Final Environmental Impact Statement for

Trunk Highway 23 and U.S. Highway 71

Minnesota Department of Transportation—District 8

Federal Highway Administration

July, 2010
TO: Interested Persons, Agencies, and Organizations

FROM: Lowell Flaten, P.E.
Mn/DOT Project Manager

DATE: July 7, 2010

SUBJECT: Highway 23/71 Final Environmental Impact Statement

Enclosed is a copy(ies) of the Final Environmental Impact Statement (Final EIS) for proposed improvements to the 3.5-mile common section of Trunk Highway 23 and U.S. Highway 71 (Highway 23/71) in Kandiyohi County. The project corridor extends from the Highway 23/71 northern split in Dovre Township to the southern split of TH 23/71 and Business 71 in the City of Willmar.

The Minnesota Department of Transportation (Mn/DOT), in cooperation with the Federal Highway Administration (FHWA), has prepared this Final EIS and copies of the document are being distributed for review and comment to aid in the determination of adequacy of the Final EIS. An electronic copy of the Highway 23/71 Final EIS is also located on the project website at www.projects.dot.state.mn.us/seh/2371. We ask that local units of government (townships, city, county) and local libraries that receive the document make it available for public review. Furthermore, comments on the document are being requested from individuals or agencies to whom the proposed project may be of interest. The comment period will begin on July 12, 2010 and will extend through July 26, 2010. Mn/DOT and FHWA will use the comments received in determining the adequacy of the Final EIS. All comments should be directed to:

Lowell Flaten
Mn/DOT-District 8 Project Manager
2505 Transportation Road
Willmar, Minnesota 56201
Lowell.flaten@state.mn.us

The Final EIS can be made available in alternative formats to individuals with disabilities by calling the Project Manager at (320) 214-6367 or to individuals who are hearing or speech impaired by calling the Minnesota Relay Service at 1-800-627-3529 or (651) 296-9930 TTY.
FINAL ENVIRONMENTAL IMPACT STATEMENT
for TRUNK HIGHWAY 23 and U.S. HIGHWAY 71
3.5 Mile combined Trunk and U.S. Highway segments in Dovre Township, northeast of Willmar County: Kandiyohi, MN

Submitted Pursuant to 42 U.S.C. 4332 (2) (c) and Minn. Stat Chap. 116D by the U.S. Department of Transportation – Federal Highway Administration and the Minnesota Department of Transportation
State Project Number: S.P. 3412-70

Cooperating Agencies
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Fish & Wildlife Service

Contacts: The following persons may be contacted for additional information concerning this document:

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REVIEWED AND RECOMMENDED:

[Signature]
Date: 3/9/10
Transportation District Engineer, Mn/DOT District 8

APPROVED:

[Signature]
Date: 3/25/10
Division Administrator, Federal Highway Administration

Division Administrator, Federal Highway Administration

Comments on the Final EIS should be sent to the Mn/DOT Project Manager (address listed above).

This document is available in alternative formats to individuals with disabilities by calling the Mn/DOT Project Manager at the phone number listed above, or to individuals who are hearing or speech impaired by calling the Minnesota Relay Service at 1-800-627-3529.
Notice to Reader

The Federal Council on Environmental Quality (CEQ) Regulations for implementing the National Environmental Policy Act (40 CFR 1500-1508) place heavy emphasis on reducing paperwork, avoiding unnecessary work, and producing documents that are useful to decision makers and the public. With these objectives in mind, this Final EIS was prepared as a “Condensed Final EIS”. This approach avoids repetition of material from the Highway 23/71 Draft EIS by incorporating, by reference, the Draft EIS. Thus, the Final EIS is typically a shorter document than under the traditional approach; however, it does afford the reader a complete overview of the project and its impacts on the human and natural environment.

The crux of this approach is to briefly reference and summarize information from the Draft EIS that has not changed, and to focus the Final EIS discussion on changes in the project’s setting, impacts, technical analysis, and mitigation measures that have occurred since the Draft EIS was circulated. In addition, the condensed Final EIS identifies the preferred alternative, explains the basis for its identification, describes coordination efforts, includes agency and public comments, provides responses to these comments, and presents any findings or determinations required by law or regulation.

An additional copy of the Highway 23/71 Draft EIS is not being provided to those parties that received a copy of the Draft EIS when it was circulated in April 2008. Copies of the Draft EIS are available for review on the project web site at http://projects.dot.state.mn.us/seh/23_71/ or by special request to Mn/DOT District 8 in Willmar, Minnesota.
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACHP</td>
<td>Advisory Council on Historic Preservation</td>
</tr>
<tr>
<td>AADT</td>
<td>Annual Average Daily Traffic</td>
</tr>
<tr>
<td>ADT</td>
<td>Average Daily Traffic</td>
</tr>
<tr>
<td>APE</td>
<td>Area of Potential Effect</td>
</tr>
<tr>
<td>AST</td>
<td>Aboveground Storage Tank</td>
</tr>
<tr>
<td>B/C</td>
<td>Benefit-Cost</td>
</tr>
<tr>
<td>BMPs</td>
<td>Best Management Practices</td>
</tr>
<tr>
<td>CAAA</td>
<td>Clean Air Act Amendments</td>
</tr>
<tr>
<td>CEQ</td>
<td>Council on Environmental Quality</td>
</tr>
<tr>
<td>CO</td>
<td>Carbon Monoxide</td>
</tr>
<tr>
<td>CR</td>
<td>County Road</td>
</tr>
<tr>
<td>CRP</td>
<td>Conservation Reserve Program</td>
</tr>
<tr>
<td>CSAH</td>
<td>County and State Aid Highway</td>
</tr>
<tr>
<td>CWA</td>
<td>Clean Water Act</td>
</tr>
<tr>
<td>dBA</td>
<td>A-weighted Decibel</td>
</tr>
<tr>
<td>EAW</td>
<td>Environmental Assessment Worksheet</td>
</tr>
<tr>
<td>EIS</td>
<td>Environmental Impact Statement</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>ESA</td>
<td>Environmental Site Assessment</td>
</tr>
<tr>
<td>EQB</td>
<td>Environmental Quality Board</td>
</tr>
<tr>
<td>FEMA</td>
<td>Federal Emergency Management Agency</td>
</tr>
<tr>
<td>FHWA</td>
<td>Federal Highway Administration</td>
</tr>
<tr>
<td>FIRM</td>
<td>Flood Insurance Rate Map</td>
</tr>
<tr>
<td>FSA</td>
<td>Farm Service Agency</td>
</tr>
<tr>
<td>GIS</td>
<td>Geographic Information System</td>
</tr>
<tr>
<td>HCADT</td>
<td>Heavy Commercial Average Daily Traffic</td>
</tr>
<tr>
<td>HCM</td>
<td>Highway Capacity Manual</td>
</tr>
<tr>
<td>IRC</td>
<td>Interregional Corridor</td>
</tr>
<tr>
<td>IRIS</td>
<td>Integrated Risk Information System</td>
</tr>
<tr>
<td>JD</td>
<td>Jurisdiction Determination</td>
</tr>
<tr>
<td>LAWC</td>
<td>Land and Water Conservation</td>
</tr>
<tr>
<td>LGU</td>
<td>Local Government Unit</td>
</tr>
<tr>
<td>LOS</td>
<td>Level of Service</td>
</tr>
<tr>
<td>LUST</td>
<td>Leaking Underground Storage Tank</td>
</tr>
<tr>
<td>MDA</td>
<td>Minnesota Department of Agriculture</td>
</tr>
<tr>
<td>MDH</td>
<td>Minnesota Department of Health</td>
</tr>
<tr>
<td>MEPA</td>
<td>Minnesota Environmental Policy Act</td>
</tr>
<tr>
<td>Mn/DOT</td>
<td>Minnesota Department of Transportation</td>
</tr>
<tr>
<td>MNDNR</td>
<td>Minnesota Department of Natural Resources</td>
</tr>
<tr>
<td>MNARAM</td>
<td>Minnesota Routine Assessment Method</td>
</tr>
<tr>
<td>MPCA</td>
<td>Minnesota Pollution Control Agency</td>
</tr>
<tr>
<td>MSL</td>
<td>Mean Sea Level</td>
</tr>
<tr>
<td>MSAT</td>
<td>Mobile Source Air Toxics</td>
</tr>
<tr>
<td>MVM</td>
<td>Million Vehicle Miles</td>
</tr>
<tr>
<td>NAAQS</td>
<td>National Ambient Air Quality Standard</td>
</tr>
<tr>
<td>NATA</td>
<td>National Air Toxics Assessment</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
</tr>
<tr>
<td>NHPA</td>
<td>National Historic Preservation Act</td>
</tr>
<tr>
<td>NHIS</td>
<td>Natural Heritage Information System</td>
</tr>
<tr>
<td>NHS</td>
<td>National Highway System</td>
</tr>
<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>NRCS</td>
<td>Natural Resource Conservation Service</td>
</tr>
<tr>
<td>NRHP</td>
<td>National Register of Historic Places</td>
</tr>
<tr>
<td>NWI</td>
<td>National Wetland Inventory</td>
</tr>
<tr>
<td>OHW</td>
<td>Ordinary High Water</td>
</tr>
<tr>
<td>OMLS</td>
<td>Online Multiple Listing Service</td>
</tr>
<tr>
<td>PA</td>
<td>Participating Agencies</td>
</tr>
<tr>
<td>PAC</td>
<td>Project Advisory Committee</td>
</tr>
<tr>
<td>RCV</td>
<td>Remaining Capital Value</td>
</tr>
</tbody>
</table>
1.0 EXECUTIVE SUMMARY

1.1 PURPOSE OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT

The proposed reconstruction of Trunk Highway 23 and U.S. Highway 71 (Highway 23/71) is considered a Federal Class I Action because of the potential for significant impacts on the natural and physical environment. An Environmental Impact Statement (EIS) is a full disclosure document that discusses the environmental impacts of a proposed Class I action.

The Highway 23/71 Draft EIS, which was distributed in April 2008, is incorporated by reference herein and made a part of this Final EIS.

This Final EIS has been prepared in accordance with CEQ Regulation 40 CFR 1503.4 (C), Minnesota Environmental Quality Board MR 4410, and Minnesota Statutes 116D, which provide a methodology for preparing a “Condensed” Final EIS. This approach will focus on the preferred alternative, additional technical analysis completed since the Draft EIS, and mitigation commitments for potential impacts. Information from the Draft EIS that has not changed is briefly summarized, and the reader is referred to the Draft EIS.

1.2 DESCRIPTION OF THE PROPOSED ACTION

The Minnesota Department of Transportation (Mn/DOT) proposes access management improvements to the Highway 23/71 Corridor in Kandiyohi County, Minnesota. The general project location is illustrated on Figure 1.

Improvements will include grade-separated bridge crossings of Highway 23/71, driveway and median closures, and adjacent frontage road and local roadway construction. The project limits extend from the Highway 294 and Highway 23/71 divergence, approximately 0.5 miles north of the Civic Center Drive interchange, to the divergence of Highways 23 and 71 in Dovre Township, northeast of the City of Willmar. The total length of the project corridor is approximately 3.5 miles (see Figure 2).

1.3 PURPOSE AND NEED OF THE HIGHWAY 23/71 PROJECT

The purpose of this project is to identify an environmentally and socially sensitive alternative for a transportation system improvement consistent with meeting the identified needs presented below. Each of these needs is described further in Draft EIS Section 2.5 – Purpose and Need for Proposed Action.

- Improve Safety
- Maintain Performance
- Address Future Land Use
TH 23 and TH 71
Final Environmental Impact Statement

Figure 2
Project Location Map

October 2009
1.4 ALTERNATIVES

The Highway 23/71 Draft EIS, approved in April 2008, considered four primary build alternatives and the No-Build Alternative. The alternative evaluation and screening process was based on an assessment of how each alternative addresses the project purpose and need objectives, as well as an assessment of potential social, economic, and environmental impacts. Following the Draft EIS comment period, a review of the public and agency comments was conducted. Based on the comments and supporting analysis in the Draft EIS, Alternative 2B – Interchange at Relocated County Road (CR) 90 (south alignment) and County State Aid Highway (CSAH) 25 Interchange, was identified as the preferred alternative. Also, following an extensive technical review and agency solicitation process, North Access Connection Alternative N2 was identified as the preferred design option for reestablishing access along the north side of Point Lake. A complete description of the analysis performed is included in Technical Memorandum: TH 23/71 North End Access Connection Alternatives Analysis, (July 2009). A copy of the memorandum is available for review at the Mn/DOT Offices in Willmar.

Figures A1 and A2, located in Appendix A depict the preliminary layout for the preferred alternative. Alternative 2B with the N2 connection was identified for reasons including, but not limited to, the following:

- Provides for efficient travel through the study area by providing a limited access high-speed route.
- The proposed interchanges at relocated CR 90 and CSAH 25 provide a better long-term solution for local operational issues because the two interchanges along with the supporting local roadways better serve future land use plans for commercial and residential development within the study area.
- The social, economic, and environmental impacts are not substantially greater or less than other alternatives/options considered.
- It has the greatest amount of support from the public and governmental agencies.

Section 3.1 of this Final EIS contains a more detailed discussion on the preferred alternative identification process.

1.5 POTENTIAL ENVIRONMENTAL EFFECTS

A summary of the potential beneficial and adverse environmental impacts associated with the preferred alternative is presented in Table 1 (on the following page).

Avoidance and minimization measures have been explored to the greatest extent possible without compromising the safety of travel throughout the corridor. For additional information regarding the impacts shown in Table 1, the reader is referred to Section 4.0 of this document and Section 4.0 of the Draft EIS.
<table>
<thead>
<tr>
<th>Subject</th>
<th>Preferred Alternative Impacts</th>
<th>Proposed Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOCIAL AND COMMUNITY IMPACTS</strong></td>
<td>• Minimal impacts to community resources are anticipated</td>
<td>None proposed</td>
</tr>
<tr>
<td></td>
<td>• Will result in land acquisition and relocations of homes and businesses. Indirect effects will occur to homes and businesses as a result of changes in access</td>
<td></td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL JUSTICE</strong></td>
<td>No disproportionately high or adverse effects to the minority and/or low-income populations in the project area will result from the preferred alternative</td>
<td>None proposed</td>
</tr>
<tr>
<td><strong>RIGHT-OF-WAY / RELOCATION</strong></td>
<td>Potential acquisitions/relocations: 2 residential and 2 commercial</td>
<td>All relocations/property acquisitions will be in accordance with the Uniform Relocation and Real Property Acquisition Policies Act, as amended</td>
</tr>
<tr>
<td></td>
<td>Additional right-of-way, acres: 51.6 acres of new right-of-way from 49 parcels</td>
<td></td>
</tr>
<tr>
<td><strong>INDIRECT AND CUMULATIVE EFFECTS</strong></td>
<td>• Overall cumulative effects are expected to be minimal</td>
<td>None proposed</td>
</tr>
<tr>
<td></td>
<td>• Potential indirect impacts include economic impacts of relocating existing residences; potential for induced development; and short-term economic benefit of increased private sector income during construction</td>
<td></td>
</tr>
<tr>
<td><strong>FARMLAND</strong></td>
<td>The preferred alternative will impact approximately 17 acres of land that has been classified as Prime, Unique, and/or of statewide importance based on the underlying soil types.</td>
<td></td>
</tr>
<tr>
<td><strong>NOISE</strong></td>
<td>Many residential locations currently and will continue to experience noise levels that exceed federal and state standards</td>
<td>A noise abatement study was conducted and concluded that no noise walls meet both the acoustic effectiveness and cost reasonableness criteria. Therefore, no noise walls are proposed.</td>
</tr>
<tr>
<td><strong>WETLANDS</strong></td>
<td>1.0 acres of wetlands, 0.55 acres of ditches, and 1.09 acres of Hawk Creek will be impacted for a total of 2.64 acres of wetland impact</td>
<td>Replaced in accordance with WCA and USACE regulations. Hawk Creek will be realigned and will create 2.72 acres of aquatic habitat.</td>
</tr>
<tr>
<td><strong>FLOODPLAINS</strong></td>
<td>The channel and floodplain for Hawk Creek will be realigned near the new County Road 90 interchange.</td>
<td>The creek channel will be realigned and create approximately 2.72 acres of aquatic habitat that will more than double the area of impact. BMPs will be utilized to minimize any temporary water quality impacts from erosion associated with the creek realignment</td>
</tr>
<tr>
<td><strong>SURFACE WATER DRAINAGE AND WATER QUALITY</strong></td>
<td>• Potential impacts due to increase in impervious surface</td>
<td>• Ten proposed ponding locations are shown in Figures A1 and A2 in Appendix A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• BMPs to be determined during final design phase</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Additional culvert capacity may be required to accommodate demand for drainage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Drain tile systems will be maintained during and after construction</td>
</tr>
<tr>
<td><strong>THREATENED &amp; ENDANGERED SPECIES</strong></td>
<td>No adverse impacts to T&amp;E species are anticipated.</td>
<td>None proposed</td>
</tr>
<tr>
<td><strong>CULTURAL RESOURCES</strong></td>
<td>No adverse impacts are anticipated for properties eligible for listing on NRHP.</td>
<td>None proposed</td>
</tr>
<tr>
<td><strong>CONTAMINATED PROPERTIES</strong></td>
<td>12 medium/high risk sites have been identified in proximity to the preferred alternative</td>
<td>Each site will be further evaluated prior to construction.</td>
</tr>
<tr>
<td><strong>SECTION 4(f) RESOURCES</strong></td>
<td>No direct impacts to Section 4(f) properties have been identified.</td>
<td>None proposed</td>
</tr>
</tbody>
</table>
1.6 **PROJECT COST AND FUNDING SOURCE**

Construction of the Highway 23/71 Project will be funded from both federal and state sources. It is anticipated that federal funds will be the primary source of construction funding (80 percent) with a 20 percent state match. Cost estimates for the preferred alternative are presented below. The estimate includes construction (pavement and structures) and right-of-way acquisition costs.

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Construction Costs</th>
<th>Right-of-Way Acquisition and Relocation Costs</th>
<th>Total Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred Alternative</td>
<td>$22,000,000</td>
<td>$3,000,000</td>
<td>$25,000,000</td>
</tr>
</tbody>
</table>

*Includes four-lane roadway, local/frontage road connections, and other mitigation costs.

1.7 **PERMITS, APPROVALS, AND CONCURRENCE**

It is anticipated that federal, state, and other local permits/approvals/concurrence may be required for the proposed action. The following permits, approvals, and/or concurrences will likely be required for construction of the proposed action:

- Adequacy Determination from Mn/DOT
- Record of Decision from FHWA
- Section 404 Permit from the United States Army Corps of Engineers (USACE)
- Section 401 Water Quality Certification from Minnesota Pollution Control Agency (MPCA)
- National Pollutant Discharge Elimination System (NPDES) permit from the MPCA
- Noise Exemption from MPCA
- Minnesota Wetland Conservation Act (WCA) from Mn/DOT
- Public Waters Work Permit from the Minnesota Department of Natural Resources (MNDNR)

Other permits and approvals required may include:

- Municipal Consent (City of Willmar)
- Permits from watershed districts
- Approval from ditch authorities

1.8 **PROJECT COORDINATION**

Mn/DOT is committed to public and agency involvement/outreach at all levels in decision-making related to the Highway 23/71 Project. Mn/DOT has engaged community organizations; area property owners; business owners; residents; and local, county, regional, state, and federal agencies in the
development of the project. See Draft EIS Section 8.0 – Coordination for additional information.

Since publication of the Draft EIS, coordination activities have included:

- Draft EIS Public Hearing
- Participating Agency Meeting and follow-up coordination
- Project Advisory Committee (PAC) Meetings
- Technical Advisory Committee (TAC) Meetings
- Project Website Updates

Coordination has also occurred with representatives from local, state, and federal agencies with approval and/or permit authority to discuss appropriate analysis methodology and mitigation options for different resource areas.

1.9 SCHEDULE FOR ENVIRONMENTAL REVIEW

<table>
<thead>
<tr>
<th>Completion Date</th>
<th>Task/ Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2006</td>
<td>Release Scoping Document/Draft Scoping Decision Document for public comment, begin the 30-day comment period</td>
</tr>
<tr>
<td>July 17, 2006</td>
<td>Public Scoping Meeting/Open House</td>
</tr>
<tr>
<td>October 2006</td>
<td>Final Scoping Decision Document</td>
</tr>
<tr>
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<td>State EIS Preparation Notice</td>
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<tr>
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</tr>
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<tr>
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<td>Identification of Preferred Alternative</td>
</tr>
<tr>
<td>Winter 2010</td>
<td>Prepare and Distribute Final EIS</td>
</tr>
<tr>
<td>Spring 2010</td>
<td>Mn/DOT Adequacy Determination</td>
</tr>
<tr>
<td>Spring 2010</td>
<td>Federal Highway Administration Record of Decision</td>
</tr>
<tr>
<td>Summer 2010 -2015 and beyond</td>
<td>Final Design and Right-of-Way Acquisition</td>
</tr>
<tr>
<td>Not currently scheduled</td>
<td>Construction (dependent upon funding availability)</td>
</tr>
</tbody>
</table>

1.10 OTHER MAJOR ACTIONS PROPOSED BY OTHER GOVERNMENTAL AGENCIES

There are no known major actions proposed by other governmental agencies within the Highway 23/71 Project area.

1.11 AREAS OF UNRESOLVED OR CONTROVERSIAL ISSUES

There are no unresolved or controversial issues with the Highway 23/71 Project.
2.0 PURPOSE AND NEED FOR PROPOSED ACTION

2.1 DESCRIPTION OF PROJECT

The Highway 23/71 Project is located in south-central Minnesota approximately 100 miles west of Minneapolis/St. Paul. The project corridor traverses north-south through the central portion of Kandiyohi County, Minnesota (see Figure 1). The project limits extend along the common alignment of Highway 23 and Highway 71 for a distance of approximately 3.5 miles (see Figure 2). The existing highway consists of a four-lane divided section with several at-grade intersections. The proposed improvements include access management improvements to preserve safety and mobility along the corridor.

As part of the preferred alternative, grade-separated interchanges have been identified at Kandiyohi County Road 90 and Kandiyohi County State Aid Highway (CSAH) 25. These access locations were identified because they provide reasonable access to/from the regional system and to/from the local transportation network.

2.2 RESPONSIBLE GOVERNMENTAL UNITS

Mn/DOT is the Responsible Governmental Unit for the development of and the environmental documentation for the Highway 23/71 Project. Mn/DOT is managing the project with the Federal Highway Administration (FHWA) as a Joint Lead Agency. The contact persons for the project are:

Mn/DOT District 8
Lowell Flaten
2505 Transportation Road
Willmar, MN 56201
320.214.6367
Lowell.flaten@state.mn.us

FHWA
Philip Forst
Galtier Plaza
380 Jackson Street, Suite 500
Saint Paul, MN 55101-2904
651.291.6110
phil.forst@dot.gov

2.3 FUNDING AND SCHEDULE

Funding

It is anticipated that federal funds will be the primary source of construction funding (80 percent) with a 20 percent state match. The total cost for the preferred alternative is estimated to be $25.0 million.

