprint would not impact any additional fish and wildlife resources and habitats. The footprint has been modified to avoid impacts to the contiguous non-SBS woodlands that are located southeast of the CR 43 interchange footprint.

Mitigation: The project would require right-of-way acquisition, and would possibly require temporary construction easements. Narrowing construction limits and/or modifying final

design layouts near woodlots, wetlands, and Carver Creek would minimize impacts to fish and wildlife habitats, to the extent practical.

Per the DNR (see **Appendix B**), a Public Waters Work Permit would be required for modifications to the Carver Creek crossing. However, the crossing may qualify for authorization under General Permit 2004-0001 if specific conditions are met, such as conducting a hydrologic analysis and allowing fish migration. The work exclusion period for non-trout streams in DNR Region 3 is March 15 through June 15; construction activities in or near the creek would be prohibited during this period. In addition, standard Best Management Practices would be implemented.

Removal of trees, shrubs, and other habitat components would be limited to only those necessary to construct the project. The preliminary design of the project has been modified to avoid impacts to the contiguous non-SBS woodlands that are located within the project site. Mitigation of unavoidable impacts to ecological resources would be achieved through standard erosion control measures and roadside replanting efforts for disturbed areas. A vegetation salvage and protection review would be conducted and a vegetation management plan would be created during final design.

b. Are any state-listed (endangered, threatened or special concern) species, rare plant communities or other sensitive ecological resources such as native prairie habitat, colonial water bird nesting colonies or regionally rare plant communities on or near the site? Yes X No

If yes, describe the resource and how it would be affected by the project. Indicate if a site survey of the resources has been conducted and describe the results. If the DNR Natural Heritage and Nongame Research program has been contacted give the correspondence reference number: ERBD file 20070805. Describe measures to minimize or avoid adverse impacts.

Response: Available information regarding reported occurrences of rare, threatened and endangered (RT&E) species or critical habitats in proximity to the proposed alignment was obtained from the United States Fish and Wildlife Service (USFWS) for federally listed species. The database search by this agency covered an area within 500 feet of the proposed alignment. Carver County has no species identified on the USFWS County Distribution of Minnesota's Federally Threatened, Endangered, and Candidate Species List.

The DNR Natural Heritage and Nongame Research Program reviewed the study area for the presence of rare plant and animal species and other significant ecological resources within approximately one mile of the project site. The DNR identified Carver Creek within the project site; Carver Creek is designated as a DNR Public Water. No other features were identified that may be affected by the Preferred Alternative.

Regulatory Context: In accordance with Section 7 of the Endangered Species Act, consultation was initiated with the U.S. Fish and Wildlife Service (USFWS) regarding the presence of federally-listed threatened and endangered species, candidate species, and designated critical habitat in the study area.

Impacts: Based on the design of the roadway portion of the Preferred Alternative alignment and the fact that no species were identified on the USFWS County Distribution of Minnesota's Federally Threatened, Endangered, and Candidate Species List, there would be no impact to federally threatened, endangered, or candidate species. Mn/DOT has specified a "no effect" determination, and USFWS has concurred with this determination. USFWS and Mn/DOT have committed to reevaluate the project closer to its actual construction date (**Appendix B**).

The CR 43 interchange footprint would result in no impacts to federally threatened, endangered and candidate species because there were no species identified during the agency consultation.

Mitigation: No mitigation for federally threatened, endangered, and candidate species would be needed for any of the alternatives because based on consultation from USFWS, there are no listed species in Carver County, Minnesota.

12) Physical impacts on water resources

Will the project involve the physical or hydrologic alteration-dredging, filling, stream diversion, outfall structure, diking, and impoundment of any surface waters such as a lake, pond, wetland, stream or drainage ditch? Yes No

If yes, identify water resource affected and give the DNR Public Waters Inventory number(s) if the water resources affected are on the PWI. Describe alternative considered and proposed mitigation measures to minimize impacts.

Response:

Wetlands

Mn/DOT conducted a wetland inventory/evaluation of the project corridor during the summer of 2007. The study area consisted of approximately 500 feet either side of centerline of the existing TH 212 alignment. Wetland boundaries were estimated based on aerial photography, National Wetland Inventory (NWI) maps, and Natural Resource Conservation Service (NRCS) Carver County Soils survey maps. A list of hydric soils is provided in Section 4.A.19b. A total of 33 wetlands were identified within the study area. Two DNR public waters were found in the study area, including Carver Creek (no DNR #/ID 1085) and (DNR #205W/ID 1086); only Carver Creek is located within the proposed construction limits.

The wetlands located within the proposed construction limits of the project are listed in **Table 4-3** and shown in **Figure 8**. The wetland plant community type is provided for each wetland, and the estimated wetland size is also provided. Wetland delineations and quality assessments would be conducted, as needed, during the final design stage of this project to provide wetland boundaries that reflect changes in land use, precipitation, and other factor affecting wetlands at the time of construction given it may be several years before the project is constructed.

Regulatory Context: There are several laws that regulate activity within wetland areas with the intent to preserve wetland areas, water quality and wildlife habitat among other important wetland functions. Section 404 of the Clean Water Act, at the federal level, is implemented by

the Army Corps of Engineers and requires applicants to document avoidance and minimization of impacts prior to approving a permit to mitigate impacts. Mn/DOT is also required to comply with Executive Order 11990, which states that all federal projects must demonstrate that there are no practicable alternatives to construction in wetlands.

Similarly, at the state level, there is the Public Waters Work permit that is implemented by the Minnesota DNR for waters that are identified on the Public Waters Inventory (PWI). Additionally, there is the Wetland Conservation Act, which is implemented by Mn/DOT in this case, with oversight and review by the Board of Water and Soil Resources (BWSR). Mn/DOT also strives to coordinate with local agencies to be consistent with local rules and regulations.

Table 4-3. Wetland Characteristics and Preferred Alternative Impacts

ID #	Classification		Area Within Study Area		DNR	NWI ²	Data Source/ Disturbance	Wetland Impact
	Cowardin	Wetland Types ¹	sq ft	acres				
1075	PEMCd	Shallow Marsh	57,611	1.32		P	Mapping	0
1076	PEMCd	Shallow Marsh	3,876	0.09		N	Mapping	0
1077	PEMC	Shallow Marsh	13,690	0.31		N	Mapping & field review	0
1078	PEMAd	Seasonally Flooded Basin	52,569	1.21		N	Ditch	0.80
1079	PEMF	Shallow Marsh	6,674	0.15		P	Mapping	0
1080	PEMC	Shallow Marsh	5,662	0.13		P	Mapping	0
1081	PEMCd	Shallow Marsh	207,698	4.77		P	Mapping/farmed	1.83
1082	PEMF	Shallow Marsh	83,040	1.91		P	Mapping & field review	0.11
1083	PEMC	Shallow Marsh	85,649	1.97		P	Mapping & field review	0.66
1084	PEM/FO1C	Shallow Marsh	34,833	0.80		P	Mapping & field review	0
1085	PFO1C	Floodplain Forest	289,781	6.65	Carver Creek	P	Mapping	1.05
1086	PEMC	Shallow Marsh	246,591	5.66	205W	P	Mapping	0
1087	PEMCd	Shallow Marsh	60,815	1.40		P	Mapping	0
1088	PEMCd	Shallow Marsh	29,258	0.67		P	Mapping	0
1089	PEMC	Shallow Marsh	49,196	1.13		P	Mapping & field review	0
1090	PEMC	Shallow Marsh	5,612	0.13		P	Mapping	0

ID #	Classification		Area Within Study Area		DNR	NWI ²	Data Source/ Disturbance	Wetland Impact
1091	PEMCD	Shallow Marsh	97,408	2.24		P	On map/farmed	1.91
1092	PEMCD	Shallow Marsh	170,544	3.92		P	On map/farmed	1.84
1093	PEMC	Shallow Marsh	37,391	0.86		P	On map/farmed	0.16
1094	PEMC	Shallow Marsh	24,553	0.56		P	Mapping & field review	0
1095	PEMC	Shallow Marsh	19,127	0.44		P	Mapping & field review	0
1096	PEMC	Shallow Marsh	39,713	0.91		P	Mapping & field review/ ditch	0.03
1097	PEMA	Seasonally Flooded Basin	33,139	0.76		P	On map/farmed	0
1098	PEMC	Shallow Marsh	17,468	0.40		N	Mapping & field review	0
1099	PEMC	Shallow Marsh	73,289	1.68		P	Mapping/ farmed	1.22
1100	PEMC	Shallow Marsh	51,328	1.18		P	On map/farmed	0
1101	PEMA	Seasonally Flooded Basin	40,115	0.92		P	Mapping	0
1102	PEMC	Shallow Marsh	12,518	0.29		P	Mapping & field review	0.18
1103	PUBF	Deep Marsh	74,271	1.71		P	Mapping	0.33
1104	PEMCD	Shallow Marsh	102,567	2.35		P	Mapping & field review/ ditch	1.71
1106	PEMCD	Shallow Marsh	49,223	1.13		P	Mapping & field review/ farmed	0
1107	PEMCD	Shallow Marsh	80,684	1.85		P	Mapping & field review	0
1108	PEMF	Shallow Marsh	7,082	0.16		P	Mapping	0
Total				50.68				11.83

¹ Wetland types are based on Eggers and Reed 2007.

² NWI notations: Y = Yes this is an NWI labeled wetland; N = This is not an NWI labeled wetland; and P = There is partial overlap between this wetland and the NWI mapping.

³ Wetland 1100 and 1101 also appear in Table 4-4. The impacts to 1100 and 1101 that appear in this table are associated with the CR 43 interchange footprint only, and do not reflect impacts associated with the proposed mainline improvements.

Impacts: Wetland impacts have been estimated based on the wetland inventory completed by Mn/DOT and the proposed construction limits. Impacts were defined as potential fill or grading activities within the wetland. For purposes of this evaluation, the worst-case impacts were assumed for the construction limits (standard slopes, rural ditch section, and full right-of-

way limits). These impacts may be reduced by modifying the typical cross-section at large wetland areas during final design.

The roadway portion of the Preferred Alternative would have up to 11.83 acres of wetland fill/grading impact, affecting 14 wetlands as shown in **Table 4-3** and **Figure 8**. At least half of these wetlands are farmed and/or have been previously modified by ditches or drain tile. Wetlands would be avoided to the extent practical (as described in the Wetland Finding provided in Appendix C) in coordination with avoidance of historic properties and existing structure/residences.

The CR 43 interchange footprint would result in up to 1.73 acres of additional impact to wetland listed in Table 4-3. **Table 4-4** and **Figure 8** list and illustrate the amount and location of the additional impacts. Depending on the actual interchange configuration, this amount of fill is also likely to be reduced.

Table 4-4. CR 43 Interchange Wetland Impacts

ID #	Classification		Area Within Study Area		DNR	NWI ²	Data Source/ Disturbance	Wetland Impact
	Cowardin	Wetland Types ¹	sq ft	acres				acres
1098	PEMC	Shallow Marsh	17,468	0.40		N	Mapping & field review	0.12
1100	PEMC	Shallow Marsh	51,328	1.18		P	On map / farmed	0.39
1101	PEMA	Seasonally Flooded Basin	40,115	0.92		P	Mapping / farmed	0.92
1102	PEMC	Shallow Marsh	12,518	0.29		P	Mapping & field review	0.06
1103	PUBF	Deep Marsh	74,271	1.71		P	Mapping	0.24
Total				4.50				1.73

¹ Wetland types are based on Eggers and Reed 2007.

² NWI notations: Y = Yes this is an NWI labeled wetland; N = This is not an NWI labeled wetland; and P = There is partial overlap between this wetland and the NWI mapping.

Mitigation Summary: It is estimated that this section of roadway may not be constructed for at least ten to twenty years. As a result, specific wetland mitigation area for the potential wetland impacts has not been identified knowing that regulations, land ownership, land use, and other factors are likely to change during that timeframe that may influence the location, type and size of the mitigation to be created for this project.

Based on current wetland regulations, if the project were to occur today, a replacement ratio of 2:1 would be the minimum amount of replacement needed, assuming there are no unique or high quality wetlands impacted. Mn/DOT would have the option of providing on-site mitigation, withdrawal of credits from its wetland bank, or a combination of these, to meet the 2:1 requirement. Given the project timeline, the assumption for this environmental document

is that wetland mitigation would be provided via certified wetland bank credits approved through the required permit application approval process.

Surface Waters

Various sources were reviewed to identify surface waters, ditches, and watercourses in the study area. These data sources included the following:

- The Minnesota Public Waters and Wetlands Inventory
- Aerial Photographs
- Contour maps

The DNR Division of Waters maintains maps that show public water bodies, as defined under Minnesota Statutes 103G.201. The types of protected waters that exist under this classification are basins, ditches, and watercourses. The DNR Public Waters Inventory (PWI) shows one public watercourse (Carver Creek) within the study area. Carver Creek flows from north to south and crosses the project site west of the TH 212/Kelly Avenue intersection (see **Figure 9**).

There are several non-public watercourses within the study area site, including private drainage ditches and waterways. The locations of these watercourses are identified by stations along the proposed roadway alignment (the alignment is divided into station numbers that are 100 feet apart starting from west and moving east; for example Station 501 is located along the alignment 100 feet east of Station 500). The non-public waters are located at the following stations (see **Figure 9**).

- Station 557 – Private drainage ditch that flows north, ultimately flowing to Carver Creek.
- Station 578 – Waterway that flows south, ultimately to Carver Creek.
- Station 631 – Private drainage ditch that flows north, ultimately flowing to Gaystock Lake and West Chaska Creek.
- Station 657 – Waterway that flows south, ultimately flowing to Carver Creek.
- Station 682 – Waterway that flows south, ultimately flowing to Carver Creek.
- Station 695 – Waterway that flows south, ultimately flowing to Carver Creek.

Also, given the agricultural land use, soils, rolling topography, and the known presence of surface inlets along the project corridor, it is likely that there are extensive subsurface agricultural drain tile systems present, especially in farmed areas that may have had previous wetlands. Since some of these drainage systems may have been in-place since the early 1900s, it is difficult to determine where drain tile is located exactly, and where the project may cause specific impacts.

Regulatory Context: A Public Waters Work Permit must be obtained from the DNR before making any alterations in the course, current, or cross-section of public water bodies, as defined under Minnesota Statutes 103G.245. With regard to private drain tile or surface drainageways, Mn/DOT must coordinate potential infrastructure impacts with landowners.

Stormwater from the proposed project would drain to a number of impaired waters. Requirements related to impaired waters are discussed in Section 17.

Impacts: The creek crossing proposed under the roadway portion of the Preferred Alternative is approximately 600 feet north of the existing TH 212/Carver Creek crossing, which consists of dual 10-foot by 10-foot box culverts. It is anticipated that the proposed TH 212/Carver Creek crossing would consist of dual 12-foot by 12-foot box culverts, extended to the additional width of the new right-of-way. The crossing would result in up to 1.05 acres of disturbance to the creek channel (Wetland #1085; see Section 4.A.12) for installation of the new culvert crossing. Coordination continues to take place with the DNR regarding the crossing and associated potential wildlife impacts.

Existing surface flow to the private drainage ditches and waterways would be perpetuated by providing culverts through the project site. Discharge from the project site would be limited to existing low rates through the use of stormwater ponds (see Section 4.A.17a). Therefore, no impacts are anticipated to non-public watercourses.

The CR 43 interchange footprint does not result in any impact to public surface waters other than wetlands, which were addressed in Section 4.A.12.

Mitigation: A Public Waters Work Permit would be required for modifications to the Carver Creek crossing. However, the crossing may qualify for authorization under General Permit 2004-0001 if specific conditions are met, such as conducting a hydrologic analysis and allowing fish migration. The work exclusion period for non-trout streams in DNR Region 3 is March 15 through June 15; construction activities in or near the creek would be prohibited during this period. In addition, standard Best Management Practices (BMPs) would be implemented.

If agricultural drainage systems are affected as a result of the project, the systems would be protected or reconfigured to maintain the existing drainage capacity.

13) Water Use

Will the project involve installation or abandonment of any water wells, connection to or changes in any public water supply or appropriation of any ground or surface (including dewatering)?

Yes No

If yes, as applicable, give location and purpose of any new wells; public supply affected, changes to be made, and water quantities to be used; the source, duration, quantity and purpose of any appropriations; and unique well numbers and DNR appropriation permit numbers, if known. Identify any existing and new wells on the site map. If there are no wells known on site, explain methodology used to determine.

Response: Wells in the project vicinity were identified from the Minnesota County Well Index database. Ten private wells are located adjacent to or within the project limits. These wells are shown in **Figure 9** and summarized below in **Table 4-5**.

There are no Minnesota Department of Health (MDH) designated Wellhead Protection Areas within the study area, however the City of Carver through its planned annexation may be drilling several wells in the project area that would be served by a Wellhead Protection Area. There are four existing wells in the project vicinity that have completed MDH source water assessments (see Table 4-6 and Figure 9). Source water assessments provide basic information about public water supplies and their susceptibility to contamination. All of the wells have low susceptibility for contamination.

Table 4-5. Private Wells Adjacent to or Within the Project Limits

Number	Minnesota Unique Well Number	Address in Dahlgren Township	Within Proposed Right-of-way
1	639217	7215 TH 212	Yes
2	719994	7215 TH 212	Yes
3	484798	7125 Sarah Drive	No
4	539788	7055 Sarah Drive	No
5	718307	12645 Laurie Lane	No
6	681617	6675 TH 212	Yes
7	164857	6510 TH 212	Yes ¹
8	588371	12757 CR 43	Yes ¹
9	526671	7030 TH 212	No
10	729360	6055 TH 212	No

¹Wells would be sealed if CR 43 interchange is constructed

Regulatory Context: Wells are regulated by the Minnesota Department of Health's Well Management Program. Wells impacted by the project (within the right-of-way) would need to be abandoned and sealed by a licensed contractor according to Minnesota Department of Health standards (Minnesota Rules Chapter 4725).

Temporary dewatering during construction may require DNR groundwater appropriation permits.

Table 4-6. Wells in Project Vicinity with Source Water Assessments

Number	Minnesota Unique Well Number	Address in Dahlgren Township	Owner	Source Water Susceptibility
1	255125	6940 Dahlgren Road ¹	Dahlgren Country Club	Low
2	526671	7030 TH 212	Zoar United Church of Christ	Low
3	588371	12575 CR 43	Minnesota Valley Baptist Church	Low
4	729360	6055 TH 212	The Mustard Seed	Low

¹ Exact location of this well is unknown

Impacts: Any wells located within the proposed right-of-way would be abandoned and sealed as part of this project. This includes two wells (719994 and 681617) for the roadway portion of the Preferred Alternative. One additional well (639217) is located near the right-of-way and

within a parcel that would be acquired by Mn/DOT and was also assumed to require closure. Well closures would be completed by a licensed contractor per MDH regulations.

If an interchange at CR 43 is constructed as part of the Preferred Alternative, wells 164857 and 588371 would also need to be abandoned and sealed.

If temporary dewatering is needed during project construction, the appropriate DNR groundwater appropriation permits would be obtained.

Mitigation: Wells within the proposed permanent right-of-way would be abandoned and sealed per state and local regulations. Wells outside, but near, the proposed project right-of-way would be avoided. Any well discovered during construction within the right-of-way would be sealed according to state and local regulatory requirements.

14) Water-related land use management district

Does any part of the project involve a shoreland zoning district, a delineated 100-year flood plain, or a state or federally designated wild or scenic river land use district?

Yes No

If yes, identify the district and discuss project compatibility with district land use restrictions.

Response: The only shoreland zoning district in the project site is at Carver Creek.

The Flood Insurance Rate Map (FIRM), published by the Federal Emergency Management Agency (FEMA) for Carver County (January 6, 1988), shows there are no mapped 100-year floodplains along the project corridor.

Impacts: The proposed roadway crossing at Carver Creek is within the shoreland district. The roadway will be designed to minimize adverse impacts, including using vegetation and natural topography to screen the proposed roadway from view from public waters. There are no mapped 100-year floodplains along the project corridor; therefore, no floodplain impacts are anticipated.

There are also no water-related land use management districts or floodplains within the CR 43 interchange footprint portion of the Preferred Alternative.

Mitigation: Mn/DOT will work with local jurisdictions to in an effort to be compatible with local goals. The proposed crossing of Carver Creek would be constructed in a manner to limit discharge of sediment to the creek using various erosion and sediment control devices. Disturbance to existing vegetation would be minimized where possible.

15) **Water surface use**

Will the project change the number or type of watercraft on any water body?

Yes No

If yes, indicate the current and projected watercraft usage and discuss any potential overcrowding or conflicts with other uses.

16) **Erosion and sedimentation**

Give the acreage to be graded or excavated and the cubic yards of soil to be moved.

Response/Impacts: Under the roadway portion of the Preferred Alternative, approximately 184 acres of land would be graded and/or excavated during construction. The amount of soil moved would be approximately 2,500,000 cubic yards, based on a cut estimate of 1,800,000 cubic yards and fill estimate of 700,000 cubic yards.

Up to approximately 44 acres of additional land would be graded and/or excavated for the CR 43 interchange footprint portion of the Preferred Alternative. Up to approximately 200,000 cubic yards of material would be moved for the interchange.

Describe any steep slopes or highly erodible soils and identify them on the site map. Describe any erosion and sedimentation control measures to be used during and after project construction.

Response: According to data obtained from the Natural Resources Conservation Service (NRCS) Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov>, accessed April 9, 2007), the following soil map units within the study area may have steep slopes and/or erodible soils:

CD3 – Lester clay loam, 12 to 18 percent slopes, severely eroded
HC2 – Estherville-Hawick sandy loams, 6 to 12 percent slopes, eroded
HD – Estherville-Hawick sandy loams, 12 to 18 percent slopes
KB2 – Lester-Kilkenny loams, 2 to 6 percent slopes, eroded
KC2 – Lester-Kilkenny loams, 6 to 12 percent slopes, eroded
KD – Lester-Kilkenny loams, 12 to 18 percent slopes
KD2 – Lester-Kilkenny loams, 12 to 18 percent slopes, eroded
KE2 – Lester-Kilkenny loams, 18 to 25 percent slopes, eroded
KF – Lester-Kilkenny loams, 25 to 40 percent slopes
LC2 – Lester-loam, 6 to 12 percent slopes, eroded
LD2 – Lester-loam, 12 to 18 percent slopes
NC3 – Lester-Kilkenny clay loams, 6 to 12 percent slopes, severely eroded
ND3 – Lester-Kilkenny clay loams, 12 to 18 percent slopes, severely eroded
NE3 – Lester-Kilkenny clay loams, 18 to 25 percent slopes, severely eroded

The above list includes soil map units that may have areas with greater than 12 percent slopes. Generally, bare soils can be subject to erosion if found on slopes of this steepness. In addition, the list includes map units that have other indications of an erosion hazard in the soil

description (such as the word “eroded”); these soils may or may not be associated with steep slopes. See **Figure 10** for a graphic representation of these potentially erosion-prone areas. Also refer to Section 4.A.19b for additional soils information.

Regulatory Context: A National Pollutant Discharge Elimination System (NPDES) permit is required for construction activities that disturb one or more acres of total land area, or that disturb less than one acre when combined with a larger common plan of development that ultimately disturbs more than one acre. In Minnesota, the MPCA is responsible for administering NPDES permits.

Impacts: Web Soil Survey data regarding the hazard of soil loss from exposed off-road and off-trail areas were reviewed. The ratings indicate the likelihood and severity of erosion after disturbance activities expose 50 to 75 percent of the soil surface. The ratings are based on slope and soil erosion factor K (factor K indicates the susceptibility of a soil to sheet and rill erosion by water). The hazard is described as *slight, moderate, severe, or very severe*. Per NRCS, definitions of these terms are listed below:

- ***Slight*** indicates that erosion is unlikely under ordinary climatic conditions.
- ***Moderate*** indicates that some erosion is likely and that erosion control measures may be needed.
- ***Severe*** indicates that erosion is very likely and that erosion control measures are advised.
- ***Very severe*** indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and that erosion control measures will be costly.

All of the soil map units listed previously are rated as moderate for erosion potential by the NRCS, with the exception of HC2, KB2, KC2, LC2, and NC3, which are rated as slight (due to their more gentle slopes).

Mitigation: The roadway and the CR 43 interchange footprint portions of the Preferred Alternative would both result in greater than one acre of ground disturbance; therefore, a NPDES General Stormwater Permit for Construction Activity (MN F100001, issued August 1, 2008 or current version at time of construction) from the MPCA would be required. Among other requirements, the General Permit mandates the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which details how stormwater is controlled (e.g., Best Management Practices or BMPs). A SWPPP would be completed prior to submitting the permit application and prior to conducting any construction activity.

Erosion prevention and sediment control requirements would be followed before and after construction in accordance with the permit, which includes both temporary and permanent control measures. Special attention would be given to areas with steep slopes, erodible soils, and nearby water resources. Also, relevant BMPs contained in Mn/DOT's standard specifications 1717, 2573, and 2575 (2005 edition), special provisions, and details would be used. These measures would be specified, as applicable, in the SWPPP, contract documents, and construction plans.

All exposed areas would be stabilized as soon as possible to limit soil erosion, but no later than 14 days after construction has temporarily or permanently ceased in those portions of the site (no later than 24 hours after connecting drainage ditches and pipe outlets to surface waters).

Construction phasing would be employed to limit the amount of ground exposed at any given time. Other BMPs may include, but would not be limited to, a combination of the following: silt fence, filter logs, temporary rock construction entrances, horizontal slope grading, erosion control blankets, temporary seeding, sod stabilization, stockpile covers, and sediment basins.

All exposed ground surfaces will be permanently stabilized upon project completion. Permanent improvements proposed to control erosion and sedimentation include turf establishment and installation of landscape plant material on unpaved areas within the project limits. In addition, stormwater ponds would be constructed in conjunction with grading operations to collect and treat runoff within the site. Refer to Section 4.A.17a for information pertaining to stormwater ponds and other BMPs.

17) **Water Quality: surface water runoff**

a. Compare the quantity and quality of site runoff before and after the project. Describe permanent controls to manage or treat runoff. Describe any stormwater pollution prevention plans.

Response: Land uses within the TH 212 study area are primarily agricultural and rural residential. Farming practices in the area are generally row crops with some areas of pasture or hayland. There are several clusters of forested and wetland areas within the study area, including open space associated with Carver Creek. While forestland and grassland generally do not produce much stormwater runoff, agricultural land—especially row crops—is considered to have a comparatively higher runoff rate, based on Soil Conservation Service (SCS) curve numbers. For the most part, stormwater runoff runs directly into the surrounding ditches and is conveyed to adjacent watercourses, including Carver Creek and adjacent wetlands and drainage ditches.

Vegetated ditches and medians provide limited surface water quality treatment via sediment removal and filtration of stormwater. At the very eastern end of the study area, roadway stormwater is treated in basins constructed as part of the recent TH 212 improvements located east of the project limits. The majority of the stormwater along the study area ultimately drains to Carver Creek, though an area between Stations 600 and 654 drains north toward Gaystock Lake and West Chaska Creek (**Figure 9**). Ultimately, drainage from these water bodies ends up in the Minnesota River. Each of these waters are listed as impaired.

Regulatory Context: Carver County manages surface waters within its jurisdiction through Ordinance 57. The county ordinance includes policies that regulate runoff rate, runoff quality, and runoff volume. Stormwater treatment BMPs such as stormwater ponds or infiltration basins are required by the ordinance in order to meet water quality standards, and to provide infiltration/filtration of 0.34 inches of runoff (Twin Cities median rainfall event) from the project's total impervious area. The county ordinance also includes policies that protect floodplains, shorelands, and wetlands.

Mn/DOT adheres to the NPDES program, as managed by the MPCA, to regulate surface water treatment and erosion and sediment control. The NPDES program requires permanent stormwater treatment BMPs for projects that create new areas of impervious surfaces. Mn/DOT has also developed specific requirements for surface water management that include criteria for culvert, ditch, and BMP design.

The MPCA has additional stormwater treatment requirements for projects that drain to impaired waters, including treatment of a larger water quality volume (i.e., one inch of runoff from net new impervious areas instead of one-half inch of runoff), and incorporation of infiltration BMPs where site conditions allow. Impaired waters are designated by the MPCA and reflect water bodies that do not meet water quality standards for a variety of pollutants. There are four MPCA-designated impaired waters in or downstream from the corridor that would receive runoff from the project (see **Table 4-7**).

Table 4-7. MPCA Impaired Waters

Number	Name	Pollutant	TMDL Plan
1	Minnesota River	Turbidity	No (study underway-2013)
2	Carver Creek	Fecal coliform Turbidity	Yes (2007) No (study underway - 2010)
3	Gaystock Lake	Nutrients/Eutrophication	No (2010)
4	West Chaska Creek	Fecal coliform	No

Section 303(d) of the federal Clean Water Act and EPA’s Water quality Planning and Management Regulations require states to develop Total Maximum Daily Loads (TMDLs) for water bodies not meeting water quality standards. The TMDL process establishes the allowable loading of pollutants for a water body based on the relationship between pollutant sources and in-stream water quality conditions. While there is only one TMDL Plan currently established for these waters (Carver Creek), additional studies are underway. It is not known when the remaining TMDL Plans will be established.

Impacts: The roadway portion of the Preferred Alternative would result in an increase in stormwater runoff volumes and peak discharges, which may lead to additional pollutant loading, erosion, and sedimentation if not properly controlled. Approximately 30 acres of impervious surface would be added to the corridor as a result of the additional travel lanes, turn lanes and access changes.

Construction of an interchange at CR 43 would result in additional impervious area (amount to be determined after interchange layout is selected), leading to additional stormwater runoff volume and peak discharge rates. These impacts would be mitigated by constructing stormwater treatment ponds in the area between the highway and the interchange ramps, or by expanding the proposed pond situated west of the interchange.

Mitigation: To mitigate the impacts of additional runoff, stormwater would be treated using a combination of approaches. The Preferred Alternative is being designed with vegetated roadside ditches providing stormwater conveyance. The vegetated ditches can be designed to function as stormwater treatment BMPs. Ditch blocks within vegetated swales promote

infiltration and improve sediment removal, and would be constructed where feasible to help with water quality treatment as well as rate control. Stormwater runoff would be routed via ditches to treatment ponds sized to meet applicable rate control and water quality requirements. Pond outlet control structures would be designed to provide rate control such that the existing condition peak discharges would not be exceeded by the proposed condition discharges. These treatment ponds would be designed to provide volume control if needed. In areas where runoff cannot be routed to a treatment pond, vegetated swales would be utilized to provide stormwater pretreatment.

Figure 9 shows the location of treatment ponds proposed for the project. At the time of final design, additional coordination between Mn/DOT, Carver County and the City of Carver would take place.

b. Identify routes and receiving water bodies for runoff from the site; include major downstream water bodies as well as the immediate receiving waters. Estimate impact runoff on the quality of receiving waters.

Response: Runoff from the TH 212 project corridor ultimately flows to the Minnesota River, via Carver Creek and West Chaska Creek. Runoff would also be received by Gaystock Lake.

Impacts: Existing flow patterns for offsite runoff would be maintained using culverts across TH 212. Runoff from the roadway section would be conveyed in ditches and swales, and routed to stormwater quality ponds prior to discharging to existing channels and ditches.

Stormwater quality BMP design would follow NPDES criteria in place at the time of final design and construction. Pond outlet control structures would be designed to provide rate control such that the existing condition peak discharges would not be exceeded by the proposed condition discharges.

Mitigation: See discussion in the above section for more information on measures to manage and treat site runoff. No further mitigation is required.

18) Water quality: wastewaters

a. Describe sources, composition and quantities of all sanitary, municipal and industrial wastewater produced or treated at the site.

Response: Subsurface sewage treatment systems are located within the project site.

Regulatory Context: Subsurface sewage treatment systems in the state of Minnesota are regulated by the Minnesota Pollution Control Agency. Minnesota Rules Chapter 7080 establishes minimum requirements for subsurface sewage treatment systems. Carver County regulates subsurface sewage treatment systems under Chapter 52 of the Code of Ordinances. This ordinance adopts the state's minimum requirements, provides additional requirements specific to Carver County, and sets forth permit requirements.

Impacts: The roadway portion of the Preferred Alternative would potentially impact subsurface sewage treatment/septic systems at two locations where existing building sites would be removed. A proposed frontage road would impact an existing home at Station 595, and the proposed TH 212 alignment would require removal of an existing building site at Station 629. In both cases, the treatment systems could be removed.

The CR 43 interchange footprint would not impact a municipal sewage treatment system or sanitary conveyance system. There is potential for impact to subsurface sewage treatment systems where buildings would be removed, if they have septic systems.

Mitigation: Mn/DOT will work with local jurisdictions to in an effort to be compatible with local policy. If soils near treatment systems are removed, any contaminated materials would be disposed of according to applicable federal and state regulations. Documentation of the removal or abandonment procedures would be provided to Carver County Environmental Services.

b. Describe waste treatment methods or pollution prevention efforts and give estimates of composition after treatment. Identify receiving waters, including major downstream water bodies (identifying any impaired waters), and estimate the discharge impact on the quality of receiving waters. If the project involves on-site sewage systems, discuss the suitability of site conditions for such systems.

Response: Not Applicable.

c. If wastes will be discharged into a publicly owned treatment facility, identify the facility, describe any pretreatment provisions and discuss the facility's ability to handle the volume and composition of wastes, identifying any improvements necessary.

Response: Not Applicable.

d. If the project requires disposal of liquid animal manure, describe disposal technique and location and discuss capacity to handle the volume and composition of manure. Identify any improvements necessary. Describe any required setbacks for land disposal systems.

Response: Not Applicable.

19) Geologic hazards and soil conditions

a. Approximate depth (in feet) to ground water:	Minimum: <u>0 feet</u>
	Average: <u>175 feet</u>
Approximate depth (in feet) bedrock:	Minimum: <u>190 feet</u>
	Average: <u>292 feet</u>

Sources: Minnesota County Well Index well records and *Carver County Water Management Plan* (Carver County, June 2001).

Describe any of the following geologic site hazards to ground water and also identify them on the site map: sinkholes, shallow limestone formations or karst conditions. Describe measures to avoid or minimize environmental problems due to any of these hazards.

Response: This response addresses geology, hydrogeology, and geologic hazards.

Geology

The surface elevation of the project site ranges from approximately 950 feet to 1,000 feet above mean sea level, based on National Geodetic Vertical Datum. The topography is generally flat.

According to *Carver County Water Management Plan* (Carver County, June 2001), the naturally occurring surficial deposits within the study area consist of unlithified glacial till and glacial outwash. These Pleistocene glacial deposits cover older bedrock units of the Paleozoic Era and are typically in the range of 150-300 feet thick, but may be as much as 400 feet thick.

Based on County Well Index well records (<http://www.health.state.mn.us/divs/eh/cwi>, accessed July 17, 2007), bedrock occurs at depths ranging from approximately 190 feet to 405 feet below ground surface (bgs). The average depth is approximately 292 feet bgs. These depths are supported by information contained in *Carver County Water Management Plan*. Bedrock consists of areas of sandstone, shale, dolostone, and limestone of the Ordovician group and sandstone, shale, and carbonate of the Cambrian group.

Hydrogeology

Several aquifers exist within the Carver County region, but the study area is predominately located above the St. Peter, Prairie du Chien/Jordan, and St. Lawrence/Franconia aquifers. A portion of the corridor between CSAH 11 and CR 43 is also located above the Franconia-Ironton-Galesville aquifer. The St. Peter aquifer is made up solely by the St. Peter sandstone formation, with pumping yields ranging from 100 to 250 gallons per minute (gpm). The Prairie du Chien/Jordan aquifer yields from 500 to 1,000 gpm and can exceed 2,000 gpm. This formation consists of several types of rock in the Prairie du Chien group and Jordan sandstone. The St. Lawrence/Franconia bed acts as a confining layer due to its silty and shaley composition. The formation is present throughout the county and is missing only in areas where erosion has created bedrock valleys. While it does perform a confining function, it does not completely stop the movement of water. The rate of flow through this formation is slower than other formations typically considered aquifers.

According to County Well Index well records, the minimum depth to groundwater is zero feet; the average depth is approximately 175 feet bgs. The regional groundwater flow direction is estimated to be southeasterly. It should be noted that the depth and gradient of the water table might change seasonally in response to variation in precipitation and recharge, and over time in response to urban development such as stormwater controls, impervious surfaces, and water wells.

Geologic Hazards

There are no known sinkholes, shallow limestone formations, or near-surface karst conditions within the study area per review of United States Geological Survey (USGS) 7.5-minute quadrangles and DNR data (<http://deli.dnr.state.mn.us>, access march 26, 2009).

According to information obtained from the MPCA (<http://www.pca.state.mn.us>, accessed March 26, 2009), *covered karsts* may be present below portions of the study area. Covered karsts are areas underlain by carbonate bedrock but with more than 100 feet of sediment cover. In comparison, *active karsts* have less than 50 feet of sediment cover. The exact location of covered karsts relative to the project site is unknown.

Impacts: Due to the geology of the project site and the depths involved, any covered karsts that may be present would not likely be disturbed by or cause environmental problems for the roadway or CR 43 interchange footprint portions of the Preferred Alternative.

Mitigation: No mitigation measures are necessary.

b. Describe the soils on the site, giving NRCS (SCS) classifications, if known. Discuss soil granularity and potential for groundwater, contamination from wastes or chemicals spread or spilled onto the soils. Discuss any mitigation measures to prevent such contamination.

Response: Soil conditions and groundwater sensitivity are discussed below.

Soil Conditions

Soils within the study area are mapped under the Lester-Hayden-Peat Association, according to *Soil Survey of Carver County, Minnesota* (U.S. Department of Agriculture [USDA], November 1968). This association has soils that formed in loamy glacial till. Lester and Hayden soils are well drained loams, with Hayden soils being more strongly sloping than Lester soils. Peat, typically found in depressions, is variable in depth and is underlain by silty material. Less extensive soils in the Lester-Hayden-Peat Association include the Cordova, Webster, and LeSueur soils. **Table 4-8** lists the soil map units that are located within the study area and are illustrated in **Figure 10**.

Data obtained from the NRCS Soil Data Mart (<http://soildatamart.nrcs.usda.gov>, accessed March 27, 2009), indicate that a small gravelly spot is located in an agricultural field in the eastern portion of the study area. The NRCS describes a gravelly spot as “[a] spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area of surrounding soil with less than 15 percent fragments. Typically ½ to 2 acres in size.” The data also show two sandy spots in the same general area. As described by the NRCS, a sandy spot is “[a] spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils of the surrounding map unit is very fine sandy loam or finer. Typically ½ to 2 acres in size.”

Table 4-8. Soil Map Units within the Project Corridor

Map Unit	Map Unit Name	Drainage Class	Permeability (inches/hr)	Hydric Soil⁽¹⁾	Farmland Rating⁽²⁾
CD3	Lester clay loam, 12 to 18% slopes, severely eroded	Well drained	0.6 to 2.0	—	—
CO	Cordova clay loam	Poorly drained	0.2 to 0.6	All Hydric	Prime Farmland if drained
CS	Canisteo silty clay loam, depressional	Very poorly drained	0.6 to 2.0	All Hydric	Prime Farmland if drained
CT	Canisteo clay loam	Poorly drained	0.6 to 2.0	All Hydric	Prime Farmland if drained
CW	Cordova-Webster complex (loam)	Poorly drained	0.2 to 0.6	All Hydric	Prime Farmland if drained
GL	Glencoe clay loam	Very poorly drained	0.1 to 2.0	All Hydric	Prime Farmland if drained
HC2	Estherville-Hawick sandy loams, 6 to 12% slopes, eroded	Somewhat excessively drained	2.0 to 6.0	—	—
HD	Estherville-Hawick sandy loams, 12 to 18% slopes	Somewhat excessively drained	2.0 to 6.0	—	—
HM	Hamel loam	Poorly drained	0.2 to 0.6	All Hydric	Prime Farmland if drained
KB	Kilkenny-Lester loams, 2 to 6% slopes	Moderately well drained	0.2 to 0.6 0.6 to 2.0	—	Prime Farmland
KB2	Lester-Kilkenny loams, 2 to 6% slopes, eroded	Well drained	0.6 to 2.0 0.2 to 0.6	—	Prime Farmland
KC	Lester-Kilkenny loams, 6 to 12% slopes	Well drained	0.6 to 2.0 0.2 to 0.6	—	Statewide Importance
KC2	Lester-Kilkenny loams, 6 to 12% slopes	Well drained	0.6 to 2.0 0.2 to 0.6	—	Statewide Importance
KD	Lester-Kilkenny loams, 12 to 18% slopes	Well drained	0.6 to 2.0 0.2 to 0.6	—	—
KD2	Lester-Kilkenny loams, 12 to 18% slopes	Well drained	0.6 to 2.0 0.2 to 0.6	—	—
KE2	Lester-Kilkenny loams, 18 to 25% slopes, eroded	Well drained	0.6 to 2.0 0.2 to 0.6	—	—
KF	Lester-Kilkenny loams, 25 to 40% slopes	Well drained	0.6 to 2.0 0.2 to 0.6	—	—
KM	Minneeskia-Kalmarville complex (fine sandy loam), freq. flooded	Moderately well drained	2.0 to 6.0 0.6 to 2.0	Partially Hydric	—

Map Unit	Map Unit Name	Drainage Class	Permeability (inches/hr)	Hydric Soil ⁽¹⁾	Farmland Rating ⁽²⁾
LA	Le Sueur-Lester loams, 1 to 4% slopes	Moderately well drained	0.6 to 2.0	—	Prime Farmland
LB2	Lester loam, 2 to 6% slopes	Well drained	0.6 to 2.0	—	Prime Farmland
LC2	Lester loam, 2 to 6% slopes, eroded	Well drained	0.6 to 2.0	—	Statewide Importance
LD2	Lester loam, 6 to 12% slopes, eroded	Well drained	0.6 to 2.0	—	—
LS	Le Seuer loam	Moderately well drained	0.6 to 2.0	—	Prime Farmland
MK	Houghton and Muskego soils (muck)	Very poorly drained	0.6 to 0.6 0.1 to 0.2	—	—
NC3	Lester-Kilkenny clay loams, 6 to 12% slopes, severely eroded	Well drained	0.6 to 2.0 0.2 to 0.6	—	—
ND3	Lester-Kilkenny clay loams, 12 to 18% slopes, severely eroded	Well drained	0.6 to 2.0 0.2 to 0.6	—	—
NE3	Lester-Kilkenny clay loams, 18 to 25% slopes, severely eroded	Well drained	0.6 to 2.0 0.2 to 0.6	—	—
PM	Klossner muck	Very poorly drained	0.2 to 2.0	All Hydric	Statewide Importance
TB	Terril loam, 0 to 6% slopes	Moderately well drained	0.6 to 2.0	All Hydric	Prime Farmland
TC	Terril loam, 6 to 12% slopes	Moderately well drained	0.6 to 2.0	—	Statewide Importance

Source: NRCS Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov>, accessed April 9, 2009).

⁽¹⁾ Section 4.A.12 contains information regarding hydric soils in relation to wetlands.

⁽²⁾ Section 4.A.25b contains information on prime farmland and farmland of statewide importance.

Groundwater Sensitivity

Groundwater sensitivity characterizes the surface water/groundwater interface in relation to the effect on groundwater quality, and describes the estimated vertical travel time for water-borne surface contaminants to enter the uppermost bedrock aquifers. High groundwater sensitivity does not indicate that water quality has been or would become degraded, and low groundwater sensitivity does not guarantee that water will remain pristine. Potential for groundwater contamination depends on the following factors: (1) the properties of the contaminant itself, (2) the direction of groundwater movement, (3) permeability of the soils above the water resource, and (4) the presence or absence of a confining layer above the water resource.

The *Carver County Water Management Plan* shows the study area located primarily in areas with low to medium groundwater sensitivity. However, there appears to be three general areas of the project site that are classified as having high groundwater sensitivity (west of Carver Creek, CR 43 interchange, and an area about 1/3 mile west of CSAH 11).

Impacts: Despite the loamy nature and relatively slow permeability rates of the dominant soils in the project site, there is potential under the roadway portion of the Preferred Alternative for groundwater contamination from construction wastes, chemicals, and/or petroleum products due to the shallow water table and high groundwater sensitivity in portions of the project site.

The potential for groundwater contamination is the same for the CR 43 interchange footprint portion of the Preferred Alternative.

Mitigation: The following mitigation measures apply to the roadway and CR 43 interchange footprint portions of the Preferred Alternative.

A management plan would be developed for properly handling, treating, storing, and disposing of solid wastes, hazardous materials, petroleum products, and other regulated materials/wastes that are used or generated during construction.

An emergency response and containment plan would be developed for the project to minimize impacts to soils and groundwater in the event a release of hazardous substances occurs during construction. If a release were to occur, the MPCA, MDH, and/or Minnesota Department of Public Safety (MDPS) would be contacted immediately.

20) Solid Wastes, Hazardous Wastes, Storage Tanks

This section discusses regulated materials/wastes with respect to anticipated construction and operation activities. Refer to Section 4.A.9 for information regarding potential environmental hazards due to past site uses.

a. Describe types, amounts and compositions of solid or hazardous wastes, including solid animal manure, sludge and ash, produced during construction and operation. Identify method and location of disposal. For projects generating municipal solid waste, indicate if there is a source separation plan; describe how the project will be modified for recycling. If hazardous waste is generated, indicate if there is a hazardous waste minimization plan and routine hazardous waste reduction assessments.

Response/Impacts: The following would apply to the roadway and CR 43 interchange footprint portions of the Preferred Alternative.

Disposal of Solid Waste

Buildings to be removed would be treated as demolition debris. All regulated materials and waste, including hazardous waste, from such buildings would be removed and properly disposed of prior to demolition. Demolition debris is inert material such as concrete, brick, bituminous, glass, plastic, untreated wood, and rock. This material must be disposed of in an MPCA approved demolition landfill, or separated and recycled. Management of this material would be in accordance with state guidelines and regulations.

Removal of Contaminated Items

Any buildings to be removed for the project will be inspected for hazardous materials prior to demolition. A certified asbestos abatement contractor would be used to remove any asbestos

containing materials identified. Any green-treated wood would be documented and disposed of in a MPCA approved Mixed Municipal Solid Waste (Sanitary) landfill or Industrial Waste landfill.

Disposal of Trees

The number of trees to be removed with this project is undetermined at this time. Mn/DOT in accordance with Mn/DOT Standard Specification 2101.3D (D1) would prepare a Vegetation Management Plan (with cross-references to the Removal Plan) that would indicate timber volume estimates and locations where the volume of marketable trees expected to be lost to construction activities exceeds the 100 cubic yard threshold. For marketable timber that exceeds a volume of 100 cubic yards, the contractor would be responsible for determining the marketability of the timber. The contractor may also identify uses for the wood (chips) for mulch, erosion control or compaction control within and around the construction limits.

b. Identify any toxic or hazardous materials to be used or present at the site and identify measures to be used to prevent them from contaminating groundwater. If the use of toxic or hazardous materials will lead to a regulated waste, discharge or emission, discuss any alternatives considered to minimize or eliminate the waste, discharge or emission.

Response/Impacts: The following would apply to the Preferred Alternative and CR 43 Interchange footprint areas.

Toxic or hazardous substances may be used during project construction (petroleum products such as diesel fuel, hydraulic fluid, and chemical products such as concrete sealants). Potential contaminants that may be found on site are described in Section 4.A.9.

c. Indicate the number, location, size and use of any above or below ground tanks to store petroleum products or other materials, except water. Describe any emergency response containment plans.

Response/Impacts: No permanent above or below ground storage tanks would be used in conjunction with this project. Under the roadway and CR 43 interchange footprint portions of the Preferred Alternative, it is expected that temporary ASTs would be utilized on-site to store petroleum products and other materials during construction.

Mitigation: The following mitigation measures apply to the roadway and the CR 43 interchange footprint portions of the Preferred Alternative.

All regulated materials/wastes would be managed on this project in accordance with Mn/DOT special provisions and appropriate federal and state regulations.

A management plan would be developed for properly handling, treating, storing, and disposing of solid wastes, hazardous materials, petroleum products, and other regulated materials/wastes that are used or generated during construction.

An emergency response and containment plan would be developed for the project to minimize impacts to soils and groundwater in the event a release of hazardous substances occurs during

construction. If a release were to occur, the MPCA, MDH, and/or Minnesota Department of Public Safety (MDPS) would be contacted immediately.

If previously unknown regulated materials/wastes are discovered during construction, the Contractor shall notify the Mn/DOT Project Engineer immediately and follow Mn/DOT Office of Environmental Services management protocol.

Prior to the demolition of structures, assessments for asbestos-containing materials, lead-based paint, and other regulated materials/wastes would be performed.

