ENVIRONMENTAL ASSESSMENT

County State Aid Highway 34
State Project: 74-634-10
Minnesota Project: STPX 7408(024)

From CSAH 1/North Cedar Ave. to Deer Trail Lane in
City: Owatonna, in County: Steele of Minnesota
Section(s), Township(s), Range(s): T107N, R20W, Sections 2, 3, 4 and T108N, R20W, Sections 33, 34, 35

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 and widening of an approximately 1.6 mile segment of an existing two-lane
roadway and construction of a paved recreational trail.

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Recommended for approval by:

[Signature] 8/31/07
Steele County Engineer

Reviewed and Recommended by:

[Signature] September 5, 2007
District 4 State Aid Engineer

Approved by:

[Signature] 9/12/07
For Director, State Aid For Local Transportation

Approved as an Environmental Assessment per 23 CFR Part 771.119(c):

[Signature] 10/1/07
FHWA - Project Development Engineer

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I. REPORT PURPOSE
This Environmental Assessment (EA) provides background information including:

- need for the proposed project
- alternatives considered
- environmental impacts and mitigation
- agency coordination and public involvement

This EA was prepared as a part of the National Environmental Policy Act (NEPA) process and state environmental review process to fulfill requirements of both 42 USC 4332 and M.S. 116D. At the federal level, the EA is used to provide sufficient environmental documentation to determine the need for an Environmental Impact Statement (EIS) or that a Finding of No Significant Impact (FONSI) is appropriate. At the state level, the EA is used to provide sufficient environmental documentation to determine the need for a state EIS or that a Negative Declaration is appropriate.

At the state level, this document also serves as an Environmental Assessment Worksheet (EAW). Minnesota Rules 4410.1300 allows the EA to take the place of the EAW form, provided that the EA addresses each of the environmental effects identified in the EAW form. This EA includes each of the environmental effects identified in the EAW form.

Steele County is the proposer and Responsible Governmental Unit for this project. Preparation of an EAW is considered mandatory under Minnesota Rules 4410.4300 subp. 1, and under the following subsection(s):

4410.4300 subp. 22 (B) - construction of additional travel lanes on an existing road for a length of one or more miles.

This document is made available for public review and comment in accordance with the requirements of 23 CFR 771.119 (d) and Minnesota Rules 4410.1500 through 4410.1600.

II. HIGHWAY DESCRIPTION
The road being studied is both a City Street and County State Aid Highway (CSAH). 26th Street begins approximately 2.25 miles west of I-35 and continues east about five miles ending at Kenyon Road/CSAH 8. The CSAH 34 designation begins at the intersection with CSAH 45 and continues east 2.25 miles to Kenyon Road/CSAH 8. At the intersection with Kenyon Road/CSAH 8, CSAH 34 turns north/northeast for 2.5 miles until it intersects CSAH 9.

Steele County and the City of Owatonna started planning in the early 1990's for the future transportation system. The ultimate plan is to have a beltline system to make travel more efficient around Owatonna. CSAH 34/26th Street has been designated as the North Beltline. For further information regarding the beltline system, see the "US Highway 14
CSAH 34 Environmental Assessment

– Owatonna Beltline Roadway System Plan Report” completed by Mn/DOT, Steele County and the City of Owatonna in 2004. Pages that discuss the North Beltline from the 2004 report have been included in Appendix G. Also included in Appendix G are pages from the 1999 Environmental Assessment Worksheet and the original 1995 East Beltline Environmental Report that identifies CSAH 34 as the North Beltline.

In 2005 Steele County reconstructed 0.75 miles of CSAH 34 between CSAH 45 and CSAH 1. The roadway was expanded from a two lane, bituminous rural section to a four lane, concrete urban section with a 10’ paved recreational trail paralleling the south right of way line of CSAH 34. The bridge crossing the Straight River was not expanded due to lack of funds.

III. PURPOSE AND NEED FOR PROJECT

CSAH 34 between CSAH 1 and CSAH 8 is a two-lane, bituminous roadway with grass ditches in a developing area on the north side of Owatonna. Construction of new developments is expected to continue in the area which will also increase the number of vehicles, pedestrians, and bicyclists traveling the corridor. Between 1999 and 2003 traffic increased 17% from 3250 vehicles per day (vpd) to 3800 vpd on CSAH 34.

- Need 1 – provide a facility that will be part of the beltline system. The system has been planned to reduce congestion in central Owatonna. Currently traffic wishing to travel east must pass through downtown Owatonna to access US Highway 14. Traffic from the east side of town must pass through downtown to access I-35. The beltline will provide an efficient, four lane route around town for residents traveling across town or to other towns in the US Highway 14 and I-35 corridors.

- Need 2 - increase the capacity of the roadway to accommodate the anticipated traffic increase and provide a minor arterial for efficient travel through the area. The 2004 “US Highway 14 – Owatonna Beltline Roadway System Plan Report” report included a traffic study that forecast traffic levels at 14,000 – 19,000 vpd.

- Need 3 - the existing pavement on CSAH 34 between CSAH 8 and CSAH 1 is in need of repair. Instead of closing portions of the road multiple times for short term patching operations, the County would like to be proactive by upgrading the pavement section from bituminous to concrete and minimizing hardship to the roadway users and adjacent residents by only having one construction period.

- Need 4 - a new medical clinic is located west of I-35, adjacent to and north of CSAH 34. Construction of a new hospital is also tentatively scheduled to begin in summer 2007 with a planned opening in late 2008 or 2009. This project will need to provide an efficient route for the traveling public and emergency vehicles between the east and west sides of Owatonna.
• Need 5 – There is an existing recreational trail on CSAH 34 between CSAH 45 and CSAH 1. This project will need to extend that trail from CSAH 1 to CSAH 8. With an increase in residential developments, the need for safe recreational facilities has increased. As pedestrians and bicyclists increase in number, a separate recreational trail will provide a safe route for non-motorized traffic.

As stated above the ultimate, long-range goal is to have a complete beltline system around the entire city. This segment of CSAH 34 will be included in that system. See Appendix G for pages of past environmental documents related to the beltline system.

ALTERNATIVES

Alternatives Considered but Rejected

There are multiple factors for selecting CSAH 34 as the area’s minor arterial:

• Local roads south of CSAH 34 are restricted by the Straight River, railroads, CSAH 45 and I-35. There are a limited number of river crossings due to environmental impacts to the river, wetlands and the floodplain. CSAH 34, west of this project, has an existing river crossing and an interchange with I-35. No other local roads between CSAH 34 and downtown Owatonna have that. Roads considered but eliminated were 14th Street and 20th Street.

• Routes south of CSAH 34 in Owatonna have been developed extensively and thus unable to be expanded without significant impacts and expense.

• 14th Street and 20th Street do not address the deficient pavement on CSAH 34 or the need for a separate recreational path.

• Development north of CSAH 34 is restricted by the topography of the area which slopes away from Owatonna. Expensive lift stations and utility borings under the Straight River would be required to provide city services to the area. Development will most likely occur to the east (residential) and west (industrial) of Owatonna. Roads north of CSAH 34 will not be used as extensively as the CSAH 34 corridor. 36th Street is the next road one mile north of CSAH 34.

• 36th Street does not address the deficient pavement on CSAH 34 or the need for a separate recreational path. 36th Street is also blocked from expanding west due to the location of the Owatonna Airport.

Alternatives under Consideration, including the “No Build” Alternative

“No Build” Alternative – CSAH 34 is a rural section, two-lane, bituminous roadway with gravel shoulders. The existing road is deteriorated, with cracking and potholes present. The existing pavement will need maintenance in the near future. Grass ditches handle the majority of storm water drainage. The “No Build” Alternative will not have the capacity
to accommodate the traffic volumes for the fully developed area which are forecasted to be 14,000 to 19,000 vpd or provide a more efficient route for the emergency vehicles once the hospital is completed. At 19,000 vpd the existing road will have a Level of Service (LOS) F which signifies low speeds and major delays. Also, the existing road does not have a separate facility for pedestrians or bicyclists. Patching would be a short term fix for the existing pavement.

**CSAH 34 Reconstruction (Preferred Alternative)** – This alternative includes reconstruction and widening of CSAH 34 between CSAH 1 and 300’ east of the intersection of CSAH 34 and CSAH 8. The existing rural section, two-lane, bituminous roadway will be reconstructed to a four-lane, concrete, urban section. The reconstructed roadway will generally use the same alignment and profile as the existing roadway. A 10’ wide bituminous recreational trail will be constructed south of the roadway within the road right-of-way.

The existing surfacing will be removed and the roadbed will be subcut three feet. Recycled and new base material will be used. The new pavement will be 9” non-reinforced concrete, meeting 10-ton standards.

New storm sewer pipes and rain gardens will be constructed on the north side of the roadway. Storm water from the road will travel in gutters to inlets, and then discharged into grass ditches with rain gardens for treatment before entering the public water system. Shallow grass ditches will also treat storm water before it enters the public water system. A stormwater retention area will be constructed in the northeast quadrant of the CSAH 34 and Kenyon Road intersection.

Catch basins on the south side of reconstructed CSAH 34 will connect with the existing storm sewer pipe on the south side of the road. The existing pipe outlets into a shallow, minimum grade grass ditch and then into a storm water pond for treatment.

Construction will be completed within the existing 100’ right-of-way except on the east end of the project. Near Kenyon Road, the existing right-of-way narrows to 66’. Approximately 3825 square feet (225’ long by 17’ wide or 0.09 acres) of additional right-of-way will be required to allow the recreational trail to continue east to CSAH 8 and beyond. In the future the recreational trail will continue east and connect to a new park on the northeast side of Owatonna, south of CSAH 34, and to Rice Lake State Park.

Construction is anticipated to start in 2008 with work on the intersections completed first. Then the mainline will be constructed between the reconstructed intersections. Access to residents will be provided throughout the entire construction project. The roadway will have left turn/through and right turn/through lanes. As traffic patterns are established, Steele County will determine if traffic signals are warranted.

CSAH 34 will have controlled access. Generally existing driveways will remain but new accesses will not be allowed. Grace Baptist Church has volunteered to have two
CSAH 34 Environmental Assessment

driveway access points to CSAH 34 removed. Side roads will have stop conditions and CSAH 34 will be a through road with a minor arterial functional classification.

Preliminary project costs are estimated at approximately $3,000,000. Steele County will receive $1,920,000 from Federal and State-Aid. The County and City will share remaining project costs. The City will pay for the utility work, bike path construction, and part of the retention pond costs.

Potential short-term impacts that would stem directly from construction activities and affect construction areas include: changes in air quality, water quality, noise levels, earthborn vibrations, traffic disruptions, and detours. Refer to the EAW sections that discuss those issues.

Reconstructing CSAH 34 is the preferred alternative because it meets both the short-term and ultimate goals. An efficient roadway will divert more traffic in the northeastern section of the city from the downtown area in the near future. Ultimately, the roadway will have the capacity to accommodate the additional traffic keep the LOS at D or above when the beltline system is complete. The beltline system will reduce congestion in the downtown area.

Benefit Cost Analysis
County State Aid Highway projects do not require a benefit/cost analysis.

IV. SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS (SEE)

This section discusses environmental impacts of alternatives identified in the Alternatives section. It contains two sub-sections;
- State Environmental Assessment Worksheet (EAW)
- Additional Federal Issues

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 on the EAW are addressed in separate sub-section.
ENVIRONMENTAL ASSESSMENT WORKSHEET

Note to preparers: This form is available at www.mnplan.state.mn.us. EAW Guidelines will be available in Spring 1999 at the web site. The Environmental Assessment Worksheet provides information about a project that may have the potential for significant environmental effects. The EAW is prepared by the Responsible Governmental Unit or its agents to determine whether an Environmental Impact Statement should be prepared. The project proposer must supply any reasonably accessible data for — but should not complete — the final worksheet. If a complete answer does not fit in the space allotted, attach additional sheets as necessary. The complete question as well as the answer must be included if the EAW is prepared electronically.

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: CSAH 34 Reconstruction and Widening

2. Proposer: Steele County
   Contact person: Gary Bruggeman
   Title: Steele County Engineer
   Address: 635 Florence Ave.
   City, state, ZIP: Owatonna, MN, 55060
   Phone: (507) 444-7670
   Fax: (507) 444-7684
   E-mail: gary.bruggeman@co.steele.mn.us

3. RGU: Same as proposer
   Contact person: Same as proposer
   Title: Same as proposer
   Address: Same as proposer
   City, state, ZIP: Same as proposer
   Phone: Same as proposer
   Fax: Same as proposer
   E-mail: Same as proposer

4. Reason for EAW preparation (check one)
   EIS scoping
   X Mandatory EAW
   Citizen petition
   RGU discretion
   Proposer volunteered

   If EAW or EIS is mandatory give EQB rule category subpart number and subpart name
   EQB Rule 4410.4300 – Subpart 22, Highway Projects

5. Project location
   County: Steele
   City: Owatonna
   Townships: Clinton Falls and Owatonna

   Sections: 2, 3, and 4
   Township: T107N
   Range: R20W

   Sections: 33, 34, and 35
   Township: T108N
   Range: R20W

   Attach each of the following to the EAW:
   • County map showing the general location of the project;
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable);
- Site plan showing project and natural features.

See pages i, ii and Appendix A for project figures.

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

   Reconstruction and widening of CSAH 34 between CSAH 1 and 300' east of CSAH 8. The existing rural section, two-lane, bituminous roadway will be reconstructed to a four-lane, concrete, urban section with curb and gutter. A paved recreational trail will be constructed south of the roadway. New storm sewer and rain gardens are included.

   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.

   See EA Section II Purpose and Need for Project - Alternatives.

   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.

   See EA Section II. Purpose and Need for Project.

   d. Are future stages of this development including development on any outlots planned or likely to happen? **X Yes** ___No

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

   CSAH 34 has been identified by the City of Owatonna and Steele County as a section of the proposed beltline system around Owatonna. In the future, CSAH 34 will be extended to intersect with an East Beltline (location to be determined). CSAH 34 will also be reconstructed west of CSAH 45 to the proposed West Beltline at 39th Avenue. See Page iii. Due to a lack of funding, both projects will not be constructed in the near future. The bridge on CSAH 34 over the Straight River, west of CSAH 1, will be widened to match the four-lane design. Funds weren’t available to complete the bridge construction in 2005. There is no set date to complete the bridge work.

   e. Is this project a subsequent stage of an earlier project? **X Yes** ___No

   If yes, briefly describe the past development, timeline and any past environmental review.
As mentioned in EAW section 6d. above, Steele County reconstructed and widened 0.75 miles of CSAH 34 between CSAH 45 and CSAH 1 in 2005. No federal funds were used and the segment was less than one mile long. No environmental document was completed for the project. The segment between CSAH 45 and CSAH 1 was completed first because of increased heavy commercial traffic to a quarry north of CSAH 34. Also, current traffic patterns show CSAH 34 between the I-35/CSAH 34 to CSAH 1 is an important route into downtown Owatonna.

7. **Project magnitude data**
   - Total project acreage: 19.4 Acres
   - Number of residential units: unattached NA attached NA maximum units per building
   - Commercial, industrial or institutional building area (gross floor space): total square feet NA
   - Indicate areas of specific uses (in square feet):
     - Office NA
     - Retail NA
     - Warehouse NA
     - Light industrial NA
     - Other commercial (specify) NA
     - Manufacturing NA
     - Other industrial NA
     - Institutional NA
     - Agricultural NA

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.

   See EA Section IV. Public and Agency Involvement (and Permits/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.

   Current adjacent land use is residential, educational, commercial and agricultural. A residential development north of CSAH 34 and east of CSAH 1 continues to add homes. A miniature golf course and orthodontist office were constructed in 2006. The Grace Baptist Church also runs a private school at their building south of CSAH 34. There is low income housing north of CSAH 34 adjacent to 3rd Avenue. Budget Mart is located south of CSAH 34 and west of St. Paul Road. Owatonna Groundmasters, a landscaping business, is located east of St. Paul Road and north of CSAH 34. Willow Creek Intermediate School is located south of CSAH 34 and east of Hemlock. The school has ball fields adjacent to CSAH 34. A city water tower is located at the intersection of CSAH 34 and Mineral Springs Parkway.
NE. New residential development is occurring east of Kenyon Road, both north and south of CSAH 34.

The construction will occur in the existing road right-of-way. Currently the right-of-way land use consists of mowed grass ditches for storm water conveyance, utilities and the existing roadway.

Historical aerials were reviewed to determine past land use. Aerials were available from 1938, 1951, 1964, 1971, and 1991. The area was mainly farmland with three homesteads adjacent to the project area from 1938 to 1971. The 1951 aerial shows the first signs of Owatonna expanding north. City streets begin to appear on the southern edge of the 1964 aerial. Additional development has occurred in the 1971 aerial. CSAH 34 first appears on the 1991 aerial. See Appendix B.

The project is compatible with adjacent land uses. In 1995 CSAH 34 was identified as the North Beltline for Owatonna by the City and Steele County. CSAH 34 has an interchange with I-35 and long-range plans show CSAH 34 will eventually link the West and East Beltlines. Multiple resolutions have been passed over the years by Steele County and the City of Owatonna that have shown continued support for the beltline system.

A Phase I Environmental Site Assessment (Phase I ESA) was completed for the project. Two sites adjacent to the project were identified with potential for contaminated soils. The Budget Mart had a leaky underground storage tank removed in 1990. Up to 150 cubic yards of material were excavated with the tanks. In 1997 a Phase II study was completed and gas vapors were detected on the west side of the site. MPCA reviewed the study and closed the record on 10/1/1997. It is anticipated that reconstruction of CSAH 34 will not affect or disturb the contaminated soils. If contaminated soils are encountered, the contractor will take appropriate measures to mediate the contamination.

The Owatonna Groundmasters site was identified as a medium potential site for contamination. Pesticides, herbicides, gasoline and oils are stored at the site. Overall housekeeping appeared good and the buildings are set back from CSAH 34. It is anticipated that the CSAH 34 project will not encounter any contamination near this site.

10. **Cover types.** Estimate the acreage of the site with each of the following cover types before and after development:

<table>
<thead>
<tr>
<th>Types 1-8 wetlands</th>
<th>Before</th>
<th>After</th>
<th>Types 1-8 wetlands</th>
<th>Before</th>
<th>After</th>
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</thead>
<tbody>
<tr>
<td>Wooded/forest</td>
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<td>0.2</td>
<td>Lawn/landscaping</td>
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<td>0.0</td>
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<td>10.1</td>
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<tr>
<td>Cropland</td>
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<td>0.0</td>
<td>Other (describe)</td>
<td>3.9</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**TOTAL** 19.4 19.4

If **Before** and **After** totals are not equal, explain why:

Other = Gravel shoulders
There are 0.02 acres of wetlands within the existing road right-of-way that may be impacted by the road construction.

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.
   
   MNDNR has reviewed the natural and recreation resources associated with this project, see Appendix C for response letter. MNDNR did not identify any fish or wildlife resources or habitats in or near the site. Kevin Stauffer, MNDNR, was contacted on June 12, 2006 to discuss the project. Kevin mentioned the potential for nongame turtles and mussels west of the project but did not feel the CSAH 34 project would impact them.
   
   Jeanine Vorland, MNDNR Rice Lake Office, was contacted on July 12, 2006 to discuss the project. Jeanine was concerned with keeping the wildlife travel corridors connected. Willow Creek is a natural pathway for some wildlife in the area. Jeanine suggested including culverts under the road to allow turtles, reptiles and raccoons to cross the roadway separated from traffic. The corrugated metal culvert at Willow Creek flows under CSAH 34 and will be replaced with a concrete box culvert. The new structure may provide greater connectivity for the wildlife.
   
   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 waterbird nesting colonies or regionally rare plant communities on or near the site? _X_Yes __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: ERDB 20060916. Describe measures to minimize or avoid adverse impacts.
   
   Available information regarding the occurrences of state-listed rare, threatened and endangered species or critical habitats in proximity of the proposed project was obtained from the MNDNR Natural Heritage and Nongame Research Program.
   
   The database search revealed six reported occurrences of rare species or natural communities in the general project area. Additionally, field surveys were completed in May 2006 and 2007 by Bonestroo staff. No rare plant species were found during the field survey. See Threatened and Endangered Species Reports in Appendix C.
   
   Threatened, rare or state concern species reported within one mile of the project area include: two reports of Clemmys insculpta (Wood Turtle), one report of Elliptio
dilatata (Spike Mussel), two mussel sampling sites and one report of Rana catesbeiana (Bullfrog). It is anticipated that the project will not impact any of the species or mussel sampling sites. See letter from MNDNR Natural Heritage and Nongame Research Program in Appendix C. The database was rechecked in May 2007 for the additional project area between Kenyon Road and Deer Trail Lane. No new Threatened and Endangered Species were identified. See the email from Lisa Joyal in Appendix C.

Jason Alcott, Mn/DOT Senior Natural Resource Specialist also reviewed the project for federally-listed threatened and endangered species. His search found no federally-listed threatened or endangered species. See his letter in Appendix C. The additional area between Kenyon Road and Deer Trail Lane was rechecked in June 2007. See the email from Jason Alcott in Appendix C.

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? _X_Yes __No

If yes, identify water resource affected and give the DNR Protected Waters Inventory number(s) if the water resources affected are on the PWI: Willow Creek, no PWI number. Describe alternatives considered and proposed mitigation measures to minimize impacts.

Willow Creek is not on the DNR protected water inventory. The waterway starts in Clinton Falls Township and flows westerly/southwesterly to the Straight River.

The City of Owatonna has constructed a new storm water pond north of CSAH 34 on the Willow Creek system. The existing corrugated metal culvert under CSAH 34 will be replaced with a concrete box culvert in conjunction with the CSAH 34 Reconstruction project.

