

ST. CROIX RIVER CROSSING PROJECT SUPPLEMENTAL DRAFT EIS
CHAPTER 12
CONSTRUCTION IMPACTS

12.0 INTRODUCTION

This chapter describes potential construction-related impacts that could result from implementation of the No-Build Alternative and Build Alternatives (see Chapter 3), including preliminary mitigation activities applicable to all of the Build Alternatives. A final mitigation package will be identified with the identification of a Preferred Alternative in the Supplemental Final EIS. Potential construction-related impacts that could result from implementation of the final mitigation package will also be discussed in the Supplemental Final EIS. Various sources of information were used to develop this discussion, including maps, design plans, aerial photographs, and observations of the project area. Where relevant, measures proposed to mitigate identified impacts are also described.

The No-Build Alternative includes operational maintenance and continued rehabilitation of the Lift Bridge and the approach roadways. Continued use of the Lift Bridge would require continued rehabilitation of the Lift Bridge beyond the \$5 Million Lift Bridge Repair Project to be completed in 2005, as described in Chapter 1. Detailed discussion of replacement of Lift Bridge infrastructure is not included here, as it is not part of the proposed project but would likely occur at some point in the future. It is not known exactly at this point which items would be replaced, but could include span replacement and pier replacement. Span replacement and pier replacement are beyond the scope of the \$5 Million Lift Bridge Repair Project described in Chapter 1. Impacts related to pier construction would be similar to those described for the Build Alternatives (e.g., traffic access and rerouting, water resource impacts, and other impacts related to pier construction such as mussel relocation). Where specific maintenance or other activities with the potential for substantial impacts are anticipated as part of the No-Build Alternative, they are discussed in more detail in the chapter.

Sections 12.1 to 12.3 of this chapter describe the affected environment and the temporary construction impacts of the Build Alternatives and associated mitigation measures by the main geographic and functional components of the project: the Minnesota portion, the Wisconsin portion, and the St. Croix River.

12.1 AFFECTED ENVIRONMENT

12.1.1 Minnesota TH 36/TH 95

The Minnesota portion of the project begins at a point 700 feet east of the Trunk Highway (TH) 36/5 interchange in Stillwater and Oak Park Heights for each Build Alternative (see Figure 3-1). This portion includes a section of TH 36 from the western project terminus eastward to the Build Alternative bridge touchdown areas near the Minnesota shoreline of the St. Croix River, and includes TH 95 from the northern Bayport city limits, extending northward into

downtown Stillwater for Alternative D and Alternative E. The Minnesota upland and shore, the TH 36/TH 95 interchange area in Oak Park Heights for all Build Alternatives, the Stillwater interchange for Alternative D, and the Stillwater intersection for Alternative E are also included in this project area.

In Minnesota, the project passes through residential, commercial, industrial, and vacant lands within Oak Park Heights and Stillwater. Commercial development is concentrated in a few areas, mainly along the frontage roads of TH 36 in Stillwater/Oak Park Heights, located above the St. Croix River bluff line in a flat to gently rolling area. Residential development occurs throughout the project corridor, interspersed with Oak Park Heights' commercial development west of Osgood, and in more homogeneous neighborhoods, east of Osgood atop the bluff. As TH 36 curves to the north and continues north along TH 95 into Stillwater, a steep bluff lies to the west of the road, and to the east lies a bluff sloping down to the river flats. The river flats are occupied by a mix of residential and industrial use and vacant land. The bluff slopes are wooded except where existing roadways and residential developments are located. No streams or creeks exist in the Minnesota portion. (Perro Creek, as discussed in Chapter 10 – Water Resources, is an urbanized surface drainage system that originates from a pond [Prison Pond] south of TH 36 but does not cross TH 36.) Wetlands exist along the TH 36 corridor and near the St. Croix River.

Construction activities in Minnesota for the Build Alternatives are anticipated to include grading, excavation, and vegetation clearing for the construction of permanent improvements, temporary bypasses, staging areas, barge facilities, and haul roads to the river's edge. It would include demolition and removal of buildings, construction of roads, bridges and stormwater ponds, and construction of bridge piers and approaches, as well as grading and construction of staging areas. Staging areas for each Build Alternative have not been defined at this time. Specific staging areas will be identified with the identification of a Preferred Alternative in the Supplemental Final EIS and upon completion of the final design. Previous staging areas identified include the Stillwater Municipal Barge Facility property (as part of the Consensus Alternative) and right-of-way acquired for the 1995 FEIS Alternative. Each staging area identified with the identification of a Preferred Alternative would include construction of temporary security fencing, access roads and stockpile areas.

In Minnesota, the No-Build Alternative, Alternative B-1_b, Alternative C, and Alternative E would include routine maintenance of the Lift Bridge and approach roadways. The No-Build Alternative would assume continued operation and maintenance of the existing roadways in the project area, with no new bridge construction, and the continued operation and maintenance of the Lift Bridge. Alternative E would include construction of a new, two-lane bridge for one-way eastbound traffic and continued operation and maintenance of the Lift Bridge for two lanes of one-way westbound traffic. Alternative B-1 and Alternative C would include construction of a new four-lane bridge with the option of continued operation and maintenance of the Lift Bridge for local vehicular traffic or conversion to a pedestrian/bicycle facility (see Sections 3.1 and 12.1.3).

Chapter 3 of the SDEIS provides a detailed description of the Build Alternatives and the No-Build Alternative in Minnesota.

12.1.2 Wisconsin STH 35/64

The affected environment in Wisconsin for Alternatives B-1 begins at the eastern bank of the St. Croix River in the Town of St. Joseph and includes a sandy beach along the river, a steep, heavily-vegetated and relatively-undisturbed ravine, and a bluff area near the ravine where a few private homes are located. The affected environment includes the areas adjacent to the Alternative B-1 alignment (see Figures 3-4, 3-11 and 3-12). The affected environment for Alternative C, while located at an existing ravine approximately 2,800 feet north of Alternative B-1, is similar to the environment described for Alternative B-1 above (i.e., sandy beach, a steep, heavily vegetated bluff and ravine). Two interchange options are included for Alternative C (see Figures 3-11 and 3-12). The location of the affected environment in Wisconsin for Alternatives D and E is the same because they are located along the same alignment. The affected environment begins at the east end of the Lift Bridge causeway and includes the existing State Trunk Highway (STH) 64 roadway. The side slopes of the existing bluff cut are vegetated and have been previously disturbed by construction activities. Private homes are located near the existing STH 64 alignment in Houlton.

The Build Alternatives in Wisconsin would include the construction of STH 64 and STH 35/64 from the eastern bank of the St. Croix River to a point approximately 100 feet southwest of 150th Avenue on STH 35/64 in Wisconsin. A new interchange at either realigned County Trunk Highway (CTH) E (Alternative B-1 and Alternative C [Option 1]), existing STH 35 (Alternative C [Option 2]), or realigned STH 35 (Alternative D and Alternative E) would be constructed depending on the alternative selected (see Figures 3-5, 3-11, 3-12, 3-14 and 3-17). East of the river bluff, the affected environment for the Build Alternatives includes agricultural, residential, and undeveloped lands. The project would pass through or near rural residential and agricultural areas in the Town of St. Joseph, moving the state trunk highway away from the unincorporated community of Houlton under Alternatives B-1 and C. With Alternatives D and E, the project would continue to pass through Houlton. As part of the construction of Alternatives B-1 and C (where the Lift Bridge is converted to pedestrian/bicycle facility) and construction of Alternatives D and E, CTH E from existing STH 64 to State Street would be removed, and unnecessary pavement of the stretch of STH 64 between the Lift Bridge and Hilltop Drive in Houlton would be removed.

Construction activities in Wisconsin are anticipated to include grading, excavation, and building of the new roads and temporary bypasses, stormwater ponds and channels as well as grading and construction of a temporary haul road to the river's edge and potentially to a staging area near the shoreline. Construction of the staging areas would include temporary security fencing, access roads, and stockpile areas for construction materials and equipment. Removal of unnecessary pavement and restoration of the bluff would occur along CTH E and STH 64 between the Lift Bridge and State Street and between the Lift Bridge and Hilltop Drive, respectively, as described above.

The No-Build Alternative assumes continued operation and maintenance of the existing roadways in the project area, with no new bridge construction, and with continued operation of the Lift Bridge. Chapter 3 of the SDEIS provides a detailed discussion of the Build Alternatives and the No-Build Alternative in Wisconsin.

12.1.3 Bridge Crossing over the St. Croix River

Alternative B-1

Alternative B-1 would include construction of a four-lane bridge crossing the St. Croix River about 7,550 feet south of the Lift Bridge along the Minnesota shore. The bridge would cross approximately perpendicular to the St. Croix River, meeting the Wisconsin shore approximately 6,450 feet south of the Lift Bridge. The height of the bridge deck above the normal pool elevation of the river would be about 113 feet at the Minnesota shore and about 159 feet at the Wisconsin shore, with about a 1.7 percent grade over the river. The total length of the bridge would be about 4,900 feet, of which approximately 2,840 feet would be over water.

Alternative C

Alternative C would include construction of a four-lane bridge crossing the St. Croix River about 4,450 feet south of the Lift Bridge along the Minnesota shore. The bridge would cross approximately perpendicular to the St. Croix River, meeting the Wisconsin shore approximately 3,600 feet south of the Lift Bridge. The height of the bridge deck above the normal pool elevation of the river would be about 105 feet at the Minnesota shore and about 150 feet at the Wisconsin shore, with about a 2.3 percent grade over the river. The total length of the bridge would be about 4,040 feet, of which approximately 2,000 feet would be over water.

Alternative D

Alternative D would include construction of a four-lane bridge crossing the St. Croix River about 1,900 feet south of the Lift Bridge along the Minnesota shore and 160 feet south of the Lift Bridge along the Wisconsin shore. The bridge would cross diagonally over the St. Croix River. The height of the bridge deck above the normal pool elevation of the river would be about 68 feet at the Minnesota shore and about 82 feet at the Wisconsin shore, with about a 0.5 percent grade over the river. The total length of the bridge would be about 3,974 feet, of which approximately 2,545 feet would be over water.

Alternative E

Alternative E would include construction of a two-lane bridge for one-way eastbound traffic, crossing the St. Croix River about 2,000 feet south of the Lift Bridge along the Minnesota shore and approximately 200 feet along the Wisconsin shore. The bridge would cross diagonally to the St. Croix River along a similar alignment as Alternative D. The height of the bridge deck above the normal pool elevation of the river would be about 61 feet at both the Minnesota and Wisconsin shoreline, with about a +1.8 percent/-1.5 percent grade over the river. The total length of the bridge would be about 2,987 feet, of which about 2,530 feet would be over water.

Bridge sections would be constructed in staging areas (to be defined with the identification of a Preferred Alternative and detailed staging plans), transported to the river, and set into place via barges equipped with cranes. Depending upon the bridge type of the Preferred Alternative, the

foundations of the bridge would be constructed with drilled shafts or driven piles advanced into the river bottom, and into the stiffer materials above the bedrock strata by augering.