21) Traffic

Parking spaces added: N/A

Existing spaces (if project involves expansion): N/A

Estimated total average daily traffic generated: See discussion below.

Estimated maximum peak hour traffic generated and time of occurrence: See discussion below.

Indicate source of trip generation rates used in the estimates: Twin Cities regional travel demand model and Mn/DOT Collar County Model.

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. Using the format and procedures described in the Mn/DOT's Traffic Impact Study Guidance (available at <http://www.oim.dot.state.mn.us/access/pdfs/Chaper%205.pdf>) or a similar local guidance, provide an estimate of the impact 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.

Response/Impacts: The following subsections summarize the results of the traffic analysis in terms of traffic volumes and operations for existing and future (2030) conditions.

Existing and Future Traffic Volumes

Areas adjacent to and west of this segment of TH 212 are expected to see increasing population and development. Travel forecasts were developed that take into account future land use development as well as regional highway improvements. Detailed methodology and findings are presented in the Travel Demand Forecast Memorandum, dated July 25, 2007, available from Mn/DOT Metro District. These forecasts show increases in Average Daily Traffic (ADT) under No-Build and Build conditions, as seen in **Table 4-9**.

Table 4-9. Traffic Volumes

Segment	Existing (2007)	No-Build (2030)	Build (2030)
CR 36E to Kelly Avenue	10,800	25,000	36,000
Kelly Avenue to CR 43	10,500	25,000	40,000
CR 43 to CSAH 11	10,200	28,000	47,000
East of CSAH 11	14,000	52,000	58,000

The No-Build forecasts indicate lower volumes than the Build forecasts, due to available capacity of the existing two-lane facility.

Existing and Future Traffic Operations

To assess congestion, a traffic operations analysis was completed for AM and PM peak hours for key intersections along the corridor. Detailed methodology and findings are presented in the Traffic Operations Analysis Memorandum, dated September 28, 2007, available from the Project Manager. The results are shown in **Table 4-10** to **4-12**.

The results are indicated by Level of Service (LOS). LOS is characterized on a scale of A (light traffic, free flow, extremely high level of motorist comfort) to F (forced or breakdown in flow, operations characterized by extremely unstable stop-and-go waves). LOS D or better is generally considered acceptable by drivers; LOS E and F are generally considered unacceptable.

Volume to capacity (v/c) ratio is another indicator used in the study of future roadway or intersection operations. A v/c ratio equal to or greater than one (1.0) signifies a roadway or intersection is projected to operate at volumes exceeding the capacity.

Table 4-10. Existing (2007) AM and PM Peak Hour Intersection LOS and V/C Ratios

	Existing AM Peak Hour				Existing PM Peak Hour			
	Overall LOS	Worse Movement LOS ⁽²⁾	Intersection v/c ratio		Overall LOS	Worse Movement LOS	Intersection v/c ratio	
			NB	SB			NB	SB
Kelly Avenue	A	C (SB left)	0.05	0.02	A	C (SB left)	0.01	0.01
CR 43	A	D (NB thru)	0.41	0.15	A	D (SB thru)	0.26	0.51
CSAH 11 ⁽¹⁾	B	E (NB right)	0.81	-	A	B (NB left)	0.15	-

⁽¹⁾ Prior to interchange at CSAH 11; Southbound (SB) approach at CSAH 11 was under construction, no volume counted.

⁽²⁾ Movement abbreviations SB-southbound, NB-northbound

Table 4-11. 2030 No-Build AM and PM Peak Hour Intersection LOS and V/C Ratios

	2030 No-Build AM Peak Hour				2030 No-Build PM Peak Hour			
	Overall LOS	Worse Movement LOS	Intersection v/c ratio		Overall LOS	Worse Movement LOS	Intersection v/c ratio	
			NB	SB			NB	SB
Kelly Avenue	F	F (SB left)	*	*	F	F (SB left)	*	*
CR 43	F	F (SB left)	*	*	F	F (SB left)	*	*
CSAH 11 ⁽¹⁾	-	-	-	-	-	-	-	-

*Very few, if any, acceptable gaps would be available.

⁽¹⁾ TH 212/CSAH 11 became an interchange in 2008.

Table 4-12. 2030 Build AM and PM Peak Hour Intersection LOS and V/C Ratios

	2030 Build AM Peak Hour			2030 Build PM Peak Hour		
	Overall LOS	Worse Movement LOS	Intersection v/c ratio	Overall LOS	Worse Movement LOS	Intersection v/c ratio
Kelly Avenue	B	D (SB left)	0.81	C	E (SB left)	0.91
CR 43 ⁽²⁾	D	E (NB left)	0.98	F	F (NB left)	1.01
CSAH 11 ⁽¹⁾	-	-	-	-	-	-

⁽¹⁾ TH 212/CSAH 11 became an interchange in 2008.

⁽²⁾ CR 43 modeled as at grade signalized intersection

For existing operations, only the northbound movement at the TH 212/CSAH 11 intersection is experiencing LOS E during the AM peak hour; all remaining intersections operate at an overall acceptable intersection level of service during the AM and PM peak hours. Under the 2030 No-Build conditions, most of the intersections would operate poorly (LOS E or worse). Under the 2030 Build conditions, all intersections would operate at overall acceptable intersection levels of service, except for the CR 43 intersection.

A traffic operations analysis for the CR 43 interchange footprint was not performed because a preferred interchange configuration has not been determined. However, similar to the CSAH 11 interchange, roadway mobility would likely be improved by the CR 43 interchange. The footprint provides for potential interchange designs as described in Section 3.B.3. This allows flexibility for the future design to accommodate future traffic patterns and possible changes in land use near the interchange.

Regional System

TH 212 from TH 284 in Cologne to I-494 is designated by Mn/DOT as a Metro IRC, based on its connection between outlying residential areas and the work center of the Twin Cities Metropolitan Area. The *Highway 212 IRC Management Plan* (April 2002), identifies several general management strategies, including partnership planning studies, corridor preservation, access management, and modal consideration. The project reflects these considerations and would support the IRC goals.

Congestion is expected to increase in the corridor; therefore the No-Build LOS F for intersections in the area demonstrates that the No-Build Alternative would not meet the needs of the regional system.

Traffic forecasts suggest that, by 2030, an interchange will be needed at CR 43 in order to serve the regional system. An interchange design would be determined closer to the time of construction, dependent on land use and development in the area.

Safety

As discussed in **Section 2** Purpose and Need, the intersection at CR 43 is considered a potentially hazardous location based on recent crash rate data. In addition, the TH 212 corridor between Norwood Young America (west of the project area) and Carver is identified in the *Statewide 20-Year Highway Investment Plan 2009-2028* (available on the Mn/DOT website),

as a corridor warranting consideration for traveler safety-capacity improvements. The proposed improvements are designed to reduce crashes by reducing congestion and managing access consistent with expressway design.

Under the No-Build Alternative, it is anticipated that the crash rates currently present in the corridor would worsen due to increasing traffic. As congestion increases, and as vehicles increasingly try to gain access to the roadway, crash rates and severity rates would likely increase. Therefore, the No-Build Alternative would not meet the stated purpose for the project.

Due to forecast traffic levels for 2030, it is likely that a CR 43 interchange would be needed to maintain safety on TH 212. As traffic volumes increase, a traffic operations analysis should be conducted for the CR 43 intersection to determine when the interchange should be constructed to maintain safety on TH 212.

Mitigation: The Preferred Alternative provides the needed traffic improvements to accommodate future growth along this corridor. Therefore no mitigation measures are necessary. A traffic operations analysis for the future CR 43 interchange would be performed closer to the time when the interchange is programmed for construction; the need for mitigation would be determined at that time.

22) Vehicle-Related Air Emissions

Estimate the effect of the project's traffic generation on air quality, including carbon monoxide levels. Discuss the effect of traffic improvements or other mitigation measures on air quality impacts. Note: If the project involves 500 or more parking spaces, consult EAW Guidelines about whether a detailed air quality analysis is needed.

Response/Impacts: The scope and methods of the air quality assessment performed for this project were developed during a meeting with MPCA and Mn/DOT staff on June 20, 2007. Motorized vehicles affect air quality by emitting airborne pollutants. Changes in traffic volumes, travel patterns, and roadway locations affect air quality by changing the number of vehicles in an area and the congestion levels. The air quality impacts from the project are analyzed by addressing criteria pollutants, a group of common air pollutants regulated by the Environmental Protection Agency (EPA) on the basis of criteria (information on health and/or environmental effects of pollution). The criteria pollutants identified by the EPA are ozone, particulate matter, carbon monoxide, nitrogen dioxide, lead, and sulfur dioxide. Potential impacts resulting from these pollutants are assessed by comparing projected concentrations to National Ambient Air Quality Standards (NAAQS).

Ozone

Ground-level ozone is a primary constituent of smog and is a pollution problem throughout many areas of the United States. Exposures to ozone can make people more susceptible to respiratory infection, result in lung inflammation, and aggravate preexisting respiratory diseases such as asthma. Ozone is not emitted directly from vehicles but is formed as volatile organic compounds (VOCs) and nitrogen oxides (NOx) react in the presence of sunlight. Transportation sources emit NOx and VOCs and can therefore affect ozone concentrations.

However, due to the phenomenon of atmospheric formation of ozone from chemical precursors, concentrations are not expected to be elevated near a particular roadway.

MPCA staff has begun development of ozone modeling for the Twin Cities Metropolitan Area. Recent conversations with MPCA staff indicate that the ozone models currently use federal default traffic data and a relatively coarse modeling grid. As such, ozone modeling in Minnesota is in its development state, and therefore, there is no available method of determining the contribution of a single roadway to regional ozone concentrations. Ozone levels in the Twin Cities Metropolitan Area currently meet state and federal standards and the state of Minnesota is currently classified by the EPA as an ozone attainment area. Because of these factors, a quantitative ozone analysis was not conducted for this project.

Particulate Matter

Particulate matter (PM) is categorized by the size of particles being measured. For example, the PM_{2.5} value is the measurement of particles smaller than 2.5 microns (a micron is a millionth of a meter) in a particular volume of air. Fine particles with very small diameters can move like gases and can be transported hundreds of miles from their source. Larger particles do not remain suspended and tend to settle out of the air relatively near their source.

Based on the relatively low ambient concentrations observed in Minnesota and the lack of analysis methodology, no project level modeling for particulate matter was conducted for this project.

Nitrogen Dioxide (Nitrogen Oxides)

Nitrogen oxides, or NO_x, is the generic term for a group of highly reactive gases, all of which contain nitrogen and oxygen in varying amounts. Nitrogen oxides form when fuel is burned at high temperatures, as in a combustion process. The primary sources of NO_x are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels. The MPCA *Air and Water Emissions Report* (March 2000) indicates that on-road mobile sources account for 31 percent of NO_x emissions in Minnesota. In addition to being a precursor of ozone, NO_x can cause respiratory irritation in sensitive individuals and contribute to acid rain.

Nitrogen dioxide (NO₂) levels in the Twin Cities Metropolitan Area currently meet state and federal standards.

Based on the relatively low ambient concentrations of NO_x in Minnesota and the long term trend of reduction in NO_x emissions, it is unlikely that NO_x standard will be approached or exceeded in the study area. Because of these factors, a specific analysis of nitrogen dioxide was not conducted for this project.

Sulfur Dioxide

Sulfur dioxide (SO₂) and other sulfur oxide gases (SO_x) are formed when fuel containing sulfur, such as coal, oil, and diesel fuel, is burned. Sulfur dioxide is a heavy, pungent, colorless gas. Elevated levels can impair breathing, lead to other respiratory symptoms, and, at very high levels, aggravate heart disease. People with asthma are most at risk. Once emitted into the atmosphere, SO₂ can be further oxidized to sulfuric acid, a component of acid rain.

Over 65 percent of SO₂ released to the air comes from electric utilities, especially those that burn coal. The MPCA *Air and Water Emissions Report* (March 2000) indicates that on-road mobile sources account for just 4.8 percent of SO_x emissions in Minnesota. MPCA monitoring shows that ambient SO₂ concentrations are consistently below standards. The MPCA has concluded that long-term trends in both ambient air concentrations and total SO₂ emissions in Minnesota indicate steady improvement.

Emissions of sulfur oxides from transportation sources are a small component of overall emissions and continue to decline due to the desulphurization of fuels. The state of Minnesota is classified by the EPA as an attainment area for sulfur dioxide. Sulfur dioxide levels in the Twin Cities Metropolitan Area currently meet NAAQS. Because of these factors, a quantitative analysis for sulfur dioxide was not conducted for this project.

Lead

Due to the phase out of leaded gasoline, lead is no longer a pollutant associated with vehicular emissions.

Carbon Monoxide

Carbon monoxide (CO) is a traffic-related pollutant that has been a concern in the Twin Cities Metropolitan Area. The MPCA has established state standards (or maximum permissible concentrations) for CO of 30 parts per million (ppm) for a 1-hour period (average concentration), and 9 ppm for an 8-hour period (average concentration). The MPCA 1-hour standard is more stringent than the federal standard of 35 ppm.

The EPA redesignated the Twin Cities seven county metro area as a maintenance area for CO in 1999. The attainment status is contingent upon the implementation of measures to assure that CO concentrations remain below standards. The contingency stipulates that future CO concentrations be modeled for proposed transportation projects. In compliance with this stipulation, air quality analyses of “worst-case” conditions were performed for this project to estimate the effect of the project alternatives on future CO concentrations at the worst-operating intersection in the project corridor. These analyses include monitoring of existing background CO concentrations and modeling future CO concentrations at the worst-case intersection. MPCA staff was consulted in the development of the scope, methods, and procedures used in performing CO analysis. The modeling assumptions used in this analysis are shown in **Table 4-13**.

Table 4-13. Carbon Monoxide Modeling Assumptions

Analysis Years	Winter 2015 and 2024
Cold Start Percentage	20.6 percent for all traffic
Hot Start Percentage	27.3 percent for all traffic
Speed Class	Arterial, posted speed limits
Traffic Mix	National Default
Traffic Age Distribution	MPCA Data
Wind Speed	3.3 feet/second
Wind Direction	36 directions at 10 degree increments
Temperature	16 degrees Fahrenheit
Absolute Humidity	75.0 grains/lb
Surface Roughness ⁽¹⁾	42.5 inches
Stability Class ⁽²⁾	D
8-Hour Persistence Factor ⁽³⁾	0.7
Fuel Program	Conventional Gasoline East
Fuel Reid Vapor Pressure	9.0 lbs/square inch
Oxygenated Fuels	Ethanol with 2.7 percent oxygen content

Notes:

The Surface Roughness Stability Class and 8-Hour Persistence Factor are discussed in *Guidance for Air Quality Maintenance Planning and Analysis Volume 9 (Revised): Evaluating Indirect Sources*, U.S. EPA (1978) and are summarized below.

- (1) Surface Roughness indicates the initial ground level turbulence into which the exhaust plume will be released. Generally, the higher the roughness, the lower the concentration. The number used here is conservatively low for the project site (results in a worst-case).
- (2) Stability Class characterizes the mixing potential of atmosphere. Stability Class D is used as a worst-case in suburban and urban areas.
- (3) The 8-Hour Persistence Factor is used to determine 8-hour localized CO contributions and takes into account fluctuating wind directions, temperature, and traffic, which are more likely to occur over eight hours than during one hour. The factor is multiplied by the 1-hour modeling result.

Background Carbon Monoxide Concentrations

Background CO concentrations are needed for air quality analysis purposes to represent conditions without the influence of nearby vehicles. By definition, the background CO concentration in any particular area is that concentration which exists independently of direct contributions from nearby traffic. The background concentrations are added to intersection-scale modeled results to yield predicted CO levels.

Background CO concentrations were monitored for three weeks near Minnesota Valley Baptist Church in Dahlgren, Minnesota, from July 11 to 31, 2007. Mn/DOT staff conducted this monitoring specifically for this analysis after consultation with MPCA. Maximum 1-hour and 8-hour concentrations over that period were determined from the monitoring station and were used in the analysis.

For purposes of the CO analysis, the background concentrations were adjusted for region-wide increases in traffic volumes. The adjustment factor for traffic growth was based on regional travel forecast model. To worst-case conditions, an adjustment factor for anticipated vehicle emissions reduction was not applied. Since background CO concentrations were measured during the summer, the Holzworth (temperature) correction factor was applied. This

adjustment is used to estimate background CO concentrations during winter, when CO concentrations are highest. The results are summarized in **Table 4-14**.

Table 4-14. Calculation of CO Background Concentration

Factor	2015		2024	
	1-Hour	8-Hour	1-Hour	8-Hour
Maximum Monitored Concentration: Dahlgren Twp (ppm)	0.43	0.39	0.43	0.39
Background Traffic Volume Adjustment Factor	1.27	1.27	1.65	1.65
Emission Adjustment Factor	1.00	1.00	1.00	1.00
Holzworth (temperature) Correction	1.53	1.53	1.53	1.53
Worst-Case Background Concentration (ppm)	0.84	0.76	1.09	0.98
State Standard (ppm)	30	9	30	9
Federal Standard (ppm)	35	9	35	9

Carbon Monoxide Intersection Modeling

Carbon monoxide concentrations were analyzed for years 2015 and 2024 in the afternoon peak hour at the worst-operating intersection in the study corridor. This is the intersection of TH 212 with CR 43. This intersection was selected because it is considered the “worst-case” intersection with respect to level of service and consequently is expected to have highest localized CO concentrations. Analysis was performed for both the Build and No-Build configurations for future years.

Summary of Carbon Monoxide Study Results

Carbon monoxide concentrations were modeled at the TH 212 and CR 43 intersection (see following exhibit) using No-Build and Build peak traffic volumes for the afternoon peak hour in the years 2015 and 2024 (**Tables 4-15** and **4-16**). These worst-case CO concentrations are well below the state standards of 30.0 and 9.0 ppm and the federal standards of 35.0 and 9.0 ppm for 1-hour and 8-hour concentrations, respectively. Therefore, no impact to air quality is expected.

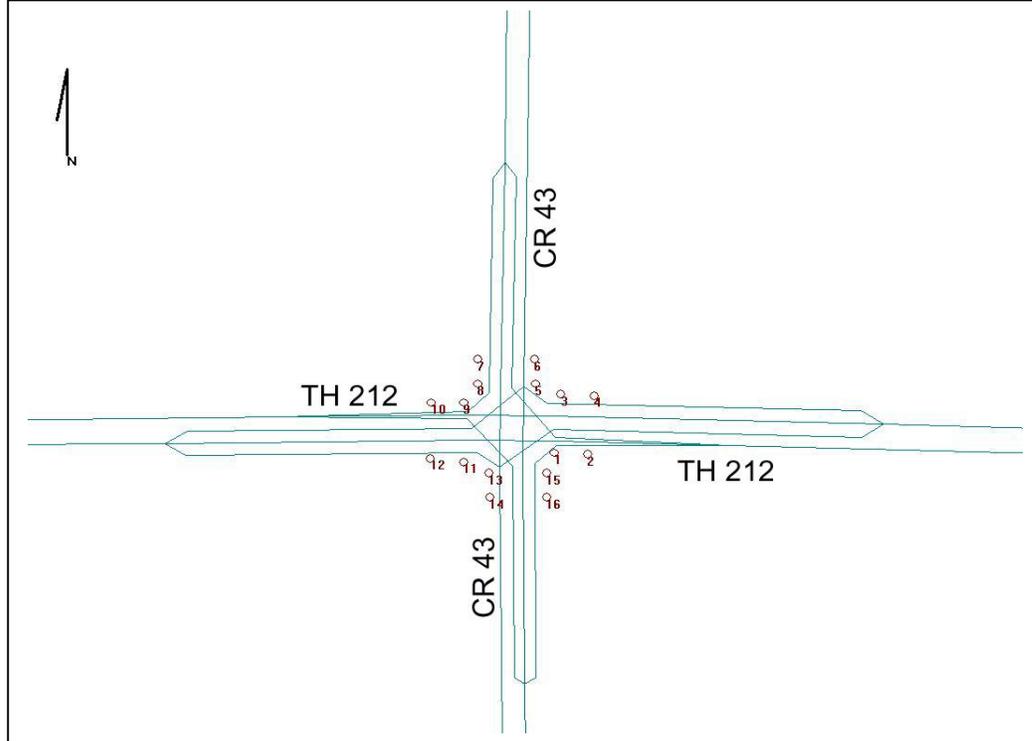
Table 4-15. Carbon Monoxide Modeling Results – 2015 No-Build and Build

Intersection Analysis	No-Build 2015		Build 2015	
	1-Hour	8-Hour	1-Hour	8-Hour
TH 212 at CR 43	1.74	1.39	2.14	1.67
State Standard	30.0	9.0	30.0	9.0
Federal Standard	35.0	9.0	35.0	9.0

Table 4-16. Carbon Monoxide Modeling Results – 2024 No-Build and Build

Intersection Analysis	No-Build 2024		Build 2024	
	1-Hour	8-Hour	1-Hour	8-Hour
TH 212 at CR 43	1.99	1.61	2.39	1.89
State Standard	30.0	9.0	30.0	9.0
Federal Standard	35.0	9.0	35.0	9.0

Intersection Modeling Receptor Locations



Carbon Monoxide Free-Flow Modeling

A free-flow emissions analysis was performed for Build and No-Build conditions for future years 2015 and 2024. This analysis was performed using U.S. EPA CALINE3 software and consultation with Mn/DOT staff. One mile of TH 212 between CR 43 and CSAH 11 was selected for this analysis because it is expected to serve the largest traffic volume in the TH 212 corridor under all alternatives. The receptors were located in the center of the one-mile segment, 45 feet from the center of the roadway. Similar to the intersection modeling results, the background CO concentrations were used in the analysis in determining the future-year concentrations. The results of the free-flow analysis are given in **Table 4-17**.

Table 4-17. Carbon Monoxide Free-Flow Modeling Results

Scenario	No-Build				Build			
	1-Hour		8-Hour		1-Hour		8-Hour	
Year	*Maximum Concentration	Wind Direction						
2015	3.4	90°	2.4	90°	4.8	90°	3.4	90°
2024	3.2	90°	2.2	90°	8.1	90°	3.6	90°

* All maximum CO concentrations are given in parts per million (ppm)

Mobile Source Air Toxics

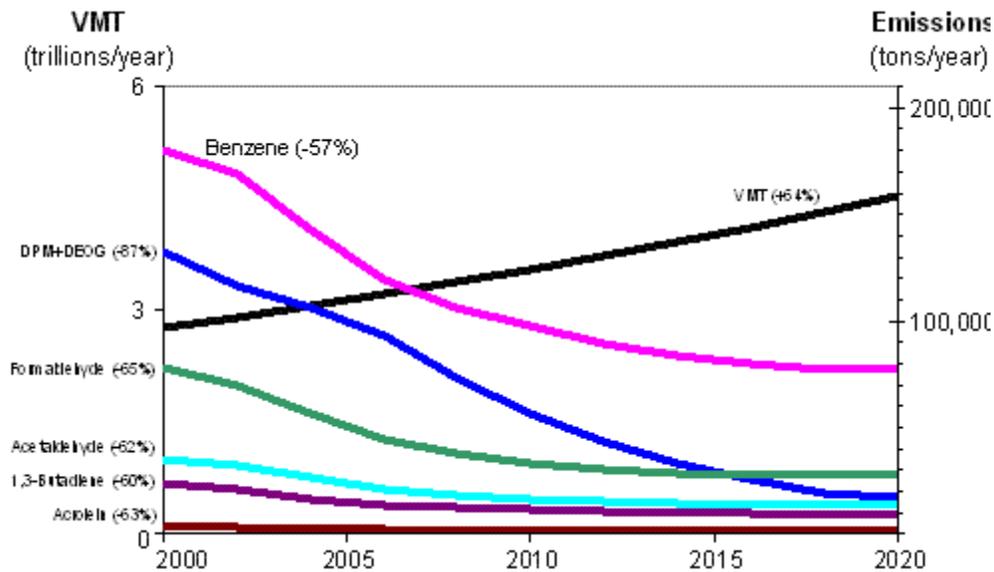
In addition to the criteria air pollutants for which there are NAAQS, EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources,

non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners) and stationary sources (e.g., factories or refineries).

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Clean Air Act. The MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

The EPA is the lead federal agency for administering the Clean Air Act (CAA) and has certain responsibilities regarding the health effects of MSATs. The EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources - 66 FR 17229 (March 29, 2001). This rule was issued under the authority provided in Section 202 of the CAA. In its rule, EPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, its national low emission vehicle (NLEV) standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and its proposed heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. Between 2000 and 2020, FHWA projects that even with a 64 percent increase in VMT, these programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 57 percent to 65 percent, and will reduce on-highway diesel PM emissions by 87 percent, as shown in the following graph:

U.S. Annual Vehicle Miles Traveled (VMT) vs. Mobile Source Air Toxics Emissions, 2000-2020



Notes: For on-road mobile sources. Emissions factors were generated using MOBILE6.2. MTBE proportion of market for oxygenates is held constant, at 50%. Gasoline RVP and oxygenate content are held constant. VMT: Highway Statistics 2000, Table VM-2 for 2000, analysis assumes annual growth rate of 2.5%. "DPM + DEOG" is based on MOBILE6.2-

generated factors for elemental carbon, organic carbon and SO₄ from diesel-powered vehicles, with the particle size cutoff set at 10.0 microns.

As a result, EPA concluded that no further motor vehicle emissions standards or fuel standards were necessary to further control MSATs. The agency is preparing another rule under authority of CAA Section 202(l) that will address these issues and could make adjustments to the full 21 and the primary six MSATs.

Unavailable Information for Project Specific MSAT Impact Analysis: This EA includes a basic analysis of the likely MSAT emission impacts of this project. However, available technical tools do not enable us to predict the project-specific health impacts of the emission changes associated with the alternatives in this EA. Due to these limitations, the following discussion is included in accordance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information.

Information that is Unavailable or Incomplete. Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements, including emissions modeling, dispersion modeling in order to estimate ambient concentrations resulting from the estimated emissions, exposure modeling in order to estimate human exposure to the estimated concentrations, and then final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

Emissions. The EPA tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables determining emissions of MSATs in the context of highway projects. While MOBILE 6.2 is used to predict emissions at a regional level, it has limited applicability at the project level. MOBILE 6.2 is a trip-based model--emission factors are projected based on a typical trip of 7.5 miles, and on average speeds for this typical trip. This means that MOBILE 6.2 does not have the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this limitation, MOBILE 6.2 can only approximate the operating speeds and levels of congestion likely to be present on the largest-scale projects, and cannot adequately capture emissions effects of smaller projects. For particulate matter, the model results are not sensitive to average trip speed, although the other MSAT emission rates do change with changes in trip speed. Also, the emissions rates used in MOBILE 6.2 for both particulate matter and MSATs are based on a limited number of tests of mostly older-technology vehicles. Lastly, in its discussions of PM under the conformity rule, EPA has identified problems with MOBILE6.2 as an obstacle to quantitative analysis.

These deficiencies compromise the capability of MOBILE 6.2 to estimate MSAT emissions. MOBILE 6.2 is an adequate tool for projecting emissions trends, and performing relative analyses between alternatives for very large projects, but it is not sensitive enough to capture the effects of travel changes tied to smaller projects or to predict emissions near specific roadside locations.

Dispersion: The tools to predict how MSATs disperse are also limited. The EPA's current regulatory models, CALINE3 and CAL3QHC, were developed and validated more than a

decade ago for the purpose of predicting episodic concentrations of carbon monoxide to determine compliance with the NAAQS. The performance of dispersion models is more accurate for predicting maximum concentrations that can occur at some time at some location within a geographic area. This limitation makes it difficult to predict accurate exposure patterns at specific times at specific highway project locations across an urban area to assess potential health risk. The NCHRP is conducting research on best practices in applying models and other technical methods in the analysis of MSATs. This work also will focus on identifying appropriate methods of documenting and communicating MSAT impacts in the NEPA process and to the general public. Along with these general limitations of dispersion models, FHWA is also faced with a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.

Exposure Levels and Health Effects. Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude us from reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to accurately calculate annual concentrations of MSATs near roadways, and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupported assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against other project impacts that are better suited for quantitative analysis.

Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATs. Research into the health impacts of MSATs is ongoing. For different emission types, there are a variety of studies that show that some either are statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of a number of EPA efforts. Most notably, the agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure of or benchmark for local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a national or State level.

The EPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The EPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at <http://www.epa.gov/iris>. The following toxicity information for the six prioritized MSATs was taken from the IRIS database Weight of Evidence Characterization

summaries. This information is taken verbatim from EPA's IRIS database and represents the Agency's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

- Benzene is characterized as a known human carcinogen.
- The potential carcinogenicity of acrolein cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- Formaldehyde is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- 1,3-butadiene is characterized as carcinogenic to humans by inhalation.
- Acetaldehyde is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- Diesel exhaust (DE) is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases.
- Diesel exhaust also represents chronic respiratory effects, possibly the primary non-cancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute, a non-profit organization funded by EPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes - particularly respiratory problems¹. Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties listed above and enable us to perform a more comprehensive evaluation of the health impacts specific to this project.

Relevance of Unavailable or Incomplete Information to Evaluating Reasonably Foreseeable Significant Adverse Impacts on the Environment, and Evaluation of Impacts Based Upon Theoretical Approaches or Research Methods Generally Accepted in the Scientific Community. Because of the uncertainties outlined above, a quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project

¹ South Coast Air Quality Management District, Multiple Air Toxic Exposure Study-II (2000); Highway Health Hazards, The Sierra Club (2004) summarizing 24 Studies on the relationship between health and air quality; NEPA's Uncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles, Environmental Law Institute, 35 ELR 10273 (2005) with health studies cited therein.

alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. (As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects.) Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human environment."

Qualitative MSAT Analysis

In this document, FHWA has provided a qualitative assessment of MSAT emissions relative to the Build alternative, and has acknowledged that this project alternative may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

For each alternative in this EA, the amount of MSATs emitted would be proportional to the average daily traffic, or ADT, assuming that other variables such as fleet mix are the same for each alternative. The ADT estimated for the Build alternative is slightly 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, (See Table 4-9 in Section 4.A.21). This increase in ADT would lead to higher MSAT emissions for the 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 EPA's MOBILE 6.2 emissions model, emissions of all of the priority MSATs except for diesel particulate matter decrease as speed increases. The extent to which these speed-related emissions decreases will offset VMT-related emissions increases cannot be reliably projected due to the inherent deficiencies of technical models.

The estimated ADT is expected to increase by 10 to 60 percent under the Build alternative compared to the No-Build alternative, and it is expected there would be some difference in overall MSAT emissions among the alternatives. However, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2020. 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. The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSATs could be higher under the Build alternative than the No-Build alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be built along TH 212 under the Build alternative. However, as discussed above, the magnitude and the duration of these potential increases compared to the No-Build alternative cannot be accurately quantified due to the inherent deficiencies of current models. In sum, when a highway is widened and, as a result, moves closer to receptors, the localized level of MSAT emissions for the Build alternative could be higher relative to the No-Build alternative,

but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSATs will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

Transportation Conformity

The 1990 Clean Air Act Amendments require that a State Implementation Plan (SIP) demonstrate how a state will meet federal air quality standards. The EPA has designated all of Hennepin, Ramsey, Anoka, and portions of Carver, Scott, Dakota, Washington, and Wright counties as a maintenance area for carbon monoxide. Portions of the project area are included in this maintenance area.

The EPA issued final rules on transportation conformity (amended as 40 CFR 93) in 1999 which describe the methods required to demonstrate SIP compliance for transportation projects. These guidelines indicate that non-exempt transportation projects such as the proposed TH 212 Preliminary Design project may need to be included in a regional emissions analysis to demonstrate that the project would not increase regional CO emissions and would not increase the frequency or severity of existing violations. The regional analysis must be part of the metropolitan planning organization's long-range plan and the three-year Transportation Improvement Program (TIP).

This project is not in the state's current (2006-2008) TIP. As planning and funding for this project progresses, it will need to be included in future versions of the TIP. After this project is included in the TIP, it will need to be included in a regional analysis of emissions performed by the Metropolitan Council. This analysis must show whether emissions are below the EPA-established emissions budget for the region and whether this project interferes with implementation of any transportation control measures included in the SIP. As a means of estimating project specific potential air quality impacts for this EA, the localized analysis for CO was performed, as described previously in this section.

Mitigation: No mitigation is required.

23) Stationary Source Air Emissions

Describe the type, sources, quantities and compositions of any emissions from stationary sources of air emissions such as boilers, exhaust stacks or fugitive dust sources. Include any hazardous air pollutants (consult *EAW Guidelines* for a listing) and any greenhouse gases (such as carbon dioxide, methane, nitrous oxide) and ozone-depleting chemicals (chloro-fluorocarbons, hydro fluorocarbons, per fluorocarbons or sulfur hexafluoride). Also describe any proposed pollution prevention techniques and proposed air pollution control devices. Describe the impacts on air quality.

Response: Not Applicable.

24) Odors, Noise and Dust

Will the project generate odors, noise or dust during construction or during operation?

Yes **No**

If yes, describe sources, characteristics, duration, quantities or intensity and any proposed measures to mitigate adverse impacts. Also identify locations of nearby sensitive receptors and estimate impacts on them. Discuss potential impacts on human health or quality of life. (Note: fugitive dust generated by operations may be discussed at item 23 instead of here).

Response:

Odors, Noise and Dust during Construction

The proposed project would not generate substantial odors during construction. Potential odors would include exhaust from diesel engines and fuel storage. Dust generated during construction would 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 would be required to control dust and other airborne particulates in accordance with Mn/DOT specifications. After construction is complete, dust levels are anticipated to be minimal because all soil surfaces exposed during construction would be in permanent cover (i.e., paved or revegetated areas).

The construction activities associated with implementation of the proposed project may result in increased noise levels relative to existing conditions. These impacts would primarily be associated with construction equipment and pile driving.

Table 4-18 shows peak noise levels monitored at 50 feet from various types of construction equipment. This equipment is primarily associated with site grading/site preparation, generally the roadway construction phase associated with the greatest noise levels.

Table 4-18. 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

Impacts/Mitigation: Elevated noise levels are to a degree unavoidable for this type of project. Mn/DOT would require that construction equipment be properly muffled and in proper working order. While Mn/DOT and its contractor(s) are exempt from local noise ordinances, it is the practice to require that the contractor(s) comply with applicable local noise restrictions and ordinances to the extent that it is reasonable. Advance notice would be provided to affected communities for any abnormally loud construction activities. It is anticipated that nighttime construction may sometimes be required to minimize traffic impacts and improve safety. However, construction would be limited to daytime hours as much as possible. The duration and staging of construction activities would be determined during final design.

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 any sheet piling necessary for retaining wall construction. While pile driving equipment results in the highest peak noise level as shown in **Table 4-18**, it is limited to the activities (e.g., bridge construction, retaining wall construction) noted above. The use of pile drivers, jack hammers, and pavement sawing equipment would be prohibited during nighttime hours.

Traffic Noise Analysis

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 perceptible by the human ear, a 5 dBA increase is 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 to where there is 10 times the sound energy level over a reference level, then there is a 10 dBA increase and it is heard as twice as loud.

In Minnesota, traffic noise impacts are evaluated by measuring and/or modeling the traffic noise levels that are exceeded 10 percent and 50 percent of the time during the hours of the day and/or night that have the loudest traffic scenario. These numbers are identified as the L_{10} and L_{50} levels, respectively. The L_{10} value is the noise level that is exceeded for a total of 10 percent, or 6 minutes, of an hour. The L_{50} value is the noise level that is exceeded for a total of 50 percent, or 30 minutes, of an hour. The L_{10} value is compared to the FHWA noise abatement criteria (see discussion of Federal noise abatement criteria below). **Table 4-19** provides a rough comparison of the noise levels of some common noise sources.

Table 4-19. Decibel Levels of Common Noise Sources

Sound Pressure Level (dBA)	Noise Source
140	Jet Engine (at 75 feet)
130	Jet Aircraft (at 300 feet)
120	Rock and Roll Concert
110	Pneumatic Chipper
100	Jointer/Planer
90	Chainsaw
80	Heavy Truck Traffic
70	Business Office
60	Conversational Speech
50	Library
40	Bedroom
30	Secluded Woods
20	Whisper

Source: "A Guide to Noise Control in Minnesota," Minnesota Pollution Control Agency, <http://www.pca.state.mn.us/programs/pubs/noise.pdf> and "Highway Traffic Noise," FHWA, <http://www.fhwa.dot.gov/environment/htnoise.htm>.

Along with the volume of traffic and other factors (e.g., topography of the area and vehicle speed) that affect the loudness of traffic noise, the distance of a receptor from a sound's source is also an important factor. Sound level decreases as distance from a source increases. A rule of thumb 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.

Minnesota state noise standards have been established for daytime and nighttime periods. For residential land uses (identified as Noise Area Classification 1 or NAC-1), the Minnesota state standards for L_{10} are 65 dBA for daytime and 55 dBA for nighttime; the standards for L_{50} are 60 dBA for daytime and 50 dBA for nighttime. The Minnesota Pollution Control Agency (MPCA) defines daytime as 7:00 a.m. to 10:00 p.m. and nighttime from 10:00 p.m. to 7:00 a.m. State noise standards are depicted in **Table 4-20**.

Table 4-20. Minnesota State Noise Standards

MPCA State Noise Standards					
Land Use	Code	Daytime (7 a.m. – 10 p.m.) dBA		Nighttime (10 p.m. – 7 a.m.) dBA	
		L_{10}	L_{50}	L_{10}	L_{50}
Residential	NAC-1	L_{10} of 65	L_{50} of 60	L_{10} of 55	L_{50} of 50
Commercial	NAC-2	L_{10} of 70	L_{50} of 65	L_{10} of 70	L_{50} of 65
Industrial ⁽¹⁾	NAC-3	L_{10} of 80	L_{50} of 75	L_{10} of 80	L_{50} of 75

⁽¹⁾ Under Mn/DOT's noise policy, the FHWA noise abatement criterion for category C supersedes Minnesota's noise level standards in industrial areas, as the Federal noise abatement criterion is lower than the State standard (FHWA NAC 75 dBA versus Minnesota's standard 80 dBA).

For residential and parkland uses (Federal Land Use Category B), the Federal L_{10} noise abatement criterion is 70 dBA for both daytime and nighttime. For commercial uses (Federal Land Use Category B), the Federal L_{10} noise abatement criterion is 75 dBA for both daytime

and nighttime. Locations where noise levels are “approaching” or exceeding the criterion level must be evaluated for noise abatement reasonableness. Mn/DOT defines a level as “approaching” the criterion level when it is 1 dBA or less below the criterion level (e.g., 69 dBA is defined as “approaching” the Federal noise abatement criterion for residential land uses) or exceeding the criterion level must be evaluated for noise abatement reasonableness. Federal Noise Abatement Criteria (NAC) are shown in **Table 4-21**.

Table 4.21. Federal Noise Abatement Criteria

FHWA Noise Abatement Criteria		
Category	L₁₀ dBA	Land Use
A	60	Special areas requiring serenity
B	70	Residential and recreational areas
C	75	Commercial and industrial areas
D	N/A	Undeveloped areas
E	55*	Residential, hospitals, libraries, etc.

* Applies to interior noise levels. All other land uses are exterior levels.

In addition to the identified noise criteria, the FHWA also defines a noise impact as a “substantial increase” in the future noise levels over the existing noise levels (i.e., predicted noise levels substantially exceed the existing noise levels). In Minnesota, an increase of 5 dBA or greater is considered a substantial noise level increase.

Analysis Methodology

Affected Environment

The purpose of this noise analysis is to determine the effect of the proposed project on traffic-generated noise levels. It is also important to note that the project setting includes other sources in the area that may have some effect on ambient sound levels.

The TH 212 project corridor (Cologne Bypass to CSAH 11) is located in a rural area of Carver County between Cologne and the City of Carver. The City of Carver plans to expand its boundary westward by annexing a portion of Dahlgren Township, from CSAH 11 to about one-quarter mile west of Carver CR 43. The land in the annexation area is currently being used primarily for agricultural purposes, with a few commercial sites and a church, and is planned for primarily for residential and commercial purposes. Traffic noise is generated by vehicles traveling on TH 212, as well as intersecting county and local roadways. Farm operations at adjacent lands also contribute to the ambient sound environment.

Traffic Noise Monitoring

Background noise level monitoring is commonly performed during a noise study to document existing noise levels. Existing noise levels were monitored at one site in the project area, chosen to represent areas of outdoor human activity, to the extent that is practicable. The monitoring location was chosen at sites adjacent to future construction areas within the TH 212 project corridor. Noise monitoring receptor locations are illustrated in **Figure 11**.

Daytime noise levels were monitored on May 17, 2007. Noise levels were monitored at each location during the afternoon peak period (4:00 p.m.-6:00 p.m.). A trained noise monitoring

technician was present at each session for the entire monitoring session to ensure correct operation of the instrumentation.

Daytime noise monitoring results were 75.5 dBA (L10) and 65.0 (L50). Noise monitoring results are presented in **Table 4-22** along with the results of computer modeling for existing noise conditions.

Traffic Noise Modeling

The purpose of this noise analysis is to identify representative traffic noise levels associated with existing and projected traffic volumes on TH 212 within the project area. As such, traffic noise was evaluated for this project to identify modeled noise levels at representative locations given existing and projected traffic volumes on TH 212.

Traffic noise impacts were assessed by modeling noise levels at 35 representative receiver locations along the TH 212 project corridor. The locations of the model receptor sites are illustrated in **Figure 11**. Land uses at each receptor location are identified in **Tables 4-22** and **4-23**.

Several assumptions were used to generate the noise model input files for this project. These assumptions include the following:

- All modeled noise receivers were modeled at five feet above the existing ground elevation at each receiver location.
- The noise analysis assumed no changes in topography from existing to future (No-Build and Build) conditions, and assumed no intervening structures were located between proposed roadways and representative receiver locations.
- An acoustically “soft” surface ($\alpha=0.5$) between receptor locations and roadways was assumed in all noise model input files.

Noise modeling was done using the noise prediction program “MINNOISE”, a version of the FHWA “STAMINA” model adapted by Mn/DOT. This model uses traffic volumes, speed, class of vehicle, and the typical characteristics of the roadway being analyzed (e.g., roadway horizontal and vertical alignment). Noise model input files were developed based on the following assumptions:

- Traffic data input into the MINNOISE noise model included existing (year 2007) and future (year 2034) No-Build and Build forecast traffic volumes. Year 2034 was identified as the future year for analysis. For purposes of this traffic noise analysis, it was assumed that the project would be under construction for two years (2012 and 2013), and open to traffic in year 2014. Year 2034 is 20 years from the proposed first year of opening.
- The 9:00 a.m. to 10:00 a.m. period was identified to be the loudest hour of the daytime period because of higher heavy truck volumes during the mid-morning period as compared to other times of the day. The 9:00 a.m. to 10:00 p.m. period represents approximately five percent of average daily traffic on TH 212 within the project area.

- The 6:00 a.m. to 7:00 a.m. period, just prior to the start of the morning rush hour, was identified as the loudest hour of the nighttime period. The 6:00 a.m. to 7:00 a.m. period represents approximately seven percent of average daily traffic on TH 212 within the project area.
- Noise model input files were developed based on the preliminary design (horizontal alignment and vertical profile) for the Preferred Alternative described in Section 3.B.2.

Impacts: The daytime and nighttime traffic noise levels within each segment along the TH 212 corridor are discussed below. Results of the noise modeling analysis are tabulated in **Table 4-2** (daytime) and **Table 4-23** (nighttime). While both the L10 and L50 descriptors are shown in the tables, the discussion of modeling results presented below only references the L10 values, because the L10 descriptor is used to define both the State and Federal noise level regulatory thresholds.

Existing (2007) daytime modeled noise levels (L10) at modeled receptor locations range from 55.3 dBA to 74.9 dBA, whereas nighttime modeled noise levels (L10) range from 54.0 dBA to 73.5 dBA. In general, nighttime modeled noise levels are approximately 1 dBA less than daytime modeled noise levels. Modeled noise levels at 16 of the 35 receptor locations exceed state daytime standards with existing conditions. Modeled noise levels at 31 of the 35 receptor locations exceed state nighttime standards with existing conditions.

Future (2034) No-Build daytime modeled noise levels are predicted to range from 58.1 dBA to 79.2 dBA, whereas nighttime modeled noise levels are predicted to range from 56.9 dBA to 77.6 dBA. Modeled noise levels for future (2034) No-Build conditions are predicted to increase by 1.1 dBA to 5.7 dBA over existing conditions during the daytime period, and increase by 0.9 dBA to 5.1 dBA over existing conditions during the nighttime period. Modeled noise levels at 22 of the 35 receptor locations are predicted to exceed State daytime standards with No-Build conditions. Modeled noise levels at all receptor locations are predicted to exceed State nighttime standards with No-Build conditions.

Table 4-22. TH 212 (Cologne Bypass to CSAH 11) noise model results (daytime)

Receptor*	Monitoring (2007)		Existing (2007)		No-Build (2034)		Difference Between Existing (2007) and No-Build (2034)		Build (2034)		Difference Between Existing (2007) and Build (2034)	
	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀
B1 (R) (1)			65.6	59.4	66.7	60.7	1.1	1.3	70.5	66.4	4.9	7.0
B2 (R) (1)			67.0	60.3	68.1	61.7	1.1	1.4	71.8	67.3	4.8	7.0
B3 (R) (1)			56.6	52.2	58.1	54.6	1.5	2.4	62.1	59.5	5.5	7.3
B4 (R) (1)			55.3	51.5	58.2	55.4	2.9	3.9	65.1	62.1	9.8	10.6
B5 (R) (1)			56.6	52.4	59.8	57.0	3.2	4.6	73.3	68.4	16.7	16.0
B6 (R) (1)			69.0	62.0	72.6	67.2	3.6	5.2	63.3	60.7	-5.7	-1.3
B7 (R) (1)	75.5	65.0	74.9	66.3	79.2	72.1	4.3	5.8	66.1	63.1	-8.8	-3.2
B8 (R) (1)			64.5	58.5	69.2	62.8	4.7	4.3	65.6	57.1	1.1	-1.4
B9 (R) (1)			66.5	60.1	70.3	65.5	3.8	5.4	63.0	60.5	-3.5	0.4
B10 (R) (1)			68.3	61.4	72.1	66.9	3.8	5.5	64.0	61.4	-4.3	0.0
B11 (R) (1)			66.6	60.2	70.4	65.6	3.8	5.4	64.0	61.4	-2.6	1.2
B12 (R) (1)			72.4	64.4	76.5	70.2	4.1	5.8	68.7	65.2	-3.7	0.8
B13 (R) (1)			69.0	61.9	72.9	67.5	3.9	5.6	69.0	65.5	0.0	3.6
B14 (R) (1)			66.6	60.1	70.4	65.6	3.8	5.5	72.2	67.9	5.6	7.8
B15 (R) (1)			65.8	59.5	69.6	64.9	3.8	5.4	NA	NA	NA	NA
B16 (R) (1)			56.0	51.9	59.4	56.6	3.4	4.7	65.0	62.2	9.0	10.3
B17 (R) (2)			58.3	53.7	61.7	58.6	3.4	4.9	66.9	63.7	8.6	10.0
B18 (R) (2)			61.1	56.0	64.7	61.0	3.6	5.0	72.2	68.0	11.1	12.0
B19 (Ch) (1)			71.0	63.4	75.0	69.1	4.0	5.7	71.3	67.2	0.3	3.8
B20 (R) (2)			56.1	51.9	59.5	56.7	3.4	4.8	64.6	61.8	8.5	9.9
B21 (R) (1)			74.5	66.0	78.8	71.9	4.3	5.9	70.9	66.9	-3.6	0.9
B22 (Ch) (1)			60.9	55.8	64.9	61.5	4.0	5.7	67.4	64.4	6.5	8.6
State Daytime Noise Standards ⁽¹⁾												
Residential (NAC-1)	65	60	65	60	65	60	-	-	65	60	-	-
Commercial (NAC-2)	70	65	70	65	70	65	-	-	70	65	-	-

Bold numbers are above State standards.

(R) – Residential; (Ch) – Church; (C) – Commercial

* Number in “receptor” column is the number of residences and/or commercial/industrial buildings represented by each receptor.

⁽¹⁾ Land uses and associated codes for State noise standards (see Table 4-20). Federal noise abatement criteria are listed in Table 4-21

NA = Not applicable. Modeled receptor location within proposed right-of-way limits under future (2034) Build conditions.