A second retention pond will be constructed in the southeast quadrant of the CSAH 34 and St. Paul Road intersection. The stormwater from the south side of CSAH 34 will make its way through storm pipe to the pond for retention and treatment. The water then outlets to another pipe and is directed to Willow Creek. The will reduce direct impact downstream on a city street. Both ponds will be designed to meet NPDES requirements.

Two wetland delineation reports were completed for this project. See Appendix D for the reports. Five wetlands were identified adjacent to the corridor. Two wetlands will be encroached upon by the road construction. Wetland “A” is primarily a Type 5 open water wetland located northeast of the CSAH 34 and Hemlock Ave intersection. Approximately 991 square feet of this jurisdictional wetland are located within the road right-of-way and will be impacted by the road construction.
Wetland “D” is primarily a Type 2 wet meadow wetland located in the southeast corner of the CSAH 34 and 7th Avenue NE intersection. Approximately 69 square feet of this jurisdictional wetland are located within the road right-of-way and will be impacted by the road construction.

Impacts to wetlands will be reduced or eliminated during final design. Avoiding wetland impacts is the most desirable option, however wetlands in the CSAH 34 right of way will be impossible to avoid. Steele County will attempt to minimize impacts to the wetlands. To minimize impacts to Wetland “A” Steele County will construct a suburban section. There will be two feet of buffer behind the curb and then there will be a 1:4 slope down to the existing ground line. If impacts remain, mitigation will be completed at a 2:1 replacement ratio or through the use of wetland credits.

One option to avoid impacts to Wetland “D” is to move the recreational trail to the north side of CSAH 34 between 7th Avenue and Hemlock Road. At Hemlock Road the recreational trail would have to cross back to the south side of CSAH 34 to avoid impacts to Wetland “A.” Steele County has reviewed this option and determined it is not feasible. As stated in the EA “Considerations Relating to Pedestrians and Bicyclists” Section of this document, a majority of the trail traffic is generated from the south side of CSAH 34 and the major trail destinations are also on the south side. The change in location would create two unprotected road crossings and increased conflict between motor vehicles and pedestrians/bicyclists. Trail users would most likely use the south road shoulder or walk on the grass instead of crossing CSAH 34.

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 water (including dewatering)?  _X_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.

Temporary dewatering may be required during excavation of unsuitable organic soils during embankment construction. Drain tiles may be modified to reduce the number of crossings under the preferred alternative. The potential for geologic and hydrogeologic impacts have been considered, but due to the nature of the planned work and the affected environment (no shallow wells, no blasting etc.) no adverse or permanent impacts are expected.

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  _X_No_

If yes, identify the district and discuss project compatibility with district land use restrictions.
15. **Water surface use.** Will the project change the number or type of watercraft on any water body? __Yes  _X_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: 19.4 acres; 51,000 cubic yards. 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.

Acreage to be graded or excavated is approximate at this time.

Erosion and sediment control measure as suggested by the MPCA BMP’s, the Mn/DOT Erosion Control Handbook and as required by the NPDES Permit will be used during and after project construction.

These measures will be specified in the contract documents and construction plans, as applicable. The project will require a General Storm Water Permit from the MPCA which requires the incorporation of BMP’s and a maintenance program to ensure they remain effective throughout the project. A SWPPP will be prepared as required by the permit.

Temporary and permanent sediment control measures will consist of establishing temporary and permanent vegetation on all exposed soils; engineering the construction of steep slopes in a manner which will minimize erosion potential and maintain stability; stabilizing all waterways and outlets so that storm water will be conveyed and discharged without erosion; and installing erosion control blankets. Other measures which will control erosion will be the construction of temporary sedimentation basins and permanent storm water ponds wherever feasible and logical; and protecting storm sewers from the entrance of sediment by installing appropriate sediment trapping devices, street sweeping, silt fences and ditch checks.

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.

The project will add approximately 5.4 acres of new impervious area which will account for an estimated additional 1.95 acre feet of storm water runoff over the 1.5 miles of road construction during a 10-year, 24 hour event. This estimate used methodology from the “U.S. Soil Conservation Service Technical Release No. 55.”

The quality of site runoff will be improved through the use of grassy slopes, shallow minimum grade grass ditches and rain gardens. Storm water collected in storm sewer
will be discharged through rain gardens prior to release into the public water system. The rain gardens and grass will remove pollutants and sediment.

The City of Owatonna has an ordinance requiring all developments to treat storm water prior to release into waters of the state. Adjacent developments will not be discharging untreated water into the road right-of-way.

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.

Runoff from the road will be collected in storm sewers and shallow, minimum grade ditches. On the north side of the road, the storm water will be treated using rain gardens prior to release into Willow Creek and then the Straight River. Storm water on the south side of the road will be discharged into grassy ditches before entering Willow Creek and the Straight River. Grassy slopes and minimum grade shallow ditches will treat storm water from the road slopes.

18. **Water quality: wastewaters**
   a. Describe sources, composition and quantities of all sanitary, municipal and industrial wastewater produced or treated at the site.

   None.

   b. Describe waste treatment methods or pollution prevention efforts and give estimates of composition after treatment. Identify receiving waters, including major downstream water bodies, 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.

   None.

   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.

   None.

   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.

   None.

19. **Geologic hazards and soil conditions**
a. Approximate depth (in feet) to ground water: 1.5’ minimum 3-5’ average
to bedrock: 50’ minimum 50-100’ average
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.

There are no known sinkholes, shallow limestone formations or karst conditions in the
project area.

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.

Data collected from the Soil Conservation Service Soil Survey of Steele County, issued
in August 1973, indicate soils located in the project area include: Dundas silt loam
(DU), Glencoe clay loam (GC), Hayden loam 2-6% slopes (HOB), Hayden loam 2-6%
slopes eroded (HOB2), Hayden loam 6-12% slopes (HOC2), Le Sueur clay loam 0-2%
slopes (LUA), Le Sueur clay loam 2-4% slopes (LUB), Webster clay loam (WT),
Canistero clay loam depressional (CF), Lester loam 2-6% slopes (LLB2), and Lester
loam 2-6% slopes eroded (LLC2).

The water table depth provided by the Soil Survey ranges from 1.5 feet to greater than
10 feet deep. Generally, the project area has been developed and modified. The water
table will be 3 to 5 feet deep minimum. In areas where the ground water is shallow,
there is potential for localized contamination. The clay loam soil is not highly
permeable. Contamination is not likely to spread to public waters or into the drinking
water supply.

The contractor will be notified about the existing water table conditions. If a spill were to
occur, the contractor will be required to contact the proper authorities and use all
reasonable methods to remEDIATE the contamination.

20. **Solid wastes, hazardous wastes, storage tanks**

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.

**Solid Wastes**
The disposal of solid waste generated by clearing the construction area is a common occurrence associated with road construction projects. Excess materials and debris from this project such as concrete and asphalt will be disposed of in accordance with Mn/DOT Standard Specification for Construction and Minnesota Rule 7035.2825. In particular, excess materials and debris will be hauled to appropriate disposal sites and not placed in wetlands or floodplains.

Hazardous Wastes or Storage Tanks
There will be no hazardous waste generated or storage tanks permitted on site.

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.

None.

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.

None.

21. Traffic. Parking spaces added  NA. Existing spaces (if project involves expansion) NA. Estimated total average daily traffic generated is 8190 ADT (2024). Estimated maximum peak hour traffic generated (if known) and time of occurrence. 820 vph @ 4:30 – 5:30pm.
Provide an estimate of the impact on traffic congestion on affected roads and describe any traffic improvements necessary. If the project is within the Twin Cities metropolitan area, discuss its impact on the regional transportation system.

The CSAH 34 corridor is anticipated to reduce congestion on the local streets in the downtown area. Initially, side roads will have stop conditions and CSAH 34 will be a through road. Traffic signals may be warranted in the future. Speed limits will stay at 45mph on the west end and 50 mph on the east end of the project. Steele County anticipates traffic on CSAH 1 will increase as the area develops because it is a direct route into downtown Owatonna. Traffic levels on St. Paul Road and CSAH 8 are not expected to increase significantly because they are not as convenient or efficient as CSAH 1 to get into downtown Owatonna.

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.
The project is not located in an area in which conformity requirements apply, and the scope of the project does not indicate that air quality impacts would be expected. Therefore, no further air quality analysis is necessary.

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 (chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons or sulfur hexafluoride). Also describe any proposed pollution prevention techniques and proposed air pollution control devices. Describe the impacts on air quality.

None.

24. **Odors, noise and dust.** Will the project generate odors, noise or dust during construction or during operation? _X_ 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.)

See EAW Question 6.b Construction Impacts for issues associated with the construction operations.

**State of Minnesota Noise Regulations**
Portions of the project are subject to Minnesota Noise Rules, and therefore, the project is evaluated relative to the Minnesota daytime and nighttime standards.

**State Noise Abatement Criteria**
The State Noise Abatement Criteria are in terms of the L_{10} and L_{50} descriptor. The L_{10} value is the sound level that is exceeded 10% of the time, measured over the noisiest one-hour period of the day. The L_{50} value is the sound level which is exceeded 50 percent of the time for a one-hour period. The L_{10} descriptor is used to identify impacts in this analysis. See Page 3 in the Noise Impact and Mitigation Study located in Appendix E for Minnesota noise abatement standards.

In the Federal Noise Abatement criteria, a noise impact is defined to occur when predicted traffic noise levels; 1) Approach or exceed the noise abatement criteria; and 2) Substantially exceed the existing noise level. For highway traffic noise, an adjustment, or weighting, of the high- and low-pitched sounds is made to approximate the way that an average person hears sounds. The adjusted sound levels are stated in units of "A-weighted decibels" (dBA). The State of Minnesota has defined “approach and exceed” as within one dBA or less, and “substantially exceed” as an increase of 5 dBA or more.
Noise Description
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 represent the logarithmic increase in sound energy relative to a reference energy level. A sound increase of 3 dBA is barely perceptible to the human ear, a 5 dBA increase is clearly noticeable, and a 10 dBA increase is heard as twice as loud.

"The following chart provides a rough comparison of the noise levels of some common noise sources."

<table>
<thead>
<tr>
<th>Sound Pressure Level (dBA)</th>
<th>Noise Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td>Jet Engine (at 80 feet)</td>
</tr>
<tr>
<td>130</td>
<td>Jet Aircraft (at 330 feet)</td>
</tr>
<tr>
<td>120</td>
<td>Rock and Roll Concert</td>
</tr>
<tr>
<td>110</td>
<td>Pneumatic Chipper</td>
</tr>
<tr>
<td>100</td>
<td>Jointer/Planer</td>
</tr>
<tr>
<td>90</td>
<td>Chainsaw</td>
</tr>
<tr>
<td>80</td>
<td>Heavy Truck Traffic</td>
</tr>
<tr>
<td>70</td>
<td>Business Office</td>
</tr>
<tr>
<td>60</td>
<td>Conversational Speech</td>
</tr>
<tr>
<td>50</td>
<td>Library</td>
</tr>
<tr>
<td>40</td>
<td>Bedroom</td>
</tr>
<tr>
<td>30</td>
<td>Secluded Woods</td>
</tr>
<tr>
<td>20</td>
<td>Whisper</td>
</tr>
</tbody>
</table>


Along with the volume of traffic and other factors (i.e., topography of the area and vehicle speed) that contribute to the loudness of traffic noise, the distance of a receptor from a sound's source is also an important factor. Sound levels decrease as distance from a source increases. The following rule of thumb regarding sound decreases due to distance is commonly used. Beyond approximately 50 feet, each time the distance between a line source (such as a road) and a receptor is doubled, sound levels decrease by three decibels over hard ground, such as pavement or water, and by four and one half decibels over vegetated areas.

Traffic Noise Analysis
As part of the EAW, a detailed noise analysis was conducted. See Appendix E for the Draft Noise Impact and Mitigation Study.

Noise Analysis Results
The noise analysis for the daytime $L_{10}$ noise levels is referred to in this discussion since the FHWA noise abatement criteria apply to the highest noise level during the course of 24 hours.

Noise modeling was conducted at 35 receptor sites with the following results:

- For existing noise conditions, 13 receptors approach or exceed the daytime State Noise Abatement criteria of 65 dBA $L_{10}$ residential or 70 dBA $L_{10}$ commercial.
- For existing noise conditions, 34 receptors approach or exceed the nighttime State Noise Abatement criteria of 55 dBA $L_{10}$ residential or 70 dBA $L_{10}$ commercial.
- For the Preferred Alternative with **no** noise mitigation, 17 of the 35 receptors will approach or exceed the daytime state noise abatement criteria of 65 dBA $L_{10}$ residential or 70 dBA $L_{10}$ commercial.
- For the Preferred Alternative with **no** noise mitigation, 34 of the 35 receptors will approach or exceed the nighttime state noise abatement criteria of 55 dBA $L_{10}$ residential or 70 dBA $L_{10}$ commercial.

For this project, Steele County conducted the analysis using noise walls for the noise mitigation. The noise walls analyzed throughout the project, where the state noise standards are exceeded, are subject to the following conditions:

- Receptors shall have predicted future noise levels that approach or exceed the state noise standards, or exceed existing noise levels by 5 decibels or more.
- The cost effectiveness of the barrier shall not exceed $3250/dBA/residence for residential receptors.
- The cost effectiveness of the barrier is contingent on the receptor receiving a minimum 5 dBA reduction due to the construction of the barrier.
- The municipality where the affected residents reside supports the installation of a barrier.

Noise walls were deemed not feasible due to limitations from intersecting roadways/driveways or project limits. These areas included the areas around North Cedar, 3rd Ave., Lamada Pl., and west of Kenyon Road.

In the initial 2006 noise study, two walls were modeled. One 2,280’ long wall would be located between St. Paul Road and Hemlock Ave north of CSAH 34. A 1,126’ wall would be located between 7th Ave. and Hemlock Ave. south of CSAH 34. The walls would be 20’ tall. Both walls meet Mn/DOT’s cost reasonableness requirements. When considering just construction costs, the north wall has a cost reasonableness of $2,378/dBA and the south wall has a cost reasonableness of $1,454/dBA.

A second noise analysis was completed for the area between Kenyon Road and Deer Trail Lane in June 2007. Two additional noise walls were modeled. One 721’ long wall north of CSAH 34 has a cost reasonableness of $3,428/dBA, which is over the Mn/DOT requirement of $3,250/dBA. The second wall modeled is 864’ long south of CSAH 34.
with a cost reasonableness of $1,408/DBA. Neither cost reasonableness figure includes cost for purchasing right of way for wall construction and maintenance.

In addition to construction costs there will be costs for right of way to construct and maintain the walls. When adding these two costs together, between St. Paul Road and Hemlock Avenue the north wall cost reasonableness number becomes $2735 and the south wall cost reasonableness number becomes $1672. Between Kenyon Road and Deer Trail Lane the north wall cost reasonableness number becomes $3696 and the south wall cost reasonableness number becomes $1492. Those numbers will be higher if properties need to be purchased because the homes are too close to the noise walls or the remaining parcel no longer meets Owatonna lot size ordinances.

The total estimated cost for the three noise walls that meet the cost reasonableness threshold is $1,473,150. Adding an additional 50% to the project cost is not financially feasible.

In order for the walls to be constructed they must also be technically feasible to build and be desired by the community. Steele County believes the adjacent residents are not in favor of building noise walls because noise walls that are 20' tall do not fit aesthetically with the area. The noise wall issue will be discussed at the Public Hearing for this document.

When comparing the “No Build” option to the CSAH 34 reconstruction option, note that noise levels are anticipated to increase almost the same for both options. Steele County does not site new concrete roadways which decreases the amount of noise generated by traffic. Tining is the process of placing shallow transverse lines in the surface of the concrete to increase drainage from the road. The grooves create a high pitched “whine” as tires pass over them. A reconstructed roadway will produce less noise than the existing road.

If required, Steele County will also consider lowering the speed limit from 45/50mph to 30 or 40mph to lower the noise.

Steele County will attempt to pass a resolution stating the County will not build noise walls if comments from the Public Hearing are not in favor of building noise walls.

25. **Nearby resources.** Are any of the following resources on or in proximity to the site? Archaeological, historical or architectural resources? _Yes _X_No
    Prime or unique farmlands or land within an agricultural preserve? _Yes _X* No
    Designated parks, recreation areas or trails? _X Yes _No
    Scenic views and vistas? _Yes _X No
    Other unique resources? _Yes _X No
    If yes, describe the resource and identify any project-related impacts on the resource. Describe any measures to minimize or avoid adverse impacts.
A trail was constructed in 2005 between CSAH 45 and CSAH 1 south of CSAH 34. This project will extend that trail to Kenyon Road and will eventually continue to a new city park east of Kenyon Road. The trails on this project will enhance the trail system.

See Appendix C for letters regarding no impacts to historical/archaeological sites.

* The farmland north of CSAH 34 between Hemlock Ave. and Kenyon Road was not evaluated by the NRCS for prime or unique farmland. The project is not anticipated to cause any adverse impact to agricultural land or operations. No agricultural land will be acquired; no farm will be severed or triangulated. The project will not have a significant effect upon agricultural production in Steele County.

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

Steele County and the City of Owatonna have added the beltline system and CSAH 34 into their local transportation plans. Multiple resolutions show continued support of the plans since 1995.

28. **Impact on infrastructure and public services.** Will new or expanded utilities, roads, other infrastructure or public services be required to serve the project?  _Yes     _X_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.)

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. 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 cumulative impacts (or discuss each cumulative impact under appropriate item(s) elsewhere on this form).

0.75 miles of CSAH 34 were reconstructed between CSAH 45 and CSAH 1 in 2005. This project continues that project east 1.5 miles. When funding becomes available,
CSAH 34 will eventually connect to the West (39th Avenue) and East Beltlines. Additional environmental documents will be completed for future work prior to construction of the extensions.

Development continues to grow adjacent to the corridor. The project is not expected to change the amount of development occurring. Development is limited by topography north of the CSAH 34 corridor.

Based on the above findings, the proposed project has low potential for cumulative impacts to the resources directly or indirectly affected by the project.

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 additional federal issues below.

31. **Summary of issues.** Do not complete this section if the EAW is being done for EIS scoping; instead, address relevant issues in the draft Scoping Decision document, which must accompany the EAW. 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 been or may be ordered as permit conditions.

A Phase I Environmental Site Assessment identified one site that has a high risk and one property that has a medium risk of contamination. It is not anticipated that this project will encounter contaminated soils or groundwater.

There may be impacts to two jurisdictional wetlands adjacent to the project. Steele County will use all feasible methods to reduce or eliminate impacts to wetlands. If the wetlands cannot be avoided, mitigation will occur with a 2:1 reconstruction ratio or wetland credits will be used.

Erosion and sedimentation of all exposed soils within the project corridor will be minimized by utilizing the appropriate Best Management Practices during construction. Erosion and sediment control measures will be identified in the SWPPP and final site grading and construction plans as required by the NPDES permit for construction sites.

New impervious area will create additional storm water runoff. Using rain gardens and shallow, minimum grade ditches, storm water will be treated prior to entering waters of the state. The new treatment measures will increase storm water quality compared to existing conditions.

Potential short-term impacts that would stem directly from construction activities and affect construction areas include: changes in air quality, water quality, noise levels,
Mn/DOT's Cultural Resources Unit determined there are no known archaeological or historical sites impacted by the preferred alternative.

Noise walls were studied and it was determined that they would reduce the effects of noise significantly. Noise walls will be discussed at the Public Hearing to determine if the adjacent residents support noise wall installation.

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  
Title  

Date 8/31/07

Environmental Assessment Worksheet was prepared by the staff of the Environmental Quality Board at Minnesota Planning. For additional information, worksheets or for EAW Guidelines, contact: Environmental Quality Board, 658 Cedar St., St. Paul, MN 55155, 651-296-8253, or www.mnplan.state.mn.us
Additional Federal Issues

Discussed below are the federal issues not discussed in the EAW.

Social Impacts

Under the 1969 National Environmental Policy Act, all federally funded highway projects must assess impacts to public safety, sensitive groups and community cohesion. Under this law efforts to avoid impacts, minimize identified impacts and mitigate those impacts must be implemented.

Affect on Public Safety

As proposed, this project should improve safety by creating a local route with restricted access. The route will help relieve traffic congestion in downtown Owatonna by creating a new direct east/west route for local traffic.

Affect on Sensitive Groups

A development of low income housing was identified near the project area. No impacts are anticipated to the development.

Affect on Community Cohesion

The proposed project is not expected to cause any adverse impact to community cohesion.

Considerations Relating to Pedestrians and Bicyclists

A recreational trail will be constructed along the south right of way of CSAH 34 for pedestrians and bicyclists. The trail will increase the safety of the users by separating them from vehicular traffic on the roadway. The south side of CSAH 34 was chosen for several reasons:

- The majority of trail traffic will be generated from the south side of CSAH 34. The City of Owatonna is located south of the trail. There are new developments north of CSAH 34 but that population is much less than what is located on south of CSAH 34.
- The existing trail between CSAH 45 and CSAH 1 is located on the south side of CSAH 34. Continuing the trail from CSAH 1 to CSAH 8 will minimize the number of conflict points between pedestrians, bicyclists, and vehicular traffic.
- The majority of significant trail destinations are located on the south side of CSAH 34. The ultimate goal for the trail is to connect to Rice Lake State Park. It is planned that there will be a connection with the proposed Stagecoach Trail. A new park has been proposed south of CSAH 34 east of CSAH 8. The trail will be a route to the proposed park. Also adjacent to the south side of CSAH 34 is the Willow Creek Intermediate School and their baseball fields.

Environmental Justice

Executive Order 12898 Federal Actions to address environmental Justice in Minority Populations and Low-Income Populations, dated February 11, 1994, directed each federal agency to achieve "environmental justice as parts of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its program,"
policies and activities on minority populations and low-income populations.” The project has federal funding and federal permit requirements, and is considered a federal project for purposes of compliance with the Executive Order.