The staging of materials for bridge construction would occur on land in both Minnesota and Wisconsin, and in the river on barges. Impacts of the establishment, use, and restoration of the staging areas on land, including the establishment of temporary access roads, field offices, installation of security fencing, and operation of equipment and machinery at and around these locations, are addressed in Sections 12.2.1 through 12.2.11. The location of a staging area in the river for barges on the east and west bank of the St. Croix River will be determined with the identification of a Preferred Alternative and determined during final design.

The Build Alternatives also include three options which each propose a different future for the Lift Bridge. These three options are described in Chapter 3 and include: continued operation of the Lift Bridge for local vehicular traffic (Alternative B-1 and C), conversion of the Lift Bridge to a pedestrian/bicycle facility (equally applicable to Alternative B-1 and C; only option for Alternative D), or continued use of the Lift Bridge for two lanes of one-way westbound traffic (Alternative E only). In all three options, the Lift Bridge would remain intact. Maintaining the Lift Bridge as a bicycle/pedestrian facility with Alternatives B-1, C, and D could result in temporary erosion/construction impacts with the removal of STH 64 and CTH E from the Wisconsin bluff and the replacement of a bicycle/pedestrian path along the STH 64 alignment.

The No-Build Alternative and Alternative E would also include continued routine maintenance and operation of the Lift Bridge. Alternatives B-1 and C could also possibly include continued routine maintenance and operation of the Lift Bridge if the Lift Bridge is operated for local vehicular traffic.

12.2 ENVIRONMENTAL CONSEQUENCES

Construction of any of the Build Alternatives would result in temporary environmental impacts related to air quality, dust generation, noise, vibration, appearance, traffic, roadway access, generation and disposal of excess materials, and relocation of utilities and railroads. Other types of impacts on the St. Croix River would result from construction activities, including impacts on navigation, impacts on the river and river bottom resulting from the installation of coffer dams and footings, and operation of work barges and other water-based construction equipment.

Various phases of construction would require lane restrictions, closures, and rerouting of traffic on both the Minnesota and Wisconsin approach roadways and on the Build Alternative bridges. Construction of the Build Alternative bridges would also require some navigational restrictions, such as defined channels and no wake zones, as approved by the U.S. Coast Guard, U.S. Army Corps of Engineers, WisDNR, and MnDNR.

A detailed construction staging plan would be developed for the Preferred Alternative by Mn/DOT, Wis/DOT, and the selected contractors prior to the initiation of construction activities to better define the duration of the various construction activities and to minimize impacts.

Impacts from the No-Build Alternative would include short duration impacts resulting from closures and rerouting of traffic for repairs and routine maintenance of the approach roadways and the Lift Bridge, as well as impacts on the environment from the operation of maintenance equipment. Longer term impacts (e.g., traffic, water resources) could result from replacement of Lift Bridge piers or spans (see Chapter 2). Similar impacts could result from continued operation and maintenance of the Lift Bridge for two lanes of one-way westbound traffic with Alternative E.

12.2.1 Air Quality and Dust

The construction activities associated with the Build Alternatives (including mitigation items) would affect air quality temporarily with emissions from construction equipment, including the tugboats used to maneuver barges for bridge construction. Increases in dust and particulates would result from the vehicles used for grading and construction activities.

12.2.2 Noise

Noise impacts related to the operation of equipment for construction and road removal activities, intersection reconstruction, interchange construction, bridge construction, and demolition of buildings would occur with the Build Alternatives. Noise impacts would also result from increased traffic congestion during construction resulting from temporary by-pass construction, temporary road closures and/or temporary rerouting of traffic, and/or reducing speed limits in construction zones. Construction of the bridge would necessitate the use of tug boats, barges, and equipment on the barges, including cranes and pile drivers, which would introduce new noise sources to receptors along the river. Noise from construction and removal activities would be unavoidable and would affect river users and those who live or participate in activities along the river.

Noise impacts would vary by location, duration, and intensity, and depending upon the stage of the project and amount of equipment being simultaneously operated, the percent of time in operation and the distance of the equipment from any receptor. These temporary activities are not expected to have a major impact on adjacent neighborhoods and/or businesses.

12.2.3 Vibration

Movement of construction equipment, the removal of existing pavement and bridges, excavation, installation of bridge piers and temporary coffer dams, movement of construction materials and bridge components, and other construction/removal activities associated with the Build Alternatives would result in earth-borne, air-borne (and in some cases, waterborne), vibrations. Vibrations from bridge construction activities would be unavoidable and would be minimized to the extent practicable (see Section 12.3).

12.2.4 Visual Impacts

Temporary visual impacts would include the presence of equipment and workers, temporary changes in the views for travelers when rerouting occurs, and the addition of traffic or increased time during which traffic remains in a particular area due to increased congestion. These

impacts would occur at the approach roads, frontage roads, and at both the Lift Bridge and new bridge locations for the Build Alternatives.

The No-Build Alternative may result in some temporary visual impacts during routine maintenance activities.

12.2.5 Traffic Access and Rerouting

Permanent access changes resulting from changes in the transportation system are discussed in Chapter 4. During construction of the Build Alternatives, access to residential or commercial buildings would be maintained; however, at times, temporary provisions may need to be implemented to maintain access.

For the Build Alternatives in Minnesota, planned signed detours may be necessary, such as: 1) rerouting traffic onto frontage roads or other local, county, or state roadways; 2) temporary closures of lanes or sections; and, 3) temporary lane shifts. These would occur during utility relocations, construction of the buttonhook interchanges and overpasses on TH 36, the reconstruction of TH 36, the construction of the TH 36/TH 95 interchange, the construction of the TH 36/95 interchange near downtown Stillwater for Alternative D or the TH 36/95 intersection for Alternative E, and during the construction of the bridge approach. In Wisconsin, planned signed detours would also be necessary for utility relocations, revisions to local streets, changes in access to CTH E, and possibly temporary closure of sections of STH 35/64 with rerouting or bypassing of traffic. These actions would result in alignment shifts and access changes, and could result in temporary reductions of the traffic-carrying capacity of TH 36 and STH 35/64. The duration of the temporary closures would be determined for the Preferred Alternative prior to construction.

Cross-street access would be temporarily closed at several locations during the reconstruction of the TH 36 intersections in Minnesota, and at several locations on TH 95. Traffic on portions of TH 36 and TH 95 may be restricted or prohibited during certain construction activities. Vehicular traffic would be directed via temporary signage to the frontage roads or adjacent intersections to access TH 36 or its cross streets. Access to TH 36 via the Beach Road overpass would be removed with the relocation of the overpass. Driveways from businesses and residences, and cross streets accessing the TH 36 frontage roads may be temporarily altered, although some type of driveway would be maintained. In addition, STH 35, CTH E, and STH 64 may be temporarily closed while being reconfigured/extended to join with the Build Alternative alignments. Access changes resulting from the Build Alternatives are discussed in Chapter 4.

These temporary changes in traffic routes and disruptions to property access may have a temporary effect on commercial businesses in the project area. However, these disruptions will be minimized to the extent possible and information would be provided (i.e., temporary signage) to assist in directing customers to alternative access points.

When traffic is rerouted as a result of changes in access and signed detours, travelers may attempt to avoid traffic delays by choosing alternate routes, such as I-94 (Hudson) or

TH 243 (Osceola) across the St. Croix River between Wisconsin and Minnesota, possibly resulting in increased traffic volumes/congestion on these routes. These types of impacts may last for the duration of the construction period.

12.2.6 Grading and Excavation

Each of the Build Alternatives would require grading and excavation for haul roads, staging areas, new roads, stormwater ponds and channels, which would result in disturbances to and removal of vegetation. The removal of the approach roads to the Lift Bridge, associated with Alternatives B-1 and C if the Lift Bridge is converted to a pedestrian/bicycle facility and construction of a new STH 64 roadway with Alternatives D and E, would also result in disturbances to and removal of vegetation. A detailed erosion control plan would be developed as part of the detail design of the project and would be implemented during construction (see Section 12.2.7).

East of Osgood Avenue, along the Minnesota bluff, and to the St. Croix River, excavation and fill material would be required for the construction of the new roadway and to allow for the connection of existing and proposed ramps at the new TH 36/TH 95 interchange in Oak Park Heights for each Build Alternative. Excavation and fill material would also be required for the TH 36/95 interchange in Stillwater for Alternative D and the TH 36/95 intersection for Alternative E.

The terrain of the Wisconsin shore and bluff would be altered for the construction of the bridge and new roadway for each Build Alternative (see Figures 9-4b to 9-4f in Chapter 9 for elevation of the Wisconsin shoreline and bluff for the Build Alternatives). Estimates range from approximately 20,800 cubic yards for Alternative B-1 to about 215,500 cubic yards for Alternative E of sand and gravel that would be permanently removed (cut) from the bluff to allow for the bridge and abutment. Estimates for fill amounts on the Wisconsin bluff¹ range from about 2,100 cubic yards for Alternative C (Option 1 in Wisconsin) to about 73,000 cubic yards for Alternative D. Refer to Chapter 9 - Natural Resources Section 9.3 for a discussion of impacts to the Wisconsin bluff. Additional impacts on the bluff would occur during construction to allow for temporary construction of haul roads and work areas. Effective erosion control measures would be in place along the Wisconsin shoreline and bluff in accordance with NPDES/SDS and Wisconsin Department of Natural Resources (WisDNR) standards and regulatory guidelines.

12.2.7 Stormwater Runoff and Water Quality Impacts

During construction of the Build Alternatives in Minnesota and Wisconsin, the disturbance of groundcover may result in some increases in sediment loading in stormwater runoff. Stormwater runoff will be treated per NPDES/SDS regulations to mitigate for the additional sediment loading. Permanent stormwater best management practices (BMPs) and erosion control devices

¹ The Wisconsin bluff for estimates of cut and fill impacts was defined per the Lower St. Croix River Cooperative Management Plan definition. See Chapter 9 for the definition of the Wisconsin bluff area.

will be constructed as early as possible within each construction stage (see Section 12.4). Outfall from storm sewers would eventually be discharged into the St. Croix River.

The bluff area would be affected by both permanent and temporary grading and excavation activities as described in Section 12.2.6. From the river edge eastward, the roadway would be on structures above the land surface, although vehicles and apparatus both on land and staged in the river on barges would be used to construct the bridge piers. The approximate distance from the bridge abutment to the shoreline for the Build Alternatives is shown in Table 12-1. Where temporary roads and construction sites from which to access the river barges and the piers on land would be established, and where stormwater ponds would be constructed, the potential for sedimentation and erosion impacts would be greater than in other areas; however, precautions would be taken to minimize these potential impacts, as described in Section 12.3.