Table 2 Preliminary Cost Estimates ($2009)

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Construction Costs¹</th>
<th>Right-of-Way Acquisition and Relocation Costs</th>
<th>Total Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred Alternative</td>
<td>$22,000,000</td>
<td>$3,000,000</td>
<td>$25,000,000</td>
</tr>
</tbody>
</table>

¹ Includes four-lane roadway, local/frontage road connections, and other mitigation costs.
### Schedule for Environmental Review

<table>
<thead>
<tr>
<th>Completion Date</th>
<th>Task/Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2006</td>
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</table>

### 2.4 PURPOSE OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT

The National Environmental Policy Act (NEPA) of 1969 requires that social, economic, and environmental considerations be included in the planning of projects that receive federal funding. The proposed improvement to Highway 23/71 is considered a Federal Class I Action because of its potential for significant impacts to the natural and physical environment. The EIS is a full disclosure document that discusses the environmental impacts of a proposed Class I Action. This Highway 23/71 Final EIS will identify the preferred alternative, describe changes in anticipated impacts from the Draft EIS, and outline mitigation measures and commitments.

This Final EIS has been prepared as part of the federal NEPA process and state environmental review process to fulfill requirements of both 42 USC 4321 et. Seq. and Minnesota Rules Chapter 4410.2300.

### 2.5 PURPOSE AND NEED FOR PROPOSED ACTION

#### Project Purpose

The purpose of the preliminary design and environmental review process is to identify an environmentally and socially sensitive preferred alternative for a transportation system improvement consistent with meeting the identified needs presented below.
**Project Purpose and Need**

A detailed description of the project purpose and need objectives was presented in the Highway 23/71 Draft EIS - Section 2.5, which has been incorporated by reference into this Final EIS. The preferred alternative is consistent with meeting the identified objectives presented below:

- **Safety Objectives:**
  1. Reduce the amount of access to acceptable standards (up to three points of access). As a Category 2A-F (Medium Priority IRC), the existing Highway 23/71 Corridor exceeds Mn/DOT's access standards by a factor of three. Category 2A-F applies to urban, suburban, and rural areas and principal arterial roadways with a typical posted speed limit between 55 and 65 mph.
  2. Address school traffic crashes and crash potential at CR 90.
  3. Reduce the crash rate in general and crash severity rates in particular.

  The crash severity rate in the project area is higher than the statewide average for comparable highway segments. The higher than average crash severity rate is an indication of a high number of right angle crashes.

- **Mobility/Performance Objectives:**
  1. Preserve the Corridor's speed, efficient movement of goods, and regional connectivity; now and in the future.
  2. Address signal risk (decreased mobility) in the Highway corridor, especially at CR 90 and CSAH 25 intersections.
  3. The AADT on Highway 23/71 is the highest in Kandiyohi County and in Mn/DOT's District 8. Protect the mobility goals that projected traffic growth on this segment will begin to erode without access management improvements.

  With a prescribed process to comply with the state's transportation and economic development goals, all activities concerning the future of Highway 23/71 must be approached to maximize the performance of the corridor and preserve its ability to achieve the desired IRC medium priority performance goal of 55 mph average travel speed for a one-hour trip.

- **Address Future Land Use Objectives:**
  1. Address the needs of Highway 23/71 with a projected 35 percent increase in population growth of the North Willmar Lakes area in Dovre Township.
  2. Address the needs of Highway 23/71 with a growing and redeveloping commercial area along the Corridor, especially if annexed by the City of Willmar by 2030.

  The study area is included in the City of Willmar's Urban Growth Boundary and development/redevelopment in this area is considered imminent.
3.0 ALTERNATIVES

3.1 PREFERRED ALTERNATIVE

The Highway 23/71 Draft EIS (April 2008), considered two primary build alternatives, each with two variations to account for interchange location shifts. The Draft EIS also assessed the No-Build Alternative. Four North Access Connection Alternatives were considered for reestablishing access to the north shoreline of Point Lake. The four Draft EIS build alternatives and four access connection options are summarized below and illustrated in Figures 3 and 4.

See Draft EIS - Section 3.0 for a complete description of the alternatives considered in the Draft EIS.

- **Alternative 1A - Interchange at Relocated CR 90 (North Alignment)**
  Alternative 1A provides for closure of all at-grade accesses along TH 23/71 and construction of a single interchange (standard diamond configuration) and associated local roadway system (including a relocated CSAH 25) that permits a single access connection to Highway 23/71 in the project corridor.

- **Alternative 1B - Interchange at Relocated CR 90 (South Alignment)**
  Alternative 1B is similar to Alternative 1A with a slight shift in the location/design of the single interchange and associated local roadways.

- **Alternative 2A - Interchange at Relocated CR 90 (North Alignment) and CSAH 25 Interchange**
  Alternative 2A provides for closure of all at-grade accesses along TH 23/71 and the construction of two interchanges (standard diamond configuration) and associated local roadway system. An interchange will be constructed at existing CSAH 25 and an interchange will be constructed at a relocated CR 90. At the relocated CR 90 interchange, Alternative 2A is the same as Alternative 1A.

- **Alternative 2B - Interchange at Relocated CR 90 (South Alignment) and CSAH 25 Interchange**
  Alternative 2B is similar to Alternative 2A with a slight shift in the location/design of the CR 90 interchange and associated local roadways.

Along with considering four build alternatives, the Draft EIS considered and evaluated four design options for reestablishing access to developments along the north shore of Point Lake. These options included the following:

- **Access Alternative N1 - Connection to Long Lake Road**
  Local roadway provides access to Long Lake Road from 26th Street NE.

- **Access Alternative N2 - Connection to CSAH 27**
  Local roadway providing access to CSAH 27 from 26th Street NE.

- **Access Alternative N3 - Connection to County Road 93 (Eagle Road N)**
Local roadway with a tunnel under existing Highway 23/71 between 26th Street NE and CR 93 (Eagle Road N).

- **Access Alternative N4 - Connection to 66th Avenue NE**
  Frontage road with fill or bridge over east shore of Point Lake to connect 26th Street with 66th Avenue NE.

The evaluation and screening process used was based on an assessment of how each alternative addresses the purpose and need objectives of the project, as well as an assessment of potential social, economic, and environmental impacts. Following the Draft EIS comment period, a review of the public and agency comments was conducted. Based on the comments and supporting analysis in the Draft EIS, Alternative 2B – Interchange at Relocated CR 90 (South Alignment) and CSAH 25 Interchange, was identified as the preferred alternative along with access connection option N2.

**What are the Reasons for Identifying the Preferred Alternative?**

Alternative 2B was identified as the preferred alternative because it fulfilled the project purpose and need objectives including the following:

- **Alternative 2B provides for safe and efficient travel through the 3.5-mile common section of Highways 23 and 71 by providing a high-speed limited access (freeway section) roadway through the project area.**

- **The two proposed interchanges at relocated Kandiyohi CR 90 and Kandiyohi CSAH 25 provide the best long-term solution for local operational issues because the two interchanges along with the supporting local roadways will adequately and efficiently serve future land uses (i.e. commercial and residential developments) within the study area.**

- **The anticipated social, economic, and environmental impacts associated with Alternative 2B are not substantially greater or less than other alternatives/options considered.**

- **Alternative 2B has the greatest amount of support from the public and local governmental agencies.**

**North End Access Connection**

Following the publication and comment period of the Draft EIS, additional technical analysis and agency coordination was completed to help identify the preferred North End Access Connection Alternative. A complete description of the analysis performed is included in *Technical Memorandum: TH 23/71 North End Access Connection Alternatives Analysis*, dated July 23, 2009. A copy of the technical memorandum is available for review at the Mn/DOT District 8 Offices in Willmar.
FIGURE 4
NORTHERN CONNECTIONS CONSIDERED IN THE DEIS

Map Document: (P:\KO\M\MNDot\052500\GIS\eis\FIGURE 2B 11 x17.mxd)
The technical analysis was completed to compare potential effects associated with a modified N4 North End Access Connection Alternative (herein referred to as N4-MOD). The Highway 23/71 Draft EIS considered four access connections (N1 through N4) that reestablished access to the northeast side of Point Lake. North Access Connection Alternatives N1, N3, and N4 were dismissed following the Draft EIS publication for a number of reasons including substantially increased travel times, concerns with constructability, potential social and environmental impacts, and lack of support.

The new N4-MOD generally followed the same alignment as Alternative N4, which provides a frontage road connection from the south (CSAH 25) and traverses northward between the eastern Point Lake shoreline and the TH 23/71 southbound lanes. The goal of the N4-MOD alternative was to fit the frontage road between Highway 23/71 and Point Lake with no fill under the ordinary high water level (OHW) of the lake, while maintaining a rural freeway section and eliminating the need for concrete median barriers. In order to accomplish this modified design, the southbound Highway 23/71 profile was lowered to minimize elevation differentials and required the construction of a retaining wall between the frontage road and lake so that slope impacts down to the lake could be reduced. A review by environmental resource agencies determined that N4-MOD did not present a substantial benefit over N4 and would pose similar impacts since it would remain immediately adjacent to the shoreline of the lake.

As part of this additional technical analysis, minor safety improvements along Highway 71 and CSAH 27/90th Avenue were also added to North End Access Connection Alternative N2 to include the appropriate intersection geometrics.

A comparative analysis of all the North End Access Connection Alternatives (N1, N2, N3, N4, and N4-MOD) was completed and documented in the technical memorandum. A summary of the analysis is provided in Table 3. The comparative assessments were made based on findings from the Draft EIS as well as from a review of the conceptual designs of each alternative.

As a result of the additional analysis and coordination, Mn/DOT and FHWA identified North End Access Connection N2 as part of the preferred alternative for the following reasons:

- N2 results in fewer environmental impacts (i.e. direct and indirect impacts) to Point Lake associated with fill and surface water drainage. N2 also appears to be the least environmentally damaging practicable alternative when compared to N4.
- N2 provides better drainage and snow storage since N4-MOD requires the narrowing of the center median between the northbound and southbound lanes of Highway 23/71 as well as narrowing the distance between the northbound lanes and Highway 23/71 and 34th Avenue (east frontage road).
- N2 has a substantially lower estimated construction cost and higher benefit/cost ratio.
<table>
<thead>
<tr>
<th>DEIS Issues</th>
<th>Social, Economic, and Environmental (SEE) Consequences</th>
<th>North End Access Connection Alternatives Combined with Draft EIS Alternative 2B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N1</td>
<td>N2</td>
</tr>
<tr>
<td>Land Use</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Social &amp; Community Environment</td>
<td>Minutes of additional emergency service responder travel time (modeled times).</td>
<td>Law Enforcement</td>
</tr>
<tr>
<td></td>
<td>Fire</td>
<td>6.98</td>
</tr>
<tr>
<td>Right-of-Way and Relocation</td>
<td>Number of acres of land potentially needing to be acquired.</td>
<td>6.1</td>
</tr>
<tr>
<td></td>
<td>Residential units potentially needing to be acquired.</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Residents potentially displaced.</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Businesses potentially needing to be acquired.</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Employees potentially displaced.</td>
<td>0</td>
</tr>
<tr>
<td>Economic Environment</td>
<td>Conversion of farmland; residential and commercial business acquisitions (agricultural production and taxable property losses).</td>
<td>Yes</td>
</tr>
<tr>
<td>Parks/Public Recreation Areas</td>
<td>Point Lake Public Waters Access closure of direct access from Highway 23/71.</td>
<td>Yes</td>
</tr>
<tr>
<td>Pedestrian/Bicycle Movements</td>
<td>Opportunities to construct pedestrian and bicycle facilities with new associated roadways and bridges.</td>
<td>Yes</td>
</tr>
<tr>
<td>Transit Services</td>
<td>Potential improvement in efficient transit service delivery with improved traffic operations.</td>
<td>Yes</td>
</tr>
<tr>
<td>Utilities</td>
<td>Electric, gas, telephone, water, and sewer facility temporary service disruption for the construction of supporting facilities.</td>
<td>Yes</td>
</tr>
<tr>
<td>Farmland</td>
<td>Acre losses of prime farmland.</td>
<td>3.0</td>
</tr>
<tr>
<td>Noise</td>
<td>Exceedence of current State and Federal daytime and nighttime noise standards (in 2007 and 2030)</td>
<td>Yes</td>
</tr>
<tr>
<td>Wetlands</td>
<td>Acres of wetlands impacted.</td>
<td>0.0</td>
</tr>
<tr>
<td>Surface Water Drainage</td>
<td>Areas of higher peak flows at culvert crossings as a result of additional impervious surface (new pavement); rerouting of Hawk Creek.</td>
<td>Yes</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Potential for air quality CO concentrations and/or higher level of MSATs.</td>
<td>Yes</td>
</tr>
<tr>
<td>Geology/Groundwater</td>
<td>Abandonment of private wells and drain tile system relocations associated with right-of-way acquisitions and relocations.</td>
<td>Yes</td>
</tr>
<tr>
<td>State/Federal T &amp; E Species</td>
<td>State-listed Special Concern Species - Sea Naiad in Point Lake; Revisit Federal concerns (Section 7 Consultation) prior to project construction.</td>
<td>Revisit Federal concerns</td>
</tr>
<tr>
<td>Fish &amp; Wildlife</td>
<td>Fish passage between Eagle and Swan Lakes with a realignment of Hawk Creek for a relocated CR 90 interchange with Highway 23/71.</td>
<td>No</td>
</tr>
<tr>
<td>Vegetation</td>
<td>Invasive species control within right-of-way.</td>
<td>Yes</td>
</tr>
<tr>
<td>Energy</td>
<td>Consumption of less non-renewable energy resources due to improved traffic flow, reduced delays, and fewer intersection queues.</td>
<td>Yes</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>Additional archaeological survey with the selection of preferred alternative for three sites where property access was not permitted.</td>
<td>Yes</td>
</tr>
<tr>
<td>Construction</td>
<td>Aesthetic treatments of elevated structures (bridge crossings), landscaping uniformity; future identification signage.</td>
<td>Yes</td>
</tr>
<tr>
<td>Indirect Effects</td>
<td>Locally impacted business relocation and attraction of new businesses due to improved access; increased travel time for residents/business patrons due to highway access closures; short-term effect of construction stimulation of local economy (jobs, products, services).</td>
<td>Yes</td>
</tr>
<tr>
<td>Cumulative Impacts</td>
<td>Higher potential for cumulative impacts related to land development; vegetation, wildlife, T &amp; E species; wetlands; parks/trails/outdoor areas; and cultural resources.</td>
<td>Yes</td>
</tr>
<tr>
<td>Access to Developments</td>
<td>North End Access Connection serves access needs for existing developments</td>
<td>Yes</td>
</tr>
<tr>
<td>Access to Future Developments</td>
<td>North End Access Connection serves access needs for future developments south of CSAH 27 and west of TH 71</td>
<td>No</td>
</tr>
<tr>
<td>Safety Concerns</td>
<td>Does the North End Access Connection create additional safety concerns along the trunk highway system (TH 23 and/or TH 71)</td>
<td>No</td>
</tr>
<tr>
<td>Maintenance/Snow Storage</td>
<td>Does the North End Access Connection create potential maintenance and/or snow storage concerns (i.e. narrow median, additional guardrail)</td>
<td>No</td>
</tr>
<tr>
<td>Point Lake Impacts</td>
<td>Will the North End Access Connection result in impacts to water quality and or work within the Shore Impact Zone (100’ from OHW)</td>
<td>No</td>
</tr>
<tr>
<td>Geotechnical Concerns</td>
<td>Does the North End Access Connection involve geotechnical concerns that may require extensive use of retaining walls, surcharging soils, etc.</td>
<td>No</td>
</tr>
<tr>
<td>Cost/Constructability Risk</td>
<td>Level of cost/constructability risk in building the North End Access Connection</td>
<td>Low</td>
</tr>
<tr>
<td>Surface Water Drainage</td>
<td>Does the North End Access Connection create implications with the collection and treatment of surface water runoff</td>
<td>No</td>
</tr>
<tr>
<td>Boat Landing - Section 4(f)</td>
<td>Does the North End Connection require temporary and/or permanent construction easements, which would constitute a Section 4(f) impact</td>
<td>No</td>
</tr>
<tr>
<td>Benefit/Cost Analysis</td>
<td>Benefit/Cost ratios calculated using Mn/DOT Office of Investment Management (OIM) Guidance</td>
<td>3.86</td>
</tr>
<tr>
<td>Estimated Construction Cost</td>
<td>Based on unit cost ($2009) for construction and right-of-way acquisition of each option only (does not include project delivery costs)</td>
<td>$1.56M</td>
</tr>
<tr>
<td>Frontage Road Length</td>
<td>Distance represents only the length of the frontage road and not the length of all proposed improvements associated with each alternative (i.e. necessary improvements to CSAH 27, TH 23/71)</td>
<td>0.63 miles</td>
</tr>
</tbody>
</table>
Description of Preferred Alternative

Throughout the project area, the preferred alternative follows the existing alignment. Highway 23/71 currently consists of a rural four-lane divided section with a depressed center grass median. The preferred alternative (Alternative 2B from the Draft EIS) involves constructing grade-separated interchanges at a relocated Kandiyohi CR 90 and CSAH 25 (see Figures A1 and A2 located in Appendix A). The construction of frontage/backage roads is necessary in several locations throughout the project area to provide access to private property and/or to re-establish local roadway connections. Additional detail for three unique areas along the preferred alternative is provided below.

Relocated County Road 90 Area

Beginning from the southern project termini, the preferred alternative includes construction of a standard diamond grade-separated interchange located north of the existing Kandiyohi County Road 90 intersection. Highway 23/71 will remain unchanged, while the local roadway would pass over Highway 23/71 and access/exit ramps would be added to/from the highway. Short segments of frontage/backage roads will be constructed on the west side of the highway to connect the local street system to the interchange and to provide access to existing developments. County Road 90, located on the east side of the interchange, will be relocated approximately 0.4 miles to the north of the existing roadway and will be built as a two-lane rural highway. From the new interchange, County Road 90 will continue straight east and connect to CSAH 9. Existing access points to Highway 23/71 at CR 90, 41st Avenue, and 48th Avenue will be closed. A new frontage road connection between CR 90 and 24th Street will be made to enhance local circulation on the east side of Highway 23/71.

County State Aid Highway 25 Area

The preferred alternative proposes to construct a standard diamond grade-separated interchange at CSAH 25. Highway 23/71 will remain unchanged, while the local roadway would pass over Highway 23/71 and access/exit ramps would be added to/from the highway.

Minor improvements to 24th Street will be made on the east side of the highway to connect the local roadway to the interchange as well as reestablish access to private properties. Existing at-grade access points to Highway 23/71 at CSAH 25 (60th Ave.) and 66th Avenue will be closed.

Alternative N2 - North End Access Connection

Near the north end of the project area, the preferred alternative proposes to close an existing access point to Highway 23/71 at 26th Street/North Eagle Road. On the east side of the highway, access to properties in this area will remain via North Eagle Road to the south and ultimately to the CSAH 25 interchange or North Eagle Road to the northeast, which connects to CSAH 9 near the CSAH 9/Highway 23 interchange. However, the proposed access closure on the west side of Highway 23/71 requires an alternative access.
point be established. As previously discussed, an extensive analysis of four access alternatives was conducted and based on this analysis as well as input from local, state, and federal agencies it was determined that an access road from CSAH 27 would be constructed to reestablish access to properties located along the north shore of Point Lake. Access Alternative N2 begins at a new intersection with CSAH 27 and continues south approximately one-mile where it connects to 26th Street. Minor geometric improvements along CSAH 27 and Highway 71 are necessary to ensure adequate safety and operations associated with additional turning traffic.

3.2 TRAFFIC ANALYSIS

A detailed traffic analysis was conducted as part of the Draft EIS (see Section 3.3) that considered existing and forecast traffic volumes, traffic operations, safety conditions, and emergency response times (see Sections 2.6.1 and 3.3 of the Draft EIS. An updated analysis for the Final EIS primarily focused on the interchange ramp terminal intersections for the preferred alternative.

Under the preferred alternative, access to Highway 23/71 will be limited to the interchanges listed below.

- CSAH 25 Interchange
- CSAH 90 Interchange

An Intersection Control Evaluation (ICE) report was conducted to determine the intersection control for each ramp terminal intersection.

Existing and Forecast Traffic Volumes

Average daily traffic (ADT) volumes and turning movement counts were collected in December, 2005. Supplemental ADT counts were collected from Mn/DOT, Kandiyohi County, and the City of Willmar. Existing traffic volumes were shown in Figure 4 of the Draft EIS.

Previous work as part of the corridor study developed forecasted 2030 volumes for the Build scenario. The forecast included PM peak hour turn counts at the interchange intersections and ADT information for the study area. Figure 5A in the Draft EIS showed the forecast 2030 traffic volumes.

For the warrant analysis, the hourly approach volumes were calculated by applying the hourly volume distribution from tube count data collected in 2005 to the forecasted ADT to develop hourly approach volumes for each of the intersections in the design year.

Interchange Analysis

Since the publication of the Draft EIS, an ICE Report has been prepared for the preliminary design of the preferred alternative. The ICE considers future traffic operations at interchange ramp terminal intersections and assists in determining the appropriate traffic control options for each location. A complete copy of the ICE Report is available for review at the Mn/DOT District 8 Offices in Willmar, Minnesota.
The following interchange ramp terminal intersections have been investigated for the preferred alternative:

- CSAH 25 at Highway 23/71 West Ramp;
- CSAH 25 at Highway 23/71 East Ramp;
- County Road 90 at 18th Street;
- County Road 90 at Highway 23/71 West Ramp; and
- County Road 90 at Highway 23/71 East Ramp.

The traffic investigations included a warrant analysis, safety analysis, and traffic operations analysis. The five intersections were screened using a warrant analysis to determine if the forecasted traffic volumes would require a traffic control other than two-way stop control.

**Warrant Analysis**

The Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD) provides guidance for when it may be appropriate to use all-way stop or signal control at an intersection. This MnMUTCD guidance is provided in the form of “warrants,” or criteria, for when all-way stop or signal control may be justified. Though all-way stop or signal control should not be installed at an intersection unless a MnMUTCD warrant is met, meeting a warrant does not in itself require the installation of that particular type of traffic control. The MnMUTCD does not have warrants for roundabout control at an intersection. However, according to ICE guidelines, roundabouts are considered if traffic volumes meet the criteria for either all-way stops or traffic signals. An engineering study that considers factors, including warrants, should be performed to determine the “best” type of control at an intersection.

Using 2030 forecast traffic volumes, the five ramp terminal intersections at the two proposed Highway 23/71 interchanges were analyzed to determine if any all-way stop or signal warrants were met. The results of the all-way stop warrant analysis with 2030 forecast volumes indicate only the east ramp terminal at CR 90/Highway 23/71 meet the all-way stop warrant under 2030 forecast conditions. Furthermore, both the CR 90/Highway 23/71 ramp intersections meet signal warrants under 2030 forecast conditions.