There are three fundamental Environmental Justice Principles:

- To avoid, minimize or mitigate disproportionately-high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations;
- To ensure the full and fair participation by all potentially-affected communities in the transportation decision-making process; and,
- To prevent the denial of reduction in or significant delay in the receipt of benefits by minority and low-income populations.

**Determination of Affected Populations for Environmental Justice Analysis**

The Federal DOT Order 5610.2, defines “low income” as having a household income that is at or below the Department of Health and Human Service poverty threshold guideline. In 2007, for the 48 contiguous states, the poverty threshold for annual income is $10,210 for a one-person family unit, $13,690 for a two-person family unit, $17,170 for a three-person family unit, and $20,650 for a four-person family unit. (Source: *Federal Register*, Vol. 72, No. 15, January 24, 2007, pp. 3147-3148)

A “low income population” is defined in the Federal DOT Order as any readily-identifiable group of low-income persons who live in close geographic proximity, and, if circumstances warrant, geographically-dispersed/transient person who will be similarly affected by a proposed DOT program, policy or activity.

“Minority” is defined as; 1) Black (having origins in any of the black racial groups of Africa); 2) Hispanic (having origins in Mexican, Puerto Rican, Cuban, Central or South American, or any other Spanish culture, regardless of race); Asian American (having origins in original people from the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); American Indian and Alaskan Native (having origins in any of the original people of North America and who maintain cultural identification through tribal affiliation or community recognition).

A “minority population” is defined in the DOT Order as any readily-identifiable group of minority persons who live in close geographic proximity, and, if circumstances warrant, geographically-dispersed/transient person who will be similarly affected by a proposed DOT program, policy or activity.

**Affected Populations**

Based on the public involvement (Public Information Meetings), one-on-one discussions with area residents, county records and through observations of the area, low income and minority populations will not be affected by the proposed alternative. The low income housing development north of CSAH 34 will not be directly negatively impacted by the project. Construction may cause temporary impacts (traffic delays, noise, dust and others mentioned in
the EA/EAW) but will not impact the development more than any other development adjacent to
the project. There may be a positive impact to the low income housing because the improved
roadway will provide a more efficient transportation route.

Economics

No substantial economic impacts are expected as a result of this project. Some short term
economic losses may befall businesses while construction occurs due to traffic detours and or
construction staging. Accesses to businesses will be maintained during construction.

Relocation

Under the preferred alternative, no relocations are anticipated. If unanticipated relocations are
required, relocations will be conducted in accordance with the Uniform Relocation Assistance

Right of Way

Construction will generally be completed within existing right of way. Approximately 0.09 acres
will be required near Kenyon Road to complete the recreational trail. The City of Owatonna is in
the process of securing the right of way. Temporary easements may be required to provide
construction equipment adequate space to complete work tasks.

Noise

Refer to EAW Question 24 Odors, Noise and Dust for results of the noise modeling.

Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are National Ambient Air Quality
Standards (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 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 in Section 202 of the Clean Air Act. 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:

![Graph of 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.

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. MOBILE6.2 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 unsupportable 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 noncancer 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 problems (1). 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 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. 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 relative to MSATs.

**Qualitative Analysis**
As discussed above, technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of MSAT emissions and effects of this project. However, even though reliable methods do not exist to accurately estimate the health impacts of MSATs at the project level, it is possible to qualitatively assess the levels of future MSAT emissions under the project, and give a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives, found at:

For each alternative in this EA, the amount of MSATs emitted would be proportional to the vehicle miles traveled (VMT), assuming that other variables such as fleet mix are the same for each alternative. Generally, the VMT 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. There are only two alternatives for this project, no build and widening to four lanes. The projected ADT for the road is 8190. The existing two-lane section has the capacity to carry the design year amount of traffic, therefore the VMT is anticipated to be approximately the same for the No Build and Build Alternative. Ultimately when the beltline system around Owatonna is complete, traffic is projected at 19,000 vehicles per day on sections of the CSAH 34 corridor. The two-lane section does not have capacity to carry that amount of traffic and therefore VMT will be higher on the four-lane section.

An increase in VMT 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 MOBILE6 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.

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, VMT growth rates, and local control measures. However, the magnitude of the EPA projected reductions is so great (even after accounting for VMT 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 certain Build Alternatives 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 at the intersection with CSAH 1. 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 summary, 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.
(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.

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

Informational Process

Public Involvement Plan
A public involvement plan was developed and implemented early in the project development process. This plan has helped to establish communication between Steele County and the public and has given Steele County a better understanding of the concerns that the public and agencies have about the proposed project. It has also given the public and agencies knowledge about what it is that Steele County is trying to accomplish with the project, and the standards, procedures, and constraints that Steele County needs to consider while developing the project. Elements of the public involvement plan include a public informational meeting, public hearing and the public comment period on the Environmental Assessment.

Summary of Early Coordination Comments
As a result of the public informational meeting and contacts, comments and concerns about the proposed project were received, both verbally and in writing. Those substantive comments and concerns received are listed below:

- Access to Lamada Pl. will be maintained throughout construction.
- Access to Owatonna Groundmasters will be maintained throughout construction either through a new access to St. Paul Road or coordination with the contractor to leave access open on CSAH 34 (to be determined).
- The Grace Baptist Church is willing to have two access locations removed from CSAH 34.
- Residents called regarding the field visits staff would be making for various environmental studies.

Permits and Approval Requirements

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**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 Environmental Assessment. A public hearing will be held after this Environmental Assessment has been distributed to the public and to the required and interested Federal, Native American Tribes, state and local agencies for their review.

The public will 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.

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).

Process Beyond the Hearing
Following the comment period, Steele County, Mn/DOT State-Aid 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 an Environmental Impact Statement (EIS), by revising the Environmental Assessment, or clarification in the Findings of Fact and Conclusion, whichever is appropriate.

When the environmental documentation is determined adequate, Steele County will choose a project alternative, either the “No Build” or the CSAH 34 reconstruction alternative.

If an EIS is not necessary, as currently anticipated, Steele County will prepare a "Negative Declaration" for the state environmental requirements. Steele County will also prepare a request for a "Finding of No Significant Impacts" (FONSI) that will be submitted to State-Aid and FHWA. If the FHWA agrees that this finding is appropriate, it will issue a FONSI.

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

VI. GEOMETRIC DESIGN STANDARDS AND EXCEPTIONS (if applicable)

This project will be designed to Mn/DOT’s 2005 standards. See Appendix F for Geometric Design Standards Table and Design Study Report. For additional information and justification see the Geometric Design Standards Table.
VII. APPENDICES

Appendix A – Project Figures

Appendix B – Historical Aerials

Appendix C – Threatened and Endangered Species Letters and Report, CRU Letters

Appendix D – Wetland Delineation Report

Appendix E – Noise Impact and Mitigation Study

Appendix F – Design Study Report

Appendix G – Related Pages from Previous Reports and Documents
Appendix A – Project Figures

USGS Topographic Map

Site maps with 2005 aerial background
Appendix B – Historical Aerials

1938 aerial
1951 aerial (2 pages)
1964 aerial (2 pages)
1971 aerial (2 pages)
1991 aerial
The EDR Aerial Photo Decade Package

NW Beltline Corridor
NW Beltline Corridor
Owatonna, MN 55060

Inquiry Number: 1659704.3

April 24, 2006

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com
THE EDR AERIAL PHOTO DECADE PACKAGE

Environmental Data Resources, Inc.'s (EDR) Aerial Photography Print Service is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs at one photo per decade.

References
EPAs Standards and Practices for All Appropriate Inquiries (AAI), section 312.24, identifies the historical sources of information necessary to achieve the objectives and performance factors of section 312.20. According to AAI, "historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

To meet the prior use requirements of ASTM E 1527-05, Section 8.3.2, the following standard historical sources may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1527-05, Section 8.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. ASTM E 1527-05 requires "All obvious uses of the property shall be identified from the present, back to the property's first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historical sources as are necessary and both reasonably ascertainable and likely to be useful." (ASTM E 1527-05, Section 8.3.2) Reasonably ascertainable means information that is publicly available, obtainable from a source within reasonable time and cost constraints, and practically reviewable.

Data Gaps
In order to address data gaps, additional sources of information may be consulted. According to the AAI, Section 312.20 (g), "to the extent there are data gaps (as defined in section 312.10) in the information developed...that affect the ability of persons (including the environmental professional) conducting the all appropriate inquiries to identify conditions indicative of releases or threatened releases...such persons should identify such data gaps, identify the sources of information consulted to address such data gaps, and comment upon the significance of such data gaps."
According to ASTM E 1527-05, Section 8.3.2.3, "historical research is complete when either: (1) the objectives in 8.3.1 through 8.3.2.2 are achieved; or (2) data failure is encountered. Data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met....If data failure is encountered, the report shall document the failure and, if any of the standard historical sources were excluded, give the reasons for their exclusion."

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**Date EDR Searched Historical Sources:**
Aerial Photography April 24, 2006

**Target Property:**
NW Beltline Corridor
Owatonna, MN 55060

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Appendix C – Threatened and Endangered Species Letters and Report

Letter from DNR Natural Heritage and Nongame Resource Program

Letter from Mn/DOT – Federally-Listed T/E Species Review Letter

Threatened and Endangered Species Search Report

Threatened and Endangered Species Search Report – Extended Area

Mn/DOT CRU – Cultural Resources Letter to Lower Sioux Community Center

Mn/DOT CRU – Historical/Archeological Impacts Letter

Letter from DNR Natural Heritage and Nongame Resource Program – Extended Area

Letter from Mn/DOT – Federally-Listed T/E Species Review Letter – Extended Area
June 9, 2006

Mr. Bryan Benjamin
Bonestroo, Rosene, Anderlik & Associates, Inc.
112 7th Street NE
Rochester, MN 55906

Re: Request for Natural Heritage information for vicinity of proposed CSAH 34 Reconstruction (SP 74-634-10); T107N R20W Sections 2, 3, 4 and T108N R20W Sections 33, 34, 35; Steele County
NHNRP Contact #: ERDB 20060916

Dear Mr. Benjamin,

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 area indicated on the map enclosed with your information request. Based on this review, there are 6 known occurrences of rare species or native plant communities in the area searched (for details, see enclosed database printout and explanation of selected fields). However, standard construction procedures (e.g., runoff prevention) should ensure that these features remain unaffected by the proposed activity.

The Natural Heritage database is maintained by the Natural Heritage and Nongame Research Program, a unit within the Division of Ecological Services, Department of Natural Resources. It is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. Its purpose is to foster better understanding and protection of these features.

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, but has not been completed for Steele County. Therefore ecologically significant features for which we have no records may exist on the project area.

The enclosed results of the database search are provided in two formats: short record report and long record report. To control the release of locational information, which might result in the damage or destruction of a rare element, both printout formats are copyrighted.

The short record report provides rare feature locations only to the nearest section, and may be reprinted, unaltered, in an Environmental Assessment Worksheet, municipal natural resource plan, or report compiled by your company for the project listed above. If you wish to reproduce the short record report for any other purpose, please contact me to request written permission. The long record report includes more detailed locational information, and is for your personal use only. If you wish to reprint the long record report for any purpose, please contact me to request written permission.

Please be aware that review by the Natural Heritage and Nongame Research Program focuses only on rare natural features. It does not constitute review or approval by the Department of Natural Resources as a whole. If you require further information on the environmental review process for other natural resource-related issues, you may contact your Regional Environmental Assessment Ecologist, Todd Kolander, at (507) 359-6073.

DNR Information: 651-296-6157 • 1-888-646-6367 • TTY: 651-296-5484 • 1-800-637-3929

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An invoice in the amount of $72.27 will be mailed to you under separate cover within two weeks of the date of this letter. You are being billed for map and database search and staff scientist review. Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

[Signature]

For Sarah D. Hoffmann
Endangered Species Environmental Review Coordinator

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Records Printed = 6
Minnesota Department of Transportation

Office of Environmental Services
395 John Ireland Boulevard, MS 620
St. Paul, MN 55155-1899

July 11, 2006

Bryan Benjamin, P.E.
Bonesbro, Rosene, Anderlik & Associates
112 7th St NE
Rochester, MN 55906

RE: No Effect Determination (Federal Threatened and Endangered Species)
S.P. 74-634-10, County State Aid Highway 34/26th Street NE/North Beltline
Roadway Reconstruction
City of Owatonna
Steele County

Dear Mr. Benjamin:

In response to your request, the proposed action has been reviewed for potential effects to federally-listed
threatened and endangered (T&E) species, candidate species and listed critical habitat. As a result of this review,
a determination of no effect has been made.

If a Federal agency authorizes, funds, or carries out a proposed action, the responsible Federal agency, or its
delegated agent, is required to evaluate whether the proposed action “may affect” listed species. If it is
determined that the action “may affect” a listed species, then the responsible Federal agency shall request Section
7 consultation with the U.S. Fish and Wildlife Service. If the consultation shows “no effect” on the listed species,
further consultation is not necessary.

Scope of Action
The proposed action involves the reconstruction/expansion of an existing arterial.

Listed Species
According to the County Distribution of Minnesota’s Federally-Listed Threatened, Endangered, Proposed, and
Candidate Species list maintained by the U.S. Fish and Wildlife Service, Steele County is within the distribution
range of the dwarf trout lily (Erythronium propullans), a federally-listed species.

Factors considered in making the determination of no effect are described below:
Critical Habitat
There is no listed critical habitat within the action area.

Field Evaluation
On May 17, 2006 a consulting group working on behalf of Steele County conducted a field evaluation with the
purpose of identifying any rare plant species/populations within the action area. No rare plant
species/populations were identified.

Known Occurrences
According to the information provided by the Natural Heritage Database (updated 3-6-06) maintained by the
Minnesota Department of Natural Resources and the U.S. Fish and Wildlife Service (Twin Cities ES Field
Office), there are no known occurrences of federally-listed T&E or candidate species within the action area. As
such, the proposed action has little to no potential to have any measurable influence on federally-listed T&E
species, candidate species or on the habitat for which they depend.

If modifications are made or new information becomes available which indicates that listed species may be
affected, please contact this office. This review was completed for federally-listed T&E and candidate species
only. For information on state-listed T&E species, contact the Endangered Species Environmental Review
Coordinator, Natural Heritage and Nongame Research Program, Minnesota Department of Natural Resources
(651) 259-5107.

Sincerely,

Jason Alocott
Natural Resource Specialist, Senior
cc: USFWS: Gary Wege OES: Gerry Larson, file
An equal opportunity employer
Steele County
CSAH 34/North Beltline

Threatened/Endangered Species Search and Potential Wetlands Report

Field Survey Completed May 17, 2006

Prepared By:

Bonestroo

Bonestroo
Rosene
Anderlik & Associates
Engineers & Architects
Introduction
The City of Owatonna is a growing community situated in Steele County, Minnesota. For this reason, the County has undertaken efforts to plan for additional infrastructure to accommodate an increased population size and vehicular traffic load. During this process, the County is considering construction of a north beltline around the city.

The purpose of this effort is to conduct a field-based investigation of potential State-listed plant species along the identified potential beltline corridor of 26th Street from North Cedar Avenue to Kenyon Road. The information below summarizes the methods and results for this survey.

Methods
Gather Existing Information
A data base search request has been submitted to the Minnesota Department of Natural Resources Natural Heritage Program (MN DNR NHP). At the time of this writing it had not yet been received. This DNR report will list any previous rare plant or animal population records from the area. Information was also gathered on soils and National Wetlands Inventory (NWI) maps in the project area to aid in the identification and estimation of wetlands within the project area.

Rare Species Field Survey
The rare species field search for the Owatonna north beltline project area was conducted on 17 May 2006. The search included an area approximately 100 feet wide, centered along the proposed alignment. Areas that exhibited structure, composition, and visual characteristics for native plant communities were deemed suitable for a more extensive on-foot survey.

The majority of the vegetative cover along the alignment consisted primarily of mowed and manicured lawns and ditches, as well as nonnative dominated pastures. Consequently, these areas did not exhibit structural composition and visual characteristics to warrant an on-foot survey. However, a wooded area located near the intersection of 26th Street and Hemlock Avenue NE was surveyed more extensively on-foot. During the on-foot survey, vegetation in this wooded area was thoroughly searched for State-listed plant species. Additional notes were taken on associate plant species and general habitat type and quality.
Potential Wetland Identification
Similar to the rare plant search, the initial effort to identify potential wetlands within the project area included a windshield survey. This served to identify areas for additional investigation. When a potential wetland area was observed, the general location and approximate extent was marked on a 2003 Farm Service Agency full color aerial photograph.

Results
Rare Plant Search
The rare plant search was conducted approximately one month following the onset of the growing season. The search yielded no evidence of the presence of rare plant species.

The one native plant community that occurs along the north side of the road (north of Hemlock Road) was found to be a moderate quality mixed hardwood forest with signs of former logging. One hull of a butternut (State Special Concern species) fruit was located on the ground. However, an extensive search for the adult tree that produced the nut was unsuccessful. As large nuts such as those from a butternut can be transported substantial distances by squirrels, it is presumed that the hull originated from a tree at least several hundred feet from the considered alignment. Butternut Juglans cinerea is a State Special Concern species largely due to the extensive reduction of populations of this species by a nonnative fungal pathogen.

Dominant canopy trees in this woodland include basswood Tilia americana, green ash Fraxinus pensylvanica, Elm Ulmus americana, black cherry Prunus serotina and others to a lesser amount. Canopy trees are estimated to average about 12-14 inches in diameter. The shrub layer is largely dominated by the nonnative shrub European buckthorn Rhamnus cathartica. The ground layer is moderately good to good quality and exhibits good species richness with over 25 species of plants noted in a brief foray. Frequently encountered forbs include Jack-in-the-pulpit Arisaema triphyllum, false Solomon’s seal Smilacina racemosa, nodding trillium Trillium cernuum, blue wood aster Aster cordifolius and others. The area also supports a rich complement of native grasses Poaceae spp. and sedges Carex spp.
Potential Wetlands
Potential wetlands included NWI mapped wetlands as well as those that would appear to meet the criteria to be considered a wetland. Estimated extent of wetlands observed in the field are indicated on the map on the following page. Potential wetland areas consisted primarily of drainage ways/ditches/channelized streams and were also noted on the following indicating the general area rather than an approximated extent. Additionally, two stormwater retention ponds were also noted in the event that wetland criteria is met in these structures. It is important to note that relative to the regulation of the Wetland Conservation Act, these wetlands may not be considered jurisdictional wetlands.

There was one small wetland area that appears to not be a result of ponding in road ditches or ponding for stormwater management. This wetland occurs in the woodland just northwest of the intersection of 26th Street and Hemlock Avenue. Although the landowner appears to have performed some minor excavation to the wetland, the plant species found here tend to indicate that it was a prior-existing, natural wetland.

NOTE: This field investigation effort is not a wetland delineation. A formal wetland delineation along the selected alignment should be conducted early in the design process to allow appropriate time for agency review, permitting, and other associated activities.
APPENDIX
Steele County
CSAH 34/North Beltline

Threatened/Endangered Species Search and Potential Wetlands Report

Field Survey Completed May 16, 2007

Prepared By:

Bonestroo
Introduction
Steele County is proposing road improvements to CSAH 34 (26th Street) to create a beltline corridor around the City of Owatonna. A previous rare species search was conducted for portions of the beltline corridor adjacent to CSAH 34 between North Cedar Avenue and Kenyon Road. An additional ¼ mile has been extended to the east adjacent to CSAH 34, between Kenyon Road (CSAH 8) and Deer Trail Lane to accommodate a stormwater retention area.

A field-based investigation was conducted along the additional ¼ mile of the proposed beltline corridor in search of State-listed species.

Methods
Existing Information
The Minnesota Department of Natural Resources Natural Heritage Program (MN DNR NHP) Database was queried for the beltline corridor alignment. The database shows no records of rare plant or animal populations along this alignment.

Rare Species Field Survey
The field survey for rare species was conducted on May 16, 2007 along the proposed ¼ mile extension of the beltline corridor. In the area of the proposed stormwater retention basin, the investigation area was extended to approximately 150 feet off the centerline of CSAH 34. The remaining portion of the corridor was investigated out to 50 feet on either side of the proposed corridor. The field investigation consisted of an on-foot visual search for any rare species. The majority of the area consisted of mowed areas and ditches. One area investigated near the intersection of CSAH 34 and Deer Trail Lane consisted of a wooded area surrounding a house.

Results
The rare species search for the additional ¼ mile extension of the beltline corridor along CSAH 34 between Kenyon Road and Deer Trail Lane yielded no evidence of rare species.
June 21, 2006

Mr. Sheldon Peters Wolfchild, Chairperson
Lower Sioux Community Center, Community Council
P.O. Box 308
Morton, MN 56270

Re: SP74-634-10; Upgrade CSAH 34 and New Recreational Trail
T107N R20W Sections 2, 3, 4 and T108N R20W Sections 33,34,35

Dear Mr. Peters Wolfchild:

Steele County plans to upgrade CSAH 34 (25th Street) from north Cedar Avenue to Kenyon Road in Owatonna using federal funds administered by the Federal Highway Administration (FHWA). This undertaking is subject to review under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and under the National Environmental Policy Act (NEPA). Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties (i.e., those properties eligible for or listed on the National Register of Historic Places). This process involves efforts to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. On behalf of the FHWA, which has designated its Section 106 responsibilities to the Minnesota Department of Transportation (Mn/DOT) Cultural Resources Unit (CRU), we are now initiating review to determine the possible effects of the undertaking (if any) on historic properties. In accordance with 36 CFR 800.2(c) of the NHPA and as per the terms of the Programmatic Agreement between the Lower Sioux Community Center, Community Council and the FHWA, we are contacting you to see if you know of any historic properties of religious or historic significance in the area, and to see if you would like to participate in the Section 106 process for this project (i.e., to be a consulting party).