**TABLE 12-1
DISTANCE FROM RIVER BRIDGE ABUTMENT TO SHORELINE – BUILD ALTERNATIVES**

	Distance from river bridge abutment to shoreline	
	Minnesota	Wisconsin
Alternative B-1	1,800 feet	330 feet
Alternative C	1,330 feet	690 feet (Option 1) 690 feet (Option 2)
Alternative D	810 feet	590 feet
Alternative E	220 feet	170 feet

Where steep slopes occur and in other areas susceptible to erosion (e.g., areas with highly erosive soils), effective erosion control measures would be in place in accordance with NPDES/SDS, MPCA, and WisDNR standards and regulatory guidelines. Parallel construction of TH 36/95 along the existing roadway between the Minnesota bluff and Stillwater Municipal Barge Facility property for Alternatives C, D, and E may present erosion control difficulties because of the lack of space between the bluff and riverway. During construction of the bridge for any of the Build Alternatives, the disturbance of river sediments may result in some increases in sediment loading in the river. Sedimentation impacts related to construction would be controlled in accordance with the NPDES/SDS, MPCA, WisDNR and other regulatory guidelines. An erosion/sediment control plan would be prepared prior to construction of the project.

The exact location of bridge piers in the river for the Build Alternatives is unknown at this time. However, it is possible that some of the bridge piers for the Build Alternatives could be located in deep water where the bottom substrate is soft and flocculent; some piers for the Build Alternatives could be located in shallow areas with sand and gravel substrates. To construct river piers, cofferdams would be built to dewater construction areas and either sheet piling would be driven into the river bed or caisson tubes would be inserted into drilled shafts. Water from

dewatering operations would be filtered to remove silt and solids before being discharged back into the river via a collection system including tanks and floc socks.

12.2.8 Excess Materials Generation and Disposal

The Build Alternatives would result in the generation of excess materials from excavation to attain a desired grade, the removal of the existing roadways and structures (homes, buildings), the installation of caissons and piers in the river (pending resolution of the bridge type analysis), and removal of the approach roads to the Lift Bridge. As required by Mn/DOT Standard Specifications 2105.3, excavated materials would be used to the fullest extent possible for the construction of embankments or other features of the project. No excess material would be disposed of in wetlands, the St. Croix River, or in other sensitive areas. Other Mn/DOT specifications allow the recycling of construction debris (removed pavement or concrete) into aggregate base or bituminous pavement. The contractor would have the option of reusing or disposing of these materials in an approved manner, in accordance with Mn/DOT and Wis/DOT Standard Specifications for construction.

12.2.9 Utilities and Railroads

Numerous overhead and underground utilities are located throughout the project area, including fiber optic lines, electric and cable lines, storm sewer, sanitary sewer, and water lines. Most of these are underground utilities, but some are overhead. The King Power Plant electrical power line that crosses the St. Croix River south of the project area would not be affected. The King Power Plant transmission lines parallel to TH 36 in Oak Park Heights would not be affected by the construction of TH 36, frontage roads, and buttonhook interchanges between TH 5 and Osgood Avenue. Construction of the Build Alternatives would include relocation of any affected utilities, as appropriate.

The Union Pacific Railroad owns a rail line that parallels TH 36/95 along the St. Croix River. The Build Alternatives would necessitate relocating a portion of this rail line to the east near the proposed TH 36/95 interchange in Oak Park Heights. Alternatives B-1 and C would necessitate relocation of approximately 2,640 feet and 820 feet, respectively, of the rail line. Alternatives D and E would necessitate relocation approximately 2,300 feet of the rail line. The railroad has not been abandoned, but is currently impassable through the Stillwater Municipal Barge Facility property due to track condition. Trains from the Xcel Energy yard also use a portion of this single track for storage, backing and realigning. Each Build Alternative would, as a result of the relocation, provide a similar amount of storage. Minor impacts on rail operations are expected during the construction period and these activities will be coordinated with the railroad. No impacts would result on the trains of the Xcel Energy rail yard located south of the project area.

This section discusses the relocation of the railroad as part of the direct construction impacts. This work would result in permanent impacts on both the visual quality and natural resources of the project area. The rail line is currently overgrown with trees (some literally growing up from between the steel rails), and in this way, it is virtually obscured from the view of most casual passers-by. Not only would trees in the current rail line be removed, but all the trees within the future right-of-way for the rail line would be removed. This would add an additional

50 to 100 feet of cleared width, depending upon the right-of-way that would have to be acquired for the rail line and the construction required to relocate the line.

12.2.10 Navigation Impacts – Operation of Work Barges and Other Water-Based Construction Equipment

Characteristics of the river crossing for each Build Alternative are shown in Table 12-2. Other characteristics of the river crossing, such as center span width and number of piers constructed in the water, are unknown at this time for the Build Alternatives, pending resolution of the bridge type analysis. Piers for any of the Build Alternatives would be constructed inside watertight temporary enclosures (cofferdams) constructed of sheet piling in the river. It is anticipated that all construction for any of the Build Alternatives would be accomplished within the cofferdams and from barges, and that no sand island or falsework would be required.

**TABLE 12-2
RIVER CROSSING CHARACTERISTICS – BUILD ALTERNATIVES**

		Alternative B-1	Alternative C	Alternative D	Alternative E
Height of bridge deck above normal pool elevation⁽¹⁾ of the river	Minnesota shore	113 feet	105 feet	68 feet	61 feet
	Wisconsin shore	159 feet	150 feet	82 feet	61 feet
Clearance above the two percent flow line⁽²⁾ over the navigational channel⁽³⁾		120 feet ⁽⁴⁾	105 feet ⁽⁴⁾	52 feet	52 feet ⁽⁵⁾
Total bridge length (abutment to abutment)		4,953 feet	4,040 feet	3,974 feet	2,987 feet
Bridge length over the river		2,840 feet	2,000 feet	2,545 feet	2,530 feet
Bridge grade from Minnesota shore to Wisconsin shore		1.74%	2.25%	0.50%	+1.80%/ -1.50%

⁽¹⁾ Normal pool elevation of the river = 675 feet above mean sea level (msl).

⁽²⁾ Two percent flow line elevation = 684.3 feet above msl.

⁽³⁾ Assumes a bridge depth of 10 feet; exact bridge depth is unknown at this time pending resolution of the bridge type analysis.

⁽⁴⁾ The location of the navigation channel was assumed to be the middle of the river.

⁽⁵⁾ Assumes a clearance span (horizontal distance on bridge) of 110 feet.

Temporary navigational impacts would occur near work areas, resulting from construction activities such as launching materials via barges, and setting bridge pier and support materials in place with cranes. The barge and crane operations and accompanying tugboats would cause temporary navigational obstruction. During the majority of the construction period, the river would be posted with buoys and signs as a “No Wake Zone” in the construction work areas. During the winter months, when the river is frozen, the work area could be designated as off-limits with temporary snow fencing. Most river traffic on the St. Croix River at the location of the Build Alternatives is, in general, recreational. Commercial activity consists of excursion boats which launch from the Minnesota shore. Impacts on business access via the river are anticipated to be minimal.

Mn/DOT and Wis/DOT will continue to coordinate the design of the proposed project with the U.S. Coast Guard (Section 9 bridge permit), and the U.S. Army Corps of Engineers (Section 404 wetlands and Section 10 navigable waters permits) to assure that reasonable navigation needs (clearances, pier placement, approach fills) and flood control considerations are established for the construction and removal periods, with the safety of river traffic considered in all plans. Final plans for navigation clearances, pier placement, construction sequences, and applications for all required permits would be completed and would be closely coordinated with both the U.S. Coast Guard and the U.S. Army Corps of Engineers.

Temporary construction impacts on navigation, similar to those described previously for the construction of the new bridge, could result with the potential mitigation items. Potential mitigation items for all Build Alternatives are described in Chapter 14. Temporary construction impacts on navigation associated with the final mitigation package for the Preferred Alternative will be discussed in the Supplemental Final EIS.

The No-Build Alternative and Alternative E could result in impacts on navigation related to Lift Bridge maintenance activities. Similar impacts could result with Alternative B-1 and Alternative C if the Lift Bridge is maintained for local vehicular traffic. The magnitude of the impacts would vary depending upon the nature of the needed maintenance activities; i.e., if bridge enclosures were to be required for worker safety or to prevent depositing of paint or materials into the river. If such activities are needed, they would be coordinated with the appropriate agencies to assure compliance with appropriate rules and regulations.

12.2.11 River Substrate/Habitat and Upland Habitat Impacts

Construction of the bridge piers, removal of below-water debris near the Stillwater Municipal Barge Facility property shoreline, and preliminary mitigation activities would result in some disturbance of the river substrate, and therefore, may affect mussel and other aquatic species' habitats. All construction areas will be surveyed for mussels and in areas where impacts on mussels cannot be avoided, such as in the vicinity of the bridge construction and the causeway for the Lift Bridge, impacts on identified mussels would be minimized by the collection, removal, and relocation of mussels prior to construction (see Chapter 9). Potential introduction of exotic zebra mussels would be reduced through barge decontamination protocol. Mitigation and minimization measures for these impacts are described in Section 12.3.

Construction activities could also disturb nesting activities of bald eagles, particularly in the vicinity of the proposed TH36/TH95 interchange in Oak Park Heights where a nesting pair have recently established a nest (see Chapter 9). Measures would be undertaken to reduce construction impacts on this and any other nests discovered in the project area during construction.

The No-Build Alternative would not result in impacts on the river substrate/habitat or upland habitat. As described in Section 12.2.10, if required for maintenance activities, the Lift Bridge would be enclosed to prevent such impacts.

12.2.12 Potential Contaminated Substance Spills/Leaks

If a spill of hazardous or toxic substances should occur during or after construction of the proposed project on the Minnesota side of the proposed project, it is the responsibility of the transport company to notify the Minnesota Department of Public Safety, Division of Emergency Services, to arrange for corrective measures to be taken (pursuant to 6 MCAR 4.9005E). Any contaminated substance spills or leaks that occur during construction would be responded to according to MPCA containment and remedial action procedures.

On the Wisconsin side of the proposed project, it is the responsibility of the contractor to contact the WisDNRs' Emergency Spill Response Coordinator if a hazardous or toxic spill should occur. The contractor is required to contact the WisDNR within 24 hours of the spill and it is their responsibility to remove hazardous or toxic material and to minimize the contamination resulting from the spill.

12.3 MITIGATION

Temporary impacts on air quality from dust would be mitigated with standard construction practices, including wetting of exposed soils, limiting vehicle operation on unpaved surfaces, and limiting the extent and duration of exposed areas.

The mitigation of noise impacts during construction activities (including those associated with the preliminary mitigation items) would include ensuring that all equipment is equipped with the proper mufflers and that machinery is well-maintained. In addition, if the erection of permanent noise walls are deemed feasible following analysis of the Preferred Alternative (see Chapter 8), noise wall construction would be performed as early as practicable in the project schedule. Construction would be accomplished in accordance with Mn/DOT and Wis/DOT specifications, requiring compliance with all federal and state noise control regulations. Consideration would also be given to limiting the hours of operation of construction.

To ensure that vibration is minimized during construction activities, Mn/DOT requires contractors to use equipment that is properly muffled and is maintained in good operating condition.