Table 4-22. TH 212 (Cologne Bypass to CSAH 11) noise model results (daytime)

Receptor*	Monitoring (2007)		Existing (2007)		No-Build (2034)		Difference Between Existing (2007) and No-Build (2034)		Build (2034)		Difference Between Existing (2007) and Build (2034)	
	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀
B23 (R) (1)			63.9	58.0	68.0	63.9	4.1	5.9	70.6	67.1	6.7	9.1
B24 (R) (1)			57.3	52.8	61.2	58.3	3.9	5.5	65.1	62.4	7.8	9.6
B25 (C) (2)			68.4	61.4	72.8	67.7	4.4	6.3	73.0	69.0	4.6	7.6
B26 (R) (1)			70.4	62.8	74.9	69.3	4.5	6.5	74.2	69.8	3.8	7.0
B27 (R) (1)			69.2	62.0	73.6	68.3	4.4	6.3	73.6	69.4	4.4	7.4
B28 (R) (1)			57.8	53.5	61.8	59.0	4.0	5.5	65.6	62.9	7.8	9.4
B29 (R) (1)			57.0	52.5	61.0	58.1	4.0	5.6	62.7	60.4	5.7	7.9
B30 (R) (1)			60.2	54.9	64.3	60.8	4.1	5.9	65.9	63.1	5.7	8.2
B31 (R) (1)			59.2	53.7	64.9	61.4	5.7	7.7	65.8	62.8	6.6	9.1
B32 (R) (1)			64.6	58.5	68.7	64.6	4.1	6.1	70.2	66.8	5.6	8.3
B33 (R) (1)			67.3	60.5	71.7	66.8	4.4	6.3	73.5	69.3	6.2	8.8
B34 (R) (1)			64.6	57.9	69.2	64.6	4.6	6.7	71.0	67.0	6.4	9.1
B35 (R) (1)			64.4	57.6	69.2	64.6	4.8	7.0	70.8	66.8	6.4	9.2
State Daytime Noise Standards ⁽¹⁾												
Residential (NAC-1)	65	60	65	60	65	60	-	-	65	60	-	-
Commercial (NAC-2)	70	65	70	65	70	65	-	-	70	65	-	-

Bold numbers are above State standards.

(R) – Residential; (Ch) – Church; (C) – Commercial

* Number in “receptor” column is the number of residences and/or commercial/industrial buildings represented by each receptor.

⁽¹⁾ Land uses and associated codes for State noise standards (see Table 4-20). Federal noise abatement criteria are listed in Table 4-21.

NA = Not applicable. Modeled receptor location within proposed right-of-way limits under future (2034) Build conditions.

Table 4-23. TH 212 (Cologne Bypass to CSAH 11) noise model results (nighttime)

Receptor*	Existing (2007)		No-Build (2034)		Difference Between Existing (2007) and No-Build (2034)		Build (2034)		Difference Between Existing (2007) and Build (2034)	
	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀
B1 (R) (1)	64.3	58.0	65.2	59.6	0.9	1.6	69.2	65.0	4.9	7.0
B2 (R) (1)	65.6	58.9	66.5	60.5	0.9	1.6	70.4	65.9	4.8	7.0
B3 (R) (1)	55.5	51.0	57.1	53.6	1.6	2.6	61.0	58.4	5.5	7.4
B4 (R) (1)	54.0	50.1	56.9	54.1	2.9	4.0	64.0	60.9	10.0	10.8
B5 (R) (1)	55.3	51.0	58.6	55.8	3.3	4.8	71.9	66.9	16.6	15.9
B6 (R) (1)	67.6	60.5	71.2	65.7	3.6	5.2	62.5	60.0	-5.1	-0.5
B7 (R) (1)	73.5	64.8	77.6	70.4	4.1	5.6	65.3	62.4	-8.2	-2.4
B8 (R) (1)	63.2	57.1	68.3	61.2	5.1	4.1	65.8	56.7	2.6	-0.4
B9 (R) (1)	65.2	58.6	68.8	63.9	3.6	5.3	62.2	59.8	-3.0	1.2
B10 (R) (1)	66.9	59.9	70.6	65.2	3.7	5.3	63.2	60.6	-3.7	0.7
B11 (R) (1)	65.3	58.7	68.9	63.9	3.6	5.2	63.2	60.6	-2.1	1.9
B12 (R) (1)	71.0	62.9	75.0	68.4	4.0	5.5	67.8	64.4	-3.2	1.5
B13 (R) (1)	67.7	60.4	71.4	65.8	3.7	5.4	68.2	64.8	0.5	4.4
B14 (R) (1)	65.3	58.7	68.9	63.9	3.6	5.2	71.4	67.1	6.1	8.4
B15 (R) (1)	64.5	58.1	68.1	63.2	3.6	5.1	NA	NA	NA	NA
B16 (R) (1)	54.7	50.5	58.0	55.0	3.3	4.5	63.9	61.1	9.2	10.6
B17 (R) (2)	57.0	52.3	60.3	57.0	3.3	4.7	66.0	62.7	9.0	10.4
B18 (R) (2)	59.8	54.5	63.2	59.4	3.4	4.9	71.6	67.5	11.8	13.0
B19 (Ch) (1)	69.7	61.9	73.5	67.4	3.8	5.5	69.9	65.9	0.2	4.0
B20 (R) (2)	54.8	50.5	58.0	55.1	3.2	4.6	63.7	61.0	8.9	10.5
B21 (R) (1)	73.2	64.5	77.2	70.1	4.0	5.6	69.5	65.5	-3.7	1.0
B22 (Ch) (1)	59.7	54.6	63.2	59.6	3.5	5.0	66.2	63.3	6.5	8.7
State Nighttime Noise Standards⁽¹⁾										
Residential (NAC-1)	55	50	55	50	-	-	55	50	-	-
Commercial (NAC-2)	70	65	70	65	-	-	70	65	-	-

Bold numbers are above State standards.

(R) – Residential; (Ch) – Church; (C) – Commercial

* Number in “receptor” column is the number of residences and/or commercial/industrial buildings represented by each receptor.

⁽¹⁾ Land uses and associated codes for State noise standards (see Table 4-20). Federal noise abatement criteria are listed in Table 4-21.

NA = Not applicable. Modeled receptor location within proposed right-of-way limits under future (2034) Build conditions.

Table 4-23. TH 212 (Cologne Bypass to CSAH 11) noise model results (nighttime)

Receptor*	Existing (2007)		No-Build (2034)		Difference Between Existing (2007) and No-Build (2034)		Build (2034)		Difference Between Existing (2007) and Build (2034)	
	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀	L ₁₀	L ₅₀
B23 (R) (1)	62.6	56.6	66.2	61.8	3.6	5.2	69.9	66.4	7.3	9.8
B24 (R) (1)	56.0	51.5	59.4	56.3	3.4	4.8	63.9	61.3	7.9	9.8
B25 (C) (2)	67.0	59.9	70.9	65.4	3.9	5.5	72.4	68.4	5.4	8.5
B26 (R) (1)	69.0	61.4	73.0	67.0	4.0	5.6	73.6	69.2	4.6	7.8
B27 (R) (1)	67.9	60.5	71.7	66.0	3.8	5.5	73.0	68.9	5.1	8.4
B28 (R) (1)	56.7	52.2	60.1	57.1	3.4	4.9	64.4	61.8	7.7	9.6
B29 (R) (1)	55.9	51.5	59.6	56.7	3.7	5.2	61.6	59.3	5.7	7.8
B30 (R) (1)	59.0	53.8	63.0	59.4	4.0	5.6	64.8	61.9	5.8	8.1
B31 (R) (1)	58.6	53.0	62.1	59.0	3.5	6.0	65.6	62.4	7.0	9.4
B32 (R) (1)	63.8	57.8	67.6	63.4	3.8	5.6	69.5	66.1	5.7	8.3
B33 (R) (1)	66.7	60.0	70.7	65.7	4.0	5.7	72.8	68.5	6.1	8.5
B34 (R) (1)	64.0	57.4	68.5	63.9	4.5	6.5	70.3	66.3	6.3	8.9
B35 (R) (1)	63.9	57.3	68.6	64.0	4.7	6.7	70.1	66.1	6.2	8.8
State Nighttime Noise Standards ⁽¹⁾										
Residential (NAC-1)	55	50	55	50	-	-	55	50	-	-
Commercial (NAC-2)	70	65	70	65	-	-	70	65	-	-

Bold numbers are above State standards.

(R) – Residential; (Ch) – Church; (C) – Commercial

* Number in “receptor” column is the number of residences and/or commercial/industrial buildings represented by each receptor.

⁽¹⁾ Land uses and associated codes for State noise standards (see Table 4-20). Federal noise abatement criteria are listed in Table 4-21.

NA = Not applicable. Modeled receptor location was considered an acquisition with future (2034) Build conditions.

Construction of the Build Alternative is predicted to result in changes in modeled daytime noise levels that vary from -8.8 dBA to 16.7 dBA over existing conditions. One receptor, receptor B5, is predicted to experience an increase of 16.7 dBA over existing daytime conditions. This increase is the result of shifting the TH 212 alignment closer to receptor B5, as well as changes in traffic volumes over time. Receptors located adjacent to Kelly Avenue and south of TH 212 (receptors B6, B8, B9, B10, B11, and B12) are predicted to experience a decrease in modeled daytime levels that varies from 2.6 dBA to 8.8 dBA compared to existing conditions. This decrease is the result of shifting the TH 212 alignment to the north (away from) these modeled receptor locations.

Daytime modeled noise levels are predicted to range from 62.1 dBA to 74.2 dBA with future (2034) Build conditions. Nighttime modeled noise levels are predicted to range from 61.0 dBA to 73.6 dBA with future (2034) Build conditions. Modeled noise levels at 26 of the 35 receptor locations are predicted to exceed state daytime standards with Build conditions. Modeled noise levels at all receptor locations are predicted to exceed state nighttime standards with Build conditions.

The purpose of the CR 43 interchange footprint is to identify an interchange area for right-of-way preservation. Noise impacts cannot be identified at this time since the design work does not include identifying the specific horizontal roadway and interchange ramp alignments at the CR 43 interchange location, and also does not include identifying any specific vertical alignments of the future interchange. Because the horizontal and vertical alignments of the future interchange are unknown, a detailed traffic noise analysis is not feasible at this stage of the project development. A detailed traffic noise analysis for a future CR 43 interchange will be completed when horizontal and vertical alignments have been defined.

Mitigation:

FHWA Noise Abatement Policy

The project proposes to preserve right-of-way for the future reconstruction of a high volume, principal arterial roadway to improve operational efficiency, safety, design consistency and ability to meet defined IRC guidelines. As described above, locations adjacent to the project corridor will be exposed to noise levels that exceed both State standards (daytime and nighttime) and Federal noise abatement criteria (i.e., noise impact).

The future reconstruction of the TH 212 project segment from the Cologne Bypass to CSAH 11 may be considered a Type I project for purposes of noise mitigation analysis. A Type I project is the construction of a new highway on a new alignment or the physical alteration of an existing highway (e.g., change in horizontal or vertical alignment; increase in number of through lanes). 23 CFR 772.13(c) describes noise abatement measures that are to be considered when a noise impact has been identified with a Type I highway project. These noise abatement measures include:

- Traffic management measures (e.g., traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive land designations);

- Alteration of horizontal and vertical alignments;
- Acquisition of property rights (either in fee or lesser interest) for construction of noise barriers;
- Construction of noise barriers (including landscaping for aesthetic purposes) whether within or outside the highway right-of-way;
- Acquisition of real property or interests therein (predominately unimproved property) to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise; and
- Noise insulation of noise-sensitive public use or nonprofit institutional structures.

Mn/DOT Noise Barrier Analysis Policy

Mn/DOT's policy regarding noise barrier analysis is described below. Any future reconstruction project for the TH 212 segment from the Cologne Bypass to CSAH 11 would need to meet the following criteria:²

- The receptors adjacent to the project corridor shall have predicted future noise levels which exceed the State noise standards shown in **Table 4-20**, or where predicted future noise levels exceed existing noise levels by 5 dBA or more;
- The cost effectiveness of the barrier shall not exceed \$3,250/dBA/residence for residential receptors. A receptor's inclusion in the cost effectiveness calculation shall be contingent on the receptor receiving a minimum 5 dBA reduction due to the construction of the barrier.
- The barrier project shall have been found feasible (e.g., engineering or physical constraints) and reasonable (e.g., cost effective).

The noise abatement measures listed above in 23 CFR 772 would be evaluated as part of future environmental documentation and project design. Where applicable, this will include the evaluation of noise barriers (i.e., noise walls), consistent with FHWA and Mn/DOT policy, where predicted noise levels exceed State noise standards, or where predicted noise levels result in a substantial increase compared to existing conditions (increase of 5 dBA or greater).

Land Use Planning

Traffic noise levels were modeled at representative receptor locations at incremental distances from the proposed TH 212 alignment (200 feet, 400 feet, 600 feet and 800 feet) for purposes of land use planning. 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 noise impacts. This analysis was completed for two locations along the highway based on land use transition areas identified in the draft

² Minnesota Department of Transportation. 2007. The Minnesota Department of Transportation Web Site (online). Mn/DOT Policy for Type I and Type II Federal-aid Projects as per 23 CFR 772 accessed 2009-06-17 at http://www.dot.state.mn.us/environment/noise_analysis/policy.html.

Carver County 2030 Comprehensive Plan: west of Kelly Avenue (east of Cologne) and between CSAH 43 and CSAH 11 (west of Carver).

Results of the noise modeling analysis are tabulated in **Table 4-24** (west of Kelly Avenue) and **Table 4-25** (between CSAH 43 and CSAH 11). Modeled daytime noise levels 600 feet from the proposed TH 212 alignment west of Kelly Avenue are estimated to be below state daytime noise standards with future Build conditions, whereas modeled daytime noise levels 800 feet from the proposed TH 212 alignment between CSAH 43 and CSAH 11 are estimated to be below state daytime noise standards with future Build conditions. Because the state nighttime noise standard is more restrictive for residential land uses relative to the daytime standard, the nighttime standard is anticipated to be exceeded at greater distances from the roadway. Modeled nighttime noise levels 800 feet from the proposed TH 212 alignment are estimated to exceed state nighttime noise standards at both locations, assuming no intervening structures between the roadway and receiver location.

It is important to note that the results summarized above are representative traffic noise levels, given the assumptions and traffic volumes that were used to generate the noise model input files and the model output, and do not represent absolute traffic noise levels.

The results of this analysis can be used as a guide for local governments responsible for planning and land use controls within their community to help prevent future traffic noise impacts on currently undeveloped lands. While these distances are not reflective of future conditions based on a final roadway design, they can be used as a tool when contemplating land use decisions along the project corridor.

Table 4-24. Noise model results – land use planning (west of Kelly Avenue)

Distance from travel lane centerline ⁽¹⁾	Part B Model Results: Land Use Planning							
	West of Kelly Avenue: north of TH 212				West of Kelly Avenue: south of TH 212			
	Daytime		Nighttime		Daytime		Nighttime	
	L10	L50	L10	L50	L10	L50	L10	L50
200 feet	70.6	66.5	69.2	65.0	72.0	67.6	71.3	67.0
400 feet	66.9	63.5	65.7	62.2	67.2	63.9	66.4	63.1
600 feet	64.2	61.2	63.0	60.1	64.3	61.4	63.4	60.6
800 feet	62.1	59.5	61.0	58.4	62.1	59.5	61.3	58.7
State Daytime and Nighttime Standards								
NAC-1	65	60	55	50	65	60	55	50
NAC-2	70	65	70	65	70	65	70	65
NAC-3	80	75	80	75	80	75	80	75

Bold numbers are above State daytime or nighttime standards (L₁₀ and L₅₀) for residential land uses (NAC-1). State standards for other land uses are illustrated in Table 4-20.

⁽¹⁾ Representative receptors north of TH 212 as measured from the centerline of the proposed westbound TH 212 travel lanes. Representative receptors south of TH 212 as measured from the centerline of the proposed eastbound TH 212 travel lanes.

Table 4-25. Noise model results – land use planning (between CSAH 43 and CSAH 11)

Distance from travel lane centerline ⁽¹⁾	Part B Model Results: Land Use Planning							
	Between CSAH 43 and CSAH 11: north of TH 212				Between CSAH 43 and CSAH 11: south of TH 212			
	Daytime		Nighttime		Daytime		Nighttime	
	L10	L50	L10	L50	L10	L50	L10	L50
200 feet	72.7	68.6	71.2	67.0	73.0	69.0	72.3	68.4
400 feet	68.1	65.0	66.9	63.8	68.2	65.1	67.4	64.4
600 feet	65.2	62.5	64.0	61.4	65.2	62.6	64.4	61.8
800 feet	63.0	60.7	61.9	59.6	63.0	60.8	62.2	59.9
State Daytime and Nighttime Standards								
NAC-1	65	60	55	50	65	60	55	50
NAC-2	70	65	70	65	70	65	70	65
NAC-3	80	75	80	75	80	75	80	75

Bold numbers are above State daytime or nighttime standards (L₁₀ and L₅₀) for residential land uses (NAC-1). State standards for other land uses are illustrated in Table 4-20.

⁽¹⁾ Representative receptors north of TH 212 as measured from the centerline of the proposed westbound TH 212 travel lanes. Representative receptors south of TH 212 as measured from the centerline of the proposed eastbound TH 212 travel lanes.

25) Nearby Resources

Are any of the following resources on or in proximity to the site?

a. Archaeological, historical or architectural resources? Yes No

Response: Mn/DOT conducted the following tasks as part of the cultural resource surveys for the TH 212 project from the east end of the TH 212 Cologne Bypass to CSAH 11.

- Phase I pre-contact archaeological survey;
- Historical archaeological analysis;
- Phase II architectural history evaluation; and
- Effects analysis of proposed project on properties listed or eligible for listing in the National Register of Historic Places (NRHP).

Two reports contain the results of this analysis (*Phase I Archaeological Investigations, Trunk Highway 212 Improvement Project*, dated July 2008, and *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 [SP 1013-77, TH 212 PT A and SP 1013-79, TH 212 PT B]*, dated July 2008. These reports are available for review from Mn/DOT Metro District. A summary of these findings is provided in the following sections.

Regulatory Context: The cultural resources survey, evaluation, and effects analysis was conducted in compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations, 36 CFR 800. This act requires that impacts to historic properties, defined as those eligible or potentially eligible for listing in the National Register of Historic Places (NRHP), be considered before implementation of a federal undertaking.

Pre-Contact Archaeology

The Area of Potential Effect (APE) for archaeological resources is defined as the area in which the construction project might cause direct physical impact (construction impact). The APE was limited to construction limits and ponding locations as indicated on project plans prepared in October 2007 (**Figure 12**).

The Phase I archaeological survey identified one pre-contact archaeological site. Site 21CR0147 (Pautsch) is considered an isolated lithic find within a cultivated field. See **Figure 12** for site location. This site did not produce diagnostic cultural materials, so it does not retain sufficient archaeological integrity to yield information important to understanding the past, thus it is not eligible for listing on the NRHP.

The 1993 EIS identified one pre-contact archaeological site. Site 115-24-8:1 was considered NRHP eligible due to the value of the site which is determined by what can be learned from data recovery. This site produced diagnostic cultural materials, so it retained sufficient archaeological integrity that has the ability to yield information important to understanding the past.

The archaeological survey for the project area conducted by Two Pines Resource Group in 2008 determined that there were no NRHP eligible properties within the project area. Concurrence from the Minnesota State Historic Preservation Office was stated in a letter dated October 29, 2008. “Based on our review of the report of the archaeological survey of the project area (Two Pines Resource Group, July 2008), we conclude that there are no National Register listed or eligible archaeological properties in the area of potential effect.” Site 115-24-8:1 was not identified as eligible for the National Register of Historic Places

Historical Archaeology

During the Phase I survey, three farmsteads were examined for archaeological potential through application of the historic context for the archaeology of Minnesota farmsteads. The farmsteads that were located in the TH 212 segment from east of the TH 212 Cologne Bypass to CSAH 11 include the Buckentine farmstead (6675 TH 212), the Preiss/Hesse farmstead (14104 TH 212), and the Preiss/Heiland farmstead (6175 TH 212). These farmsteads were determined as not meeting the standards set forth for a potentially NRHP-eligible farmstead archaeological site. Therefore no further work was recommended at these locations.

The 1993 EIS did not identify any farmsteads that met the historic context for the archaeology of Minnesota farmsteads.

Architectural History

An architectural history APE was established through field examination (**Figure 12**). The boundaries of the APE were drawn to take into consideration the possibility of right-of-way acquisition, construction activity, visual and auditory effects, changes to traffic patterns, and impacts from raised highway structures. The boundaries of the APE were drawn 1,000 feet out from the proposed TH 212 centerline. At potential grade-separated interchanges, the boundaries were expanded to encompass oval shapes 3,000-5,000 feet in diameter to take into consideration possible visual impacts from raised highway structures.

The Phase I Architectural History survey recorded a total of 18 properties within the study area (**Table 4-26** and **Figure 12**). After field work and research was conducted, four Phase I properties were identified for further research to determine their NRHP eligibility (Phase II properties).

The 1993 FEIS identified the Jacobs farmstead (CR-DHL-010), and three other farmsteads as eligible for the National Register. Current evaluation of these properties (2007 Phase I and II Historic Structures report) determined that these other properties do not meet eligibility guidelines.

Table 4-26. Phase I and II Properties

SHPO Inventory Number	Township	Address	Historic Name	Identified in 1993 FEIS	Potential for Adverse Impacts	Criteria Met for Eligibility¹
CR-DHL-002	Dahlgren	7030 TH. 212	Zoar German Evan. Reformed Church	Yes	Yes²	C
CR-DHL-010	Dahlgren	5280 TH 212	Jacobs Farm	Yes	Yes ²	
CR-DHL-011	Dahlgren	6055 TH 212	Eichmiller Farmstead	Yes	No	
CR-DHL-012	Dahlgren	6175 TH 212	Preiss Farmstead	Yes ³	No	
CR-DHL-013	Dahlgren	7950 TH 212	Frank Farmstead	Yes	No	
CR-DHL-041	Dahlgren	former H&D RR	Hastings and Dakota RR, Dahlgren Twp Segment	Yes	No	
CR-DHL-043	Dahlgren	5120 TH 212	Wolff Farmstead	No	No	
CR-DHL-044	Dahlgren	5725 TH 212	Plackner Farmstead	No	No	
CR-DHL-045	Dahlgren	6675 TH 212	Buckentine Farmstead	No	No	
CR-DHL-046	Dahlgren	7410 TH 212	Farmstead	No	No	
CR-DHL-047	Dahlgren	7545 TH 212	Farmstead	No	No	
CR-DHL-048	Dahlgren	8350 TH 212	Klepperich Farmstead	No	Yes²	C
CR-DHL-049	Dahlgren	8570 TH 212	Schmidt Farmstead	No	No	
CR-DHL-050	Dahlgren	ca. 6079 TH 212	Preiss Cemetery	No	No	
CR-DHL-051	Dahlgren	5730 TH 212	Morschen Farmstead	Yes ³	No	
CR-DHL-052	Dahlgren	6080 TH 212	Farmstead	No	No	
CR-DHL-053	Dahlgren	6510 TH 212	Enestvedt Farmstead	No	No	
CR-DHL-054	Dahlgren	12710 Laurie Lane	Lenzen Farmstead	No	No	

¹ Criterion A – property is associated with important broad pattern of history

Criterion B – property is associated with an important person

Criterion C – property embodies the distinctive characteristics of a type, period or method of construction (architecture)

² Design adjustments can be made to allow for no adverse impacts to the NRHP eligible property

³ Property identified in 1993 Memorandum of Agreement

Affected Property Descriptions

CR-DHL-002 (Zoar German Evangelical Reformed Church Parsonage):

Zoar Church and cemetery do not meet the religious property criteria exception on the grounds of outstanding historical significance. In addition, the church and cemetery do not have significant architectural or artistic distinction and the church has been altered. However, the parsonage appears to be architecturally significant.

The parsonage displays defining characteristics of the context's principal property type including rural setting, late 19th (or turn of the 20th century) construction date, simple design, bold massing, solid (even severe) presentation of basic geometrical forms, and restrained ornamentation (usually confined to decorative brick heads over segmental-arched window openings, corbelled chimneys, and cornice, column, and fretwork detailing on an open wood porch). The Zoar Church parsonage displays the hip-roofed variant of the property type. It meets the integrity requirements of the context.

The parsonage is eligible for the National Register under Criterion C, as it meets the historic farm study guidelines for architecture, embodying the distinctive characteristics of a type, period, or method of construction. The year of significance is 1912, the year of the building's construction. The area of significance is Architecture.

CR-DHL-048 (Klepperich Farm (barn)) :

The farmstead as a whole does not meet the farm study's significance and integrity guidelines for Criterion C because it has lost its historic implement shed, corncrib, granary, silo, chicken house, and other structures, and the farmhouse is very altered.

The barn however, is considered eligible for the National Register under Criterion C (embodying the distinctive characteristics of a type, period, or method of construction) as a well-preserved example of a timber-frame barn whose design emerged from an early "English" or "threshing" barn precedent but included a lower-level stable designed for modern early-20th century dairying. The significant date is circa 1910, which is the year the barn was built. The area of significance is Agriculture.

CR-DHL-010 (Jacobs Farmstead):

The Phase I study found that the farmstead as a whole has lost several historic structures including silo, hog barn, and early implement shed and therefore does not meet the farm study's significance and integrity guidelines for Criterion C. Additionally, the barn and house were found to not meet the guidelines for individual eligibility, and the recommendation was made to SHPO that this site is not eligible for listing on the National Register. However, SHPO disagreed with the recommendation and determined the property to be eligible (**Appendix B** SHPO letter dated September 8, 2008).

Impacts: Mn/DOT CRU originally determined that the Preferred Alternative could have an adverse effect on the Zoar Church Parsonage (CR-DHL-002) and would constitute an adverse effect on the Klepperich Farm (Barn) (CR-DHL-048) (October 2008 letter, Appendix B). Since this determination was made, the Preferred Alternative alignment has been modified to avoid or reduce these impacts, and CRU and SHPO have indicated a revised determination, as described below.

CR-DHL-002 (Zoar Church Parsonage):

The State Historic Preservation Office (SHPO) letter (September 8, 2008, Appendix B) regarding impacts to this property was inconclusive. Further discussion of the property with SHPO indicated that the potential for impact would be a result of creating substantially longer access to the property from TH 212 and potentially converting the frontage road access (existing TH 212) to a gravel surface, causing potential dust impacts. To avoid these impacts, the frontage road was shortened, providing access from Mellgren Lane at a distance of approximately 600 feet from the TH 212/Mellgren Lane intersection. SHPO has indicated that this revision would result in no adverse effect on the Zoar Church Parsonage.

CR-DHL-048 (Klepperich Farm (Barn)) :

Mn/DOT CRU has determined that the proposed roadway would constitute an indirect adverse effect on the Klepperich Farm barn by moving the road closer to the barn (visual, noise). The SHPO has concurred with this determination (see Correspondence in **Appendix B**). In an effort to minimize impacts to the barn, the Preferred Alternative alignment was shifted as far south as possible while also minimizing impacts to wetlands and the creek crossing. SHPO has indicated that the addition of vegetation screening planted between the barn and new road alignment would result in no adverse effect to the barn.

CR-DHL-010 (Jacobs Farmstead):

The State Historic Preservation Office (SHPO) letter (September 8, 2008, Appendix B) regarding impacts to this property was inconclusive. Further discussion of the property with SHPO indicated that the distance of the road improvements from the building structure was far enough to result in no adverse effect to the property.

Conclusion

Based on minor alignment/design modifications, the Preferred Alternative alignment would not result in an adverse effect to one NRHP eligible properties.

The CR 43 interchange footprint would not have an adverse effect on any NRHP eligible properties or archaeological sites.

Mitigation: Although no adverse effect to Zoar Church Parsonage is anticipated, Mn/DOT would coordinate with Dahlgren Township regarding the surface type for the access road, and if possible it would be maintained as paved in front of the church property to control potential damage to the property from dust. The Klepperich barn would also be screened from the road through the installation of vegetation between the road and the barn.

On Behalf of the FHWA, Mn/DOT CRU has consulted with SHPO and is preparing a revised determination based on the alignment/design modification described above for SHPO review. A Programmatic Agreement would be developed, as needed.

b. Prime or unique farmland or land within an agricultural preserve? Yes No

Response:

Prime or Unique Farmland and Farmland of Statewide Importance

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, and other agricultural crops. Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops (e.g., cranberry bogs, wild rice areas, and orchards). Designation of prime or unique farmland is made by the USDA. Farmland of statewide or local importance is land in addition to prime and unique farmland that is of statewide or local importance for the production of food, feed, fiber, forage, and oilseed crops. Designation of this farmland is made by the NRCS. Prime farmland and farmland of statewide importance are determined by soil map unit, whereas the unique farmland designation is based on land use.

Prime farmland and farmland of statewide importance are located within the project site (<http://websoilsurvey.nrcs.usda.gov>, accessed April 9, 2007). **Figure 10** shows the location of these resources—displayed by soil map units. See **Table 4-8** in Section 4.A.19b for a list of soils indicating prime farmland and farmland of statewide importance. No unique farmland is located in the project site.

Regulatory Context: Congress enacted the Farmland Protection Policy Act (FPPA) as a subtitle of the 1981 Agriculture and Food Act. FPPA ensures that impacts on agricultural lands are considered during the environmental decision-making process.

To rate the relative impact of a project on farmlands subject to FPPA, project sponsors and local NRCS staff fill out a Farmland Conversion Impact Rating Form (NRCS-CPA-106 for corridor type projects). The rating form is based on a Land Evaluation and Site Assessment (LESA) system. LESA is a numerical system that measures the quality of farmland. In general, the higher the LESA score, the more appropriate the site is for protection. Corridor type projects receiving a score of less than 260 do not require further evaluation. FPPA does not require corridor projects to modify their design to avoid or minimize farmland conversion even if the LESA score is greater than 260.

Impacts: Approximately 73 acres of prime farmland and 53 acres of farmland of statewide importance would be impacted by the roadway portion of the Preferred Alternative. Form NRCS CPA-106 has been reviewed by the local NRCS office (**Appendix B**) and it has determined that both the roadway and CR 43 interchange footprint portions of the Preferred Alternative have a farmland conversion impact rating below 260.

Approximately 31 acres of prime farmland and 12 acres of farmland of statewide importance would be converted by the CR 43 interchange footprint. Form NRCS-CPA-106, mentioned above, includes the CR 43 interchange footprint in addition to the Preferred Alternative.

Mitigation: Mitigation for farmland conversion impact ratings less than 260 is not required. No mitigation measures are proposed for the roadway or CR 43 interchange footprint portions of the Preferred Alternative.

Agricultural Preserves

An agricultural preserve is a restrictive covenant on qualifying land that limits its use to agriculture (see Regulatory Context below).

According to a map of agricultural preserves for Carver County (2006 data), lands included in the Metropolitan Agricultural Preserves Program are located within the project site (http://www.co.carver.mn.us/departments/LWS/docs/ag_preservces.pdf, accessed May 1, 2009).

Figure 10 shows the locations of these resources.

Regulatory Context: Two Minnesota statues (Metropolitan Agricultural Preserves Act [M.S. 473H] and State Agricultural Land Preservation Policy [M.S. 40A]) were enacted in the 1980s to establish an agricultural land protection program. Under this program, local governments may identify suitable areas for agricultural preserves and offer property tax credits and other incentives to farmers who place a restrictive covenant on applicable land.

Agricultural preserve land may be used for essential services, including transportation, only if no other alternatives exist. When 10 or more acres of land from an individual parcel registered with the agricultural preserves program will be impacted, the procedure in M.S. 473H.15 (Eminent Domain Actions) must be followed. The first step of this procedure requires filing a Notice of Intent with the Environmental Quality Board (EQB) at least 60 days prior to acquiring the land. The EQB then reviews the proposed action to determine the effect of the action on the agricultural resources within the preserve. Given the project may not be constructed for several years, it cannot be determined at this time if this procedure will be required.

Impacts: The Preferred Alternative would impact three parcels with agricultural preserves. The total area of agricultural preserve land affected would be approximately 43 acres, with only one individual parcel conversion totaling more than 10 acres. Subsequent property tax credits and other incentives to the landowners would be reduced proportionate to the amount of acreage that would be removed from agricultural preserves.

The CR 43 interchange footprint would result in impacts to two parcels with agricultural preserves, affecting and up to 22 acres.

Mitigation: No mitigation measures are proposed for the Preferred Alternative; however, the procedure in M.S. 473H.15 Eminent Domain Actions would be followed prior to acquisition of any parcel areas greater than 10 acres.

c. Designated parks, recreation areas or trails? ___ Yes X No

Response: There are no existing publicly owned parks, recreational areas, trails, or wildlife and/or waterfowl refuges within the project site. Therefore, there are no direct impacts resulting from the proposed project to any such facilities.

Although there are no existing public recreation trails along TH 212, bicyclists are permitted to use the TH 212 roadway shoulder as a transportation facility. Under Build conditions with the Preferred Alternative, as under existing conditions, bicycles would be permitted on the TH 212 roadway shoulder.

In its *2030 Regional Parks Policy Plan* (2005), the Metropolitan Council identified the Miller Lake, Ravine, and Minnesota River Bluff Park areas in Carver County as potential areas for future parks. A north/south trail connecting Miller Lake and Ravine Park areas and ultimately extending north to the Lake Waconia Regional Park is also proposed (see **Figure 6**). These parks are also proposed in the draft *Carver County 2030 Comprehensive Plan*. The search areas for these parks are outside of the project limits, therefore impacts are not anticipated. However, these search area limits are general and subject to adjustment as land acquisition options and opportunities evolve over time as the county works with various landowners.

The City of Carver has identified a potential trail corridor in the portion of Dahlgren Township to be annexed by the City of Carver (see **Figure 6**). The portion of the planned trail located south of TH 212 would follow a decommissioned railroad corridor. This corridor could be used as a portion of the proposed north/south trail connecting the proposed Miller Lake and Ravine Parks. Right-of-way acquisition from private owners of the corridor would need to occur before trail development could begin. If constructed, the trail would likely be developed and owned by Carver County. The City is also conducting a park search in the Dahlgren Township annexation area for a future city park near the southern tip of Gaystock Lake, and is proposing other trail facilities in this area.

Impacts: Introduction of a grade-separated interchange at CR 43 would introduce potential conflict with bicycles. However, it is expected that by the time an interchange would be constructed, the City of Carver would have established alternate pedestrian and bicycle facilities on City roadways parallel to TH 212.

The search areas for the future parks at Miller Lake, Ravine, Minnesota River Bluff, and Gaystock Lake are outside of the project limits, therefore impacts are not anticipated. Since there is no identified alignment for the future trail from Miller Lake Park to Ravine Park, it is unknown at this time if the proposed project would pose any direct impacts, though the trail would likely cross TH 212 somewhere to the east of Kelly Avenue. Mn/DOT would work with corridor communities to allow for adequate, safe trail connections and crossings of TH 212.

The CR 43 interchange footprint would not adversely impact any parks or trails.

Mitigation: No mitigation is required.

d. Scenic views and vistas? ___ Yes X No

e. Other unique resources? ___ Yes X No

26) Visual Impacts

Will the project create adverse visual impacts during construction or operation? Such as glare from intense lights, lights visible in wilderness areas and large visible plumes from cooling towers or exhaust stacks? ___ Yes X No

If yes, explain.

27) Compatibility with Plans and Land use Regulations

Is the project subject to an adopted local comprehensive plan, land use plan or regulation, or other applicable land use, water, or resource management plan of a local, regional, state or federal agency? Yes No

If yes, describe the plan, discuss its compatibility with the project and explain how any conflicts will be resolved. If no, explain.

Response: The compatibility of the proposed project with local planning efforts is an important consideration.

Carver County

As discussed in Section 3.A.9, the proposed roadway improvements are consistent with existing and proposed land uses in Carver County, one of the fastest growing counties in Minnesota. The county's *Land Use Plan*, a chapter of the draft *Comprehensive Plan*, calls for urban development to occur within the municipalities of the county and the areas outside the municipalities to remain rural in character with agriculture as the principal land use. The proposed project seeks to support these land use policies and minimize impacts to farmland, wetlands, and open space within the project site.

The main goals of Carver County's *Transportation Plan*, a chapter of the draft *Comprehensive Plan*, are to preserve the current roadway system, accommodate future growth, and address emerging new transportation issues. The plan recommends future access spacing along the segment of TH 212 within the project boundaries at CR 34, TH 25, CR 51, TH 284, CR 36/CR 53, CR 41, CR 43, and CSAH 11. Policies of the plan include:

- Reducing roadway and intersection crashes and fatalities in the county;
- Creating a collector classification frontage road system for TH 212 between Carver and Norwood Young American;
- Expanding the commuter bus/park-and-ride network along the new TH 212 corridor; and,
- Encouraging roadway improvements to be sensitive to historical, environmental, and natural resources, and to be integrated with other elements of the plan and the County Water Management Plan.

The draft *Comprehensive Plan* recognizes the *Highway 212 IRC Management Plan*, and incorporates its policies into the county's comprehensive plan. In addition, the access spacing guidelines in the plan are consistent with the Mn/DOT access policies and spacing guidelines for the trunk highway system developed in 2002. These are based on functional classification and role in the regional transportation system rather than on traffic volumes. The proposed project is consistent with Mn/DOT's access spacing guidelines.

The Carver County *Comprehensive Plan* states: "When future expansion or realignment of a roadway is proposed, but not immediately programmed, agencies should consider right-of-way preservation strategies to reduce costs and maintain feasibility of the proposed improvement". Mn/DOT policy requires environmental documentation prior to right-of-way purchase. The proposed project and supporting environmental documentation fulfills this requirement.

City of Cologne

The western project limits do not extend into the City of Cologne, even under future conditions when the city annexes a portion of Benton Township eastward to Market Avenue.

City of Carver

The eastern project limits do not extend into the City of Carver. However, the City of Carver plans to expand its boundary westward by annexing a portion of Dahlgren Township, from CSAH 11 to approximately one-quarter mile west of CR 43. The *Comprehensive Plan* calls for the city to be active in planning for TH 212 improvements west of CSAH 11, and the proposed project supports this goal.

City of Chaska

The project limits do not extend into the City of Chaska, which is located west and north of the project site, though the City of Chaska is considering the possibility of expanding its western border, through annexation, to CSAH 11 in northeastern Dahlgren Township.

Impacts: The Preferred Alternative is consistent with Mn/DOT and local planning documents. Similarly, the CR 43 interchange footprint would not adversely impact these plans.

The No-Build Alternative is not consistent with Mn/DOT planning documents and local and regional comprehensive plans. The No-Build Alternative does not address mobility and safety deficiencies or provide consistency in design. Additionally, the No-Build Alternative will not sufficiently serve anticipated population growth and transportation needs discussed in the comprehensive plans of Carver County and cities surrounding the TH 212 corridor.

Mitigation: No mitigation is required.

28) Impact on Infrastructure and Public Services

Will new or expanded utilities, roads, other infrastructure or public services be required to serve the project? X Yes No

If yes, describe the new or additional infrastructure or services needed. (Note: any infrastructure that is a connected action with respect to the project must be assessed in the EAW; see EAW Guidelines for details.)

Response: All changes in local roadways required because of proposed improvements to TH 212 are included in the project definition and assessed for impacts. Road improvements required for adjacent development to meet access management requirements were assumed to be the responsibility of local agencies and were not evaluated in this document. No new utilities or public services would be required to serve the project.

Impacts: As discussed in Section 4.A.18, the proposed project would potentially impact subsurface sewage treatment systems at two locations. These would be removed or abandoned in accordance with applicable regulations.

Mitigation: Any utility relocation necessary to accommodate the road and interchange construction will be coordinated with the utility owner prior to construction.

29) Cumulative Impacts

Minnesota Rule part 4410.1700, subpart 7, Item B requires that the RGU consider the "cumulative potential effects of related or anticipated future projects" when determining the need for an environmental impact statement. Identify any past, present or reasonably foreseeable future projects that may interact with the project described in this EAW in such a way as to cause cumulative impacts. Such future projects would be those that are actually planned or for which a basis of expectation has been laid. Describe the nature of the cumulative impacts and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects (or discuss each cumulative effect under appropriate Item(s) elsewhere on this form).

Response: In addition to the state definition of cumulative potential effects described above, cumulative impacts are defined by the federal Council on Environmental Quality (CEQ) as “impacts on the environment that result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 158.7). The findings below pertain to both cumulative potential effects and cumulative impacts. In the discussion that follows, the terms “cumulative potential effects” and ‘cumulative impacts’ are used interchangeably.

Cumulative impacts are the total effect of all known actions (past, present, and future) in the vicinity of the proposed road project with impacts on the same types of resources. The purpose of cumulative impacts analysis is to look for impacts that may be individually minimal, but which could accumulate and become significant and adverse when combined with the effects of other actions.

Scope of Cumulative Potential Effects

The analysis has been limited to those resources addressed in this document that have potential for impact by the Preferred Alternative and CR 43 interchange, including contaminated properties, wetlands, water quality, noise, cultural resources, and relocation/right-of-way.

The analysis generally considers impacts of past projects, as well as anticipated actions into the future, in this case events out through 2030, which is the build analysis year used for traffic and noise and is considered the current limit of comprehensive planning activities for the area. The geographic area evaluated generally centers around the Preferred Alternative and CR 43 interchange project limits and adjacent areas, but may vary by resource topic.

Past Actions

Past actions in the project area include decades of agricultural and rural residential development. In addition, there has been highway and heavy rail infrastructure development. All these have resulted in the current state of built environment in the vicinity of the proposed project.

Foreseeable Future Actions

In addition to the TH 212 Preferred Alternative for the construction of a four-lane roadway between Cologne and CSAH 11 in Carver, there are several development projects recently constructed or underway in the vicinity of the TH 212 project corridor, some of which have been recently studied or are currently in the process of being studied, or might reasonably be expected to affect the same natural resources as the proposed TH 212 project. These will be considered as the reasonably foreseeable future actions, for the purpose of the cumulative impacts discussion below. These projects are summarized in **Table 4-27** and illustrated in **Figure 4-15**.

Table 4-27. Projects with Potential for Cumulative Effects

Project Name	Location	Size/Type	Status
Freeway Commercial District AUAR	City of Carver	Commercial	Review Pending
Spring Creek	City of Carver	80 acres Residential	Construction started in 2005 - ongoing
Glen at Spring Creek	City of Carver	40 acres Residential	Construction started in 2006
Heights of Chaska	City of Chaska	1,024 acres 50,000 sf retail 20,000 sf office	Anticipated construction to take place through 2015
Northwest Carver Alternative Areawide Review (AUAR)	City of Carver	520 acres Various scenarios incorporating residential, mixed use, and industrial	Pending
Southwest Carver AUAR	City of Carver	1,716 acres Various scenarios incorporating mix of residential and some commercial	Pending
Lylewood Glen	City of Carver	40 acres Residential	Completed in 2006
Market Avenue Interchange	City of Cologne / MnDOT	New interchange at current Market Avenue Intersection	To be determined – expected around 2030
TH 212 Norwood Young America to Cologne segment	Cities of Norwood Young America and Cologne	5 miles of two-lane roadway upgraded to four-lane expressway	To be determined – expected prior to 2030
Local roadway network	Carver and Cologne	Frontage and/or backage roads to provide local controlled access	As adjacent development occurs

Impacts: The following is an evaluation of the potential cumulative impacts associated with the Preferred Alternative and the foreseeable future actions described above.

Contaminated Properties

Existing Conditions

There are a number of potentially contaminated sites identified in the vicinity of the project area. Some of these sites are known to have been cleaned up according to state requirements, some sites may have no contamination, and the status of others is not known.

Impacts from Proposed Action

Based on the design of the roadway portion of the Preferred Alternative, 21 potentially contaminated sites would be impacted by the project through construction activities and/or right-of-way acquisition. Additionally, the CR 43 interchange footprint would result in right-of-way acquisition from six sites with potential contamination.

Impacts from Other Actions

The potential impacts of other actions on contaminated properties have been evaluated through other environmental review documents and/or local reviews. It is anticipated that sites with potential contamination would be addressed via state and local regulations requiring clean up or containment of the contaminant.

Cumulative Potential Effects

A plan would be developed, as necessary, for each project with potentially contaminated sites for properly handling and treating contaminated soil and/or groundwater during construction. In addition, Mn/DOT and other project proposers would work with the MPCA VIC Program, MPCA Voluntary Petroleum Investigation and Cleanup Program, and Minnesota MDA Incident Response Program, as appropriate, to develop and implement appropriate remedial actions. Through the proper management of known or suspected contamination by the Preferred Alternative or other actions within the project vicinity, cumulative impacts associated with contaminated sites would be prevented.

Wetlands

Existing Conditions

Wetlands in the vicinity of the project area have been affected directly or indirectly over time as a result of past human settlement/development, including activities such as drainage for agricultural use and filling for roads and driveways.

Impacts from Proposed Action

As described in **Section 4.A.12 Physical Impacts on Water Resources**, the roadway portion of the Preferred Alternative would have up to 11.83 acres of wetland fill/grading impact, affecting 14 wetlands. At least half of these wetlands are farmed and/or have been previously modified by ditches or drain tile. Additionally, the CR 43 interchange footprint would result in up to 1.73 acres of impact to wetlands; however, depending on the actual interchange configuration, this amount of fill is likely to be smaller. These impacts would be mitigated in accordance with state and federal regulatory requirements, in effect at the time of project construction. Given the project timeline, the assumption for this environmental document is that wetland mitigation would be provided via certified wetland bank credits approved through the required permit application approval process.

Impacts from Other Actions

Wetlands in the project vicinity may be affected by anticipated future development projects listed above (e.g., Spring Creek Developments, local roadway projects). However, these impacts would be mitigated through regulatory approvals requiring avoidance, minimization and mitigation of impacts.

Cumulative Potential Effects

Wetlands in Minnesota are protected by Federal law (Section 404 of the Clean Water Act and Executive Orders) and State law (Minnesota Wetland Conservation Act and Public Waters Work Permit Program Rules) that mandate “no net loss” of wetland functions and values. These federal and state laws require the avoidance of wetland impacts to the extent possible, and when avoidance is not possible, impacts must be minimized and mitigated, and approved through a permit review process. Based on current regulations, if the project were to occur today, a replacement ratio of 2:1 would be the minimum amount of replacement needed. Therefore, no substantial cumulative wetland impacts are anticipated to result from the Preferred Alternative including the CR 43 interchange plus other foreseeable actions.

Water Quality

Existing Conditions

Land uses within the TH 212 study area are primarily agricultural and rural residential. Farming practices in the area are generally row crops with some areas of pasture or hayland. Agricultural land—especially row crops—is considered to have a relatively high runoff rate. For the most part, stormwater runoff runs directly into the surrounding ditches and is conveyed to adjacent watercourses, including Carver Creek and adjacent wetlands and drainage ditches.

The majority of the stormwater along the study area ultimately drains to Carver Creek, with one area draining north toward Gaystock Lake and West Chaska Creek. Under existing conditions stormwater runoff from impervious surfaces in recently developed areas drains to stormwater ponds before entering these water bodies or city storm sewer system.

Impacts from Proposed Action

As discussed in **Section 4.A.17**, the roadway portion of the Preferred Alternative would result in an increase in stormwater runoff volumes and peak discharges, which may lead to additional pollutant loading, erosion, and sedimentation if not properly controlled. Approximately 30 acres of impervious surface would be added to the corridor. Additionally, the construction of an interchange at CR 43 would result in additional impervious area. The proposed project will pre-treat stormwater runoff and/or provide infiltration through best management practices (BMPs) being incorporated into the project design. These BMPs help mitigate the adverse effects of the increased impervious surfaces. They will improve the quality of stormwater being discharged compared to existing (untreated) condition.

Impacts from Other Actions

Future developments and/or roadway projects may result in increased impervious surfaces and/or stormwater quality/quantity (discharge rate) effects. However, these projects will be required to provide mitigation in conformance with NPDES and/or watershed regulations, minimizing surface water impacts.

Cumulative Potential Effects

Federal, state, and local surface water management regulations require mitigation be provided in conjunction with proposed development and roadway projects. Given the design standards and management controls available for protecting the quality of surface waters, it is likely that potential impacts of the project, along with other foreseeable actions, would be minimized or mitigated. Through the proper management of stormwater within the project limits, cumulative impacts associated with additional runoff can be avoided, therefore, substantial adverse cumulative effects on water quality and quantity rates are not anticipated.

Noise

Existing Conditions

As described in Section 4.A.24, there are several locations within the study area where traffic noise currently exceeds state and/or federal noise daytime and nighttime standards. This background noise is a result of existing traffic use on roads as well as other uses occurring on adjacent lands (agricultural activities, residences, landscape nurseries).