Since all-way stop warrants and signal warrants are met at the CR 90/Highway 23/71 ramp terminal intersections and the close proximity of the CR 90/18th Street intersection, roundabout control is also considered at these three intersections and should be further considered as an alternative means of traffic control at these intersections.

For 2030 conditions, all-way stop and signal warrants are not expected to be met at the ramp terminal intersections at the CSAH 25/Highway 23/71 interchange. This suggests that one-way stop control (stop control on the ramp approach only) is the best intersection control at these two ramp terminal intersections. No further analysis of higher types of intersection control was required at these intersections.
Safety Analysis

As described in the previous section, the warrant analysis indicated that only the CR 90/Highway 23/71 ramp terminal intersection may meet warrants for intersection control other than one-way stop control. Therefore, only these two intersections and the CR 90/18th Street intersection, due to close proximity to the ramps, were investigated in the safety analysis.

Mn/DOT District 8 average crash rates were used for the safety analysis. Mn/DOT District 8 average rates are based on crash data from the period of 2004 to 2006 and are shown in Table 4. The District 8 average rate for rural thru/stop controlled intersections is 0.40 crashes/MEV (million entering vehicles). All-way stop controlled intersections have an average crash rate of 0.70 crashes/MEV and traffic signal controlled intersections have a rate of 0.60/MEV on a low volume (<15,000 ADT) and high speed (greater than or equal to 45 mph) roadways. Roundabouts typically reduce signalized intersection crashes by half, thus the roundabout crash rate was assumed to be ½ of the traffic signal crash rate.

Table 4 - Mn/DOT District 8 Average Crash Rates

<table>
<thead>
<tr>
<th>Traffic Control</th>
<th>Crash Rate (Crashes/ MEV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thru/Stop</td>
<td>0.40</td>
</tr>
<tr>
<td>All-Way Stop</td>
<td>0.70</td>
</tr>
<tr>
<td>Traffic Signal</td>
<td>0.60</td>
</tr>
<tr>
<td>Roundabout(^1)</td>
<td>0.30</td>
</tr>
</tbody>
</table>

\(^1\) Roundabout crash rate assumed to be ½ of the traffic signal crash rate.

Future crash frequency estimates were determined by applying the Mn/DOT District 8 average crash rates to the forecast 2030 average entering traffic for the CR 90 intersections. The highest crash estimate was for all-way stop control for each of the intersections. Table 5 shows the estimated number of total annual crashes for each traffic control type analyzed.

Table 5 - Forecast 2030 Annual Crash Estimate

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Total Annual Crash Estimates by Control Type</th>
<th>Intersection Entering Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thru/Stop</td>
<td>All-Way Stop</td>
</tr>
<tr>
<td>CR 90 at 18th St.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>CR 90 at Hwy 23/71 West Ramp</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>CR 90 at Hwy 23/71 East Ramp</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Traffic Operations Analysis

The traffic operations analysis was performed for the three subject intersections using the AM and PM peak hour traffic volumes for 2030 traffic conditions. At the CR 90/Highway 23/71 ramp intersections, the warrant analysis indicated that more than one type of intersection control may be warranted under 2030 conditions. At the CR 90/18th Street intersection only a two-way stop control was analyzed. Therefore, the traffic operations
analyses was performed for these three intersections with the different types of warranted intersection control, using 2030 AM/PM peak hour volumes.

MnMUTCD factors for justifying traffic control include the following warrants:

- Warrant 1, Eight-Hour Vehicular Volume
- Warrant 2, Four-Hour Vehicular Volume
- Warrant 3, Peak Hour Volume
- Warrant 4, Pedestrian Volume
- Warrant 5, School Crossing
- Warrant 6, Coordinated Signal System
- Warrant 7, Crash Experience
- Warrant 8, Roadway Network

Table 6 summarizes warrant results for all-way stop and signalized control and provides volume/capacity ratio results for single lane roundabout control.

**Table 6 - Warrant Analysis Summary and Roundabout Capacity**

<table>
<thead>
<tr>
<th>Intersection</th>
<th>All-Way Stop Warrant</th>
<th>Signal Warrant</th>
<th>Single-Lane Roundabout (max v/c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR 90 at 18th St.</td>
<td>Not Met</td>
<td>Not Met</td>
<td>0.29</td>
</tr>
<tr>
<td>CR 90 at Highway 23/71 West Ramp</td>
<td>Not Met</td>
<td><strong>Met</strong> Warrants 2 &amp; 3</td>
<td>0.53</td>
</tr>
<tr>
<td>CR 90 at Highway 23/71 East Ramp</td>
<td><strong>Met</strong></td>
<td><strong>Met</strong> Warrants 1, 2, &amp; 3</td>
<td>0.51</td>
</tr>
</tbody>
</table>

The intersection controls investigated included side street stop control at all three intersections, all-way stop control at the CR 90 and Highway 23/71 east ramp terminal intersection with side street stop at all other intersections, signal control at both ramp terminal intersections, and roundabout control at both ramp terminal intersections. The results of the analysis are shown in Tables 7 through 10, which indicate that regardless of intersection control type, all intersections are expected to operate at level of service (LOS) B or better for the AM and PM peak hour under 2030 conditions.

**Interchange Recommendations**

It is recommended that one way stop condition be used for controlling the northbound and southbound exit ramps from TH 23/71 to CSAH 90. A two way stop condition, controlling the northbound and southbound approaches to CR 90 at 18th Avenue is also recommended. Stop control on the minor approaches to the CR 90 intersections will result in acceptable intersection delay and LOS without undue interruption of traffic flow on CR 90. Greater levels of control such as all-way stop or signalization were considered and 2030 traffic volumes at the east CR 90 ramp intersection may satisfy all-way stop and traffic warrants in the future. This does not infer that all-way stop control or signalized control is appropriate at the day of opening for the proposed interchange. The intersection geometry will accommodate a change to all-way stop control if the need develops.
### Table 7 Scenario 1 (2-Way Stop Control at all Study Intersections) – Traffic Operations Analysis

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Intersection</th>
<th>Approach</th>
<th>Demand Volumes (Veh/Hour)</th>
<th>Delay (s/veh)</th>
<th>LOS By Approach</th>
<th>LOS By Interaction</th>
<th>Through</th>
<th>Left Turn</th>
<th>Right Turn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Left</td>
<td>Thru</td>
<td>Right</td>
<td>Delay (s/Veh)</td>
<td>LOS</td>
<td>Delay (s/Veh)</td>
</tr>
<tr>
<td>All Peak Hour</td>
<td>County Road 90 at 18th Street</td>
<td>NB</td>
<td>0 5 190 195</td>
<td>0.0 A</td>
<td>9.0 A</td>
<td>8.4 A</td>
<td>5.0 A</td>
<td>8.4 A</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SB</td>
<td>130 20 0 150</td>
<td>10.7 B</td>
<td>7.2 A</td>
<td>0.0 A</td>
<td>10.2 B</td>
<td>6.0 A</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WB</td>
<td>25 80 205</td>
<td>0.5 A</td>
<td>0.0 A</td>
<td>0.3 A</td>
<td>0.4 A</td>
<td>0.6 A</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EB</td>
<td>0 110 210 320</td>
<td>18.0 C</td>
<td>0.0 A</td>
<td>7.8 A</td>
<td>15.7 C</td>
<td>201</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WB</td>
<td>210 0 140 355</td>
<td>6.3 A</td>
<td>1.5 A</td>
<td>0.0 A</td>
<td>4.5 A</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EB</td>
<td>0 100 150 280</td>
<td>0.0 A</td>
<td>0.9 A</td>
<td>1.0 A</td>
<td>1.0 A</td>
<td>7.1 A</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WB</td>
<td>350 295 0 645</td>
<td>4.9 A</td>
<td>1.2 A</td>
<td>0.0 A</td>
<td>3.2 A</td>
<td>9</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NB</td>
<td>240 0 250 490</td>
<td>16.4 C</td>
<td>0.0 A</td>
<td>9.7 A</td>
<td>12.9 B</td>
<td>62</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SB</td>
<td>100 0 250 0</td>
<td>10.0 B</td>
<td>0.0 A</td>
<td>12.0 A</td>
<td>10.0 B</td>
<td>136</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WB</td>
<td>0 240 70 310</td>
<td>5.6 A</td>
<td>10.2 B</td>
<td>0.0 A</td>
<td>9.9 A</td>
<td>10.0 B</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NB</td>
<td>0 405 130 535</td>
<td>0.0 A</td>
<td>2.1 A</td>
<td>2.0 A</td>
<td>2.1 A</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Table 8 Scenario 2 (All-Way Stop Control at East Ramp) – Traffic Operations Analysis

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Intersection</th>
<th>Approach</th>
<th>Demand Volumes (Veh/Hour)</th>
<th>Delay (s/veh)</th>
<th>LOS By Approach</th>
<th>LOS By Interaction</th>
<th>Through</th>
<th>Left Turn</th>
<th>Right Turn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Left</td>
<td>Thru</td>
<td>Right</td>
<td>Delay (s/Veh)</td>
<td>LOS</td>
<td>Delay (s/Veh)</td>
</tr>
<tr>
<td>All Peak Hour</td>
<td>County Road 90 at 18th Street</td>
<td>NB</td>
<td>0 5 170 175</td>
<td>0.0 A</td>
<td>10.5 B</td>
<td>8.1 A</td>
<td>8.2 A</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
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<td></td>
<td>SB</td>
<td>120 20 0 130</td>
<td>11.5 B</td>
<td>7.6 A</td>
<td>0.0 A</td>
<td>11.5 B</td>
<td>4.6 A</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WB</td>
<td>215 0 80 355</td>
<td>0.7 A</td>
<td>0.0 A</td>
<td>0.4 A</td>
<td>0.8 A</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EB</td>
<td>0 100 180 280</td>
<td>6.6 A</td>
<td>1.7 A</td>
<td>0.0 A</td>
<td>4.3 A</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WB</td>
<td>350 295 0 645</td>
<td>6.6 A</td>
<td>1.7 A</td>
<td>0.0 A</td>
<td>4.3 A</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EB</td>
<td>0 100 180 280</td>
<td>6.6 A</td>
<td>1.7 A</td>
<td>0.0 A</td>
<td>4.3 A</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WB</td>
<td>350 295 0 645</td>
<td>6.6 A</td>
<td>1.7 A</td>
<td>0.0 A</td>
<td>4.3 A</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NB</td>
<td>240 0 250 490</td>
<td>16.4 C</td>
<td>0.0 A</td>
<td>9.7 A</td>
<td>12.9 B</td>
<td>62</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SB</td>
<td>100 0 250 0</td>
<td>10.0 B</td>
<td>0.0 A</td>
<td>12.0 A</td>
<td>10.0 B</td>
<td>136</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WB</td>
<td>0 240 70 310</td>
<td>5.6 A</td>
<td>10.2 B</td>
<td>0.0 A</td>
<td>9.9 A</td>
<td>10.0 B</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NB</td>
<td>0 405 130 535</td>
<td>0.0 A</td>
<td>2.1 A</td>
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<td>2.1 A</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

Highway 23/71 Final Environmental Impact Statement
Minnesota Department of Transportation
March 2010
### Table 9 Scenario 3 (Traffic Signal Control at East and West Ramps) – Traffic Operations Analysis

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Intersection</th>
<th>Approach</th>
<th>Delay (s/veh)</th>
<th>LOS By Approach</th>
<th>Through</th>
<th>Left Turn</th>
<th>Right Turn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Left</td>
<td>Thru</td>
<td>Right</td>
<td>Total</td>
<td>Delay (S/Veh)</td>
</tr>
<tr>
<td>AM Peak Hour</td>
<td>County Road 90 at 18th Street (NB/SB Stop Control)</td>
<td>NB</td>
<td>0</td>
<td>5</td>
<td>195</td>
<td>0.0</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SB</td>
<td>130</td>
<td>20</td>
<td>150</td>
<td>11.1</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WB</td>
<td>125</td>
<td>0</td>
<td>80</td>
<td>205</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>County Road 90 at TH 23/71 West Ramp (Signal)</td>
<td>SB</td>
<td>255</td>
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<td>75</td>
<td>330</td>
<td>31.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EB</td>
<td>0</td>
<td>110</td>
<td>210</td>
<td>320</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WB</td>
<td>210</td>
<td>130</td>
<td>0</td>
<td>340</td>
<td>15.9</td>
</tr>
<tr>
<td></td>
<td>County Road 90 at TH 23/71 East Ramp (Signal)</td>
<td>NB</td>
<td>100</td>
<td>0</td>
<td>350</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>EB</td>
<td>25</td>
<td>340</td>
<td>0</td>
<td>365</td>
<td>11.3</td>
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<td></td>
<td></td>
<td>WB</td>
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<td>240</td>
<td>70</td>
<td>310</td>
<td>0.0</td>
</tr>
<tr>
<td>PM Peak Hour</td>
<td>County Road 90 at 18th Street</td>
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<td>5</td>
<td>170</td>
<td>175</td>
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</tr>
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<td>SB</td>
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<td>0</td>
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<td>11.9</td>
</tr>
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<td></td>
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<td>WB</td>
<td>215</td>
<td>0</td>
<td>140</td>
<td>355</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>County Road 90 at TH 23/71 West Ramp (Signal)</td>
<td>SB</td>
<td>100</td>
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<td>60</td>
<td>160</td>
<td>33.7</td>
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<td></td>
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<td>EB</td>
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<td>180</td>
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<td>WB</td>
<td>350</td>
<td>295</td>
<td>0</td>
<td>645</td>
<td>11.9</td>
</tr>
<tr>
<td></td>
<td>County Road 90 at TH 23/71 East Ramp (Signal)</td>
<td>NB</td>
<td>240</td>
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<td>250</td>
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<td>WB</td>
<td>0</td>
<td>405</td>
<td>130</td>
<td>535</td>
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</table>

### Table 10 Scenario 4 (Roundabout Control for All Study Intersections) – Traffic Operations Analysis

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Approach</th>
<th>Intersection Delay</th>
<th>Intersection LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR 90 at Highway 23/71 East Ramp</td>
<td>4.2 / 4.5</td>
<td>4.3 / 7.0</td>
<td>6.4 / 5.8</td>
</tr>
<tr>
<td>CR 90 at Highway 23/71 West Ramp</td>
<td>5.2 / 5.5</td>
<td>6.3 / 4.1</td>
<td>- / -</td>
</tr>
<tr>
<td>CR 90 at 18th Street</td>
<td>- / -</td>
<td>3.5 / 4.1</td>
<td>3.7 / 3.6</td>
</tr>
</tbody>
</table>
4.0 UPDATED SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS

The purpose of this section is to present the anticipated impacts of the preferred alternative on the social, economic, and natural environments, as they differ from the information presented in the Draft EIS. For impacts that have not changed, the information is summarized here, and the reader will be referred to the Draft EIS.

4.1 WHAT ARE THE SOCIAL AND COMMUNITY IMPACTS?

Land Use

As discussed in Draft EIS Section 4.1.1 – Land Use, the preferred alternative will have some impact on land use in the project area. Based on available parcel data, right-of-way acquisition will impact approximately 58 parcels along the corridor and will also convert farmland and wetland acreage to transportation uses. There is also the potential for the improved highway to attract additional development to the corridor, especially in close proximity to the interchange areas. It is assumed this development would primarily begin near the south end of the corridor near Willmar and extend north over time.

Based on the importance of Highway 23/71 to the City of Willmar and surrounding communities, the preferred alternative is consistent and compatible with existing and future land use plans.

Mitigation

Controlling potential land use changes that occur following implementation of the proposed improvements would be accomplished primarily through local government zoning authority. Mn/DOT has already coordinated with local units of government regarding the project and further discussions will continue to occur to discuss land use and transportation planning efforts.

Social and Community Environment

Information regarding population, housing, and community resources is available in Draft EIS Section 4.1.3 – Social and Community Environment. The preferred alternative is anticipated to have minimal impacts on community resources. The potentially affected resources include the Grace Baptist church located south of the relocated CR 90 interchange. A small strip of land will be required from the church property, however, the church’s building and its parking lot will not be impacted.

Mitigation

Mitigation for acquisition and relocations are described under the Right-of-Way and Relocation section of this Final EIS. No further mitigation is proposed.
Environmental Justice

The Draft EIS included an evaluation of the entire project corridor for environmental justice issues and concluded there would be no disproportionately high and adverse effects because no readily identifiable minority populations or low-income populations are located within the study area (see Draft EIS Section 4.1.5 - Environmental Justice).

Mitigation

No mitigation measures are proposed since no disproportionately high and adverse effects are anticipated on minority and/or low-income populations.

Right-of-Way and Relocation

The right-of-way acquisition needs for the preferred alternative were determined by subtracting the existing roadway right-of-way from the required right-of-way with each of the following project components and assumptions:

- Additional right-of-way will be needed for Highway 23/71 interchange bridges, ramps, and approach roadways associated with a relocated CR 90 and CSAH 25
- 120 feet is generally needed for CSAH or CR right-of-way; 200 feet is needed for a CSAH or CR near/at interchange
- 66 feet is needed for frontage roads in confined areas and 80 feet is needed for frontage roads in unrestricted areas
- 80 feet is needed for the North Connection alternative roadways
- 50 feet from the centerline of the ramps to the outside is needed for interchange footprints

The preferred alternative will require additional right-of-way to accommodate the proposed improvements. To the extent possible, the preferred alternative has been designed to utilize existing state and local government-owned right-of-way in an effort to minimize right-of-way needs. The preferred alternative will require approximately 52 total acres of additional right-of-way from 49 parcels to accommodate the preferred alternative improvements. This is a preliminary estimate of the right-of-way required for the project and will be refined as part of the final design and as a result of the right-of-way acquisition process.

Table 11 - Potential Right-of-Way Acquisition

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Additional Right-of-Way Needed¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred Alternative</td>
<td>52 acres</td>
</tr>
</tbody>
</table>

¹ Impacts based on preliminary right-of-way may change as part of the final design and right-of-way acquisition process.
**Relocation**

Highway construction quite often requires the relocation of residential, commercial, and farm properties. The acquisition of property is one of the most obvious impacts associated with highway construction. The identification of potential relocations was completed by overlaying the preferred alternative alignment onto aerial photographs. The same right-of-way corridor widths as above were also used in the assessment of potential relocations. Properties where the required right-of-way impacted the building or required a substantial portion of the lot were considered for relocation.

Table 12 illustrates the number of residences and businesses that will be potentially affected by the preferred alternative. The estimated number of employees that would need to be relocated is also included. Potentially displaced businesses include a vehicle repair business and a physical therapy clinic. These businesses are single story structures and include open yards typically used for vehicle parking and goods storage.

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Number of Residential Units</th>
<th>Number of Businesses</th>
<th>Estimated Number of Employees Displaced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred Alternative</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

**Mitigation**

An analysis of the residential real estate market in the project area was conducted in order to gain an understanding of the market's ability to absorb the residential relocations associated with construction of the preferred alternative. The research indicated that as of February 2010, there were approximately 125 existing residential homes and over 25 land/lots for sale listed through the Online Multiple Listing Service (OMLS) in the City of Willmar and Dovre Township. The median price of the existing residential listings is approximately $130,000. The potential replacement housing supply under current conditions appears to be more than adequate for accommodating relocations from the proposed project. A similar analysis was conducted for commercial properties. Based on this assessment there were approximately 16 available commercial properties for sale at a median price of approximately $430,000.

**Relocation Assistance**

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended and 49 CFR Part 24 provide that assistance be granted to persons, businesses, farms, and non-profit organizations that may be displaced by public improvements such as the Highway 23/71 project.

Mn/DOT will provide relocation assistance for persons displaced by the Highway 23/71 project without discrimination. Advisors are available to explain relocation details, policies, and procedures with potentially displaced...
individuals. The advisors will work directly with property occupants to assist with their specific relocation plans.

Residential displacees are eligible for reimbursement of some of the costs associated with relocation, including moving costs and replacement housing costs. The method for computing a possible replacement housing payment is determined by the displacee’s residential status as an owner or tenant. Comparable replacement housing, based on the number of rooms, amount of living space, location, etc., will be made available to each residential displacee. The replacement dwelling to which a displacee relocates must be “decent, safe, and sanitary,” meaning it must meet all the minimum requirements established by federal regulations and conform to all housing and occupancy codes. If necessary, Last Resort Housing provisions will be implemented to ensure that comparable replacement housing is available to each displacee. These provisions may include increased replacement housing payments or other alternate methods based on reasonable costs.

Potentially displaced businesses include a vehicle repair business and a physical therapy clinic. Relocation assistance will also be available to businesses, farms, and other organizations. In addition to advisory services, payment may be made for:

- Moving costs;
- Loss of tangible personal property as a result of relocation or discontinuance of a business;
- Business reestablishment expenses;
- Costs incurred in searching for a replacement site;
- Fixed payment in lieu of moving and reestablishment costs; and

The final design phase of the preferred alternative will focus efforts to minimize relocation impacts to the extent possible.

**Economic Environment**

The construction of the preferred alternative will impact the economy of the project area by converting residential, commercial, and agricultural land to highway uses and relocating and/or acquiring residences and businesses. The improved highway may also attract new development that would compensate for such losses. See Draft EIS Section 4.1.9 - Economic Environment for further discussion.

Indirect impacts to businesses may occur as a result of access changes and construction activities including potential traffic delays and detours.

**Mitigation**

Relocation assistance will be provided for all acquired properties, no other economic mitigation measures are proposed.
Parks and Public Recreational Areas

Parks and public recreational areas are discussed in Draft EIS Section 4.1.10 – Parks and Public Recreational Areas. The only existing public recreational resource located in the project area is the Point Lake public waters access owned and operated by the Minnesota Department of Natural Resources. Because the preferred alternative requires closure of the access point at 26th Street NE, persons desiring access to/from the boat launch will need to gain entry from a northern extension of 26th Street (North Connection Alternative N2) that will connect to CSAH 27 (see Figure A2 located in Appendix A). The preferred alternative will not require any land acquisition associated with the Point Lake public waters access area.

Mitigation

New access to the Point Lake public waters access will be provided from 26th Street NE with its closure at Highway 23/71 using North Connection Alternative N2.

Pedestrian and Bicycle Movements

Regular pedestrian and bicycle movements in the project area are limited to those associated with the residential neighborhoods surrounding the area lakes. Desires for safer pedestrian and bicyclist crossings of Highway 23/71 have been expressed, particularly to provide better connectivity to the Glacial Lakes Trail and Willmar High School, which are both located east of the highway corridor and the project area.

The preferred alternative will provide opportunities to improve safety for pedestrian and bicycle movements in the project area. Both the CSAH 25 and relocated CR 90 overpass bridges have been designed to accommodate a 10-foot pedestrian/bicycle trail along the south side of each bridge. The trail will be extended to the ramp terminal intersections on both sides of the bridge. The pedestrian facilities on the bridge crossings over Highway 23/71 will provide for safe crossing of the highway. Furthermore, adequate right-of-way will be available for development of a local trail system along CSAH 25 and/or the relocated CR 90 alignment.