Specific design details for the Preferred Alternative would include mitigative measures, such as: a detailed erosion control plan; staged construction (see Section 12.4) and/or maintenance activities; use of traffic flow management techniques during construction to minimize driver confusion; maintaining existing access where possible and/or providing alternative signed access; and allowing the use of existing roadways for as long as possible. In addition, safety measures would be used (fencing, signage) that would preclude the public (specifically, boaters) from entering areas of construction or from passing beneath bridge construction (when overhead activities are a concern).

A plan for management and disposal of any excess material would be developed as needed.

Informational signing, including changeable message signs, may be used to advise drivers of access changes and other shifts in road or lane alignment as construction progresses. Whenever

possible, motorists would be advised of upcoming construction activities that may affect their travel plans through the use of various informational media. Standard traffic control measures would be used to protect both motorists and construction workers in accordance with the Minnesota Manual on Uniform Traffic Control Devices and the Wisconsin Supplement to the Federal Manual.

Tree removal from the steep slopes would be minimized to decrease potential visual and erosion impacts. Trees that are removed would be chipped and kept on the project to use as slope stabilization. Further minimization of stormwater impacts and erosion would be achieved by collecting construction runoff in temporary ponds where possible. Stormwater ponds would be constructed as early as possible. A revegetation plan would be developed and implemented for those areas where unavoidable vegetation disturbances occur.

Sedimentation impacts related to construction will be controlled according to the regulatory guidelines of each state. Permits necessary for the construction, including NPDES/SDS permits, will be obtained.

Because the location of the Alternative B-1 and C bridge is partially within an existing ravine, most impacts on the vertical bluff would occur back in the ravine away from the bluff face visible from the river, or at the bottom of the ravine, thus minimizing bluff impacts. Necessary grading and removal of vegetation would be performed in accordance with Mn/DOT and Wis/DOT specifications. The erosion control plan that would be developed during final design for the entire project would be implemented to minimize impacts on those areas where unavoidable grading and removal of vegetation would occur. Disturbed areas will be re-vegetated where appropriate. Temporary (construction) erosion and sediment control measures in accordance with NPDES/SDS permitting and best management practices (BMPs) developed by the MPCA and WisDNR would be followed to minimize impacts.

Impacts on mussels and the habitat of other aquatic species would be minimized by relocating mussels from the area of substrate impacts (pier locations and barge docking facilities) to appropriate locations prior to the initiation of construction, removal or staging activities in the identified areas of concern. Measures would also be taken to minimize impacts on nesting bald eagles. Field surveys for dotted blazing star in Wisconsin would be performed prior to construction. Mitigation measures such as relocating populations of the plants to designated protected areas, and/or funding efforts to acquire land known to support dotted blazing star for preservation and/or relocation will be pursued (see Chapter 9).

Because the potential for zebra mussel infestation in the lower St. Croix River continues to be a concern, barges and tug boats used for the construction activities will be decontaminated using protocols developed with the U.S. FWS to eliminate the potential for transmitting zebra mussels via construction equipment.

Preliminary consideration has been given to using the Stillwater Municipal Barge Facility property, on which the Hersey & Bean archaeological site (see Chapter 11 for discussion) is located, as a staging area for construction of the Build Alternatives. Beyond the specific mitigation discussed above in Section 12.3, potential mitigation items applicable to all Build Alternatives are described in Chapter 14. Upon identification of a Preferred Alternative, a

mitigation package, appropriate to the level of impacts, will be identified by the lead agencies from the list of mitigation items as well as additional mitigation items identified by agencies or the public during the SDEIS comment period. Additional potential impacts associated with the mitigation package items for the Preferred Alternative will be presented in the Supplemental Final EIS.

12.4 CONSTRUCTION STAGING

The project is being developed in two stages. Stage 1 would extend from east of Osgood Avenue through the TH 36/95 interchange in Oak Park Heights, across the St. Croix River, then on to the eastern project terminus in Wisconsin. Stage 2 would extend from the western project terminus in Minnesota through Osgood Avenue. The schedule for implementation of Stage 2 will be determined, in part, upon municipal consent (see Section 1.3.4 and Section 3.2.1) and will also be dependent upon funding availability. Length of construction to the full built out condition may take up to four years. Minor modifications to TH 36 between TH 5 and Osgood Avenue (see Section 12.4.1.1) may take up to one year.

If funding is fully available and the municipalities (Stillwater and Oak Park Heights) concur, construction could occur over the entire project area, from the TH 5/36 interchange in Minnesota to the eastern project terminus near 150th Avenue in Wisconsin. Thus, two scenarios for Stage 2 (TH 36 Partnership Study Area – western project terminus to Osgood Avenue) are being evaluated in this SDEIS: 1) a complete build of Stage 2 (grade separated facility; overpasses, buttonhook interchanges, realignment and widening of frontage roads); or 2) only minor modifications for Stage 2 (see Section 12.4.1).

Below is a description of preliminary construction staging activities for TH 36 from TH 5 to Osgood Avenue in Minnesota, applicable to all Build Alternatives, and each Build Alternative from Osgood Avenue east to the project terminus in Wisconsin. Construction staging for each Build Alternative is divided into five stages in Minnesota. Construction staging in Wisconsin for Alternatives B-1 and C is divided into three stages; Alternatives D and E in Wisconsin are divided into five stages. Construction of ponds and detention basins for all Build Alternatives would occur as soon as feasible with each stage consistent with all regulatory requirements. The duration and scheduling of each phase would be determined with detailed construction plans following the selection of a Preferred Alternative. Where traffic is switched during a particular stage (e.g., eastbound TH 36 traffic switched to westbound TH 36 lanes), two lanes of traffic, one lane in each direction, would be provided for all Build Alternatives.

12.4.1 TH 36 – TH 5 to Osgood Avenue

As noted in Section 12.4, two scenarios for the construction of TH 36 from the western project terminus to Osgood Avenue are being evaluated for this SDEIS. If municipal consent and funding is not available, only minor modifications would be included with the Build Alternatives on TH 36. If funding is fully available and the local municipalities concur, construction of TH 36 would occur simultaneously with the TH 36/95 interchange, river crossing, and STH 35/64 construction. If funding becomes available at a later date and the municipalities concur, construction of TH 36 would follow construction of the TH 36/95 interchange and river

crossing. Official mapping of this corridor can occur to reserve right-of-way prior to construction.

12.4.1.1 Minor Modifications

Minor modifications that would be included with all Build Alternatives if funding is not fully available for TH 36 include resurfacing the north and south frontage roads from about half-way between the Norell Avenue/Washington Avenue intersection and the Oakgreen Avenue/Greeley Avenue intersection to Osgood Avenue. The south frontage road would be resurfaced from Osgood Avenue to the east and extended to Beach Road near the existing overpass. This section of the south frontage road would be used as a by-pass when the construction occurs for the TH 36/95 interchange in Oak Park Heights for all Build Alternatives.

These improvements also include the addition of northbound and southbound through lanes and turn lanes on Oakgreen Avenue/Greeley Avenue at the TH 36 intersection (Figure 12-1). Oakgreen Avenue/Greeley Avenue would be configured for two through lanes and right- and left-turn lane for both northbound and southbound traffic at the TH 36 intersection. A northbound to eastbound right-turn lane on Osgood Avenue at the TH 36 intersection (Figure 12-1) would also be added.

12.4.1.2 Full Construction of TH 36

If funding and municipal consent is offered, full construction of TH 36 from the western project terminus through the Osgood Avenue intersection would be constructed in five stages. These stages and corresponding improvements are shown in Figure 12-2. Where traffic is switched from the east- and westbound TH 36 lanes as described in the following stages, only one lane of through traffic would be provided in both directions for TH 36 traffic. Temporary erosion control devices and BMPs, which may include construction of permanent stormwater treatment ponds, would be built concurrent or prior to construction of each stage.

TH 36 – Stage 1

Stage 1 would include building removals and other miscellaneous removals necessary for construction. Temporary pavement for traffic bypasses between east- and westbound TH 36 would be constructed at Oakgreen Avenue/Greeley Avenue and near Osgood Avenue.

Eastbound TH 36 traffic would be moved to one of the TH 36 westbound lanes at Greeley Avenue; westbound TH 36 traffic would continue to use one lane of westbound TH 36. South frontage road traffic would be moved to the eastbound TH 36 lanes. Utility construction east of Osgood would also begin with Stage 1 (e.g., sanitary sewer construction followed by watermain construction).

**Figure 12-1 – Minnesota TH 35 (TH 5 to Osgood Avenue) – Minor Modifications
(11x17 – color)**

BACK

**Figure 12-2 – Minnesota TH 36 (TH 5 to Osgood Avenue) – Staging Phase 2
(11x17 – color)**

BACK

Later phases of Stage 1 would include:

- Construction of storm sewer along the south frontage road, grading, and construction of retaining walls;
- Construction of the south frontage road from the east, near Osgood Avenue, to the west after utility construction is complete. The St. Croix Mall entrance at Osgood Avenue and from the south frontage road (northwest of mall) would be maintained;
- Construction of the north frontage road from the proposed westbound TH 36 buttonhook ramp to Osgood Avenue;
- Construction of the south buttonhook interchange ramps near Osgood Avenue and the south half of the Osgood Avenue overpass; and
- Construction of eastbound TH 36 from about 1,600 feet west of Osgood Avenue to the east.

TH 36 – Stage 2

Stage 2 would include completion of the south frontage road and St. Croix Mall entrance intersection just west of Osgood Avenue. Temporary pavement for traffic bypasses would be constructed between east- and westbound TH 36 east of Washington Avenue. South frontage road traffic would switch from the eastbound TH 36 lanes to the new south frontage road constructed in Stage 1. Westbound and eastbound TH 36 traffic, which was on westbound TH 36, would be switched to the eastbound TH 36 lanes. North frontage road traffic would be moved to the westbound TH 36 lanes between Greeley Avenue and Osgood Avenue.

Construction activities associated with Stage 2 include:

- Construction of westbound TH 36 from about 1,700 feet west of Osgood Avenue to the east;
- Completion of the buttonhook interchange west of Osgood Avenue at the north frontage road;
- Construction of the north-half of the Osgood Avenue overpass (the Osgood Avenue overpass would be complete at this point);
- Construction of the north frontage road from the western project limits to the east; and
- Construction of the south span of the Greeley Avenue overpass over the old south frontage road; construction of the old south frontage road as a cul-de-sac west of Greeley Avenue, and construction of Greeley Avenue to the south of TH 36.

TH 36 – Stage 3

Following the completion of Stage 2, both the north and south frontage roads would be open to traffic in Stage 3. Eastbound and westbound TH 36 traffic which was using the eastbound

TH 36 lanes in Stage 2 would be moved to the westbound TH 36 lanes in Stage 3. Activities in Stage 3 would include the construction of eastbound TH 36 from approximately 1,000 feet west of Greeley Avenue to approximately 1,600 feet west of Osgood Avenue (the starting point for TH 36 construction in Stage 1) and construction of the span of the Greeley Avenue overpass over the eastbound TH 36 lanes.