Impacts from the Proposed Action

Traffic noise levels would increase for some properties adjacent to the expanded TH 212 corridor as a result of background traffic growth and the construction of the Preferred Alternative and CR 43 interchange.

Impacts from other Actions

The impact of other actions such as addition of local roadway network and new residential and commercial developments in areas that are currently agricultural, would result in increasing background noise in areas constructed near the TH 212 corridor. City and County zoning and planning code could be used to limit the potential for constructing noise sensitive receptors (such as housing or hospitals) in areas that are not compatible for such uses (near high volume roadways).

Cumulative Potential Effects

The future reconstruction of the TH 212 project segment from the Cologne Bypass to CSAH 11 may be considered a Type I project for purposes of noise mitigation analysis (a Type I project includes an increase in number of through lanes). The noise abatement measures listed in 23 CFR 772 would be evaluated as part of future environmental documentation and project design. Where applicable, this would include the evaluation of noise barriers (i.e., noise walls), consistent with FHWA and Mn/DOT policy, where predicted noise levels exceed State noise standards, or where predicted noise levels result in a substantial increase compared to existing conditions (increase of 5 dBA or greater).

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 noise impacts. This analysis was completed for two locations along the highway based on land use transition areas identified in the draft Carver County 2030 Comprehensive Plan: west of Kelly Avenue (east of Cologne) and between CSAH 43 and CSAH 11 (west of Carver).

The results of this analysis can be used as a guide for local governments responsible for planning and land use controls within their community to help prevent future traffic noise impacts on

currently undeveloped lands. Based on regulatory requirements and local land use regulations, cumulative impacts associated with traffic noise can be avoided, therefore substantial adverse cumulative noise impacts are not anticipated.

Cultural Resources

Existing Conditions

The cultural resources survey, evaluation, and effects analyses for the Preferred Alternative were conducted in compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations, 36 CFR 800, identifying several properties in the TH 212 project study area that are listed or potentially eligible for listing on the NRHP.

Impacts from the Proposed Action

As described in **Section 4.A.25a**, the roadway portion of the Preferred Alternative would avoid adverse effects to NRHP eligible properties. An alternate access design for the frontage road to the Zoar Church from Mellgren Lane was incorporated (approximately 600 feet from the intersection rather than 800 feet in the original Preferred Alternative) to eliminate the access concern expressed by SHPO. Additionally, Mn/DOT would coordinate with Dahlgren Township regarding the surface type for this access road, and if possible it would be maintained as paved in front of the church property to control potential damage to the property from dust. The potential impact to the Klepperich barn would be avoided through the installation of vegetation to screen the view of the road from the barn.

The CR 43 interchange portion of the Preferred Alternative would not have an adverse effect on any NRHP eligible properties or archaeological sites. Consultation with SHPO regarding potential effects and mitigation, as required by the federal Section 106 process, has resulted in avoidance of potential project impacts to cultural resources.

Impacts from Other Actions

Changes to National Register-listed or eligible properties would be reviewed under the Section 106 process if federal funds, permits, or licenses are required as part of an action. National Register listing, however, does not prevent demolition or other negative effects on properties if federal funds, permits, or licenses are not required. Privately funded development related to historic properties is not regulated under federal regulations and will only be reviewed if located in a local historic district or applied to a locally designated property. Therefore, there is potential for private development to have an adverse effect on eligible properties that may not be mitigated.

Cumulative Potential Effects

As noted, private development (projects without federal funding or approvals) would not be required to avoid or mitigate impacts to historic properties. However, the National Historic Preservation Act requires that impacts to historic properties, defined as those eligible or potentially eligible for listing in the NRHP, be considered before implementation of a federal undertaking. Efforts to avoid and minimize impacts to the eligible properties within the study area have been made for the Preferred Alternative, thereby avoiding potential adverse effects. As such, the proposed project does not result in any additional potential cumulative impact to historic properties.

Access, Relocation, and Right-of-Way

Existing Conditions

The primary land uses in the project vicinity are agriculture, rural residential and a few churches. There are many parcels located within the Preferred Alternative study area, many of which have direct access onto TH 212.

Impacts from the Proposed Action

The roadway portion of the Preferred Alternative would require the acquisition of approximately 149 acres of new right-of-way; the CR 43 interchange footprint portion would need up to an additional 44 acres. The project would also change direct access onto TH 212 for several properties, consistent with County and Mn/DOT access management guidelines. Relocation of a few residences may be required.

Impacts from Other Actions

Other projects along the TH 212 corridor would result in land use changes; however, these projects would be consistent with local planning requirements and approvals. It is assumed that planned developments would proceed only with the proper agreements and purchase of property from existing landowners, thereby not having an effect on right-of-way or relocation impacts. Based on County and Mn/DOT access management guidelines and local approval process, new development access to TH 212 would be made only at primary intersections (one-mile spacing), with access connection made via a new local street network. The City and/or County providing the local network would be expected to follow similar coordination for access, right-of-way and relocation as Mn/DOT.

Cumulative Potential Effects

The Preferred Alternative (including the CR 43 interchange) and the current and future developments are consistent with local planning documents. Mn/DOT would coordinate with each affected landowner prior to purchasing of property regarding access, right-of-way acquisition and relocation options on their respective properties as well as relocation to a comparable site. Means to minimize the impact to the property would also be discussed.

The Minnesota Department of Transportation (Mn/DOT) will fully comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601 et seq) and 49 CFR Part 24 promulgated pursuant thereto, on all transportation projects undertaken by Mn/DOT. Through the proper management of access, right-of-way acquisition and required relocations within the project limits, cumulative impacts associated with restricting access and purchasing right-of-way can be avoided, therefore, adverse cumulative effects on property are not anticipated.

Conclusion

The potential impacts to resources identified can be avoided or minimized through existing regulatory controls, as described above. During the development of this Environmental Assessment, no potentially significant cumulative impacts to the resources affected by the TH 212 project have been identified.

Mitigation: No mitigation is required, other than the mitigation measures pertaining to the resource sections discussed above.

30) Other Potential Environmental Impacts

If the project may cause any adverse environmental impacts not addressed by Items 1 to 28, identify and discuss them here, along with any proposed mitigation.

See Section 4.B for additional federal issues.

31) Summary of issues

List any impacts and issues identified above that may require further investigation before the project is begun. Discuss any alternatives or mitigative measures that have been or may be considered for these impacts and issues, including those that have or may be ordered as permit conditions.

A number of the issues addressed in this EA/EAW (Sections 4A and 4B) found there would be no impact to that resource due to either the resource was not within the project site, or as a result of existing regulatory requirements or design details, impacts would be avoided or do not require specific mitigation. The following issues/sections do not have specific mitigation requirements identified: Land use (Section 4.A.9), Cover types (Section 4.A.10), Geologic hazards and soil conditions (section 4.A.19), Traffic (Section 4.A.21), Vehicle-related air emissions (Section 4.A.22), Stationary source air emissions (Section 4.A.23), Designated parks, recreation areas and trails (section 4.A.25c), Scenic Views and Vistas (Section 4.A.25d), Other unique resources (Section 4.A.26), Impact on infrastructure and public services (Section 4.A.28), Cumulative Impacts (Section 4.A.29), Other potential environmental impacts (Section 4.A.30), Social impacts (Section 4.B.1), Considerations relating to pedestrians and bicyclists (Section 4.B.2), Section 4(f)/6(f) Section 4.B.3, Environmental Justice (Section 4.B.4), and Economics (Section 4.B.5).

The mitigation measures required/proposed for impacts identified as a result of the project are summarized in **Table 4-28**. A summary of the impact differences between the 1993 EIS and the roadway portion of the current Preferred Alternative is provided in **Table 4-1**.

Table 4-28: Summary of Impacts and Mitigation

Resource Impacted	Roadway Portion of Preferred Alternative		County Road 43 Interchange Footprint
Environmental Hazards (Section 4.A.9)	<p>Land for right-of-way would be acquired from 21 Potentially Contaminated Properties (13-Medium potential and 8-Low potential)</p> <p><i>Mitigation:</i> Further site assessment is needed to determine type and extent of contamination. Mn/DOT would work with MPCA Voluntary Investigation Cleanup Program, MPCA Voluntary Petroleum Investigation and Cleanup Program, and MDA Incident Response Program</p>		<p>Land for right-of-way would be acquired from 6 Potentially Contaminated Properties-(all Medium potential)</p> <p><i>Mitigation:</i> Further site assessment is needed to determine type and extent of contamination. Mn/DOT would work with MPCA VIC Program, MPCA Voluntary Petroleum Investigation and Cleanup Program, and MDA Incident Response Program</p>
Fish, wildlife and ecologically sensitive resources (Section 4.A.11)	<p>Carver Creek and associated wetlands would be disturbed during culvert installation. Woodlots, grasslands, and other wildlife habitat would be converted to right-of-way</p> <p><i>Mitigation:</i> Narrowing construction limits and/or modifying final design layouts near woodlots, wetlands, and Carver Creek would minimize impacts to the extent practical</p>		<p>Woodlots, grasslands, and other wildlife habitat would be converted to right-of-way.</p> <p><i>Mitigation:</i> Narrowing construction limits and/or modifying final design layouts near woodlots and wetlands would minimize impacts to the extent practical</p>
Physical Impacts on Water Resources (Section 4.A.12)	Wetlands	<p>11.8 acres of fill/disturbance in 14 wetlands</p> <p><i>Mitigation:</i> Replacement ratio of 2:1 (or current ratio at time of construction) would be provided via approved wetland bank credits</p>	<p>1.73 acres of fill/disturbance in 5 wetlands</p> <p><i>Mitigation:</i> Replacement ratio of 2:1 (or current ratio at time of construction) would be provided via approved wetland bank credits</p>
	Drainage	<p>Up to 1.05 acres (included in wetland impact above) of Carver Creek would be disturbed during culvert installation at new crossing</p> <p><i>Mitigation:</i> DNR specified BMPs would be implemented</p>	<p>Existing surface waters and subsurface drainages would be perpetuated, resulting on no impacts.</p> <p><i>Mitigation:</i> Not required</p>
Water Use (Section 4.A.13)	<p>3 wells would be abandoned and sealed</p> <p><i>Mitigation:</i> Well abandonment according to state and local regulations would be required</p>		<p>2 wells would be abandoned and sealed</p> <p><i>Mitigation:</i> Well abandonment according to state and local regulations would be required</p>

Resource Impacted	Roadway Portion of Preferred Alternative	County Road 43 Interchange Footprint
Water-related land use management districts (Section 4.A.15)	Carver Creek, which is within a shoreland district, would be impacted by road improvements. <i>Mitigation:</i> Mn/DOT would apply standard BMPs to minimize erosion and sedimentation	No Impact – interchange is not located within a water-related land use management district <i>Mitigation:</i> Not required
Erosion and Sedimentation (section 4.A.16)	Approximately 184 acres of land would be disturbed <i>Mitigation:</i> General Stormwater Permit for Construction Activity and SWPPP would be required	Approximately 44 acres of land would be disturbed <i>Mitigation:</i> General Stormwater Permit for Construction Activity and SWPPP would be required
Water quality: surface water runoff (Section 4.A.17)	Impacts include an increase in stormwater runoff volumes and peak discharges An additional 30 acres of impervious is being added <i>Mitigation:</i> Vegetated ditches, ditch blocks made from vegetative swales, and treatment ponds will be constructed.	Impacts include an increase in stormwater runoff volumes and peak discharges Additional impervious would result <i>Mitigation:</i> Vegetated ditches, ditch blocks made from vegetative swales, and treatment ponds will be constructed.
Water quality: wastewaters (Section 4.A.18)	Removal of two subsurface sewage treatment systems where buildings would be removed <i>Mitigation:</i> Septic tanks would be emptied and removed, or abandoned according to state and local regulations	Removal of two subsurface sewage treatment systems where buildings would be removed <i>Mitigation:</i> Septic tanks would be emptied and removed, or abandoned according to state and local regulations
Solid wastes, hazardous wastes, storage tanks (Section 4.A.20)	Wastes and hazardous materials at the construction site will be present and generated during construction. <i>Mitigation:</i> Efforts would be made to avoid pollution by handling these materials in accordance with appropriate federal and state regulations	Wastes and hazardous materials at the construction site will be present and generated during construction <i>Mitigation:</i> Efforts would be made to avoid pollution by handling these materials in accordance with appropriate federal and state regulations
Archaeological, historical, architectural resources (Section 4.A.25a)	Based on alignment modifications, the project would have no adverse effect on properties eligible for listing on the NRHP. <i>Mitigation:</i> Any measures necessary to avoid adverse effects to these properties to be outlined in a potential Programmatic Agreement with SHPO	No impact to NRHP eligible properties or archaeological sites within the interchange footprint area <i>Mitigation:</i> Not required

Resource Impacted	Roadway Portion of Preferred Alternative	County Road 43 Interchange Footprint
Social impacts (Section 4.B.1)	Access will be limited to right-in/right-out, but all locations that are not acquired will have access <i>Mitigation:</i> Access will be provided for all community facilities	Access will be limited within 800 feet of interchange ramps where practical and feasible <i>Mitigation:</i> Access will be provided for all community facilities
Relocation (Section 4.B.6)	2 Residences/ partial or total takes (Parcels 130,129) <i>Mitigation:</i> Mn/DOT will coordinate with landowners prior to purchasing of property regarding relocation options via Uniform Relocation Act	1 Church (Parcel 200) 1 Farm (Parcel 126) <i>Mitigation:</i> Mn/DOT will coordinate with landowners prior to purchasing of property regarding relocation options via Uniform Relocation Act
Right-of-way Section 4.B.7)	153 acres of new right-of-way 28 parcel impacts 33 direct access points onto TH 212 reduced to 12 <i>Mitigation:</i> If Mn/DOT is not able to maintain some form of access to a parcel it is required to acquire that parcel at fair market value	44 acres of new right-of-way 5 parcel impacts <i>Mitigation:</i> If Mn/DOT is not able to maintain some form of access to a parcel it is required to acquire that parcel at fair market value

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 9b and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature *Jule Peflo*

Date *12/18/09*

Title *Mn/DOT Chief Environmental Officer*

Environmental Assessment Worksheet was prepared by the staff for the Environmental Quality Board at the Administration Department. For additional information, worksheets or for EAW Guidelines, contact: Environmental quality Board, 658 Cedar St., St. Paul, MN 55155, 651-296-8253, or <http://www.eqb.state.mn.us>.

B. ADDITIONAL FEDERAL ISSUES

Federal issues not covered in the EAW are discussed below.

1) Social Impacts

Social impacts due to right-of-way acquisition, noise, access, and visual quality are addressed elsewhere in this EA. Environmental justice impacts are addressed in Section 4.B.4. The proposed project is not expected to cause adverse impacts to any community or neighborhood. No categories of people uniquely sensitive to transportation (such as children, elderly, minorities, persons with mobility impairments) would be unduly impacted. Community facilities directly adjacent to the project corridor include:

- Zoar United Church of Christ and Cemetery (7030 Highway 212 East)
- Minnesota Valley Baptist Church (12575 CSAH 43)
- Dahlgren Golf Club (6940 Dahlgren Road)

Impacts: Access to the Minnesota Valley Baptist Church would remain the same with the Preferred Alternative. Access to the Zoar United Church of Christ would be relocated from TH 212 to Mellgren Lane (via proposed township road). TH 212 access to the Dahlgren Golf Club would be closed at Laurie Lane but would remain open at Sarah Drive/Mellgren Lane. Access to these facilities could be temporarily affected by construction.

If constructed, the CR 43 interchange could result in direct right-of-way acquisition/relocation impacts to the Minnesota Valley Baptist Church. Mn/DOT will work with the church to find a comparable facility in the area, through the process described in Section 4.B.6 and 4.B.7.

Mitigation: Direct access to TH 212 will be limited, but either direct (right-in/right-out) or indirect (via local or county road) access will be provided for all community facilities.

2) Considerations Relating to Pedestrians and Bicyclists

The majority of the project site is located in a sparsely populated agricultural setting. There are no existing sidewalks, pedestrian crossings, or multi-use recreational trails within the project site. As discussed in Section 4.A.25c, there are no existing recreational trails along TH 212. Bicyclists are permitted to use the TH 212 roadway shoulder as a transportation facility.

Communities in the corridor have indicated areas of planned trails along and crossing TH 212, as discussed in Section 4.A.25c. With future right-of-way for the roadway established, communities would be able to incorporate plans for the proposed improvements into their planning for future trails. If necessary, Mn/DOT would work with corridor communities to allow for adequate, safe trail connections and crossings of TH 212. Introduction of a grade-separated interchange at CR 43 would introduce potential conflict with bicycles. However, it is expected that by the time an interchange would be constructed, the City of Carver would have established alternate pedestrian and bicycle facilities on City roadways parallel to TH 212.

3) Section 4(f)/Section 6(f)

The Section 4(f) legislation established under the Department of Transportation Act of 1966 (49 USC 303, 23 USC 138) provides protection for publicly owned parks, recreation areas, historic sites, wildlife and/or waterfowl refuges from conversion to a transportation use. The FHWA may not approve the use of land from a significant publicly owned park, recreation area or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that there is no feasible and prudent alternative to the use of land from the property and the action includes all possible planning to minimize harm to the property resulting from such use (23 CFR 774).

The project has been reviewed for Section 4(f) involvement. The project poses potential indirect impacts to the Klepperich Barn and the Zoar United Church of Christ, both historic properties that have been identified as eligible for listing in the NRHP (discussed in Section 4.A.25.a). However, these indirect impacts do not constitute “constructive use” of these properties under Section 4(f). Therefore, there is no Section 4(f) involvement on this project.

Additional protection is provided for outdoor recreational lands under the Section 6(f) legislation (16 USC 4602-8(f)(3)) where Land and Water Conservation (LAWCON) funds were used for the planning, acquisition or development of property. These properties may be converted to non-outdoor recreational use only if replacement land of at least the same fair market values and reasonable equivalent usefulness and location is assured.

The project has been reviewed for potential Section 6(f) involvement. The project will not cause the conversion of any land acquired, planned, or developed with funds from the Land and Water Conservation Fund (LAWCON). No Section 6(f) involvement exists on this project.

4) Environmental Justice

Land use along the TH 212 corridor is predominantly agricultural. To obtain a better understanding of the demographic composition of the study area, the 2000 Census was reviewed for population, racial/ethnic, and economic data (see **Figure 13**).

The Census data were reviewed at the Census Tract and Block Group level for year 2000 population and racial/ethnic data and year 2000 economic data. The study area encompasses one Census Tract and one Block Group.

As shown in **Table 4-29**, the 2000 Census reported minority population levels as one percent. This compares to about four percent in Carver County as a whole. The population in the study area is largely white.

Table 4-29. U.S. Census Data (2000) – Population, Household, and Race (Block Group Data)

Demographic Group	Census Tract 911		Carver County	
	Block Group 2		Number	Percent of Population
	Number	Percent of Population		
Households	569	N/A	24,356	N/A
Population	1,711	100%	70,205	100%
* White	1,692	99%	67,361	95.9%
* Minorities	19	1%	2,844	4.1%
- Black	0	0%	417	0.6%
- American Indian, Eskimo, Aleut	3	0.2%	129	0.2%
- Asian Pacific Islander	6	0.4%	1,106	1.6%
- Other Race	3	0.2%	613	0.9%
- Hispanic Origin ⁽¹⁾	28	2%	1,791	2.6%
- Two or More Races	7	0.4%	579	0.8%

Source: U.S. 2000 Census Data

⁽¹⁾ By definition, the Hispanic Origin group also includes racial groups (White, Black, American Indian, Asian, Other)

Low-income populations for the purposes of this document are defined as persons with incomes below poverty level. The responses of households reporting income data are weighted to reflect the entire population. The disadvantage of this approach is that estimates for small groups such as Block Groups are not as exact. The result for this analysis is that numbers do not match those numbers used in determining minority populations, where the sample was an absolute rather than a weighted count. As shown in **Table 4-30**, the 2000 Census reported low-income population levels in the general study area as being two percent. This compares to about 3.5 percent for Carver County as a whole.

Table 4-30. U.S. Census Data (2000) – Income and Poverty

Demographic Group	Census Tract 911		Carver County	
	Block Group 2		Number	Percent of Population
	Number	Percent of Population		
1999 Median Household Income	\$63,967	N/A	\$65,540	N/A
Persons Below 1999 Poverty Level	42	2%	2,391	3.5%
Persons for Whom Poverty Status is Determined ⁽²⁾	1,706	N/A	68,314	N/A

Source: U.S. 2000 Census Data

⁽²⁾ Numbers are less than population numbers, as poverty status determined for smaller areas such as block groups use weighted samples.

N/A = Not applicable

In addition to the Census data, city representatives from Cologne and Carver (the City of Carver plans to annex a large portion of Dahlgren township) were consulted in February 2009 to determine if there were any known concentrations of minority or low-income persons within the study area. No low-income or minority populations were identified in the communities in the study area. The cities “2030 Comprehensive Plans” include provisions to accommodate affordable house, such as flexible zoning provisions, providing financial and technical assistance to

developers of affordable housing, and encouraging residential developers to include mixed-income housing in new developments.

Extensive efforts have been made during the project development process to provide information to and gather information from members of the communities along the corridor. As described in Section 5.A., residents, business, and public officials were sent announcements of public meetings for the project. Public meetings were held at locations near the affected areas. Staff was available at these meetings to answer questions about the project, including proposed improvements, change in access, potential property acquisition, and specific relocation processes for affected businesses and residents.

Regulatory Context: Executive Order 12898, “*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*,” issued in February 1994, requires that the evaluation of environmental justice be addressed (to the greatest extent practical and permitted by law) in all federal planning and programming activities. The purpose of Executive Order 12898 is to identify, address, and avoid disproportionately high and adverse human health or environmental effects of programs, policies, and activities on minority and low-income populations. The proposed project has federal permit requirements and will receive federal funding. As such, it is considered a federal project for the purpose of compliance with this Executive Order.

Executive Order 12898 requires that the proposed actions be reviewed to determine if there are “disproportionately” high or adverse impacts on these populations. “Disproportionate” is defined in two ways: the impact is “predominantly borne” by the minority or low-income population group, or the impact is “more severe” than the experienced by non-minority or non-low income populations. The steps for defining environmental justice impacts include the following:

- Identification of the location of low-income population and/or minority population in the study area;
- Identification of the impacts of the project site upon the identified low-income population and/or minority population; and
- Determination of whether or not the impacts are disproportionately high or adverse.

Impacts/Environmental Justice Finding: Project impacts are distributed evenly throughout the project corridor and the proposed improvements would provide benefits for all who utilize the roadway. Therefore, the proposed action would not have disproportionately high and adverse human health or environmental effects to any minority population or low-income population.

The purpose of Executive Order 12898 is to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations. Available Census data indicate that minority and low-income populations are located in the Census tracts within the study area. However, populations adjacent to the roadway alignment of the proposed project are not considered to be predominately low-income or minority communities, nor are any reasonably identifiable low-income or minority populations present along the roadway corridor.

Mitigation: No mitigation is required. At the time of project implementation, environmental issues would be reevaluated including assessment of whether a population of concern exists, if that population would suffer disproportionately high and adverse effects, and if so, what mitigation should be provided.

5) Economics

The proposed roadway expansion, given its largely agricultural setting, is not anticipated to result in any broad changes to existing land use patterns, though some land use changes are anticipated in the areas adjacent to TH 212 between CSAH 11 and CR 43 near the cities of Carver and Chaska. The Preferred Alternative would result in the conversion of agricultural land to public right-of-way and access changes for agricultural, commercial, and institutional (e.g. churches and public facilities) uses. No direct impacts to businesses or employment are anticipated, other than the farm and church to be potentially relocated for the CR 43 interchange. Impacts on land use are discussed in Section 4.A.9. Fiscal and commercial access impacts are discussed below.

Fiscal Impacts

Residential relocations and partial property acquisitions within the project corridor would cause land that is currently being used for residential, agricultural, or commercial purposes to be converted to highway right-of-way. These acquisitions would likely result in changes to the property tax revenue base of Carver County. Year 2008 net property taxes payable for Carver County were approximately \$148 million. It is reasonable to assume that tax losses due to property acquisition for the proposed project represent a minor amount of the total taxes payable in the county.

Commercial Access Changes

The Preferred Alternative would result in changes to driveways and access for farms, businesses, and a church located along TH 212. Currently, these properties all have direct, full access to TH 212. Nine (9) farms and commercial properties would be provided with right-in/right-out access only under the Preferred Alternative, requiring U-turns and more circuitous travel routes. Twelve (12) farms, commercial properties, and the Zoar United Church of Christ would be provided with indirect access (via local or county road) to TH 212, resulting in more circuitous travel routes. Many of the farm field accesses to the existing TH 212 alignment will remain open, with existing TH 212 serving as a frontage road under the Preferred Alternative; access would change from direct to indirect. A limited number of new (direct) field accesses are proposed along the new alignment of TH 212 under the Preferred Alternative. Mn/DOT will provide at least one farm field access to each property impacted by these access closures. Access may be direct (right-in/right-out) or indirect (via local or county road).

Impacts: The Preferred Alternative would result in minor fiscal impacts to the Carver County tax base and changes to driveways and access for properties located along TH 212, as discussed previously.

Acquisition of right-of-way for the CR 43 interchange would impact a church and farm operation, affecting a small number of employees. It would also result in changes to the property tax revenue base of Carver County, but would represent a minor amount of the total taxes payable in the County.

Mitigation: The proposed project intends to maintain business access both during construction and following project completion. No commercial accesses will be closed without providing new access (either direct or indirect). Access concerns would be addressed in consultation with property owners and resolved during final design. The proposed modifications to access would improve safety and traffic conditions along the TH 212 corridor.

6) Relocation

Response: There are 51 recorded parcels along TH 212 from the east end of the Cologne Bypass to CSAH 11 in Carver.

Regulatory Context: *The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended (42 U.S.C. 4601 et seq) and 49 CFR Part 24 promulgated pursuant thereto, requires Mn/DOT to follow specific procedures regarding land acquisition and landowner relocations on all transportation projects undertaken by Mn/DOT. The authority for this assurance is found in Minnesota Statutes, 117.51, 117.52, 117.53 and 645.31(2).

Mn/DOT when acting as an agent for cities, counties, and townships in acquiring right-of-way will fully comply with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended (42 U.S.C. 4601 et seq), on all transportation projects. The responsibility for this compliance is found in Minnesota Statutes, 161.36.

Impacts: Based on the proposed construction limits, the project would result in up to two residential relocations, though these may not result in total acquisitions. The first is located near Station 595, south of TH 212 near the intersection with Mellgren Lane (Parcel #130 on **Figure 14**). This property is listed by the county as a residential parcel. It has a house, garage, two outbuildings and adjacent farmland.

The second parcel requiring relocation is located near Station 629, south of existing TH 212 and east of CR 43 (Parcel #129). This property is listed by the county as agricultural and residential. It includes a house, garage, three outbuildings and has adjacent farmland.

The CR 43 interchange footprint would result in up to two relocations depending on the final configuration of the interchange. The first is located in the northwest corner of this intersection (Parcel #126) and includes a farming operation with more than 20 structures, a residence and contiguous agricultural land. The second parcel is located in the northeast corner of the intersection (Parcel #200) and includes a church with a paved parking area.

Mitigation: Mn/DOT would coordinate with each of the above landowners prior to purchasing of property regarding relocation options on their respective properties as well as relocation to a comparable site. Means to minimize the impact to the property would also be discussed.

The Minnesota Department of Transportation (Mn/DOT) will fully comply with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended (42 U.S.C. 4601 et seq) and 49 CFR Part 24 promulgated pursuant thereto, on all transportation projects undertaken by Mn/DOT. The authority for this assistance is found in Minnesota Statutes, 117.51, 117.52, 117.53 and 645.31(2).

7) Right-of Way

Existing Condition: There are 51 recorded parcels along TH 212 between the end of the Cologne Bypass and CSAH 11 in Carver. There is a total of 103 acres of land within the existing right-of-way for this section of TH 212 currently owned by Mn/DOT, and 149 acres of additional land that is located within the area identified as new right-of-way.

Within the area identified for the CR 43 interchange footprint, there are five parcels, including over 20 structures of various sizes and uses, on up to an additional 44 acres of right-of-way.

This section of roadway currently does not have any access control. There are numerous access points for local residences, farms and businesses. Currently there are 47 parcel accesses in this 4.7 mile section of road.

Table 4-31. Current Access Locations

Location	Farm	Residential	Commercial	Field	Total
Cologne Bypass to Kelly Avenue	4	0	0	6	10
Kelly Avenue to Mellgren Lane	6	1	2	4	13
Mellgren Lane to Laurie Lane	1	0	3	2	6
Laurie Lane to CR 43	3	0	0	4	7
CR 43 to Township Rd	6	1	1	2	10
Township Road to CSAH 11	0	0	0	1	1
Total	20	2	6	19	47

Regulatory Context: Since the 1993 EIS was completed, Mn/DOT has adopted access management guidelines to improve traffic safety and operations. With the conversion of a two-lane rural roadway to a four-lane divided rural expressway on this section of TH 212, the guidelines indicate there is a need to reduce the number of access points that connect directly to TH 212. The specific guidelines that have been considered in the project design include:

- Minimum of one-mile spacing between primary intersections and half-mile spacing at secondary accesses (right-in/right-out)
- Minimum 800 foot spacing on cross streets between the intersection and first access point
- Eliminate all full access direct drives from expressway to the extent possible

Impacts: Based on the proposed construction limits, the roadway portion of the Preferred Alternative would have 149 acres of impact to acquire the additional new right-of-way for this project. This would affect 24 parcels.

The CR 43 interchange footprint (excluding the mainline impacts) covers approximately 44 acres of land, including five parcels.

If it is determined that the total parcels need to be acquired for Parcels 126, 129, 130, and 200 (the potential total takes described in the previous section, Section 4.B.6, **Figure 14**), up to an

additional 133 acres of land could be acquired for right-of-way. For purposes of this report, it was assumed that the existing land uses on these parcels would remain (primarily farmland).

In an effort to move toward meeting Mn/DOT's current access management guidelines, the Preferred Alternative would eliminate 34 direct access points onto TH 212. Most of these (29 access points) would involve removing direct access to TH 212 by connection to a new/modified frontage/side road. Five access points would be eliminated and the remaining 13 would become limited to right-in/right-out access only.

Table 4-32. Proposed Access Locations

Location	Farm	Residential	Commercial	Field	Total
Cologne Bypass to Kelly Avenue	3	0	0	2	5
Kelly Avenue to Mellgren Lane	1	0	0	0	1
Mellgren Lane to Laurie Lane	0	0	0	0	0
Laurie Lane to CR 43	0	0	0	0	0
CR 43 to Township Rd	4	1	1	1	7
Township Road to CSAH 11	0	0	0	0	0
Total	8	1	1	3	13

Mitigation: If Mn/DOT is not able to maintain some form of access to a parcel it is required to acquire that parcel at fair market value.

8) Noise

See Section 4.A.24 for summary of noise impacts.

5. PUBLIC AND AGENCY INVOLVEMENT (AND PERMITS/APPROVALS)

A. INFORMATIONAL PROCESS

A public involvement plan (PIP) was developed and implemented early in the project development process to outline the basic framework and tools for engaging the public on this project. Elements of the plan are discussed below.

1) Project Committees

There are three standing committees formed for the TH 212 project: a Project Management Team (PMT); Technical Advisory Committee (TAC); and Public Advisory Committee (PAC). Information on each of these committees is summarized in **Table 5-1**.

Table 5-1. Summary of Project Committees

Committee	Purpose	Membership	Meeting Frequency
Project Management Team	Facilitate project decision-making	<ul style="list-style-type: none"> · Mn/DOT · FHWA · Consultant team 	Monthly through life of project
Technical Advisory Committee	<ul style="list-style-type: none"> · Provide input and guidance to PMT · Review project technical elements · Liaisons to local jurisdictions 	<ul style="list-style-type: none"> · Representatives from cities and townships in the project corridor 	Every other month through life of project
Public Advisory Committee	<ul style="list-style-type: none"> · Provide input and guidance to PMT · Communication link to constituents · Discuss implementation strategies/priorities 	<ul style="list-style-type: none"> · Elected officials from cities and townships in the project corridor · Metropolitan Council · Southwest Corridor Transportation Coalition 	Approximately every 6 months through life of project

2) Public Outreach Techniques

A series of open houses were held throughout the life of the project to collect public input on different stages of the project, and inform residents of decisions that had been made. All open houses were held at Cologne Community Center in the city of Cologne. Open houses were held at the following dates and times:

- July 10, 2007 — 5:00 PM-8:00 PM — 119 attendees signed in
- October 23, 2007— 4:30 PM-7:00 PM — 73 attendees signed in
- May 19, 2009 — 4:30 PM-7:00 PM — 92 attendees signed in

A mailing list was developed for the project which includes all residents and businesses within one-half mile of the project corridor, as well as state, federal, and local agencies and groups. This mailing list was used throughout the project to inform the public of upcoming events and recent developments with the project. Mailings included reminder postcards to residents immediately

adjacent to the corridor, and project newsletters mailed approximately two weeks before each open house. Press releases to local newspapers and updates to city newsletters were also used to inform the public of project events. The project website was also updated on a regular basis to keep information and graphics current.

B. AGENCY COORDINATION MEETINGS AND CONTACTS

The following is a list of the agencies contacted:

- Carver County
- City of Chaska
- City of Carver
- City of Cologne
- Dahlgren Township
- Benton Township
- Minnesota Department of Natural Resources
- U.S. Fish and Wildlife Service
- Natural Resources Conservation Service
- Minnesota Pollution Control Agency
- State Historic Preservation Office

C. PERMITS AND APPROVAL REQUIREMENTS

Table 5-2. Permits and Approvals

Permit	Agency	Action Required
<i>Federal</i>		
Environmental Assessment	FHWA Mn/DOT	Approval
Section 404 Permit	U.S. Army Corps of Engineers	Approval
<i>State</i>		
EIS Need Decision	Mn/DOT	Determination
Geometric Layout	Mn/DOT	Approval
Construction Plans	Mn/DOT	Approval
Wetland Conservation Act (Replacement Plan) for new roads and capacity expansion projects	Mn/DOT with review by Board of Soil and Water Resources, and DNR	Approval/Review
Public Water Works Permit	DNR	Permit
Section 401	MPCA	Certification
National Pollutant Discharge Elimination System	MPCA	Permit
Section 106 (Historic/Archeological)	Minnesota SHPO	Consultation
<i>Local</i>		
Municipal Consent	City(s) of Cologne, Carver, Norwood Young America	Approval
Wetland Conservation Act, Restoration Plan	City(s) of Carver, Cologne, Norwood Young America,	Consultation

Permit	Agency	Action Required
	Dahlgren Twp, Benton Twp	
Watershed management Organization	Watershed Management Organization of Bevens Creek and Carver Creek, via Carver County	Consultation

D. PUBLIC COMMENT PERIOD AND PUBLIC HEARING

Comments from the public and agencies affected by this project are requested during the public comment period described on the transmittal letter distributing this EA/EAW. A combined public informational meeting/public hearing will be held after this EA/EAW has been distributed to the public and to the required and interested Native American Tribes, and federal, state and local agencies for their review.

At the public hearing, preliminary design layouts for the alternatives under consideration along with other project documentation will be available for public review. The public will also be given the opportunity to express their comments, ideas and concerns about the proposed project. These comments will be received at the hearing and during the remainder of the comment period, and will become a part of the official hearing record.

E. REPORT DISTRIBUTION

Copies of this document have been sent to agencies, local government units, libraries and others as per Minnesota Rule 4410.1500 (Publication and Distribution of an EAW). Other parties with an interest in the project or project site were also included in the distribution.

F. PROCESS BEYOND THE HEARING

This written reevaluation addresses whether there have been significant changes in the proposed action, the affected environment, the anticipated impacts or proposed mitigation. If there have been no significant changes in impacts then the FEIS may still be considered valid. If there have been significant changes in any of these issue areas, then a supplement to the FEIS must be issued, or a new FEIS shall be prepared.

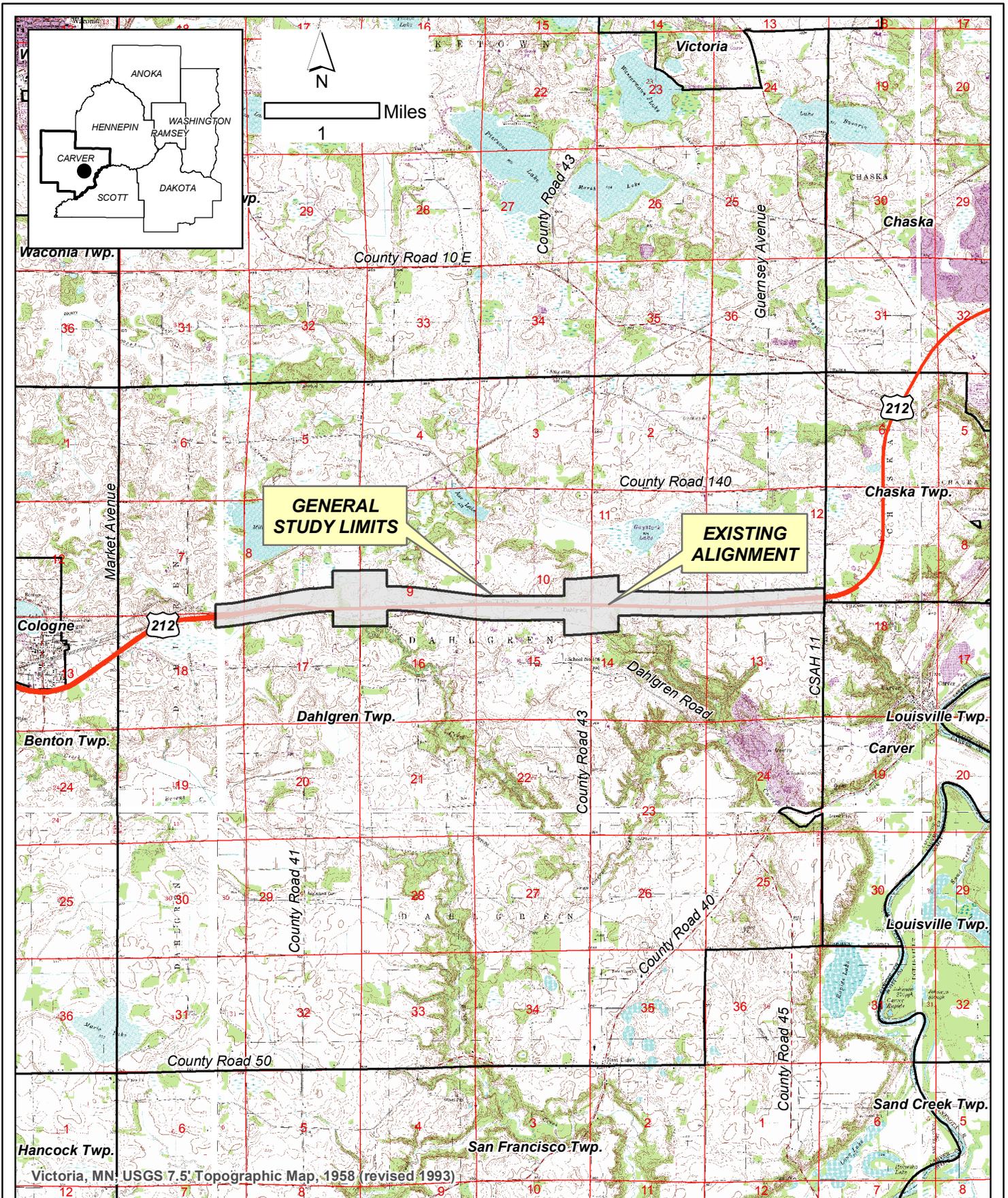
Following the EA/EAW comment period, Mn/DOT and the FHWA will make a determination as to the adequacy of the environmental documentation. If further documentation is necessary it could be accomplished by preparing a Supplemental EIS (to the 1993 FEIS), by revising the EA/EAW, or clarification in the Findings of Facts and Conclusions, whichever is appropriate.

If an EIS is determined not necessary, Mn/DOT will prepare a “Negative Declaration” for the state environmental requirements. Mn/DOT will also prepare a request for an amendment to the Record of Decision (ROD) on the 1993 FEIS. If the FHWA agrees that this finding is appropriate, it will issue an approval of the ROD amendment.

Notices of federal and state decisions and availability of the above documents will be placed in the Federal Register and the Minnesota Environmental Quality Board (MEQB) Monitor. Mn/DOT will also distribute the Negative Declaration and FONSI to the EAW distribution list and publish notices in local newspapers announcing the environmental and project alternative decisions that were made.

APPENDIX A. FIGURES (3-15)

Figure 3	USGS 7.5' Topographic Map
Figure 4	TH 212 Corridor Background
Figure 5 a-b	Preferred Alternative and Interchange Footprint
Figure 6	Proposed Parks and Trails
Figure 7	Potentially Contaminated Properties
Figure 8	Wetland Inventory and Impacts
Figure 9 a-b	Proposed Drainage Layout
Figure 10	Soils, Farmlands, and Agricultural Preserves
Figure 11 a-c	Noise Receptor Locations
Figure 12	National Register of Historic Places Eligible Properties and Sites
Figure 13	Census Block Groups
Figure 14	Proposed Right-of-Way Impacts
Figure 15	Previous Studies and Proposed Developments Along TH 212



Kimley-Horn
and Associates, Inc.