Mitigation

With the exception of the proposed pedestrian/bicycle facilities across the CSAH 25 and relocated CR 90 bridges, no further mitigation measures are proposed. All pedestrian facilities will be designed in accordance with the Americans with Disabilities Act (ADA). Mn/DOT will continue to coordinate with local units of government with regards to adjoining trail needs.

Transit Services

The preferred alternative will potentially have a positive impact on the quality of transit service along the corridor and beyond as a result of improved traffic operations. Short-term adverse impacts to transit services may result from construction activities including minor detours or construction delays. See
Draft EIS Section 4.1.13 – Transit Services for a description of transit options available in the project area.

Mitigation
No mitigation measures are proposed.

Utilities
Construction of the preferred alternative will require the relocation of some local and regional utility services. Coordination and cooperation with the utility service providers has already occurred as part of the preliminary design and will continue during the final design phase of the project. See Draft EIS Section 4.1.14 – Utilities for a description of utilities located in the project area.

Mitigation
Coordination with utility providers will occur during the final design phase of the project to ensure all utilities within the area are identified, so avoidance and minimization measures can be further implemented. As discussed in the Draft EIS, certain utilities require environmental analysis under the State of Minnesota environmental review program (Minnesota Rules 4410.4300) for utilities currently administered by the Minnesota Department of Commerce and Minnesota Public Utilities Commission. In addition, Minnesota Statutes 85.415 requires utility companies to obtain permits from the MnDNR to cross state owned lands and waters. Such permits include provision for environmental analysis and the minimization/mitigation of adverse impacts on the environment.

Future or replacement sanitary sewer facilities in the project area will be planned in accordance with the Willmar 2030 Facilities Plan for Wastewater Collection and Treatment. No other mitigation measures are proposed.

Contaminated Properties
The presence of potentially contaminated properties (defined as properties where soil and/or groundwater is impacted with pollutants, contaminants, or hazardous materials) is a concern in the development of highway projects because of potential liabilities associated with ownership of such properties, potential cleanup costs, and safety concerns associated with construction personnel encountering unsuspected wastes or contaminated soil or groundwater. The primary step in recognizing and evaluating potentially contaminated properties is completing a Phase I Environmental Site Assessment (ESA).

A Phase I ESA was performed in the Highway 23/71 project area in 2007. A complete summary of the sites identified in the Phase I ESA was documented in the Draft EIS (see Section 4.2.16 – Contaminated Properties). The Phase I ESA Report is on file at the Mn/DOT District 8 headquarters in Willmar.

According to the Phase I ESA, a total of 26 potentially contaminated sites have been identified within the project area. Of these sites, one was
categorized as having a high risk, 11 were categorized as having a medium risk, and 14 were categorized as having a low risk for contaminant releases. Since the preferred alternative will not require reconstruction of mainline Highway 23/71, the primary areas of concern are focused around the proposed interchanges and frontage/backage road improvements. The preliminary design of the preferred alternative has been completed in a manner that will avoid impacts to these sites to the greatest extent possible.

The preferred alternative improvements are not anticipated to impact any contaminated property with the potential to incur excessive cleanup costs or that would expose Mn/DOT to unacceptable environmental liability. However, improvements associated with the relocated CR 90 interchange and the frontage/backage road system on the west side of Highway 23/71 will need to be implemented in close proximity to four low-risk and one medium-risk sites (see Figure 16 in the Draft EIS).

Mitigation

Prior to final design and construction of the proposed improvements, properties identified as having the greatest potential to directly impact the preferred alternative will be further evaluated during the final design and associated processes. During the final design and construction and/or right-of-way process, potentially contaminated properties with a potential to impact the preferred alternative may be drilled and sampled, if necessary, to determine the extent and magnitude of contaminated soil or groundwater. The results of these investigations will be used to determine if the impact of contaminated materials on the preferred alternative can be avoided and/or minimized through design refinements, right-of-way refinements, and determining if the improvements will be on a fill or cut section. Construction work will be conducted in compliance with all state and federal laws and regulations.

If necessary, a plan will be developed by Mn/DOT for properly handling and treating contaminated soil and/or groundwater. Mn/DOT will work with the MPCA Voluntary Investigation and Cleanup Unit and/or the Voluntary Petroleum Investigation and Cleanup Unit, as appropriate; to obtain assurances that Mn/DOT’s contaminated site cleanup work and/or contaminated site acquisition will not associate it with long-term environmental liability for the contamination.

Architectural and Archaeological Resources

In compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (36 CFR 800) and Section 4(f) of the Department of Transportation Act of 1966 (49 USC 303, 23 USC 138), a cultural resources investigation of the Highway 23/71 corridor was conducted. The Draft EIS Section 4.2.16 – Architectural and Archaeological Resources provided a summary of the Phase I and Phase II investigations completed for this project. Copies of the reports are available for review at the Mn/DOT District 8 Offices in Willmar, Minnesota.
Based on the findings of the Phase I and Phase II reports, a determination was made by Mn/DOT’s Cultural Resources Unit staff that there are no historic properties affected by the project. This determination is included in Appendix B.

Mitigation

No mitigation is required. If historical or archeological sites are identified during subsequent stages of the project, the SHPO will be contacted and further study completed.

4.2 WHAT ARE THE NATURAL ENVIRONMENT IMPACTS?

Prime and Statewide Important Farmland

An extensive study of the potential effects of the proposed improvements to farmland in the project area was completed for the Draft EIS (see Draft EIS Section 4.2.1 - Prime and Statewide Important Farmland). The preferred alternative (Alternative 2B with North Access Connection N2) will convert approximately 29 acres of total farmland to a transportation use. According to the Kandiyohi County Soil Survey, approximately 17 acres of farmland that will be impacted is classified as prime and/or of statewide importance. No unique farmland was identified in the project area. The impact area calculation includes all areas (i.e. wetlands, farmsteads, public right-of-way, and agricultural fields) that have underlying soil types that have been classified as prime, unique, and/or of statewide importance. Based on data contained in the Farmland Protection Policy Act AD 1006 Form, the amount of farmland converted in Kandiyohi County by the preferred alternative will be approximately 0.1 percent of the total farmland in the County.

The preferred alternative will also have direct and indirect impacts on farming operations. There are a number of farm fields that are within the proposed right-of-way limits that would lose cultivated land. The primary farmland impacts created by the preferred alternative are the result of relocating CR 90 to the north on a new alignment and the creation of the North Access Connection route between CSAH 27 and 26th Street located north of Point Lake. In some cases, farm parcels adjacent to the relocated CR 90 or the new roadway between CSAH 27 and 26th Street will become severed by the proposed improvements, which may result in farming operations becoming less efficient and cost-effective. A severed farm is defined as a parcel that is split by the proposed roadway into separate parcels of farmland making it more difficult to farm, in part because an additional crossing or multiple crossings of the new roadway would be required for farm equipment.

A controlled access highway will also result in fewer access points than currently exist making farming operations more difficult in some areas. It is proposed that grade-separated crossings along the corridor will occur at the relocated CR 90 and CSAH 25, which will provide reasonable access for farm machinery across Highway 23/71. In general, a reduction in the number of access points will require farm machinery to travel greater distances to cross...
the highway, but safety conditions for farm machinery crossing the highway at these grade-separated crossings is expected to dramatically improve.

A consideration for farm drainage systems has been included in the preliminary design of the preferred alternative. The primary areas of potential impact to field drain tile will result in locations where new roadway alignments are proposed to be constructed (i.e. relocated CR 90 and the North Access Connection between CSAH 27 and 26th Street). During the final design and right-of-way acquisition phase of the project, Mn/DOT will discuss potential farm drainage impacts with agricultural landowners. Drain tile information will be requested and utilized in the final design of the preferred alternative to protect the integrity of each field tile drainage system as much as possible, while still allowing for the proposed highway construction. Special attention will also be given to construction activities to ensure soils characteristics are not compromised through soil compaction.

Mitigation

Without compromising the design of the preferred alternative, all practical measures to minimize harm to prime, unique, and/or statewide important farmlands and overall farm operations have been applied in accordance with the Farmland Protection Policy Act and the Minnesota Agricultural Land Preservation and Conservation Policy Act. Furthermore, safe and efficient access to farmland has been considered as part of the preliminary design of the preferred alternative.

Any acquisition of farmland will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Mn/DOT is committed to reestablishing effective field tile drainage systems. Potential impacts to individual properties will be determined on a case-by-case basis as part of the final design and right-of-way acquisition process.

Noise

With the identification of the preferred alternative, a more detailed analysis of noise impacts was completed. The objective of this analysis was to further quantify the potential impacts of the preferred alternative using a more detailed input that considers a specific alignment, locations of receptors, and topography of the area. The results of this modeling were then used to determine the cost reasonableness and feasibility of using noise walls to provide mitigation for the project’s impacts on receptors.

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 (dBA) represent the logarithmic increase in sound energy relative to a reference energy level. A sound increase of three dBA is barely perceptible to the human ear, a five dBA increase is clearly noticeable, and a ten dBA increase is heard as twice as loud. For example, if the sound energy is doubled (e.g., the amount of traffic doubles), there is a
three dBA increase in noise, which is just barely noticeable to most people. On the other hand, if traffic increases to where there is ten times the sound energy level over a reference level, then there is a ten dBA increase and it is heard as twice as loud.

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). In Minnesota, traffic noise impacts are evaluated by measuring and/or modeling the traffic noise levels that are exceeded ten percent and 50 percent of the time during the hour of the day and/or night that has the heaviest traffic. These numbers are identified as the $L_{10}$ and $L_{50}$ levels. The $L_{10}$ value is compared to FHWA noise abatement criteria.

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 25 meters)</td>
</tr>
<tr>
<td>130</td>
<td>Jet Aircraft (at 100 meters)</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>


State of Minnesota Noise Regulations

State noise standards are for a one-hour period and apply to outdoor areas. The standards are in terms of the $L_{10}$ and $L_{50}$ noise descriptors. The $L_{10}$ is the sound level exceeded ten percent of the time, a total of six minutes, of the
hour of interest. The $L_{50}$ is the sound level exceeded 50 percent of the time, a total of thirty minutes, of the hour of interest.

Table 13 provides the Minnesota State Noise Standards for three Noise Area Classifications (NAC), and for daytime, nighttime, $L_{10}$, and $L_{50}$. The standards for NAC-1 apply to residential areas and other uses intended for overnight sleeping (hotels, motels, mobile homes, etc.). The NAC-1 standards also apply to schools, churches, medical services, and park areas. The nighttime standards differ from the daytime standards only in areas intended for overnight sleeping. The NAC-1 daytime standards apply during nighttime hours at other NAC-1 land-use areas not intended for overnight sleeping. The NAC-2 standards are applicable to certain NAC-1 land uses if the following criteria are met:

- The building noise attenuation is at least 30 decibels (dBA);
- The building has year-round, indoor climate control; and
- The building has no facilities for outdoor activities.

### Table 13  Minnesota State Noise Standards

<table>
<thead>
<tr>
<th>Noise Area Classification</th>
<th>General Land Use Type</th>
<th>Sound Level (dBA)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Daytime</td>
<td>Nighttime</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$L_{10}$</td>
<td>$L_{50}$</td>
<td>$L_{10}$</td>
</tr>
<tr>
<td>1</td>
<td>Residential</td>
<td>65</td>
<td>60</td>
<td>55</td>
</tr>
<tr>
<td>2</td>
<td>Commercial</td>
<td>70</td>
<td>65</td>
<td>70</td>
</tr>
<tr>
<td>3</td>
<td>Industrial</td>
<td>80</td>
<td>75</td>
<td>80</td>
</tr>
</tbody>
</table>

**Federal Noise Abatement Criteria**

In the Federal Noise Abatement criteria, a noise impact is defined as occurring when the predicted traffic noise levels:

- Approach or exceed the noise abatement criteria (see Table 14);
- Substantially exceed the existing noise levels.

The Federal Noise Abatement Criteria (23 CFR, Procedures for Abatement of Highway Traffic Noise and Construction Noise) are in terms of the $L_{eq}$ or $L_{10}$ descriptor. In Minnesota, the $L_{10}$ descriptor is used to identify impacts and has been used to identify impacts in this analysis for TH 23/71. The criteria for activity category E (see Table 14) are in terms of interior noise levels and are applied where there are no exterior activities to be affected by traffic noise. All other criteria are in terms of exterior noise levels.

The State of Minnesota has defined “approach or exceed” as being within one dBA or less of the target noise level given for a specific activity category of the NAC, and “substantially exceed” as noise level increase of five dBA or more over the existing noise levels.
Table 14  FHWA Noise Abatement Criteria

<table>
<thead>
<tr>
<th>Activity Category</th>
<th>$L_{10}$ (h)</th>
<th>Description of Activity Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>60 dBA</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</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</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>Undeveloped Lands</td>
</tr>
<tr>
<td>E</td>
<td>55 dBA</td>
<td>Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.</td>
</tr>
</tbody>
</table>

Traffic-Related Noise Analysis

As part of this EIS, a detailed noise analysis has been conducted, and a proposed noise mitigation plan prepared. Many residences are located adjacent to the project area, and receptor locations were chosen that are representative of the various groupings of residences.

Methodology

Existing (2009) and future (2030) noise levels were modeled using MINNOISE a noise prediction model used by Mn/DOT. Noise projections were based on 2005 traffic counts, 2030 forecasted peak-hour traffic volumes, time of day, vehicle speeds, mix of vehicles, roadway grades, and the distance from the roadway to the receptor (horizontal and vertical).

Noise Monitoring

Noise level monitoring is commonly performed during a noise study to document existing noise levels. Monitored noise levels can be used as a baseline of the possible ambient levels that can occur. The monitoring was done without the collection of measured volumes, speeds, vehicle mixes, and lane distribution of traffic. With the traffic volume variations that exist at the monitoring sites, noise modeling likely best describes the possible worst hour scenarios for both existing and future noise levels.

The existing noise levels along Highway 23/71 were monitored on October 19 and 26, 2006 to establish baseline conditions and to assist in validating the noise prediction model. Three noise receptor locations (MP1 through MP3) were chosen for monitoring sites within the project area. The monitoring results are provided in Table 15. Sound levels are expressed in dBA.
### Table 15 Monitored Noise Level

<table>
<thead>
<tr>
<th>Location</th>
<th>General Location</th>
<th>Time</th>
<th>Monitored Noise Level (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>( L_{10} )</td>
</tr>
<tr>
<td>MP1</td>
<td>Located approximately 200’ east on frontage road at 22&lt;sup&gt;nd&lt;/sup&gt; Avenue west of Highway 23/71</td>
<td>3:06PM-4:06 PM (daytime)</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3:48-4:48 AM (nighttime)</td>
<td>61</td>
</tr>
<tr>
<td>MP2</td>
<td>Located on frontage road at CSAH 25, approximately 150’ east of Highway 23/71</td>
<td>4:10-5:10 PM (daytime)</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4:59-5:59 AM (nighttime)</td>
<td>64</td>
</tr>
<tr>
<td>MP3</td>
<td>Located on frontage road between MP1 and MP2, approximately 150’ east of Highway 23/71</td>
<td>5:15-6:15 PM (daytime)</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6:05-7:05 AM (nighttime)</td>
<td>69</td>
</tr>
</tbody>
</table>

Shaded cells represent noise levels currently above MPCA State standards.

### Application of State and Federal Regulations

Mn/DOT’s Noise Policy is based on state and federal noise regulations. Projects without federal funding do not need to meet federal noise regulations. However, those projects that do not receive federal funding will, nevertheless, have to meet State noise regulations, be evaluated by Mn/DOT for need for noise mitigation, where necessary be evaluated for cost-effectiveness and reasonableness of any mitigation, and all evaluations must be done using the same criteria and methodology that are applied to federally-funded projects. This insures that Mn/DOT’s decisions on noise mitigation are made consistently with all projects, despite funding sources.

In this project, future noise levels exceeded both the Federal Noise Abatement Criteria and the State Noise Standards at many sensitive noise receptors. Therefore, noise abatement measures are included in this analysis. The project must comply with both the State of Minnesota Noise Standards and the Federal Noise Abatement Criteria. To do this, all reasonable and feasible noise mitigation measures are planned as a part of the project. Even with these noise mitigation measures, the Minnesota Noise Standards are exceeded at many locations. Therefore, a Noise Standards Exemption Request will be submitted to the Commissioners of the MPCA. This document is a means of demonstrating that all reasonably available noise mitigation measures are employed as part of the project.

### Noise Analysis Results

The MINNOISE/STAMINA 2.0 noise model applied five scenarios for comparison of noise levels. The scenarios are: 1) Existing conditions (2009); 2) No Build Alternative (2030); 3) Build Alternative 2B (2030) with no new noise barriers along the corridor; 4) Build Alternative 2B (2030) with new 10-foot high noise barriers at select locations; and 5) Build Alternative 2B (2030) with new 20-foot high noise barriers at select locations.

Noise modeling was conducted at 29 receptor sites. A survey was done in the field to locate a reasonable outdoor area for each residence and a...
representative distance from the proposed roadway work was identified. In some instances, the receptor locations used in the model represent multiple residences. Specifically Receptor 6, represents 20 single family residences to the south, along the corridor. The receptor sites are located where development currently exists. There are no known undeveloped registered plats in the project area. See Tables 16 and 17 for the results of the noise analysis, and comparison to the Minnesota State Noise Standards and the Federal Noise Abatement Criteria. Receptor locations are shown on Figures A1 and A2, located in Appendix A. Receptors were numbered based upon their location along the corridor.

Table 16 - Peak Daytime Noise Levels (4:30 – 5:30 PM)

<table>
<thead>
<tr>
<th>Receiver</th>
<th>Applicable Noise Standard L_{10} (dBA)</th>
<th>Existing Daytime L_{10} (dBA)</th>
<th>Daytime L_{10} (dBA) No-Build</th>
<th>Daytime L_{10} (dBA) Build</th>
<th>Applicable Noise Standard L_{50} (dBA)</th>
<th>Existing Daytime L_{50} (dBA) No-Build</th>
<th>Daytime L_{50} (dBA) Build</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>65</td>
<td>66.4</td>
<td>68.7</td>
<td>68.6</td>
<td>60</td>
<td>60.4</td>
<td>63.8</td>
</tr>
<tr>
<td>R2</td>
<td>65</td>
<td>64.2</td>
<td>66.6</td>
<td>66.4</td>
<td>60</td>
<td>58.4</td>
<td>61.8</td>
</tr>
<tr>
<td>R3</td>
<td>65</td>
<td>64.6</td>
<td>67.0</td>
<td>66.7</td>
<td>60</td>
<td>58.6</td>
<td>62.1</td>
</tr>
<tr>
<td>R4</td>
<td>65</td>
<td>69.7</td>
<td><strong>72.1</strong></td>
<td><strong>72.5</strong></td>
<td>60</td>
<td>63.3</td>
<td>66.7</td>
</tr>
<tr>
<td>R5</td>
<td>65</td>
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Shaded cells represent those locations exceeding applicable noise standards. Bold values approach/exceed the FHWA Criteria of 70 dBA.
### Table 17 Peak Nighttime Noise Levels (6:00 – 7:00 AM)

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<tr>
<th>Receiver</th>
<th>Applicable Noise Standard L10 (dBA)</th>
<th>Existing Daytime L10 (dBA)</th>
<th>Daytime L10 (dBA) No-Build</th>
<th>Daytime L10 (dBA) Build</th>
<th>Applicable Noise Standard L50 (dBA)</th>
<th>Existing Daytime L50 (dBA)</th>
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</table>

Shaded cells represent those locations exceeding applicable noise standards. **Bold** values approach/exceed the FHWA Criteria of 70 dBA.

All receptors were entered into the MINNOISE model using Alpha factors equaling 0.5. Alpha factors within MINNOISE are factors that control the rate at which noise is propagated, or at what rate over distance, noise diminishes. An Alpha factor of 0.5 within MINNOISE has a noise rate of decay of 4.5 dB per doubling of distance. This is an appropriate value for propagation over soft ground with an at-grade roadway and first floor receptor.

MINNOISE calculates the amount of potential noise directly related to traffic speeds, traffic mix (percent cars and heavy trucks), and peak hour percentages of predicted future traffic (Design Year 2030 “Build” and Design...
Year 2030 “No Build”). Total daily traffic volumes for Highway 23/71 were taken from the traffic analysis completed for the EIS. Average peak traffic hours along Highway 23/71 were determined to be:

- The hour from 4:30 PM to 5:30 PM (Daytime) and
- The hour from 6:00 AM to 7:00 AM (Nighttime).

Hourly traffic counts were available at road crossings along Highway 23/71. The peak “daytime” traffic hour (between 7:00 AM and 10:00 PM) was the hour between 4:30 and 5:30 PM. The peak “nighttime” traffic hour (between 10:00 PM and 7:00 AM) was the hour between 6:00 AM and 7:00 AM. Hourly traffic volumes were calculated along Highway 23/71 based upon the percent of total daily volume for the above mentioned hours. Speed assumptions are based on existing and proposed speed of 65 mph. Frontage roads were assigned a speed of 35 mph and on and off ramps to/from Highway 23/71 were assigned a conservative average speed of 45 mph.

**Noise Wall Mitigation Analysis**

For a noise wall to be considered for mitigation, one or more of the following impacts must exist:

- The existing noise levels are in excess of the state noise standards.
- The predicted noise levels are expected to be in excess of the state noise standards for the design year of the project.
- The noise levels are predicted to be “substantially” above current noise levels in the project design year. “Substantial” is defined as a 5 dBA or greater increase in noise.
- The predicted noise level for the design year approach or exceed the appropriate federal NAC limits. “Approaching” is defined as noise levels being within 1 dBA of the FHWA NAC. In most instances, levels predicted as 69 dBA or greater, yet less than 70 dBA, are considered as approaching the FHWA NAC of 70 dBA.

With noise levels exceeding state and federal noise standards within the Highway 23/71 project area, a mitigation analysis was required to determine if measures, such as a noise wall, are feasible to construct, effective in attenuating the noise at those locations, and reasonable in terms of cost-effectiveness.

**Noise Wall Feasibility and Reasonableness**

Mn/DOT’s noise policy addresses the feasibility and reasonability of the incorporation of noise mitigation along a highway corridor. Feasibility depends on an engineering judgment as to whether something can physically be done or carried out. It may be found that a certain topography doesn’t allow for the incorporation of any mitigation, the cost effectiveness of mitigation and the views of the local residences and their representatives concerning the mitigation.
Mn/DOT’s noise policy addresses FHWA noise policy and methodology in concert with Minnesota State noise rules and standards. Some important considerations in determining the reasonableness of noise mitigation include:

1. The amount of noise level reduction provided by the mitigation at impacted residences and commercial establishments;
2. The numbers of impacted residences and commercial establishments that experience noise level reductions;
3. The cost of the mitigation on a “dollar per decibel of reduction” basis;
4. The views and wishes of the impacted residents and commercial operators are taken into account by way of their representative government (County, City, Township, etc.) and representatives; and
5. There are other considerations necessary to address noise mitigation, but the above are the main considerations in evaluating mitigation as reasonable or not.