The proposed upgrades include widening the road from a 2- lane to a 4- lane, and the addition of concrete curb and gutter. A new 10.5 foot wide paved recreational trail is planned for the south side of the road. All work would be completed within the existing 100 foot right of way except for the east end of the project near Kenyon Road where additional easement will be needed from one land owner in order to construct the trail. The new construction will follow the same horizontal and vertical alignments as the existing road. A new storm sewer pipe will be constructed along the north side of the road.
Our office has defined the area of potential effect (APE) for the project as the proposed construction limits. The APE is defined as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. Once the APE was established, we examined the SHPO database for the list of previously recorded resources in the area. Based on these queries, there are no previously recorded archaeological resources within the APE, or adjacent to it.

We would appreciate any comments you may have about historic, cultural, and archaeological resources and other concerns regarding this project. Our planning schedule is such that we must initiate work on our environmental and historic preservation studies, so we hope to hear from you within 30 days of receipt of this letter. If you indicate that you are not aware of any historic properties with religious or cultural significance and that you do not wish to comment on the project, or if our office does not receive a response within 30 days, we will conclude that you do not wish to be a consulting party for this project and no further project information will be forwarded.

Thank you for your attention to this request. We look forward to working with you on this project.

Sincerely,

[Signature]

Teresa Martin
Archaeologist
Cultural Resources Unit

cc: Bryan Benjamin, Bonestroo & Associates
Joe Hudak, Mn/DOT CRU
Mn/DOT CO File
Mn/DOT CRU Project File
July 26, 2006

Bryan Benjamin, Project Manager
Boonestroo Rosene Anderlik & Associates
112 7th Street NE
Rochester, MN 55906

Dear Mr. Benjamin,

Regarding: SP 74-634-10, Upgrades to CSAH 34, Steele County
T107N R20W Sections 2,3,4
T108N R20W Sections 33,34,35

We have reviewed the above-referenced undertaking pursuant to our FHWA-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act, as amended (36 CFR 800), and as per the terms of the Programmatic Agreement (PA) between the FHWA and the Minnesota State Historic Preservation Office (SHPO) (June 2005).

The proposed upgrades include widening the road from a 2-lane to a 4-lane, and the addition of concrete curb and gutter. A new 10.5 foot wide paved recreational trail is planned for the south side of the road. All work would be completed within the existing 100 foot right of way except for the east end of the project near Kenyon Road where additional easement will be needed from one land owner in order to construct the trail. The new construction will follow the same horizontal and vertical alignments as the existing road. A new storm sewer pipe will be constructed along the north side of the road.

The APE for archaeology consists of the construction limits. For architecture/history, the APE includes properties adjacent to the construction area and any new right of way acquisition. There are no previously recorded properties within the APE. MnModel maps this area as having low potential for archaeology.

We have determined that there will be no historic properties affected by the project as currently proposed. As there are no historic properties within the project APE, the section 106 review of this project is now complete and no SHPO comment period and response are required under the terms of the new PA. If the project scope changes, please provide our office with the revised information and we will conduct an additional review.

Sincerely,

Teresa Martin
Archaeologist
Cultural Resources Unit (CRU)

cc: Scott Anfinson, State Archaeologist
Joe Hudak, Mn/DOT CRU
Mn/DOT CO File
Mn/DOT CRU Project File
From: Lisa Joyal [Lisa.Joyal@dnr.state.mn.us]  
Sent: Wednesday, May 30, 2007 5:53 PM  
To: Benjamin, Bryan  
Subject: Re: Steele Co. CSAH 34 T/E Review - Extended Area

Bryan,

I have reviewed the Natural Heritage Information System regarding CSAH 34. The proposed extension does not change the results of our previous review. Our reply letter dated 9 June 2006 is still valid.

Thank you for notifying us of the proposed changes, and for the opportunity to provide additional comments. If you have any further questions, please feel free to contact me.

Sincerely,

Lisa

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Lisa Joyal  
Endangered Species Environmental Review Coordinator NHIS Data Distribution  
Coordinator Natural Heritage and Nongame Research Program Minnesota Department of Natural Resources 500 Lafayette Road, Box 25 St. Paul, MN  55155

phone: 651-259-5109  
fax: 651-296-1811  
lisa.joyal@dnr.state.mn.us
From: Jason Alcott [Jason.Alcott@dot.state.mn.us]
Sent: Monday, June 04, 2007 10:10 AM
To: Benjamin, Bryan
Subject: Re: FW: Steele Co. CSAH 34 T/E Review - Extended Area

Bryan,

The proposed modifications do not change the results of the previous review. The letter dated July 11, 2006 is still valid.

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
Appendix D – Wetland Delineation Report

Bonestroo Wetland Delineation Report – 2006

Bonestroo Wetland Delineation Report – 2007
Wetland Delineation Report

Steele County
CSAH 34/North Beltline

July 12, 2006
WETLAND Delineation Report

Steele County
CSAH 34/North Beltline
S ½, S ½, Section 34 & 35, T108N, R20W and 
N ½, N ½, Section 3 & 4, T107N, R20W, Owatonna, MN

July 12, 2006

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- Wetland Delineation Methods

- Figures
  1. Site Location
  2. National Wetlands Inventory
  3.1 - 3.2 Steele County Soil Survey
  4.1 - 4.2 Historical Photos: 1938 & 1958
  5.1 - 5.3 Wetland Delineation Map/2003 Aerial Photo

- Attachment
  A. Wetland Delineation Data Forms

Prepared for

Steele County
Attn: Gary Bruggeman
635 Florence Avenue
P.O. Box 890
Owatonna, MN 55060
Phone: (507) 583-2283

Prepared by

Bonestroo Rosene Anderlik & Associates
Daniel Tersteg
2335 West Highway 36
St. Paul, MN 55113
Phone: (651) 604-4908

Local Governmental Unit

Steele County
Attn: Scott Golberg
P.O. Box 890
Owatonna, MN 55060-0890
Phone: (507) 444-7477

Coe Representative

U.S. Army Corps of Engineers
Attn: OP-R
Attn: Dave Studenski
1114 South Oak Street
La Crescent, MN 55947-1338
Phone: (507) 895-2064

Page 1

Bonestroo Rosene Anderlik & Associates
Steele County, Wetland Delineation Report-Prjekt No. 001324-06001
INTRODUCTION

This report is prepared for Steele County to identify wetlands along NE 26th Street for proposed road improvements located on the southern boundary of Sections 34 and 35, T108N, R20W and the northern boundary of Sections 3 and 4, T107N, R20W, Owatonna, MN. The field investigation for this wetland delineation was completed on June 22, 2006. Figure 1 shows the location of the project area. This delineation report provides the required documentation for wetland boundary determinations in conformance with the Minnesota Wetland Conservation Act and Section 404 of the Clean Water Act.

METHODS

Preliminary Investigation:
The National Wetlands Inventory Map (NWI) was examined with the 2003 aerial photograph to identify potential wetlands on the site (Figure 2). The NWI showed no listed wetlands in the project area. Additionally, the Minnesota DNR Public Waters Inventory (PWI) was examined and found no listed wetlands for the project area. The Steele County Soil Survey was examined to determine additional areas of potential wetlands (Figure 3.1 – 3.2). Glencoe clay loam and Webster clay loam are Whole Unit Hydric Soils located on the site. Whole Unit Hydric Soils are good indicators of wetlands. 1938 and 1958 historical photos were examined from the Minnesota DNR Landview website to determine any historical presence of wetlands on the project site (Figure 4.1 – 4.2). Four (4) jurisdictional wetlands were identified and delineated on or immediately adjacent the project area (Figure 5.1 – 5.3).

Wetland Delineation:
Wetlands were identified using standard delineation methodology described in the 1987 Army Corps of Engineers (COE) Wetland Delineation Manual as required by both the Minnesota Wetland Conservation Act and Section 404 of the Clean Water Act. To verify a site is wetland, three technical criteria are examined and documented. A combination of the hydric soil, hydrophytic vegetation, and hydrology criteria defines wetlands as described in the National Food Security Act Manual (Soil Conservation Service, 1994) and the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). Therefore, an area that meets the hydric soil criteria must also meet the hydrophytic vegetation and wetland hydrology criteria in order for it to be classified as a jurisdictional wetland.

A hydric soil is a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part. The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. Also, soils in which the hydrology has
been artificially modified are hydric if the soil, in an unaltered state, was hydric (USDA, NRCS 1999). A hydric soil list provided by the National Technical Committee for Hydric Soils (NTTCHS) and the County Soil Survey was used to determine the potential locations of hydric soils for this site (Fig. 3.1 – 3.2).

*Hydrophytic vegetation* is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. Plant species within the wetland/upland ecotone were recorded as to their percent cover and wetland indicator status according to the National List of Plant Species that occur in wetlands; North Central Region 3 (USFWS Biological Report 88, 26.3; May 1988).

The term *wetland hydrology* encompasses all hydrologic characteristics for areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. COE hydrology criteria consist of inundation or saturation to the surface for at least 5% of the growing season in most years. Areas with evident characteristics for wetland hydrology are those where the presence of water has an overriding influence on the characteristics of vegetation and soils (COE Delineation Manual, 1987).

Soils, vegetation, and hydrology were documented at representative transect locations along the wetland edge. At each transect, the first plot was placed in an area that met the criteria to be a jurisdictional wetland. Subsequent plots were placed upslope until jurisdictional wetland criteria were not met. At least one upland plot and one wetland plot are documented on the Routine Wetland Delineation Data Form filled out for each transect. In some cases, additional plots were needed to clearly establish wetland boundaries. The transect and plot locations are shown on Figure 5.1 – 5.3. Plant species cover was based on the percent aerial coverage visually estimated within a 30-foot radius of the plot for the sapling and shrub layers and a 5-foot radius for the herbaceous layer within the community type being sampled. Estimate of basal area for dominant trees was determined by using a 10-factor prism. Total vegetation dominance for all strata was determined using the “50/20 rule” (COE Delineation Manual, 1987). Soils observations were made immediately below the A-horizon. Primary and secondary hydrology indicators were generally evaluated to a depth of 16 inches. Wetland boundaries were marked using pink pin flags labeled “wetland delineation” and surveyed using a Trimble PROXH sub-meter GPS unit.

**Site Specific Methods and Results:**

**Wetland A**
This is primarily a Type 5 open water wetland. Vegetation at the wetland pit was dominated by
glossy buckthorn, green ash, cottonwood, and black willow. Vegetation at the upland pit was comprised mainly of glossy buckthorn, American basswood, jack-in-the-pulpit, Virginia creeper, and riverbank grape. In the wetland pit, soils were saturated to the surface and free standing water was measured at 2 inches below the ground surface. In the upland pit, free standing water and saturated soils were measured at 20 inches and 16 inches below the ground surface, respectively. Soils in the wetland were black (10YR 2/1) mucky loam over black (10YR 2/1) silty clay loam. In the upland, soils were black (10YR 2/1) silt loam over very dark gray (10YR 3/1) silty clay loam, over mottled dark grayish brown (10YR 4/2) silty clay loam. Wetland hydrology criteria was not met at the upland pit.

A test pit (Test Pit 1) was also dug to evaluate a potential wetland area (Fig. 5.1). Vegetation at this pit was dominated by Canada goldenrod, glossy buckthorn, green ash, black willow, and American elm. Free standing water and saturated soils were measured at 17 inches and 13 inches below the ground surface, respectively. Soils were black (10YR 2/1) silt loam over black (10YR 2/1) silty clay loam. Because wetland hydrology criteria was not met at the test pit, this area did not qualify as a jurisdictional wetland and therefore was not included as part of Wetland A.

Wetland A, shown in yellow on Figure 5.1, met all criteria to qualify as a jurisdictional wetland. The wetland boundary follows both a topographic break, as well as a vegetative break between dominant wetland species and upland species.

**Wetland B**

This is a Type 1 seasonally flooded basin wetland. Vegetation at the wetland was dominated glossy buckthorn and green ash. Vegetation at the upland pit was comprised mainly of glossy buckthorn and American basswood. In the wetland pit, free standing water and saturated soils were measured at 19 inches and 15 inches below the ground surface, respectively. Neither saturated soils nor free water was present in the upland pit. Soils in the wetland were black (10YR 2/1) silt loam over black (10YR 2/1) silty clay loam. In the upland, soils were black (10YR 2/1) loam over very dark gray (10YR 3/1) silty clay loam over dark grayish brown (10YR 4/2) silty clay loam. Both wetland vegetation and hydrology criteria were not met at the upland pit.

Wetland B, shown in yellow on Figure 5.1, met all criteria to qualify as a jurisdictional wetland. The wetland boundary follows both a topographic break, as well as a vegetative break between dominant wetland species and upland species.
Wetland C
This is primarily a Type 3 shallow marsh wetland. This wetland was delineated as it is associated with Whole Unit Hydric soils and the 1938 historical photo shows what appears to be a wetland feature that includes drainage patterns. This wetland has been recently disturbed. Field observations included evidence of dredging, as well as placing drainage pipes covered with riprap in two locations of the wetland (Fig 5.2). Vegetation at the wetland was dominated by reed canary grass and common duckweed. Vegetation at the upland pit was comprised mainly of western sunflower and common milkweed. In the wetland pit, surface water was present and soils were inundated. Neither saturated soils nor free water was present in the upland pit. Soils in the wetland were black (10YR 2/1) muck over gleyed grayish green (4/5GY) loamy sand. In the upland, soils were very dark brown (10YR 2/2) loam over mottled, brown (10YR 4/4) clay loam over a buried, black (10YR 2/1) silty clay loam. Both wetland vegetation and hydrology criteria were not met at the upland pit.

Wetland C, shown in yellow on Figure 5.2, met all criteria to qualify as a jurisdictional wetland. The wetland boundary follows both a topographic break, as well as a vegetative break between dominant wetland species and upland species.

Wetland D
This is primarily a Type 2 wet meadow wetland. This wetland was delineated as it is associated with Whole Unit Hydric soils and the 1938 and 1958 historical photo shows what appears to be a wetland feature that includes drainage patterns. A stormwater basin is adjacent to this wetland but separated by an earthen berm (Fig. 5.3). Vegetation at the wetland was dominated by spotted touch-me-not, box elder, black willow, and elderberry. Vegetation at the upland pit was comprised mainly of swamp marigold, box elder, black currant, black willow, and elderberry. In the wetland pit, surface water was present and soils were inundated. In the upland pit, free standing water and saturated soils were measured at 25 inches and 21 inches below the ground surface, respectively. Soils in the wetland were black (10YR 2/1) mucky loam over black (10YR 2/1) silt loam over mottled, dark grayish brown (2.5YR 4/2) sandy clay loam. In the upland, soils were black (10YR 2/1) loam over mottled, light grayish brown (2.5YR 5/3) silt loam. Wetland hydrology criteria was not met at the upland pit.

Wetland D, shown in yellow on Figure 5.3, met all criteria to qualify as a jurisdictional wetland. The wetland boundary follows both a topographic break, as
well as a vegetative break between dominant wetland species and upland species.

See delineation data sheets for more information on each wetland.

CONCLUSION

Four (4) jurisdictional wetlands were identified within or adjacent to the project alignments, shown in yellow in Figures 5.1, 5.2, and 5.3 as Wetlands A, B, C, and D. The procedures followed for this Wetland Delineation Report are in accordance with the 1987 Federal Manual for Identifying and Delineating Jurisdictional Wetlands. This delineation describes conditions for narrowly defined periods of time.

If unavoidable impacts are proposed for the wetlands, permits or exemptions must first be obtained from the proper agencies. These could include: Local Governmental Unit (County), State (DNR), Federal (Army Corps of Engineers), and/or other applicable entities.

Bonestroo Rosene Anderlik and Associates

[Signature]
Daniel Tersteeg
Wetland Scientist

07/12/06
Date
FIGURES
SOILS KEY (*Whole Unit Hydric):
DU - Dundas silt loam
*GC - Glencoe clay loam
HOB2 - Hayden loam, 2-6% slopes, eroded
HOC2 - Hayden loam, 6-12% slopes
LUA - Le Sueur clay loam, 0-2% slopes
*WT - Webster clay loam
SOILS KEY (*Whole Unit Hydric):
*CF - Canistee clay loam, depressional
DU - Dundas silt loam
*GC - Glencoe clay loam
HOB - Hayden loam, 2-6% slopes
HOB2 - Hayden loam, 2-6% slopes, eroded
HOC2 - Hayden loam, 6-12% slopes
LLB - Lester loam, 2-6% slopes
LLB - Lester loam, 2-6% slopes, eroded
LUA - Le Sueur clay loam, 0-2% slopes
LUB - Le Sueur clay loam, 2-4% slopes
*WT - Webster clay loam

FIGURE 3.2

STEELE COUNTY SOIL SURVEY

STEELE COUNTY
CSAH 34/NORTH BELTLINE

Bonestroo
Rosene
Anderlik &
Associates
Engineers & Architects
DELINEATED WETLAND BOUNDARIES

STEELE COUNTY
CSAH 34/NORTH BELTLINE

FIGURE 5.1

WETLAND A
WETLAND B
SPOIL PILE
CULVERT

NE 26th St
HEMLOCK AVE NE

APPROXIMATE PROJECT AREA

Scale in feet
0 50

2003 AERIAL PHOTO
JULY 12 2003
ATTACHMENT A

WETLAND DELINEATION DATA FORMS
Project: Owatonna CSAH 34/N Beltline

Basin: A  Date: 6/22/2006  Investigator: DPT
☐ This site is a jurisdictional wetland  Date 2

Comments

Transsect Information

Transsect # 1
Normal Conditions: ☑ Wetland Vegetation Present: ☑ Cowardin: PUB3H
Atypical Situation: ☐ Hydric Soils Present: ☑ NWI Mapped: No

Aerial Photo Year: 2003
Gauge: ☐

Comments

Pit Descriptions

Pit #: 1

Vegetation  Wetland Vegetation Present? ☑

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Stratum</th>
<th>Indicator Status</th>
<th>% Cover</th>
<th>Dominant According to 50/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frangula alnus</td>
<td>glossy buckthorn</td>
<td>S</td>
<td>FAC+</td>
<td>40.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>Green ash</td>
<td>T</td>
<td>FACW</td>
<td>35.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>Green ash</td>
<td>S</td>
<td>FACW</td>
<td>5.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Phalaris arundinacea</td>
<td>Reed canary grass</td>
<td>H</td>
<td>FACW+</td>
<td>45.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Populus deltoides</td>
<td>Cottonwood</td>
<td>T</td>
<td>FAC+</td>
<td>30.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Ribes americanum</td>
<td>Wild black currant</td>
<td>H</td>
<td>FACW</td>
<td>2.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Salix nigra</td>
<td>Black willow</td>
<td>T</td>
<td>OBL</td>
<td>25.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Salix nigra</td>
<td>Black willow</td>
<td>S</td>
<td>OBL</td>
<td>1.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Ulmus americana</td>
<td>American elm</td>
<td>T</td>
<td>FACW-</td>
<td>20.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Ulmus americana</td>
<td>American elm</td>
<td>S</td>
<td>FACW-</td>
<td>5.00%</td>
<td>☐</td>
</tr>
</tbody>
</table>

% of dominant species that are 100
OBL, FACW or FAC in Pit:

Hydrology  Hydrology Present ☑

Depth of Surface Water  Depth to Free Water  Depth to Saturated Soil
N/A  2"  0"

Hydrology Primary Indicators  Hydrology Secondary Indicators  Hydrologic Alterations
FAC-neutral test  No

Soil  Hydric Soils Present: ☑  Map Symbol: DU

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Matrix Color</th>
<th>Mottle Color</th>
<th>Mottle Quantity</th>
<th>Mottle Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7</td>
<td>10 YR 2/1</td>
<td></td>
<td></td>
<td></td>
<td>Mucky loam</td>
</tr>
<tr>
<td>7-25</td>
<td>10 YR 2/1</td>
<td></td>
<td></td>
<td></td>
<td>Silty clay loam</td>
</tr>
</tbody>
</table>
Hydric Soil Indicator: Chroma of 1 with or w/o Mottle

**Pit #: 2**

**Vegetation**

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Stratum</th>
<th>Indicator Status</th>
<th>% Cover</th>
<th>Dominant According to 50/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arisaema triphyllum</td>
<td>Jack-in-the-pulpit</td>
<td>H</td>
<td>FACW-</td>
<td>3.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Bidens aristosa</td>
<td>Swamp marigold</td>
<td>H</td>
<td>FACW</td>
<td>1.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Frangula alnus</td>
<td>glossy buckthorn</td>
<td>S</td>
<td>FAC</td>
<td>50.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>Green ash</td>
<td>S</td>
<td>FACW</td>
<td>2.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Parthenocissus quinquefoli</td>
<td>Virginia creeper</td>
<td>H</td>
<td>FAC</td>
<td>2.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Populus deltoides</td>
<td>Cottonwood</td>
<td>T</td>
<td>FAC+</td>
<td>20.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Salix nigra</td>
<td>Black willow</td>
<td>T</td>
<td>OBL</td>
<td>10.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Tilia americana</td>
<td>Basswood, American lind</td>
<td>T</td>
<td>FACU</td>
<td>90.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Tilia americana</td>
<td>Basswood, American lind</td>
<td>S</td>
<td>FACU</td>
<td>20.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Vilis riparia</td>
<td>Riverbank grape</td>
<td>H</td>
<td>FACW-</td>
<td>2.00%</td>
<td>☑</td>
</tr>
</tbody>
</table>

% of dominant species that are OBL, FACW or FAC in Pit: 66.6667

**Hydrology**

<table>
<thead>
<tr>
<th>Hydrology Present</th>
<th>Depth of Surface Water</th>
<th>Depth to Free Water</th>
<th>Depth to Saturated Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>20&quot;</td>
<td>16&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**Hydrology Primary Indicators**