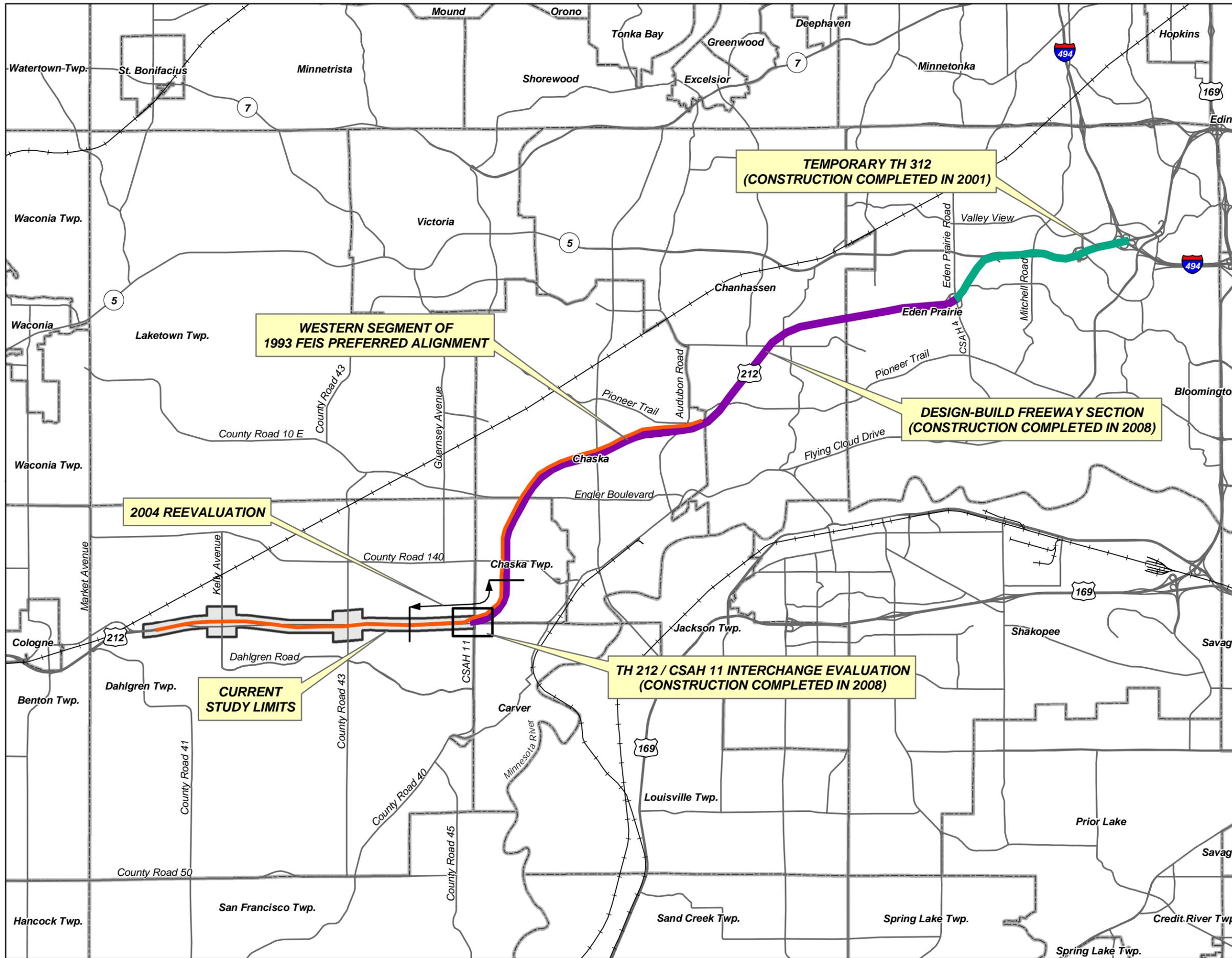


FIGURE 3
USGS 7.5' TOPOGRAPHIC MAP



I-212 PRELIMINARY DESIGN
From Cologne Bypass to CSAH 11 in Carver





Legend

- Current Study Limits
- 1993 Western Segment
- Design-Build Freeway Section
- Temporary TH 312
- 2004 Reevaluation
- TH 212/CSAH 11 Evaluation

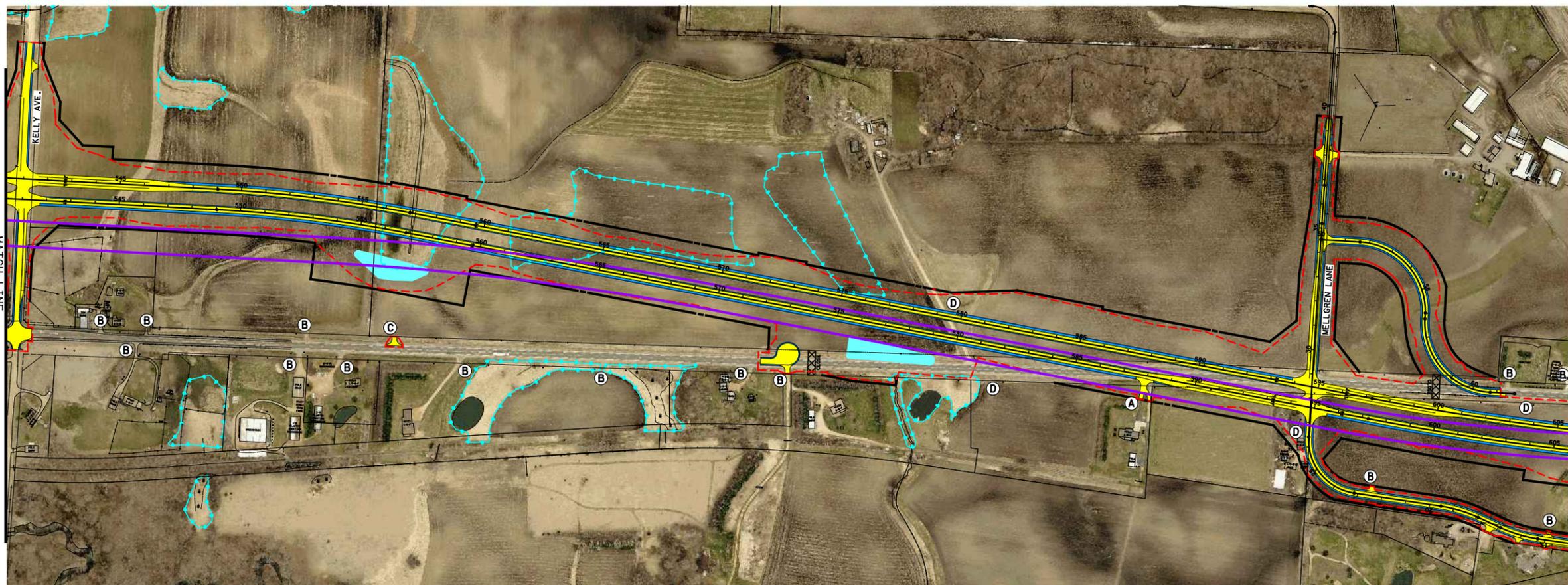
N
1 inch = 1.5 miles

FIGURE 4
TH 212 CORRIDOR BACKGROUND

h:\projects\599\HI-MU\Part_B\Graphics\CP101379_Jy1.dgn



MATCH LINE
SEE BELOW



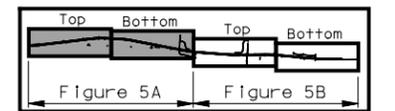
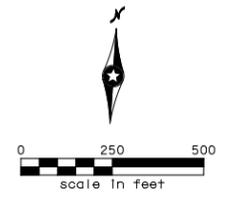
MATCH LINE
SEE FIGURE 5B

LEGEND

- NEW & RECONSTRUCTED ROADWAYS
- NEW & RECONSTRUCTED SHOULDER
- RAISED MEDIANS AND CURBS
- COUNTY ROAD 43 INTERCHANGE FOOTPRINT
- CONSTRUCTION LIMITS
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- 1993 EIS ALIGNMENT
- INVENTORIED WETLANDS
- PROPOSED POND
- ACCESS CLOSED
- TRAFFIC FLOW

NOTES:

- (A) RIGHT IN - RIGHT OUT ACCESS TO TH 212
- (B) FULL ACCESS TO FRONTAGE ROAD
- (C) NEW ACCESS
- (D) CLOSED ACCESS
- (E) FULL ACCESS TO TH 212

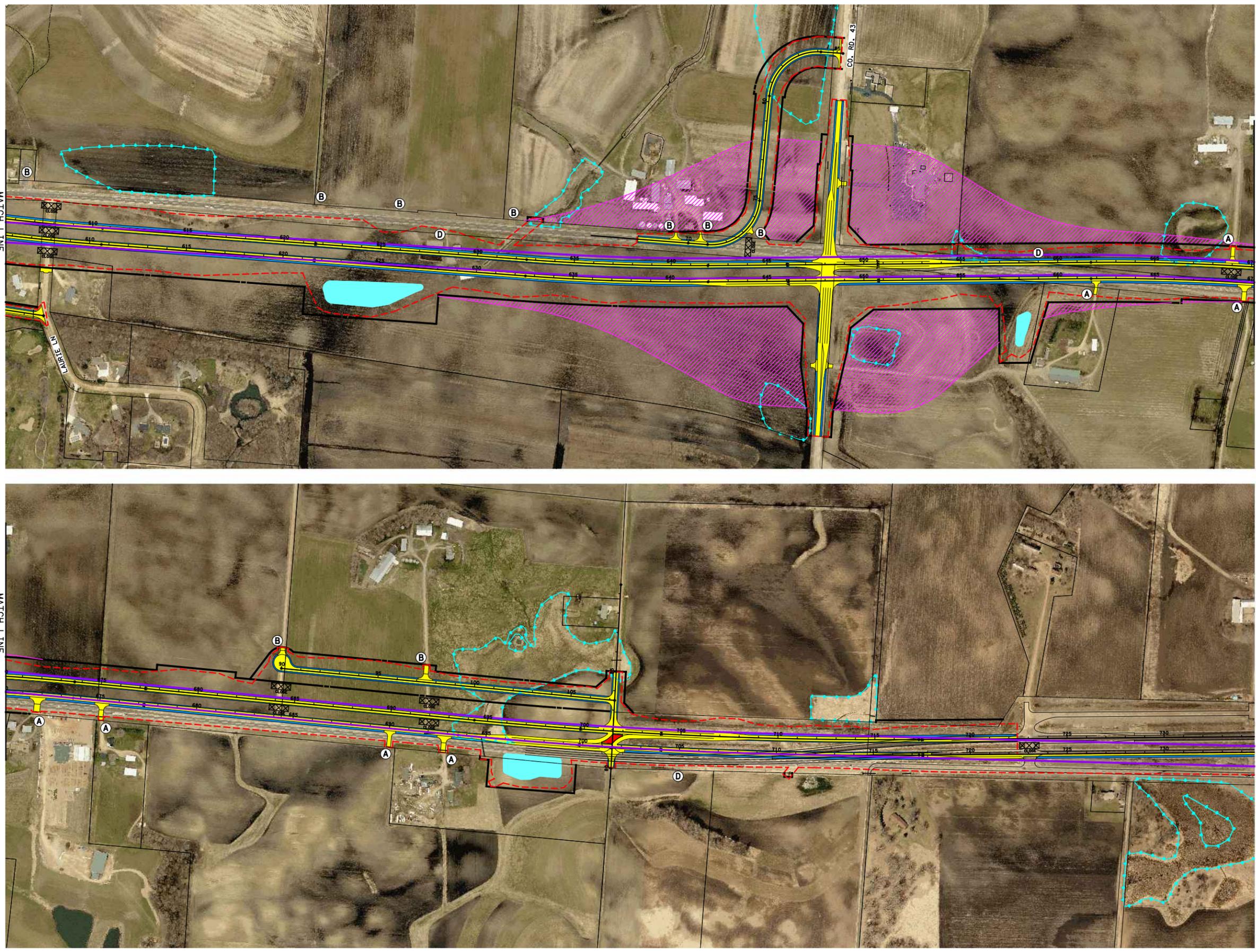


**FIGURE 5A
PREFERRED ALTERNATIVE AND
INTERCHANGE FOOTPRINT**

h:\projects\5999\HI-MU\Part_B\Graphics\CP101379_1y2.dgn

MATCH LINE
SEE FIGURE 5A

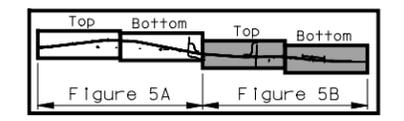
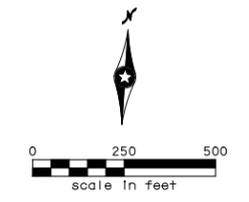
MATCH LINE
SEE ABOVE



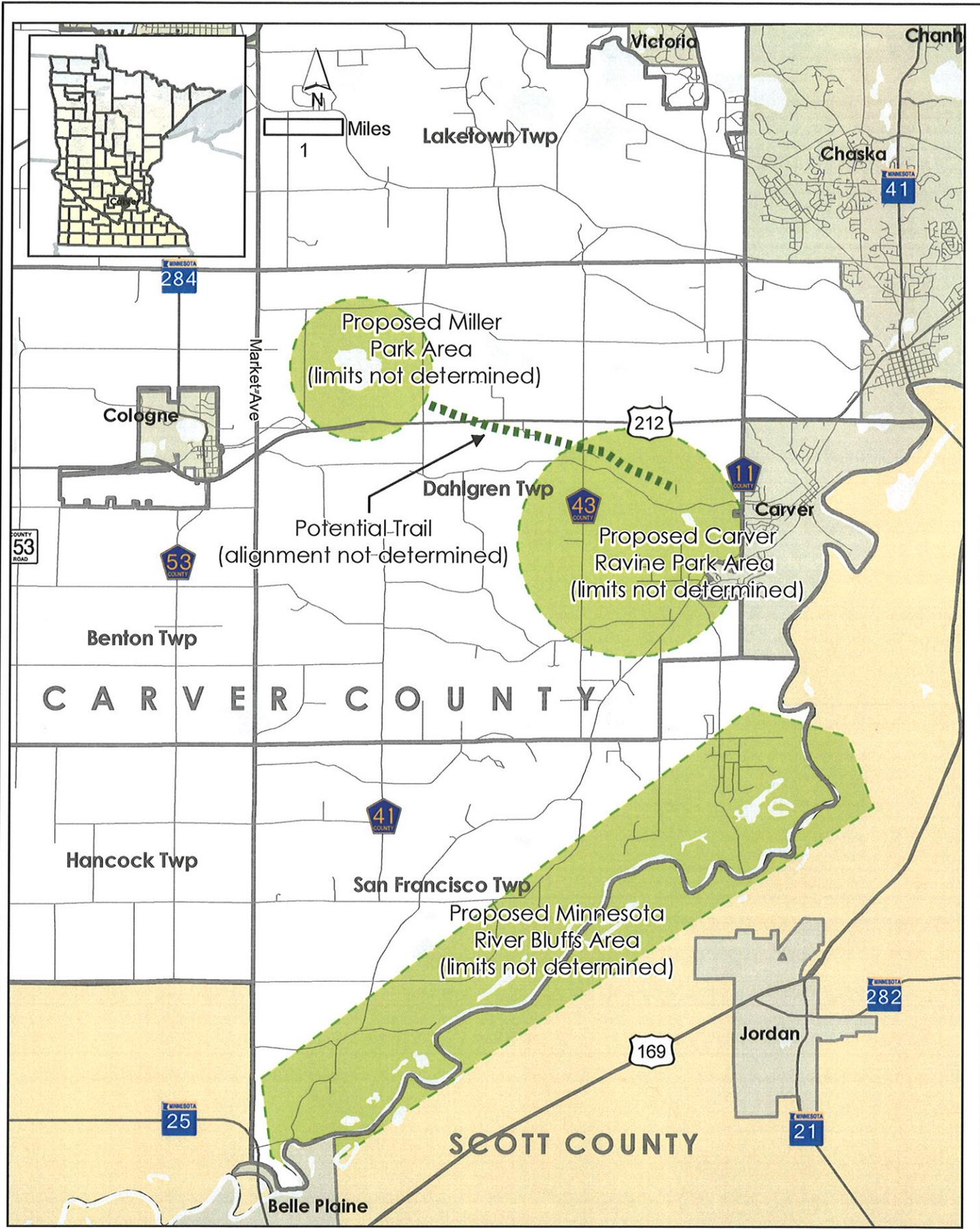
LEGEND

- NEW & RECONSTRUCTED ROADWAYS
- NEW & RECONSTRUCTED SHOULDER
- RAISED MEDIANS AND CURBS
- COUNTY ROAD 43 INTERCHANGE FOOTPRINT
- CONSTRUCTION LIMITS
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- 1993 EIS ALIGNMENT
- INVENTORIED WETLANDS
- PROPOSED POND
- ACCESS CLOSED
- TRAFFIC FLOW

- NOTES:**
- (A) RIGHT IN - RIGHT OUT ACCESS TO TH 212
 - (B) FULL ACCESS TO FRONTAGE ROAD
 - (C) NEW ACCESS
 - (D) CLOSED ACCESS



**FIGURE 5B
PREFERRED ALTERNATIVE AND
INTERCHANGE FOOTPRINT**

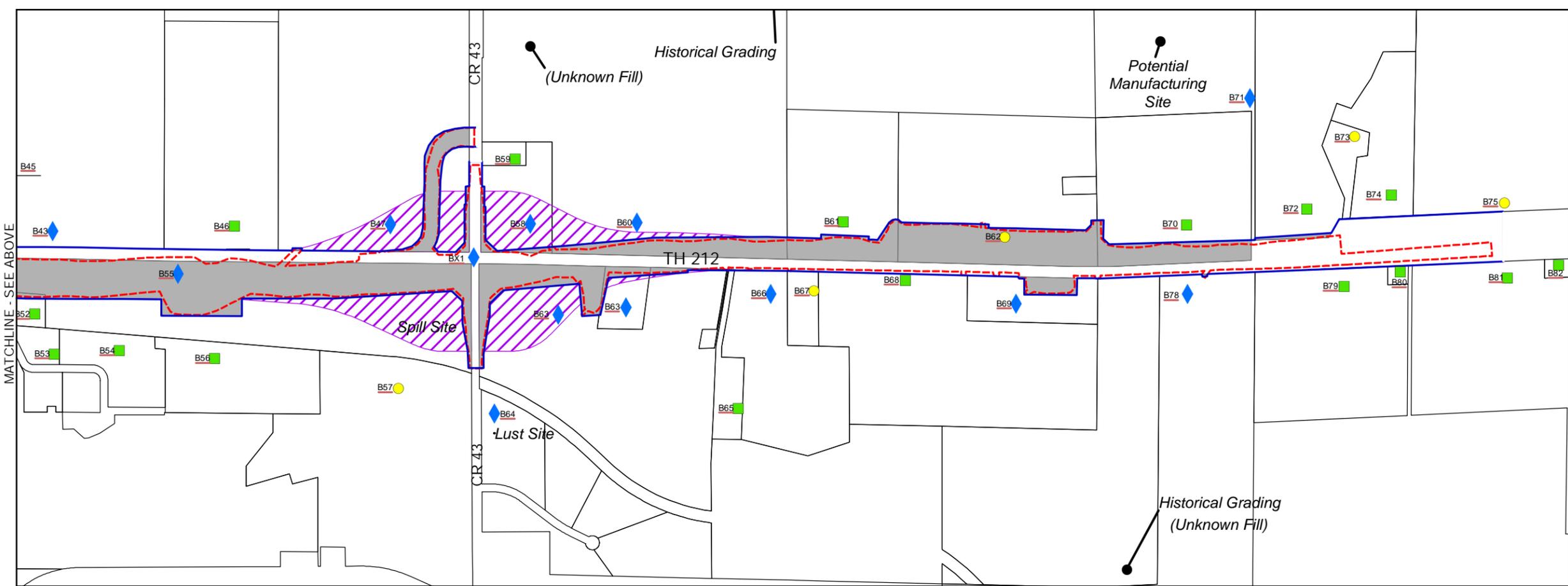
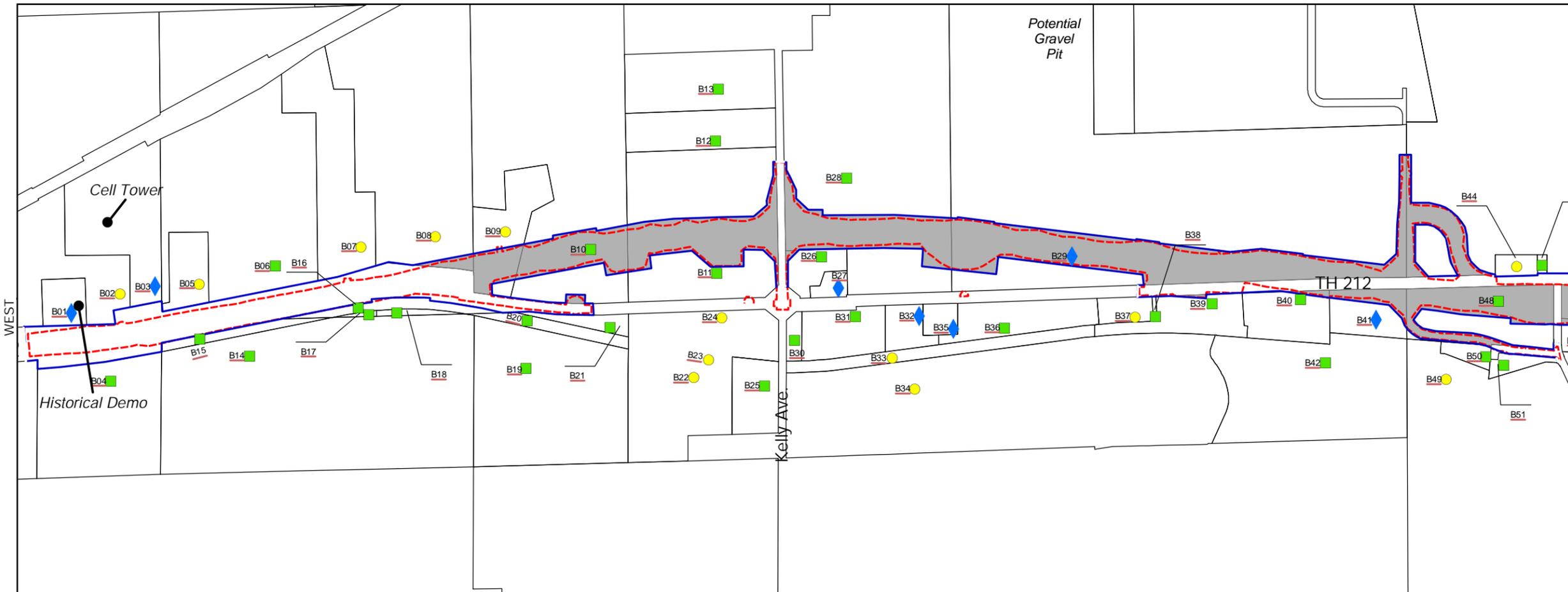


**FIGURE 6
PROPOSED PARKS
AND TRAIL MAP**



Kimley-Horn
and Associates, Inc.





Legend

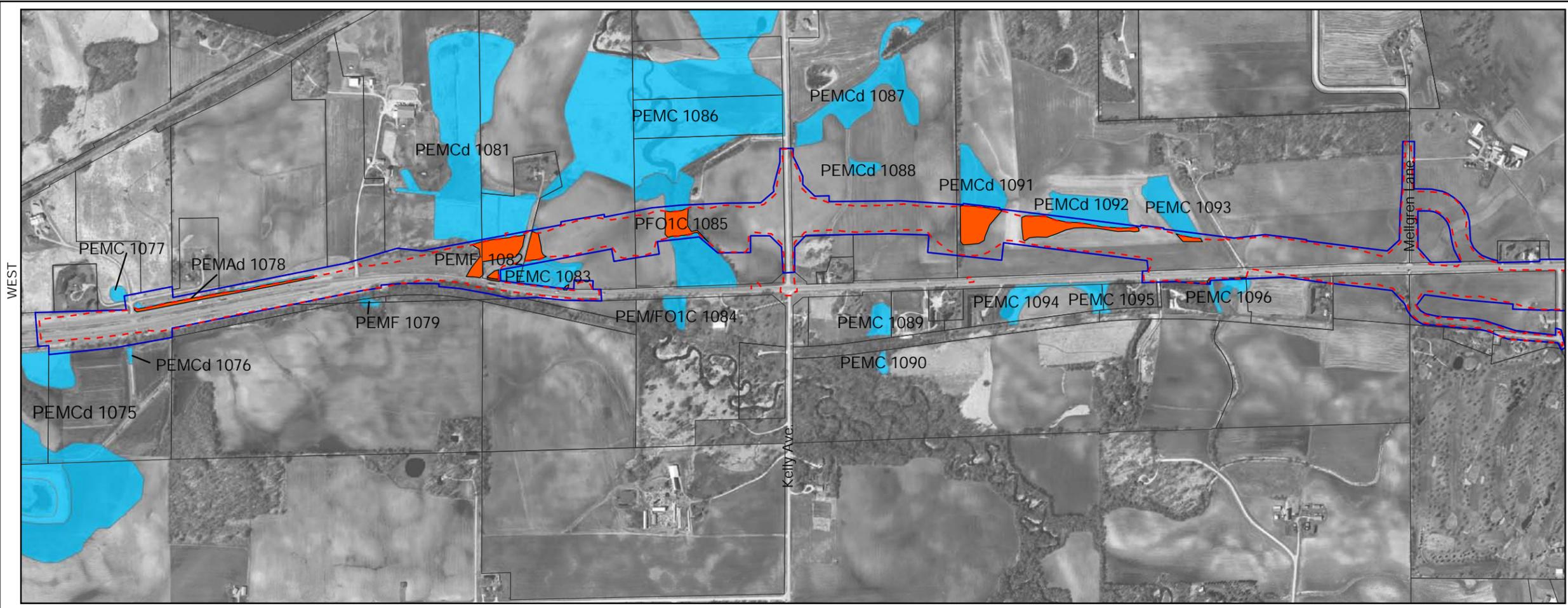
Potential for Contamination

- ★ High
- ◆ Medium
- Low
- Unlikely

Proposed Right-of-Way
 Construction Limits
 Potential Property Acquisition
 CR43 Footprint
 Parcel Boundary


 1 inch = 1,000 feet

**FIGURE 7
POTENTIALLY
CONTAMINATED PROPERTIES**



Legend

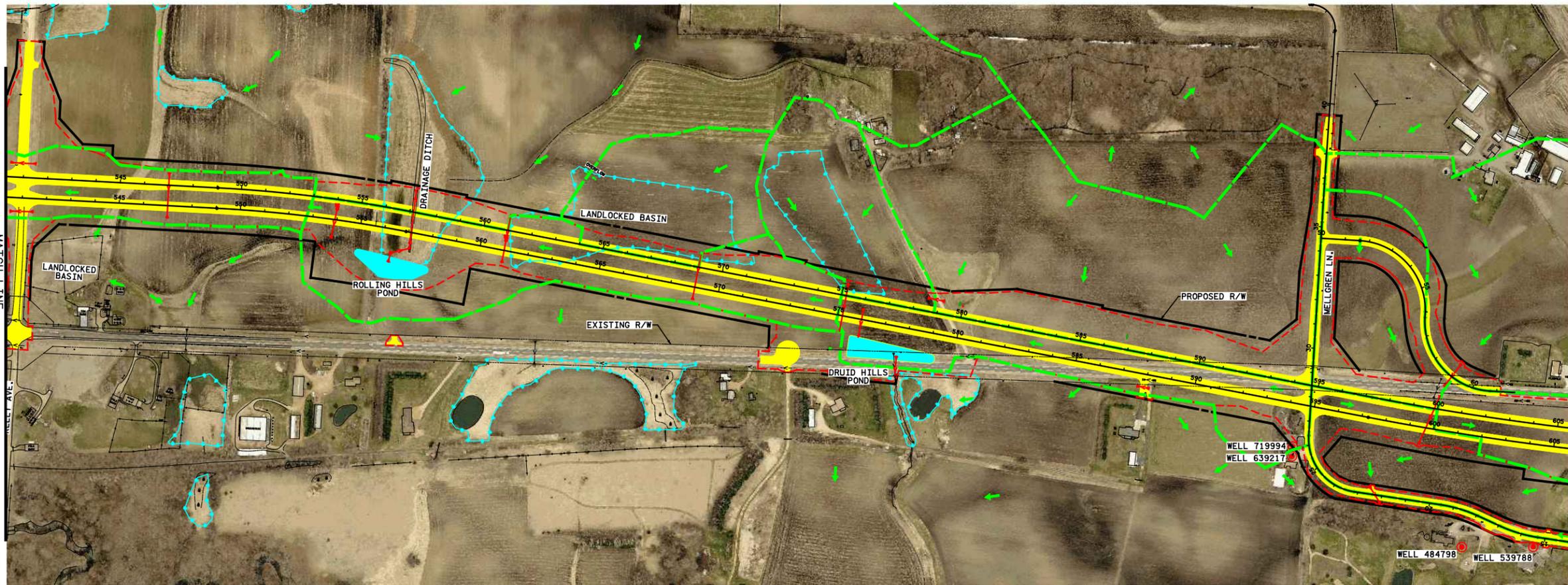
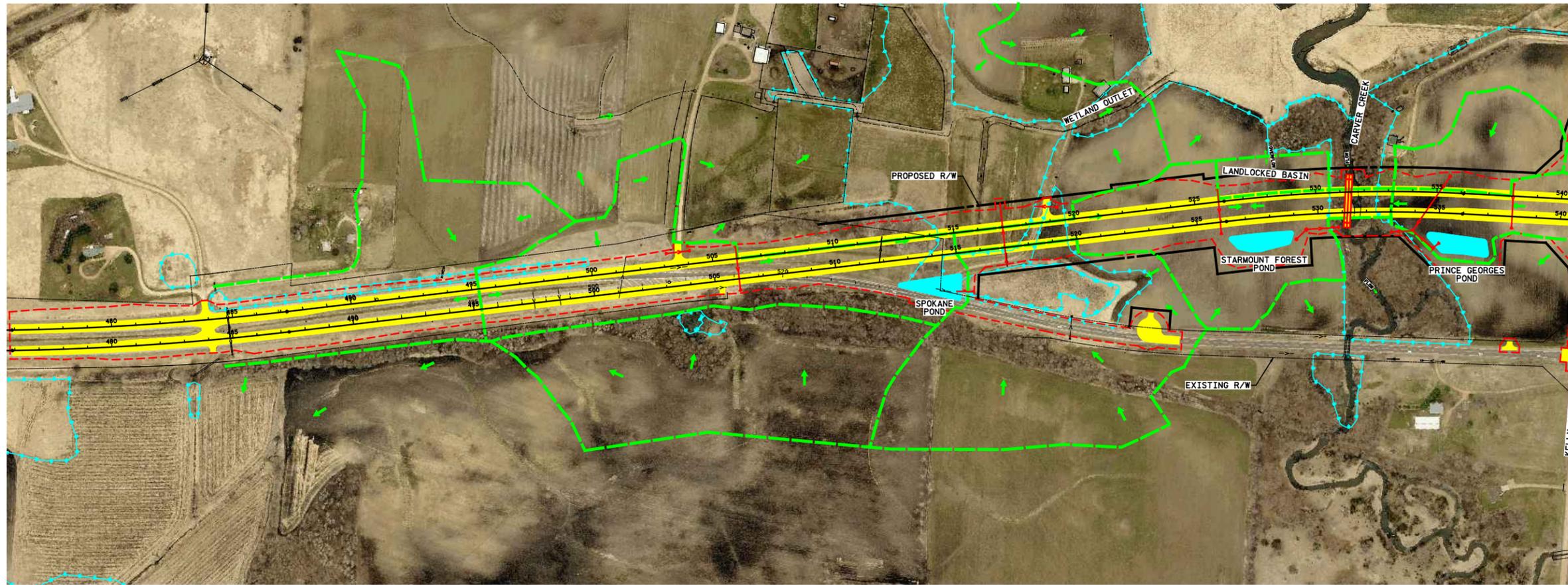
- Pref. Alt. Potential Wetland Impacts
- CR 43 Footprint Wetland Impacts
- Inventoried Wetlands
- Construction Limits
- Proposed Right-of-Way
- CR43 Interchange Footprint
- Parcel Lines



1 inch = 1,000 feet

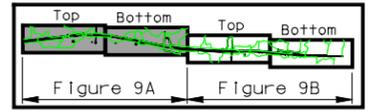
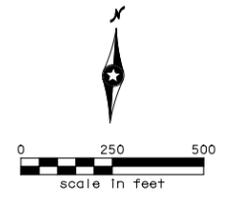
**FIGURE 8
WETLAND INVENTORY
AND IMPACTS**

h:\projects\599\1\WR\Graphics\Proposed and Existing Drainage Layout\hy1.dgn



LEGEND

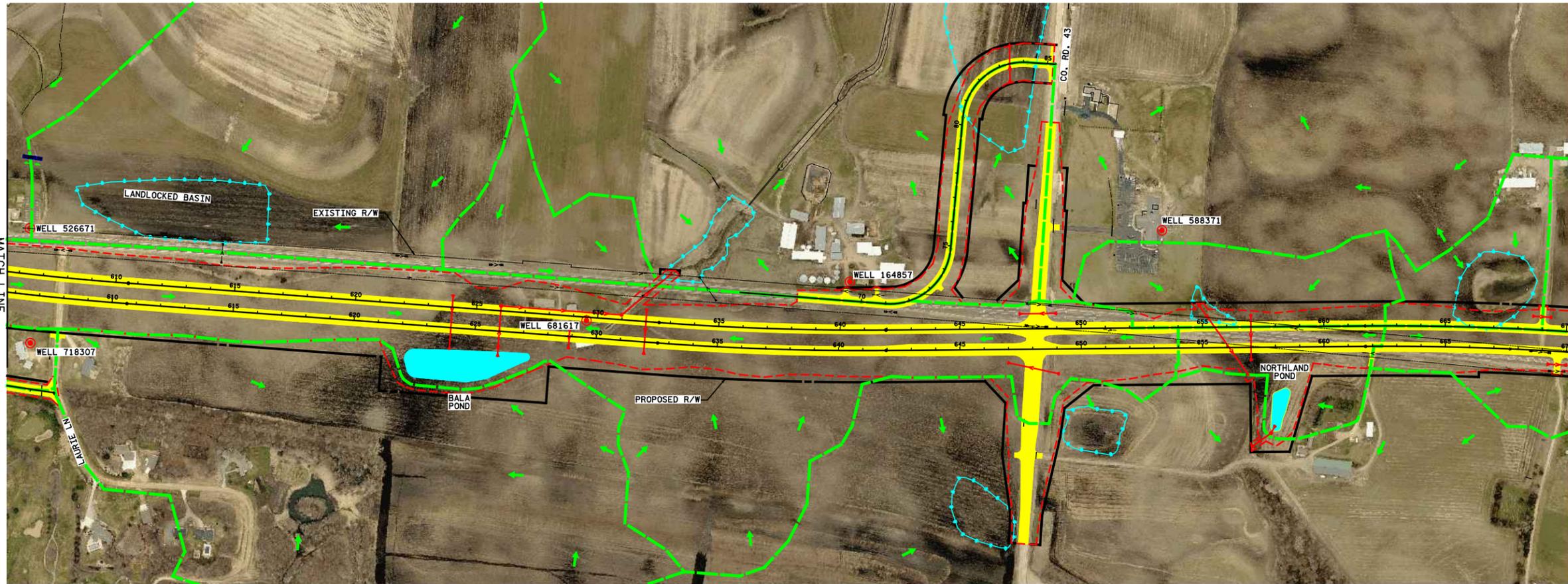
- ▬▬ PROPOSED ROADWAY
- - - DRAINAGE BOUNDARY
- - - INVENTORIED WETLANDS
- ▬▬ PROPOSED CULVERT
- ▬▬ EXISTING CULVERT
- - - CONSTRUCTION LIMITS
- SURFACE FLOW
- EXISTING WELL
- PROPOSED POND



**FIGURE 9A
PROPOSED DRAINAGE LAYOUT**

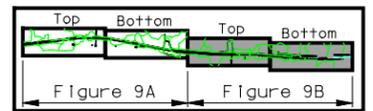
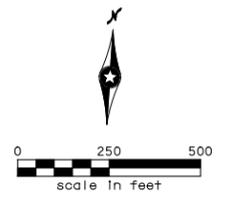
MATCH LINE
SEE FIGURE 9A

MATCH LINE
SEE ABOVE

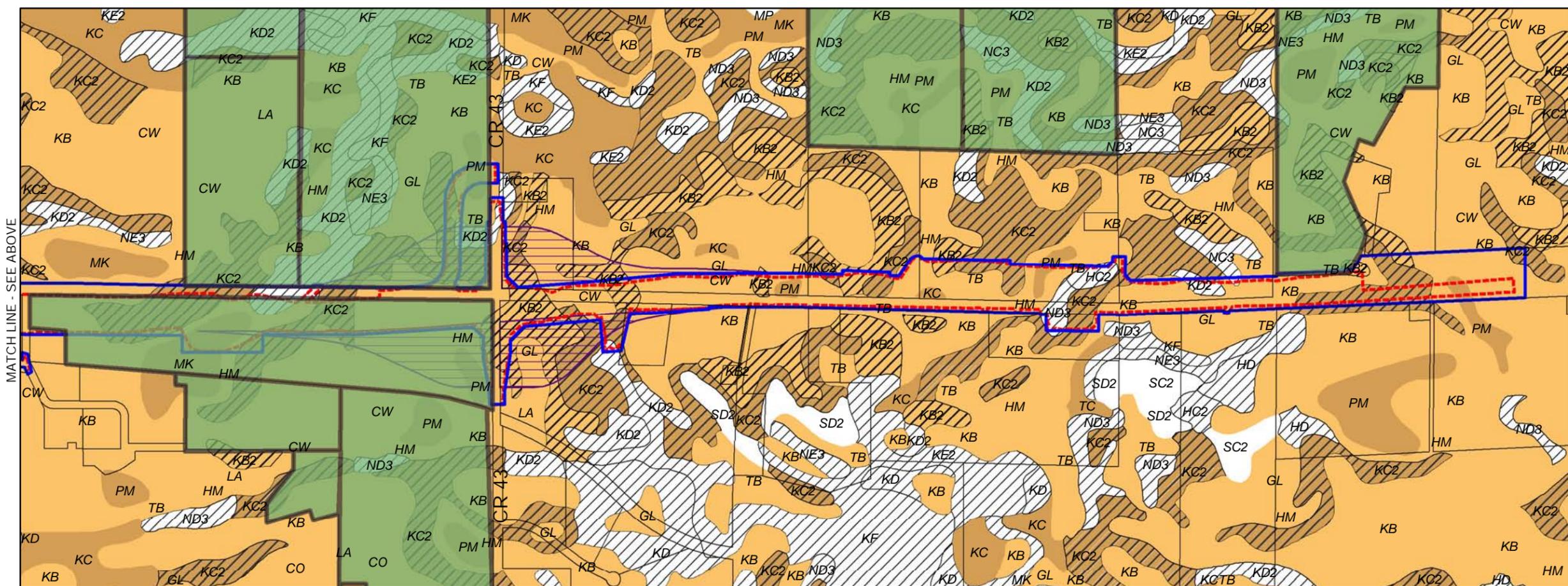
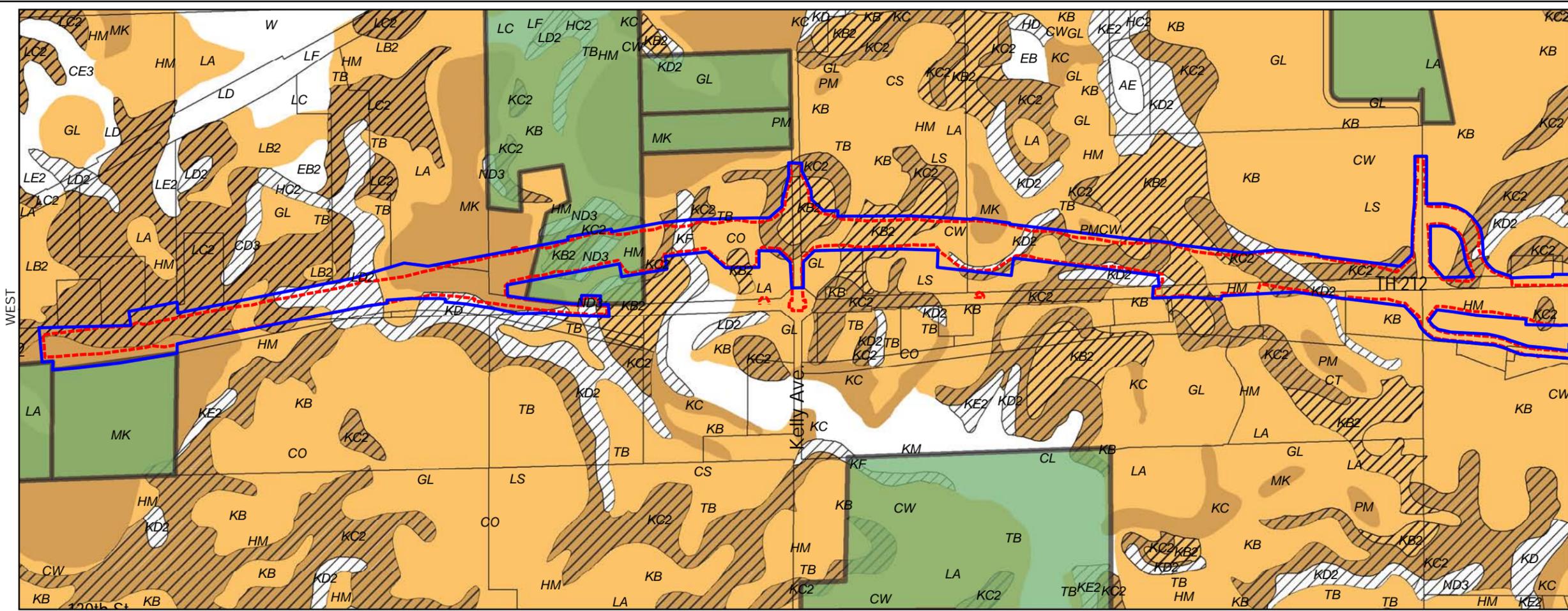


LEGEND

- PROPOSED ROADWAY
- DRAINAGE BOUNDARY
- INVENTORIED WETLANDS
- PROPOSED CULVERT
- EXISTING CULVERT
- - - CONSTRUCTION LIMITS
- SURFACE FLOW
- EXISTING WELL
- PROPOSED POND



**FIGURE 9B
PROPOSED DRAINAGE LAYOUT**



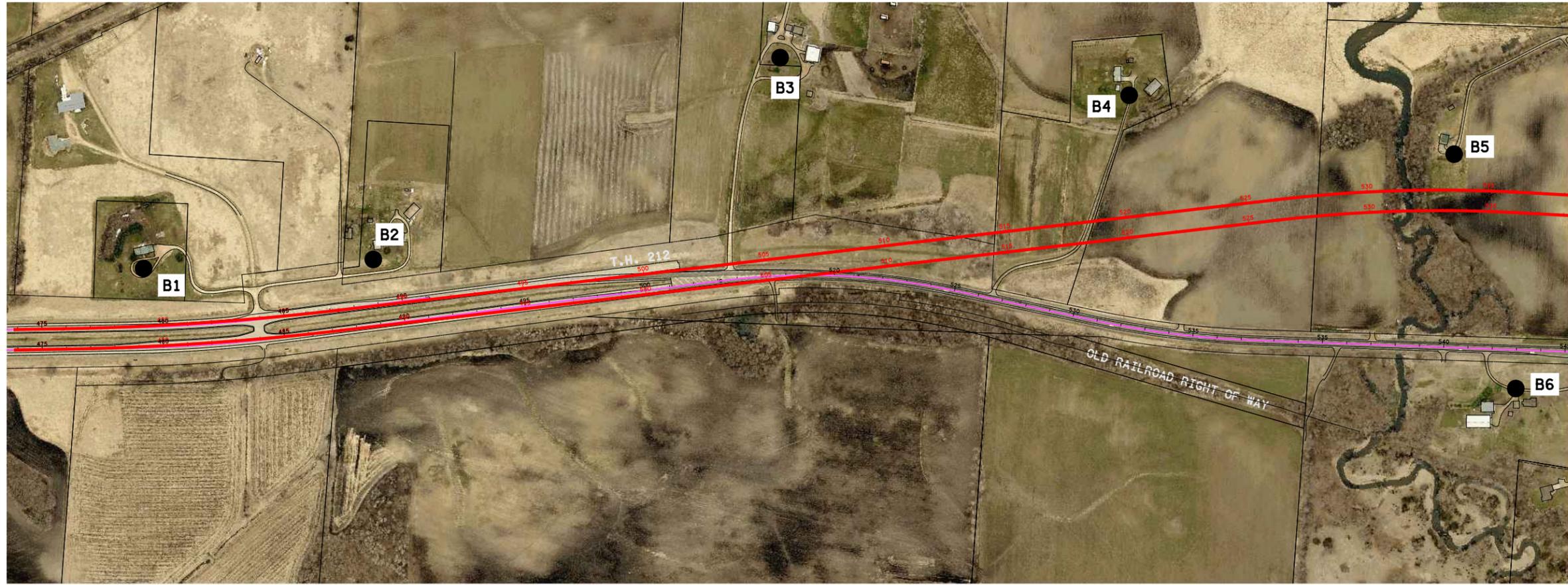
Legend

- Proposed Right-of-Way
- Construction Limits
- CR 43 Footprint
- Ag. Preserves (2006)
- County Parcel Boundaries
- Prime Farmland
- Statewide Important Farmlands
- Potential Erodible Soils

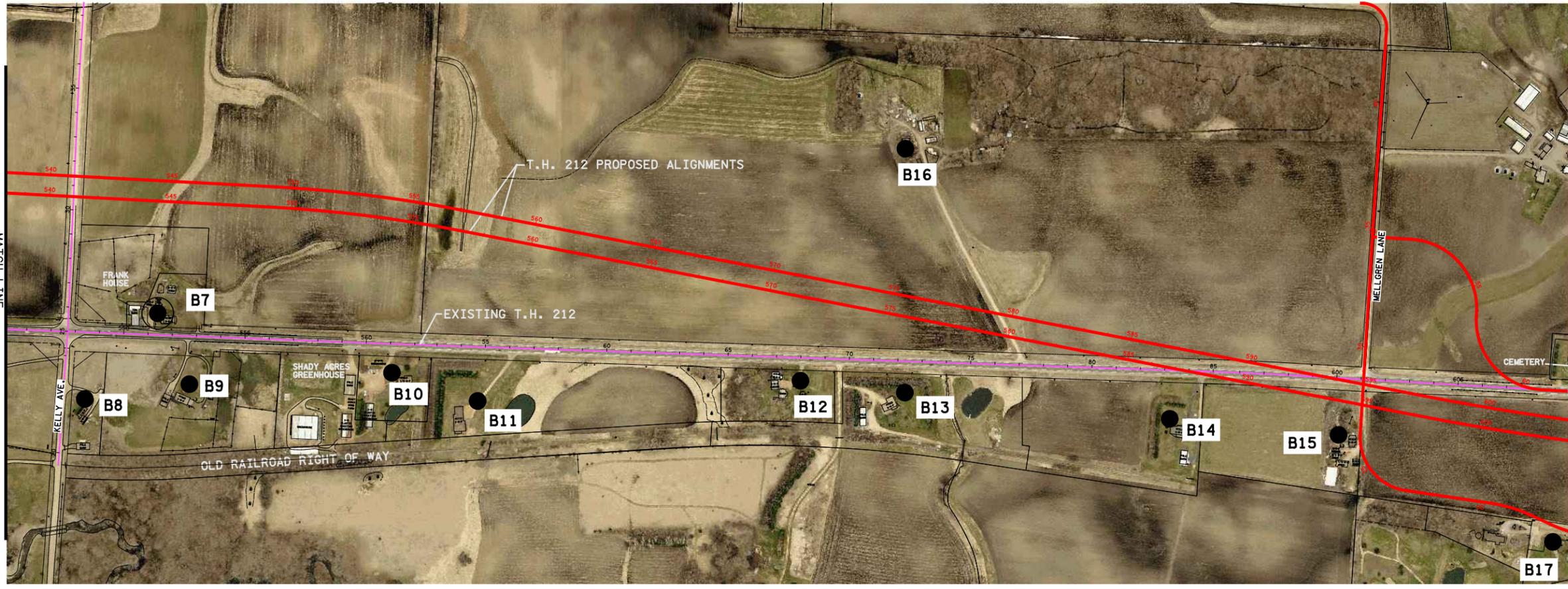
N
 1 inch = 1,000 feet

FIGURE 10
SOILS, FARMLANDS, AND
AGRICULTURAL PRESERVES

n:\projects\5991\HI-MU\Part_B\Graphics\CP101379_noise_jy1.dgn



MATCH LINE
SEE BELOW

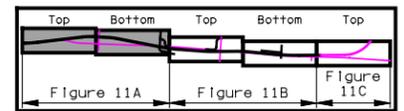
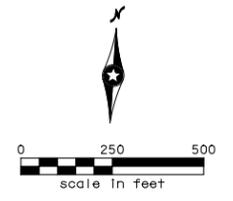


MATCH LINE
SEE ABOVE

MATCH LINE
SEE FIGURE 11B

LEGEND

- NOISE MONITORING AND MODELING LOCATION
- NOISE MODELING LOCATION
- PROPOSED TH 212 ALIGNMENT



**FIGURE 11A
NOISE RECEPTOR LOCATIONS**

n:\projects\5999\HI-MU\Part_B\Graphics\CP101379_noise_jy2.dgn



LEGEND

-  NOISE MONITORING AND MODELING LOCATION
-  NOISE MODELING LOCATION
-  PROPOSED TH 212 ALIGNMENT

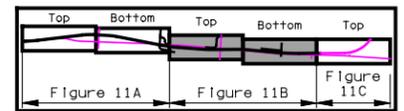
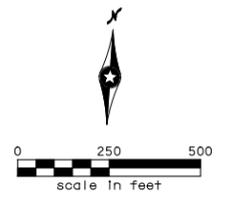
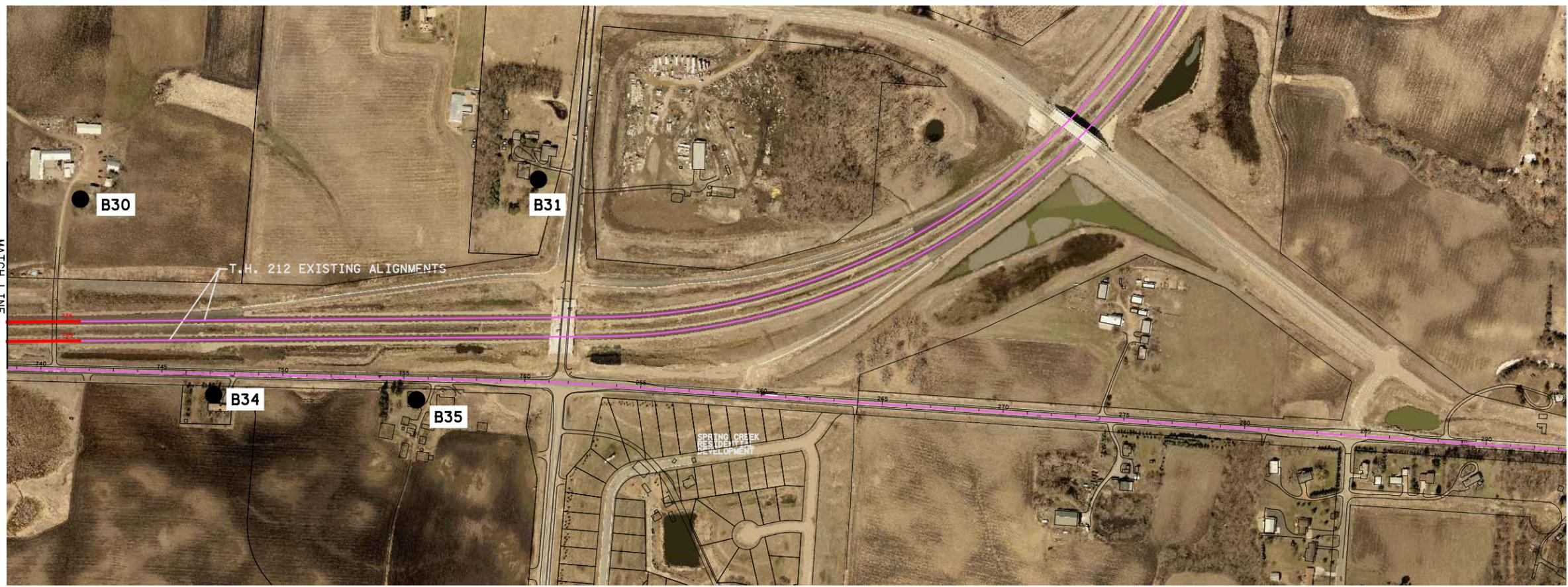


FIGURE 11B
NOISE RECEPTOR LOCATIONS

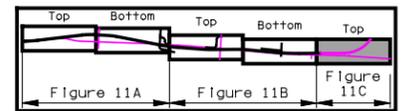
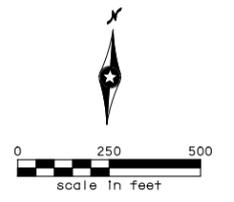
h:\projects\5999\HI-MU\Part_B\Graphics\CP101379_noise_jy3.dgn