On the basis of this analysis it was found that 25 receptors, representing 99 residences, are impacted. With the finding of noise impacts possible mitigation has to be analyzed and, where reasonable, proposed. Seven noise walls were modeled and analyzed to determine the level of noise reduction provided for each receptor that exceeded MPCA noise standards. These locations were considered feasible from a constructability perspective, but in some cases would require additional design features to maintain safety standards. Figures A1 and A2, located in Appendix A, show the noise receptor locations and noise mitigation measures that have been analyzed for acoustic effectiveness and cost effectiveness. Multiple scenarios were run to optimize the length of the noise walls. Only the wall length scenarios that showed the most effective noise reduction are included.

The following noise walls and associated receptors were modeled:

- Wall 1: R2-R3
- Wall 2: R4-R7, R9, R26-R28
- Wall 3: R11
- Wall 4: R24-R25
- Wall 5: R13-R21
- Wall 6: R29
- Wall 7: R8

**Analyzed Noise Wall 1**: represents a small area of residential development located along 26th Street NE near the northern split of TH 23 and TH 71.

**Analyzed Noise Wall 2**: represents a more densely developed residential area located along the west shore of Eagle Lake. This noise wall extends from approximately 66th Avenue NE to the northern split of TH 23/71. Several of the receptors located behind this wall represent multiple residences.

**Analyzed Noise Wall 3**: represents a residential area located along the west shore of Eagle Lake near the TH 23/71 and County Road 25 intersection.

**Analyzed Noise Wall 4**: represents a small residential area located in the northwest corner of the TH 23/71 and County Road 25 intersection.
Analyzed Noise Wall 5: represents a residential area located along the west shore of Eagle Lake between CR 25 and the new relocated CR 90. Several of the receptors located behind this wall represent multiple residences.

Analyzed Noise Wall 6: represents residential development located along the north shore of Point Lake. The majority of residents in this area are located along the shoreline and setback from the highway.

Analyzed Noise Wall 7: represents a residential area located west of TH 23/71 along 66th Avenue NE.

Table 18 illustrates the complete noise impact study including Design Year 2030 levels without a noise barrier, Design Year 2030 with a noise barrier, and resulting noise level differences for the Daytime and Nighttime scenarios. Table 18 also illustrates the modeled noise reduction with 10- and 20-foot walls at locations where noise levels exceed standards. The number of residences with at least a 5 dBA reduction is also included in Table 18. Three analyzed noise walls were determined to be acoustically effective (provided at least a 5 dBA reduction), which required that they proceed in determining whether or not they are feasible to construct and also cost-effective.

Cost-Effectiveness Analysis

For noise walls to be considered reasonable, the cost-effectiveness shall not exceed $3,250 per decibel of reduction per residence. The cost-effectiveness is calculated for individual barrier segments. The standard cost for barrier construction is $15 per square foot, plus any additional roadway design costs that are directly associated with the construction of a noise barrier. Due to the close proximity of the northbound Highway 23/71 lanes to the frontage road on the east side of the highway, it was determined that additional design elements were required if a noise barrier where installed between the two roadways. The following design elements are directly associated with Analyzed Noise Wall 2 and Analyzed Noise Wall 5: installation of guardrail along northbound Highway 23/71 for the entire length of each wall, installation of curb and gutter and storm sewer/drainage structures along the frontage road to maintain drainage patterns, and pavement replacement (strips) on the frontage road to accommodate the installation of curb and gutter and drainage structures. The cost, per linear foot, of these additional design elements for Analyzed Noise Wall 2 and Analyzed Noise Wall 5 are included in Table 18. This cost is based upon which specific design elements are needed at each analyzed noise wall.

The noise wall cost-effectiveness calculations are included in Table 18. Noise walls might not be cost-effective for the following reasons:

- Cross-streets may create a situation where noise mitigation cannot be constructed continuously along the noise source.
- Residential density is low.
## Table 18 - Noise Barrier Cost Effectiveness

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<th>Receptor</th>
<th>Land Use Activity</th>
<th>Number of Residences Represented</th>
<th>Modeled Existing</th>
<th>No Build 2033</th>
<th>Build 2033 with No Barriers</th>
<th>Build 2033 with Barriers</th>
<th>Reduction</th>
<th>No. of Res. with 5 dBA reduction</th>
<th>Approx. Segment Length</th>
<th>Approx. Wall Height</th>
<th>Average dBA reduction</th>
<th>Acoustically Effective</th>
<th>Additional Construction Cost/Foot of Wall Length</th>
<th>Cost Effectiveness Cost/dBA/Res</th>
<th>Wall Proposed</th>
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<td>68.2</td>
<td>70.4</td>
<td>67.8</td>
<td>2.6</td>
<td>Yes</td>
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</tr>
<tr>
<td>2*</td>
<td>R27</td>
<td>Res 4</td>
<td>67.7</td>
<td>70</td>
<td>70.4</td>
<td>67.8</td>
<td>2.6</td>
<td>2*</td>
<td>R28 Res 1</td>
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<td>61.8</td>
<td>62.1</td>
<td>61.4</td>
<td>0.7</td>
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<tr>
<td>5*</td>
<td>R13</td>
<td>Res 1</td>
<td>68.5</td>
<td>70.9</td>
<td>72.4</td>
<td>65.8</td>
<td>6.6</td>
<td>5*</td>
<td>R14 Res 1</td>
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<td>5*</td>
<td>R16 Res 1</td>
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<td>7.3</td>
<td>5*</td>
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<td>66.9</td>
<td>67.2</td>
<td>62.9</td>
<td>4.3</td>
<td>5</td>
<td>R22 Res 1</td>
<td>66.4</td>
<td>68.7</td>
<td>68.6</td>
<td>67.1</td>
<td>1.5</td>
<td>Yes</td>
<td>$47.61</td>
</tr>
</tbody>
</table>

Represents those locations exceeding their applicable noise standards. Bold levels approach or exceed the FHWA Criteria of 70dB.

* Noise Walls 2 and 5 include additional costs for curb and gutter and guardrail that would be necessary if a noise wall were to be constructed at those locations.
Evaluation of Other Noise Abatement Measures

Noise walls have been chosen as the most cost-effective noise mitigation measure available for this project. Other noise mitigation measures have been considered, as listed in 23 CFR 772.13(c). They are addressed below:

- **Traffic management measures:**

  The primary purpose of the facility is to move people and goods, so restrictions on vehicle type or speeds would be inconsistent with the project purpose.

- **Alteration of horizontal and vertical alignments:**

  The project improvements have been determined for practical reasons based on grade and safety. The alignment of Highway 23/71 remains unchanged and the improvements associated with the grade-separated interchanges and local frontage/backage roads were designed in a manner to minimize impacts to sensitive receptors.

- **Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development that would be adversely impacted by traffic noise:**

  Acquisition of property for noise mitigation purposes is not a part of the project scope. However, efforts will be made through local planning authorities to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized.

- **Noise insulation of public use or nonprofit institutional structures:**

  This is a noise abatement measure that would not affect the noise level violations of Minnesota State Noise Standards because these standards are exterior standards. FHWA guidelines and Mn/DOT policy recommend that only public buildings, such as schools and hospitals, be considered for acoustical insulation. There are no public buildings within the project area.

**Mitigation**

Traffic noise impacts occur for Highway 23/71 when modeled traffic noise levels approach or exceed the FHWA NAC-1 (70 dBA) level by one decibel, when impacts are modeled exceeding state noise guidelines, or those which noise levels exceed the FHWA NAC category B criteria of a 5 dBA or more increase per receptor.

A mitigation analysis was performed to gauge the reasonability of constructing noise walls. The mitigation analyses evaluated seven locations where noise levels approach or exceed noise standards. These locations were all determined to be feasible from a constructability perspective. Further analysis revealed that a 20-foot noise wall at three locations (Wall 2, Wall 5, and Wall 6) were acoustically effective (≥5 dBA reduction) in mitigating noise. However, when calculating the construction cost of the noise wall and additional roadway design costs directly associated with the walls, it was determined that none of the walls meet the...
Mn/DOT cost reasonableness criteria of $3,250.00 per decibel of reduction per residence. The 20-foot high analyzed noise walls (Wall 2, Wall 5, and Wall 6) had cost reasonableness values of $4,955/dBA/residence, $4,261, and $10,015, respectively. A 15-foot high wall was also evaluated for Analyzed Noise Walls 2 and 5. The cost reasonableness value of a 15-foot wall was $5,511/dBA/residence for Noise Wall 2 and $4,758 for Noise Wall 5. Therefore, no noise walls are proposed.

Since there may be several years before the final design stage of this project progresses, the noise analysis will need to be refined to take into account any major design, traffic volume changes, or changes in development. This could be completed during the final design process and/or during the development of the noise exemption request.

**Wetlands**

The wetlands within the proposed project corridor were delineated for the Draft EIS on September 25, 2006. These delineations were completed using the methodology of the 1987 Corps of Engineers Wetlands Delineation Manual. Wetland delineations for four basins located near the northern project terminus along the west side of proposed 26th Street (North Access Connection Alternative N2) were completed on October 7, 2009, also following the 1987 manual, but supplemented with the Midwest Regional manual. The Routine Onsite Determination Method (RODM) was used for the delineation as most of the areas are small and do not require multiple transects. Field notes, samples, and photographs were taken at representative locations in each basin and transferred to RODM data sheets. The results of the wetland analysis are summarized below.

The wetland delineation evaluated all areas that met wetland criteria within the proposed right-of-way of the preferred alternative. Areas that are clearly natural wetlands or are within the right-of-way and contain remnant wetland vegetation have been identified as wetlands. Within the project area, there are various connecting roadways that have many areas of roadside ditch. These roadside ditches often meet wetland criteria, but may have been created to convey road runoff, and may not have been wetland prior to road construction. For the purposes of this environmental review, roadside ditches have been included as a wetland impact. The determination of the jurisdiction of these ditches will be evaluated with the permitting process in place at the time of project construction. Hawk Creek, which is a MNDNR Public Water, has also been included within the wetland delineation.

A total of 19 wetlands, including Hawk Creek, were identified and mapped within proximity of the construction limits for the preferred alternative (see Figures A1 and A2, located in Appendix A). A majority of the wetlands are located within agricultural areas or are associated with roadside drainages. The larger basins tend to be shallow marshes that are a part of a larger drainage systems and are too wet to farm. All of the wetlands delineated exhibited some signs of disturbance, mostly through drainage or dominance of invasive vegetation, such as reed canary grass (*Phalaris arundinacea*). Table 19 provides a summary of the wetlands delineated, and the potential area of impact based on the preliminary construction limits of the
preferred alternative. All delineated wetlands are listed, although some of them have been completely avoided and have no impacts.

Table 19 - Summary of Wetland Characteristics

<table>
<thead>
<tr>
<th>Basin ID</th>
<th>Cowardin Classification</th>
<th>Circular 39 Classification</th>
<th>Eggers and Reed Classification</th>
<th>Description</th>
<th>Area of Impact (acres)</th>
<th>Wetland Basin Size (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>07-01</td>
<td>PEMC</td>
<td>Type 3</td>
<td>Shallow Marsh</td>
<td>Roadside drainage</td>
<td>No impact</td>
<td>0.03</td>
</tr>
<tr>
<td>07-02</td>
<td>PEMB</td>
<td>Type 2</td>
<td>Wet Meadow</td>
<td>Farmed wetland</td>
<td>0.14</td>
<td>4.41</td>
</tr>
<tr>
<td>07-03</td>
<td>PEMA</td>
<td>Type 1</td>
<td>Seasonally Flooded Basin</td>
<td>Mowed turf wetland</td>
<td>0.03</td>
<td>0.05</td>
</tr>
<tr>
<td>07-04</td>
<td>PEMC</td>
<td>Type 3</td>
<td>Shallow marsh</td>
<td>Restored marsh</td>
<td>No impact</td>
<td>5.0</td>
</tr>
<tr>
<td>07-05</td>
<td>PEMB</td>
<td>Type 2</td>
<td>Wet Meadow</td>
<td>Roadside drainage</td>
<td>No impact</td>
<td>0.04</td>
</tr>
<tr>
<td>07-06</td>
<td>PEMC</td>
<td>Type 3</td>
<td>Shallow Marsh</td>
<td>Roadside drainage</td>
<td>0.16</td>
<td>0.16</td>
</tr>
<tr>
<td>07-07</td>
<td>PEMC</td>
<td>Type 3</td>
<td>Shallow Marsh</td>
<td>Cattail marsh</td>
<td>No impact</td>
<td>0.62</td>
</tr>
<tr>
<td>07-08</td>
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<td>Type 3</td>
<td>Shallow Marsh</td>
<td>Roadside drainage</td>
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<td>0.39</td>
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<td>07-09</td>
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<td>Type 3</td>
<td>Shallow Marsh</td>
<td>Cattail marsh</td>
<td>0.17</td>
<td>0.64</td>
</tr>
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<td>Shallow Marsh</td>
<td>Cattail marsh</td>
<td>0.66</td>
<td>1.15</td>
</tr>
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<td>07-11</td>
<td>PEMC</td>
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<td>Shallow Marsh</td>
<td>Cattail marsh</td>
<td>No impact</td>
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<td>Shallow Marsh</td>
<td>Cattail marsh</td>
<td>No impact</td>
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<td>07-13</td>
<td>PEMC</td>
<td>Type 3</td>
<td>Shallow Marsh</td>
<td>Cattail marsh</td>
<td>No impact</td>
<td>0.06</td>
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<tr>
<td>07-14</td>
<td>PEMB</td>
<td>Type 2</td>
<td>Wet Meadow</td>
<td>Reed canary grass basin</td>
<td>No impact</td>
<td>5.26</td>
</tr>
<tr>
<td>07-15 Hawk Creek</td>
<td>N/A</td>
<td>Riverine</td>
<td>Interimntent stream</td>
<td>Intermittent stream</td>
<td>1.09</td>
<td>7.0</td>
</tr>
<tr>
<td>09-01</td>
<td>PFO1B</td>
<td>Type 7</td>
<td>Wooded Swamp</td>
<td>Small wooded depression</td>
<td>No impact</td>
<td>0.22</td>
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<tr>
<td>09-02</td>
<td>PEMC</td>
<td>Type 3</td>
<td>Shallow marsh</td>
<td>Cattail marsh</td>
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<td>0.65</td>
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<tr>
<td>09-03</td>
<td>PEMB</td>
<td>Type 2</td>
<td>Wet Meadow</td>
<td>Reed canary grass basin</td>
<td>No impact</td>
<td>0.03</td>
</tr>
<tr>
<td>09-04</td>
<td>PEMB</td>
<td>Type 2</td>
<td>Wet Meadow</td>
<td>Reed canary grass basin</td>
<td>No impact</td>
<td>0.26</td>
</tr>
</tbody>
</table>

**Total** 2.64 acres N/A

---

1 Classification of Wetlands and Deepwater Habitats of the United States. (Cowardin et al., December 1979).
3 Wetland Plants and Plant Communities of Minnesota and Wisconsin (Eggers and Reed, 1987).

For the delineated wetlands, cattail-dominated shallow marsh is the largest type impacted with 1.38 acres, or 91% of the total impacts outside of Hawk Creek. Some of these shallow marshes are also associated with roadside drainage ditches.
Other types are substantially less by area and percentage, but are no greater in function or value as they are farmed wetlands, or dominated by reed canary grass. The wetlands of greatest value, such as the restored shallow marsh identified as basin 07-04, are being avoided. A summary of wetland impacts by wetland type is summarized in Table 20.

Table 20 - Summary of Wetland Impacts by Wetland Classification

<table>
<thead>
<tr>
<th>Wetland Classification</th>
<th>Number of Basins</th>
<th>Total Area of Impact (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmed Wet Meadow</td>
<td>1</td>
<td>0.14</td>
</tr>
<tr>
<td>Seasonally Flooded Basins</td>
<td>1</td>
<td>0.03</td>
</tr>
<tr>
<td>Roadside Shallow Marsh</td>
<td>2</td>
<td>0.55</td>
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<tr>
<td>Shallow Marsh</td>
<td>2</td>
<td>0.83</td>
</tr>
<tr>
<td>Hawk Creek</td>
<td>1</td>
<td>1.09</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7</strong></td>
<td><strong>2.64 acres</strong></td>
</tr>
</tbody>
</table>

Wetland Jurisdiction

The jurisdiction of all wetlands will be determined during the permitting process under the rules in place at that time. Based on current rules it is anticipated that the following agencies would have jurisdiction over the wetlands in the project area:

The United States Army Corps of Engineers (USACE) regulates all wetlands and ditches, provided they meet the criteria of the 1987 Manual and the subsequent regional supplements. This includes drainage ditches, as there is no recognition of incidental wetlands. Currently, the USACE has no authority over isolated wetlands. Many of the wetlands in the project areas appear to be isolated, but a Jurisdictional Determination (JD) will need to be completed to establish which basins are regulated by USACE and which are not. The majority of the wetlands appear to connect through overland flow, culvert connections, or drain tile to Hawk Creek, Eagle Lake, or Swan Lake, which may be sufficient to establish them as jurisdictional.

The Minnesota Wetland Conservation Act (WCA) also regulates wetlands, and is administered by Mn/DOT when impacts occur within its existing and/or proposed right-of-way. The WCA regulates all wetlands, regardless of isolation. This process recognizes created areas as incidental, which could include many of the roadside drainage ditches.

The Minnesota Pollution Control Agency (MPCA) also regulates wetlands through two primary mechanisms. The first is through review of the project with regards to compliance with Section 401 of the Clean water Act. This project is anticipated to require a letter of permission from the USACE, which currently waives the 401 water quality certification process. The MPCA also regulates wetlands through Minnesota Rules 7050.0186, which attempts to prevent degradation of wetlands and waters, requires sequencing to avoid and minimize impacts, and provides compensatory mitigation if impacts cannot be avoided.
The Minnesota Department of Natural Resources (MNDNR) regulates Public Waters, and is a participant if projects occur within 1,000 feet of a Public Water. The proposed project includes the relocation of Hawk Creek, which is a Public Water. Because of this a Public Water Work Permit will be required. The WCA does not administer jurisdiction over Public waters, although the MNDNR can waive jurisdiction to WCA.

**Sequencing**

Wetland impact sequencing includes three steps: impact avoidance, impact minimization, and impact compensation/mitigation. Each wetland was evaluated individually for opportunities to avoid or minimize impacts.

Wetland impacts were avoided where possible; however reasons for not avoiding impacts to a specific wetland included one or more of the following:

- Need to provide safe roadway geometrics;
- Shifting the alignment would isolate the wetland in the median; and
- Shifting the alignment would create impacts to other wetlands or to other social, environmental, or natural resources

If wetland avoidance was not possible, the next step in the sequencing process, minimization was considered. Several minimization measures were considered in the design of the preliminary layout for the preferred alternative including:

- Use of the existing roadway alignments wherever possible. By using an existing roadway alignment (state highway, county road, or township road), only the new width of the roadway causes impacts to wetlands.
- Increase in ditch slope. Increasing the slope of the ditch adjacent to the outside lanes would reduce the footprint of the roadway. The typical rural cross section calls for 1:6 (vertical: horizontal) slopes. Thus, either a 1:5 or 1:4 slope with additional unpaved shoulder width are acceptable strategies to minimize wetland impacts. In many instances, steeper slopes are not acceptable because of the hazard presented to drivers running off the road or hitting guard rail. Also, the slope near culverts will be gentle so as to cover the culvert.
- Reduction in the elevation of the road profile. Lowering the road profile can reduce the footprint of the roadway. This strategy has limited application because the roadway should be at least 5 feet above the water level to prevent water damage to the roadbed, and in some areas, the roadway should be at least 4 feet above the adjacent ground to allow snow to blow off the road to decrease the hazard posed by drifting snow. Also, there must be sufficient cover over culverts.
- Construction of bridges. Bridging over wetlands is applicable only where there are exceptional wetlands because of the cost of bridging and the reduction in safety. There are no such wetlands impacted by the Highway 23/71 project, so construction of bridges is not an appropriate minimization strategy outside the crossing of the realigned Hawk Creek.
In order to minimize water quality impacts to wetlands, water quality treatment best management practices (BMPs) have been designed and incorporated into the preliminary layout (see Water Quality and Surface Water Drainage section in this Final EIS).

Mitigation

A Combined Wetland Permit Application and Replacement Plan will be prepared and submitted for the preferred alternative prior to construction. Replacement of lost wetlands will be in accordance with WCA, Section 404, and MNDNR, including the St. Paul District Compensatory Mitigation Policy for Minnesota (USACE, 2009). Replacement will occur prior to or concurrent with the wetland impacts, and will include all efforts to provide “in-kind”, “in place” and “in-advance” wetland replacement. Furthermore, efforts will be made to replace all lost functions and values. This will likely require the use of wetland banking, which is currently the preferred method of mitigation for both the USACE and the WCA.

The impacts to Hawk Creek will be off-set by realigning the channel that will include a new buffer area along each side of the channel. The proposed replacement area will total approximately 2.72 acres of land, which is more than double the area proposed to be impacted.

Mn/DOT’s existing wetland bank system may provide eligible credit, to date there are existing accounts and wetland credits held by Mn/DOT within the Bank Service Area and assuming the potentially long term of the project schedule, additional bank sites could be developed over the next several years to accommodate the project needs. The specific method(s) for mitigating impacts to wetlands will be determined during the final design phase and permitting of the project. The Highway 23/71 Wetlands Delineation Report will be reviewed and revised as needed prior to project construction. Several early coordination meetings with representatives from the permitting agencies (USACE, DNR, and MPCA) have occurred during the preliminary design and environmental review process.

No Practicable Alternative Finding

Based on the findings of the Wetland Delineation Report and summary above, it has been determined that there are no practicable alternatives to the proposed action, and the proposed action includes all practicable measures to minimize harm to wetlands.

Floodplains and Water Body Modifications

The Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) and associated floodway maps for the City of Willmar, Minnesota were used to determine that there are no regulatory floodplains present in the project area.

Highway 23/71 in Willmar currently crosses Hawk Creek which is located between Eagle and Swan Lakes. Hawk Creek flows south from Eagle Lake and turns to cross under Highway 23/71 near the proposed County Road 90 interchange, and runs along the western side of the highway before meandering west to Swan Lake. Hawk Creek is a waterway under the jurisdiction of the MnDNR that was
engineered to divert water flow from Eagle Lake during the 1930s as a Works Progress Administration (WPA) project.

The preferred alternative requires rerouting the existing Hawk Creek channel in the vicinity of the proposed Highway 23/71 – CR 90 interchange. Figure A1, located in Appendix A, illustrates the Highway 23/71 preferred alternative.

Impact Analysis

1) Hawk Creek water levels are controlled by Eagle Lake on the upstream end and Swan Lake on the downstream end. There is no substantial potential for interruption of a transportation facility, since the existing and proposed roadway elevations are higher than the highest recorded water levels for Eagle Lake and Swan Lake. The highest recorded water surface elevation for Eagle Lake is 1,124.6 feet and for Swan Lake is 1,120.5 feet with the Highway 23/71 low point at 1,133 feet.

