



2004 Supplemental Draft Environmental Impact Statement

St. Croix River Crossing Project

Trunk Highway 36, Washington County, Minnesota
State Trunk Highway 64, St. Croix County, Wisconsin

AUGUST 2004

Minnesota Department of Transportation
Wisconsin Department of Transportation
Federal Highway Administration

TH 36/STH 64 ST. CROIX RIVER CROSSING PROJECT

2004 SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT and DRAFT SECTION 4(f) EVALUATIONS (Page 1 of 3)

This document evaluates and describes alternatives for the construction of a new crossing of the St. Croix River between the cities of Stillwater and Oak Park Heights in Washington County, Minnesota, and the Town of St. Joseph in St. Croix County, Wisconsin, and reconstruction of associated roadways in both states. Project termini: A point 700 feet east of the TH 5/TH 36 interchange in Minnesota and a point 100 feet southwest of the 150th Avenue overpass on STH 35/64 in Wisconsin. Total project distance is 6.7 miles.

SUBMITTED PURSUANT TO:

42 USC 4332 (2) (c) and 49 USC 303
Minnesota Statute 116D
Section 1.11 Wisconsin Statutes, Wisconsin Administration Code TRANS 400

Submitted by:

U.S. Department of Transportation
Federal Highway Administration (FHWA)
Minnesota Department of Transportation (Mn/DOT)
Wisconsin Department of Transportation (Wis/DOT)

Cooperating Agencies:

U.S. Army Corps of Engineers
U.S. Coast Guard
U.S. Fish and Wildlife Service
U.S. Environmental Protection Agency
National Park Service
Advisory Council on Historic Preservation
Minnesota Department of Natural Resources
Wisconsin Department of Natural Resources
Minnesota State Historic Preservation Office
Wisconsin State Historic Preservation Office
Minnesota Pollution Control Agency

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

Ms. Cheryl Martin
FHWA
Minnesota Division - Galtier Plaza,
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101-2904
(651) 291-6120

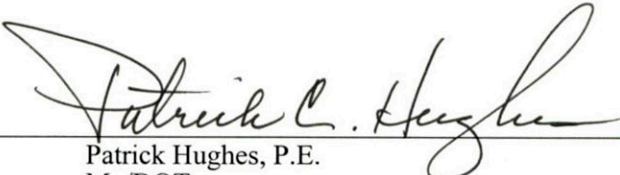
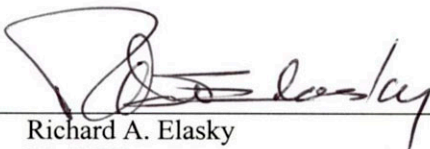
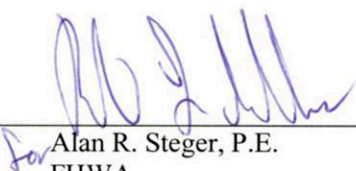
Mr. Todd J. Clarkowski, P.E.
Mn/DOT
1500 West County Road B2
Roseville, Minnesota 55113
(651) 582-1169

Mr. Terry C. Pederson, P.E.
Wis/DOT
718 West Clairemont Avenue
Eau Claire, Wisconsin 54701
(715) 836-2857

TH 36/STH 64 ST. CROIX RIVER CROSSING PROJECT

2004 SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT and DRAFT SECTION 4(f) EVALUATIONS

Signatures of Approval (Page 2 of 3)

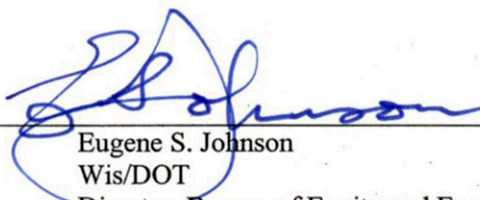
7/28/04		
Date of Approval	Patrick Hughes, P.E. Mn/DOT	Metropolitan District Engineer
7/29/04		
Date of Approval	Richard A. Elasky Mn/DOT Chief Environmental Officer	Director, Office of Environmental Services
8/5/04		
Date of Approval	for Alan R. Steger, P.E. FHWA	Division Administrator