MATCH LINE
SEE FIGURE 11B

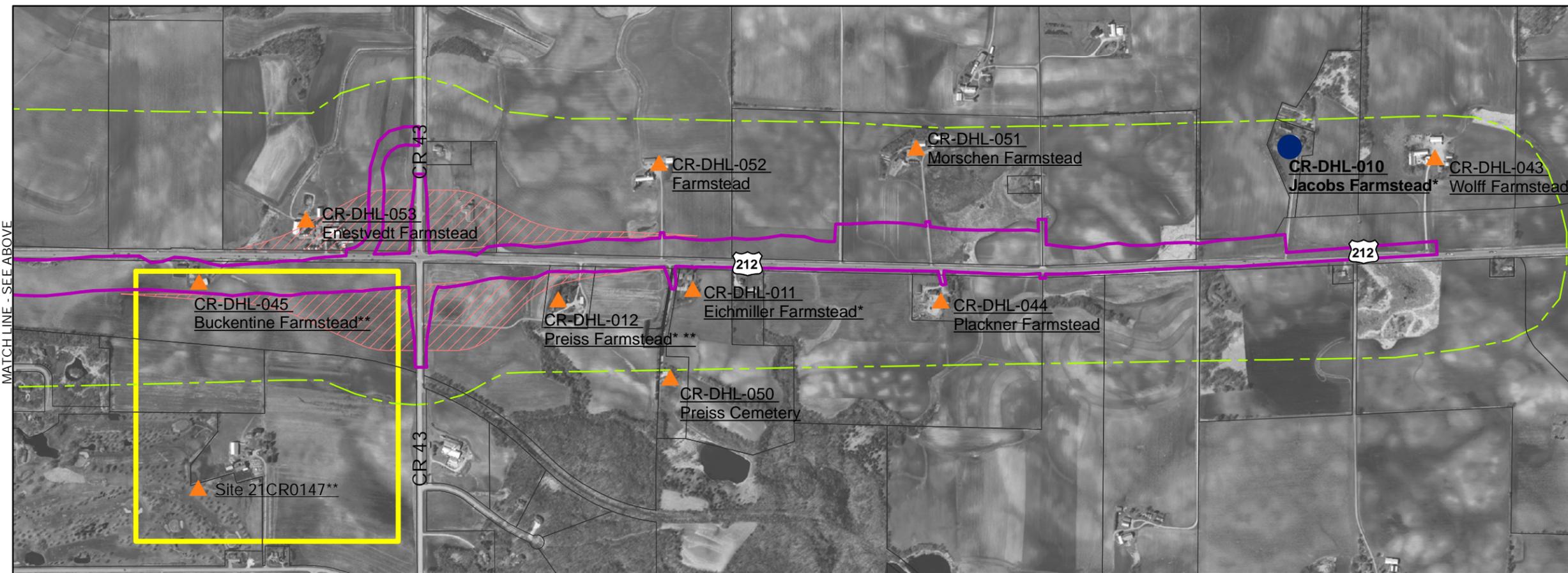


LEGEND

-  NOISE MONITORING AND MODELING LOCATION
-  NOISE MODELING LOCATION
-  PROPOSED TH 212 ALIGNMENT



**FIGURE 11C
NOISE RECEPTOR LOCATIONS**



Legend

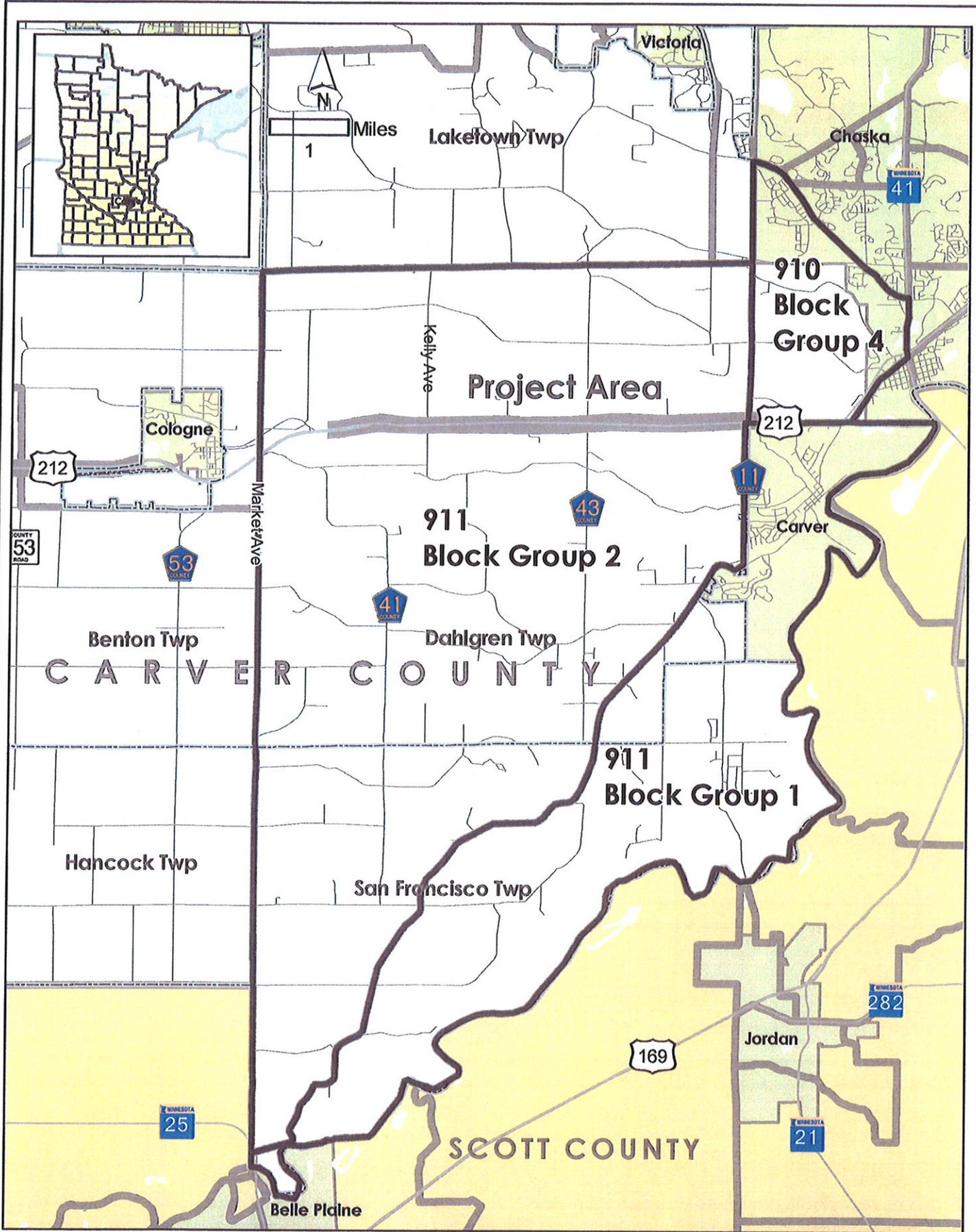
- ▲ Ineligible Property/Site
- NRHP Eligible Property
- Archaeological APE
- - - Architectural APE
- CR 43 Interchange Footprint
- Archaeological Site (2008)
- Archaeological Site (1993)

* - Addressed in 1993 FEIS
** - Addressed in Archaeological Phase I Report (2008)



1 inch = 1,000 feet

FIGURE 12
NATIONAL REGISTER OF HISTORIC PLACES
ELIGIBLE PROPERTIES AND SITES



**FIGURE 13
CENSUS BLOCK GROUPS**

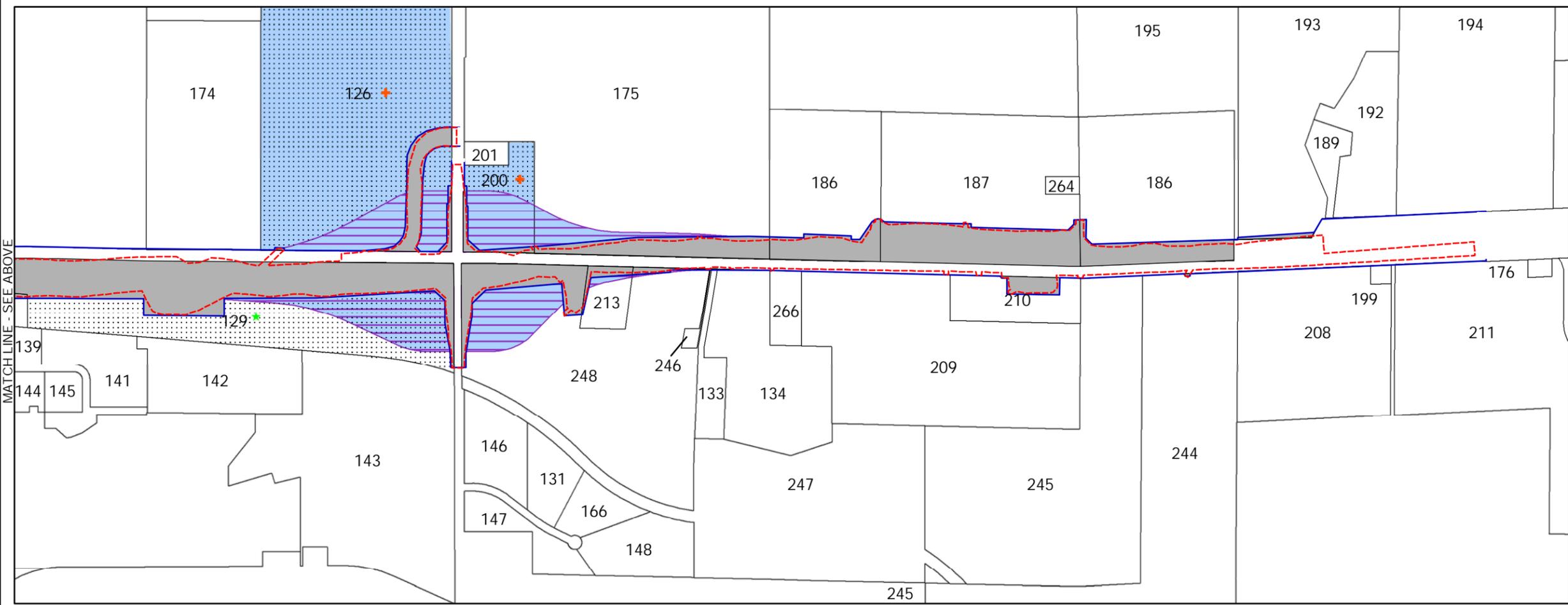


Kimley-Horn
and Associates, Inc.



11212 PRELIMINARY DESIGN
Final Report to the State of Minnesota





Legend

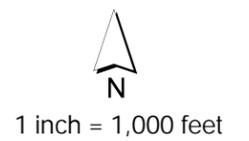
- - - Construction Limits
- Potential Acquisition
- Proposed Pref. Alt. Right-of-Way
- CR43 Interchange Footprint
- Pref. Alt. Right-of-Way Acquisition
- Parcel Boundaries
- CR 43 Footprint Right-of-Way Acquisition

★ Potential Total Parcel Take by Preferred Alternative
✚ Potential Total Parcel Take by CR 43 Footprint

Existing Right-of-Way:	103 acres
New Right-of-Way:	149 acres
Road Right-of-Way Area:	252 acres
CR 43 Interchange Footprint:	44 acres

Additional Parcel Potential Acquisition
Outside of Needed Right-of-Way: 133 acres
(Parcels 126, 129, 130, 200)

Total Potential Right-of-Way: 296 acres

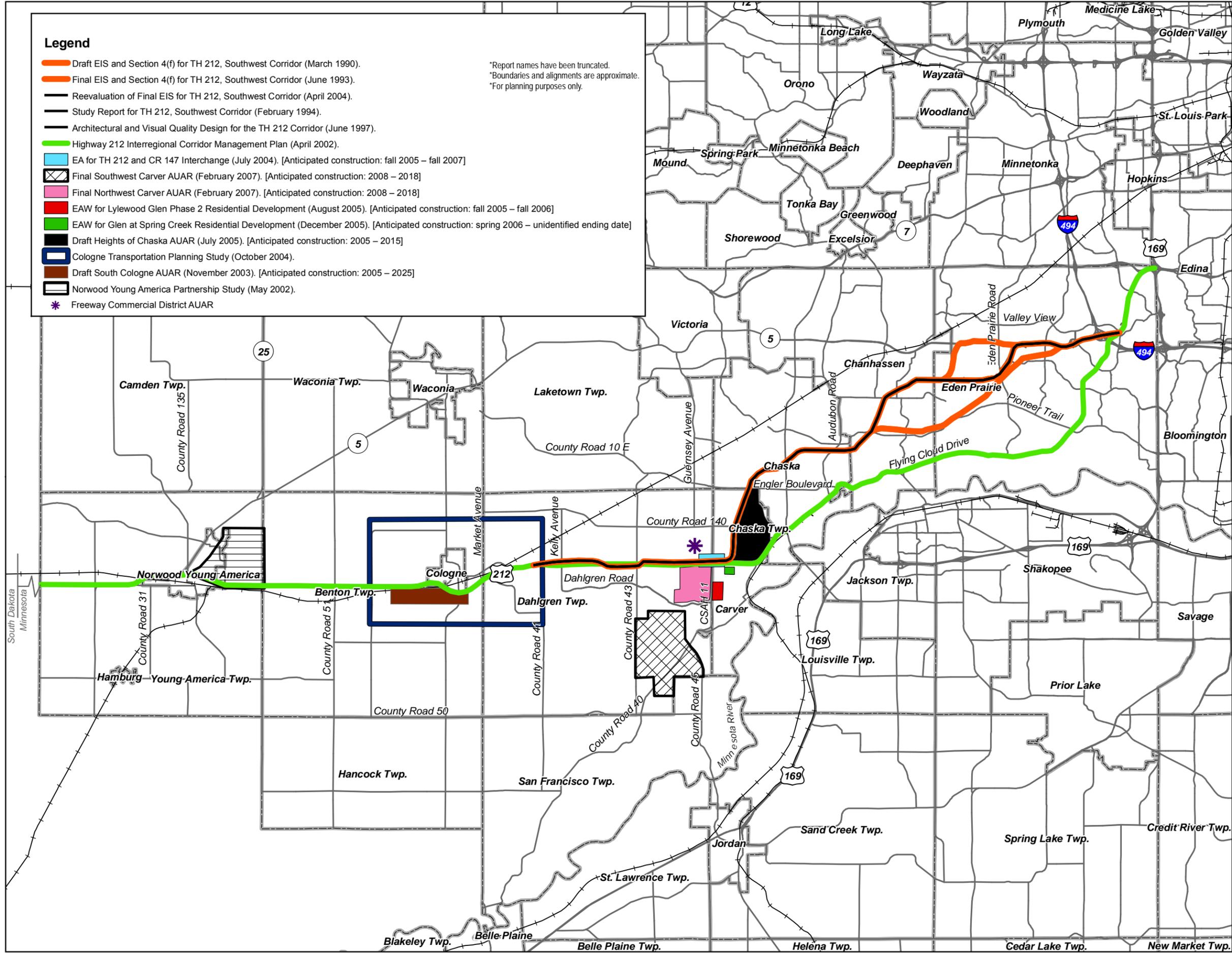


**FIGURE 14
PROPOSED RIGHT-OF-WAY**

Legend

- Draft EIS and Section 4(f) for TH 212, Southwest Corridor (March 1990).
- Final EIS and Section 4(f) for TH 212, Southwest Corridor (June 1993).
- Reevaluation of Final EIS for TH 212, Southwest Corridor (April 2004).
- Study Report for TH 212, Southwest Corridor (February 1994).
- Architectural and Visual Quality Design for the TH 212 Corridor (June 1997).
- Highway 212 Interregional Corridor Management Plan (April 2002).
- EA for TH 212 and CR 147 Interchange (July 2004). [Anticipated construction: fall 2005 – fall 2007]
- Final Southwest Carver AUAR (February 2007). [Anticipated construction: 2008 – 2018]
- Final Northwest Carver AUAR (February 2007). [Anticipated construction: 2008 – 2018]
- EAW for Lylewood Glen Phase 2 Residential Development (August 2005). [Anticipated construction: fall 2005 – fall 2006]
- EAW for Glen at Spring Creek Residential Development (December 2005). [Anticipated construction: spring 2006 – unidentified ending date]
- Draft Heights of Chaska AUAR (July 2005). [Anticipated construction: 2005 – 2015]
- Cologne Transportation Planning Study (October 2004).
- Draft South Cologne AUAR (November 2003). [Anticipated construction: 2005 – 2025]
- Norwood Young America Partnership Study (May 2002).
- * Freeway Commercial District AUAR

*Report names have been truncated.
 *Boundaries and alignments are approximate.
 *For planning purposes only.



1 inch = 2.5 miles

FIGURE 15
 PREVIOUS STUDIES AND
 PROPOSED DEVELOPMENTS
 ALONG TH 212

APPENDIX B. AGENCY CORRESPONDENCE

DNR

March 26, 2009 DNR update to previous responses for SP 1013-77, 1013-78 and 1023-79
June 30, 2007 DNR Review Letter for SP 1013-77, 1013-78 and 1023-79

USFWS

March 16, 2009 USFWS update to previous responses for SP 1013-77, 1013-78 and 1023-79
June 18, 2007 Mn/DOT request to USFWS for rare species review for SP 1013-79
June 18, 2007 USFWS review response letter for SP 1013-79

SHPO

Pending, 2009 SHPO updated determination letter
Pending, 2009 Mn/DOT letter to SHPO with updated recommendation
October 29, 2008 SHPO determination letter in response to Mn/DOT recommendation of effect
September 8, 2008 Mn/DOT recommendation of effect on properties in SP 1013-79 corridor

NRCS

July 23, 2009 NRCS response letter to CPA-106 form
CPA-106 forms for SP-1013-79 Preferred Alternative and CR 43 Interchange

APPENDIX C. WETLAND FINDING

APPENDIX D. Mn/DOT REFERENCE DOCUMENTS

- Granger, Susan and Scott Kelly. *Phase I and II (Identification and Evaluation) Investigation of Historic Structures Near US Highway 212 From Norwood Young America to Co.Rd. 134 (CSAH 11) in Carver County, Minnesota (SP 1013-77, TH 212, Pt A and SP 1013079, TH 212 Pt B).* Gemini Research. February 18, 2008. (EDMS #743633).
- Kimley-Horn and Associates, Inc. *Limited Phase I Environmental Site Assessment for TH 212 Preliminary Design from Carver CR 147 (CSAH 11) to Norwood Young America, Carver County, Minnesota (Parts A, B, and C).* October 10, 2007. (EDMS #738587).
- Kimley-Horn and Associates, SRF Consulting Group, Inc., and Rani Engineering, Inc. *Water Resources Preliminary Design Report for TH 212, SP 1013-77, SP 1013-78, and SP 1013-79.* August 2009. (EDMS #751283).
- Minnesota Department of Transportation. *Highway 212 Interregional Corridor Management Plan.* April 2002. (EDMS #770329).
- Minnesota Department of Transportation. *Statewide 20-Year Highway Investment Plan 2009-2028.* August 2009. <http://www.dot.state.mn.us/planning/stateplan/downloadinvestmentplan.html>
- Minnesota Department of Transportation, Carver County, and City of Cologne. *Cologne Transportation Planning Study.* October 2004. (EDMS #837594).
- Minnesota Department of Transportation, Office of Environmental Services. *TH 212 Wetland Inventory.* July 26, 2007. (EDMS #839909).
- SRF Consulting Group, Inc. *Traffic Operations Analysis Memorandum for TH 212, SP 1013-77, 1013-78, and 1013-79.* September 28, 2007. (EDMS #738213).
- SRF Consulting Group, Inc. *Travel Demand Forecast Memorandum for TH 212, SP 1013-77, 1013-78, and 1013-79.* July 25, 2009. (EDMS #738216).
- SRF Consulting Group, Inc. *Results for Trunk Highway 212 Preliminary Design Benefit-Cost Analysis from Cologne Bypass to CSAH 11 in the City of Carver.* June 30, 2009.
- Terrell, Dr. Michelle M. and Erika L. Eigenberger. *Phase I Archaeological Investigations, Trunk Highway 212 Improvement Project (Parts A and B), Carver County, Minnesota.* Two Pines Resource Group, LLC. July 2008.
- Value Management Strategies, Inc. *Value Engineering Study Report for TH 212 from CSAH 34 in Norwood Young America to CSAH 11 in Carver, SP 1013-77, -78 and -79.* August 2009. (EDMS #837222).

APPENDIX A. FIGURES (3-15)

Figure 3	USGS 7.5' Topographic Map
Figure 4	TH 212 Corridor Background
Figure 5 a-b	Preferred Alternative and Interchange Footprint
Figure 6	Proposed Parks and Trails
Figure 7	Potentially Contaminated Properties
Figure 8	Wetland Inventory and Impacts
Figure 9 a-b	Proposed Drainage Layout
Figure 10	Soils, Farmlands, and Agricultural Preserves
Figure 11 a-c	Noise Receptor Locations
Figure 12	National Register of Historic Places Eligible Properties and Sites
Figure 13	Census Block Groups
Figure 14	Proposed Right-of-Way Impacts
Figure 15	Previous Studies and Proposed Developments Along TH 212

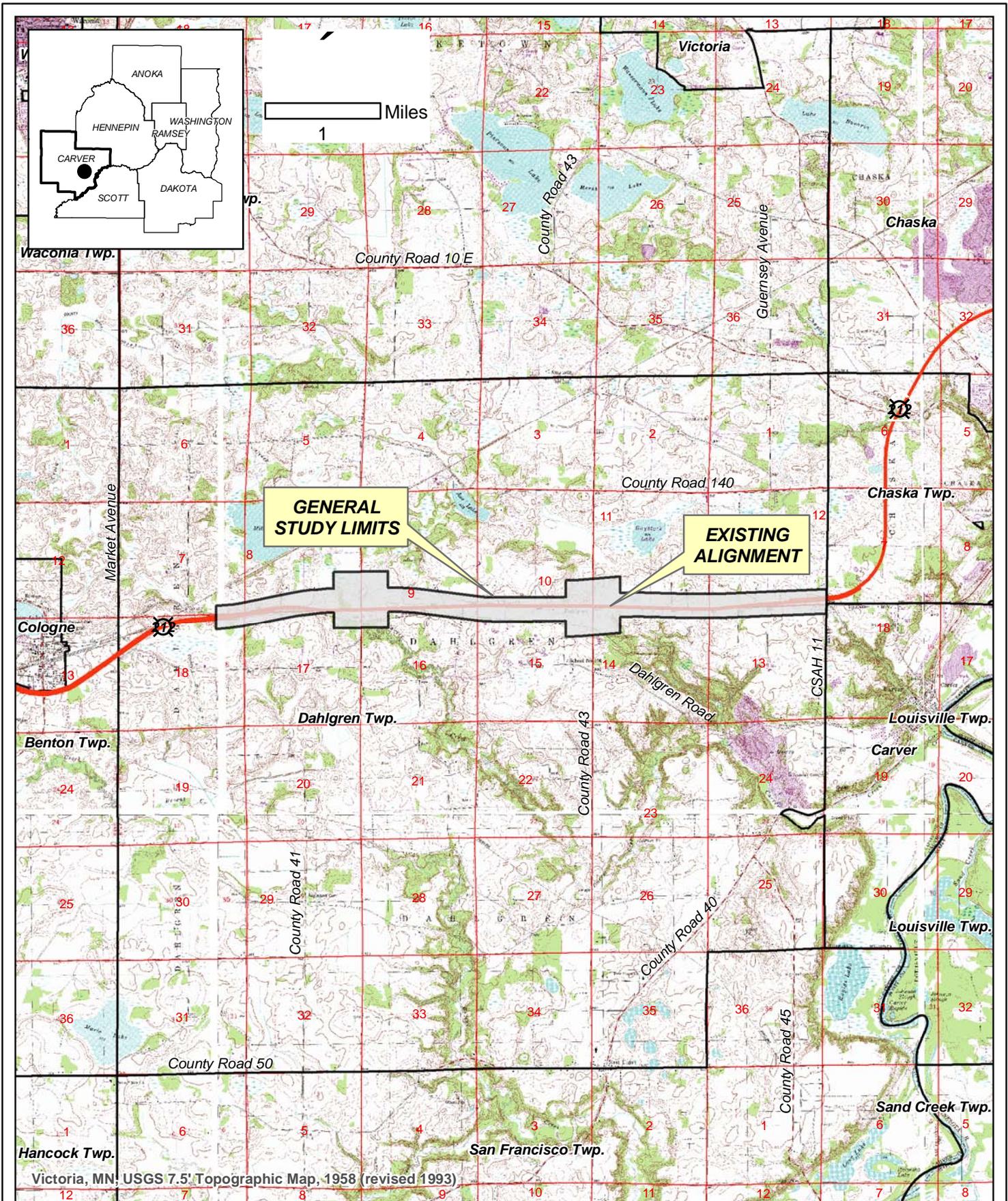
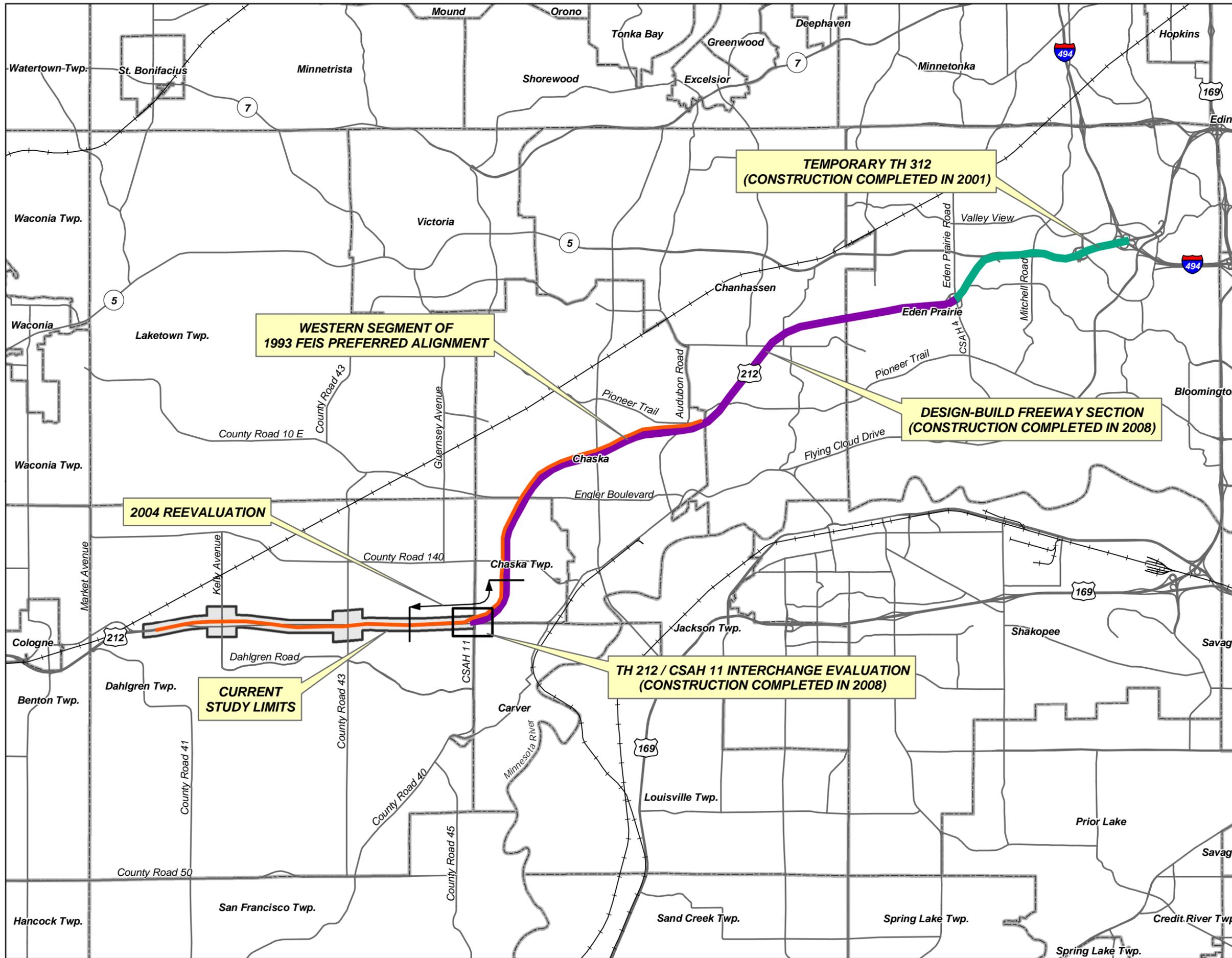


FIGURE 3
USGS 7.5' TOPOGRAPHIC MAP





Legend

- Current Study Limits
- 1993 Western Segment
- Design-Build Freeway Section
- Temporary TH 312
- 2004 Reevaluation
- TH 212/CSAH 11 Evaluation

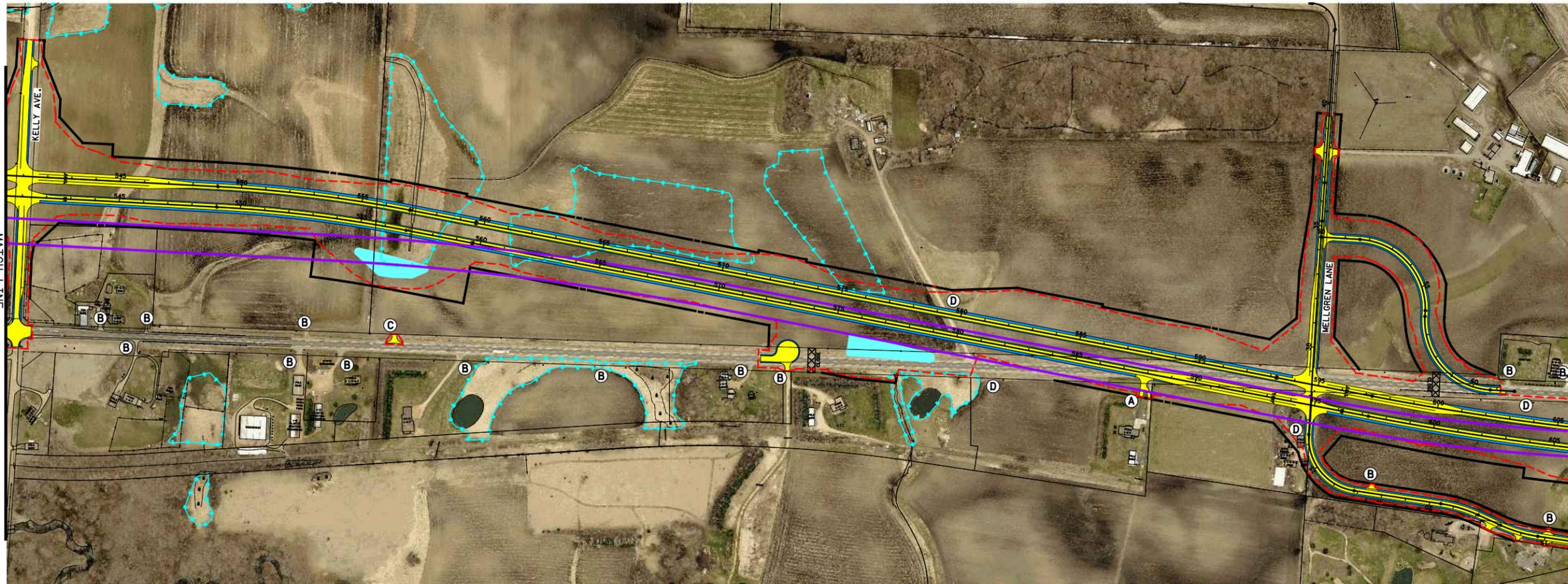
N
1 inch = 1.5 miles

FIGURE 4
TH 212 CORRIDOR BACKGROUND

h:\projects\599\HI-MU\Part_B\Graphics\CP101379_Jy1.dgn



MATCH LINE
SEE BELOW



MATCH LINE
SEE FIGURE 5B

LEGEND

- NEW & RECONSTRUCTED ROADWAYS
- NEW & RECONSTRUCTED SHOULDER
- RAISED MEDIANS AND CURBS
- COUNTY ROAD 43 INTERCHANGE FOOTPRINT
- CONSTRUCTION LIMITS
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- 1993 EIS ALIGNMENT
- INVENTORIED WETLANDS
- PROPOSED POND
- ACCESS CLOSED
- TRAFFIC FLOW

NOTES:

- (A) RIGHT IN - RIGHT OUT ACCESS TO TH 212
- (B) FULL ACCESS TO FRONTAGE ROAD
- (C) NEW ACCESS
- (D) CLOSED ACCESS
- (E) FULL ACCESS TO TH 212

0 250 500
scale in feet

Top Bottom

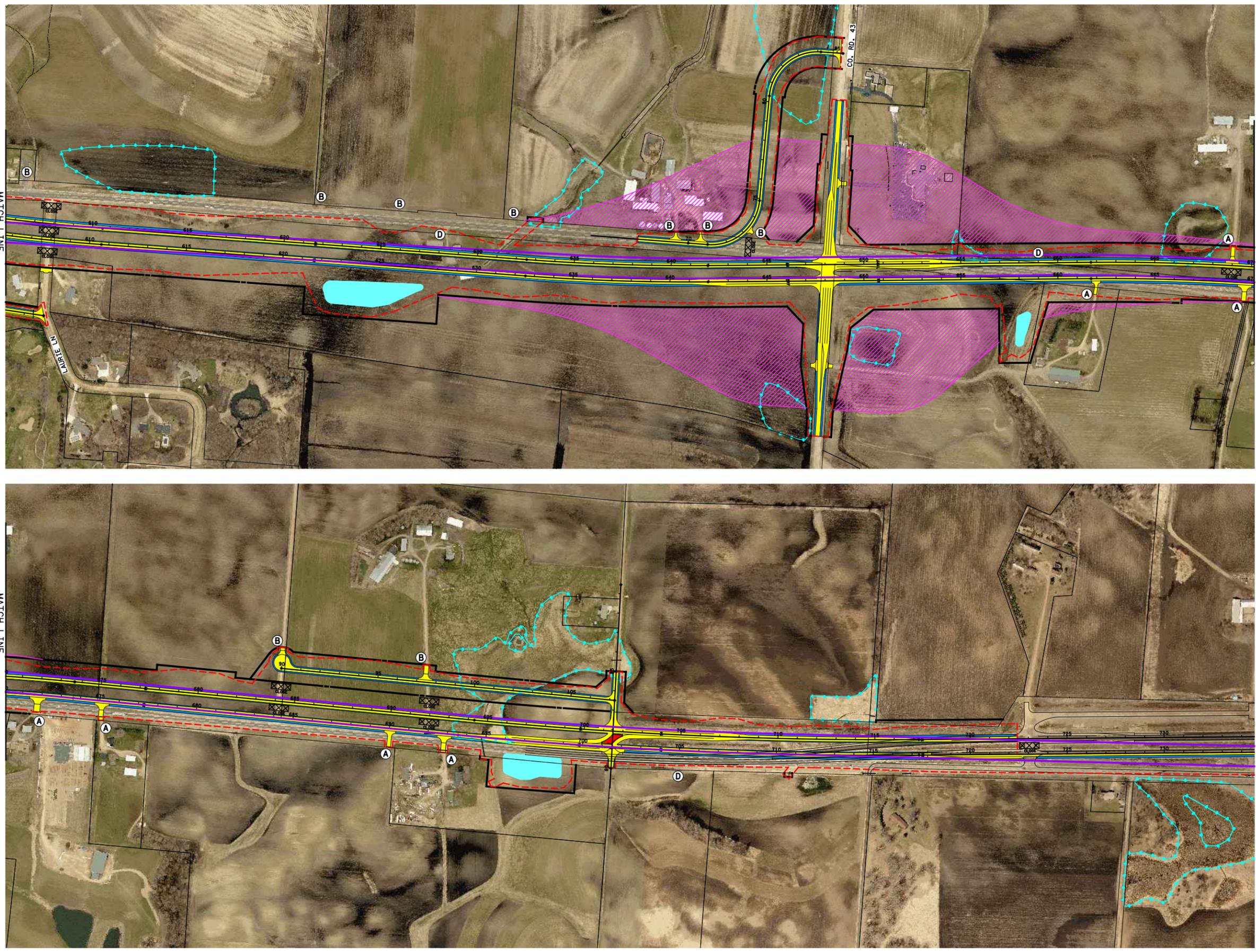
Figure 5A Figure 5B

**FIGURE 5A
PREFERRED ALTERNATIVE AND
INTERCHANGE FOOTPRINT**

h:\projects\5999\HI-MU\Part_B\Graphics\CP101379_1y2.dgn

MATCH LINE
SEE FIGURE 5A

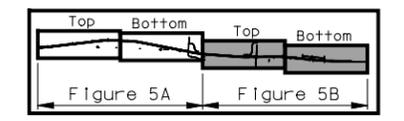
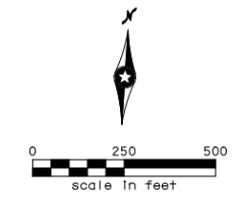
MATCH LINE
SEE ABOVE



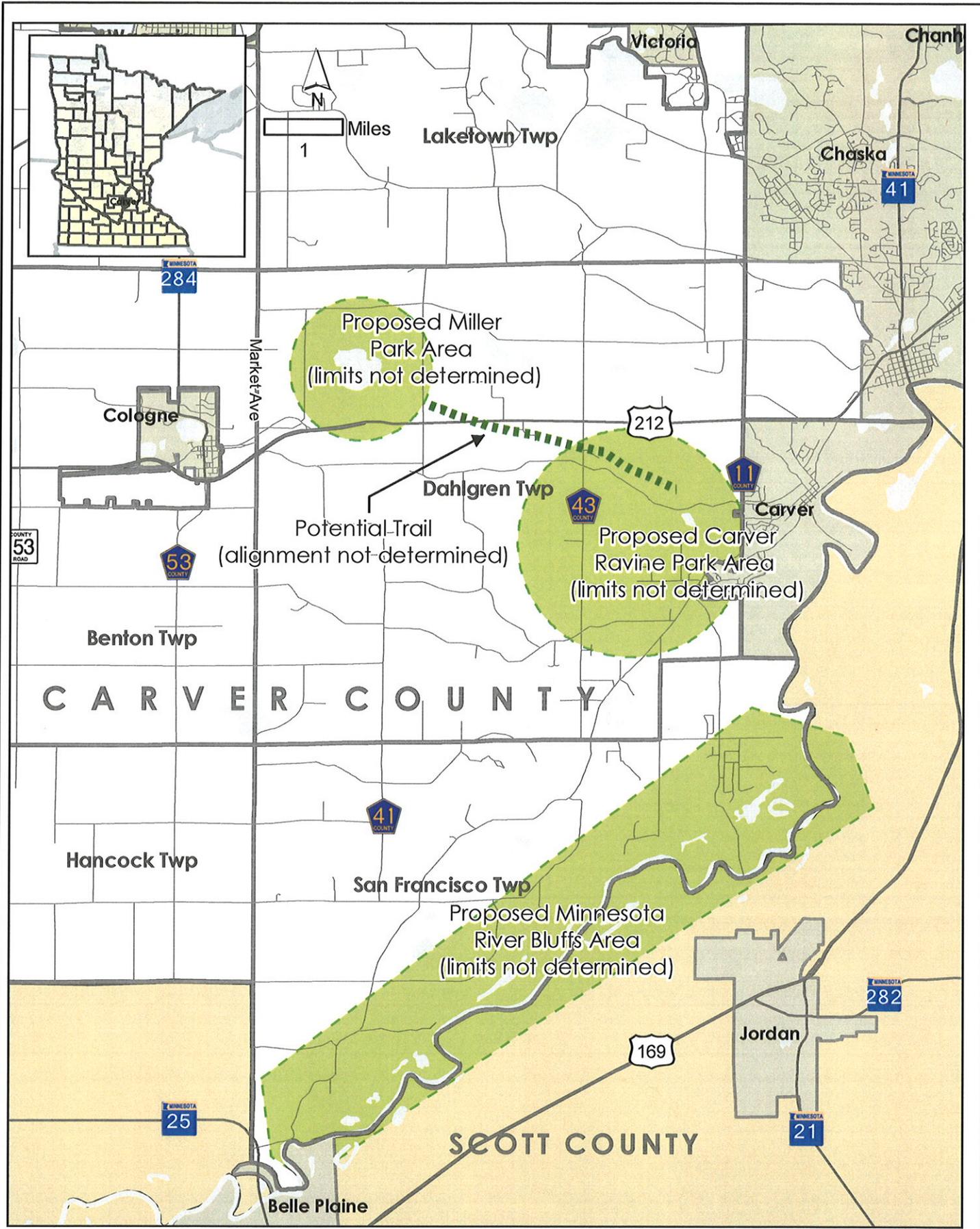
LEGEND

- NEW & RECONSTRUCTED ROADWAYS
- NEW & RECONSTRUCTED SHOULDER
- RAISED MEDIANS AND CURBS
- COUNTY ROAD 43 INTERCHANGE FOOTPRINT
- CONSTRUCTION LIMITS
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- 1993 EIS ALIGNMENT
- INVENTORIED WETLANDS
- PROPOSED POND
- X ACCESS CLOSED
- TRAFFIC FLOW

- NOTES:**
- (A) RIGHT IN - RIGHT OUT ACCESS TO TH 212
 - (B) FULL ACCESS TO FRONTAGE ROAD
 - (C) NEW ACCESS
 - (D) CLOSED ACCESS



**FIGURE 5B
PREFERRED ALTERNATIVE AND
INTERCHANGE FOOTPRINT**

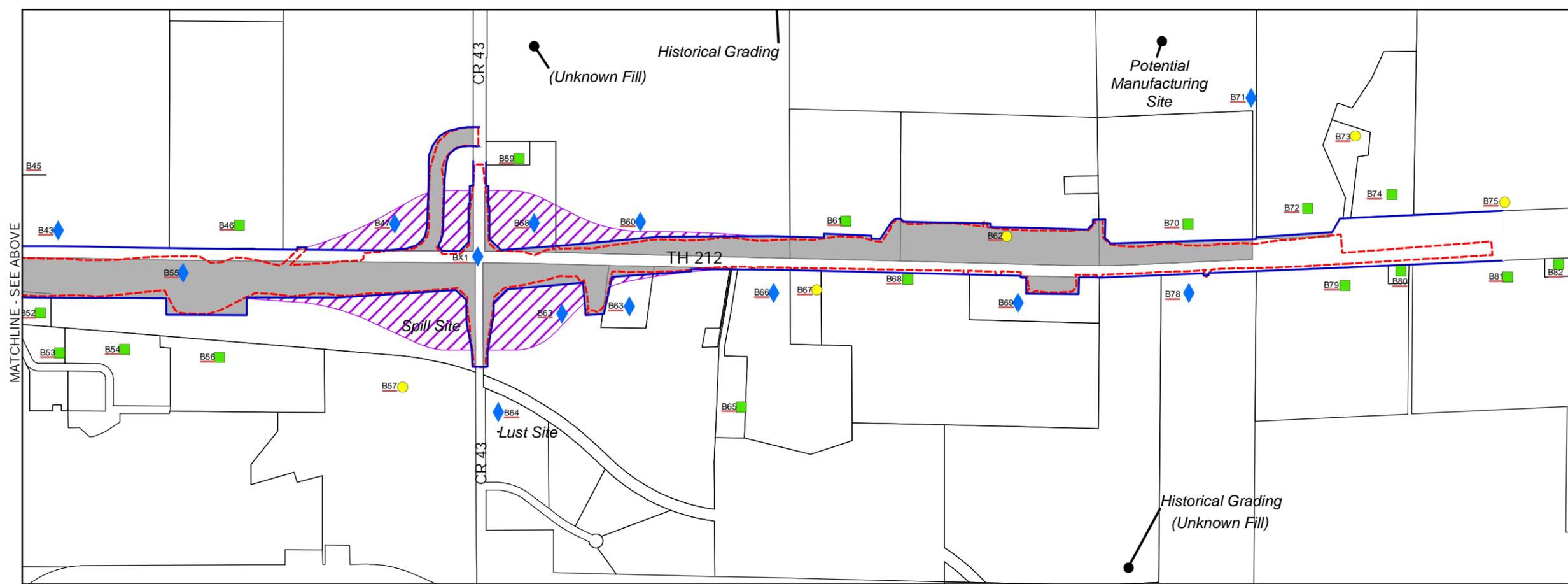
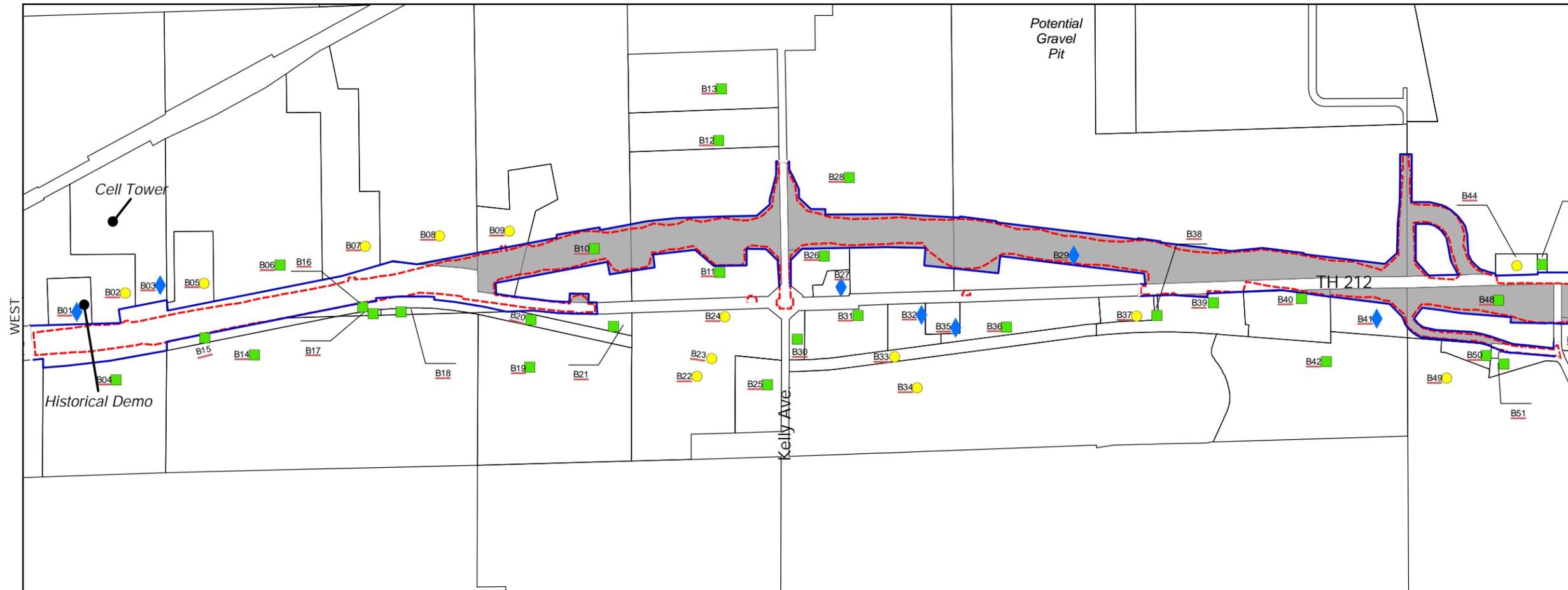


**FIGURE 6
PROPOSED PARKS
AND TRAIL MAP**



Kimley-Horn
and Associates, Inc.