**Hydrology Secondary Indicators**

**Hydrologic Alterations**

No

**Soil**

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Matrix Color</th>
<th>Mottle Color</th>
<th>Mottle Quantity</th>
<th>Mottle Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-15</td>
<td>10YR 2/1</td>
<td></td>
<td></td>
<td></td>
<td>Silt loam</td>
</tr>
<tr>
<td>15-23</td>
<td>10YR 3/1</td>
<td></td>
<td></td>
<td></td>
<td>Silty clay loam</td>
</tr>
<tr>
<td>23-31</td>
<td>10YR 4/2</td>
<td>5/5GY</td>
<td>few &lt; 2%</td>
<td>distinct</td>
<td>Silty clay loam</td>
</tr>
</tbody>
</table>

Hydric Soil Indicator: Chroma of 1 with or w/o Mottle

---

**Pit #: TP 1**

**Vegetation**

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Stratum</th>
<th>Indicator Status</th>
<th>% Cover</th>
<th>Dominant According to 50/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anemone quinquefolia</td>
<td>Wood anemone</td>
<td>H</td>
<td>FAC</td>
<td>5.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Frangula alnus</td>
<td>glossy buckthorn</td>
<td>S</td>
<td>FAC</td>
<td>15.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>Green ash</td>
<td>T</td>
<td>FACW</td>
<td>10.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Parthenocissus quinquefoli</td>
<td>Virginia creeper</td>
<td>H</td>
<td>FAC</td>
<td>10.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Phalaris arundinacea</td>
<td>Reed canary grass</td>
<td>H</td>
<td>FACW+</td>
<td>5.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Rubus strigosus</td>
<td>Red raspberry</td>
<td>H</td>
<td>FACW-</td>
<td>15.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Salix nigra</td>
<td>Black willow</td>
<td>T</td>
<td>OBL</td>
<td>20.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Salix nigra</td>
<td>Black willow</td>
<td>S</td>
<td>OBL</td>
<td>15.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Solidago canadensis</td>
<td>Tall goldenrod</td>
<td>H</td>
<td>FACU</td>
<td>65.00%</td>
<td>☑</td>
</tr>
<tr>
<td>Ulmus americana</td>
<td>American elm</td>
<td>T</td>
<td>FACW-</td>
<td>20.00%</td>
<td>☑</td>
</tr>
</tbody>
</table>

% of dominant species that are OBL, FACW or FAC in Pit: 83.33333
Hydrology

Depth of Surface Water  Depth to Free Water  Depth to Saturated Soil
N/A  17"  13"

Hydrology Primary Indicators  Hydrology Secondary Indicators  Hydrologic Alterations
FAC-neutral test  No

Soil

Hydric Soils Present:  Map Symbol: DU

Depth (in)  Matrix Color  Mottle Color  Mottle Quantity  Mottle Contrast  Texture
0-18  10 YR 2/1
18-27  10 YR 2/1

Hydric Soil Indicator:
Chroma of 1 with or w/o Mottle

Texture:
Silt loam
Silty clay loam
Project: Owatonna CSAH 34/N Beltline

Basin: B  Date: 6/22/2006  Investigator: DPT
☑ This site is a jurisdictional wetland  Date 2

Comments

Transect Information

Transect #: 1
Normal Conditions: ☑
Atypical Situation: ☐
Problem Area: ☐

Wetland Vegetation Present: ☑  Cowardin: PEMA
Hydric Soils Present: ☑  NWI Mapped: No
Hydrology Present: ☑  Topographic Setting: Isolated Depression

Aerial Photo Year: 2003
Gauge: ☐

Comments

Pit Descriptions

Pit #: 1

Vegetation

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Stratum</th>
<th>Indicator Status</th>
<th>% Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer saccharinum</td>
<td>Silver maple</td>
<td>T</td>
<td>FACW</td>
<td>5.00%</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>Green ash</td>
<td>T</td>
<td>FACW</td>
<td>90.00%</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>Green ash</td>
<td>S</td>
<td>FACW</td>
<td>20.00%</td>
</tr>
<tr>
<td>Rhamnus frangula</td>
<td>Glossy buckthorn</td>
<td>S</td>
<td>FAC+</td>
<td>25.00%</td>
</tr>
</tbody>
</table>

% of dominant species that are OBL, FACW or FAC in Pit: 100

Hydrology

<table>
<thead>
<tr>
<th>Hydrology Primary Indicators</th>
<th>Hydrology Secondary Indicators</th>
<th>Hydrologic Alterations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water marks</td>
<td>FAC-neutral test</td>
<td>No</td>
</tr>
</tbody>
</table>

Depth of Surface Water: N/A
Depth to Free Water: 19"
Depth to Saturated Soil: 15"

Hydrologic Alterations

Soil

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Matrix Color</th>
<th>Mottle Color</th>
<th>Mottle Quantity</th>
<th>Mottle Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-16</td>
<td>10 YR 2/1</td>
<td></td>
<td></td>
<td></td>
<td>Silt loam</td>
</tr>
<tr>
<td>16-30</td>
<td>10 YR 2/1</td>
<td></td>
<td></td>
<td></td>
<td>Silty clay loam</td>
</tr>
</tbody>
</table>

Hydric Soil Indicator:
Chroma of 1 with or w/o Mottle
**Vegetation**

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Stratum</th>
<th>Indicator Status</th>
<th>% Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arisaema triphyllum</td>
<td>Jack-in-the-pulpit</td>
<td>H</td>
<td>FACW-</td>
<td>5.00%</td>
</tr>
<tr>
<td>Frangula alnus</td>
<td>glossy buckthorn</td>
<td>S</td>
<td>FAC+</td>
<td>20.00%</td>
</tr>
<tr>
<td>Frangula alnus</td>
<td>glossy buckthorn</td>
<td>H</td>
<td>FAC+</td>
<td>90.00%</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>Green ash</td>
<td>T</td>
<td>FACW</td>
<td>15.00%</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>Green ash</td>
<td>S</td>
<td>FACW</td>
<td>10.00%</td>
</tr>
<tr>
<td>Tilia americana</td>
<td>Basswood, American lind</td>
<td>S</td>
<td>FACU</td>
<td>25.00%</td>
</tr>
<tr>
<td>Tilia americana</td>
<td>Basswood, American lind</td>
<td>T</td>
<td>FACU</td>
<td>65.00%</td>
</tr>
</tbody>
</table>

% of dominant species that are OBL, FACW or FAC in Pit:

50

**Hydrology**

<table>
<thead>
<tr>
<th>Hydrology Primary Indicators</th>
<th>Hydrology Secondary Indicators</th>
<th>Hydrologic Alterations</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>No</td>
</tr>
</tbody>
</table>

**Soil**

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Matrix Color</th>
<th>Mottle Color</th>
<th>Mottle Quantity</th>
<th>Mottle Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>10 YR 2/1</td>
<td></td>
<td></td>
<td></td>
<td>Loam</td>
</tr>
<tr>
<td>9-15</td>
<td>10 YR 3/1</td>
<td></td>
<td></td>
<td></td>
<td>Silty clay loam</td>
</tr>
<tr>
<td>15-24</td>
<td>10 YR 4/2</td>
<td></td>
<td></td>
<td></td>
<td>Silty clay loam</td>
</tr>
</tbody>
</table>

Hydric Soil Indicator:

Chroma of 1 with or w/o Mottle
Project: Owatonna CSAH 34/N Beltline

Basin: C
☐ This site is a jurisdictional wetland

Date: 6/22/2006 Investigator: DPT
Date 2

Comments
Wetland has been dredged. Pipes covered with riprap barriers have been placed at North and South end of wetland to allow for drainage.

Transsect Information

Transect # 1
Normal Conditions: [ ]

Atypical Situation: [ ]

Problem Area: [ ]

Wetland Vegetation Present: [ ]

Hydric Soils Present: [ ]

Hydrology Present: [ ]

Cowardin: PEMF
NWI Mapped: No

Topographic Setting: Flow Through Depression

Aerial Photo Year: 2003
Gauge: [ ]

Comments

Pit Descriptions

Pit #: 1

Vegetation

Wetland Vegetation Present: [ ]

Scientific Name: Phalaris arundinacea
Common Name: Reed canary grass
Stratum: H
Indicator Status: FACW+
% Cover: 40.00%
Dominant According to 50/20: [ ]

Scientific Name: Solidago gigantea
Common Name: Smooth goldenrod
Stratum: H
Indicator Status: FACW
% Cover: 5.00%

Scientific Name: Spirodela polyrhiza
Common Name: common duckmeat
Stratum: H
Indicator Status: OBL
% Cover: 15.00%

% of dominant species that are 100
OBL, FACW or FAC in Pit:

Hydrology

Hydrology Present: [ ]

Depth of Surface Water: 0"
Depth to Free Water: 0"
Depth to Saturated Soil: 0"

Hydrology Primary Indicators: Inundated
Hydrology Secondary Indicators: FAC-neutral test
Hydrologic Alterations: No
Saturated in upper 12 inches

Soil

Hydric Soils Present: [ ]

Depth (in): 0-6
Matrix Color: 10 YR 2/1
Mottle Color: Mottle Quant.: Mottle Contrast: Texture: Muck

Depth: 6-16
Matrix Color: 4/5 GY
Mottle Color: 10 YR 5/8
Mottle Quant.: few < 2%
Mottle Contrast: prominent
Texture: Loamy sand

Hydric Soil Indicator: Listed on Hydric Soils List
Gleyed
<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Stratum</th>
<th>Indicator Status</th>
<th>% Cover</th>
<th>Dominant According to 50/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achillea millefolium</td>
<td>Yarrow</td>
<td>H</td>
<td>FACU</td>
<td>5.00%</td>
<td></td>
</tr>
<tr>
<td>Asclepias syriaca</td>
<td>Common milkweed</td>
<td>H</td>
<td>NI</td>
<td>30.00%</td>
<td>✓</td>
</tr>
<tr>
<td>Bromus inermis</td>
<td>Smooth brome</td>
<td>H</td>
<td>UPL</td>
<td>15.00%</td>
<td></td>
</tr>
<tr>
<td>Cirsium arvense</td>
<td>Canada thistle</td>
<td>H</td>
<td>FACU</td>
<td>5.00%</td>
<td></td>
</tr>
<tr>
<td>Helianthus occidentalis</td>
<td>Western sunflower</td>
<td>H</td>
<td>FACU-</td>
<td>35.00%</td>
<td>✓</td>
</tr>
<tr>
<td>Phalaris arundinacea</td>
<td>Reed canary grass</td>
<td>H</td>
<td>FACW+</td>
<td>20.00%</td>
<td></td>
</tr>
<tr>
<td>Solidago gigantea</td>
<td>Smooth goldenrod</td>
<td>H</td>
<td>FACW</td>
<td>10.00%</td>
<td></td>
</tr>
<tr>
<td>Vitis riparia</td>
<td>Riverbank grape</td>
<td>H</td>
<td>FACW-</td>
<td>5.00%</td>
<td></td>
</tr>
</tbody>
</table>

% of dominant species that are OBL, FACW or FAC in Pit:

**Hydrology**

Hydrology Present

<table>
<thead>
<tr>
<th>Depth of Surface Water</th>
<th>Depth to Free Water</th>
<th>Depth to Saturated Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Hydrology Primary Indicators**

**Hydrology Secondary Indicators**

Hydrologic Alterations

No

**Soil**

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Hydric Soils Present:</th>
<th>Map Symbol:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✓</td>
<td>GC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Matrix Color</th>
<th>Mottle Color</th>
<th>Mottle Quantity</th>
<th>Mottle Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>10 YR 2/2</td>
<td></td>
<td></td>
<td></td>
<td>Loam</td>
</tr>
<tr>
<td>5-15</td>
<td>10 YR 4/4</td>
<td>10 YR 4/6</td>
<td>few &lt; 2%</td>
<td>faint</td>
<td>Clay loam</td>
</tr>
<tr>
<td>15-27</td>
<td>10 YR 2/1</td>
<td></td>
<td></td>
<td></td>
<td>Silty clay loam</td>
</tr>
</tbody>
</table>

Hydric Soil Indicator:
Listed on Hydric Soils List
Project:  Owatonna CSAH 34/N Beltline

Basin :  D  
☑ This site is a jurisdictional wetland  

Date:  6/22/2006  
Investigator:  DPT

Comments

Transsect Information

Transsect #  1

Normal Conditions:  ✓
Atypical Situation:  ☐
Problem Area:  ☐

Wetland Vegetation Present:  ✓
Hydric Soils Present:  ✓
Hydrology Present:  ✓

Cowardin:  PEMB
NWI Mapped:  No
Topographic Setting:  Flow Through Depression
Aerial Photo Year:  2003
Gauge:  ☐

Comments

Pit Descriptions

Pit #:  1

Vegetation

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Stratum</th>
<th>Indicator Status</th>
<th>% Cover</th>
<th>Dominant According to 50/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer negundo</td>
<td>Box elder</td>
<td>T</td>
<td>FACW-</td>
<td>40.00%</td>
<td>✓</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>Green ash</td>
<td>S</td>
<td>FACW</td>
<td>2.00%</td>
<td>☐</td>
</tr>
<tr>
<td>Impatiens capensis</td>
<td>Spotted touch-me-not</td>
<td>H</td>
<td>FACW</td>
<td>100.00%</td>
<td>✓</td>
</tr>
<tr>
<td>Salix nigra</td>
<td>Black willow</td>
<td>T</td>
<td>OBL</td>
<td>35.00%</td>
<td>✓</td>
</tr>
<tr>
<td>Sambucus canadensis</td>
<td>Elderberry, common elder</td>
<td>S</td>
<td>FACW-</td>
<td>30.00%</td>
<td>✓</td>
</tr>
<tr>
<td>Ulmus americana</td>
<td>American elm</td>
<td>T</td>
<td>FACW-</td>
<td>10.00%</td>
<td>☐</td>
</tr>
</tbody>
</table>

% of dominant species that are 100 OBL, FACW or FAC in Pit:

Hydrology

Hydrology Present:  ✓

Depth of Surface Water: 0"  
Depth to Free Water: 0"  
Depth to Saturated Soil: 0"

Hydrology Primary Indicators: FAC-neutral test
Hydrology Secondary Indicators: No
Inundated: Saturated in upper 12 inches

Soil

Hydric Soils Present: ✓  
Map Symbol: GC

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Matrix Color</th>
<th>Mottle Color</th>
<th>Mottle Quantity</th>
<th>Mottle Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>10 YR 2/1</td>
<td></td>
<td></td>
<td></td>
<td>Mucky loam</td>
</tr>
<tr>
<td>10-26</td>
<td>10 YR 2/1</td>
<td></td>
<td></td>
<td></td>
<td>Silt loam</td>
</tr>
<tr>
<td>20-26</td>
<td>2.5 YR 4/2</td>
<td>5/10 GY / 10 YR</td>
<td>common 2-20%</td>
<td>distinct</td>
<td>Sandy clay loam</td>
</tr>
</tbody>
</table>
**Hydric Soil Indicator:**
Chroma of 1 with or w/o Mottle
Histic Epipedon
Listed on Hydric Soils List

---

**Pit #: 2**

<table>
<thead>
<tr>
<th>Vegetation</th>
<th>Wetland Vegetation Present?</th>
<th>Dominant According to 50/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Name</td>
<td>Common Name</td>
<td>Stratum</td>
</tr>
<tr>
<td>Acer negundo</td>
<td>Box elder</td>
<td>T</td>
</tr>
<tr>
<td>Acer negundo</td>
<td>Box elder</td>
<td>S</td>
</tr>
<tr>
<td>Bidens aristosa</td>
<td>Swamp marigold</td>
<td>H</td>
</tr>
<tr>
<td>Parthenocissus quinquefoli</td>
<td>Virginia creeper</td>
<td>H</td>
</tr>
<tr>
<td>Ribes americanum</td>
<td>Wild black currant</td>
<td>H</td>
</tr>
<tr>
<td>Salix nigra</td>
<td>Black willow</td>
<td>T</td>
</tr>
<tr>
<td>Sambucus canadensis</td>
<td>Elderberry, common elder</td>
<td>S</td>
</tr>
<tr>
<td>Ulmus americana</td>
<td>American elm</td>
<td>T</td>
</tr>
<tr>
<td>Ulmus americana</td>
<td>American elm</td>
<td>S</td>
</tr>
<tr>
<td>Urtica dioica</td>
<td>Stinging nettle</td>
<td>H</td>
</tr>
</tbody>
</table>

% of dominant species that are OBL, FACW or FAC in Pit: 100

---

**Hydrology**

<table>
<thead>
<tr>
<th>Hydrology Primary Indicators</th>
<th>Hydrology Secondary Indicators</th>
<th>Hydrologic Alterations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrology Present</td>
<td>Hydrology Primary Indicators</td>
<td>Hydrologic Alterations</td>
</tr>
<tr>
<td>Depth of Surface Water</td>
<td>Depth to Free Water</td>
<td>Depth to Saturated Soil</td>
</tr>
<tr>
<td>N/A</td>
<td>25&quot;</td>
<td>21&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Soil</th>
<th>Hydric Soils Present</th>
<th>Map Symbol</th>
<th>GC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth (in)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-22</td>
<td>10 YR 2/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-30</td>
<td>2.5 YR 5/3</td>
<td>10 YR 4/6</td>
<td></td>
</tr>
</tbody>
</table>

Hydric Soil Indicator:
Listed on Hydric Soils List
MAY 21, 2007

Steele County
Attn: Gary Bruggeman
635 Florence Avenue
P.O. Box 890
Owatonna, MN 55060
Phone: (507) 583-2283

Re: Wetland Delineation CSAH 34/North Beltline: Kenyon Road to Deer Trail Lane
Steele County
Bonestroo File No.: 1324-06001

Dear Mr. Bruggeman:

Enclosed please find the Wetland Delineation Report for Steele County, CSAH 34/North Beltline: Kenyon Road to Deer Trail Lane. The project is located along CSAH 34 between Kenyon Road and Deer Trail Lane. The field work for the wetland delineation was conducted on May 16, 2007. The wetland delineation is shown in Figure 4 of the report and is marked in the field with “wetland delineation” flags. If you have any questions, please contact me at 651-604-4908 or via email, dan.tersteeg@bonestroo.com.

Sincerely,

BONESTROO

Daniel Tersteeg
Wetland Scientist

Cc: Steele County, LGU
   Attn: Scott Goldberg
   P.O. Box 890
   Owatonna, MN 55060-0890
   Phone: (507) 444-7477

   Bonestroo
   Attn: Bryan Benjamin
   112 Seventh St NE
   Rochester, MN 55906
   Phone: (507) 529-6047

   Department of the Army Corps of Engineers
   Attn: Dave Studenski
   1114 South Oak Street
   La Crescent, MN 55947-1338
   Phone: (507) 895-2064
STEELE COUNTY – CSAH 34/NORTH BELTLINE: KENYON ROAD TO DEER TRAIL LANE

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   Figure 2 – National Wetlands Inventory
   Figure 3 – Steele County Soil Survey
   Figure 4 – Delineated Wetland Boundary
Appendix A: Wetland Delineation Data Forms
STEELE COUNTY – CSAH 34/NORTH BELTLINE: KENYON ROAD TO DEER TRAIL LANE

Introduction

This report is prepared for Steele County to identify wetlands along CSAH 34 from Kenyon Road to Deer Trail Lane for proposed road and storm sewer improvements. The site is located in the SE ¼ of Section 35, T108N, R20W and the NE ¼ of Section 2, T107N, R20W, Steele County, MN. Figure 1 shows the location of the project area. The field investigation for this wetland delineation was completed on May 16, 2007. This delineation report provides the required documentation for wetland boundary determinations in conformance with the Minnesota Wetland Conservation Act and Section 404 of the Clean Water Act.

Methods

Preliminary Investigation:
The National Wetlands Inventory (MWI) was examined with the 2003 aerial photograph to identify potential wetlands on the site (Figure 2). The MWI did not identify any wetlands within the project area. The Steele County Soil Survey was examined to determine additional areas of potential wetlands (Figure 3). Canistew clay loam, depressional, and Webster clay loam are Whole Unit Hydric Soils located on the site. Whole Unit Hydric Soils are good indicators of wetlands. One jurisdictional wetland was identified and delineated on the site (Figure 4).

Wetland Delineation:
Wetlands were identified using standard delineation methodology described in the 1987 Army Corps of Engineers (COE) Wetland Delineation Manual as required by both the Minnesota Wetland Conservation Act and Section 404 of the Clean Water Act. To verify a site is wetland, three technical criteria are examined and documented. A combination of the hydric soil, hydrophytic vegetation, and hydrology criteria defines wetlands as described in the National Food Security Act Manual (Soil Conservation Service, 1994) and the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). Therefore, an area that meets the hydric soil criteria must also meet the hydrophytic vegetation and wetland hydrology criteria in order for it to be classified as a jurisdictional wetland.

A hydric soil is a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part. The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. Also, soils in which the hydrology has been artificially modified are hydric if the soil, in an unaltered state, was hydric (USDA, NRCS 1999). A hydric soil list provided by the National Technical Committee for Hydric Soils (NTTCHS) and the County Soil Survey was used to determine the potential locations of hydric soils for this site.

Hydrophytic vegetation is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. Plant species within the wetland/upland ecotone were recorded as to their percent cover and wetland indicator status according to the National List of Plant Species that occur in wetlands; North Central Region 3 (USFWS Biological Report 88, 26.3; May 1988).
The term *wetland hydrology* encompasses all hydrologic characteristics for areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. COE hydrology criteria consist of inundation or saturation to the surface for at least 5% of the growing season in most years. Areas with evident characteristics for wetland hydrology are those where the presence of water has an overriding influence on the characteristics of vegetation and soils (COE Delineation Manual, 1987).