2) There are no substantial impacts on natural and beneficial floodplain values. Any impacts to the floodplain because of hydraulic losses resulting from the proposed culverts will be compensated for by resizing the culverts. The proposed box culverts will not increase velocities in the channel. Therefore, fish movements will not be affected. No threatened or endangered plants or animals have been identified in the floodplains.

   a) Turf establishment and erosion control best management practices will be used both during construction and post-construction. Construction activities will be required to comply with Mn/DOT specifications regarding erosion control and protection of public waters. This includes developing an erosion control plan and best management practices to be employed throughout the project. Erosion control measures, temporary and permanent, will be applied to the preferred alternative. Measures may include use of temporary seeding, bale ditch checks, silt fences, temporary sedimentation basins, ditch blocks, energy dissipaters and re-vegetation of disturbed areas with native species.

   b) Work within Hawk Creek is restricted from March 15th to June 1st because of possible spring fish migration.

3) There will be no increase in the risk of flooding as a result of this project. Surface water profiles along the channel will be maintained. The proposed culvert structure under the highway will be sized to compensate for hydraulic losses resulting from the proposed box culvert.

4) The project will not involve any incompatible floodplain development, changing access, or development adjacent to the floodplain.

Mitigation

Based on the above floodplain assessment, no regulatory floodplain impacts are expected. However a new floodplain will be created to mitigate for the existing floodplain that was removed as part of the realignment. The floodplain will provide natural habitat for aquatic and native species along the realignment. The
floodplain will maintain drainage patterns and will not encroach on privately held lands located along the channel. A preliminary concept plan has been prepared and coordination with the DNR has occurred. Continued coordination will occur during the final design and permitting process.

**Water Quality and Surface Water Drainage**

The project will increase the existing impervious surface area which will result in additional storm water runoff and greater discharge rates. The most common contaminants in highway runoff include sediments, nutrients, heavy metals, oil, grease, and deicing chemicals. However, impacts from erosion and sedimentation will be addressed both during and after construction according to the conditions of a National Pollutant Discharge Elimination System Permit (NPDES) Construction Stormwater permit. For a description of these permit requirements see Draft EIS Section 4.2.6 - Water Quality. Since publication of the Draft EIS, further detailed analysis has been conducted and is summarized below.

Since the Draft EIS, the MPCA has issued a new NPDES Construction Storm Water Permit (MN R1000001). In addition to the requirements noted in the Draft EIS Section 4.2.6 - Water Quality for the previous permit, the most notable additions to the permit requirements are as follows:

- Projects located within one mile of, and have a discharge to an impaired water must provide additional BMPs on the project.
- Individuals preparing, overseeing the implementation, revising or amending a SWPPP must meet the training requirements outlined in the Permit.
- All concrete washout facilities onsite are required to provide a leak-proof containment facility or impermeable liner for concrete washout operations.

For a description of the lakes, creeks, and watershed areas in the project area, see Draft EIS Section 4.2.5 - Surface Water Drainage. Since publication of the Draft EIS, further detailed analysis has been conducted on water quality and surface water drainage and is summarized below.

Based on the preliminary design, the preferred alternative will increase the impervious surface area by approximately 17 acres. This calculation is important in determining the water quality strategies that have been proposed to ensure compliance with state permit requirements.

The proposed design of the preferred alternative includes grassed swales and storm water ponds to treat runoff from the project.

Grassed swales or vegetated swales are densely vegetated drainage ways with slightly sloped bottoms. The role of the vegetation is to reduce flow velocity and provide sediment settling and infiltration. Typically, tall rigid grasses with extensive root systems are desirable. The grassed swales are proposed to be implemented along the roadside ditches.

Storm water detention ponds have also been planned at 10 locations along the corridor. These wet detention ponds will be used as end of the line runoff control
and storm water treatment. Wet detention ponds have been strategically placed in order to capture substantial amounts of roadway runoff from new impervious surface and from existing Highway 23/71 for treatment. Figures A1 and A2, located in Appendix A, illustrate the proposed improvements associated with the preferred alternative and include the proposed pond locations. Table 21 below summarizes the impervious surface area treated for each pond. Some of the storm water ponds’ drainage areas include commercial and residential properties along the project. The impervious surface areas from these properties are being captured and treated by the ponds, but were not included in the table. Treatment from these areas would be in addition to what is shown in the table. Note these pond sites are based on the preliminary design and specific locations and sizes may be altered if deemed necessary during the final design phase of the project.

The combination of using grassed swales and storm water detention ponds meets and exceeds the runoff treatment requirements as outlined in the MPCA NPDES Construction Stormwater Permit.

### Table 21- Impervious Surface Treated by Pond Location

<table>
<thead>
<tr>
<th>Subwatershed</th>
<th>Impervious Surfaces Treated</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pond</td>
<td>Drainage Area (ac)</td>
<td>Project Impervious (sf)</td>
</tr>
<tr>
<td>A^1</td>
<td>15.7</td>
<td>38,133</td>
</tr>
<tr>
<td>B</td>
<td>18.7</td>
<td>46,635</td>
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<tr>
<td>C</td>
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<td>30,136</td>
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<tr>
<td>D</td>
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<td>27,902</td>
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<tr>
<td>E</td>
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<tr>
<td>J</td>
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<td>57,632</td>
</tr>
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<td><strong>Total</strong></td>
<td><strong>152.0</strong></td>
<td><strong>286,089</strong></td>
</tr>
</tbody>
</table>

^1 The drainage area includes commercial development. The commercial development impervious areas were not included within this table. The impervious area draining to the pond would be considered additional treatment above what is shown in the table.

Table Note: All proposed roadways except for 18th Street NE will have vegetative roadside ditches which provide additional treatment of runoff.

Treatment in vegetative roadside ditches has not been included in this tabulation. Table 21 only quantifies the conventional treatment methods (storm water ponds). The majority of the new and existing impervious surfaces throughout the project are treated by vegetative roadside ditches. These ditches provide a substantial amount of treatment by removing total suspended solids, phosphorus and other pollutants from the runoff.

Other BMPs, such as sodding, seeding, erosion control blanket, biorolls, bioengineering, rock ditch checks, etc. will be used on all disturbed areas of the project to reduce sediment and pollutant loading to surface waters. Additional BMPs may be suggested by the MPCA and will be determined as part of the permitting process.
As previously mentioned, the preferred alternative will require Hawk Creek to be rerouted. It is anticipated the Hawk Creek realignment would be completed during the initial construction phase. This would enable the new alignment to be stabilized prior to utilizing the new channel. Phasing the construction will minimize erosion and sedimentation along Hawk Creek during construction.

New/replacement culverts and ditches associated with the transportation improvements will need to be constructed in order to maintain drainage patterns. If increased capacity is needed for a culvert(s), this could be achieved by larger or multiple culverts, increased grade on culverts, and/or more hydraulically efficient inlets. Any culvert improvement would need to consider stream slope, erosion potential, upstream and downstream conditions, and watercourse capacity.

**Mitigation**

As part of the final design phase for the preferred alternative, a Storm Water Pollution Prevention Plan (SWPPP), which is required as part of the NPDES Permit, will be prepared that will outline the practices to be used for this project to prevent impacts to the quality of the receiving waters. The SWPPP would be incorporated and made part of the construction documents.

The preferred alternative will require permits, including ones from the MPCA and MNDNR which will ensure potential impacts from erosion and sedimentation will not adversely impact water quality. A more detailed discussion of water quality related permit requirements and BMPs was provided in Section 4.2.5 Surface Water Drainage and Section 4.2.6 Water Quality of the Draft EIS.

**Geology/Groundwater/Aquifers**

Impacts to aquifers from construction of the preferred alternative will be negligible due to the confining layers of loam to clay loam overlying the aquifers. Potential minor impacts could occur near areas where streams or other surface waters, such as wetlands, may have connections to surficial sand and gravel aquifers. It is also anticipated that the preferred alternative will require the abandonment of private wells and impact agricultural drain tile systems as a result of right-of-way acquisitions and relocations. For further information, see Draft EIS Section 4.2.7 - Geology/Groundwater/Aquifers.

**Mitigation**

Construction BMPs will be used to minimize potential impacts to surface water and ground water. The abandonment of any wells will be conducted in accordance with Minnesota Department of Health requirements. Continuity of existing farmland drain tile systems will be sustained during and after construction.

**Wild and Scenic Rivers**

The preferred alternative will not impact any designated wild and scenic rivers.

**Mitigation**

No mitigation measures are necessary since there are no wild and scenic rivers impacted by the proposed project.
State/Federal Threatened and Endangered Species

The Draft EIS included an assessment of threatened and endangered species (see Draft EIS Section 4.2.9 - State/Federal Threatened and Endangered Species).

No known occurrences of federally-listed or candidate species have been identified within the project area.

Correspondences with MNDNR staff have occurred in the early planning and design phases of the project. The only known rare species or native plant community in the project area is the sea naiad, a plant species occurring in Point Lake (Najas mariana – state status, Special Concern Species). With the identification of North Connection Access Alternative N2, the preferred alternative will not directly impact Point Lake. Furthermore, water quality/surface water drainage improvements have been designed as part of the preferred alternative to collect and treat runoff prior to discharging to receiving water resources, including Point Lake.

Mitigation

Because the proposed action is not yet programmed and may not be constructed for several years, it is recommended that the proposed improvements be reevaluated and consultation reinitiated within three years prior to construction.

Fish and Wildlife

See Draft EIS Section 4.2.10 for further details on the analysis conducted for potential Fish and Wildlife impacts.

The preferred alternative will impact wetlands, likely impacting the associated wildlife habitats.

The preferred alternative will also require the relocation of Hawk Creek to accommodate the construction of a standard diamond interchange at the relocated County Road 90. Fish passage will be perpetuated along Hawk Creek. Ongoing dialogue with the Mn/DNR Fisheries Biologist will occur as part of the final design.

Mitigation

Impacts to wetlands and vegetation have been discussed and mitigation proposed is described in each respective section. Appropriate fish passage measures will be implemented in accordance with Mn/DOT fish passage guidance and standards during the final design phase for implementation during and after construction.

Vegetation

As discussed in Draft EIS Section 4.2.11 - Vegetation, there are no state or national forestlands, large tree farms, or other areas of unique vegetative features within the project area.

Mitigation

Invasive species control will continue to be a Mn/DOT priority for managing vegetation within the future right-of-way of the project. The appropriate Mn/DOT
seed mixes will be applied to disturbed areas and will be subjected to Mn/DOT’s long term vegetation management to control and manage invasive species.

Tree and landscape mitigation will follow Mn/DOT and FHWA policies and guidance for compensating owners and replacing impacted vegetation. Compensation will be determined through the Mn/DOT right-of-way process.

**Air Quality and Air Toxics**

Draft EIS Section 4.2.12 – Air Quality describes the air quality and air toxics analysis completed for the proposed improvements. The project is not located in an area where conformity requirements apply and the scope of the project does not indicate that air quality impacts will be expected or that mobile source air toxics will be a substantial issue. Therefore, it has been determined that no further air quality or air toxics analysis is necessary.

**Mitigation**

No mitigation measures are proposed.

**Energy**

Section 4.2.13 of the Draft EIS discussed energy consumption associated with the proposed project. The preferred alternative is expected to consume less direct energy than the No-Build Alternative, due to the improved traffic flow, reduced delays, less queuing at intersections, and acceleration/deceleration reduction. However, this difference is expected to be less than 10 percent.

**Mitigation**

Since the preferred alternative is expected to result in long-term net energy savings when averaged over the design life of the project, measures to mitigate energy impacts are not proposed.

**Visual Quality**

As described in Section 4.2.14 – Visual Quality in the Draft EIS, the construction of the preferred alternative will create visual quality impacts. The preferred alternative will have an effect on the existing visual scene and resources for both travelers and neighbors. The improvements will require additional pavement and clearing of some natural areas. The construction of two interchanges along Highway 23/71 will also introduce overpass bridges and associated grades.

**Mitigation**

No mitigation is proposed for the described visual impacts. However, during the final design phase, a corridor landscaping plan will be prepared. Minimizing visual impacts from tree removal and/or creating irregular edges in the tree line will be considered.
Indirect Impacts

See Draft EIS Section 4.2.20 for a complete discussion of Indirect Impacts associated with the Highway 23/71 project. Potential short-term and long-term indirect impacts resulting from the preferred alternative include:

- Impact on local economy from relocating existing businesses;
- The effects of increased travel time for some area residents and business patrons, where several direct access closures on Highway 23/71 will require additional travel time to and from two interchanges along the highway;
- Potential for speculative development, especially at new interchanges near a relocated CR 90 and CSAH 25;
- Short-term economic benefit of increased private sector income during construction; and
- Farmland and agricultural business productivity.

Each of these potential indirect impacts is further discussed below.

Business Relocation and Impact on the Local Economy

The effect of displaced businesses affected by the preferred alternative will create a temporary disruption in the local economy. With the availability of properties within local commercial highway corridors, it is likely that the businesses will desire to stay in the Willmar area and relocate to other properties along the same highway or along other highway corridors in the area. Therefore, services and products offered by these businesses may be temporarily disrupted while relocation assistance and site development occurs; however, the effects of business disruption will be short-term. In addition, the potential for relocated businesses also provides opportunity for potential business expansion, depending on the relocation site’s ability to accommodate growth desires.

Increased Travel Time (Non-Emergency)

Travel time will increase for residents and businesses that will no longer have direct highway access. Residents and business patrons will be required to travel longer distances to the points of highway access (relocated CR 90 and CSAH 25) that will add time to their trip. However, additional travel time and expenses associated with access closures are expected to be offset by the benefits of improved safety over time provided by controlled access intersections. Improvements in safety are expected to lower the overall crash rate which will, in turn, lower associated costs for vehicle insurance claims, lawsuits, personal property damage, emergency service fees, hospitalization, and lost wages.

Speculative Development

Future land use in the project area is determined by many factors, including the availability of municipal services (sewer and water), environmental amenities, and economic conditions. Construction of a new or improved highway can create conditions that can aid in the change of development patterns. However, highway
construction by itself does not cause new development if there are not market forces that support new development and changes in land use. Furthermore, in order for potential land use changes to occur, the development plans have to be consistent with local land use and zoning regulations.

Although new development is expected within the quadrants of the planned interchange locations, the desire to occupy the site may precede the ability to extend orderly municipal services to these sites. This may result in longer utility lines until contiguous development can “catch up” to the properties desiring services. The desire to occupy these locations can also artificially raise land prices and may affect property values of undeveloped adjoining parcels.

*Short-Term Economic Benefits From Construction*

Short-term economic benefits from construction include the purchase of local goods and services to construct the proposed transportation improvements. This includes such items as purchase of supplies and construction materials, and payment of skilled labor over the course of one or more construction seasons. The sale of local goods and services to construction workers from outside the community is also a short-term economic benefit.

*Farmland and Agricultural Business Productivity*

The preferred alternative would convert farmlands to highway right-of-way and in areas adjacent to interchanges may create a higher demand for urban development. The timeframe of project construction and City/County zoning regulations will determine if, when and where future development may occur. The construction of CR 90 on a new alignment will impact the productivity of a large tract of continuous farmland.

*Mitigation*

In the context of the existing regulatory framework and the mitigation activities for project impacts, and with respect to simultaneous land use planning and local government regulatory activities, indirect impacts of the Highway 23/71 Project are expected to be minimal. Such potential indirect impacts may be avoided and/or minimized through land use controls and roadway access restrictions.

*Cumulative Potential Effects*

Direct and indirect impacts of the project alternatives, including the preferred alternative, were previously discussed in Section 4.2.21 of the Draft EIS. Cumulative impacts are not causally linked to the preferred alternative, but are the total effect of past, present, and reasonably foreseeable actions with similar effects in a broader geographic area. The purpose of a cumulative impacts analysis is to identify impacts that may be minimal when examined within the context of the proposed action, but that may accumulate and become more concerning in combination with a number of actions. Cumulative impacts are defined by the CEQ as the following:

**Cumulative Effects:** “Impacts on the environment that result from the incremental impact of the action when added to other past, present, and
reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." (40 CFR 158.7)

As documented in the environmental reviews and analysis, this project will result in direct impacts to the built environment (homes and businesses) and the natural environment (wetlands, vegetation, water quality, and farmland). Some induced development may occur as a result of the preferred alternative. The potential for highway-oriented businesses (convenience stores, gas stations, restaurants) have been accounted for at the new interchanges with Highway 23/71. Governmental agencies responsible for regulating land use through planning and zoning processes at the local government level can greatly assist in the protection and minimization of water quality, wetland, and farmland impacts from future developments in the surrounding areas. Specific BMPs and construction techniques should be used to avoid, minimize, and mitigate potential effects that are identified during the permitting and approval processes for individual projects.

Conclusion

Potential cumulative impacts exists in issue areas related to land consumption; land development, wetlands, water quality, farmlands, and vegetation/wildlife habitat. Potential impacts to these resources are typically considered through local and county comprehensive planning efforts, permitting regulations and environmental review processes of NEPA and MEPA. In addition to permitting processes that engage legislation protecting resources such as wetlands, many of these potential cumulative impacts can be avoided or minimized through the continued application and enforcement of land use planning, land development controls (zoning and subdivision ordinances), and roadway access restrictions. Furthermore, local and state resource agencies such as the MNDNR, MPCA, Board of Water and Soil Resources, Soil and Water Conservation District, and others can work with local jurisdictions to develop resource preservation plans and land use standards that focus on preserving natural and environmental resources. Local development controls could greatly assist in protecting or even enhancing sensitive resources in the study area, if local units of government are willing to implement protective actions and enforce strong land use regulations.

Therefore, in the context of the existing regulatory framework and the mitigation activities for project impacts, and with respect to simultaneous land use planning and local government regulatory activities and implementation of BMPs, the incremental impact on the built environment (homes and businesses) and the natural environment (wetlands, farmlands, water quality, etc.) from the Highway 23/71 Project along with the cumulative impacts from past, present, and reasonably foreseeable projects is not anticipated to result in substantial impacts to any one or combination of resources.

4.3 WHAT ARE THE CONSTRUCTION IMPACTS?

All applicable precautions will be taken to limit impacts connected with highway and interchange construction activities. Potential environmental effects associated with construction can include traffic congestion, traffic detours, economic (business access), noise, water quality and soil erosion, borrow and excess...
materials, utility disruption, and farmland impacts. The potential impacts along with applicable mitigation measures for each of these areas are discussed below.

**Traffic Congestion**

Construction of the project may take more than one construction season and is likely to cause traffic delays and make it more difficult to get to developments adjacent to the highway during construction. This may result in added congestion within the project area during construction. A staging plan will be developed during final design that will further assess potential traffic congestion impacts associated with construction. The staging plan will attempt to address the need for property access, while minimizing the total length of construction time.

**Traffic Detours**

A construction staging plan will be completed during the final design stage of the project, which will identify potential detours. This plan will attempt to minimize disruptions to traffic patterns while maximizing directness of detoured routes, which will minimize short-term impacts on emergency services (police, fire, and rescue) and transit services throughout the project area.

**Economic (Business Access)**

The proposed project is expected to generate both direct construction jobs and indirect jobs to support construction related activities. The exact number of jobs cannot be determined at this time. The Federal Highway Administration recently calculated that for every million dollars spent on highway and bridge construction, approximately 27 jobs could be supported throughout the economy. Therefore, the estimated $22 million construction cost could potentially support nearly 600 jobs throughout the economy.

The preferred alternative will prohibit direct access to properties along the corridor. However, alternative access is to be provided by secondary streets. Existing businesses within the project area may experience negative short-term impacts during construction due to traffic disturbances/detours. As part of the construction staging plan, efforts will be made to ensure that traffic movements and access to businesses are maintained.

**Construction Noise**

The construction activities associated with implementation of the proposed project will result in increased noise levels relative to existing conditions. Noise levels due to construction activities in the project area will vary depending on the types of equipment used, the location of the equipment, and the operating mode. During a typical work cycle, construction equipment may be idling, preparing to perform tasks, or operating under a full load. Equipment may be congregated in a specific location or spread out over a larger area. Some construction could potentially occur in close proximity to existing noise-sensitive land uses. Adverse impacts resulting from construction noise are expected to be localized and temporary. All construction equipment will be properly equipped to minimize potential construction noise impacts.
Table 22 shows peak noise levels monitored at 50 feet from various types of construction equipment. This equipment is primarily associated with site grading/site preparation, which is generally the roadway construction phase associated with the greatest noise levels.

Table 22 – Typical Construction Equipment Noise Levels at 50 feet

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

Source: US EPA and FHWA

Elevated noise levels are, to a degree, unavoidable for this type of project. Mn/DOT will require that construction equipment be properly muffled and in proper working order. While Mn/DOT and its contractor(s) are exempt from local noise ordinances, it is the practice to require contractor(s) to comply with applicable local noise restrictions and ordinances to the extent that is reasonable. Advanced notice will be provided to affected communities of any planned abnormally loud construction activities. It is anticipated that night construction may sometimes be required to minimize traffic impacts and to improve safety. However, construction will be limited to daytime hours as much as possible. Any proposed noise barriers will be constructed as early as construction staging allows.

Any associated high-impact equipment noise, such as pile driving, pavement sawing, or jack hammering, will be unavoidable with construction of the proposed project. Pile-driving noise is associated with bridge construction and sheet piling necessary for retaining wall construction. While pile-driving equipment results in the highest peak noise level, as shown in Table 22, it is limited in duration to the activities noted above (e.g., bridge construction). The use of pile drivers will be prohibited during nighttime hours.

Water Quality and Soil Erosion

The potential for soil erosion and impacts on water quality are greatest at the time a project requires the removal of vegetation and topsoil for initial clearing, grubbing, and grading activities. Areas adjacent to water resources (i.e. Hawk Creek, Point Lake) have the highest potential for adverse impacts. Erosion control measures as suggested by the MPCA will be installed to minimize potential soil erosion impacts from construction activities. These practices may include, but are not limited to, the following, sedimentation basins, silt control devices (silt fences, hay bales), slope drains, and rapid revegetation of exposed construction areas. As part of the final design of the preferred alternative an erosion control plan, also known as a Storm Water Pollution Prevention Plan (SWPP), will be prepared and submitted as part of the NPDES permit.
**Borrow or Excess Material**

The selection of borrow material for the construction of the proposed improvements will be the responsibility of the construction contractor and existing gravel/borrow sites, in some instances, are identified in the contract special provisions. However, due to the cost of hauling aggregate resources and the abundance of aggregate resources in the area, it is assumed that the potential area of effect would be within close proximity of the corridor. The haul distance could be shorter or longer because it is highly dependent upon the number of trucks being used by the contractor.