TH 36/STH 64 ST. CROIX RIVER CROSSING PROJECT

**2004 SUPPLEMENTAL
DRAFT ENVIRONMENTAL IMPACT STATEMENT
and DRAFT SECTION 4(f) EVALUATIONS**

**Signatures of Approval
(Page 3 of 3)**

8/2/04
Date of Approval


Eugene S. Johnson
Wis/DOT
Director, Bureau of Equity and Environmental Services

Director

ST. CROIX RIVER CROSSING PROJECT SUPPLEMENTAL DRAFT EIS

ABBREVIATED TABLE OF CONTENTS

	<u>Page No.</u>
Executive Summary	ES-1
Chapter 1: Introduction to the Supplemental Draft EIS	1-1
Chapter 2: Purpose of and Need for Action.....	2-1
Chapter 3: Description of Alternatives	3-1
Chapter 4: Transportation Systems and Impacts	4-1
Chapter 5: Social, Relocation, and Economic Impacts.....	5-1
Chapter 6: Land Use Impacts	6-1
Chapter 7: Visual Impacts	7-1
Chapter 8: Air Quality, Traffic Noise, and Contaminated Sites.....	8-1
Chapter 9: Natural Resource Impacts	9-1
Chapter 10: Water Resources	10-1
Chapter 11: Archaeological and Historic Resources	11-1
Chapter 12: Construction Impacts	12-1
Chapter 13: Cumulative Impacts	13-1
Chapter 14: Adverse Impacts that Cannot be Avoided, Relationship of Local Short-Term Uses Versus Long-Term Productivity and Irreversible and Irretrievable Commitment to Resources	14-1
Chapter 15: Agency Coordination, Stakeholder Group and Public Involvement	15-1
Chapter 16: List of Preparers	16-1
Chapter 17: List of Agencies and Organizations to Whom the Supplemental Draft EIS was Provided.....	17-1
Chapter 18: Index	18-1

Appendix A – List of Project Documents and Availability

Appendix B – Stakeholder Operating Agreement

Appendix C – Agency Correspondence

Appendix D – Environmental Justice – Houlton Area Public Meeting

Appendix E – Draft Section 4(f) Evaluations

- Introduction
- Lower St. Croix National Scenic Riverway
- Lift Bridge
- Stillwater Municipal Barge Facility Property
- Kolliner Park
- Lowell Park

ABBREVIATED TABLE OF CONTENTS (continued)

Appendix E – Draft Section 4(f) Evaluations (continued)

- New Stillwater Park (unnamed park)
- Stillwater Commercial Historic District
- Stillwater Cultural Landscape District
- Fairview Cemetery

Appendix F – National Park Service Correspondence

Appendix G – 1994 Section 106 Memorandum of Agreement

Appendix H – 1999 U.S. FWS Correspondence to FHWA – Zebra Mussel Decontamination Protocol

ST. CROIX RIVER CROSSING PROJECT SUPPLEMENTAL DRAFT EIS TABLE OF CONTENTS

Page No.

CHAPTER 1 INTRODUCTION TO THE SUPPLEMENTAL DRAFT EIS

1.0	INTRODUCTION	1-1
1.1	PURPOSE OF SUPPLEMENTAL DRAFT EIS	1-1
1.2	PROJECT SUMMARY AND CONTEXT	1-2
1.2.1	Project Summary	1-2
1.2.2	Regional Context and Other Area Projects	1-9
1.2.3	Geographic Setting and Context	1-11
1.2.3.1	Lower St. Croix National Scenic Riverway	1-11
1.2.3.2	Historic Stillwater Area	1-12
1.2.4	Project History	1-13
1.2.4.1	1985 Draft Study Outline and Scoping Documents	1-13
1.2.4.2	1987 Scoping Decision Document/Final Study Outline for the Stillwater – Houlton Bridge Study	1-13
1.2.4.3	1990 DRAFT EIS	1-15
1.2.4.4	1994 Memorandum of Agreement.....	1-15
1.2.4.5	1995 FINAL EIS.....	1-15
1.2.4.6	Braun Facilitation Process and Supplemental DEIS (1996 – 2001).....	1-15
1.2.4.7	2003/2004 SDEIS and Stakeholder Resolution Process.....	1-16
1.2.4.8	\$5 Million Lift Bridge Repair Project	1-17
1.3	PROJECT SCHEDULE.....	1-18
1.4	RESPONSIBLE GOVERNMENTAL UNIT AND PROJECT MANAGERS	1-18

CHAPTER 2 PURPOSE OF AND NEED FOR ACTION

2.0	INTRODUCTION	2-1
2.1	STAKEHOLDER GROUP DEVELOPED PURPOSE AND NEED	2-2
2.1.1	Transportation Purpose	2-2
2.1.1.1	Mobility	2-2
2.1.1.2	Safety	2-3
2.1.2	Environmental, Cultural, Economic and Social Considerations.....	2-3

TABLE OF CONTENTS (continued)

Page No.