TH 36 – Stage 4

Stage 4 of the TH 36 construction would include the construction of temporary pavement to move westbound TH 36 traffic to the eastbound TH 36 lanes between the western project terminus and about 1,700 feet west of Osgood Avenue (the starting point for westbound TH 36 construction in Stage 2). Construction associated with Stage 4 for TH 36 would include:

- Construction of westbound TH 36 from the western project terminus to about 1,700 feet west of the Osgood Avenue overpass;
- Construction of the third span of the Oakgreen Avenue/Greeley Avenue overpass over the westbound TH 36 lanes;
- Completion of the buttonhook interchange near Washington Avenue and the north frontage road;
- Construction of the old south frontage road as cul-de-sacs on both sides of Norell Avenue; and
- Construction of Washington Avenue and the north half of the Norell Avenue/Washington Avenue overpass and associated retaining walls.

TH 36 – Stage 5

The final stage of the TH 36 construction would include the construction of temporary pavement to move eastbound TH 36 traffic to the westbound TH 36 lanes from the western project terminus to approximately 1,000 feet west of the Oakgreen Avenue/Greeley Avenue overpass. Final construction activities associated with Stage 5 would include:

- Construction of the remaining section of eastbound TH 36;
- Construction of the remaining inside shoulders and the median barriers;
- Construction of the buttonhook interchanges between Norell Avenue and Oakgreen Avenue to the south frontage road; and
- Construction of the remaining section of the Norell Avenue/Washington Avenue overpass over eastbound TH 36 lanes and the construction of Norell Avenue from the overpass to the south.

12.4.2 Alternative B-1

12.4.2.1 Minnesota TH 36/95 and the St. Croix River Crossing – Alternative B-1

TH 36 east of Osgood Avenue, the TH 36/95 interchange area, and the St. Croix River crossing for Alternative B-1 would be constructed in the five stages shown on Figure 12-3. See Section 12.4.1 for a description of construction staging for TH 36 from the western project terminus to Osgood Avenue. Following is a description of the construction activities and traffic shifts during each phase. Access to residential or commercial buildings would be maintained during construction of Alternative B-1; however, at times, temporary provisions may need to be implemented to maintain access. Temporary erosion control devices and BMPs, which may include construction of permanent stormwater treatment ponds, would be built concurrent or prior to construction of each stage.

Alternative B-1 (Minnesota) – Stage 1

As much of the Alternative B-1 river crossing and bridge ramps (Ramps C and D) as feasible would be constructed in Stage 1. Existing traffic patterns on TH 36 and TH 95 would be maintained during Stage 1. Following is a description of construction activities during Stage 1 for Alternative B-1:

- Construction of temporary bypasses on westbound TH 36 from the Beach Road overpass to Osgood Avenue and on TH 95 south of the Alternative B-1 TH 36/95 interchange;
- Construction of the TH 36 main line from just east of the existing Beach Road overpass to the Alternative B-1 river crossing;
- Construction of the southwest (Ramp A) and northwest (Ramp B) TH 36/95 interchange ramps from TH 95 to the west; and
- Construction of TH 95 in the interchange area from the existing TH 95 alignment north through the interchange area to the existing TH 36 alignment.

Alternative B-1 (Minnesota) – Stage 2

Traffic during construction would be shifted to the temporary bypasses described in Stage 1. Westbound TH 36 would be shifted to the temporary bypass and eastbound

TH 36 would be shifted to the westbound TH 36 lanes. TH 95 traffic would be shifted to the temporary bypasses from the existing roadway. Activities associated with Stage 2 for Alternative B-1 would include:

- Construction of eastbound TH 36 from about 700 feet east of Osgood Avenue to the existing Beach Road overpass;
- Construction of the south frontage road from about 800 feet east of Osgood Avenue to Beach Road and a temporary connection to the existing frontage road;

- Construction of the MCES wastewater treatment plant entrance bridge over the realigned railroad tracks parallel to TH 95;
- Construction of the south lanes of TH 95 from near the Dahl Tech property to the southern project limits on TH 95, including the realignment of CSAH 28 (Pickett Avenue) with TH 95 across from the Xcel Energy King Power Plant entrance; and
- Construction of the southern half of the new Beach Road overpass.

Alternative B-1 (Minnesota) – Stage 3

All TH 36 traffic in Stage 3 would remain on the existing TH 36 westbound lanes. A detour would be used along the south frontage road, Beach Road, Stagecoach Trail, and 56th Street (CSAH 21) from Osgood Avenue to TH 95 for northbound TH 95 to TH 36 traffic and for TH 36 to southbound TH 95. Activities in Stage 3 would include:

- Removal of the existing Beach Road bridge and the existing TH 36 bridge over TH 95;
- Construction of TH 36 between the end points of construction in Stage 1 and 2 at Beach Road;
- Completion of the southwest TH 36/95 interchange ramp (Ramp A);
- Construction of a temporary bypass on TH 95 near the existing Sunnyside Marina entrance and the Stillwater Municipal Barge Facility property; and
- Construction of stormwater ponds between CSAH 28 (Pickett Avenue) and TH 95. The 56th Street “slip ramp” between the 56th Street/CSAH 28 intersection and TH 95 would be removed.

Following the completion of the temporary bypass construction and TH 36 construction in Phase 3, traffic would be shifted to eastbound TH 36 lanes through the new TH 36/95 interchange and utilize the Alternative B-1 river crossing. All TH 95 traffic would be switched to the southbound lanes through the interchange area. Eastbound TH 36 traffic could access TH 95 from the southwest interchange ramp. TH 95 traffic would continue to use the south frontage road detour described above to access TH 36 at Osgood Avenue.

Alternative B-1 (Minnesota) – Stage 4

The railroad grading for the realigned Union Pacific tracks (see Section 12.2.9) would begin in Stage 4. The following roadway construction activities would be associated with Alternative B-1 Stage 4 in Minnesota:

- Construction of the northern half of the new Beach Road overpass and construction of Lookout Trail as a cul-de-sac near the intersection with existing TH 36;

**Figure 12-3 – TH 36/95 Interchange Area – Staging Phase 1 (Alternative B-1)
(11x17 – color)**

BACK

- Construction of northbound TH 95 south of the TH 36/95 interchange from the end of the Stage 1 limits (near the existing TH 95 alignment at the Dahl Tech property) to the southern project limits;
- Construction of the remaining portion of the south frontage road from Beach Road to Stagecoach Trail, including local road connections, and construction of 56th Street (CSAH 21) at the north end of the Correctional Facility property, including realignment of the Stagecoach Trail intersection;
- Construction of westbound TH 36 from near the old Beach Road overpass to the west toward Osgood Avenue and completion of the northwest TH 36/95 interchange ramp (Ramp B); and
- Shift TH 95 traffic north of the interchange to the temporary bypass constructed in Stage 3 and construction of southbound TH 95 lanes from near the existing TH 36 roadway to the northern project terminus.

Following completion of the westbound TH 36 lanes and the northwest interchange ramp, these roadways could be opened to traffic.

Alternative B-1 (Minnesota) – Stage 5

TH 36, the TH 36/95 interchange, and TH 95 south of the interchange would be completed by the start of Stage 5. These roadways would be fully open to traffic at this point. The final construction stage for Alternative B-1 would involve construction work on TH 95 north of the interchange. For this, TH 95 traffic would be switched to the southbound TH 95 lanes, and construction of the remainder of TH 95, including the Sunnyside Marina and Condominiums and Stillwater Municipal Barge Facility property entrance, would be completed. Construction of the MCES wastewater treatment plant entrance, railroad realignment, and Dahl Tech driveway would also be completed.

12.4.2.2 Wisconsin STH 64 and STH 35/64 – Alternative B-1

STH 64, STH 35/64, and the STH 35/64/CTH E interchange in Wisconsin for Alternative B-1 would be completed in three stages as shown on Figure 12-4. These three stages would be constructed independent of the four construction stages described for work in Minnesota. Temporary erosion control devices and BMPs, which may include construction of permanent stormwater treatment ponds, would be built concurrent or prior to construction of each stage. Following is a description for each construction phase for Alternative B-1 in Wisconsin.

Alternative B-1 (Wisconsin) – Stage 1

During Stage 1 of Alternative B-1 construction in Wisconsin, westbound STH 35/64 traffic would be shifted to the eastbound lanes east of 150th Avenue and the eastern project terminus to

the point where STH 35/64 merges from a four-lane roadway to a two-lane roadway. One lane of traffic would be maintained in each direction. The activities associated with Stage 1 construction include:

- Construction of STH 64 and STH 35/64, including the STH 35 overpass, from the Alternative B-1 river crossing to the existing STH 35/64 roadway northeast of Houlton. A gap would be left east of the existing STH 35 roadway and a temporary bypass constructed for STH 35 through traffic. A gap would also be left near CTH E to keep CTH E open to through traffic;
- Construction of relocated STH 35 from the existing STH 35 to the east and construction of relocated CTH E to the interchange with STH 64. A temporary bypass would be constructed adjacent to the existing STH 35 roadway near the relocated STH 35 intersection to maintain through traffic to/from Houlton. A temporary bypass would also be constructed adjacent to CTH E near the CTH E relocation to maintain CTH E through traffic;
- Construction of the southern half of the STH 35/CTH E interchange with STH 64 and the northern half of the interchange north of the existing CTH E roadway;
- Construction of the roadway (School Road) between existing CTH E and the relocated STH 35 near Houlton Elementary School and the north frontage road near Anderson Scout Camp Road;
- Construction of westbound STH 35/64 from the existing STH 35/64 roadway to the eastern project terminus.

Alternative B-1 (Wisconsin) – Stage 2

STH 35 traffic would be detoured in Stage 2 along the new, relocated STH 35 to School Road, to CTH E near Houlton Elementary School, and west to the existing STH 35 roadway. Eastbound STH 35/64 would be switched to the new westbound STH 35/64 lanes near 150th Avenue and would tie in via a temporary connection to the existing STH 35/64 roadway northeast of Houlton. CTH E traffic would now use the new, relocated CTH E through the interchange with STH 64. Construction activities associated with Stage 2 in Wisconsin would include:

- Construction of the remaining section of STH 35 north of the intersection with the new relocated STH 35;
- Construction of the STH 64 mainline gap left at CTH E and the remaining sections of the north interchange ramps; and
- Construction of the eastbound STH 35/64 lanes from the existing STH 35/64 alignment to the eastern project terminus near 150th Avenue.

Figure 12-4 – Wisconsin STH 35/64 – Staging Phase 1 (Alternative B-1) (11x17 – color)

BACK

Alternative B-1 (Wisconsin) – Stage 3

The final stage of construction in Wisconsin would include activities northeast of Houlton. The entire Wisconsin portion from the Alternative B-1 river crossing to the existing STH 35/64 roadway would be complete and open to traffic. Westbound STH 35/64 traffic would be shifted to the new eastbound STH 35/64 lanes near Anderson Scout Camp Road and back to the westbound lanes south of the old STH 35/64 roadway. The connection of the westbound STH 35/64 lanes near the old STH 35/64 roadway would be completed at this point. The connection between the old STH 35/64 roadway and north frontage road would also be completed. Final activities associated with Stage 3 would include construction of the south frontage road (old STH 35/64) at the entrance to the Settler's Glen development and the connection to 20th Street.

