9.0 CONSTRUCTION IMPACTS

This chapter describes potential construction-related impacts that may result from the proposed project. Impacts associated with construction may include: traffic congestion; impacts to the transportation system; impacts to business access; noise; air quality; visual; water quality and soil erosion; river substrate/habitat impacts; canoe/boat use; potential contaminated substance spills/leaks; borrow and excess materials; utility disruption; and earthborne vibrations. With the implementation of the preferred alternative, all applicable precautions would be taken to limit impacts connected with highway, interchange and bridge construction activities. A more detailed discussion of potential construction impacts will be provided in the FEIS assuming one of the four Build Alternatives is identified as the preferred alternative.

9.1 AFFECTED ENVIRONMENT

The affected environment includes the study area from the City of Becker to the City of St. Cloud along I-94, TH 10, TH 24, the Build alignment corridors, and the Mississippi River. Previous chapters of this DEIS describe the existing transportation system, land use and natural resources in the study area.

9.2 ENVIRONMENTAL CONSEQUENCES

9.2.1 Traffic Congestion

It is expected that construction of one of the Build Alternatives would take approximately three to five years to complete. Construction of the proposed action is likely to cause temporary traffic delays and make it more difficult to get to development adjacent to the proposed alignments during construction. Construction of Alternative B would create the most traffic delays, access delays and traffic congestion of the four Build Alternatives. This alternative not only follows the alignment of existing TH 24 for most of its distance, but it also runs through the middle of the City of Clearwater, affecting both local and interregional highway users. In terms of traffic impacts, Alternative B would be very disruptive to residents and businesses within the City of Clearwater, as well as to through traffic on TH 24.

Alternative C would result in some traffic impacts to TH 24 during construction of the local interchange at Alternative C/TH 24. However, the magnitude of impact to TH 24 traffic would not be as great as Alternative B. All four Build Alternatives would result in traffic impacts to I-94 during construction of the I-94 interregional connection interchange. All four Build Alternatives require new interchanges at TH 10 and would create similar traffic impacts along this highway. Each of the four Build Alternatives would create traffic congestion impacts for users of existing local and county roadways that intersect with the proposed alternatives such as CSAH 75 and CSAH 8. If Alternative A is chosen as the preferred alternative, congestion could be experienced at CR 60 and CR 65. Alternatives B and C could create similar congestion impacts along CR 57. For Alternative D, the potential impacts are most likely for travelers on CR 53.

The anticipated impacts to traffic resulting in congestion would continue until construction in the area is complete. A construction staging plan would be developed during final design. The plan would further assess potential traffic congestion problems that may arise due to construction. The staging plan would attempt to balance the need for property access while also minimizing the total length of construction time. Traffic control measures would be in accordance with the Minnesota Manual on Uniform Traffic Control Devices (MMUTCD).

9.2.2 Transportation System

A construction staging plan would be completed during the final design stage of the project, which would identify the potential to maintain traffic within the corridor being constructed or potential detours. This plan would attempt to minimize disruptions to traffic patterns while also maximizing directness of detoured routes, which would minimize short-term impacts on emergency services (police, fire, rescue, and hospital access) and transit services throughout the project area. Similar to the discussion of traffic congestion impacts, the impact of detours on travelers would most likely be experienced by TH 24 users and residents and businesses within the City of Clearwater (Alternative B). Other areas that may experience more substantial detour impacts would be the areas proposed for the I-94 and TH 10 interchanges as well as other intersecting county roadways, including CSAH 75 and CSAH 8. Other roadways involved in the detour routes may also experience impacts.

The BNSF Railroad parallels the south side of the TH 10 corridor within the study area. This line serves more than 37 trains per day. Each of the Build Alternatives include the grade-separation of the railroad and the interregional connection. If one of the Build Alternatives is identified as the preferred alternative, Mn/DOT would coordinate with the railroad regarding construction activities so that rail operations would not be affected during construction.

9.2.3 Economic (Business Access)

Existing businesses within the project area would experience access impacts during construction. Improvements along TH 10 for each of the four Build Alternatives would result in varying degrees of access impacts for businesses along TH 10 in the vicinity of each proposed interchange. Construction of Alternative B would also result in access impacts for businesses within the City of Clearwater during construction. [There are also anticipated permanent access modifications that affect businesses as identified in Section 5.1.2.2.] As part of the construction staging plan, efforts would be made to ensure that traffic movements and access to businesses would be maintained.