Legend

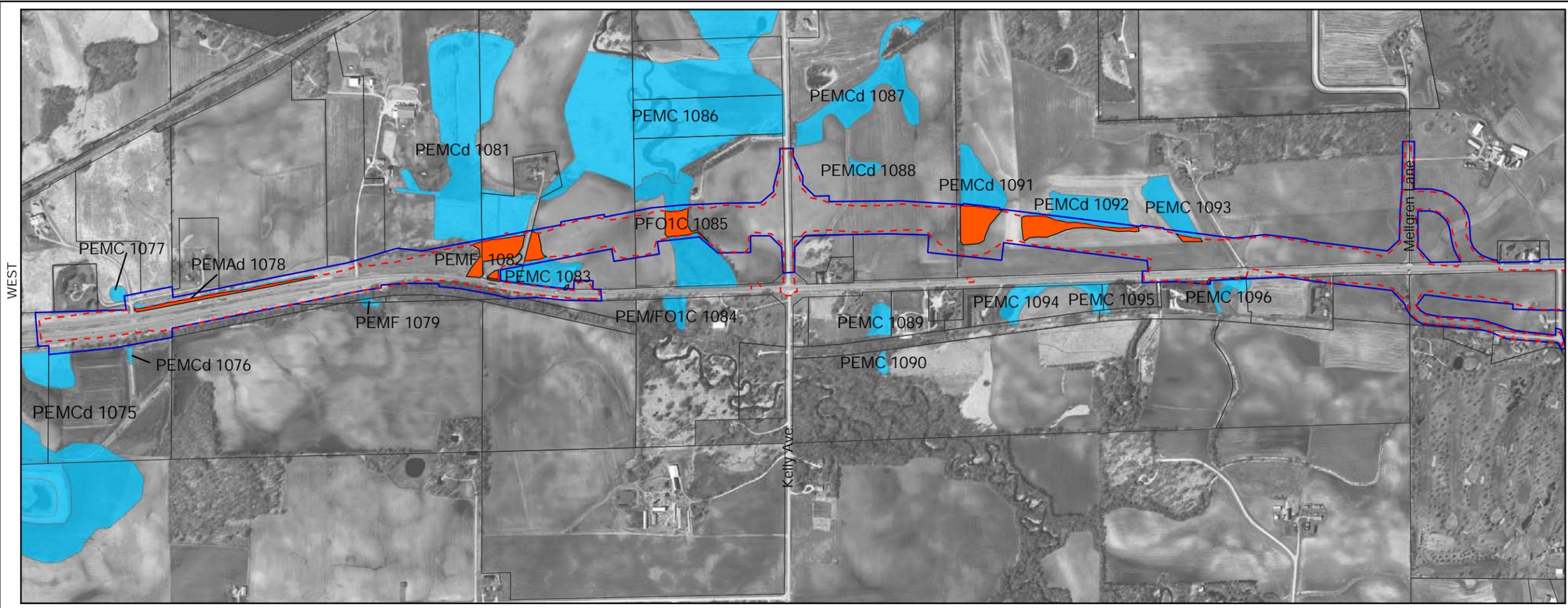
Potential for Contamination

- ★ High
- ◆ Medium
- Low
- Unlikely

Proposed Right-of-Way
 Construction Limits
 Potential Property Acquisition
 CR43 Footprint
 Parcel Boundary

1 inch = 1,000 feet

**FIGURE 7
POTENTIALLY
CONTAMINATED PROPERTIES**



Legend

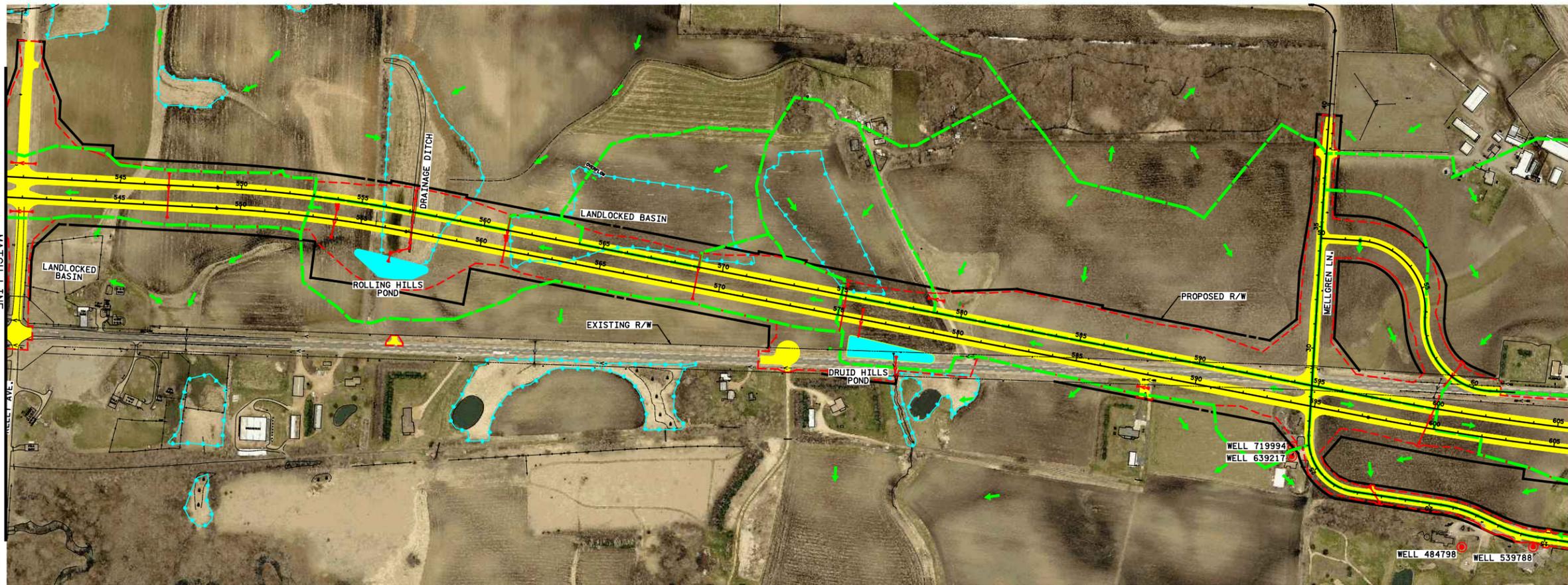
- Pref. Alt. Potential Wetland Impacts
- CR 43 Footprint Wetland Impacts
- Inventoried Wetlands
- Construction Limits
- Proposed Right-of-Way
- CR43 Interchange Footprint
- Parcel Lines



1 inch = 1,000 feet

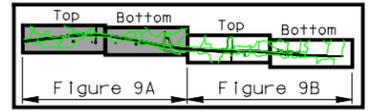
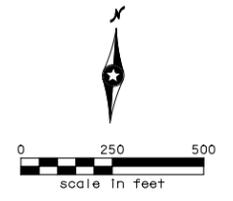
**FIGURE 8
WETLAND INVENTORY
AND IMPACTS**

n:\projects\599\1\WR\Graphics\Proposed and Existing Drainage Layout\hy1.dgn



LEGEND

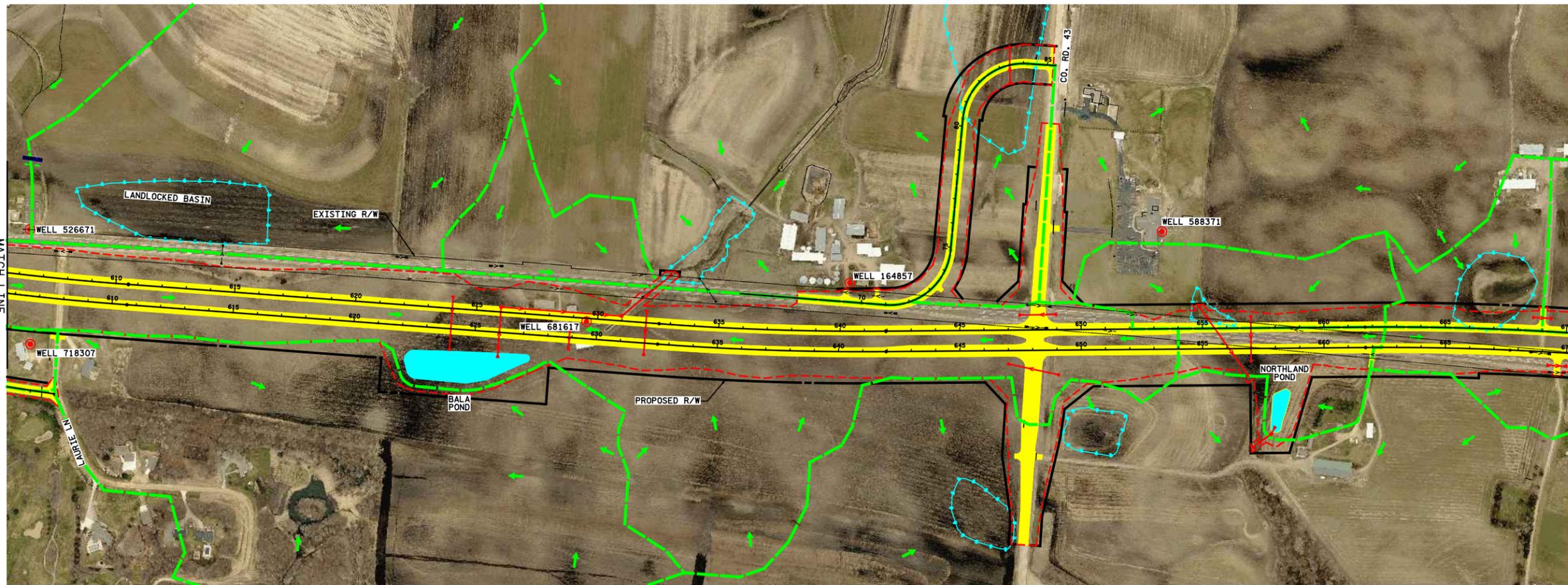
- ▬▬▬ PROPOSED ROADWAY
- - - - - DRAINAGE BOUNDARY
- - - - - INVENTORIED WETLANDS
- PROPOSED CULVERT
- EXISTING CULVERT
- - - - - CONSTRUCTION LIMITS
- SURFACE FLOW
- EXISTING WELL
- PROPOSED POND



**FIGURE 9A
PROPOSED DRAINAGE LAYOUT**

MATCH LINE
SEE FIGURE 9A

MATCH LINE
SEE ABOVE



LEGEND	
	PROPOSED ROADWAY
	DRAINAGE BOUNDARY
	INVENTORIED WETLANDS
	PROPOSED CULVERT
	EXISTING CULVERT
	CONSTRUCTION LIMITS
	SURFACE FLOW
	EXISTING WELL
	PROPOSED POND

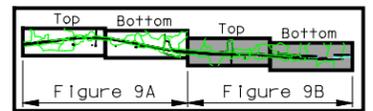
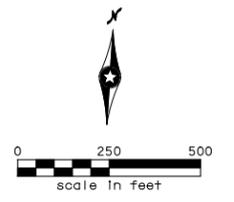
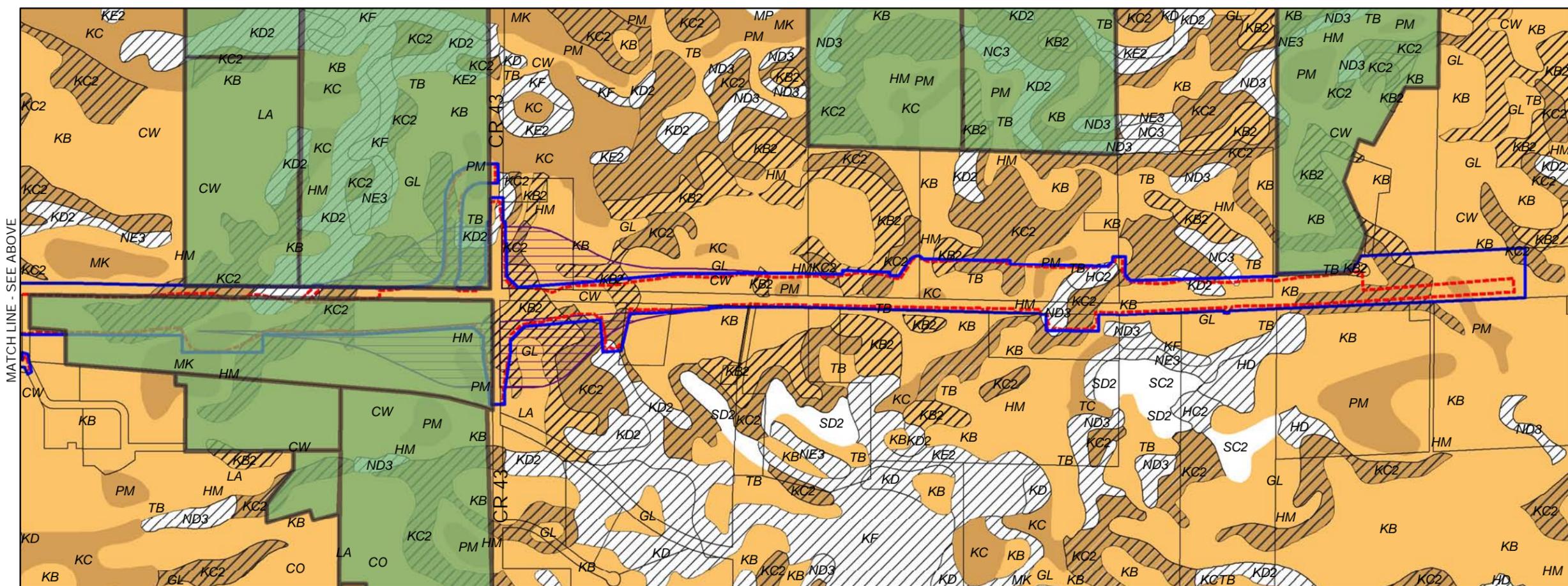
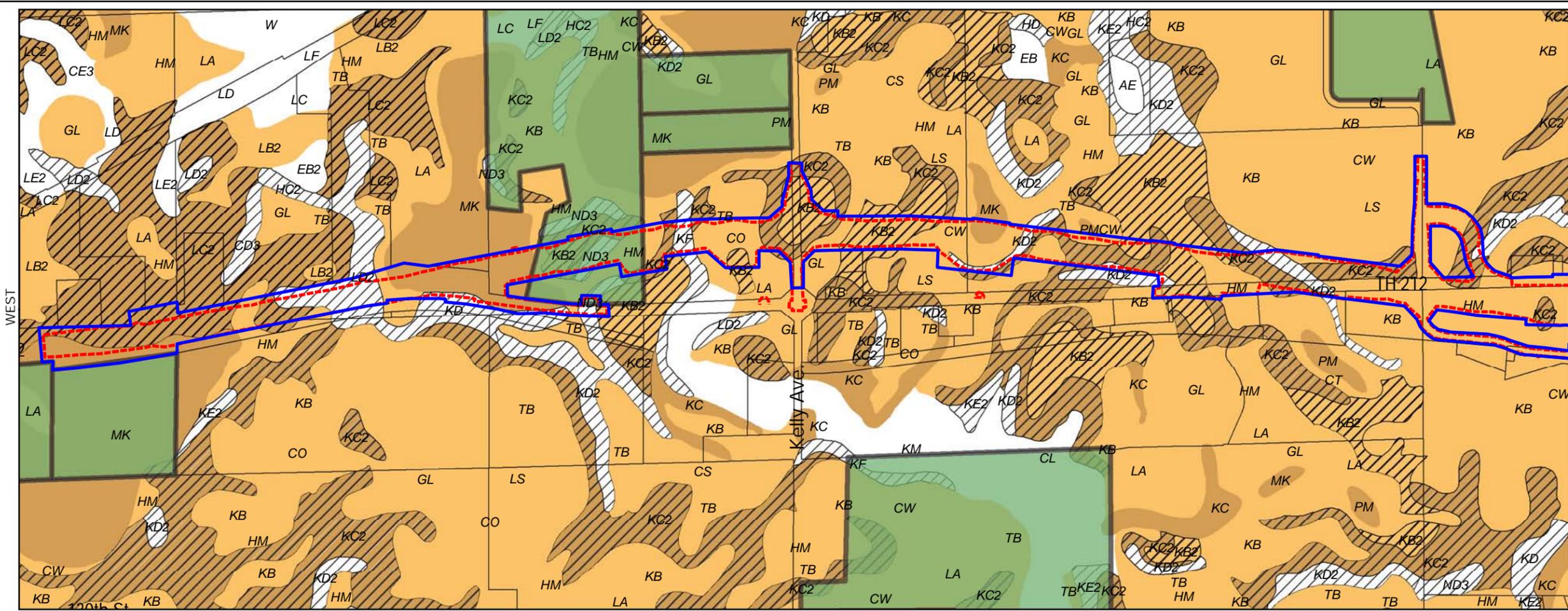


FIGURE 9B
PROPOSED DRAINAGE LAYOUT



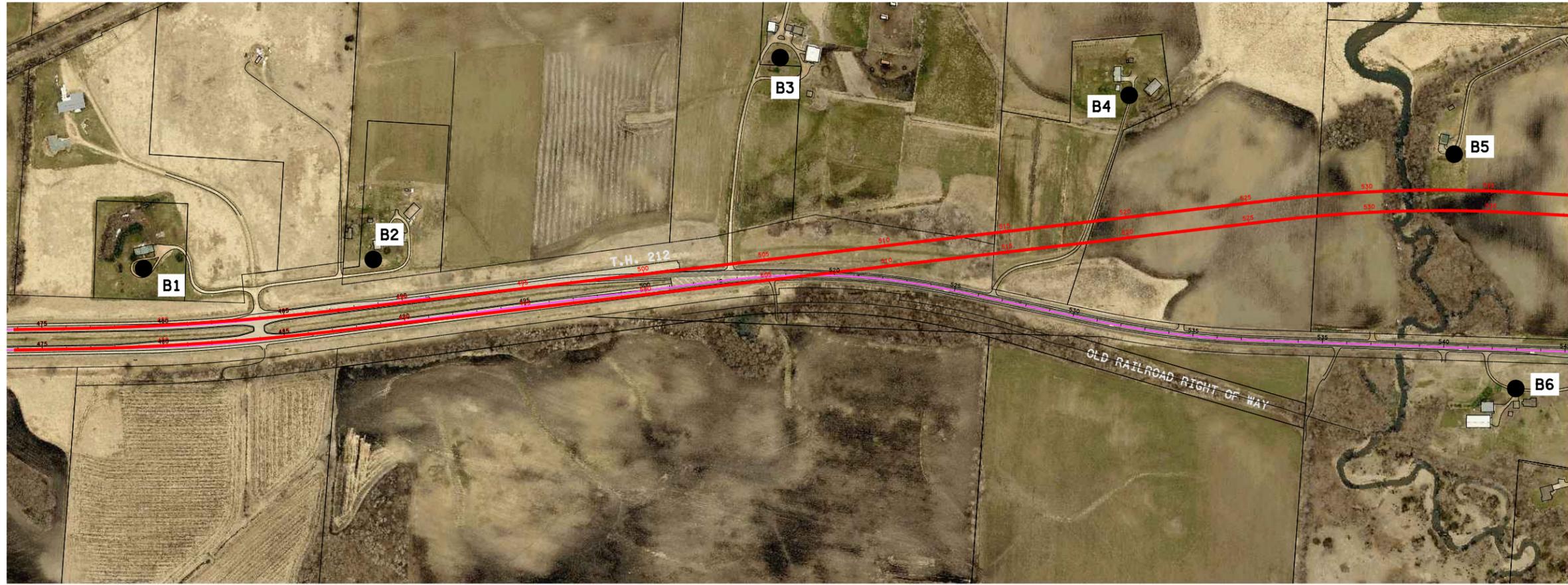
Legend

- Proposed Right-of-Way
- Construction Limits
- CR 43 Footprint
- Ag. Preserves (2006)
- County Parcel Boundaries
- Prime Farmland
- Statewide Important Farmlands
- Potential Erodeble Soils

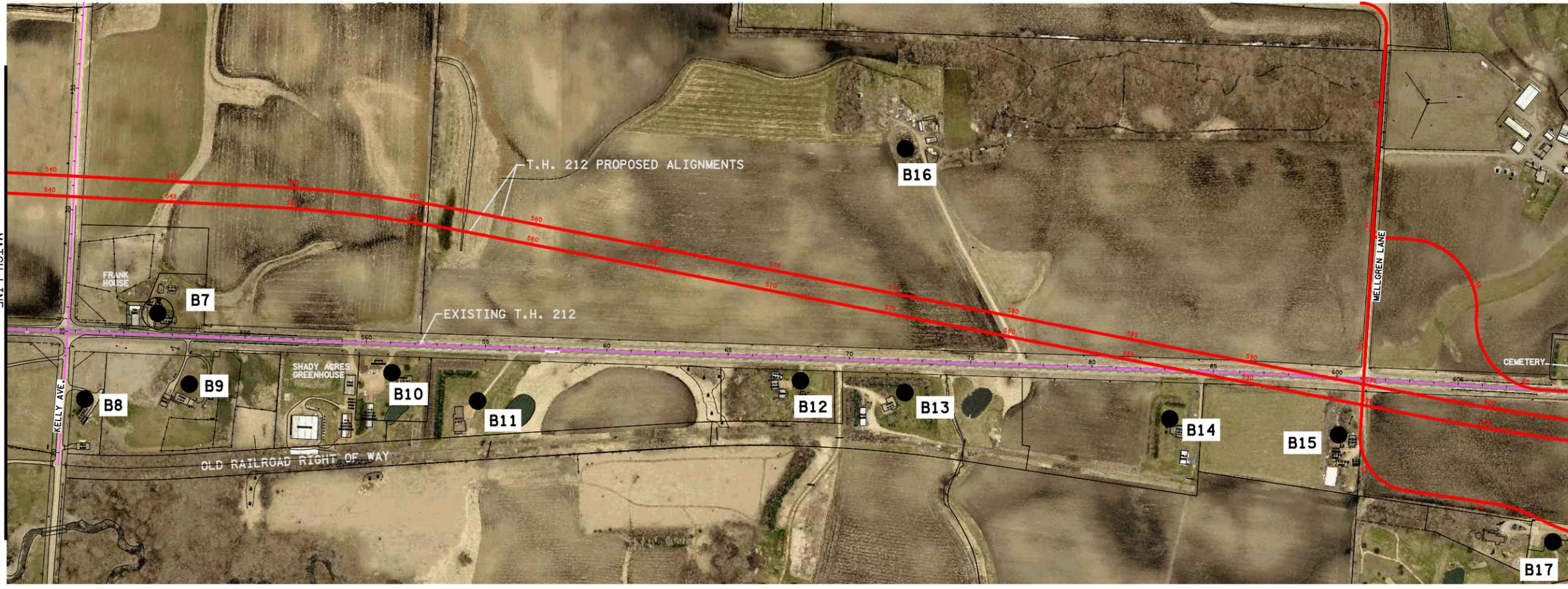
N
 1 inch = 1,000 feet

FIGURE 10
SOILS, FARMLANDS, AND
AGRICULTURAL PRESERVES

n:\projects\5991\HI-MU\Part_B\Graphics\CP101379_noise_jy1.dgn



MATCH LINE
SEE BELOW



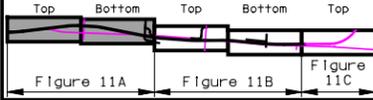
MATCH LINE
SEE ABOVE

MATCH LINE
SEE FIGURE 11B

LEGEND

-  NOISE MONITORING AND MODELING LOCATION
-  NOISE MODELING LOCATION
-  PROPOSED TH 212 ALIGNMENT

0 250 500
scale in feet

**FIGURE 11A
NOISE RECEPTOR LOCATIONS**

n:\projects\5999\HI-MU\Part_B\Graphics\CP101379_noise_jy2.dgn



LEGEND

-  NOISE MONITORING AND MODELING LOCATION
-  NOISE MODELING LOCATION
-  PROPOSED TH 212 ALIGNMENT

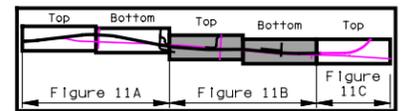
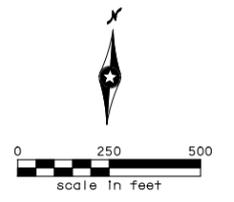
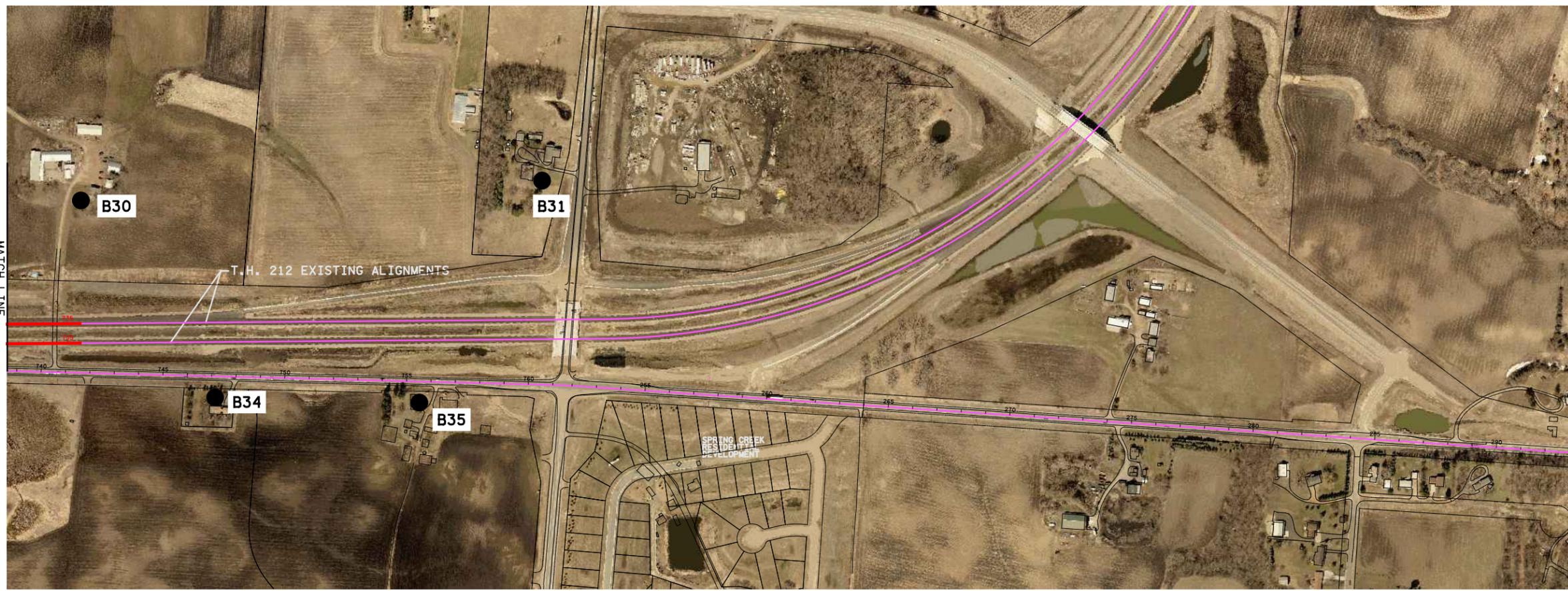


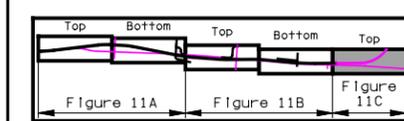
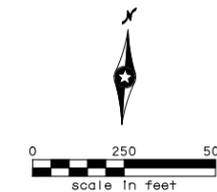
FIGURE 11B
NOISE RECEPTOR LOCATIONS

MATCH LINE
SEE FIGURE 11B

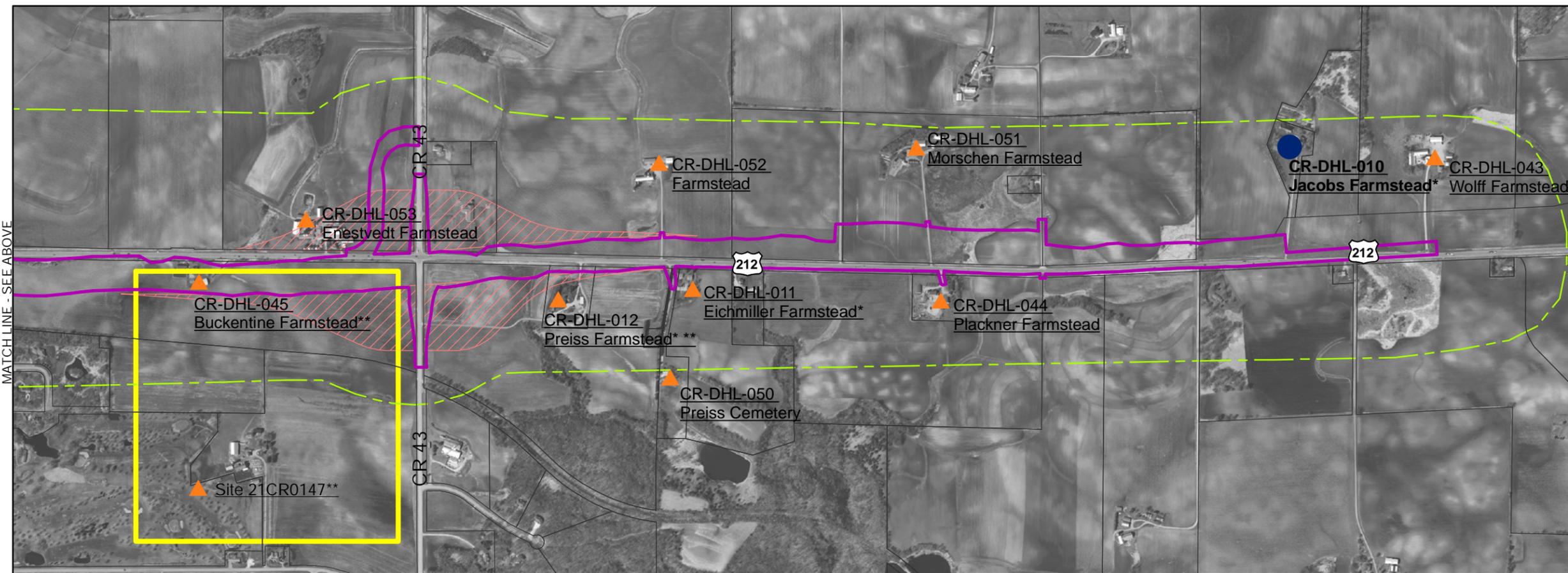


LEGEND

-  NOISE MONITORING AND MODELING LOCATION
-  NOISE MODELING LOCATION
-  PROPOSED TH 212 ALIGNMENT



**FIGURE 11C
NOISE RECEPTOR LOCATIONS**



Legend

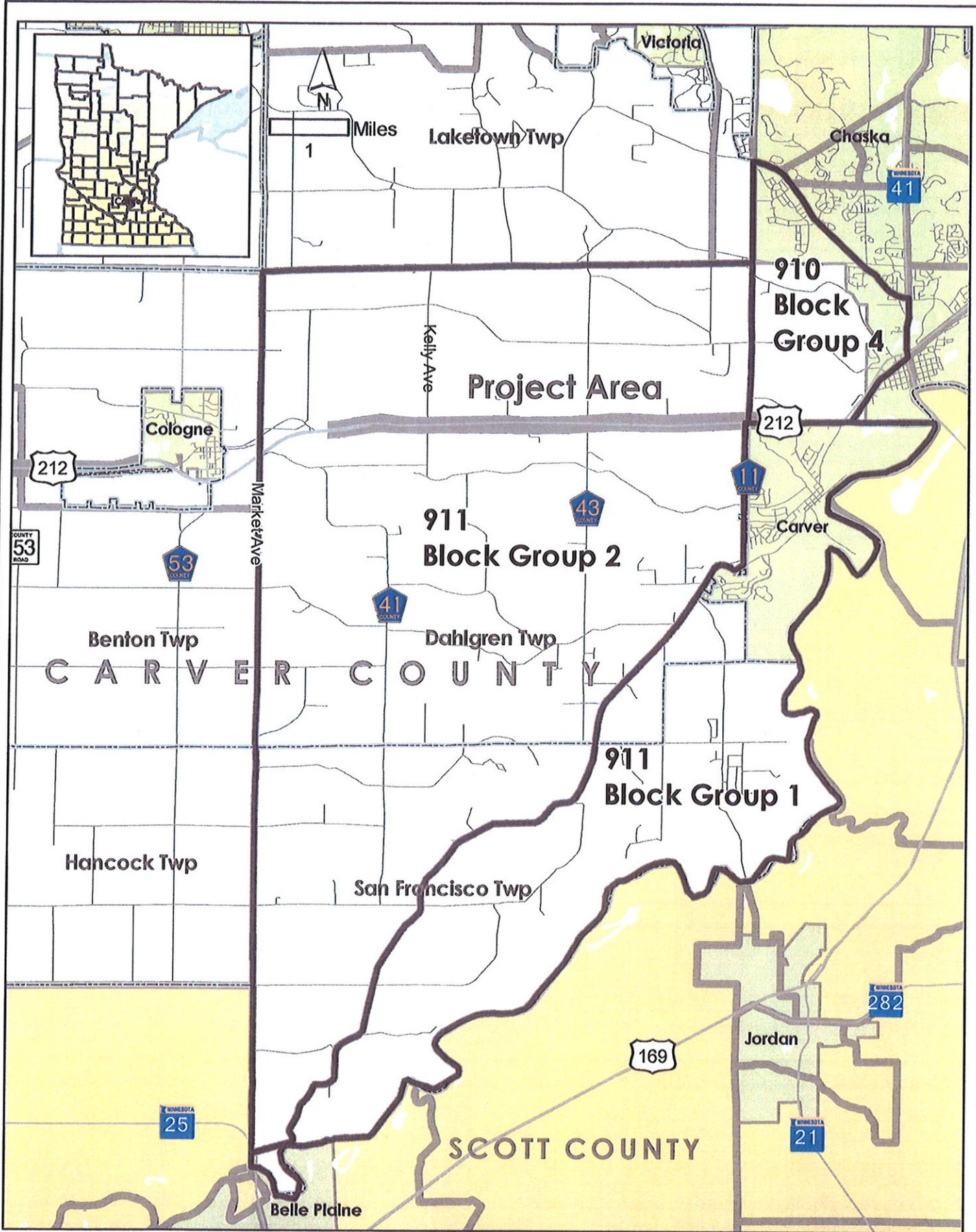
- ▲ Ineligible Property/Site
- NRHP Eligible Property
- Archaeological APE
- - - Architectural APE
- CR 43 Interchange Footprint
- Archaeological Site (2008)
- Archaeological Site (1993)

* - Addressed in 1993 FEIS
** - Addressed in Archaeological Phase I Report (2008)



1 inch = 1,000 feet

FIGURE 12
NATIONAL REGISTER OF HISTORIC PLACES
ELIGIBLE PROPERTIES AND SITES

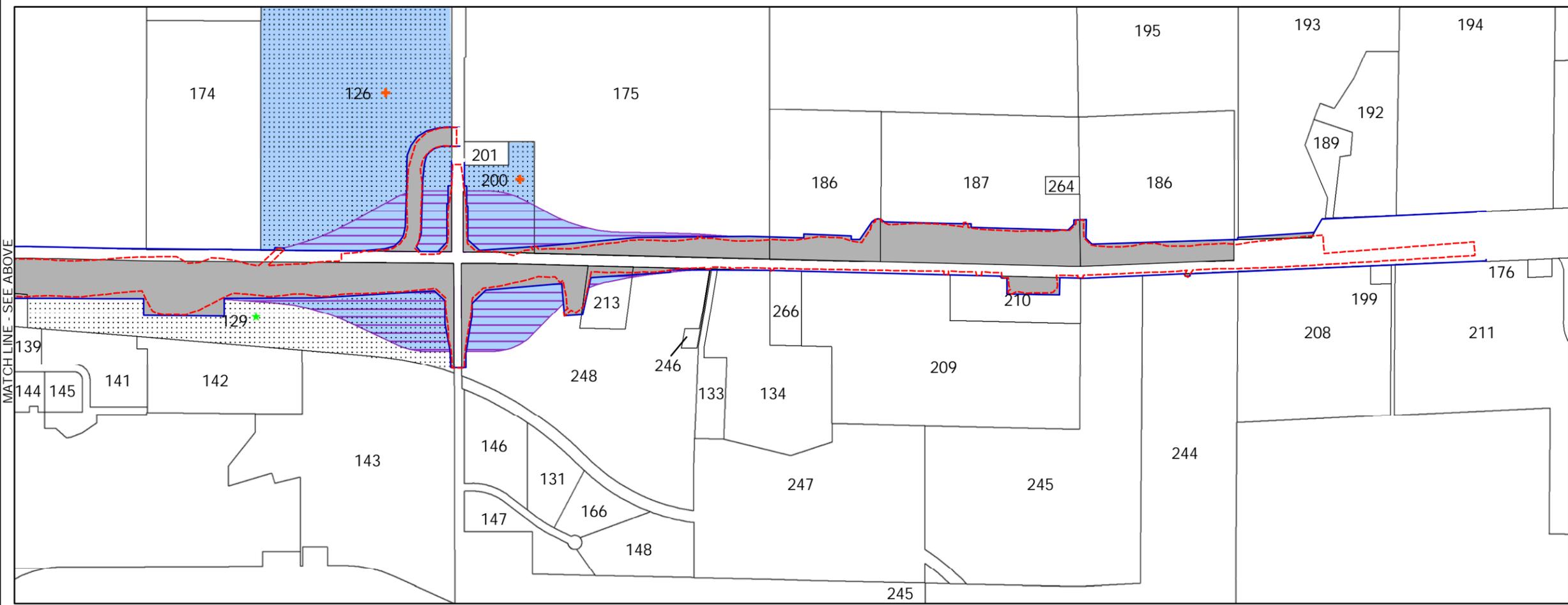
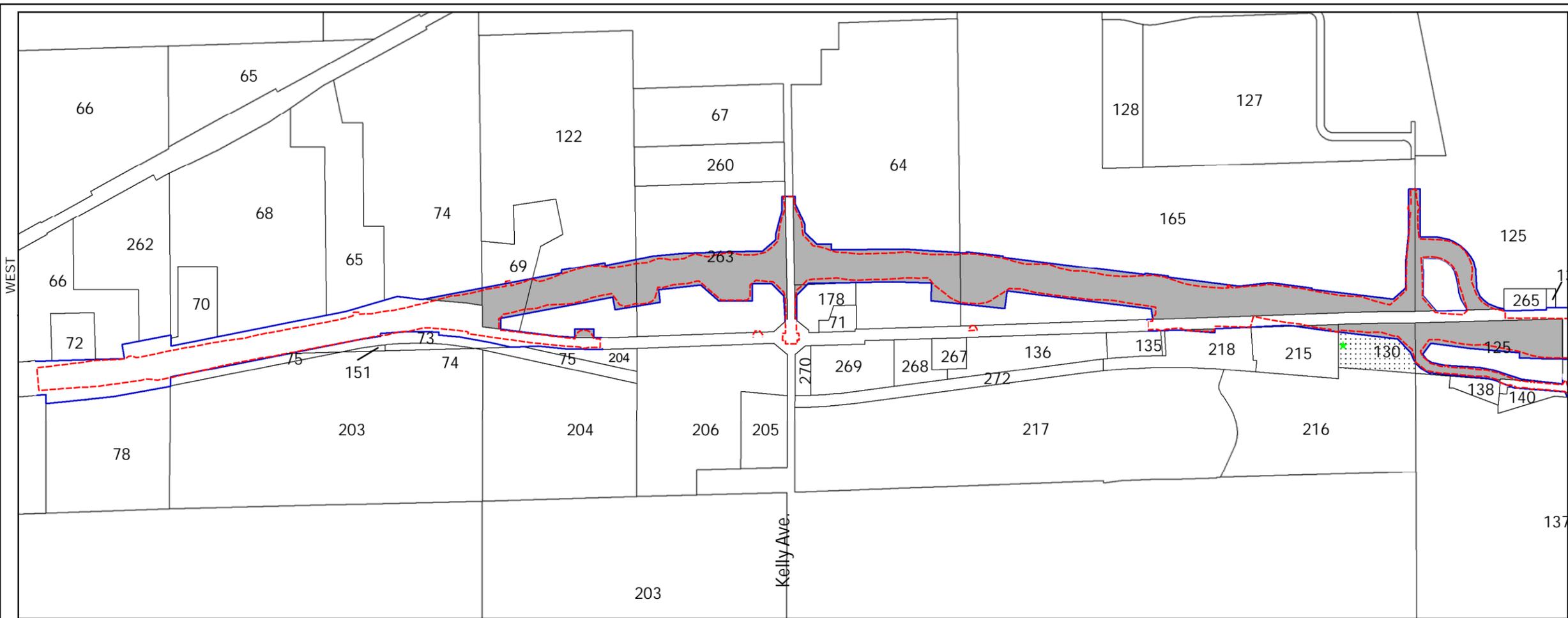


**FIGURE 13
CENSUS BLOCK GROUPS**



Kimley-Horn
and Associates, Inc.



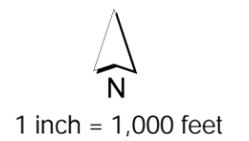


Legend

- Construction Limits
- Potential Acquisition
- Proposed Pref. Alt. Right-of-Way
- CR43 Interchange Footprint
- Pref. Alt. Right-of-Way Acquisition
- Parcel Boundaries
- CR 43 Footprint Right-of-Way Acquisition

Potential Total Parcel Take by Preferred Alternative
 Potential Total Parcel Take by CR 43 Footprint

Existing Right-of-Way:	103 acres
New Right-of-Way:	149 acres
Road Right-of-Way Area:	252 acres
CR 43 Interchange Footprint:	44 acres
Additional Parcel Potential Acquisition Outside of Needed Right-of-Way:	133 acres (Parcels 126, 129, 130, 200)
Total Potential Right-of-Way:	296 acres

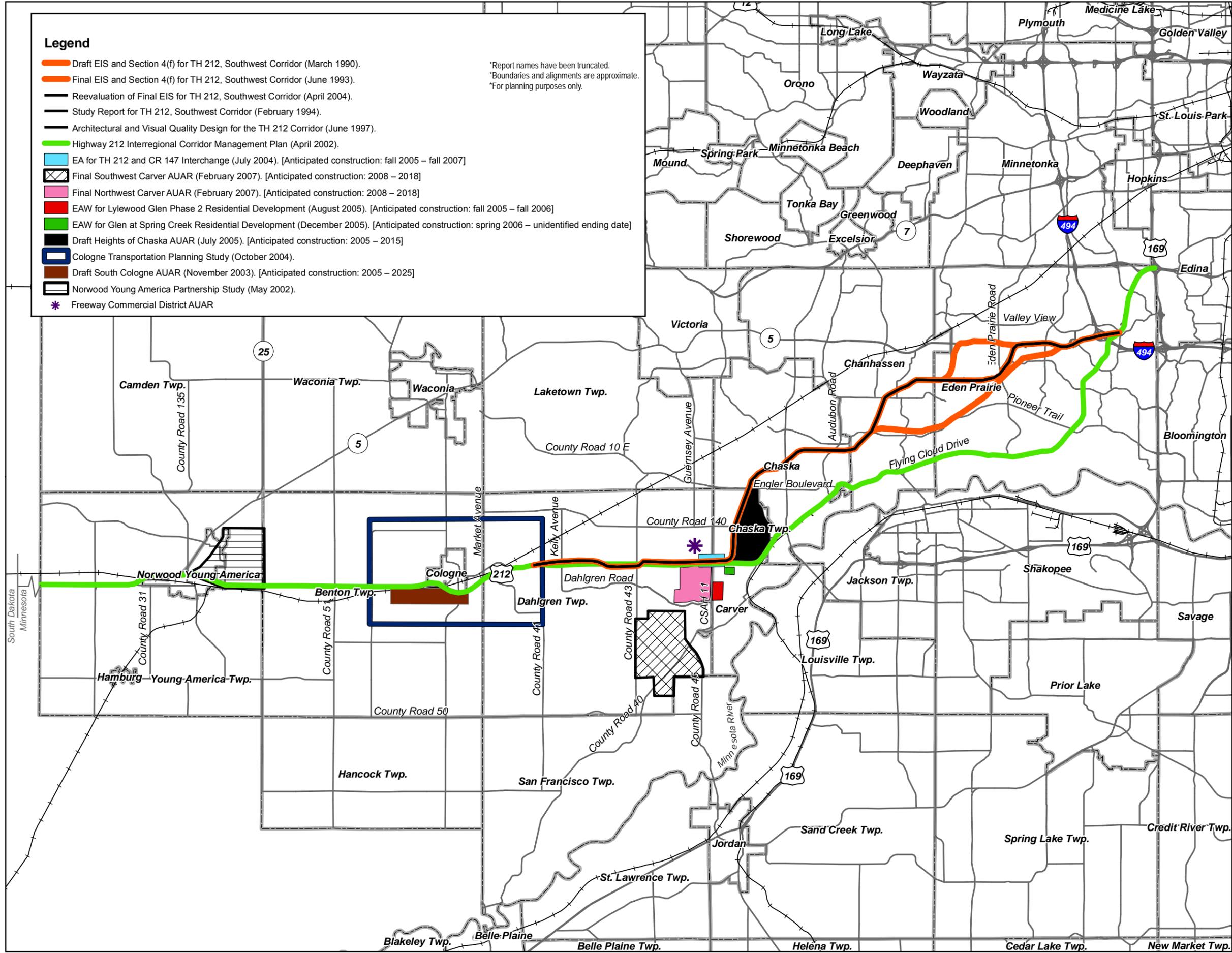


**FIGURE 14
PROPOSED RIGHT-OF-WAY**

Legend

- Draft EIS and Section 4(f) for TH 212, Southwest Corridor (March 1990).
- Final EIS and Section 4(f) for TH 212, Southwest Corridor (June 1993).
- Reevaluation of Final EIS for TH 212, Southwest Corridor (April 2004).
- Study Report for TH 212, Southwest Corridor (February 1994).
- Architectural and Visual Quality Design for the TH 212 Corridor (June 1997).
- Highway 212 Interregional Corridor Management Plan (April 2002).
- EA for TH 212 and CR 147 Interchange (July 2004). [Anticipated construction: fall 2005 – fall 2007]
- Final Southwest Carver AUAR (February 2007). [Anticipated construction: 2008 – 2018]
- Final Northwest Carver AUAR (February 2007). [Anticipated construction: 2008 – 2018]
- EAW for Lylewood Glen Phase 2 Residential Development (August 2005). [Anticipated construction: fall 2005 – fall 2006]
- EAW for Glen at Spring Creek Residential Development (December 2005). [Anticipated construction: spring 2006 – unidentified ending date]
- Draft Heights of Chaska AUAR (July 2005). [Anticipated construction: 2005 – 2015]
- Cologne Transportation Planning Study (October 2004).
- Draft South Cologne AUAR (November 2003). [Anticipated construction: 2005 – 2025]
- Norwood Young America Partnership Study (May 2002).
- * Freeway Commercial District AUAR

*Report names have been truncated.
 *Boundaries and alignments are approximate.
 *For planning purposes only.



N
 1 inch = 2.5 miles

FIGURE 15
 PREVIOUS STUDIES AND
 PROPOSED DEVELOPMENTS
 ALONG TH 212

APPENDIX B. AGENCY CORRESPONDENCE**DNR**

March 26, 2009 DNR update to previous responses for SP 1013-77, 1013-78 and 1023-79
 June 30, 2007 DNR Review Letter for SP 1013-77, 1013-78 and 1023-79

USFWS

March 16, 2009 USFWS update to previous responses for SP 1013-77, 1013-78 and 1023-79
 June 18, 2007 Mn/DOT request to USFWS for rare species review for SP 1013-79
 June 18, 2007 USFWS review response letter for SP 1013-79

SHPO

Pending, 2009 SHPO updated determination letter
 Pending, 2009 Mn/DOT letter to SHPO with updated recommendation
 October 29, 2008 SHPO determination letter in response to Mn/DOT recommendation of effect
 September 8, 2008 Mn/DOT recommendation of effect on properties in SP 1013-79 corridor

NRCS

July 23, 2009 NRCS response letter to CPA-106 form
 CPA-106 forms for SP-1013-79 Preferred Alternative and CR 43 Interchange



Minnesota Department of Natural Resources

500 Lafayette Road
St. Paul, Minnesota 55155-4010

June 30, 2007

Richard Martig
Metro District
1500 West Co. Rd. B2
Roseville, MN 55113

Jessica Laabs
Kimley-Horn & Associates, Inc
2550 University Ave W Suite 345N
St. Paul, MN 55114

RE: Response to MnDOT/DNR Questionnaire Request Form Regarding Natural Resources and Recreational Resources, TH 212 Rehabilitation (S.P. 1013-7x), Carver County

Dear Mr. Martig and Ms. Laabs:

The Minnesota Department of Natural Resources (DNR) has completed the information request for ecological resources in the TH 212 corridor from the west end of "new TH 212" currently being constructed through to the City of Norwood-Young America, all in Carver County. We received three Early Notification Memo's for approximately 11 miles of road (SP 1013-77, -78, & -79), though have combined them for a single review. The following information was submitted to me during DNR field review of the project.

1. Two Public Waters are located within the Project boundaries:

Barnes Lake (10-109P): If there is an alignment shift north of the existing alignment near the City of Young America, there is potential that Barnes Lake may be impacted by this project. In addition to the possible need for a Public Waters Work Permit, please note item #2 below. Therefore, the project should avoid impacts to this area if possible.

Carver Creek: If the project goes forward, this crossing will need to be rebuilt and a Public Waters Permit will be required. However, work at this crossing may qualify for authorization under General Permit (GP) 2004-0001 should the conditions of the permit be met. As the project moves forward, design of the crossing should meet the conditions listed in the GP. Additional design considerations and information on specific GP conditions are:

- GP 2004-0001 Condition #7: DNR staff did not identify concerns for exotic invasive species in this area.
- GP 2004-0001 Condition #12: It is unknown if the crossings will be bridges of large culverts. However, a hydrologic report, including 2yr velocities, will be required for review prior to authorization under the GP.
- GP 2004-0001 Condition #18: Crossing design must allow for fish migration. For construction purposes, work exclusion dates for non-trout streams in DNR Region 3 is March 15 through June 15.

It's a bit early in the process, though should project design begin, please contact me as soon as possible in order to identify further design needs of this project for authorization under the GP. Standard erosion control practices will suffice for DNR concerns. Additional guidance on concerns may also be found in the Manual "Best Practices for Meeting DNR General Public Waters Work Permit GP 2004-0001". A pdf version of this manual may be found at: http://files.dnr.state.mn.us/waters/watermgmt_section/pwpermits/DNR_GP_Guidance_Manual.pdf

2. The Minnesota Natural Heritage database has been reviewed to determine if any rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the TH 212 (S.P. 1013-7x) project area. Based on this review, there are 34 records of rare species or native plant communities in the area searched (for details, please see the attached database printouts). Following are specific comments for only those elements that may be impacted by the proposed project. Rare feature occurrences not listed below are not anticipated to be affected by the proposed project.

- North of TH 212 in T115N R26W Section 13 there is a natural area around Barnes Lake that has been identified as a Regionally Significant Ecological Area (RSEA). In 2003 the DNR Central Region, in partnership with the Metropolitan Council, conducted a landscape-scale assessment of the seven-county metro area that identified ecologically significant terrestrial and wetland areas. The mapping of RSEAs was done using two primary data sources. The first data source was native plant communities mapped by the Minnesota County Biological Survey. The remaining areas were derived using a modeling process that predicts the likelihood that high quality native animal habitats exist in a contiguous area. Shapefiles of the RSEAs are available on the DNR's data deli website at <http://deli.dnr.state.mn.us> (named "Twin Cities Metro Regionally Significant Ecological Areas"). To view pdf versions of the final maps, refer to <http://www.dnr.state.mn.us/rsea/index.html>.