Soils, vegetation, and hydrology were documented at representative transect locations along the wetland edge. At each transect, the first plot was placed in an area that met the criteria to be a jurisdictional wetland. Subsequent plots were placed upslope until jurisdictional wetland criteria were not met. At least one upland plot and one wetland plot are documented on the Routine Wetland Delineation Data Form filled out for each transect. In some cases, additional plots were needed to clearly establish wetland boundaries. The transect and plot locations are shown on Figure 4. Plant species cover was based on the percent aerial coverage visually estimated within a 30-foot radius of the plot for the sapling and shrub layers and a 5-foot radius for the herbaceous layer within the community type being sampled. Estimate of basal area for dominant trees was determined by using a 10-factor prism. Total vegetation dominance for all strata was determined using the “50/20 rule” (COE Delineation Manual, 1987). Soils observations were made immediately below the A-horizon. Primary and secondary hydrology indicators were generally evaluated to a depth of 16 inches. Wetland boundaries were marked using pink pin flags labeled “wetland delineation” and surveyed using a Trimble PROXH sub-meter GPS unit.

**Results**

**Wetland A**
This is a Type 1 seasonally flooded basin wetland. Vegetation at the wetland pit was dominated by tussock sedge and reed canary grass. Vegetation at the upland pit was dominated by Kentucky bluegrass and white clover. In the wetland pit, free water and saturated soils were measured at 25 inches and 20 inches below the ground surface, respectively. Although primary indicators of hydrology were not observed, secondary indicators of hydrology including water-stained leaves and fac-neutral test were met to satisfy the wetland hydrology criteria. Neither free water nor saturated soils were present in the upland pit. Soils in the wetland were black (10YR 2/1) silty clay loam over very dark gray (10YR 3/1) silty clay loam. In the upland, soils were black (10YR 2/1) silt loam over mottled, dark gray (10YR 4/1) silt loam. Wetland vegetation and hydrology criteria were not met at the upland pit. The wetland boundary follows both a topographic break, as well as a vegetative break between dominant wetland species and upland species.

**Test Pit #1**
A test pit was dug in a potential wetland area to evaluate wetland criteria. Vegetation at the pit was dominated by yellow nut sedge, common dandelion, and purslane. Neither free water nor saturated soils were present in the test pit. Soils were black (10YR 2/1) silt loam over very dark gray (10YR 3/1) silty clay loam. Wetland hydrology criteria were not met at this pit, therefore this area was not delineated as a jurisdictional wetland.

*See Appendix A: Wetland Delineation Data Forms* for more information on each wetland.
Conclusion

The procedures followed for this Wetland Delineation Report are in accordance with the 1987 Federal Manual for Identifying and Delineating Jurisdictional Wetlands. This delineation describes conditions for narrowly defined periods of time.

One jurisdictional wetland was identified adjacent to the project area. If unavoidable impacts are proposed for the wetland, permits or exemptions must first be obtained from the proper agencies. These could include: Local Governmental Unit (County), State (DNR), Federal (Army Corps of Engineers), and/or other applicable entities.

BONESTROO

[Signature]
Daniel Tersteeg
Wetland Scientist

05/21/07
Date
FIGURES
STEELE COUNTY SOIL SURVEY

STEELE COUNTY
CSAH 34/NORTH BELTLINE

FIGURE 3

SOILS KEY (*Whole Unit Hydric):
*CF - Canisteo clay loam, depressional
LLB - Lester loam, 2-6% slopes
LLB2 - Lester loam, 2-6% slopes, eroded
LUB - Le Sueur clay loam, 2-4% slopes
*WT - Webster clay loam

Scale in feet
2003 AERIAL PHOTO
MAY 18, 2007
DELINEATED WETLAND BOUNDARY

STEELE COUNTY
CSAH 34/NORTH BELTLINE

FIGURE 4

Scale in feet
2003 AERIAL PHOTO

Bonestroo
MAY 18, 2007
APPENDIX A

WETLAND DELINEATION DATA FORMS
Project: CSAH 34/NORTH BELTLINE

<table>
<thead>
<tr>
<th>Basin:</th>
<th>A</th>
<th>Date:</th>
<th>5/16/2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Investigator:</td>
<td>DPT, BJT</td>
</tr>
</tbody>
</table>

**Transect Information**

<table>
<thead>
<tr>
<th>Transect #</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Conditions:</td>
<td>✓</td>
</tr>
<tr>
<td>Atypical Situation:</td>
<td></td>
</tr>
<tr>
<td>Problem Area:</td>
<td></td>
</tr>
</tbody>
</table>

**Wetland Vegetation Present:**
- Carex stricta
- Lactuca serriola
- Phalaris arundinacea
- Rumex crispus

**Hydrology Present:**
- Cowardin: PEMA
- NWI Mapped: No
- Topographic Setting: Isolated Depression
- Aerial Photo Year: 2003
- Gauge: |

**Comments**

---

**Pit Descriptions**

**Pit #: 1**

**Wetland Vegetation Present:** ✓

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Stratum</th>
<th>Indicator Status</th>
<th>% Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carex stricta</td>
<td>Common tussock sedge</td>
<td>H</td>
<td>OBL</td>
<td>45.00%</td>
</tr>
<tr>
<td>Lactuca serriola</td>
<td>Prickly lettuce</td>
<td>H</td>
<td>FAC</td>
<td>5.00%</td>
</tr>
<tr>
<td>Phalaris arundinacea</td>
<td>Reed canary grass</td>
<td>H</td>
<td>FAC+</td>
<td>35.00%</td>
</tr>
<tr>
<td>Rumex crispus</td>
<td>Curly dock</td>
<td>H</td>
<td>FAC+</td>
<td>1.00%</td>
</tr>
</tbody>
</table>

% of dominant species that are 100

OBL, FACW or FAC in Pit:

**Hydrology**

<table>
<thead>
<tr>
<th>Hydrology Primary Indicators</th>
<th>Hydrology Secondary Indicators</th>
<th>Hydrologic Alterations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth of Surface Water</td>
<td>Depth to Free Water</td>
<td>Depth to Saturated Soil</td>
</tr>
<tr>
<td>N/A</td>
<td>25&quot;</td>
<td>29&quot;</td>
</tr>
</tbody>
</table>

**Soil**

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Matrix Color</th>
<th>Mottle Color</th>
<th>Mottle Quantity</th>
<th>Mottle Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-19</td>
<td>10YR 2/1</td>
<td></td>
<td></td>
<td></td>
<td>Silty clay loam</td>
</tr>
<tr>
<td>19-25</td>
<td>10YR 3/1</td>
<td></td>
<td></td>
<td></td>
<td>Silty clay loam</td>
</tr>
</tbody>
</table>

**Hydric Soil Indicator:**
- Chroma of 1 with or w/o Mottle
- Listed on Hydric Soils List
### Vegetation

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Stratum</th>
<th>Indicator Status</th>
<th>% Cover</th>
<th>Dominant According to 50/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phalaris arundinacea</td>
<td>Reed canary grass</td>
<td>H</td>
<td>FACW+</td>
<td>10.00%</td>
<td></td>
</tr>
<tr>
<td>Poa pratensis</td>
<td>Kentucky bluegrass</td>
<td>H</td>
<td>FAC-</td>
<td>40.00%</td>
<td>✓</td>
</tr>
<tr>
<td>Taraxacum officinale</td>
<td>Common dandelion</td>
<td>H</td>
<td>FACU</td>
<td>10.00%</td>
<td></td>
</tr>
<tr>
<td>Trifolium repens</td>
<td>White clover</td>
<td>H</td>
<td>FACU+</td>
<td>60.00%</td>
<td>✓</td>
</tr>
</tbody>
</table>

% of dominant species that are OBL, FACW or FAC in Pit: 0

### Hydrology

- **Hydrology Present**: ☐
- **Depth of Surface Water**: N/A
- **Depth to Free Water**: N/A
- **Depth to Saturated Soil**: N/A

### Soil

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Matrix Color</th>
<th>Mottle Color</th>
<th>Mottle Quantity</th>
<th>Mottle Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-15</td>
<td>10YR 2/1</td>
<td>10YR 3/4</td>
<td>common 2-20%</td>
<td>distinct</td>
<td>Silt loam</td>
</tr>
</tbody>
</table>

**Hydric Soil Indicator:**
- Chroma of 1 with or w/o Mottle

**Listed on Hydric Soils List**
Project: CSAH 34/NORTH BELTLINE

Basin: Test Pit #1
☐ This site is a jurisdictional wetland

Date: 5/16/2007
Investigator: DPT, BJT

Comments
Agricultural field with mostly bare ground exposed.

 Transect Information

 Transect # 0
 Normal Conditions: ✔
 Atypical Situation: 
 Problem Area: 

 Wetland Vegetation Present: ✔
 Hydric Soils Present: ✔
 Hydrology Present: 
 Cowardin: 
 NWI Mapped: No
 Topographic Setting: 
 Aerial Photo Year: 2003
 Gauge: 

 Pit Descriptions

 Pit #: TP#1

 Vegetation

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Stratum</th>
<th>Indicator Status</th>
<th>% Cover</th>
<th>Dominant According to 50/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambrosia artemisiifolia</td>
<td>Common ragweed</td>
<td>H</td>
<td>FACU</td>
<td>2.00%</td>
<td></td>
</tr>
<tr>
<td>Cyperus esculentus</td>
<td>Yellow nut grass</td>
<td>H</td>
<td>FACW</td>
<td>5.00%</td>
<td>✔</td>
</tr>
<tr>
<td>Quercus macrocarpa</td>
<td>Bur oak</td>
<td>H</td>
<td>FAC-</td>
<td>1.00%</td>
<td></td>
</tr>
<tr>
<td>Taraxacum officinale</td>
<td>Common dandelion</td>
<td>H</td>
<td>FACU</td>
<td>5.00%</td>
<td>✔</td>
</tr>
<tr>
<td>Veronica peregrina</td>
<td>Purslane speedwell</td>
<td>H</td>
<td>FACW+</td>
<td>5.00%</td>
<td>✔</td>
</tr>
</tbody>
</table>

% of dominant species that are OBL, FACW or FAC in Pit: 66.66667

Hydrology

<table>
<thead>
<tr>
<th>Hydrology Primary Indicators</th>
<th>Hydrology Secondary Indicators</th>
<th>Hydrologic Alterations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrology Present</td>
<td></td>
<td>FAC-neutral test</td>
</tr>
</tbody>
</table>

Depth of Surface Water: N/A
Depth to Free Water: N/A
Depth to Saturated Soil: N/A

Soil

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Matrix Color</th>
<th>Mottle Color</th>
<th>Mottle Quantity</th>
<th>Mottle Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-28</td>
<td>10YR 2/1</td>
<td></td>
<td></td>
<td></td>
<td>Silt loam</td>
</tr>
<tr>
<td>28-35</td>
<td>10YR 3/1</td>
<td></td>
<td></td>
<td></td>
<td>Silty clay loam</td>
</tr>
</tbody>
</table>

Hydric Soil Indicator: Chroma of 1 with or w/o Mottle
Listed on Hydric Soils List
Appendix E – Noise Impact and Mitigation Study


SBP Associates, Inc. Noise Impact and Mitigation Study – 2007 (for extended project area between Kenyon Road and Deer Trail Lane)

Appendices for the reports are available on request
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Owatonna, Minnesota
Noise Impact and Mitigation Study
July, 2006
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A. Project Description

This report provides a noise impact analysis, performed by SBP Associates, Inc. (SBP), for the proposed North Beltline project in Owatonna, Minnesota. The analysis is used to assess how the proposed roadway will affect the noise impacts to existing and future receptors in the areas surrounding the project.

The project will be partially funded with Federal money, therefore potential traffic noise impacts of this project will be evaluated using federal noise criteria. Additionally, portions of the project are subject to Minnesota Noise Rules, and therefore, the project is evaluated relative to the Minnesota daytime and nighttime standards.

B. Minnesota Noise Rules

Minnesota Rules Chapter 7030 provides the Minnesota standards for noise. These standards describe the limiting levels of sound established on the basis of present knowledge for the preservation of health and welfare. These standards are designed to be consistent with sleep, speech, annoyance, and hearing conservation requirements for receivers within areas grouped according to land use activities. The Minnesota standards can be summarized as follows:

<table>
<thead>
<tr>
<th></th>
<th>7:00 AM to 10:00 PM</th>
<th>10:00 PM to 7:00 AM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$L_{10}$</td>
<td>$L_{50}$</td>
</tr>
<tr>
<td>NAC-1 “Residential”</td>
<td>65</td>
<td>60</td>
</tr>
<tr>
<td>NAC-2 “Commercial”</td>
<td>70</td>
<td>65</td>
</tr>
<tr>
<td>NAC-3 “Industrial”</td>
<td>80</td>
<td>75</td>
</tr>
</tbody>
</table>

The descriptor $L_{10}$ means the sound level which is exceeded for 10 percent of the time for a one-hour period. $L_{50}$ means the sound level which is exceeded 50 percent of the time for a one-hour period. Sound levels are expressed in dBA. A dBA is a unit of sound level expressed in decibels and weighted for the purpose of approximating the human response to sound.

C. FHWA Noise Abatement Criteria

The Federal Highway Administration (FHWA) noise abatement criteria are a matrix of land use categories and noise levels associated with traffic noise impacts for each respective land use. The following chart gives the $L_{10}$ and $L_{eq}$ criteria by activity category. Sound levels are expressed in dBA. A description of activities for each category
is included to help identify which land use category and noise level is appropriate for a proposed project.

**Table 1**

FHWA Noise Abatement Criteria

*Hourly A-Weighted Sound Level in Decibels (dBA)*

<table>
<thead>
<tr>
<th>Activity Category</th>
<th>L_{10}</th>
<th>L_{eq}</th>
<th>Description of Activity Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>60 dBA (Exterior)</td>
<td>57 dBA (Exterior)</td>
<td>Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.</td>
</tr>
<tr>
<td>B</td>
<td>70 dBA (Exterior)</td>
<td>67 dBA (Exterior)</td>
<td>Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.</td>
</tr>
<tr>
<td>C</td>
<td>75 dBA (Exterior)</td>
<td>72 dBA (Exterior)</td>
<td>Developed lands, properties, or activities not included in Categories A or B above.</td>
</tr>
<tr>
<td>D</td>
<td>No Limit</td>
<td>No Limit</td>
<td>Undeveloped Lands</td>
</tr>
<tr>
<td>E</td>
<td>55 dBA (Interior)</td>
<td>52 dBA (Interior)</td>
<td>Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.</td>
</tr>
</tbody>
</table>

Most roadway projects fall under activity category B or C. The L_{10} value is the sound level that is exceeded 10% of the time, measured over the noisiest one-hour period of the day. This is usually during the hour that has the highest volume of traffic in a 24-hour period, unless traffic congestion causes a reduction in travel speeds. The L_{eq} is the sound level, which over a period of time contains the same amount of sound energy as the varying levels of the traffic noise (i.e., average sound level). The L_{eq} is more complex than the L_{10} and is usually less than the L_{10} under typical traffic conditions. For federal noise analyses in Minnesota, the L_{10} values, shown in the chart above, are applied in noise analyses.

**D. Project Receptor Locations**

Thirty-five receptor locations were chosen for analysis for this report. They represent existing residential, recreational and community use receptors in the areas surrounding the proposed North Beltline project. These are NAC-1 land use receptors under the
North Beltline Noise Impact and Mitigation Study  
Bonestroo Rosene Anderlik & Associates, Inc.  
July, 2006  

Minnesota rules and Activity Category B receptors under the FHWA criteria. Receptor locations are shown in Figure 1.

**E. Noise Monitoring**

In order to assist with determining existing project-area noise levels, noise monitoring was conducted in two locations. A location description and the monitored $L_{10}$ and $L_{50}$ noise levels obtained for each location are contained in the following table.

<table>
<thead>
<tr>
<th>Monitoring Location Designation</th>
<th>Description</th>
<th>Time</th>
<th>Distance to Centerline</th>
<th>Monitored $L_{10}$ (dBA)</th>
<th>Monitored $L_{50}$ (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>North of 26th Street along 3rd Ave. NE</td>
<td>5:48 - 6:50 am</td>
<td>243 feet</td>
<td>59.0</td>
<td>52.0</td>
</tr>
<tr>
<td>M2</td>
<td>South of 26th Street west of Mineral Springs</td>
<td>7:10 - 8:11 am</td>
<td>113 feet</td>
<td>64.0</td>
<td>56.0</td>
</tr>
</tbody>
</table>

The monitoring was performed on May 18, 2006. The monitoring locations are shown in Figure 1. The primary noise source at both locations was traffic from 26th Street.

**F. Minnoise Model**

The Minnoise model is a modified (modified by the Minnesota Department of Transportation) version of the Federal Highway Administration’s Optima/Stamina model that is used to predict noise levels from highway projects and to assist with the development of noise barriers.

**G. Model Assumptions**

Noise level predictions were based on the following data and assumptions:

- Traffic noise levels were predicted based on constant operating speeds of 30 miles per hour (mph) on North Cedar Avenue and 45 mph on Kenyon Road. The operating speed on 26th Street for the “Existing and No-Build Alternatives” was based on 45 mph operating speed east of 7th Avenue NE and 50 mph west of this location. An operating speed of 50 mph was used for 26th Street for the “Build Alternative”.
- The noise analysis was completed for predicted 2024 traffic levels during the peak afternoon rush hour and the peak nighttime hour (6:00 a.m. – 7:00 a.m.), with 2
percent medium trucks and 3 percent heavy trucks for 26th Street, North Cedar Avenue, and Kenyon Road.

- Traffic data for year 2024 for the study was generated by Steele County.
- The analysis assumed acoustically soft ground cover between the roadway and all receptor locations.

**H. Model Results**

Tables 3 and 4 show the results of the modeling analysis for the daytime and nighttime “Existing” “2024 No-Build” and “2024 Build” alternatives.

Complete MINNOISE model output files are provided in Appendix A.

The shaded values represent noise levels that exceed the Minnesota noise standards.

**1. Mitigation Analyses**

1. **Noise Walls**

Noise walls are the most common method of noise abatement considered when evaluating noise abatement due to traffic noise. For Mn/DOT to consider the erection of a noise wall, one of the following factors must exist:

- The existing noise levels in a neighborhood are in excess of the Minnesota Rules.
- The predicted noise levels in a neighborhood are expected to be in excess of the Minnesota Rules for the design year of the project.
- The noise levels in a neighborhood are predicted to be “substantially” above current noise levels in the project design year. “Substantial” is defined as 5 dBA or greater.
- The predicted noise level approaches or exceeds the acceptable limit. Approaching is defined as the predicted level being within 1 decibel from the limit.

If one of the above conditions is met, noise walls are considered for construction based on several factors, including cost reasonableness. Noise walls must also be desired by the community residents.

2. **Noise Wall Locations**

Figure 1 shows the location of two (2) areas where noise walls were evaluated using the Minnoise model. The modeled wall locations were selected by considering the location and density of residential receptors near the roadway.

Areas where a noise wall would not be feasible due to the limitations from intersecting roadways/driveways or project limits were not analyzed for cost-reasonableness. These would include the areas near North Cedar Avenue, 3rd Avenue NE, Lamada PL NE and Kenyon Road.
### Table 3
**Modeled Project Impact**
**North Beltline - Daytime (dBA)**

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Existing</th>
<th>No Build</th>
<th>No Build Increase</th>
<th>Build</th>
<th>Build Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$L_{10}$</td>
<td>$L_{50}$</td>
<td>$L_{10}$</td>
<td>$L_{50}$</td>
<td>$L_{10}$</td>
</tr>
<tr>
<td>R1</td>
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<td>56.8</td>
<td>65.6</td>
<td>58.4</td>
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</tr>
<tr>
<td>R2</td>
<td>66.1</td>
<td>57.9</td>
<td>67.3</td>
<td>59.5</td>
<td>1.2</td>
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<td>R3</td>
<td>59.8</td>
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<td>60.9</td>
<td>54.8</td>
<td>1.1</td>
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<td>57.7</td>
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<td>64.8</td>
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<td>1.1</td>
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<td>62.4</td>
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</tr>
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<td>69.5</td>
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</table>
Table 4
Modeled Project Impact
North Beltline - Nighttime (dBA)

<table>
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<th>Receptor</th>
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<th>No Build Increase</th>
<th>Build</th>
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</table>
A two-section 2,280-foot wall between St. Paul Road and Hemlock Avenue NE was modeled on the north side of 26th Street. A 1,126-foot wall on the south side of 26th Street NE between 7th Avenue NE and Hemlock Avenue NE was also modeled. Both walls were modeled at a height of 20 feet.

3. Noise Wall Model Results

The following table shows the noise reduction provided at receptor locations in each of the two areas evaluated for noise walls.

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<thead>
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<th>Table 5</th>
<th>Wall Effectiveness</th>
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<td>Noise Level Without Wall</td>
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<td></td>
<td>L₁₀</td>
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<td>Residential Receptor</td>
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<tr>
<td>Area 1</td>
<td></td>
</tr>
<tr>
<td>North Side</td>
<td></td>
</tr>
<tr>
<td>St. Paul Rd to Hemlock</td>
<td></td>
</tr>
<tr>
<td>R1(2)*</td>
<td>65.7</td>
</tr>
<tr>
<td>R2(3)</td>
<td>67.3</td>
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<tr>
<td>R3(4)</td>
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<tr>
<td>R4(1)</td>
<td>67.0</td>
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<td>R24(5)</td>
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<tr>
<td>R25(5)</td>
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<td>R26(5)</td>
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<td>R27(6)</td>
<td>65.9</td>
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<tr>
<td>Area 2</td>
<td></td>
</tr>
<tr>
<td>South Side</td>
<td></td>
</tr>
<tr>
<td>7th Ave. to Hemlock Ave.</td>
<td></td>
</tr>
<tr>
<td>R10(2)</td>
<td>68.0</td>
</tr>
<tr>
<td>R11(3)</td>
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<td>R12(2)</td>
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<td>R13(2)</td>
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</tr>
<tr>
<td>R35(6)</td>
<td>61.5</td>
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</table>

*Number in parentheses indicates the number of residences represented by indicated receptor.