12.4.3 Alternative C

12.4.3.1 Minnesota TH 36/95 and the St. Croix River Crossing – Alternative C

TH 36 east of Osgood Avenue, the TH 36/95 interchange area, and the St. Croix River crossing for Alternative C would be constructed in the five stages shown on Figure 12-5. See Section 12.4.1 for a description of construction staging for TH 36 from the western project terminus to Osgood Avenue. Following is a description of the construction activities and traffic shifts during each phase. Access to residential or commercial buildings would be maintained during construction of Alternative C; however, at times, temporary provisions may need to be implemented to maintain access. Temporary erosion control devices and BMPs, which may include construction of permanent stormwater treatment ponds, would be built concurrent or prior to construction of each stage.

Alternative C (Minnesota) – Stage 1

The Alternative C river crossing from the bridge abutment in the Stillwater Municipal Barge Facility property east across the river would be constructed in Stage 1. Existing traffic patterns on TH 36 and TH 95 would be maintained during Stage 1. Following is a description of construction activities during Stage 1 for Alternative C:

- Extension of the south frontage road from about 1,500 feet east of Osgood Avenue to a temporary connection to the existing Beach Road;
- Construction of TH 36 from east of the Beach Road overpass northeast to the existing TH 36 roadway and construction of the south TH 36/95 interchange ramps (Ramps A and B);
- Construction of southbound TH 95 lanes from the southern project limits to the southern TH 36/95 interchange ramps (Ramps A and B), including the realignment of CSAH 28 (Pickett Avenue) intersection with TH 95 across from the King Power Plant entrance, and construction of northbound TH 95 from near the existing TH 95 alignment to the south TH 36/95 interchange ramps;

- Construction of the Lookout Trail cul-de-sac near the existing Lookout Trail intersection with TH 36; and
- Construction of the Sunnyside Marina and Condominium entrance and entrance to the Stillwater Municipal Barge Facility property while maintaining access to existing TH 36.

Alternative C (Minnesota) – Stage 2

Northbound TH 95 to eastbound TH 36 and westbound TH 36 to southbound TH 95 traffic would be detoured to Osgood Avenue, the south frontage road, Beach Road, and Stagecoach Trail, and 56th Street as described for Alternative B-1 (see Section 12.4.2.1). An alternative option to this detour would be to detour traffic from TH 95 to CSAH 14, south of the project area, then to Osgood Avenue and north to TH 36. Construction activities during Stage 2 of Alternative C would include construction of TH 95 from the south project limits north to the end of construction from Stage 1 and construction of TH 95 from the south TH 36/95 interchange ramps north to the north TH 36/95 interchange ramps.

Alternative C (Minnesota) – Stage 3

Traffic to/from TH 36 to TH 95 south of the TH 36/95 interchange would continue to be detoured at Osgood Avenue along the south frontage road to TH 95 with Stage 3 of Alternative C construction. All TH 36 traffic would be shifted to the existing westbound TH 36 lanes. The following activities would be associated with Stage 3 of Alternative C:

- Removal of the existing ramp from eastbound TH 36 to southbound TH 95, the south half of the existing Beach Road overpass (Beach Road to westbound TH 36 ramp would remain open), and the existing eastbound TH 36 bridge over southbound TH 95;
- Construction of TH 36 from east of Osgood Avenue to the section of TH 36 constructed in Stage 1 near the existing Beach Road overpass;
- Construction of the southern half of the new Beach Road overpass and frontage road along TH 95 for access to the MCES wastewater treatment plant and Dahl Tech property; and
- Completion of the eastbound TH 36 to TH 95 interchange ramp (Ramp A) and completion of the northbound TH 95 to eastbound TH 36 interchange ramp (Ramp D).

Alternative C (Minnesota) – Stage 4

The TH 95 to westbound TH 36 interchange ramp (Ramp B) would be completed with Stage 4. All TH 36 traffic would be switched to the eastbound TH 36 lanes constructed in Stage 3 and would use TH 95, Ramp A, and Ramp B (e.g., eastbound TH 36 traffic would use Ramp A to TH 95 and then use northbound TH 95 to downtown Stillwater and the Lift Bridge). Activities associated with Stage 4 of Alternative C include:

- Closure of the Beach Road ramp to westbound TH 36, removal of the existing Beach Road overpass and construction of the north half of the new Beach Road overpass;

Figure 12-5 – TH 36/95 Interchange Area – Staging Phase 1 (Alternative C) (11x17 – color)

BACK

- Construction of westbound TH 36 from east of Osgood Avenue to the TH 36/95 interchange Ramp B; and
- Construction of the Xcel Energy King Power Plant access road on TH 95, completing the intersection with CSAH 28 (Pickett Avenue).

It is possible that TH 95 may have to be temporarily closed for construction of the TH 36 overpass to the Alternative C bridge abutment and river crossing. If Alternative C is selected as the Preferred Alternative, and detail design and construction staging plans suggest that TH 95 would have to be temporarily closed, an appropriate detour for TH 95 traffic would be identified at that time.

Alternative C (Minnesota) – Stage 5

TH 36, TH 95, the TH 36/95 interchange and the Alternative C river crossing would be fully open to traffic at Stage 5 for Alternative C. Final construction activities for Alternative C would be to construct the east section of the south frontage road from Beach Road to Stagecoach Trail, including local street connections.

12.4.3.2 Wisconsin STH 64 and STH 35/64 – Alternative C – Option 1

Alternative C – Option 1 in Wisconsin would include a diamond interchange with relocated STH 35/CTH E southeast of Houlton. Refer to Chapter 3 for a full description of Option 1 in Wisconsin for Alternative C.

Construction staging for Alternative C – Option 1 in Wisconsin would be completed in three stages as shown on Figure 12-6. Construction of the three stages for Alternative C – Option 1 in Wisconsin would occur independent of the first three stages of construction in Minnesota. Construction staging for Alternative C – Option 1 would be the same as the staging described for Alternative B-1 in Wisconsin. Refer to Section 12.4.2.2 for a description of staging activities and traffic detours associated with the three construction stages in Wisconsin.

12.4.3.3 Wisconsin STH 64 and STH 35/64 – Alternative C – Option 2

Alternative C – Option 2 in Wisconsin would include a folded diamond interchange at STH 35, just east of the bluffline, and cross northeast to the eastern project terminus near 150th Avenue. Refer to Chapter 3 for a full description of Option 2 in Wisconsin for Alternative C.

Construction staging for Alternative C – Option 2 in Wisconsin would be completed in three stages as shown on Figure 12-7. Construction of the three stages for Alternative C – Option 2 in Wisconsin would occur independent of the first three stages of construction in Minnesota. Temporary erosion control devices and BMPs, which may include construction of permanent stormwater treatment ponds, would be built concurrent or prior to construction of each stage. Following is a description of construction activities associated with each stage.

Alternative C – Option 2 (Wisconsin) – Stage 1

Construction of the Alternative C river crossing and approach roadway from the Alternative C bridge abutment to STH 35 would be completed in Stage 1. A temporary widening of existing STH 35 would be constructed to keep STH 35 open. The new STH 35 northbound lanes would be constructed at the folded diamond interchange. Eastbound STH 35/64 traffic would be switched to the westbound STH 35/64 lanes near 20th Street to 150th Avenue. The STH 35/64 folded diamond interchange, STH 35/64 roadway from east of STH 35 to 20th Street, the STH 35/64 overpass over CTH E, and the eastbound STH 35/64 lanes from 20th Street to 150th Avenue would be constructed in Stage 1 for Alternative C – Option 2.

Alternative C – Option 2 (Wisconsin) – Stage 2

STH 35 traffic would be switched to the northbound STH 35 lanes (two-way traffic) constructed in Stage 1. The southbound STH 35 lanes would then be constructed at the STH 35/64 folded diamond interchange, and the STH 35/64 main line overpass over STH 35 would be completed. Westbound STH 35/64 traffic would be switched to the new eastbound STH 35/64 lanes, and a temporary tie-in to existing STH 35/64 would be constructed near 20th Street. The remaining section of westbound STH 35/64 from temporary tie-in at existing STH 35/64 to 150th Avenue would then be constructed.

Alternative C – Option 2 (Wisconsin) – Stage 3

The entire Wisconsin portion from the Alternative C – Option 2 river crossing to the existing STH 35/64 roadway would be complete and open to traffic by the third stage with the exception of westbound STH 35/64 near 20th Street. The final stage of construction in Wisconsin for Alternative C – Option 2 would include construction of the remaining section of westbound STH 35/64 near 20th Street and the existing STH 35/64 alignment. Westbound STH 35/64 traffic would be switched to the eastbound STH 35/64 lanes near 150th Avenue during this construction and switched back to the new westbound STH 35/64 lanes south of the existing STH 35/64 roadway.

12.4.4 Alternative D

12.4.4.1 Minnesota TH 36/95 and the St. Croix River Crossing – Alternative D

TH 36 east of Osgood Avenue, the TH 36/95 interchange (Oak Park Heights) area, the TH 36/95 interchange (Stillwater) area, and the St. Croix River crossing for Alternative D would be constructed in the five stages shown on Figure 12-8. See Section 12.4.1 for a description of construction staging for TH 36 from the western project terminus to Osgood Avenue.

**Figure 12-6 – Wisconsin STH 35/64 – Staging Phase 1 (Alternative C – Option 1)
(11x17 – color)**

BACK

**Figure 12-7 – Wisconsin STH 35/64 – Staging Phase 1 (Alternative C – Option 2)
(11x17 – color)**

BACK

**Figure 12-8 – TH 36/95 Interchange Area – Staging Phase 1 (Alternative D)
(11x17 – color)**

BACK

Following is a description of the construction activities and traffic shifts during each phase. Access to residential or commercial buildings would be maintained during construction of Alternative D; however, at times, temporary provisions may need to be implemented to maintain access. Temporary erosion control devices and BMPs, which may include construction of permanent stormwater treatment ponds, would be built concurrent or prior to construction of each stage.

Alternative D (Minnesota) – Stage 1

Existing traffic patterns on TH 36 and TH 95 would be maintained through Stage 1. Construction of the Alternative D river crossing and various ramps at the southeast end of the bridge (closest to the St. Croix River on the Stillwater Municipal Barge Facility property – TH 36/95 interchange [Stillwater]) would begin. Following are the construction activities associated with Stage 1 of Alternative D:

- Construction of the Lookout Trail cul-de-sac near the existing TH 36 roadway;
- Construction of the south frontage road from about 1,500 feet east of Osgood Avenue to Beach Road. A temporary connection would be constructed from the south frontage road to existing Beach Road;
- Construction of TH 95 from near the existing TH 95 roadway north to the TH 36/95 single point interchange for Alternative D, including realignment of the CSAH 28 (Pickett Avenue) intersection with TH 95, across from the Xcel Energy King Power Plant entrance;
- Construction of TH 36 between interchange ramps and partial construction of all TH 36/95 interchange ramps in Oak Park Heights;
- Construction of eastbound TH 36 to the Alternative D river crossing through the Stillwater Municipal Barge Facility property. Construction would also include the northbound TH 95 ramp, adjacent to the TH 36 roadway through the Stillwater Municipal Barge Facility property, under the Alternative D bridge, to downtown Stillwater;
- Realignment and construction of the railroad and construction of the frontage road east of TH 95 from the TH 36/95 interchange north past the MCES wastewater treatment plant entrance. The MCES wastewater treatment plant entrance would be reconstructed at this time as well.