9.2.4 Noise

Noise would be generated by construction equipment used in the construction of highway improvements. Noise levels due to construction activities in the project area would 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. Adverse impacts resulting from construction noise are expected

to be limited to properties adjacent to the project corridor and temporary. Project construction would be expected to take approximately three to five years. Noise impacts during construction would not be continuous along the entire corridor. Construction would take place in phases (e.g. south of the river, the bridge and north of the river). The construction noise impacts would be localized near the area where construction was taking place.

Section 6.2 identifies the potential traffic noise impacts that may result from each of the proposed alternatives. Noise impacts may also be experienced at the identified receptors from the construction equipment and other activities related to the highway expansion and improvements. Alternative B would result in the greatest number of receptors affected by construction noise impacts as it runs through downtown Clearwater, affecting adjacent residents and businesses. However, the greatest decibel increase in noise from construction operations (above existing background noise levels) would result at isolated receptors located in more remote areas.

All construction equipment would be properly muffled and held to the manufacturer's specifications as they pertain to operational noise levels. Construction methods that could result in noise of inordinate levels or intrusiveness (such as pile driving) may be necessary. The noise associated with these activities would be minimized in intrusiveness by restricting the hours of operation as much as possible.

9.2.5 Air Quality

Air quality impacts from construction include increased dust and airborne particulates caused by grading, filling, removals and other construction activities. Dust impacts would be minimized through standard dust control measures such as watering. After construction is complete, dust levels are expected to return to near existing conditions. Air quality impacts may also result from emissions from construction equipment and possibly from traffic stopped at intersecting roadways or on potential detour routes. These impacts are expected to be minimal and of short duration.

9.2.6 Visual

Visual impacts would occur with the construction of any of the four Build Alternatives. Temporary visual impacts would include the presence of equipment and workers, temporary changes in the views of travelers when rerouting is necessary and the addition of traffic or increased time during which traffic remains in a particular area due to increased congestion.

9.2.7 Water Quality and Soil Erosion

The potential for soil erosion and impacts on water quality are greatest during construction when removal of vegetation for initial clearing, grubbing, and grading activities exposes soil and makes it more susceptible to erosion. Areas adjacent to the Mississippi River, lakes, streams, and wetlands have the highest potential for adverse impacts. As identified in Section 6.9, a National Pollutant Discharge Elimination System (NPDES) permit would be required for this project. Erosion prevention and sediment control requirements would be followed in accordance

with the NPDES permit, which includes an erosion control plan, as well as best management practices (BMPs) contained in Mn/DOT's standard specifications, details and special provisions. These BMPs may include, but are not limited to, the following: minimizing vegetation clearing; construction of sedimentation basins; silt control devices (silt fences, hay bales); slope drains; and prompt revegetation of exposed construction areas. An erosion control plan would be developed as part of the design for the preferred alternative.

Also, construction in or near waterways and wetlands would be undertaken in accordance with Mn/DOT's Standard Specifications for Road and Bridge Construction or special provisions to minimize erosion and sedimentation. Temporary and permanent erosion control methods may include silt fences, flotation silt curtains, retention basins, detention ponds, interceptor ditches, seeding and sodding, riprap of exposed embankments, erosion mats, and mulching. Drainage systems, including ditches on private lands, would be maintained, restored or re-established in a manner that would not impound water. Permanent stormwater detention facilities would be considered in areas adjacent to the river, streams and wetlands such that roadway runoff would be intercepted before entering the waterway.

9.2.8 River Substrate/Habitat Impacts

Construction of the bridge piers for any of the Build Alternatives would result in some disturbance of the river substrate and therefore may impact aquatic species habitat. Section 6.5.1.3 describes the locations of known important fish/aquatic habitat areas, including areas downstream from Alternative A and Alternative D crossings. Water quality/sedimentation impacts to aquatic species would be minimized and mitigated with the implementation of appropriate BMPs, as discussed in Section 9.2.7. Direct impacts to river substrate/habitat would be minimized by planning construction activities to minimize disturbance of the river bottom.