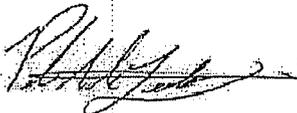
Protective actions during construction should be taken to minimize disturbance to these sites of ecological significance. A standard guidance sheet for the protection of sites of ecological significance is included (page 1-6) in the manual "Best Practices for Meeting DNR General Public Waters Work Permit GP 2004-0001" mentioned in item #1. I have attached page 1-6 to the cover email. This page may be used in your projects documents.

In summary, page 1-6 states; 1) Locate field offices, store equipment and supplies at least 25 feet away from the identified sensitive area in accordance with Mn/DOT spec 2031, and 2) Label area(s) as "designated sensitive area" on all plans. In addition, should grading outside the PI (Point of Intersect) be proposed; 3) Walk the perimeter of the sensitive area with the grading foreman so that all personnel understand and agree on the edge of the area. 4) Leave a buffer of undisturbed vegetation between the critical resource and the grading, 5) Redundant Best Management practices may be required for protection of the area, and 6) Revegetate disturbed areas with native species suitable to the local habitat. In addition, precautions should be taken to ensure that borrow and disposal areas are not located within native plant communities, and that, if adjacent to native plant communities, the above actions are taken to minimize disturbance.

Because our information is not based on a comprehensive inventory, there may be rare or otherwise significant natural features in the state that are not represented in the database. A county-by-county survey of rare natural features is now underway, and has been completed for Carver County. Our information about native plant communities is, therefore, quite thorough for that county. However, because survey work for rare plants and animals is less exhaustive, and because there has not been an on-site survey of all areas of the county, ecologically significant features for which we have no records may exist on the project area.

If you have questions regarding this letter, please e-mail me at peter.leete@dot.state.mn.us or call at (651) 366-3634.

On behalf of the DNR
Sincerely,



Peter Leete
Transportation Hydrologist
Office of Environmental Services, mail stop 620
Minnesota Department of Transportation
395 John Ireland Blvd.
St. Paul, MN 55155

C: ERDB file 20070805

Fosmo, Ashley

From: Peter Leete [Peter.Leete@dot.state.mn.us]
Sent: Thursday, March 26, 2009 3:29 PM
To: Fosmo, Ashley
Cc: lisa.joyal@dnr.state.mn.us
Subject: Re: DNR NHIS Request UPDATE - TH212 Part A, B, & C (SP1013-77, SP1013-79, SP1013-78)
Attachments: DNR Response to MnDOT information request, TH 212 reconstruction (SP 1013-7x), Carver county; GP 2004-0001 signed 11-26-2008.pdf

Ashley,

Your are correct. Unless there has been a change in the scope of the project, there is no need to re-review the project at this time. I've attached to 6/30/2007 communications. The only change on this end is that the GP to MnDOT has been amended and extended another 5 years. I've attached it for your information as conditions in it may have changed.

Contact me if you have any questions
peter

Peter Leete
DNR Transportation Hydrologist
(DNR-MnDOT OES Liaison)
@ MnDOT Office of Environmental Services
395 John Ireland Blvd., MS 620
St. Paul, MN 55155
ph: 651-366-3634

>>> <Ashley.Fosmo@kimley-horn.com> 3/24/2009 10:28 AM >>>
Hi Peter,

Per our telephone discussion on Monday, March 24, 2009, I am sending this email to request an update to the Natural Heritage Information Search Request for the Mn/DOT TH 212 Preliminary Design Project in Carver County, Minnesota. State project numbers associated with this project include:

SP-1013-77 - Part A

SP-1013-79 - Part B

SP-1013-78 - Part C

Kimley-Horn received a response letter from you on June 30, 2007 stating that there are two Public Waters located in the Project Boundaries. These include Barnes Lake (10-109P) and Carver Creek. Also, there is a natural area within the project boundary. This includes Barnes Lake Natural Area. Protective actions were advised to minimize disturbance to these sites of ecological significances and General Public Waters permits will have to be obtained before this project goes into construction.

I was wondering if you would issue an update to the original letter that we can include in our documentation. As we discussed on the telephone, since the original response was issued in 2007, an update is not needed.

If you have any questions please feel free to contact me. Thank you and have a great day!

Ashley Fosmo
Environmental Analyst
Kimley-Horn and Associates, Inc.
2550 University Avenue West Suite 345N
St. Paul, MN 55114
Direct: (651) 643-0490
Office: (651) 645-4197
ashley.fosmo@kimley-horn.com

P PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING.



Minnesota Department of Transportation

Transportation Building

395 John Ireland Boulevard
Saint Paul, Minnesota 55155-1899

July 18, 2007

Tony Sullins, Field Supervisor
U.S. Fish and Wildlife Service
Twin Cities Field Office
4101 East 80th Street
Bloomington, MN 55425

Re: Request for Concurrence for the Bald Eagle (*Haliaeetus leucocephalus*)
S.P. 1013-79, Trunk Highway 212
Roadway Expansion
Carver County, Minnesota

Dear Mr. Sullins:

The Minnesota Department of Transportation (Mn/DOT) is requesting concurrence from the U.S. Fish and Wildlife Service (Service) that the above referenced action is not likely to adversely affect federally-listed species or designated critical habitat. As of this time, the project has not yet been scheduled and it is likely that construction will not begin for several years. Therefore, the consultation process will need to be re-visited and the action re-evaluated closer to the start of construction.

Project Description

The proposed action involves expanding Trunk Highway 212 from a two to a four-lane arterial from 1 mile west of Cologne to County State Aid Highway 11, a distance of approximately 5.0 miles. Construction will occur on new alignment and therefore, will require the acquisition of right of way. Associated activities include, turn lane construction, storm water management ponds, ditch reconstruction, culvert replacement and the relocation of the existing utilities.

Listed Species/Critical Habitat within the Project Area

The County Distribution of Minnesota's Federally-Listed Threatened, Endangered, Proposed, and Candidate Species list provided by the Service, indicates that Carver County is within the distribution range of the bald eagle (*Haliaeetus leucocephalus*)¹, a federally-listed threatened species. There is no designated critical habitat in Carver County.

Known Occurrences

According to the information provided by the Natural Heritage Database (updated 5/14/07) maintained by the Minnesota Department of Natural Resources and the Service, there are no known records of bald eagle nesting sites within 660 feet of the project site (National Bald Eagle Management Guidelines, May 2007).

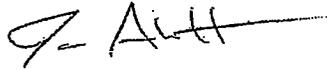
¹ On June 28, 2007, the Department of the Interior announced the removal of the bald eagle (*Haliaeetus leucocephalus*) from the Federal List of Endangered and Threatened Wildlife and Plants. However, the delisting will not become effective until 30 days after publication in the Federal Register. Until that time, the bald eagle will continue to be protected under the Endangered Species Act of 1973, as amended and all actions will continue to be evaluated in accordance with Section 7.

Tony Sullins
July 18, 2007
Page 2

Determination

After coordination with Service biologists, Mn/DOT in acting as the non-federal representative for the Federal Highway Administration, has determined that the proposed action may affect, but is not likely to adversely affect federally-listed species or designated critical habitat. This determination is based on the premise that the consultation process will be re-visited and the action re-evaluated closer to the start of construction. We are requesting concurrence that consultation with your office under section 7 of the Endangered Species Act is complete. If you require additional information, please contact me at (651) 366-3605.

Sincerely,



Jason Alcott
Natural Resource Specialist

cc: USFWS- P. Burke
Mn/DOT- G. Larson file



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Twin Cities Field Office
4101 American Blvd E.
Bloomington, Minnesota 55425-1665

JUL 18 2007

Mr. Jason Alcott
Minnesota Department of Transportation
395 John Ireland Boulevard, MS 620
St Paul, Minnesota 55155

Dear Mr. Alcott:

We have received your letter dated July 18, 2007, regarding the proposed improvements on 5.0 miles of Trunk Highway 212; between Cologne and County State Aid Highway 11, in Carver County, Minnesota. The project (S.P. 1013-79) is in the preliminary planning stage and the Department of Transportation (MNDOT) is not anticipating that the project will be constructed for several years.

The bald eagle (*Haliaeetus leucocephalus*) is the only federally-listed species in Carver County, but there are no known nests, or habitats of significance to eagles within the project boundary. The MNDOT has determined that the lag between this consultation and development of detailed alternatives as well as available bald eagle habitat does not allow a "no effect" determination. Instead, the MNDOT has determined that the project may affect, but is not likely to adversely affect the species. Given abundant existing nesting habitat for bald eagles in the proposed project corridor, and the MNDOT commitment to re-evaluate the project closer to its actual construction date, the Service concurs with this determination.

We appreciate the opportunity to provide input on the proposed project. If you have questions regarding our comments, please contact project biologist, Paul Burke at (612) 725-3548, ext 205.

Sincerely,


Acting Tony Sullins
TCFO Project Leader

Fosmo, Ashley

From: Jason Alcott [Jason.Alcott@dot.state.mn.us]
Sent: Monday, March 16, 2009 11:48 AM
To: Fosmo, Ashley
Cc: Jennie Ross
Subject: Re: Threatened & Endangered Species Review UPDATE - TH212 Part A, B, & C (SP1013-77, SP1013-79, SP1013-7)

Hello Ashely,

The no effect determination issued in accordance with Section 7 of the Endangered Species Act on July 17, 2007 remains valid. Currently, due the delisting of the bald eagle, Caver County has no species identified on the U.S. Fish and Wildlife Service County Distribution of Minnesota's Federally Threatened, Endangered, and Candidate Species List. This email can serve as part of the administrative record and can be inserted into the appropriate project documentation.

Jason Alcott

Natural Resource Specialist, Program Coordinator Minnesota Department of Transportation
Office of Environmental Services Mail Stop 620
395 John Ireland Boulevard
St. Paul, MN 55155-1899
Phone: (651) 366-3605
Fax: (651) 366-3603

>>> <Ashley.Fosmo@kimley-horn.com> 3/16/2009 8:55 AM >>>
Good Morning Jason,

Per our telephone discussion on Thursday, March 12, 2009 I am sending this email to request an update to the Federal Threatened and Endangered Species List for the Mn/DOT TH 212 Preliminary Design Project in Carver County, Minnesota. State project numbers associated with this project include:

SP-1013-77 - Part A
SP-1013-79 - Part B
SP-1013-78 - Part C

Kimley-Horn received a response letter from you on July 17, 2007 stating the only federally listed species in Carver County was the bald eagle and since that time, the bald eagle has been delisted.

I was wondering if you would issue an update to the original letter. As we discussed on the telephone, Carver County does not have any federally listed endangered species at this time, so if I could receive an email stating that, it could be included in the environmental documentation.

If you have any questions please feel free to contact me. Thank you and have a great day!

Ashley Fosmo
Environmental Analyst
Kimley-Horn and Associates, Inc.
2550 University Avenue West Suite 345N



Minnesota Department of Transportation

Transportation Building
395 John Ireland Boulevard
Saint Paul, Minnesota 55155-1899

September 8, 2008

Mr. Dennis Gimmestad
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. W.
St. Paul, MN 55101-1906

re: SP 1013-77 (Part A) and SP 1013-79 (Part B), TH 212, Carver County

Dear Mr. Gimmestad,

We are providing your office with this information pursuant to our FHWA-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act, as amended (36 CFR 800).

Please find enclosed the final report *Phase I and II (Identification and Evaluation) Investigation of Historic Structures Near US Highway 212 from Norwood Young American and County Road 147 in Carver County*, completed by Gemini Research in July 2008 and the final July 2008 report *Phase II Archaeological Investigations, Trunk Highway 212 Improvement Project (Parts A and B), Carver County, Minnesota* by Two Pines Resource Group.

The proposed project consists of the reconstruction of a 12 mile segment of TH 212 from a two-lane roadway to a four-lane separated expressway. About three miles of four-lane separated highway was constructed several years ago to create a bypass south of Cologne. Part A begins at Norwood Young America and extends to the west end of the Cologne bypass. Part B picks up on the east side of the bypass and extends to the intersection of County Road 147 (CSAH 11) which is currently being reconstructed under SP 1017-13 and was reviewed by your office under SHPO number 2004-1647. Part B of this project is covered under the 1992 Memorandum of Agreement (amended in 2004) for the Eden Prairie/I 494 to Cologne reconstruction of TH 212. Part A of the project is not covered under the memorandum. The boundaries of the APE took into consideration construction activity, the possibility of right-of-way acquisition, visual and auditory effects, and changes to traffic patterns. The APE is mapped in the reports.

The archaeological survey found one pre-contact site (21CR147) which is not eligible for listing in the National Register of Historic Places. Four farmsteads were also evaluated for their potential for listing in the National Register of Historic Places by applying the study *Historical Archaeology of Minnesota Farmsteads*, Volume 4 of 4 of the *Historic Context of Minnesota Farmsteads, 1820-1960* and the associated appendices *Minnesota Farmstead Temporally Diagnostic Elements* and *Identifying and Evaluating Minnesota Farmsteads Archaeology Sites* (Two Pines Resource Group, 2006). None of these farmsteads meets the standards set forth for a potentially eligible farmstead archaeological site. Finally, it is unlikely that unmarked graves associated with St. John's United Church of Christ exist beyond the church property boundary. If

construction limits cross a portion of this property, archaeological monitoring by a qualified archaeologist is required. If construction limits avoid the property, archaeological monitoring will not be needed.

The Gemini study reports two properties in the area of potential effect previously identified as eligible for listing in the National Register of Historic Places: CR-DHL-013, the Frank farmhouse, and the Hastings and Dakota Railroad. Five segments of the Hastings and Dakota Railroad were examined and each was found to have integrity to the historic period. Each of the recommended eligible and listed properties in the project's APE is listed below. We concur with the recommendation that these properties meet the criteria for National Register listing.

CR-BNT-006 Stender farm and acreage
CR-BNT-140 Speiker farm and acreage
CR DHL-002 Zoar German Evangelical Church parsonage
CR-DHL-013, the Frank farmhouse (previously determined eligible)
CR-DHL-048 Klepperich barn
CR-YAT-004 Feltmann barn and silo
CR-YAT-012 Heap farmhouse

CR-BNT-136 Hastings and Dakota Railroad (previously determined eligible), Benton segment
CR-CLC-027 Hastings and Dakota Railroad, Cologne segment
CR-DHL 041 Hastings and Dakota Railroad, Dahlgren Township segment
CR-NWC-008 Hastings and Dakota Railroad, Norwood-YA segment
CR-YAT-101 Hastings and Dakota Railroad, Young America Township segment

Our office has assessed the impacts to each of the properties as follows. Each property is accompanied by an aerial figure with an overlay of the project:

CR-BNT-006 Stender farm and acreage

The Stender farm includes the farmyard and historic acreage. The acreage is discontinuous but both parcels are adjacent to the project. The current plan will reroute the driveway from TH 14 to the section road (now Salem Avenue), which runs along the western edge of the farm property. The change in access is not an inconvenience but will cross a fence line and pass through a cow pasture. The property will also lose a total of 9.2 acres to new right-of way. The setback of the farmyard would be diminished from 320 feet to 200 feet. The loss of 10 of 63 acres could be an adverse effect to the economic viability of the farmstead. Consultation with this property owner has indicated that the new access from Salem Avenue could meet his needs as long as it stays out of his pasture. The loss of acreage would cause him to buy more feed as opposed to growing it and combined with the loss of acreage and rising taxes, could make the small farm unfeasible. It is recommended that the project design seek ways to lessen or avoid these adverse effects to this property.

CR-BNT-140 Speiker farm and acreage

The roadway will move 60' away, southward, from this property, and the backslope of the ditch will stay the same or may move slightly farther south. No acreage will be taken from this

property and access will not change. No adverse effect.

CR DHL-002 Zoar German Evangelical Church parsonage

The parsonage is eligible under Criterion C and meets the draft criteria for eligibility for Chaska Brick Construction in Rural Carver County (Henning 2005). The stone retaining wall at the south edge of the property was built ca. 1930 and contributes to the property setting. The proposed TH 212 will move about 100' south (away) from the property. Access will become indirect via Mellgren Avenue (section line road). No adverse effect.

CR-DHL-013, the Frank farmhouse

This farmhouse was previously determined eligible under the earlier TH 212 project and is covered under the 1992/2004 MOA. It is eligible under criterion C under the context of Chaska Brick Rural Architecture (Henning 2005). Existing TH 212 will remain as a frontage road in front of the Frank house. The proposed TH 212 will be located 300' north of the Frank property and 440' north of the house proper. No adverse effect.

CR-DHL-048 Klepperich barn

This three-bay timber-framed barn is being considered individually eligible under criterion C for embodying the distinctive characteristics of a type, period or method of construction. The barn and farmyard that make up its setting is now located 700' from the existing TH 212. The new alignment will be 300' from the farmyard. Since the new TH 212 will be divided, in order to go eastbound on TH 212 from the driveway of CR-DHL-048, it will be necessary to drive .6 mile west to a left turn lane and a crossing that will provide eastbound access to TH 212 an additional 1.25 miles longer than the present route. The crossing will also provide access to CR-DHL-048's small forested parcel now on the south side of his driveway, but that will be on the south side of the new highway. The proposed route will cut through the 10 acres acreage of the Klepperich place. It is presently uncertain whether the acreage supports the farmstead, although current aeriels indicate that the acreage is cultivated. Attempts at phone messages with this property owner were unsuccessful. Combined effects to access and possible economic effects are likely adverse.

CR-YAT-004 Feltmann barn and silo

The barn and silo are eligible under criterion C for its quality of construction, building materials and unusual features. The boundary of the property includes the farmyard. The edge of the pavement will be 120 feet closer to the farmstead than the existing. The construction limits are located 500 feet from the windbreak that forms the northwest corner the farmstead, and 900 feet from the barn. Access to the property will not change. No adverse effect.

CR-YAT-012 Heap farmhouse

This farmhouse is eligible under criterion C as an unusually large Queen-Anne inspired farmhouse, unusual in the corridor area. The proposed highway will move about 20' south (away) of the existing road. The current driveway will be extended to reach the westbound lanes. In order to travel eastbound, residents of the Heap house will need to travel 500' to the intersection with Tacoma Avenue and turn left to get to the eastbound lanes, a detour of 1000 feet. No adverse effect.

Hastings and Dakota Railroad

At no point does the proposed project cross the Hastings and Dakota line. No adverse effect.

In summary, it is our assessment that two properties, CR-DHL-048, the Klepperich barn, and CR-BNT-006, the Stender farm and acreage, will be adversely effected by the project as proposed.

If you have additional questions regarding this project, please contact me at (651) 366-3624.

Sincerely,



Jackie Sluss
Historian, Cultural Resource Unit
Office of Environmental Services

cc: MnDOT C O file

CRU project file

Joseph Hudak, CRU

✓ Jessica Labbs, Kimley-Horn

Jeanne Witzig, Kimley Horn

Lynn Clarkowski, Metro South Area Manager

Nicole Rosen, Metro South Project Engineer



Minnesota
Historical Society

State Historic Preservation Office

October 29, 2008

Ms. Jackie Sluss
Cultural Resources Unit
MN Dept. of Transportation
Transportation Building, MS 620
395 John Ireland Blvd.
St. Paul, MN 55155-1899

Re: S.P. 1013-77 (Part A) and S.P. 1013-79 (Part B)
T.H. 212 reconstruction, Carver County
SHPO Number: 2008-3318

Dear Ms. Sluss:

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the Advisory Council on Historic Preservation (36CFR800), and to the responsibilities given the Minnesota Historical Society by the Minnesota Historic Sites Act and the Minnesota Field Archaeology Act.

Your submittal includes two T.H. 212 segments, as follows:

Part A, from Norwood Young America to the west end of the T.H. 212 Cologne bypass

Part B, from the east end of the T.H. 212 Cologne bypass to County Road 147 (CSAH 11).

Your submittal also acknowledges a third T.H. 212 project segment, as follows:

Part C, including the reconstruction of the intersection of T.H. 212 and Market Street within the T.H. 212 Cologne bypass.

In 1992, the T.H. 212 project from I-494 to the east end of the T.H. 212 Cologne bypass was reviewed under Section 106, and an agreement was executed to address project effects on historic properties. The area covered by the 1992 agreement for this project includes Part B of your recent submittal, but not Parts A and C.

Further clarification is needed on the appropriate framework for the conclusion of the Section 106 review of Parts A, B, and C. Will Part B be addressed in an amendment to the 1992 agreement, and Parts A and C treated as separate new projects? Or will Parts A, B and C be reviewed anew, either as one project or as separate projects? (The latter may also require an amendment to the 1992 agreement, to clarify the reduction of its scope. We note that another

amendment to the 1992 agreement is currently being prepared to address project effects on the Chaska Wayside in another project segment.)

Generally, we would recommend that the framework for the Section 106 review parallel the framework for the overall NEPA review of the project.

The surveys you submitted at this time address Parts A and B. To facilitate consideration of our comments within the review framework, we will comment on these two parts separately.

Part A, from Norwood Young America to the west end of the T.H. 212 Cologne bypass.

1. Based on our review of the report of the archaeological survey of the project area (Two Pines Resource Group, July 2008), we conclude that there are no National Register listed or eligible archaeological properties in the area of potential effect.
2. We concur with the determination that the following properties meet National Register criteria: Feltmann Barn and Silo (CR-YAT-004), Stender Farm (CR-BNT-006), Speiker Farm (CR-BNT-140), Hastings and Dakota Railroad (CR-NWC-008, CR-YAT-010, CR-BNT-136, CR-CLC-027).
3. We do not concur with the determination that the Heap Farmhouse (CR-YAT-012) meets National Register criteria. We conclude that this property does not meet the criteria. We concur with the determination that the other inventoried properties do not meet the criteria.
4. We concur with the determination that the project has a potential adverse effect on the Stender Farm.
5. We concur with the determination that the project will not adversely affect the other eligible properties in this area.

Part B, from the east end of the T.H. 212 Cologne bypass to County Road 147 (CSAH 11).

1. Based on our review of the report of the archaeological survey of the project area (Two Pines Resource Group, July 2008), we conclude that there are no National Register listed or eligible archaeological properties in the area of potential effect. This includes concurrence that site 21CR0147 does not meet National Register criteria.
2. We concur with the determination that the following properties meet National Register criteria: Klepperich Barn (CR-DHL-048), Frank Farmhouse (CR-DHL-013), Zoar German Evangelical Reformed Church Parsonage (CR-DHL-002), and the Hastings and Dakota Railroad (CR-DHL-041).

(We note that the evaluation of the Zoar Parsonage is based on the historic context for Chaska Brick Construction in Rural Carver County, even though the parsonage is not built of the characteristic cream-colored brick. Any consideration of this property for nomination to the National Register in the future will require additional contextual development addressing this issue.)

3. We also feel that the Jacobs House (CR-DHL-010) meets National Register criteria as a good example of a Chaska brick farmhouse. The addition is not compatible with the historic character of the house, but it is not highly visible from many principal views of the building.
4. We concur with the determination that the other inventoried properties do not meet the criteria. This determination includes the updated evaluations for the Eichmiller Farmstead (CR-DHL-011) and the Preiss Farmstead (CR-DHL-012), which were previously determined as eligible.
5. We concur with the determination that the project has a potential **adverse effect** on the Klepperich Barn.
6. We would like to consult further with regard to potential effects on the Zoar Parsonage and the Jacobs House. It may be possible to avoid adverse effects on these properties, but specific measures may need to be stipulated.
7. We concur with the determination that the project will not adversely affect the other identified properties in this area.

We look forward to consulting with you to finalize the overall framework for this review, and to address the potential adverse effects on historic properties. As part of this process, it will be important to identify any interested parties who wish to be involved in the consultation, as well address an appropriate level of public involvement in the review.

Sincerely,



Dennis A. Gimmestad
Government Programs & Compliance Officer

cc: Michelle Terrell, Two Pines Resource Group
Susan Granger, Gemini Research
Tom Cinadr, SHPO
Wendy Biorn, Carver County Historical Society
Kristen Zschomler, MnDOT

**FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS**

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request 5/13/09	4. Sheet 1 of 1
1. Name of Project T.H. 212, S.P. 1013-79		5. Federal Agency Involved Federal Highway Administration	
2. Type of Project Preliminary Design of New Alignment		6. County and State Carver, Minnesota	
PART II (To be completed by NRCS)		1. Date Request Received by NRCS	2. Person Completing Form
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 type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated Average Farm Size	
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: %	7. Amount of Farmland As Defined in FPPA Acres: %	
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS	

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment Preferred Alignment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	153			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	153	0	0	0

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				

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)

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points				
1. Area in Nonurban Use	15	15			
2. Perimeter in Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	11			
4. Protection Provided By State And Local Government	20	20			
5. Size of Present Farm Unit Compared To Average	10	5			
6. Creation Of Nonfarmable Farmland	25	5			
7. Availability Of Farm Support Services	5	5			
8. On-Farm Investments	20	15			
9. Effects Of Conversion On Farm Support Services	25	10			
10. Compatibility With Existing Agricultural Use	10	8			
TOTAL CORRIDOR ASSESSMENT POINTS	160	104	0	0	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100				
Total Corridor Assessment (From Part VI above or a local site assessment)	160	104	0	0	0
TOTAL POINTS (Total of above 2 lines)	260	104	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
5. Reason For Selection:			

Signature of Person Completing this Part: _____ DATE _____

NOTE: Complete a form for each segment with more than one Alternate Corridor

**FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS**

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request 5/13/09	4. Sheet 1 of _____
1. Name of Project T.H. 212, S.P. 1013-79		5. Federal Agency Involved Federal Highway Administration	
2. Type of Project Preliminary Design of New Alignment		6. County and State Carver, Minnesota	
PART II (To be completed by NRCS)		7. Date Request Received by NRCS	8. Person Completing Form
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 type="checkbox"/> NO <input checked="" type="checkbox"/>	4. Acres Irrigated Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: _____ %	7. Amount of Farmland As Defined in FPPA Acres: _____ %	
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS	

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment <u>CP 43 Interchange Footprint</u>			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	43			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	43	0	0	0

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				

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)

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points				
1. Area in Nonurban Use	15	15			
2. Perimeter in Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	12			
4. Protection Provided By State And Local Government	20	20			
5. Size of Present Farm Unit Compared To Average	10	1			
6. Creation Of Nonfarmable Farmland	25	5			
7. Availability Of Farm Support Services	5	5			
8. On-Farm Investments	20	15			
9. Effects Of Conversion On Farm Support Services	25	10			
10. Compatibility With Existing Agricultural Use	10	8			
TOTAL CORRIDOR ASSESSMENT POINTS	160	101	0	0	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100				
Total Corridor Assessment (From Part VI above or a local site assessment)	160	101	0	0	0
TOTAL POINTS (Total of above 2 lines)	260	101	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
-----------------------	---	-----------------------	--

5. Reason For Selection:

Signature of Person Completing this Part: _____ DATE _____

NOTE: Complete a form for each segment with more than one Alternate Corridor

United States Department of Agriculture



Natural Resources Conservation Service
Room 650, Earle Brown Tower
6120 Earle Brown Drive
Brooklyn Center, MN 55430-2195

Phone: (763) 566-2941
FAX: (763) 566-3468

July 23, 2009

Ashley Fosmon
Environmental Analyst
Kimley-Horn and Associates Inc.
2550 University Avenue West Suite 345N
St. Paul, MN 55114

Re: Carver County
T.H. 212, S.P. 1013-77 and S.P. 1013-79 including C.R. 43 Interchange Footprint
Farmland Conversion Impact Rating

Dear Ms. Fosmon,

This letter is in regards to your request for NRCS to complete the Farmland Conversion Impact Rating for the project referenced above. NRCS has completed an analysis of the site and determined that approximately 242 acres of Prime Farmland and 108 acres of Statewide and Local Important Farmland are located within the entire proposed construction site. Form AD-1006 Farmland Conversion Impact Rating is enclosed for each project section. It is the responsibility of the USDA, Natural Resources Conservation Service to monitor the effects of Federal programs or money on the conversion of farmland to nonagricultural uses through the Farmland Protection Policy Act (Public Law 97-98, Dec. 22, 1981). Please call our office if you have any questions; 763-566-2941.

Sincerely,

A handwritten signature in cursive script that reads "Peter Weikle".

Peter Weikle
Area Resource Soil Scientist
Brooklyn Center, MN

Helping People Help the Land

An Equal Opportunity Provider and Employer



FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request 5/13/09	4. Sheet 1 of 1
1. Name of Project T.H. 212, S.P. 1013-79 B		5. Federal Agency Involved Federal Highway Administration	
2. Type of Project Preliminary Design of New Alignment		6. County and State Carver, Minnesota	
PART II (To be completed by NRCS)		11. Date Request Received by NRCS 5-13-09	12. Person Completing Form DLR
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: Average Farm Size	
5. Major Crops Carver, Soybean, Hay	6. Farmable Land in Government Jurisdiction Acres 2,027.50	7. Amount of Farmland As Defined in FPPA Acres 1,895.35	
8. Name of Land Evaluation System Used NRCS Part of LEBA	9. Name of Local Site Assessment System NA	10. Date Land Evaluation Returned by NRCS 5-13-09	

PART III (To be completed by Federal Agency) Alternative Corridor For Segment **Proposed Alignment**

	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	153			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	153	0	0	0

PART IV (To be completed by NRCS) Land Evaluation Information	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres Prime And Unique Farmland	74			
B. Total Acres Statewide And Local Important Farmland	74			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	3.67%			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	3.67%			
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)	89			

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points	Corridor A	Corridor B	Corridor C	Corridor D
1. Area in Nonurban Use	15	15			
2. Perimeter in Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	11			
4. Protection Provided By State And Local Government	20	20			
5. Size of Present Farm Unit Compared To Average	10	5			
6. Creation Of Nonfarmable Farmland	25	5			
7. Availability Of Farm Support Services	5	5			
8. On-Farm Investments	20	15			
9. Effects Of Conversion On Farm Support Services	25	10			
10. Compatibility With Existing Agricultural Use	10	8			
TOTAL CORRIDOR ASSESSMENT POINTS	160	104	0	0	0

PART VII (To be completed by Federal Agency)	Maximum Points	Corridor A	Corridor B	Corridor C	Corridor D
Relative Value Of Farmland (From Part V)	100				
Total Corridor Assessment (From Part VI above or a local site assessment)	160	104	0	0	0
TOTAL POINTS (Total of above 2 lines)	260	104	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
-----------------------	---	-----------------------	--

5. Reason For Selection:

Signature of Person Completing this Part: _____ DATE _____

NOTE: Complete a form for each segment with more than one Alternate Corridor

**FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS**

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request 5/13/09	4. Sheet 1 of _____
1. Name of Project T.H. 212, S.P. 1013-79		5. Federal Agency Involved Federal Highway Administration	
2. Type of Project Preliminary Design of New Alignment		6. County and State Carver, Minnesota	
PART II (To be completed by NRCS)		7. Date Request Received by NRCS 5-11-09	8. Person Completing Form 10/28/08
9. Does the corridor contain prime, unique, statewide or local important farmland? (If using 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 (Average Farm Size)	
5. Major Crop(s) corn, soybeans, etc.		6. Farmable Land in Government Jurisdiction Acres 224,150	
8. Name of Land Evaluation System Used NE Part of FPPA		9. Name of Local Site Assessment System NA	
10. Date Land Evaluation Returned by NRCS 7-23-09		7. Amount of Farmland As Defined in FPPA Acres 10,352.5	

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment <u>CR 43 Interchange</u> Right-of-Way			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	43			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	43	0	0	0

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	32			
B. Total Acres Statewide And Local Important Farmland	0			
C. Percentage Of Farmland In County Or Local Govt Unit To Be Converted	0.27			
D. Percentage Of Farmland In Govt Jurisdiction With Same Or Higher Relative Value	0.13			
PART V (To be completed by NRCS) Land Evaluation Information (Current Relative Value of Farmland to Be Serviced or Converted (Scale of 0-100 Points))	95			

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points				
1. Area In Nonurban Use	15	15			
2. Perimeter In Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	12			
4. Protection Provided By State And Local Government	20	20			
5. Size of Present Farm Unit Compared To Average	10	1			
6. Creation Of Nonfarmable Farmland	25	5			
7. Availability Of Farm Support Services	5	5			
8. On-Farm Investments	20	15			
9. Effects Of Conversion On Farm Support Services	25	10			
10. Compatibility With Existing Agricultural Use	10	8			
TOTAL CORRIDOR ASSESSMENT POINTS	160	101	0	0	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100				
Total Corridor Assessment (From Part VI above or a local site assessment)	160	101	0	0	0
TOTAL POINTS (Total of above 2 lines)	260	101	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
-----------------------	---	-----------------------	--

5. Reason For Selection:

Signature of Person Completing this Part: _____ DATE _____

NOTE: Complete a form for each segment with more than one Alternate Corridor

APPENDIX C. WETLAND FINDING

WETLAND ASSESSMENT & TWO PART FINDING

County: Carver

Watershed: Bevens Creek, Carver Creek, and West Chaska Creek Watersheds

WETLAND ASSESSMENT

WETLAND ASSESSMENT - PREFERRED ALTERNATIVE								
ID #	Classification		Area w/in Study Area		DNR	*NWI	Data Source / Disturbance	Impact
	Cowardin	Wetland Types ¹	sq ft	acres				
1075	PEMCd	Shallow Marsh	57,611	1.32		P	Mapping	0
1076	PEMCd	Shallow Marsh	3,876	0.09		N	Mapping	0
1077	PEMC	Shallow Marsh	13,690	0.31		N	Mapping & field review	0
1078	PEMAd	Seasonally Flooded Basin	52,569	1.21		N	Ditch	0.80
1079	PEMF	Shallow Marsh	6,674	0.15		P	Mapping	0
1080	PEMC	Shallow Marsh	5,662	0.13		P	Mapping	0
1081	PEMCd	Shallow Marsh	207,698	4.77		P	Mapping/farmed	1.83
1082	PEMF	Shallow Marsh	83,040	1.91		P	Mapping & field review	0.11
1083	PEMC	Shallow Marsh	85,649	1.97		P	Mapping & field review	0.66
1084	PEM/FO1C	Shallow Marsh	34,833	0.80		P	Mapping & field review	0
1085	PFO1C	Floodplain Forest	289,781	6.65	Creek	P	Mapping	1.05
1086	PEMC	Shallow Marsh	246,591	5.66	205W	P	Mapping	0
1087	PEMCd	Shallow Marsh	60,815	1.40		P	Mapping	0
1088	PEMCd	Shallow Marsh	29,258	0.67		P	Mapping	0
1089	PEMC	Shallow Marsh	49,196	1.13		P	Mapping & field review	0
1090	PEMC	Shallow Marsh	5,612	0.13		P	Mapping	0
1091	PEMCd	Shallow Marsh	97,408	2.24		P	On map/farmed	1.91
1092	PEMCd	Shallow Marsh	170,544	3.92		P	On map/farmed	1.84
1093	PEMC	Shallow Marsh	37,391	0.86		P	On map/farmed	0.16
1094	PEMC	Shallow Marsh	24,553	0.56		P	Mapping & field review	0

WETLAND ASSESSMENT - PREFERRED ALTERNATIVE								
ID #	Classification		Area w/in Study Area		DNR	*NWI	Data Source / Disturbance	Impact
	Cowardin	Wetland Types ¹	sq ft	acres				
1095	PEMC	Shallow Marsh	19,127	0.44		P	Mapping & field review	0
1096	PEMC	Shallow Marsh	39,713	0.91		P	Mapping & field review/ditch	0.03
1097	PEMA	Seasonally Flooded Basin	33,139	0.76		P	On map/farmed	0
1098	PEMC	Shallow Marsh	17,468	0.40		N	Mapping & field review	0
1099	PEMC	Shallow Marsh	73,289	1.68		P	Mapping/farmed	1.22
1100	PEMC	Shallow Marsh	51,328	1.18		P	On map/farmed	0
1101	PEMA	Seasonally Flooded Basin	40,115	0.92		P	Mapping	0
1102	PEMC	Shallow Marsh	12,518	0.29		P	Mapping & field review	0.18
1103	PUBF	Deep Marsh	74,271	1.71		P	Mapping	0.33
1104	PEMCD	Shallow Marsh	102,567	2.35		P	Mapping & field review/ditch	1.71
1106	PEMCD	Shallow Marsh	49,223	1.13		P	Mapping & field review/farmed	0
1107	PEMCD	Shallow Marsh	80,684	1.85		P	Mapping & field review	0
1108	PEMF	Shallow Marsh	7,082	0.16		P	Mapping	0
Total				50.68				11.83

* NWI notations: Y = This is an NWI labeled wetland; N = This is not an NWI labeled wetland; and P = There is partial overlap between this wetland and the NWI mapping.

¹Wetland Types based on Eggers and Reed 2007.

WETLAND ASSESSMENT - CR 43 INTERCHANGE FOOTPRINT								
ID #	Classification		Area w/in Study Area		DNR	*NWI	Data Source / Disturbance	Impact
	Cowardin	Wetland Types ¹	sq ft	acres				
1098	PEMC	Shallow Marsh	17,468	0.40		N	Mapping & field review	0.12
1100	PEMC	Shallow Marsh	51,328	1.18		P	On map/farmed	0.39
1101	PEMA	Seasonally Flooded Basin	40,115	0.92		P	Mapping/farmed	0.92
1102	PEMC	Shallow Marsh	12,518	0.29		P	Mapping & field review	0.06

WETLAND ASSESSMENT - CR 43 INTERCHANGE FOOTPRINT								
ID #	Classification		Area w/in Study Area		DNR	*NWI	Data Source / Disturbance	Impact
	Cowardin	Wetland Types ¹	sq ft	acres				
1103	PUBF	Deep Marsh	74,271	1.71		P	Mapping	0.24
Total				4.50				1.73

* NWI notations: Y = This is an NWI labeled wetland; N = This is not an NWI labeled wetland; and P = There is partial overlap between this wetland and the NWI mapping.

Connection to other wetlands: The assessment did not determine whether wetlands in the study area are connected to other wetlands.

Type of impact: Impacts would be the result of fill material and/or excavation activities related to project construction.

Water quality impacts: The Preferred Alternative would result in an increase in impervious area of 30 acres. This would result in an increase in stormwater runoff volumes and peak discharge rates, which may lead to additional pollutant loading, erosion, and sedimentation. To mitigate the impacts of additional runoff, stormwater would be treated using a combination of approaches, including but not limited to vegetated ditches and swales, ditch blocks, and stormwater treatment ponds with outlet control structures.

Construction of an interchange at CR 43 would result in additional impervious area, leading to additional stormwater runoff volumes and peak discharge rates. These impacts would be mitigated by constructing stormwater treatment ponds in the area between the highway and the interchange ramps or by expanding the proposed pond situated west of the interchange.

Impacts to public water supply: Ten private wells are located adjacent to or within the project limits, two of which are located within the CR 43 interchange footprint. There are four wells in the project vicinity that have completed Minnesota Department of Health source water assessments. Wells within the proposed right-of-way would be abandoned and sealed per state and local regulations. Wells outside of the proposed right-of-way would be properly protected.

Impacts to fish/wildlife and habitat: Wetlands in the project area provide habitat for ducks, geese, muskrat, other small mammals and birds, frogs, turtles and salamanders. Carver Creek provides habitat for various fish. Narrowing construction limits and/or modifying final design layouts near wetlands would minimize habitat impacts.

Impacts to recreational, cultural, or scientific uses: The Preferred Alternative would impact up to 1.05 acres of Carver Creek (ID # 1085) as a result of the proposed creek crossing located approximately 600 feet north of the existing crossing. Carver

Creek is designated as a DNR Public Water (no DNR #). No wetlands specifically designated for cultural or scientific use would be impacted by the Preferred Alternative.

The CR 43 interchange footprint would not impact any wetlands designated for recreational, cultural, or scientific use.

AVOIDANCE ALTERNATIVES

AVOIDANCE ALTERNATIVES				
Anticipated Encroachment per Alternative (acres)				
ID #	No-Build Alternative	Preferred Alternative	1993 FEIS Preferred Alt*	Shift Alignment North or South*
1078	0	0.80	---	---
1081	0	1.83	---	---
1082	0	0.11	---	---
1083	0	0.66	---	---
1085	0	1.05	---	---
1091	0	1.91	---	---
1092	0	1.84	---	---
1093	0	0.16	---	---
1096	0	0.03	---	---
1099	0	1.22	---	---
1102	0	0.18	---	---
1103	0	0.33	---	---
1104	0	1.71	---	---
Total	0	11.83	Comparable*	Comparable*

* See discussion below.

Wetlands were evaluated for the 1993 FEIS Preferred Alternative; however, no impacts to wetlands were identified within the applicable project area. The 1993 FEIS showed a proposed impact to Carver Creek, but the amount of impact was not quantified. Based on present-day knowledge of wetlands within the corridor, it is likely that the 1993 FEIS Preferred Alternative would result in approximately the same amount of wetland impact as the current Preferred Alternative.

Similarly, the alternative of shifting the alignment north or south of the Preferred Alternative would have comparable wetland impact. There are numerous wetlands located throughout the corridor, and shifting the alignment in either direction would not result in sizeable impact differences. In addition, there are other significant resources (e.g., historic properties, residential homes, and farmsteads) located in the

immediate area. Therefore, a shift to the north or south of the Preferred Alternative is not warranted, nor practically feasible.

AVOIDANCE ALTERNATIVES		
	Anticipated Encroachment per Alternative (acres)	
ID #	No-Build Alternative	CR 43 Interchange Footprint*
1098	0	0.12
1100	0	0.39
1101	0	0.92
1102	0	0.06
1103	0	0.24
Total	0	1.73*

* See discussion below.

The Preferred Alternative also includes the evaluation of an interchange footprint at CR 43. A number of potential interchange layout concepts were identified, allowing flexibility to accommodate future development and to select in the future an appropriate interchange design that will support the development. The CR 43 interchange footprint represents four different interchange configurations that were considered to accommodate projected traffic, including:

- Conventional diamond interchange
- Folded diamond interchange to the west
- Folded diamond interchange to the east
- Tight diamond interchange

The wetland impact for the CR 43 interchange footprint represents the “worst-case” scenario. Depending on the actual interchange configuration that is selected in the future, the amount of impact to wetlands is likely to be smaller than 1.73 acres.

MINIMIZATION MEASURES

As discussed above, alignment shifts for the Preferred Alternative are limited due to other significant resources in the immediate area. In addition, avoidance of wetlands is not feasible due to numerous wetlands located throughout the corridor. Also, the CR 43 interchange footprint takes into consideration four interchange configurations; the estimated wetland impact is based on the worst-case scenario.

Although wetlands cannot be totally avoided, impacts may be minimized through the modification of typical cross-sections and narrowing of construction limits at large wetland areas. These considerations, and other practicable measures to minimize harm to wetlands, will be made during final design.

WETLAND IMPACTS

WETLAND IMPACTS - PREFERRED ALTERNATIVE									
ID #	Anticipated Encroachment per Type of Wetland (acres)								
	1	1L	2	3	4	5	6	7	8
1078	0.80	---	---	---	---	---	---	---	---
1081	---	---	---	1.83	---	---	---	---	---
1082	---	---	---	0.11	---	---	---	---	---
1083	---	---	---	0.66	---	---	---	---	---
1085	---	---	---	---	---	---	---	1.05	---
1091	---	---	---	1.91	---	---	---	---	---
1092	---	---	---	1.84	---	---	---	---	---
1093	---	---	---	0.16	---	---	---	---	---
1096	---	---	---	0.03	---	---	---	---	---

WETLAND IMPACTS - PREFERRED ALTERNATIVE										
ID #	Anticipated Encroachment per Type of Wetland (acres)									
	1	1L	2	3	4	5	6	7	8	
1099	---	---	---	1.22	---	---	---	---	---	
1100	---	---	---	0.003	---	---	---	---	---	
1102	---	---	---	0.18	---	---	---	---	---	
1103	---	---	---	---	0.33	---	---	---	---	
1104	---	---	---	1.71	---	---	---	---	---	
Total	0.80	0	0	9.65	0.33	0	0	1.05	0	11.83

WETLAND IMPACTS - CR 43 INTERCHANGE FOOTPRINT										
ID #	Anticipated Encroachment per Type of Wetland (acres)									
	1	1L	2	3	4	5	6	7	8	
1098	---	---	---	0.12	---	---	---	---	---	
1100	---	---	---	0.39	---	---	---	---	---	
1101	0.92	---	---	---	---	---	---	---	---	
1102	---	---	---	0.06	---	---	---	---	---	
1103	---	---	---	---	0.24	---	---	---	---	
Total	0.92	0	0	0.57	0.24	0	0	0	0	1.73

The Preferred Alternative would have up to 11.83 acres of wetland impact, affecting 14 wetlands. The CR 43 interchange footprint could have up to 1.73 acres of wetland impact, potentially affecting 5 wetlands. Impacts were estimated based on the wetland inventory completed by Mn/DOT and the proposed construction limits, or footprint in the case of the CR 43 interchange. For purposes of this evaluation, the worst-case impacts were assumed (standard slopes, rural ditch section, and full right-of-way limits).

COMPENSATION (REPLACEMENT/ENHANCEMENTS)

It is estimated that the Preferred Alternative and CR 43 interchange may not be constructed for at least ten to twenty years. As a result, specific wetland mitigation area for the potential wetland impacts has not been identified knowing that regulations, land ownership, land use, and other factors are likely to change during that timeframe, which may influence the location, type, and size of the mitigation to be created for this project.

Based on current wetland regulations, if the project were to occur today, a replacement ratio of 2.5:1 would be the maximum amount of replacement needed, assuming there are no unique or high quality wetlands impacted. Mn/DOT would have

the option of providing on-site mitigation, withdrawal of credits from its wetland bank, or a combination of these, to meet the 2.5:1 requirement. Given the project timeline, the assumption for this assessment and two part finding is that wetland mitigation would be provided via certified wetland bank credits approved through the required permit application approval process.

CONCLUSION

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 the proposed action includes all practicable measures to minimize harm to the wetlands.

ATTACHMENTS

See Figure 8 for wetland locations.

APPENDIX D. Mn/DOT REFERENCE DOCUMENTS

- Granger, Susan and Scott Kelly. Phase I and II (Identification and Evaluation) Investigation of Historic Structures Near US Highway 212 From Norwood Young America to Co.Rd. 134 (CSAH 11) in Carver County, Minnesota (SP 1013-77, TH 212, Pt A and SP 1013079, TH 212 Pt B). Gemini Research. February 18, 2008. (EDMS #743633).
- Kimley-Horn and Associates, Inc. Limited Phase I Environmental Site Assessment for TH 212 Preliminary Design from Carver CR 147 (CSAH 11) to Norwood Young America, Carver County, Minnesota (Parts A, B, and C). October 10, 2007. (EDMS #738587).
- Kimley-Horn and Associates, SRF Consulting Group, Inc., and Rani Engineering, Inc. Water Resources Preliminary Design Report for TH 212, SP 1013-77, SP 1013-78, and SP 1013-79. August 2009. (EDMS #751283).
- Minnesota Department of Transportation. Highway 212 Interregional Corridor Management Plan. April 2002. (EDMS #770329).
- Minnesota Department of Transportation. Statewide 20-Year Highway Investment Plan 2009-2028. August 2009. <http://www.dot.state.mn.us/planning/stateplan/downloadinvestmentplan.html>
- Minnesota Department of Transportation, Carver County, and City of Cologne. Cologne Transportation Planning Study. October 2004. (EDMS #837594).
- Minnesota Department of Transportation, Office of Environmental Services. TH 212 Wetland Inventory. July 26, 2007. (EDMS #839909).
- SRF Consulting Group, Inc. Traffic Operations Analysis Memorandum for TH 212, SP 1013-77, 1013-78, and 1013-79. September 28, 2007. (EDMS #738213).
- SRF Consulting Group, Inc. Travel Demand Forecast Memorandum for TH 212, SP 1013-77, 1013-78, and 1013-79. July 25, 2009. (EDMS #738216).
- SRF Consulting Group, Inc. Results for Trunk Highway 212 Preliminary Design Benefit-Cost Analysis from Cologne Bypass to CSAH 11 in the City of Carver. June 30, 2009.
- Terrell, Dr. Michelle M. and Erika L. Eigenberger. Phase I Archaeological Investigations, Trunk Highway 212 Improvement Project (Parts A and B), Carver County, Minnesota. Two Pines Resource Group, LLC. July 2008.
- Value Management Strategies, Inc. Value Engineering Study Report for TH 212 from CSAH 34 in Norwood Young America to CSAH 11 in Carver, SP 1013-77, -78 and -79. August 2009. (EDMS #837222).