Alternative D (Minnesota) – Stage 2

Northbound TH 95 to eastbound TH 36 and westbound TH 36 to southbound TH 95 traffic would be detoured to Osgood Avenue, the south frontage road, Beach Road, and Stagecoach

Trail as described for Alternative B-1 (see Section 12.4.2.1). An alternative option to this would be to detour traffic from TH 95 to CSAH 14, south of the project area, then to Osgood Avenue and north to TH 36. Construction activities during Stage 2 of Alternative D would include:

- Construction of southbound TH 95 from just south of the King Plant entrance to the southern project limits. A temporary widening would be constructed along the east side of existing northbound TH 95 with temporary access connections for side streets to the east;
- Construction of northbound TH 95 from the King Plant entrance north to where construction was completed in Stage 1;
- Completion of the TH 95 frontage road from the Dahl Tech property north to the MCES wastewater treatment plant entrance;
- Partial construction of the southbound TH 95 ramp between the existing roadway alignment near downtown Stillwater to the TH 36/95 interchange (Stillwater) at the Alternative D river crossing (see Figure 12-8);

Alternative D (Minnesota) – Stage 3

Traffic to/from TH 36 to TH 95 south of the TH 36/95 interchange in Oak Park Heights would continue to be detoured at Osgood Avenue along the south frontage road with Stage 3 of Alternative D construction, similar to Alternative C. All TH 36 traffic would be shifted to the existing westbound TH 36 lanes. The following activities would be associated with Stage 3 of Alternative D:

- Construction of eastbound TH 36 from east of Osgood Avenue to near the existing Beach Road overpass;
- Removal of the south half of the existing Beach Road Bridge and construction of the south half of the new Beach Road overpass;
- Completion of the eastbound TH 36 to southbound TH 95 (Ramp A) and northbound TH 95 to eastbound 36 interchange ramps (Ramp D);
- Removal of the existing TH 36 bridge over TH 95 and construction of TH 36 from the TH 36/95 interchange in Oak Park Heights north to the end of TH 36 construction in Stage 1; and
- Construction of the southbound TH 95 to eastbound TH 36 ramp at the Alternative D river crossing and TH 36/95 interchange (Stillwater) (see Figure 12-8 – Interchange Inset).

Alternative D (Minnesota) – Stage 4

All TH 36 traffic would be switched from the existing westbound TH 36 lanes to the proposed eastbound TH 36 lanes constructed in Stages 1 and 3 south of the TH 36/95 interchange near the Alternative D river crossing. The Beach Road ramp to TH 36 would also be closed in Stage 4 and the existing Beach Road overpass would be removed. Following is a list of construction activities associated with Stage 4 of Alternative D:

- construction of westbound TH 36 from near Osgood Avenue to the proposed Beach Road overpass;
- completion of the remainder of the northbound TH 95 to westbound TH 36 interchange ramp (Ramp B) in Oak Park Heights;
- construction of the north half of the Beach Road overpass;
- construction of northbound TH 95 from the southern project terminus to the King Plant entrance;
- completion of the westbound TH 36 to southbound TH 95 interchange ramp (Ramp C) in Oak Park Heights and construction of southbound TH 95 from Ramp C to the TH 36/95 interchange near the river crossing;
- construction of southbound TH 95 from downtown Stillwater, including turn-lanes and signal at the Nelson Street/Main Street intersection and closure of vehicular access to the Lift Bridge.

Alternative D (Minnesota) – Stage 5

TH 36, TH 95, and both TH 36/95 interchanges in Oak Park Heights and Stillwater would be open to traffic by the final stage (Stage 5) of Alternative D. The final construction activities with Stage 5 would include removal of the temporary connection between the south frontage road and Beach Road, construction of the south frontage road to Stagecoach Trail, including local side-street connections, and removal of the 56th Street “slip ramp” between the 56th Street/CSAH 28 (Pickett Avenue) intersection and TH 95 and construction of stormwater ponds.

12.4.4.2 Wisconsin STH 64 and STH 35/64 – Alternative D

Construction staging for Alternative D in Wisconsin would be completed in five stages as shown on Figure 12-9. Construction of the five stages for Alternative D in Wisconsin would occur independent of the five stages of construction in Minnesota. Temporary erosion control devices and BMPs, which may include construction of permanent stormwater treatment ponds, would be built concurrent or prior to construction of each stage. The Lift Bridge and existing STH 64 up the Wisconsin bluff could remain open during construction, although construction of the roadway near the bridge abutment would require several stages and the use of temporary bypasses adjacent to the existing roadway.

Closing STH 64 from the Lift Bridge to Houlton during construction would decrease construction time and costs. With the Lift Bridge approach roadway in Wisconsin closed, the proposed STH 64 roadway could be constructed from the shoreline to the existing STH 35 roadway in one stage as part of Stage 1 construction. However, closing the Wisconsin approach roadway and Lift Bridge during construction of Alternative D would require river crossing traffic to be detoured to either the I-94 crossing near Hudson, Wisconsin (approximately 7 highway miles to the south of the Lift Bridge) or the STH 243 crossing near Osceola, Wisconsin (approximately 20 highway miles to the north of the Lift Bridge).

Following is a description of construction activities associated with each stage, assuming existing STH 64 from the Lift Bridge to Houlton would remain open during construction.

Alternative D (Wisconsin) – Stage 1

During Stage 1 of Alternative D construction in Wisconsin, the existing approach roadway to the Lift Bridge could remain open to traffic. The new STH 64 roadway would be constructed along the north side of the existing roadway from near the shoreline up the bluff to the existing approach roadway. The bridge section south of the existing approach roadway near the causeway would be constructed, and retaining walls for the proposed STH 64 roadway up the Wisconsin bluff would also be constructed at this time. Temporary pavement would be needed along the south side of the existing approach roadway near the causeway to maintain traffic during construction of the bridge abutment and approach roadways.

Near the eastern project terminus, westbound STH 35/64 traffic would be shifted to the eastbound lanes east of 150th Avenue to the point where STH 35/64 merges from a four-lane roadway to a two-lane roadway. One lane of traffic would be maintained in each direction. The activities associated with Alternative D Stage 1 construction in Wisconsin include:

- Construction of the STH 35 bypass from south of Houlton to the proposed STH 35/64 interchange and the local road connection from the proposed STH 35/64 interchange north to existing STH 35/64. A temporary signal would be installed at the intersection of the local road connection and existing STH 35/64 for use in subsequent stages. Existing STH 35 through Houlton would be converted to a local road (“Old STH 35”). Construction of the proposed STH 35 bypass would also include construction of the intersection with CTH E. A temporary bypass would be constructed at CTH E and along existing STH 35 south of Houlton to maintain through traffic;
- Construction of an STH 35 overpass over the proposed STH 64 roadway at the top of the bluff;
- Construction of STH 64 from east of existing STH 35 to existing STH 35/64, including the proposed STH 35/64 interchange;
- Construction of the proposed westbound STH 35/64 from existing STH 35/64 to 150th Avenue and the eastern project terminus; and
- Construction of the proposed north frontage road parallel to the proposed westbound STH 35/64, including the connection to Anderson Scout Camp Road.

Figure 12-9 – Wisconsin STH 35/64 – Staging Phase 1 (Alternative D) (11x17 – color)

BACK

Alternative D (Wisconsin) – Stage 2

The proposed STH 35 bypass around Houlton would be open to traffic in Stage 2 of Alternative D. A temporary connection would be constructed from existing STH 35/64 to the westbound STH 35/64 lanes constructed in Stage 1. All STH 35/64 traffic would be switched to the new STH 35/64 westbound lanes. Construction activities associated with Stage 2 of Alternative D include:

- Construction of proposed STH 64 up the Wisconsin bluff east of the existing approach roadway to east of existing STH 35, where construction was completed in Stage 1. Existing STH 35 would be open until the proposed STH 64 roadway is constructed across the existing roadway alignment;
- Construction of STH 35 from the existing STH 35 alignment to the overpass over the proposed STH 64 in Houlton;
- Construction of eastbound STH 35/64 from existing STH 35/64 to 150th Avenue and the eastern project terminus; and
- Construction of the connection of 20th Street to the existing STH 35/64 roadway, which would become the new south frontage road along the eastbound STH 35/64 lanes.

Alternative D (Wisconsin) – Stage 3

Traffic would continue to use the existing STH 35/64 roadway from Houlton or the STH 35 bypass east of Houlton to the STH 35/64 interchange constructed in Stage 1. Westbound STH 35/64 traffic would switch to the eastbound STH 35/64 lanes east of the interchange, switching back to the westbound STH 35/64 to STH 35 ramp at the STH 35/64 interchange. Westbound traffic would then detour to existing STH 35/64 via the local road connection, through Houlton, and to the Lift Bridge. Eastbound traffic from the Lift Bridge would travel STH 64 up the Wisconsin Bluff, to the local road connection, and access STH 35/64 from the STH 35/64 interchange. Activities associated with Stage 3 of Alternative D include construction of westbound STH 35/64 lanes from east of the STH 35/64 interchange to the westbound STH 35/64 lanes constructed in Stage 1 near the existing STH 35/64 roadway; and construction of the connection between existing STH 35/64 and the north frontage road.

Alternative D (Wisconsin) – Stage 4

Eastbound and westbound STH 35/64 would be open to traffic east of the STH 35/64 interchange by Stage 4 for Alternative D. Traffic could continue to use the existing STH 35/64 roadway from near the Alternative D bridge abutment and up the Wisconsin bluff, through Houlton, and to the Alternative D STH 35/64 interchange via the local road connection. Because the Lift Bridge would be closed with construction of Stage 4 in Minnesota (see Section 12.4.4.1), all traffic would use the Alternative D river crossing. Near the Wisconsin shoreline, eastbound STH 64 traffic would switch to the westbound STH 64 lanes. A temporary roadway would connect the westbound STH 64 lanes built in Stage 1 to the existing STH 64 roadway. The

eastbound STH 64 lanes from near the bridge abutment to the endpoint of construction in Stage 2 would be completed in Stage 4. This is a short segment of roadway near the intersection of existing STH 64 and CTH E at the bottom of the Wisconsin bluff.