Mn/DOT has no authority over land use outside the state’s right-of-way. Such matters, including gravel mining, generally fall under the jurisdiction of local units of government as part of land use ordinances. The State of Minnesota has designated local units of government as the RGU for environmental review and analysis of gravel mining operations. Any new sites would be subject to environmental reviews under Minnesota Rule Chapter 4410.4300, Subp. 12 and will require an archaeological survey of the site. At the time of construction, Mn/DOT will be notifying the Kandiyohi County Planning and Zoning Department to inform them of the potential gravel needs for the proposed action. The extraction of gravel resources could affect sensitive environmental resources in the area. Kandiyohi County has existing land use regulations that ensure appropriate environmental reviews occur for any gravel mining requests.

The disposal of excess material will be conducted in accordance with Mn/DOT specifications, environmental regulations, and according to a project disposal plan that will be prepared by the Contractor and approved by Mn/DOT.

**Utility Disruption**

Construction activities may result in temporary impacts to local utilities. Coordination and cooperation with the local service providers has been and will continue to be maintained throughout the project development process.

**Farmland Impacts**

Within the study area, construction activities may temporarily disrupt farm operations and/or farm businesses such as planting, growing, and harvesting of crops. Temporary impacts could also result from loss of productivity of croplands directly adjacent to construction activities or loss of customers to a farm-related business during construction of the highway improvements.

Temporary farm-related impacts may include soil compaction from construction equipment, removal and replacement of drain tile, and the removal of crops and topsoil for staging areas and construction preparation. Clearly, some loss in yield will occur from soil compaction in these areas or from loss of drain tile efficiencies. Soil compaction impacts are expected to last no more than one to two years following completion of construction and any artificial drainage systems (tiling) will be replaced or restored to pre-construction effectiveness.
Relationship Between Local Short-Term Uses of Man’s Environment and the Maintenance and Enhancement of Long-Term Productivity

All highway projects require the investment or commitment of some portion of resources found in the existing environment. Short-term refers to the immediate consequences of the project whereas long-term relates to its direct or secondary effects on future generations.

Potential Adverse Use

Temporary Reduction of Energy and Material Resources
The materials consumed in the construction of the proposed improvements will be unavailable for other uses. These include the construction of other non-highway related facilities. The energy consumed in the construction, maintenance, and operation of the facility is slightly higher than the energy consumed by the No-Build Alternative (in the short-term).

Temporary Loss of Vegetation
In addition to permanent vegetation loss as a result of constructing two interchanges, construction activities will result in additional short-term losses of vegetation adjacent to the roadway improvements. Revegetation design will be coordinated with visual quality, erosion control, and shoreline and embankment stabilization components of the project to ensure minimal impacts as a result of temporary vegetation loss.

Temporary Loss of Wetlands
The preferred alternative will directly impact existing wetlands. Due to the scattered distribution of wetlands, the impact on wetlands cannot be completely avoided. See Final EIS Section 4.2 Wetlands for a discussion of avoidance and minimization efforts as well as compensatory mitigation opportunities associated with the preferred alternative.

Temporary Impacts on Water Resources
The preferred alternative has the potential to create temporary impacts on water resources due to the close proximity of Hawk Creek and wetlands. Every practical effort will be made to minimize impacts on water resources.

Short-Term Economic Impacts
The construction of the preferred alternative improvements will require the acquisition of property and will remove this land from the tax rolls resulting in some short-term loss of property tax revenues. This short-term loss is anticipated to be offset due to the increased value of land served by the improved highway. Also, the proposed improvements require a number of residential and business relocations. Depending on the availability and location of replacement housing and business sites, such acquisitions could affect the tax base for local units of government through a short-term loss in tax revenues. Short-term construction detours may require that typical business relationships be temporarily altered. This may include short-term changes in the conduct of business and trade activities until the highway improvements are fully integrated.
Inconveniences from Construction
Construction will cause minor traffic delays and short-term inconveniences for motorists in the area. Construction detours and higher levels of congestion may result due to construction activities.

Significant Capital Investment
Financial commitments to the project include land acquisition, relocations, and construction costs. These public dollars will not be available for other uses. In addition, the land converted to highway use represents a reduction in tax base. These costs are to be recovered through more efficient travel and reduced user costs and an increase in the overall tax base due to the improved accessibility and mobility within the project area and region.

Long-Term Gains in Productivity
Improved Mobility and Accessibility
Due to the construction of interchanges and removal of direct access, travel times along this segment of Highway 23/71 will be improved.

Reduction in Travel Time and Cost of Travel
A four-lane freeway section has the ability to accommodate high volumes of traffic. The presence of free flowing traffic will reduce motorist travel times and fuel consumption, which will reduce the overall cost of travel.

Economic Benefit
The economic advantage lies in the long-term efficiencies that an improved transportation system will provide. These efficiencies include travel time savings, increased safety, business expansion opportunities, and increased tourism. The preferred alternative has some degree of beneficial economic impacts. The travel time savings will be a benefit to trucking companies, shippers, salespeople, tourists, and to commuters going to and from work. The travel time saved by shippers and salespeople will result in reduced costs for businesses, making them more competitive in the marketplace.

Reduction of Crashes
The construction of a full access controlled freeway (interchanges) will improve safety for motorists using the highway and will reduce the severity of crashes (i.e., head-on and side-swipe collisions).

Improvements in Surface Water Drainage
Within the project study area, there are currently very few storm water management techniques being practiced. The proposed highway improvements will incorporate storm water treatment facilities that will collect and treat highway runoff prior to discharging to receiving water bodies.
Irreversible and Irretrievable Commitment of Resources

Land Consumption

The preferred alternative will require the acquisition of undeveloped and developed land for the purpose of constructing the highway improvements. Within the foreseeable future, this commitment of property to roadway use is considered irreversible and irretrievable as long as the facility continues to serve the public good. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land could be converted to another use. At present, there is no reason to believe such a conversion would ever be necessary or desirable.

Social and Cultural Resources

The displacement and relocation of residences, businesses, and other resources of the built environment (public and private) are considered to be irreversible and irretrievable. There are no known historic properties that fall within the proposed right-of-way of the preferred alternative.

Construction Materials

The project will result in the commitment of such materials as steel, cement, aggregate, and bituminous. These resources are largely irretrievable except for those items that have some salvage value and can be recycled. A cost/benefit analysis has been completed for each of the alternatives considered in the Draft EIS (see Section 3.4.4 of the DEIS). Part of the analysis considered costs of construction materials as well as the value of material that could be salvaged sometime in the future. Therefore, all construction materials needed for the proposed improvements are not considered to be fully irretrievable resources.

Financial Resources

The proposed highway improvements will require a considerable amount of federal and state financial commitment. Preliminary estimates for the cost of right-of-way and construction are approximately $25 million (2009 dollars). While these public funds are not directly retrievable, the investment will enhance the safety of the users of Highway 23/71, the cost of travel along the roadway, and the economic vitality of the region.

Natural Resources

The proposed improvements may require the commitment of natural resources including the loss of vegetation, wetland functions and values, and other wildlife habitat. The commitment of these resources may in part be irreversible and irretrievable. Avoidance and minimization measures will be incorporated into the final design of the preferred alternative. Mitigation measures will be employed in an attempt to counter all remaining impacts to natural resources.
5.0 WHAT PERMITS AND APPROVALS ARE REQUIRED FOR THE PROJECT?

It is anticipated that federal, state, and other local permits/approvals/concurrence may be required for the proposed action. The following permits/approvals/concurrence will likely be required for construction of the proposed action:

- Adequacy Determination from Mn/DOT
- Record of Decision from FHWA
- Section 404 Permit from the United States Army Corps of Engineers (USACE)
- Section 401 Water Quality Certification from Minnesota Pollution Control Agency (MPCA)
- National Pollutant Discharge Elimination System (NPDES) permit from the MPCA
- Noise exemption from the MPCA
- Minnesota Wetland Conservation Act (WCA) from Mn/DOT
- Municipal approval from the City of Willmar
- Public Waters Consultation with the Minnesota Department of Natural Resources (MNDNR)
- Section 106 Completion – State Historic Preservation Office (SHPO), Mn/DOT, and FHWA
6.0 WHO RECEIVED COPIES OF THE FINAL EIS?

6.1 FEDERAL AGENCIES

- U.S. Environmental Protection Agency
- U.S. Fish & Wildlife Service
- U.S. Army Corps of Engineers
- Natural Resources Conservation Service
- U.S. Department of Interior

6.2 STATE AGENCIES

- Environmental Quality Board
- Board of Water & Soil Resources
- Minnesota Department of Commerce
- Minnesota State Historic Preservation Office
- Minnesota Department of Natural Resources
- Legislative Reference Library
- Environmental Conservation Library
- Minnesota Department of Health
- Minnesota Department of Agriculture
- Minnesota Pollution Control Agency
- Minnesota Department of Transportation

6.3 REGIONAL AGENCIES

- Mid-Minnesota Regional Development Commission

6.4 LOCAL AGENCIES

- City of Willmar
- Kandiyohi County
- Dovre Township
- Green Lake Township
- Willmar Area Chamber of Commerce
- Willmar Public Library
- Kandiyohi County Board of Commissioners
7.0 WHAT TYPE OF PROJECT COORDINATION AND PUBLIC INVOLVEMENT HAS OCCURRED SINCE THE DRAFT EIS?

Mn/DOT is committed to public involvement/outreach at all levels in decision-making related to the project. Mn/DOT has engaged community organizations, area property owners, business owners, residents, and local, county, regional, and state agencies in the development of the project. See Draft EIS Section 8.0 for a description of activities that took place prior to its publication. Since publication of the Draft EIS, informational and coordination meetings have been held with representatives from local, state, and federal agencies with approval and/or permit authority to discuss the preliminary layout of the preferred alternative.

7.1 TECHNICAL ADVISORY COMMITTEE (TAC)

A TAC was formed in early 2007 to engage local agency officials in the development, review, and adjustment of project alternatives. The TAC brought staff representation from Kandiyohi County, the City of Willmar, and Dovre Township, and the Kandiyohi County Soil and Water Conservation Service. The TAC has met periodically during the EIS and preliminary design phases.

7.2 PROJECT ADVISORY COMMITTEE (PAC)

The PAC was formed to establish a communication link with the affected communities, organizations, and agencies. The committee represents a wide range of special interest groups to communicate their concerns to the PAC through their representative to ensure that their community values/interests were expressed. The PAC comprises representatives from State agencies, local governments, businesses, lake associations, and area property owners.

The PAC has met several times throughout the planning and preliminary design phase of the project. Although the PAC is an advisory committee, their input has been an important influence on the direction of the Highway 23/71 Project.

7.3 PARTICIPATING AGENCIES

Mn/DOT has regularly involved resource and regulatory agencies in the project development process. Participating agencies were assembled in 2006 during the scoping phase of the project. These agencies, as specified by the 2005 Federal transportation legislation (SAFETEA-LU), have been given a role by the Federal government to participate in the development of the project’s Purpose and Need and alternatives, presentation of technical methodology, issue identification and resolution, and review and recommendation processes in the identification of a preferred alternative. To date, three formal participating agency meetings have been held to discuss the project. Representatives from the FHWA, Environmental Protection Agency (EPA), U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service, Minnesota Department of Transportation, Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, Kandiyohi County, the City of Willmar, and Dovre Township comprise the Highway 23/71 EIS Participating Agencies.
7.4 **NEIGHBORHOOD SUBGROUPS**

Due to the anticipated complexity and range of issues associated with the proposed improvements, several neighborhood subgroups became active in the proposed project. These subgroups emerged during the Scoping process and were focused more specifically on the main project issues that have been identified by Mn/DOT and the PAC. The purpose of the subgroups was to gather public input on the subgroups specific issues and to distribute updates on the preliminary design and environmental review processes.

Neighborhood Subgroups that have met to date on the project include the following:

- Eagle Lake Association
- North Willmar Chamber Businesses
- Point Lake Drive/26th Avenue Northeast
- Skataas Lake / 48th Avenue NE
- 66th Street NE

7.5 **PUBLIC OPEN HOUSES**

In addition to the neighborhood meetings discussed above, Mn/DOT has hosted open house meetings/public hearings at key points in the project development process. An open house meeting was held for the Scoping Document/Draft Scoping Decision on June 17, 2006. The purpose of the meeting was to inform individuals of the upcoming EIS and design efforts, to gather information from the public regarding the full range of alternatives, and to encourage them to get involved and stay involved in this important transportation project. A second open house was held on June 27, 2007, to provide additional details on the Draft EIS alternatives and to provide an update on the alternatives screening/evaluation process, and preliminary environmental review findings. A Draft EIS open house/public hearing was held on May 20, 2008. The public hearing included a presentation on the information contained in the Draft EIS as well as requested written and/or verbal public input and comments.

7.6 **PROJECT NEWSLETTERS**

A series of informational newsletters and mailings have been prepared and distributed to property owners and business owners in the project area with the intent of providing up-to-date project related information.

7.7 **PROJECT WEB PAGE**

An informational project web page has been established on the World Wide Web at (http://projects.dot.state.mn.us/seh/23_71/). The site provides an additional means of distributing information and gathering input with an e-mail reply feature. The site is periodically updated to reflect project developments, planning/design changes, and to address new issues.
8.0 RESPONSE TO COMMENTS ON THE DRAFT EIS

The following section provides a response to public and agency comments received during the comment period for the Highway 23/71 Draft EIS. Public comments have been summarized by topic.

8.1 OPPORTUNITIES FOR PUBLIC COMMENT AND GUIDELINES FOR RESPONDING TO COMMENTS

The Draft EIS for the Highway 23/71 Project was distributed in April 2008 to agencies and organizations on the official distribution list, as well as additional agencies/organizations that had either requested a copy of the document, and/or that could be affected by the proposed project. The comment period for the Draft EIS officially closed on June 6, 2008.

A public hearing and open house to receive comments on the proposed project and Draft EIS was held as follows:

Tuesday, May 20, 2008, 5:00 p.m. to 7:00 p.m.
Kandiyohi County Health and Human Services Building, Multi-Purpose Room
2200 23rd Street NE
Willmar, MN 56201

At the public hearing, attendees were invited to provide comments through one of two ways: written comments and oral statements.

- **Written Statements:** Attendees were invited to submit written comments on cards provided at the open house or in letter form. Comments could also be submitted via e-mail.

- **Oral Statements:** Statements were recorded by a certified court reporter during the public hearing.

A total of 33 comments were received from private citizens, business representatives, interest groups, agencies, and other government entities during the comment period. No oral testimonies were given at the hearing. All written comments are considered part of the Public Hearing Record for the Draft EIS.

Consistent with state and federal environmental review rules, substantive comments are responded to in this Final EIS. Written responses have been provided for comments pertaining to analysis conducted for and documented in the Draft EIS. Specifically, responses have been prepared for statements noting incorrect or unclear information or content requirements. Comments agreeing with the Draft EIS/project information, general opinions, statements of fact, or statements of preference were not formally responded to. Written comments are summarized and responded to in Section 8.2. Copies of all government, agency, and organized interest group letters are included and responded to in Section 8.3 of this Final EIS.
8.2 SUMMARY AND RESPONSE TO ORAL TESTIMONY AND WRITTEN PUBLIC COMMENTS

Response to Comments Regarding Right-of-Way Acquisition/Property Impacts (8 comments)

1) Comments regarding property acquisition included concern over the right-of-way process, property values, property owners against acquisition, and general concern regarding the acquisition of residences and businesses.

   Response: Where possible, the preferred alternative has been modified to reduce right-of-way impacts. The properties that have been identified for acquisition are either directly impacted by the improvements or are parcels where reasonable access cannot be maintained. Right-of-way acquisition will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and 49 CFR part 24. See Final EIS Section 4.1 Right-of-Way and Relocation. Persons interested in obtaining additional information can contact the Mn/DOT District 8.

2) One business representative located near the existing intersection of Highway 23/71 and 66th Avenue NE requested that the existing access remain open to ensure the economic viability of the business (a citizen petition was included with the submitted comment letter).

   Response: The existing at-grade access point to Highway 23/71 at 66th Avenue NE will be closed as part of the proposed freeway design. Traffic currently using this intersection will be directed to the new grade-separated interchange at CSAH 25. Access to the business will be maintained via a new frontage road connection between CR 90 and 24th Avenue on the east side of Highway 23/71.

Response to Comments Regarding Potential Noise Impacts (1 comment)

1) A respondent stated the project may further increase the existing noise problem along Highway 23/71 and asked what measures are being proposed to abate possible increases in noise levels within the study area.

   Response: The noise analysis indicated that future noise levels at many receptors exceeded both the Federal Noise Abatement Criteria and the State Noise Standards under the build alternative. Further noise analysis, including noise abatement feasibility, has been performed for the preferred alternative. For additional information, see Final EIS Section 4.2 Noise.

Response to Comments Regarding Road Design and Access (10 comments)

1) Several respondents indicated that a partial closure (right-in/right-out intersection, ¾ intersection) would be preferred over a full closure at the existing intersection of Highway 23/71 and 66th Avenue NE.

   Response: The existing at-grade access point to Highway 23/71 at 66th Avenue NE will be closed as part of the proposed freeway design. The preliminary design of the preferred alternative includes grade separated...
interchanges at both CSAH 25 and relocated CR 90. Short segments of
frontage/backage roads on both sides of the highway will be constructed to
connect the local street system to the interchanges and to provide access to
existing developments.

2) One commenter stated their preference for North Access Connection
Alternative N4 and asked whether a median barrier could be used to
minimize impacts to Point Lake.

Response: Following an extensive technical review and agency solicitation
process, North Access Connection Alternative N2 was identified as the
preferred design option for reestablishing access to developments along the
north side of Point Lake. For further information, see Final EIS Section 3.1.

3) Several respondents recommended the extension of several frontage roads
from what was identified for the build alternatives in the Draft EIS.

Response: The preliminary design of the preferred alternative includes short
segments of frontage/backage roads on both sides of the highway to connect
the local street system to the interchanges and to provide access to existing
developments. No additional frontage/backage road construction is being
proposed as part of the preferred alternative. Additional expansion of the
frontage/backage road system would be the responsibility of others and
would be dependent upon future development in the project area.

4) One commenter inquired whether an off-ramp could be provided from
Highway 23/71 to the Sunray Convenience Store in conjunction with the
planned interchange locations.

Response: As part of the preferred alternative, grade-separated interchanges
have been identified at CR 90 and CSAH 25. These access locations were
identified because they provide reasonable access to/from the regional
system and to/from the local transportation network. An off-ramp to the
Sunray Convenience Store would be inconsistent with the access spacing
requirements of the proposed freeway design. The construction of
frontage/backage roads is necessary in several locations to provide access to
private property and/or to re-establish local roadway connections. Access to
the business will be maintained via the frontage/backage road system.

Response to Comments Regarding Intersection Traffic Control (4 comments)

1) Several respondents recommended that traffic signals be installed at existing
intersection locations along the Highway 23/71 corridor.

Response: The long-term plan for the Highway 23/71 corridor provides for a
freeway condition, which includes grade-separated intersections, construction
of local city/township/county road connections and frontage road/backage
roads, and uncontrolled intersection access closures. The Final EIS is being
completed for the implementation of the long-range plan.

2) One commenter recommended the use of roundabouts at the ramp terminal
intersections for the preferred alternative.
Response: Since the publication of the Draft EIS, an Intersection Control Evaluation (ICE) has been conducted for the preliminary design of the preferred alternative. The ICE considers future traffic operations at interchange ramp terminal intersections and assists in determining the appropriate traffic control options for each location. See Final EIS Section 3.2 Traffic Analysis for results of the ICE.

Response to Comments Regarding the Posted Speed Limits (3 comments)

1) Several respondents recommended that a lower speed limit be implemented along the Highway 23/71 corridor.

Response: The preferred alternative consists of a high-speed limited access (freeway section) route which is consistent with the purpose and need objectives of the project. Speed limit postings will be determined for the preferred alternative following construction of the improvements to determine actual driver speeds. In general, speed limits are anticipated to be similar to existing conditions (65 mph) after construction.

Response to Comments Regarding Emergency Response Time and Route Access (1 comment)

1) One commenter expressed concern over the potential increase in emergency service response time as a result of the access closures on Highway 23/71.

Response: A travel time analysis for emergency vehicle response (police, fire, rescue) was performed for all build alternatives in the Draft EIS, including the preferred alternative, using a sample of modeled travel locations through the highway corridor (see Draft EIS Section 3.4 Emergency Service Responder Travel Time Analysis). The preferred alternative will improve future safety and mobility conditions by removing direct highway access which will result in increase travel time for emergency service vehicles. The travel time increases are assumed to represent the worst case scenarios for any parcel in the area of the site selected, and therefore, other sites affected by the access modifications will have lower delays (in seconds/minutes). A construction staging plan will be completed during the final design stage of the project, which will identify potential detours. The staging plan will be shared with emergency service providers to minimize short-term impacts.

Response to Comments Regarding Traffic Signage (2 comments)

1) There were two respondents that commented on how confusing the existing traffic signage is for southbound motorists approaching the Highway 23/71 bypass around Willmar and that it should be corrected.

Response: Mn/DOT acknowledges there may be a need to improve the traffic signage in the area just south of the project limits. Signing will be installed, in accordance with the Minnesota Manual of Uniform Traffic Control Devices Guidelines, to provide direction to motorists. The signage will continue to be monitored as appropriate upon construction of the preferred alternative.
Response to Comments Regarding Pedestrian/Bicycle Facilities (2 comments)

1) There were two respondents that expressed a desire for safer pedestrian and bicyclist crossings of Highway 23/71, particularly to provide better connectivity to the Glacial Lakes Trail and Willmar High School, which are both located east of the highway corridor.

Response: See Final EIS Section 4.1 Pedestrian and Bicycle Accommodations for a discussion of pedestrian and bicyclist accommodations associated with the preferred alternative. Both the CSAH 25 and relocated CR 90 overpass bridges have been designed to accommodate a 10-foot pedestrian/bicycle trail along the south side of each bridge. The trail will be extended to the ramp terminal intersections on both sides of the bridge. The pedestrian facilities on the bridge crossings over Highway 23/71 will provide for safe crossing of the highway. Furthermore, adequate right-of-way will be available for development of a local trail system along CSAH 25 and/or the relocated CR 90 alignment. Mn/DOT will continue to coordinate with local units of government with regards to adjoining trail needs.

Response to Comments Regarding Landscaping and Aesthetics (1 comment)

1) One commenter suggested that landscaping and other aesthetic treatments be incorporated into the design of the Highway 23/71 corridor.

Response: During the final design phase, a corridor landscaping plan for the disturbed areas will be prepared and efforts will be considered that minimize visual impacts from tree removal.

Response to Comments Regarding Water Quality (2 comments)

1) There were two respondents that emphasized the importance of preserving/improving the water quality in the surrounding lakes during and after construction.

Response: See Final EIS Section 4.2 Water Quality and Surface Water Drainage for a discussion of the water quality strategies that have been proposed to ensure compliance with state and federal permit requirements.

8.3 AGENCY COMMENTS AND RESPONSES

Copies of comments submitted by the governmental agencies listed below are included on the following pages with “footnote” responses in the margin.