9.2.9 Canoe/Boat Use

Each of the Build Alternatives includes the construction of bridge piers in the river which is designated as a State Canoe and Boating route. The Build Alternatives would result in temporary impacts to River users near work areas, resulting from construction activities potentially including launching materials via barges, and setting bridge pier and support materials in place with cranes. Barge and crane operations would cause temporary channel obstructions that could affect river use.

Recreational boating access may experience temporary impacts related to construction activities. If Alternative B or D is chosen as the preferred alternative, the boat landings in the vicinity of these two alternatives (the MnDNR boat landing at Alternative B and Snuffy's Landing at Alternative D) would remain open and accessible as much as possible.

The No-Build Alternative and Build Alternatives A, C and D would also result in similar temporary impacts to river use when the existing TH 24 bridge has to be reconstructed. The extent of these impacts depends on whether the existing piers can be used for the replacement bridge.

9.2.10 Potential Contaminated Substance Spills/Leaks

If a spill or leak of hazardous or toxic substances should occur during construction of the proposed project, it would be responded to according to MPCA containment and remedial action procedures. Of specific concern would be the release of hazardous or toxic substance (e.g., during refueling) into the river - a source water protection area. A spill containment plan would be required to be in place prior to construction to minimize these potential impacts.

9.2.11 Borrow or Excess Material

Selection of borrow material that may be required for the construction of the proposed improvements would be the responsibility of the construction contractor. Any new borrow sites would be subject to environmental reviews under Minnesota Rule Chapter 4410.4300, Subp. 12 and may require an archaeological survey of the site. Archaeological reviews of these areas are conducted by the Cultural Resources Unit at Mn/DOT.

The excavation of soil materials for new roadway construction would be necessary for all four Build Alternatives. The disposal of excess material would be conducted in accordance with Mn/DOT specifications and according to a project disposal plan that would be in accordance with state regulatory requirements. There would be no disposal of excess materials into wetlands, floodplains or other sensitive areas.

9.2.12 Utility Disruption

Throughout the corridor, both above and underground utilities such as electric, telephone, cable, public water supply and sanitary sewer are distributed to users within and near the study area. Above ground high tension electric power lines from the Xcel Energy SHERCO Plant cross the Alternative D corridor and travel northwest from the plant parallel to CSAH 8 along all four Build Alternatives. Near Alternatives A, B and C, a single high-tension power line parallels CSAH 8 north and south of the roadway. Along Alternative D, more lines parallel CSAH 8 with one north of the roadway and three south. Identification of other above and underground utilities would be completed once a preferred alternative is selected and during final design the exact locations would be defined.

During construction of any of the four Build Alternatives, impacts to utilities are anticipated. Impacts could include utility relocation and/or temporary interruptions in service. If a Build Alternative is selected as a preferred alternative, a design plan would be developed to minimize potential impacts to utilities, including coordination with utility providers.

9.2.13 Earthborne Vibrations

This project is not anticipated to require blasting; however, it could involve pile driving, compacting and/or pavement breaking (especially for Alternative B) or the operation of other construction equipment that may result in temporary earthborne vibrations. The location and magnitude of construction vibrations cannot be assessed until the final design phase of the project; however, based on the nature of the planned work and affected environment, no

substantial impacts are anticipated for Alternatives A, C and D. Due to the close proximity of structures along the southern segment of Alternative B in the City of Clearwater, potential impacts would need to be assessed further during final design if Alternative B were selected as the preferred alternative. However, no susceptible structures or operations that would be affected by earthborne vibration have been identified along the Alternative B corridor.

9.3 MITIGATION

The discussions in Section 9.2 include identification of some mitigation measures that could be used to avoid/minimize construction impacts. Following the selection of a preferred alternative, details of the construction activities including mitigation measures such as a detailed erosion control plan; a plan for management and disposal of any excess material; a construction staging plan; special construction techniques for river bridge construction; traffic flow management techniques and access maintenance and/or detour plan would be developed. In addition, safety measures would be used (fencing, signage) that would preclude the public from entering areas of construction or from passing beneath bridge construction (when overhead activities are a concern).