Alternative D (Wisconsin) – Stage 5

The final construction activity associated with the STH 64 main line would be completed in Stage 5. Existing STH 64 up the Wisconsin bluff would be closed and excess pavement removed. Westbound STH 64 traffic would be switched to eastbound STH 64 lanes near the bridge abutment for construction of a section of the westbound STH 64 lanes east of the bridge abutment. Once this section of westbound STH 64 is complete, the roadway would be fully open to traffic. Other construction activities associated with Stage 5 include completion of the proposed local road north of the overpass in Houlton to connect with the existing STH 35 roadway alignment, construction of side street connections to the proposed local road, and construction of the trail from the Lift Bridge up the Wisconsin bluff to Houlton.

12.4.5 Alternative E

12.4.5.1 Minnesota TH 36/95 and the St. Croix River Crossing – Alternative E

TH 36 east of Osgood Avenue, the TH 36/95 interchange area, and the St. Croix River crossing for Alternative E would be constructed in the five stages shown on Figure 12-10. See Section 12.4.1 for a description of construction staging for TH 36 from the western project terminus to Osgood Avenue. Access to residential or commercial buildings would be maintained during construction of Alternative E; however, at times, temporary provisions may need to be implemented to maintain access. Temporary erosion control devices and BMPs, which may include construction of permanent stormwater treatment ponds, would be built concurrent or prior to construction of each stage.

Construction staging for Alternative E east of Osgood Avenue through the TH 36/95 interchange in Oak Park Heights, and south of the proposed interchange along TH 95 would be constructed in the manner as described for Alternative D (see Section 12.4.4.1). Following is a description of the construction activities and traffic shifts at the Alternative E bridge and approach roadways north of the TH 36/95 interchange to the TH 36/95 intersection and into downtown Stillwater.

Alternative E (Minnesota) – Stage 1

The Alternative E river crossing would be constructed in Stage 1 from adjacent to the Minnesota shoreline to the Wisconsin shoreline. Existing traffic patterns would be maintained. A section of the proposed eastbound TH 36 would be constructed adjacent to the existing roadway in the Stillwater Municipal Barge Facility property, between the bridge abutment and the Sunnyside Marina. A temporary bypass would also be constructed from the bridge abutment to downtown Stillwater. This temporary bypass would be located between the existing TH 36 alignment and the Minnesota shoreline of the St. Croix River. Because of space limitations between the roadway and shoreline, temporary walls and other structures (e.g., sheetpiles) would be needed to avoid extending the temporary bypass into the St. Croix River.

**Figure 12-10 – TH 36/95 Interchange Area – Staging Phase 1 (Alternative E)
(11x17 – color)**

BACK

Alternative E (Minnesota) – Stage 2

No construction activities would occur north of the TH 36/95 interchange in Oak Park Heights near the Alternative E bridge abutment in Stage 2. Construction activities at the TH 36/95 interchange for Stage 2 of Alternative E are the same as those described for Alternative D (see Section 12.4.4.1).

Alternative E (Minnesota) – Stage 3

All TH 36 traffic would be switched to the proposed eastbound portion of TH 36 and temporary bypass near the Alternative E river crossing constructed in Stage 1. Westbound TH 36 would be constructed from the eastbound TH 36 lanes constructed in Stage 1 north to downtown Stillwater. The northbound TH 95 lanes from the proposed eastbound TH 36 near the bridge abutment north to the intersection and ramp for southbound TH 95 to eastbound TH 36 traffic.

Alternative E (Minnesota) – Stage 4

All traffic would be switched from the proposed eastbound TH 36 lanes built in Stage 3 (see Section 12.4.4.1) to the newly constructed westbound TH 36 lanes, also constructed in Stage 3 between the Alternative E river crossing and the Sunnyside Marina (the middle of the Stillwater Municipal Barge Facility property). Westbound TH 36 lanes would be constructed from near the Alternative E bridge abutment south to the TH 36/95 interchange in Oak Park Heights.

Alternative E (Minnesota) – Stage 5

The final stage of construction for Alternative E would include construction of the remaining section of the bridge from the Minnesota shoreline south through the bridge abutment to the eastbound TH 36 lanes. The TH 36 roadway and TH 36/95 interchange in Oak Park Heights would be open to traffic. Eastbound TH 36 traffic would switch to the westbound TH 36 lanes near the bridge abutment. One lane of traffic in both directions would carry traffic into downtown Stillwater and the Lift Bridge. The southbound TH 95 to eastbound TH 36 ramp at the Alternative E river crossing would be constructed from the Minnesota shoreline to the intersection with the north- and southbound TH 95 lanes. Construction of TH 36/95 (Main Street) into downtown Stillwater, the parking lot north of the Alternative E along Main Street, and construction of the signalized Nelson Street/Main Street intersection would be included in Stage 5. The restraining of Main Street from Nelson Street to the Lift Bridge to accommodate two lanes of westbound TH 36 traffic from the Lift Bridge and one lane of northbound Main Street traffic through downtown Stillwater would also be completed as a part of Alternative E Stage 5 construction in Minnesota.

12.4.5.2 Wisconsin STH 64 and STH 35/64 – Alternative E

Construction staging for Alternative E in Wisconsin would be completed in five stages as shown on Figure 12-11. Construction of the five stages for Alternative E in Wisconsin would occur independent of the five stages of construction in Minnesota. Temporary erosion control devices and BMPs, which may include construction of permanent stormwater treatment ponds, would be

built concurrent or prior to construction of each stage. As described for Alternative D (see Section 12.4.4.2), the Lift Bridge and existing STH 64 up the Wisconsin bluff could remain open during construction. However, construction of the roadway near the bridge abutment would require several stages and the use of temporary bypasses adjacent to the existing roadway.

Closing STH 64 from the Lift Bridge to Houlton during construction would decrease construction time and costs. With the Lift Bridge approach roadway in Wisconsin closed, the proposed eastbound STH 64 lanes and proposed westbound STH 64 approach lanes to the Lift Bridge could be constructed from the shoreline to the existing STH 35 roadway in one stage as part of Stage 1 construction. However, closing the Wisconsin approach roadway and Lift Bridge during construction of Alternative E would require river crossing traffic to be detoured to either the I-94 crossing near Hudson or the STH 243 crossing near Osceola.

Following is a description of construction activities associated with each stage, assuming existing STH 64 from the Lift Bridge to Houlton would remain open during construction.

Alternative E (Wisconsin) – Stage 1

During Stage 1 of Alternative E construction in Wisconsin, the existing approach roadway to the Lift Bridge would remain open to traffic. The Alternative E river crossing would be constructed up to the bridge abutment. Retaining walls for the proposed STH 64 roadway up the Wisconsin bluff would also be constructed at this time.

Near the eastern project terminus, westbound STH 35/64 traffic would be shifted to the eastbound lanes east of 150th Avenue as described for Alternative D. One lane of traffic would be maintained in each direction. The activities associated with Alternative E Stage 1 construction in Wisconsin include:

- Construction of the STH 35 bypass from south of Houlton to the proposed STH 35/64 interchange and the local road connection from the proposed STH 35/64 interchange north to existing STH 35/64 as described for Alternative D. Refer to Stage 1 construction of Alternative D for a description of additional construction associated with the STH 35 bypass that would also be constructed with Alternative E;
- Construction of an STH 35 overpass over the proposed STH 64 roadway at the top of the bluff;
- Construction of STH 64 from east of existing STH 35 to existing STH 35/64, including the proposed STH 35/64 interchange;
- Construction of the proposed westbound STH 35/64 from existing STH 35/64 to 150th Avenue and the eastern project terminus; and
- Construction of the proposed north frontage road parallel to the proposed westbound STH 35/64, including the connection to Anderson Scout Camp Road.

Figure 12-11 – Wisconsin STH 35/64 – Staging Phase 1 (Alternative E) (11x17 – color)

BACK

Alternative E (Wisconsin) – Stage 2

The proposed STH 35 bypass around Houlton would be open to traffic in Stage 2 of Alternative E. A temporary connection would be constructed from existing STH 35/64 to the westbound STH 35/64 lanes constructed in Stage 1. All STH 35/64 traffic would be switched from existing STH 35/64 to the new STH 35/64 westbound lanes via this temporary connection. A temporary bypass would be constructed along the north side of existing STH 64 from the Lift Bridge causeway part way up the Wisconsin bluff. This temporary bypass would be used by traffic in later construction stages. Construction activities associated with Stage 2 of Alternative D include:

- Construction of STH 35 from the existing STH 35 alignment to the overpass over the proposed STH 64 in Houlton;
- Construction of eastbound STH 35/64 from existing STH 35/64 to 150th Avenue and the eastern project terminus; and
- Construction of the connection of 20th Street to the existing STH 35/64 roadway, which would become the new south frontage road along the eastbound STH 35/64 lanes.

Alternative E (Wisconsin) – Stage 3

Traffic would continue to use the existing STH 35/64 roadway from Houlton or the STH 35 bypass east of Houlton to the STH 35/64 interchange constructed in Stage 1. Westbound STH 35/64 traffic would switch to the eastbound STH 35/64 lanes just to the east of the interchange and connect to the Lift Bridge as described for Alternative D (see Section 12.4.4.2 – Alternative D Stage 3). Traffic to/from the Lift Bridge would use the temporary bypass constructed in Stage 2 from the Lift Bridge causeway to

Activities associated with Stage 3 of Alternative E include:

- Construction of eastbound STH 64 from the Alternative E bridge abutment to existing STH 35. Construction of westbound STH 64 would extend from the existing STH 64 roadway to existing STH 35 in Houlton;
- Construction of westbound STH 35/64 lanes from east of the STH 35/64 interchange to the westbound STH 35/64 lanes constructed in Stage 1 near the existing STH 35/64 roadway; and
- Construction of the connection between existing STH 35/64 and the north frontage road.

Alternative E (Wisconsin) – Stage 4

Westbound STH 64 along the Wisconsin bluff would be completed in Stage 4. Existing STH 64 up the Wisconsin bluff would be closed and excess pavement removed. Westbound

STH 64 traffic would be switched to eastbound STH 64 lanes in Houlton, travel the eastbound lanes down the Wisconsin bluff, and connect to the existing STH 64 roadway near the Lift Bridge causeway via a temporary roadway connection. Other construction activities associated with Alternative E Stage 4 include completion of the proposed local road north of the overpass in Houlton to connect with the existing STH 35 roadway alignment, construction of side street connections to the proposed local road, and construction of a section of the trail from Houlton down the Wisconsin bluff.

Alternative E (Wisconsin) – Stage 5

The final construction activities associated with Alternative E in Wisconsin would be to complete the connection between westbound STH 64 and the Lift Bridge. Westbound STH 64 traffic would continue to utilize the eastbound lanes as described for Stage 4. A temporary connection at the Lift Bridge causeway would connect eastbound STH 64 lanes to the Lift Bridge approach roadway. If the approach roadway to the Lift Bridge is replaced, the Lift Bridge may be temporarily closed during this reconstruction. The Alternative E bridge would then be used for one lane of westbound traffic and one lane of eastbound traffic. The remaining sections of the proposed trail through Kolliner Park would also be constructed at this time.