The MINNOISE model output files are provided in Appendix A.
4. Cost Reasonableness Analysis
In order for a noise wall to be constructed by Mn/DOT it must be able to be constructed at a “reasonable” cost. “Reasonable” cost is currently defined by Mn/DOT as $3,250/dBA. This is determined by dividing the total cost of a wall (currently estimated at $15 per square foot) by the total decibel reduction for residences that are predicted to receive at least a 5 decibels reduction.

The SBP analyses show that a two-section 20 foot high and 2,280 foot long wall between St. Paul Road and Hemlock Avenue NE on the north side of 26th Street would have a cost reasonableness value of $2,378/dBA, meeting the Mn/DOT cost reasonableness requirement of $3,250/dBA.

The results of the SBP analyses also show that a 20 foot high and 1,126 foot long wall on the south side of 26th Street NE between 7th Avenue NE and Hemlock Avenue NE would have a cost reasonableness value of $1,454/dBA, meeting the Mn/DOT cost reasonableness requirement of $3,250/dBA.

J. Summary/Conclusions
Based on the year 2024 noise impact analysis, the presence of the North Beltline will result in noise levels that exceed the MPCA noise rules and FHWA Noise Abatement Criteria (NAC) for some receptors located in the project area.

The SBP analyses show that a two-section 20 foot high and 2,280 foot long wall between St. Paul Road and Hemlock Avenue NE on the north side of 26th Street would have a cost reasonableness value of $2,378/dBA, meeting the Mn/DOT cost reasonableness requirement of $3,250/dBA.

The results of the SBP analyses also show that a 20 foot high and 1,126 foot long wall on the south side of 26th Street NE between 7th Avenue NE and Hemlock Avenue NE would have a cost reasonableness value of $1,454/dBA, meeting the Mn/DOT cost reasonableness requirement of $3,250/dBA.

In order for the walls to be constructed they must also be technically feasible to build and be desired by the community.
North Beltline Addendum
Owatonna, Minnesota
Noise Impact and Mitigation Study
Kenyon Road to Deer Trail Lane
June, 2007
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A. Project Description

This report provides a noise impact analysis, performed by SBP Associates, Inc. (SBP), for the eastern-most portion of the proposed North Beltline project in Owatonna, Minnesota. This report is an addendum to the July, 2006 report and covers the portion of the proposed project east of Kenyon Road to Deer Trail Lane. The analysis is used to assess how the proposed roadway will affect the noise impacts to existing and future receptors in the areas surrounding the project.

The project will be partially funded with Federal money, therefore potential traffic noise impacts of this project will be evaluated using federal noise criteria. Additionally, portions of the project are subject to Minnesota Noise Rules, and therefore, the project is evaluated relative to the Minnesota daytime and nighttime standards.

B. Minnesota Noise Rules

Minnesota Rules Chapter 7030 provides the Minnesota standards for noise. These standards describe the limiting levels of sound established on the basis of present knowledge for the preservation of health and welfare. These standards are designed to be consistent with sleep, speech, annoyance, and hearing conservation requirements for receivers within areas grouped according to land use activities. The Minnesota standards can be summarized as follows:

<table>
<thead>
<tr>
<th></th>
<th>7:00 AM to 10:00 PM</th>
<th>10:00 PM to 7:00 AM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$L_{10}$</td>
<td>$L_{50}$</td>
</tr>
<tr>
<td>NAC-1 “Residential”</td>
<td>65</td>
<td>60</td>
</tr>
<tr>
<td>NAC-2 “Commercial”</td>
<td>70</td>
<td>65</td>
</tr>
<tr>
<td>NAC-3 “Industrial”</td>
<td>80</td>
<td>75</td>
</tr>
</tbody>
</table>

The descriptor $L_{10}$ means the sound level which is exceeded for 10 percent of the time for a one-hour period. $L_{50}$ means the sound level which is exceeded 50 percent of the time for a one-hour period. Sound levels are expressed in dBA. A dBA is a unit of sound level expressed in decibels and weighted for the purpose of approximating the human response to sound.

C. FHWA Noise Abatement Criteria

The Federal Highway Administration (FHWA) noise abatement criteria are a matrix of land use categories and noise levels associated with traffic noise impacts for each
respective land use. The following chart gives the \( L_{10} \) and \( L_{eq} \) criteria by activity category. Sound levels are expressed in dBA. A description of activities for each category is included to help identify which land use category and noise level is appropriate for a proposed project.

**Table 1**

**FHWA Noise Abatement Criteria**  
**Hourly A-Weighted Sound Level in Decibels (dBA)**

<table>
<thead>
<tr>
<th>Activity Category</th>
<th>( L_{10} )</th>
<th>( L_{eq} )</th>
<th>Description of Activity Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>60 dBA (Exterior)</td>
<td>57 dBA (Exterior)</td>
<td>Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.</td>
</tr>
<tr>
<td>B</td>
<td>70 dBA (Exterior)</td>
<td>67 dBA (Exterior)</td>
<td>Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.</td>
</tr>
<tr>
<td>C</td>
<td>75 dBA (Exterior)</td>
<td>72 dBA (Exterior)</td>
<td>Developed lands, properties, or activities not included in Categories A or B above.</td>
</tr>
<tr>
<td>D</td>
<td>No Limit</td>
<td>No Limit</td>
<td>Undeveloped Lands</td>
</tr>
<tr>
<td>E</td>
<td>55 dBA (Interior)</td>
<td>52 dBA (Interior)</td>
<td>Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.</td>
</tr>
</tbody>
</table>

Most roadway projects fall under activity category B or C. The \( L_{10} \) value is the sound level that is exceeded 10% of the time, measured over the noisiest one-hour period of the day. This is usually during the hour that has the highest volume of traffic in a 24-hour period, unless traffic congestion causes a reduction in travel speeds. The \( L_{eq} \) is the sound level, which over a period of time contains the same amount of sound energy as the varying levels of the traffic noise (i.e. average sound level). The \( L_{eq} \) is more complex than the \( L_{10} \) and is usually less than the \( L_{10} \) under typical traffic conditions. For federal noise analyses in Minnesota, the \( L_{10} \) values, shown in the chart above, are applied in noise analyses.

**D. Project Receptor Locations**

Twenty-two receptor locations were chosen for analysis for this report. They represent residential plats in the developments north and south of the North Beltline between
Kenyon Road and Deer Trail Lane. These are NAC-1 land use receptors under the Minnesota rules and Activity Category B receptors under the FHWA criteria. Receptor locations are shown in Figure 1.

**E. Noise Monitoring**

In order to assist with determining existing project-area noise levels, noise monitoring was conducted in two locations. A location description and the monitored $L_{10}$ and $L_{50}$ noise levels obtained for each location are contained in the following table.

<table>
<thead>
<tr>
<th>Monitoring Location Designation</th>
<th>Description</th>
<th>Time</th>
<th>Distance to Centerline</th>
<th>Monitored $L_{10}$ (dBA)</th>
<th>Monitored $L_{50}$ (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>North of 26th Street along 3rd Ave. NE</td>
<td>5:48 - 6:50 am</td>
<td>243 feet</td>
<td>59.0</td>
<td>52.0</td>
</tr>
<tr>
<td>M2</td>
<td>South of 26th Street west of Mineral Springs</td>
<td>7:10 - 8:11 am</td>
<td>113 feet</td>
<td>64.0</td>
<td>56.0</td>
</tr>
</tbody>
</table>

The monitoring was performed on May 18, 2006. The primary noise source at both locations was traffic from 26th Street.

**F. Minnoise Model**

The Minnoise model is a modified (modified by the Minnesota Department of Transportation) version of the Federal Highway Administration’s Optima/Stamina model that is used to predict noise levels from highway projects and to assist with the development of noise barriers.

**G. Model Assumptions**

Noise level predictions were based on the following data and assumptions:

- Traffic noise levels were predicted based on constant operating speeds of 30 miles per hour (mph) on North Cedar Avenue and 45 mph on Kenyon Road. The operating speed on 26th Street for the “Existing and No-Build Alternatives” was based on 45 mph operating speed east of 7th Avenue NE and 50 mph west of this location. An operating speed of 50 mph was used for 26th Street for the “Build Alternative.”
- The noise analysis was completed for predicted 2024 traffic levels during the peak afternoon rush hour and the peak nighttime hour (6:00 a.m. – 7:00 a.m.), with 2
percent medium trucks and 3 percent heavy trucks for 26th Street, North Cedar Avenue, and Kenyon Road.

- Traffic data for year 2024 for the study was generated by Steele County.
- The analysis assumed acoustically soft ground cover between the roadway and all receptor locations.

**H. Model Results**

Tables 3 and 4 show the results of the modeling analysis for the daytime and nighttime “Existing” “2024 No-Build” and “2024 Build” alternatives.

Complete MINNOISE model output files are provided in Appendix A.

The shaded values represent noise levels that exceed the Minnesota noise standards.

**I. Mitigation Analyses**

1. Noise Walls

Noise walls are the most common method of noise abatement considered when evaluating noise abatement due to traffic noise. For Mn/DOT to consider the erection of a noise wall, one of the following factors must exist:

- The existing noise levels in a neighborhood are in excess of the Minnesota Rules.
- The predicted noise levels in a neighborhood are expected to be in excess of the Minnesota Rules for the design year of the project.
- The noise levels in a neighborhood are predicted to be “substantially” above current noise levels in the project design year. “Substantial” is defined as 5 dBA or greater.
- The predicted noise level approaches or exceeds the acceptable limit. Approaching is defined as the predicted level being within 1 decibel from the limit.

If one of the above conditions is met, noise walls are considered for construction based on several factors, including cost reasonableness. Noise walls must also be desired by the community residents.

2. Noise Wall Locations

Figure 1 shows the location of two (2) areas where noise walls were evaluated using the Minnoise model. The modeled wall locations were selected by considering the location and density of residential receptors near the roadway.
Table 3
Modeled Project Impact
North Beltline - Daytime (dBA)

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Existing</th>
<th>No Build</th>
<th>No Build Increase</th>
<th>Build</th>
<th>Build Increase</th>
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</thead>
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<tr>
<td></td>
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<td>L_50</td>
<td>L_10</td>
<td>L_50</td>
<td>L_10</td>
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<tr>
<td>R1</td>
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<td>69.9</td>
<td>61.8</td>
<td>1.2</td>
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<tr>
<td>R2</td>
<td>68.3</td>
<td>59.7</td>
<td>69.5</td>
<td>61.3</td>
<td>1.2</td>
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<td>59.5</td>
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<td>69.1</td>
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<td>55.5</td>
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</tr>
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</table>
### Table 4
Modeled Project Impact
North Beltline - Nighttime (dBA)

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Existing</th>
<th>No Build</th>
<th>No Build Increase</th>
<th>Build</th>
<th>Build Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$L_{10}$</td>
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<td>$L_{10}$</td>
<td>$L_{50}$</td>
<td>$L_{10}$</td>
</tr>
<tr>
<td>R1</td>
<td>64.3</td>
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<td>65.6</td>
<td>56.0</td>
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<tr>
<td>R2</td>
<td>63.9</td>
<td>53.9</td>
<td>65.2</td>
<td>55.6</td>
<td>1.3</td>
</tr>
<tr>
<td>R3</td>
<td>63.8</td>
<td>53.7</td>
<td>65.1</td>
<td>55.4</td>
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<td>R4</td>
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</tr>
<tr>
<td>R5</td>
<td>63.5</td>
<td>53.4</td>
<td>64.8</td>
<td>55.1</td>
<td>1.3</td>
</tr>
<tr>
<td>R6</td>
<td>56.2</td>
<td>48.1</td>
<td>57.4</td>
<td>49.7</td>
<td>1.2</td>
</tr>
<tr>
<td>R7</td>
<td>56.3</td>
<td>48.2</td>
<td>57.5</td>
<td>49.9</td>
<td>1.2</td>
</tr>
<tr>
<td>R8</td>
<td>56.4</td>
<td>48.3</td>
<td>57.6</td>
<td>49.9</td>
<td>1.2</td>
</tr>
<tr>
<td>R9</td>
<td>56.6</td>
<td>48.6</td>
<td>57.8</td>
<td>50.3</td>
<td>1.2</td>
</tr>
<tr>
<td>R10</td>
<td>58.0</td>
<td>49.0</td>
<td>59.2</td>
<td>50.8</td>
<td>1.2</td>
</tr>
<tr>
<td>R11</td>
<td>64.1</td>
<td>54.3</td>
<td>65.3</td>
<td>56.0</td>
<td>1.2</td>
</tr>
<tr>
<td>R12</td>
<td>63.3</td>
<td>53.5</td>
<td>64.6</td>
<td>55.2</td>
<td>1.3</td>
</tr>
<tr>
<td>R13</td>
<td>63.3</td>
<td>53.4</td>
<td>64.5</td>
<td>55.1</td>
<td>1.2</td>
</tr>
<tr>
<td>R14</td>
<td>63.3</td>
<td>53.3</td>
<td>64.6</td>
<td>55.0</td>
<td>1.3</td>
</tr>
<tr>
<td>R15</td>
<td>63.4</td>
<td>53.4</td>
<td>64.7</td>
<td>55.1</td>
<td>1.3</td>
</tr>
<tr>
<td>R16</td>
<td>63.5</td>
<td>53.4</td>
<td>64.8</td>
<td>55.1</td>
<td>1.3</td>
</tr>
<tr>
<td>R17</td>
<td>63.5</td>
<td>53.4</td>
<td>64.8</td>
<td>55.1</td>
<td>1.3</td>
</tr>
<tr>
<td>R18</td>
<td>57.0</td>
<td>48.9</td>
<td>58.1</td>
<td>50.6</td>
<td>1.1</td>
</tr>
<tr>
<td>R19</td>
<td>56.8</td>
<td>48.7</td>
<td>58.0</td>
<td>50.3</td>
<td>1.2</td>
</tr>
<tr>
<td>R20</td>
<td>56.7</td>
<td>48.5</td>
<td>57.9</td>
<td>50.1</td>
<td>1.2</td>
</tr>
<tr>
<td>R21</td>
<td>56.7</td>
<td>48.4</td>
<td>57.9</td>
<td>50.0</td>
<td>1.2</td>
</tr>
<tr>
<td>R22</td>
<td>56.6</td>
<td>48.3</td>
<td>57.8</td>
<td>50.0</td>
<td>1.2</td>
</tr>
</tbody>
</table>
A two-section 2,280-foot wall between St. Paul Road and Hemlock Avenue NE was modeled on the north side of 26th Street. A 1,126-foot wall on the south side of 26th Street NE between 7th Avenue NE and Hemlock Avenue NE was also modeled. Both walls were modeled at a height of 20 feet.

3. Noise Wall Model Results
Tables 5 and 6 show the noise reduction provided at receptor locations in each of the two areas evaluated for noise walls.

| Table 5 |
| Wall Effectiveness |
| North Side - Kenyon Road to Deer Trail Lane |

<table>
<thead>
<tr>
<th>Residential Receptor</th>
<th>Noise Level Without Wall</th>
<th>Noise Level With 20' Wall</th>
<th>Reduction Due to 20' Wall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L_{10}</td>
<td>L_{50}</td>
<td>L_{10}</td>
</tr>
<tr>
<td>R1(1)</td>
<td>69.5</td>
<td>60.8</td>
<td>70.0</td>
</tr>
<tr>
<td>R2(1)</td>
<td>57.6</td>
<td>51.3</td>
<td>69.7</td>
</tr>
<tr>
<td>R3(1)</td>
<td>55.4</td>
<td>49.7</td>
<td>69.5</td>
</tr>
<tr>
<td>R4(1)</td>
<td>54.6</td>
<td>48.9</td>
<td>69.2</td>
</tr>
<tr>
<td>R5(1)</td>
<td>63.9</td>
<td>54.5</td>
<td>69.1</td>
</tr>
<tr>
<td>R6(1)</td>
<td>58.7</td>
<td>51.8</td>
<td>61.2</td>
</tr>
<tr>
<td>R7(1)</td>
<td>55.4</td>
<td>50.4</td>
<td>61.3</td>
</tr>
<tr>
<td>R8(1)</td>
<td>55.2</td>
<td>50.4</td>
<td>61.4</td>
</tr>
<tr>
<td>R9(1)</td>
<td>56.6</td>
<td>51.1</td>
<td>61.6</td>
</tr>
<tr>
<td>R10(1)</td>
<td>62.1</td>
<td>54.4</td>
<td>63.3</td>
</tr>
</tbody>
</table>

*Number in parentheses indicates the number of residences represented by indicated receptor.
Table 6
Wall Effectiveness
South Side - Kenyon Road to Deer Trail Lane

<table>
<thead>
<tr>
<th>Residential Receptor</th>
<th>Noise Level Without Wall</th>
<th>Noise Level With 20' Wall</th>
<th>Reduction Due to 20' Wall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$L_{10}$</td>
<td>$L_{50}$</td>
<td>$L_{10}$</td>
</tr>
<tr>
<td>R11(1)</td>
<td>69.6</td>
<td>61.6</td>
<td>69.7</td>
</tr>
<tr>
<td>R12(1)</td>
<td>61.7</td>
<td>53.8</td>
<td>69.0</td>
</tr>
<tr>
<td>R13(2)</td>
<td>55.9</td>
<td>49.9</td>
<td>68.9</td>
</tr>
<tr>
<td>R14(2)</td>
<td>54.3</td>
<td>48.6</td>
<td>69.0</td>
</tr>
<tr>
<td>R15(2)</td>
<td>54.3</td>
<td>48.3</td>
<td>69.1</td>
</tr>
<tr>
<td>R16(2)</td>
<td>54.3</td>
<td>48.3</td>
<td>69.2</td>
</tr>
<tr>
<td>R17(2)</td>
<td>57.9</td>
<td>50.0</td>
<td>69.1</td>
</tr>
<tr>
<td>R18(2)</td>
<td>57.7</td>
<td>51.6</td>
<td>62.0</td>
</tr>
<tr>
<td>R19(2)</td>
<td>55.6</td>
<td>50.4</td>
<td>61.8</td>
</tr>
<tr>
<td>R20(2)</td>
<td>54.3</td>
<td>49.6</td>
<td>61.8</td>
</tr>
<tr>
<td>R21(2)</td>
<td>55.9</td>
<td>49.9</td>
<td>61.7</td>
</tr>
<tr>
<td>R22(2)</td>
<td>58.1</td>
<td>51.1</td>
<td>61.7</td>
</tr>
</tbody>
</table>

*Number in parentheses indicates the number of residences represented by indicated receptor.

The MINNOISE model output files are provided in Appendix A.

4. Cost Reasonableness Analysis
In order for a noise wall to be constructed by Mn/DOT it must be able to be constructed at a “reasonable” cost. “Reasonable” cost is currently defined by Mn/DOT as $3,250/dBA. This is determined by dividing the total cost of a wall (currently estimated at $15 per square foot) by the total decibel reduction for residences that are predicted to receive at least a 5 decibels reduction.

The SBP analyses show that a 20 foot high and 864 foot long wall between Kenyon Road and Deer Trail Lane on the south side of the North Beltline would have a cost reasonableness value of $1,408/dBA, meeting the Mn/DOT cost reasonableness requirement of $3,250/dBA.

The results of the SBP analyses also show that a 20 foot high and 721 foot long wall on the north side of the North Beltline between Kenyon Road and Deer Trail Lane would have a cost reasonableness value of $3,428/dBA, not meeting the Mn/DOT cost reasonableness requirement of $3,250/dBA.

The estimated wall costs do not include any costs that may be required for additional right-of-way or easements.
**J. Summary/Conclusions**

Based on the year 2024 noise impact analysis, the presence of the North Beltline will result in noise levels that exceed the MPCA noise rules and FHWA Noise Abatement Criteria (NAC) for some receptors located in the project area.

The SBP analyses show that a 20 foot high and 864 foot long wall between Kenyon Road and Deer Trail Lane on the south side of the North Beltline would have a cost reasonableness value of $1,408/dBA, meeting the Mn/DOT cost reasonableness requirement of $3,250/dBA.

The results of the SBP analyses also show that a 20 foot high and 721 foot long wall on the north side of the North Beltline between Kenyon Road and Deer Trail Lane would have a cost reasonableness value of $3,428/dBA, not meeting the Mn/DOT cost reasonableness requirement of $3,250/dBA.

In order for the walls to be constructed they must also be technically feasible to build and be desired by the community. The estimated wall costs do not include any costs that may be required for additional right-of-way or easements.
Appendix F – Design Study Report

Design Study Report
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
and
STEELE COUNTY

DESIGN STUDY REPORT

for

State Project: 74-634-10

CSAH 34 RECONSTRUCTION, OWATONNA, MN

FROM: CSAH 1 (North Cedar Ave)
TO: 300' East of Intersection With CSAH 8 (Kenyon Road)

PROPOSED IMPROVEMENT: Reconstruction and widening of an approximately 1.6 mile segment of an existing two-lane roadway and construction of a paved recreational trail.

Recommended for approval by:

Gary Bruggeman
Steele County Engineer

Date

Steven Kirsch
District 6 State Aid Engineer

Reviewed and Approved by:

State Aid Engineer
State Aid for Local Transportation

Date
OPENING STATEMENT
The Design Study Report (DSR) associated with the CSAH 34 Class III action (Environmental Assessment) has been prepared and submitted in accordance with the approved Mn/DOT Highway Project Development Process. The DSR serves as guidance for detailed design of the construction plans and specifications for the project. The DSR documents the design criteria and exceptions to the standards.

PROJECT DESCRIPTION
The project includes reconstruction and widening of CSAH 34 between CSAH 1 and 300’ east of the intersection of CSAH 34 and CSAH 8. The Environmental Assessment document covers additional area between Kenyon Road and Deer Trail Lane. The existing rural section, two-lane, bituminous roadway will be reconstructed to a four-lane, concrete, urban section with curb and gutter. The reconstructed roadway will use the same alignment and profile as the existing roadway. A 10’ wide bituminous recreational trail will be constructed south of the roadway within the road right-of-way. Storm sewer, ditches and rain gardens will be installed to provide water conveyance and treatment.