- U.S. Department of the Interior
- U.S. Environmental Protection Agency
- Minnesota Department of Agriculture
- Minnesota Department of Natural Resources
- Minnesota Pollution Control Agency
- Minnesota Board of Water and Soil Resources
June 3, 2008

Ms. Cheryl Martin
Environmental Engineer
Federal Highway Administration
Minnesota Division - Golden Valley
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101-2004

Dear Ms. Martin:

The U.S. Department of the Interior (Department) has reviewed the April 2008 Draft Environmental Impact Statement (DEIS) for the proposed improvements to Trunk Highway 23 and U.S. Highway 71 near Willmar, Kandiyohi County, Minnesota. The Department offers the following comments and recommendations for your consideration.

GENERAL COMMENTS

The proposed project is designed to address deficiencies in safety and carrying capacity for 3.5 miles of the TH-23 and US Highway 71 access and interchange located north of Willmar, Minnesota. There are a number of alternatives discussed in the DEIS, but most have similar potential for adverse impacts to wetlands, fish passage, and upland habitats because they are based on similar alignments.

ENDANGERED SPECIES ACT COMMENTS

The Minnesota Department of Transportation (Mn/DOT) initiated consultation under section 7 of the Endangered Species Act of 1973, as amended, in a letter to the U.S. Fish and Wildlife Service (FWS), dated May 15, 2007. At that time, the bald eagle (Haliaeetus leucocephalus) was listed as threatened under the ESA. Although no nests were identified in the project area at the time of review, the Mn/DOT made a determination of may affect, not likely to adversely affect due to the potential for eagles to establish a nest(s) prior to project construction in 2015. It was agreed that the Mn/DOT would reinitiate consultation when the project was closer to actual construction.

On August 8, 2007, the bald eagle was removed from the federal list of threatened and endangered species. Thus, the bald eagle is no longer protected under the federal ESA, and
Response 1: Mn/DOT will adhere to the Bald Eagle Management Guidelines and Conservation Measures in the event an eagle nest is discovered prior to project construction.
Dear Ms. Marin:

In accordance with United States Environmental Protection Agency (US EPA) responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, we have reviewed the Draft Environmental Impact Statement (DEIS) for the Trunk Highway 23 (TH 23) and U.S. Highway 71 (US 71) Project in Kandiyohi County, Minnesota.

The Minnesota Department of Transportation (MnDOT) proposes to reconstruct approximately 3.5 miles of TH 23 where it is joined with US 71 heading north from the City of Willmar, MN. The proposal would: 1) retain the same general alignment while converting the roadway to a freeway; 2) eliminate the nine at-grade intersections and replace them with grade separated interchanges/configurations; 3) add frontage road modifications/extensions for connections to the local road grid; and 4) provide access to a state boat launch that will be isolated by the at-grade crossings. These changes anticipate improving safety along this section of a regionally significant corridor, improving roadway functionality and thus mobility through the corridor, promoting local and regional economic growth, and serving future projected land use changes. Section elementary parts of the project will be constructed in the near future, while the major project construction phase is scheduled to occur from 2013 through 2025 or beyond.

US EPA has participated in earlier scoping initiatives for this project, which began in July, 2006. We commented on a pre-publication DEIS on December 20, 2007. Alternatives presented in this DEIS include a no-action "baseline," four main roadway build alternatives, and four separately considered boat launch North Access Connector alternatives. These changes will impact area residents, commercial interests, a state park, other stakeholders, and natural resources. A preferred alternative is not identified in this DEIS.
Response 1: Please see responses 2 through 10.

Response 2: See Final EIS Section 4.2 Wetlands for a discussion of wetland avoidance and minimization efforts and compensatory mitigation opportunities associated with the preferred alternative. A more detailed discussion of indirect and cumulative impacts to these wetland resources is provided in the Indirect Impacts and Cumulative Potential Effects section of this Final EIS.

Response 3: A more detailed consideration of storm water runoff mitigation has been included in the preliminary design of the preferred alternative (see Final EIS Section 4.2 Water Quality and Surface Water Drainage).

Response 4: The purpose of the Highway 23/71 Improvement Project is in part to provide the transportation infrastructure needed to support a long-range community development plan. Potential impacts to sensitive natural resources in the study area can be avoided or minimized through the continued application and enforcement of land use planning, land development controls (zoning and subdivision ordinances), and roadway access restrictions. Since the publication of the Draft EIS, a more
detailed analysis of water quality and surface water drainage impacts has been conducted (see Final EIS Section 4.2 Water Quality and Surface Water Drainage). The combination of using grassed swales and storm water detention ponds meets and exceeds the runoff treatment requirements as outlined in the MPCA NPDES Construction Stormwater Permit.

Response 5: The preferred alternative will require the relocation of Hawk Creek to accommodate the construction of a interchange at the relocated County Road 90. Fish passage will be perpetuated along Hawk Creek. Ongoing dialogue with the Mn/DNR Fisheries Biologist has occurred and will continue as part of the final design. The impacts associated with the relocation of Hawk Creek is further discussed in the Water Quality and Surface Water Drainage, Fish and Wildlife, and Floodplains and Water Body Modification sections of the Final EIS (see Section 4.2).
Response 6: The preferred alternative may require the abandonment of private wells as a result of right-of-way acquisitions and relocations. The abandonment of any wells will be conducted in accordance with Minnesota Department of Health requirements. The purpose of the Highway 23/71 Improvement Project is in part to provide the transportation infrastructure needed to support a long-range community development plan. It is expected that municipal services (sewer and water) will be extended as portions of the study area are annexed by the City of Willmar.

Response 7: Following an extensive technical review and agency solicitation process, North Access Connection Alternative N2 was identified as the preferred design option for reestablishing access to developments along the north side of Point Lake. For further information, see Final EIS Section 3.1 – Preferred Alternative.

Response 8: Since the publication of the Draft EIS and identification of the preferred alternative, a more detailed analysis of noise impacts was completed (see Final EIS Section 4.2 Noise). The objective of this analysis was to further identify potential noise impacts using a detailed model that considers a specific alignment, locations of receptors, and topography of the area. The results of the
modeling were then used to determine the acoustic effectiveness, cost reasonableness, and feasibility of using noise walls to provide mitigation for the project’s impacts on receptors.

**Response 9:** The Kandiyohi County Public Works Department is currently in the process of reconstructing CSAH 41 to State Aid Standards from the south junction of CSAH 24 near Foot Lake to CSAH 25 near King Lake.
Response 10: The State of Minnesota has two Wildlife Management Areas (WMAs) within the area. The Eagle WMA encompasses 49 acres and is located east of County Road 9 and north of 45th Avenue NE. The Willmar WMA encompasses 127 acres and is located to the east and south of the junction of Highways 23/71 and CR 9 on the north side of Willmar. There would be no direct impact (property acquisition) to the Eagle WMA or Willmar WMA under the preferred alternative. Indirect impacts may include changes in travel patterns or access to these sites that would result under the construction of a controlled access freeway design.
SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION

Environmental Impact of the Action

1D-Task of Objectives
The EPA reviewer has not identified any potential environmental impacts requiring substantive changes to the proposal. The reviewer may have declined opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

2C-Environmental Concerns
The EPA reviewer has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

2D-Environmental Objectives
The EPA reviewer has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of one of the other project alternatives (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

3E-Environmental Unsuitability
The EPA reviewer has identified adverse environmental impacts that are of sufficient magnitude that they are unsuitable from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsuitability impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate
The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information
The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are outside the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussion are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA, and/or Section 309 review, and should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

Compost-Based Stormwater
Best Management Practices

Compost-based stormwater best management practices (BMPS) meet two important EPA initiatives: the Resource Conservation Challenge (RCC) and the National Pollutant Discharge Elimination System (NPDES) stormwater regulations. EPA implemented the RCC to increase waste recycling and reuse in the United States. One key EPA goal that supports the RCC is increasing recycling of municipal solid waste (MSW) to 35 percent by 2020. Recycling of organic materials, such as green yard waste and food waste, is an important component in reaching this goal. As more commercial composters began entering the market to recycle MSW, EPA recognized the need to develop new markets for compost.

NPDES regulations require that municipal separate storm sewer systems (MS4s) control the quantity and quality of stormwater reaching nearby water bodies. Control of stormwater quality is particularly important at construction sites, where there is often a large disturbed area that can contribute sediment and other contaminants to stormwater. Compost-based BMPS, such as compost blankets, compost filter strips, and compost filter socks, provide effective treatment of stormwater when used in construction and post-construction stormwater BMPS.

Benefits of Compost-Based BMPS

- Compost retains a large volume of water, thus helping to prevent/reduce erosion, reduce runoff, and establish vegetation.
- Compost improves downstream water quality by removing pollutants such as heavy metals, nitrogen, phosphorus, oil and grease, fuels, herbicides, and pesticides.
- Nutrients and hydrocarbons adsorbed and/or trapped by compost are decomposed by naturally occurring microorganisms.
- Compost improves soil structure and nutrient content, which reduces the need for chemical fertilizers.
- Compost-based BMPS remove as much or more sediment from stormwater as traditional perimeter controls, such as wall filters, while allowing a larger volume of clear water to pass through.

Brief descriptions of the compost-based BMPS are provided on the back of this page. For more information visit http://cfpub.epa.gov/nepis/StormwaterManual/ and the fact sheets for these construction BMPS.
Response 1: A controlled access highway will result in fewer access points than currently exist making farming operations more difficult in some areas. See Final EIS Section 4.2 Prime and Statewide Important Farmland for a discussion of indirect impacts to farming operations.

Response 2: Without compromising the design of the preferred alternative, all practical measures to minimize harm to prime, unique, and/or statewide important farmlands and overall farm operations have been applied to the preliminary design. Furthermore, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, will be followed as it relates to farmland acquisition.
Response 3: There are no livestock operations located adjacent to the project corridor.

Response 4: A more detailed consideration of drainage systems has been included in the preliminary design of the preferred alternative. During the final design and right-of-way acquisition phase of the project, Mn/DOT will discuss potential farm drainage impacts with individual agricultural landowners. Drain tile information may be requested and utilized in the final design of the preferred alternative to protect the integrity of each field tile drainage system as much as possible, while still allowing for the proposed highway construction. Special attention will also be given to construction activities to ensure soils characteristics are not compromised through soil compaction. Any acquisition of farmland will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act.
Response 1: The preliminary water quality/surface water drainage improvements have been designed as part of the preferred alternative to collect and treat runoff prior to discharging to receiving water resources (see Final EIS Section 4.2 Water Quality and Surface Water Drainage). A detailed drainage plan will be prepared in coordination with the MnDNR and other resource agencies during the final design. Because the proposed action is not yet programmed and may not be constructed for several years, it is recommended that the proposed improvements be reevaluated and consultation reinitiated within three years prior to the start of construction.
Mr. L. Flavin
June 6, 2008
Page 2

New London that was completed in 2004. The technical committee for that project effectively addressed project related stormwater and surface water quality issues. Present pollutant or sediment levels are near threshold levels for the receiving waters lakes of the project area. The project and secondary developments and landscape alterations associated to the project could push the cumulative stormwater impacts to a level that would further degrade these freshwater systems to a point that would cause the systems to be classified as impaired.

Thank you for the opportunity to provide comments on the Draft EIS and for your consideration of these comments. Please feel free to contact me with any questions or comments.

Sincerely yours,

Ronald Wieland, Senior Planner (651) 259-5157
Environmental Review Unit
Division of Ecological Resources

cc: John Schulte, Todd Klonter, Bruce Gilberston, Laleye Dohike, Skip Wright, Steve Culvin,
Lisa Joyal, Randell Donovan

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D/DNR_Comment/Highway_23-71_Draft_EIS.doc
Response 1: A detailed description of the project purpose and need objectives (improve safety, maintain performance, and address future land use) was presented in the Highway 23/71 Draft EIS – Section 2.5, which has been incorporated by reference into this Final EIS.

Response 2: Based on the comments and supporting analysis in the Draft EIS, Alternative 2B – Interchange at Relocated CR 90 (south alignment) and CSAH 25 Interchange, was identified as the preferred alternative. Under dismissed Alternatives 1A and 1B, the reconstruction of CSAH 25 and its relocation to an alternative full access location is due to the roadway’s importance as a minor arterial in the regional roadway system.

Response 3: Mn/DOT is committed to reestablishing effective field tile drainage systems. Potential impacts to individual properties will be determined on a case-by-case basis as part of the final design and right-of-way acquisition process. A more detailed consideration of farm drainage systems will be included in final design of the preferred alternative.
Response 4: See Final EIS Section 4.2 Wetlands for a discussion of compensatory mitigation opportunities associated with the preferred alternative. Replacement of lost wetlands will be in accordance with WCA, Section 404, and MNDNR, including with the St. Paul District Compensatory Mitigation Policy for Minnesota (USACE, 2009). Replacement will occur prior to or concurrent with the wetland impacts, and will include all efforts to provide “in-kind”, “in place” and “in-advance” wetland replacement. Furthermore, efforts will be made to replace all lost functions and values. This may require the use of wetland banking.

Response 5: An 11-mile segment of Highway 23 was reconstructed and expanded to a four-lane expressway through the Spicer and New London Area. In 2005, this segment was open to traffic. The project purpose and need objectives note that Highway 23 through Kandiyohi County is identified as a “medium priority” Interregional Corridor (IRC) route. To achieve the state’s goal of an efficient and reliable transportation route, plans and projects for improving safety, capacity, and access management along Highway 23 need to be developed and implemented. These actions will allow Mn/DOT to work towards preserving and protecting the statewide system of IRC highways in an effort to realize performance targets.

Response 6: The cost estimates for the benefit-cost analysis are based upon documented construction costs which include erosion and sediment control measures.

Response 7: Correct. The Draft EIS text should read, “Ditch bottoms must be stabilized within 200 feet of any Water of the State within 24 hours.”
Response 8: The permits and approvals that will likely be required for construction of the proposed action are described in Final EIS Section 5.0.

Response 9: The Draft EIS text should read, “To identify safety deficiencies along the Highway 23/71 corridor, a five-year review of the crash history (January 1, 2000 to December 31, 2005) was conducted.”
Response 1: A Combined Wetland Permit Application and Replacement Plan will be prepared and submitted for the preferred alternative prior to construction. Because the proposed action is not yet programmed and may not be constructed for several years, it is recommended that the proposed improvements be reevaluated and consultation reinitiated within three years prior to the start of construction.
### 9.0 PREPARERS

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<tr>
<th>Agency/Organization and Name</th>
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<td>Cheryl Martin</td>
<td>Review of Final EIS; Assure Compliance with Federal Regulations Including SAFETEA-LU</td>
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<td><strong>Minnesota Department of Transportation - District 8: Willmar</strong></td>
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<tr>
<td>Lowell Flaten</td>
<td>Mn/DOT District 8 Project Manager</td>
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<tr>
<td>Jarrett Hubbard</td>
<td>Review of Final EIS, Special Studies, Technical Memoranda</td>
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<td><strong>Minnesota Department of Transportation - Central Office</strong></td>
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<tr>
<td>Jason Alcott</td>
<td>Final EIS review; Assure Compliance with Mn/DOT Guidance/Procedures; Section 7 (Federal Threatened &amp; Endangered Species)</td>
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<tr>
<td>Kristen Zschomler</td>
<td>Historical and Cultural Resources; Assure Compliance with Section 106 Regulations</td>
</tr>
<tr>
<td>Karlene French</td>
<td>Contaminated Properties</td>
</tr>
<tr>
<td><strong>Short Elliott Hendrickson (SEH) Inc.</strong></td>
<td></td>
</tr>
<tr>
<td>Mike Kotila</td>
<td>Consultant Project Manager</td>
</tr>
<tr>
<td>Bob Rogers</td>
<td>Final EIS Coordination and Preparation</td>
</tr>
<tr>
<td>Sam Turrentine</td>
<td>Final EIS Preparation</td>
</tr>
<tr>
<td>Jim Hall</td>
<td>Preliminary Geometric Layout</td>
</tr>
<tr>
<td>Deric Deuschle</td>
<td>Wetlands, Vegetation, Farmland</td>
</tr>
<tr>
<td>Jeremy Walgrave</td>
<td>Hydraulic Survey, Floodplains, Water Quality, Surface Drainage, Geology/Groundwater/Aquifers</td>
</tr>
<tr>
<td>Erik Tomlinson</td>
<td>Noise Analysis</td>
</tr>
<tr>
<td>Michael Steuernagel</td>
<td>GIS: Alignment Impact Assessment, Graphics</td>
</tr>
</tbody>
</table>
Appendix A

Preliminary Layout for the Preferred Alternative
FIGURE A1

MINNESOTA DEPARTMENT OF TRANSPORTATION

PREFERRED ALTERNATIVE

Wetland # 07-12
Type 2
Area = Approx. 3 acres

Wetland # 07-23
Type 2
Area = 0.26 acres

Wetland # 07-41
Type 2
Area = 0.26 acres

Wetland # 07-30
Type 3
Area = 0.15 acres
Impacted = 0.06 acres

Wetland # 07-7
Type 2
Area = 0.62 acres

Wetland # 07-6
Type 3
Area = 0.16 acres
Impacted = 0.16 acres

Wetland # 07-5
Type 2
Area = 0.04 acres

Wetland # 07-4
Type 3
Area = Approx. 5 acres

Wetland # 07-7
Type 3
Area = 0.62 acres

Wetland # 07-3
Type 1
Area = 0.05 acres
Impacted = 0.03 acres

Wetland # 07-2
Type 2
Area = Approx. 3 acres

Wetland # 07-8
Type 3
Area = 0.39 acres
Impacted = 0.39 acres

Wetland # 07-9
Type 3
Area = 0.64 acres
Impacted = 0.17 acres

Wetland # 07-10
Type 3
Area = 1.15 acres
Impacted = 0.66 acres

Wetland # 07-11
Type 3
Area = 0.36 acres

Wetland # 07-13
Type 3
Area = 0.06 acres

Wetland # 07-14
Type 2
Area = 5.26 acres

Wetland # 07-15
Type 3
Area = Appr. 7 acres

LEGEND

Proposed Right of Way
Existing Right of Way
Proposed Limits of Construction
Private Privileges
Analyzed Noise Wall
Wetland Boundary
Wetland Impact
Ditch Boundary
Ditch Impact
Analyzed Noise Wall

DATE: 5/13/2010

MINNESOTA DEPARTMENT OF TRANSPORTATION
T.H. 23 / U.S. T.H. 71
KANDYHO COUNTY - C.R. 40 TO C.R. 19

PREFERRED ALTERNATIVE

FIGURE A1
Appendix B
Mn/DOT Cultural Resource Letter
July 19, 2007

Mr. Lowell Flaten
Pre-Design Engineer
District 8
MS 080

Re: S.P. 3412-70 (TH 71 Interchanges, Willmar, Kandiyohi County)
   T 119, R 35W, S 1, 2
   T 120, R 34W, S 18, 19, 30
   T 120, R35W, S 13, 23, 24, 25, 26, 35, 36
   OSA Chapter 138 License 07-024

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).

TH 71 is presently a divided, four-lane expressway. It is an Interregional Corridor and is at risk for signal proliferation. Currently a Draft EIS is being prepared which will investigate several alternatives including the construction of one or two interchanges on this 3.5 mile section of TH 71. Several accesses on to TH 71 will be closed creating the need for frontage roads and possibly the realignment of a county road and several local roads. This may create the need to realign several hundred feet of a stream which connects two area lakes. At least one bridge will be constructed. There will be a considerable amount of grading and the addition of a significant area of impervious surface.

The FHWA consulted with Native American groups who have expressed an interest in reviewing projects in this part of the state. The groups contacted consisted of the Santee Sioux Nation, the Shakopee Mdewakanton Sioux Community, the Turtle Mountain Band of Chippewa, the Upper Sioux Community, the Flandreau Santee Sioux Tribe, the Lower Sioux Indian Community, the Prairie Island Indian Community, the Sisseton-Wahpeton Oyate, the Spirit Lake Dakota Sioux, the Northern Cheyenne Tribe, and the Fort Peck Tribes. The Flandreau Santee Sioux Tribe responded that they had no objection to the project. The other tribal groups did not respond.

The area of potential effects (APE) for archaeology is the existing and proposed right of way boundaries associated with the planned diamond interchanges and local roadway construction as indicated on plans provided by District 8 in February 2007. Portions of the APE had moderate to high potential for containing archaeological sites, so Mn/DOT CRU hired Two Pines Resource Group, LLC to conduct an archaeological survey (please see enclosed report: 2 copies). The Phase I survey work was completed in May 2007 and two archaeological sites were identified. Site 21KH0138 (Hawkinson) is an isolated tertiary flake of Swan River chert within a cultivated field that has been plowed to subsoil. Site 21KH0139 (Tornquist) is an artifact scatter of chipped stone debris, utilized flakes, and fire-cracked rock within a cultivated field. As neither of these sites

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produced diagnostic cultural materials, or retains sufficient archaeological integrity to yield information important to our understanding of the past, they were recommended as not eligible for listing on the National Register. We agree with this recommendation. There were three parcels that Two Pines was not able to get landowner permission to survey. Two Pines recommends that archaeological survey work be conducted on these properties if they end up in the final preferred alternative alignment. The parcels include: 1) the westernmost portion of Alternative N1 which is located on a narrow upland between Point Lake and South Long Lake; 2) revisions to the alignment of 24th Street that encompass a cultivated rise on the west short of Eagle Lake and 3) the area located immediately adjacent to the Hawk Creek waterway at the southwest corner of Eagle Lake. We agree with this recommendation that survey work be conduct in these areas if they are selected.

Mn/DOT CRU also hired Mead and Hunt to conduct a Phase I and II architectural history survey of properties in the APE, which was defined as the first tier of adjacent properties to the proposed roadway and interchange improvement areas not blocked by vegetation or topography (final report not yet completed). Eighty properties over 40 years old were identified and documented within the APE. The majority of those properties were seasonal or year-round residences on Eagle Lake, or farmsteads. There were also a limited number of commercial properties. No previously determined eligible or listed properties were located within the APE. Seventy-nine of the properties were recommended as not eligible for listing in the National Register because they lacked sufficient architectural integrity, did not convey a significant association with twentieth-century recreation in central Minnesota, or lacked a known association with a significant person. A Phase II evaluation was completed on the Bethesda Homes Farm (KH-DOV-0069) located at 6072 and 6077 Long Lake Road. The Bethesda Homes Farm was recommended as not eligible due to lack of integrity (loss of the associated children's and elderly homes, changes in the layout of the farm, and loss or alteration to key farm buildings within the complex). We agree with the recommendation.

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,

Kristen Zschomler, RPA
Historian/Archaeologist
Cultural Resources Unit (CRU)

cc: Dr. Scott Anfinson, State Archaeologist
    Ross Harris, SEH (2 copies of archaeology report)
    Michelle Terrell, Two Pines Resource Group, LLC
    Chad Moffett, Mead and Hunt
    Legislative Library (1 copy)
    Joe Hudak, Mn/DOT CRU
    Mn/DOT CO/CRU Project File