Project Cost:
Estimate: $3 million.
Type and percentage of Federal and matching funds:
The 2006 – 2008 State Transportation Improvement Program (STIP) has $960,000 in Federal funding (Federal Highway Administration) and $960,000 in State-Aid scheduled for this project in calendar year 2008. The remainder of the funding will be provided through local (County and City) funds. The City will provide funds for utilities, retention ponds, and the recreational trail.

Anticipated Schedule:
Right-of-Way Acquisition/Easements: January 2007
Lettin: January 2008

Project Manager:
Gary Bruggeman, County Engineer
Steele County Highway Department
635 Florence Avenue
Owatonna, MN 55060
Telephone: (507) 444-7670

Permits needed & Expiration Date:
See EA/EAW document.

Final Plan Review Required:
Yes / No Mn/DOT Cultural Resources
Yes / No SHPO
Yes / No Municipal
Yes / No Mn/DOT State Aid
Mitigation/Commitments:
The project will add impervious surface to the area. Surface runoff from the new roadway will be collected in a storm water system, ditches and rain gardens. The water will then be directed to Willow Creek. This project will comply with the Steele County comprehensive water management plan, in effect since 1996.

Traffic During Construction:
It is anticipated that construction will begin in 2008 with work on the intersections. Intersections will be closed one at a time with detours associated with each intersection closing. The intersections that will be closed, one at a time, include: Landmark Drive, 3rd Avenue, St. Paul Road, 7th Avenue, Hemlock Avenue, and Mineral Springs. The intersection of CSAH 34 and Lamada Place NE will be completed in two phases/halves. Construction of the intersection will be done under traffic since it is the only access the residents of the cul-de-sac have. The CSAH 34/Kenyon Road intersection will also be completed in two phases. After the intersections are upgraded, the mainline sections will be completed. There may be detours or lane closures.

SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS

See EA/EAW document.

DESIGN STUDY

The project will be designed in accordance with FHWA-Mn/DOT Stewardship Plan. For this project the following standards are to be used as a basis of design:

- State Aid Operations Chapter 8820.9936 Geometric Design Standards, Urban; New or Reconstruction Projects
- State Aid Minimum Bicycle Path Standards
- Minnesota Manual on Uniform Traffic Control Devices
- MPCA – Protecting Water Quality in Urban Areas
- Americans with Disabilities Act

The project will be constructed in accordance with the current edition of the Mn/DOT’s “Standard Specifications for Construction 2005”, including Supplemental Specifications, and Steele County Specifications.
## Geometric Design Elements

**CSAH 34**

<table>
<thead>
<tr>
<th>Design Element</th>
<th>Existing Condition</th>
<th>Proposed Design</th>
<th>Required Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional Class</td>
<td>Rural Collector</td>
<td>Minor Arterial</td>
<td>NA</td>
</tr>
<tr>
<td><strong>FROM—TO:</strong> CSAH 1 to 300' east of CSAH 34 and CSAH 8 intersection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project or segment length, ft</td>
<td>8250</td>
<td>8250</td>
<td>NA</td>
</tr>
<tr>
<td>Rural / Suburban / Urban</td>
<td>Rural</td>
<td>Urban</td>
<td>NA</td>
</tr>
<tr>
<td>ADT</td>
<td>6300</td>
<td>8190</td>
<td>NA</td>
</tr>
<tr>
<td>Heavy Commercial %</td>
<td>3</td>
<td>3</td>
<td>NA</td>
</tr>
<tr>
<td>Design Speed, mph</td>
<td>55</td>
<td>55</td>
<td>30</td>
</tr>
<tr>
<td># Thru Lanes each direction</td>
<td>1</td>
<td>2</td>
<td>1*</td>
</tr>
<tr>
<td>Lane width, ft</td>
<td>12</td>
<td>12</td>
<td>12</td>
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<tr>
<td><strong>Surfacing type</strong></td>
<td>Bituminous</td>
<td>Concrete</td>
<td>Paved</td>
</tr>
<tr>
<td><strong>Structural Design Strength, ton</strong></td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Shoulder Width, ft</td>
<td>8-10’</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Surfacing type</strong></td>
<td>Gravel</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Recovery Area, ft, from edge of traffic lane</td>
<td>30</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Inslpoe, rise: run</td>
<td>1:4</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Approach Sideslopes</td>
<td>1:8 or flatter</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Median, ft, raised/painted</td>
<td>4 (raised)</td>
<td>4 (raised, temporary)</td>
<td>4</td>
</tr>
<tr>
<td>Median Curb Reaction, ft</td>
<td>1.5</td>
<td>1.5</td>
<td>1</td>
</tr>
<tr>
<td>Curb &amp; Gutter type</td>
<td>NA</td>
<td>B424 Conc.</td>
<td>NA</td>
</tr>
<tr>
<td>Curb Reaction, ft</td>
<td>NA</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Clearance from Face Curb, ft</td>
<td>NA</td>
<td>2 or 10 (over 45 MPH)</td>
<td>1.5 or 10 (over 45 MPH)</td>
</tr>
<tr>
<td>Parking Lane, ft</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Turn Lane, ft (TWLTL)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Sidewalk width, ft</td>
<td>NA</td>
<td>See Bike path</td>
<td>See Bike path</td>
</tr>
<tr>
<td>Curb Ramps, Y/N</td>
<td>NA</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Right-of-Way width, ft</td>
<td>66 and 100</td>
<td>83 (50+33) and 100</td>
<td>60</td>
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</tbody>
</table>
**CSAH 34 (cont.)**

<table>
<thead>
<tr>
<th>Design Element</th>
<th>Existing Condition</th>
<th>Proposed Design</th>
<th>Required Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bike Path, one or two way</strong></td>
<td>NA</td>
<td>Two way</td>
<td>NA</td>
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<tr>
<td><strong>Design Speed, mph</strong></td>
<td>NA</td>
<td>20</td>
<td>20</td>
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<tr>
<td><strong>Width, ft</strong></td>
<td>NA</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td><strong>--Surfacing</strong></td>
<td>NA</td>
<td>Bituminous</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Shoulder, ft</strong></td>
<td>NA</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>--Surfacing</strong></td>
<td>NA</td>
<td>Sod</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Clear Zone, ft</strong></td>
<td>NA</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Inslope, rise: run</strong></td>
<td>NA</td>
<td>1:4</td>
<td>1:2</td>
</tr>
<tr>
<td><strong>Max Grade, %</strong></td>
<td>NA</td>
<td>Will not exceed 5</td>
<td>8.3 max.</td>
</tr>
<tr>
<td><strong>Vertical Clearance, ft</strong></td>
<td>NA</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>Guard Rail at bridge: Y/N</strong></td>
<td>NA</td>
<td>Y</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Railroad Crossing</strong></td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Traffic Signal</strong></td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Roadway Lighting, type</strong></td>
<td>NA</td>
<td>standard</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Landscaping</strong></td>
<td>NA</td>
<td>sod</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Signing</strong></td>
<td>NA</td>
<td>Standard MMUTCD</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Pavement Marking</strong></td>
<td>NA</td>
<td>Standard MMUTCD</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Storm Sewer</strong></td>
<td>NA</td>
<td>Yes</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Utilities</strong></td>
<td>NA</td>
<td>Possible Relocations</td>
<td>NA</td>
</tr>
</tbody>
</table>

* Ultimately the road will handle 14,000 to 19,000 ADT when the beltline system is completed. State Aid requires roads carrying more than 15,000 vehicles per day to have two through lanes each direction. In order to handle the ultimate traffic levels and to match the rest of the beltline system, the proposed road will be four-lanes.

Right-of-way will be needed to complete the trail near Kenyon Road. The City of Owatonna is coordinating the efforts to purchase that right-of-way.

A No Parking Resolution will be required by Steele County and the City of Owatonna.
Design Exception

No design exception requests are needed for CSAH 34.

FUTURE IMPROVEMENTS

CSAH 34 is part of the beltline system. When funding becomes available, CSAH 34 will be extended to intersect with the proposed East and West Beltlines. No future improvements are anticipated for the section of CSAH 34 between CSAH 1 and CSAH 8.

Typical Sections
Typical sections are attached to this DSR.
Appendix G – Related Pages from Previous Reports and Documents


Cover and Pages from 1999 “Owatonna East Side Corridor Environmental Assessment Worksheet”

Cover and Pages from 1995 “Owatonna East Side Corridor Environmental Report”
1.0 Introduction

The City of Owatonna, Steele County and Minnesota Department of Transportation (Mn/DOT) have teamed up to study the proposed construction of a highway beltline system for the City of Owatonna and reconstruction on US Highway 14 (Highway 14).

A March 1995 study titled "Owatonna East Side Corridor Environmental Report" completed by Short, Elliot, Hendrickson, Inc. identified 26th Street North as the alignment for a north beltline. This report provides a recommendation for the location for the East Beltline and provides technical data to assist the City of Owatonna, Steele County and Mn/DOT determine if south and west beltlines are feasible. This report also provides recommendations for the expansion of Highway 14 from two to four lanes between Highway 218/County State Aid Highway (CSAH) 48 and the recommended East Beltline, the Highway 14/CSAH 45 intersection and the Highway 14/CSAH 6 intersection.

Many variables have been analyzed in the development of the recommendations contained in this report. Environmental elements including threatened or endangered species, historic properties, archaeological sites, existing hydrology and farmland impacts have been considered. Traffic projections based on development expectations have been calculated for the potential beltlines and surrounding roadways. Impacts to property owners and local opinions regarding the beltlines are also factored in the report recommendations.

2.0 Project Description and Location

This report is separated into East Beltline Option I, East Beltline Option II, West Beltline, South Beltline and Highway 14 improvements/intersection analysis sections (see Figure 1 in Appendix A for the project area).

**East Beltline Option I**
Located along 34th Avenue East and approximately 1 mile east of the City of Owatonna, this route is approximately 4 miles long and extends from SE 28th Street to CSAH 34 (26th Street North). In this option, 26th Street North would be extended east to connect to the East Beltline (see Figure 2 in Appendix A).

**East Beltline Option II**
Located approximately one mile east of East Beltline Option I, this option follows the alignments of County Road (CR) 59 and CSAH 43 (44th Avenue East). This option is also 4 miles long stretches between SE 28th Street and 26th Street North. As in East Beltline Option I, 26th Street North would be extended to the east to connect to this alignment (see Figure 3 in Appendix A).
West Beltline
This option starts near the CSAH 7/CSAH 18 intersection on the south and ends at 26th Street North on the northwest side of Owatonna. The West Beltline is four miles long and follows portions of existing 35th Avenue West (see Figure 4 in Appendix A).

South Beltline
Paralleling and about ½ mile south of Highway 14, CSAH 18, CR 18, and SE 28th Street have been designated as the beltline corridor for this route. The South Beltline is located between CSAH 7/39th Avenue West on the west and the East Beltline option for a total length of 5.5 or 6.5 miles (see Figure 5 in Appendix A).

Highway 14
This report includes analysis of the CSAH 45 and CSAH 6 intersections with Highway 14 and extension of the four lane section between Highway 218 and the recommended East Beltline. Highway 14 is located on the south side of Owatonna (see Figure 6 in Appendix A).

3.0 Project Purpose and Background

Currently, the City of Owatonna does not have a designated beltline system. If a person living on the southeast side of town needs to go west on Highway 14, they either have to go south to Highway 14 then backtrack to the north or weave their way through the city. Safety and congestion are becoming concerns for traffic traveling through the city as substantial growth is occurring with new housing developments to the north and east and new commercial/industrial developments to the west. The City of Owatonna, Steele County and Mn/DOT have agreed that planning is needed to preserve a beltline corridor around the city before developments encroach on the land that would be needed for the roadway, driving up the costs and complicating the development.

The 1995 study recommended the East Beltline be constructed at 24th Avenue East. However, current Mn/DOT standards require interchanges be separated by one mile or more. Since the existing Highway 218/Highway 14 interchange and 24th Avenue East are less than one mile apart, a new location for the East Beltline needs to be identified. This study will identify a new location for the recommended East Beltline. The 24th Avenue East corridor has been mapped on the Steele County official map and the City has assumed responsibility for constructing the road. It will be constructed as development warrants with access restrictions. No driveways will directly access 24th Avenue East and street spacing will be between 1/8th and 1/4th mile. The road will likely be constructed between Dane Road and 18th Street SE.

The West Beltline is being studied among significant commercial and industrial growth on the west side of Owatonna. When Highway 14 is extended west to Waseca on the south side of Owatonna, Mn/DOT anticipates a new interchange...
Owatonna East Side Corridor
Environmental Report
March 1995

Prepared for:
City of Owatonna and Steele County

Prepared by:
Short Elliott Hendrickson Inc.

SHORT ELLIOTT HENDRICKSON INC.

MULTIDISCIPLINED.
SINGLE SOURCE.
VI. Alternatives

A. Alternatives Considered

No-Build Alternative
This alternative requires existing and projected travel through downtown Owatonna or on County Road 59 (CSAH 43). It does not provide any relief from the expected growth in ADT volumes as a result of the anticipated development on the east side of the City.

Existing environmental impacts will not change with this alternative.

An additional No-Build alternative is the use of C.R. 59. This alternative is one mile east of the area where the City is expected to experience its growth over the next 20 years. Therefore, it is outside the areas in need of travel service improvement. As shown in the traffic study, C.R. 59 is not expected to serve as a major by-pass of the central portions of Owatonna. It provides little or no relief to traffic growth on City arterials. Residential collector streets will have a strong potential to become substitutes for a north/south by-pass route. Under the no-build alternative, Greenhaven Lane and Crestview Lane are expected to be used as a north/south connection between Dane Road and Rose Street. This may already be occurring to a small extent.

Alternative A
This is the westerly alternative closest to existing City boundaries (Figure 2). At the north end, this route intersects CSAH 8 where it shares alignment with 34. South from CSAH 8 it follows the section line to T.H. 14. The exact arrangement of this new intersection requires further study for all of the alternatives.

Echo Heights and Brooktree subdivisions are skirted by this route. The remaining land use along the route is agricultural. A new crossing at Maple Creek is necessary and the DM&E railroad would be crossed at-grade. The distance from CSAH 8 to T.H. 14 is 3.5 miles.

This alternative provides the most relief to existing City arterials such as Mineral Springs Road and Rose Street. It is actually expected to result in modest increases in growth along School Street, Havana Road, 18th Street S.E., and T.H. 14. This is due to the fact that it allows new traffic to by-pass the central portions of the City to get to the south half of the City. Therefore, the projected growth in traffic volumes is
spread more evenly across the City's street network (see Figures 6, 11 and 16 of the attached traffic study).

Since this alternative provides a convenient route to the rest of the "beltline" roadways around the City, it significantly increases the projected traffic volumes along CSAH 34 along the north side of the City. This shows that Alternative A and CSAH 34 will be used as a connection between the new City growth on the east side and existing and future industrial developments and I-35 on the west side.

Alternative A itself is expected to have an ADT volume ranging from 3200 just north of T.H. 14 to over 12,000 between Dane Road and Rose Street.

Operational and design considerations for this alternative are shown in Figure 20 of the attached traffic study.

**Alternative A1**
This route is a shift in the southerly endpoint of Alternative A. Rather than intersect T.H. 14, this route would shift the endpoint to C.R. 48. The east segment of the "beltway" would not have logical flow into the south segment of the "beltway".

This alternative is expected to have very similar traffic volume increases to Alternative A.

The operational and design considerations are also similar, except at the south end, where the existing interchange of T.H. 14 and CSAH 48 can be used. This alternative would result in a new major intersection along CSAH 48. Proximity to the existing intersections along CSAH 48 would need to be addressed further when specific alignments of Alternative A1 are selected.

**Alternative A2**
This route shifts the northerly endpoint of Alternative A one-half mile to the west (Figure 2). Existing roadway on C.R. 8 and 35 would be used. The existing Maple Creek bridge would be utilized. These existing routes require two additional 90 degree turns to connect the east and north segments of the beltway.

This alternative is also expected to have very similar traffic volume increases to Alternative A, but would result in heavier traffic volumes along the existing portions of C.R. 8 and 35.
Owatonna East Side Corridor

Environmental Assessment Worksheet

Prepared for

City of Owatonna, Minnesota
and
Steele County, Minnesota

March 8, 1999
Environmental Assessment Worksheet (EAW)

NOTE TO REVIEWERS

Comments must be submitted to the RGU (see item 3) during the 30-day comment period following notice of the EAW in the EQB Monitor. (Contact the RGU or the EQB to learn when the comment period ends). Comments should address the accuracy and completeness of the information, potential impacts that may warrant further investigation, and the need for an EIS. If the EAW has been prepared for the scoping of an EIS (see item 4), comments should address the accuracy and completeness of the information and suggest issues for investigation in the EIS.

1. **Project Title**
   Owatonna East Side Corridor

2. **Proposer**
   City of Owatonna/Steele County
   
   **Contact Person**
   David Strand
   
   **Address**
   540 West Hills Circle
   Owatonna, MN 55066
   
   **Phone**
   (507) 444-4340

3. **RGU**
   Steele County
   
   **Contact Person**
   Michael Caron
   
   **Title**
   Steele County Planning Director
   
   **Address**
   630 Florence Ave, P.O. Box 890
   Owatonna, MN 55060
   
   **Phone**
   (507) 444-7475

4. **Reason for EAW Preparation**
   □ EIS Scoping  □ Mandatory  □ Citizen Petition  □ RGU Discretion  □ Proposer Volunteered
   
   If EAW or EIS is mandatory, give EQB rule category number(s) 4410.4300, subp. 22 A

5. **Project Location**
   
   1/4 1/4 1, 2, 12, 13, 24 Section 107N Township 20W Range
   
   **County**
   Steele
   
   **City/Twp**
   Owatonna

   Attach copies of each of the following to the EAW:
   
   a. a county map showing the general location of the project; Exhibit 1
   b. copy(ies) of USGS 7.5 minute, 1:24,000 scale map (photocopy is OK) indicating the project boundaries;
   c. a site plan showing all significant project and natural features.

6. **Description**
   Give a complete description of the proposed project and ancillary facilities (attach additional sheets as necessary). Emphasize construction and operation methods and features that will cause physical manipulation of the environment or produce wastes. Indicate the timing and duration of construction activities.

   The proposed project is an east segment of a roadway "belt-line" around the City of Owatonna between 26th Street N.E. (CSAH 34) to the north and U.S. Trunk Highway 14 to the south. The north segment beltline is CSAH 34 and the south segment beltline is T.H. 14. This east side corridor is linear in a north-south direction for approximately 3.75 miles. The proposed east side corridor will combine urban and rural design sections within a right-of-way up to 150 feet. Access will be restricted to existing east-west routes including County Roads 8, 35, 19, 80 and 71. Bridging will be required for crossing Maple Creek. Railroads will be intersected at-grade. There were four alternatives considered for this east side corridor. At the northern termini of each alternative, the roadway would need to extend to the west to connect with CSAH 8 and CSAH 34 and all alternatives cross Maple Creek and the DM&E Railroad.

   The City of Owatonna and Steele County have resolved that the alternative addressed in this worksheet best balances anticipated impacts with the existing and projected needs of the community. The following described corridor shall be the basis for continued study and environmental review:

   The exact timing of the project is not yet known. The project would not begin prior to 2000 and could possibly be constructed in phases or segments of one to two miles.

Provide a 50 or fewer word abstract for use in EQB Monitor notice:
The project is a 3.75 mile arterial roadway being the east segment of a “beltline” around the City of Owatonna. This east side corridor is linear in a north-south direction and intersects existing east-west arterials. The purpose of the corridor is to accommodate traffic from existing and anticipated future development on the northeast side of Owatonna.

7. Project Magnitude Data
   - Total Project Area (acres)
     - Number of Residential Units
       - Unattached: N/A
       - Attached: N/A
     - Commercial/Industrial/Institutional Building Area (gross floor space)
       - Total: N/A square feet

   Indicate area of specific uses:
   - Office: N/A
   - Retail: N/A
   - Warehouse: N/A
   - Light Industrial: N/A
   - Other Commercial (specify): N/A
   - Manufacturing: N/A
   - Other Industrial: N/A
   - Institutional: N/A
   - Agricultural: N/A
   - Building Height(s): N/A
   - or Length (miles): 3.75

8. Permits and Approvals Required - List all known local, state, and federal permits, approvals, and funding required:

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<th>Unit of Government</th>
<th>Type of Application</th>
<th>Status</th>
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<tr>
<td>Federal Highway Administration</td>
<td>Design Approval</td>
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<tr>
<td>U.S. Army Corps of Engineers</td>
<td>Section 404 Permit</td>
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<td>Steele County Soil &amp; Water Conservation Dist.</td>
<td>Wetlands Conservation Act Permit</td>
<td>To be Submitted</td>
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9. Land Use - Describe current and recent past land use and development on the site and on adjacent lands. Discuss the compatibility of the project with adjacent and nearby land uses; indicate whether any potential conflicts involve environmental matters. Identify any potential environmental hazard due to past land uses, such as soil contamination or abandoned storage tanks.

The existing land use is residential and farmland. The proposed route triangulates three farm fields and there are four farm splits. The triangulation is proposed to avoid wetlands, allow a perpendicular intersection with an existing roadway and railroad and to create a separation to an existing residential development.

The presence of an east side bypass will allow future residential growth to be oriented to both the east/west roadways and the new north/south roadway through the use of residential collector streets. In this way, the presence of the bypass will decrease the dependence on future residential collector streets as north/south connections to the existing arterials in the study area.

10. Cover Types - Estimate the acreage of the site with each of the following cover types before and after development (before and after totals should be equal):