2.2	TRANSPORTATION NEEDS.....	2-4
2.2.1	Providing Safe and Efficient Mobility	2-4
2.2.1.1	Motor Vehicle Mobility.....	2-4
2.2.1.2	Alternate Mode Mobility	2-12
2.2.2	Providing a Reliable River Crossing.....	2-13
2.2.3	Ability of TSM/TDM Measures to Address Transportation Issues 2-15	
2.2.3.1	1998 Braun Studies.....	2-15
2.2.3.2	2003 Scoping Document: Alternative A.....	2-16
2.2.3.3	Transit Feasibility Study.....	2-15
2.2.4	Summary of Transportation Issues.....	2-18
2.3	PROJECT OBJECTIVES	2-19
2.3.1	Measurable Transportation Objectives.....	2-19
2.3.2	Qualitative Transportation Objectives	2-20
2.3.3	Environmental, Social and Historic Resource Objectives	2-20

**CHAPTER 3
DESCRIPTION OF ALTERNATIVES**

3.0	INTRODUCTION	3-1
3.1	NO-BUILD ALTERNATIVE	3-4
3.2	DESIGN ELEMENTS COMMON TO ALL BUILD ALTERNATIVES - TRUNK HIGHWAY (TH) 5 to OSGOOD AVENUE.....	3-5
3.3	ALTERNATIVE B-1.....	3-12
3.3.1	Minnesota Approach Roadways – Alternative B-1	3-12
3.3.1.1	TH 36 (TH 5 to Osgood Avenue) – Alternative B-1	3-12
3.3.1.2	TH 95 – Alternative B-1	3-12
3.3.1.3	TH 36/95 Interchange Area – Alternative B-1	3-17
3.3.2	New River Bridge – Alternative B-1	3-19
3.3.3	Future of the Lift Bridge – Alternative B-1.....	3-20
3.3.4	Wisconsin Approach – Alternative B-1	3-20
3.4	ALTERNATIVE C.....	3-25
3.4.1	Minnesota Approach Roadways – Alternative C	3-25
3.4.1.1	TH 36 (TH 5 to Osgood Avenue) – Alternative C	3-26
3.4.1.2	TH 95 – Alternative C	3-26
3.4.1.3	TH 36/95 Interchange Area – Alternative C.....	3-26
3.4.2	New River Bridge – Alternative C	3-33
3.4.3	Future of the Lift Bridge – Alternative C.....	3-34
3.4.4	Wisconsin Approach Roadways – Alternative C.....	3-34
3.4.4.1	Alternative C – Option 1.....	3-34
3.4.4.2	Alternative C – Option 2.....	3-35

TABLE OF CONTENTS (continued)

Page No.

3.5	ALTERNATIVE D.....	3-36
3.5.1	Minnesota Approach Roadways – Alternative D	3-36
3.5.1.1	TH 36 (TH 5 to Osgood Avenue) – Alternative D.....	3-36
3.5.1.2	TH 95 – Alternative D.....	3-41
3.5.1.3	TH 36/95 Interchange in Oak Park Heights – Alternative D.....	3-41
3.5.1.4	TH 36/95 and the TH 36/95 Interchange Near Stillwater - Alternative D	3-42
3.5.2	New River Bridge – Alternative D	3-44
3.5.3	Future of the Lift Bridge – Alternative D.....	3-44
3.5.4	Wisconsin Approach – Alternative D	3-45
3.6	ALTERNATIVE E.....	3-46
3.6.1	Minnesota Approach Roadways – Alternative E.....	3-46
3.6.1.1	TH 36 (TH 5 to Osgood Avenue) – Alternative E.....	3-46
3.6.1.2	TH 95 – Alternative E.....	3-51
3.6.1.3	TH 36/95 Interchange in Oak Park Heights – Alternative E.....	3-51
3.6.1.4	TH 36/95 Intersection Near Stillwater - Alternative E.....	3-51
3.6.2	New River Bridge – Alternative E.....	3-52
3.6.3	Future of the Lift Bridge – Alternative E.....	3-53
3.6.4	Wisconsin Approach – Alternative E.....	3-54
3.7	TRANSIT AND HIGH OCCUPANCY VEHICLE (HOV) PROVISIONS.....	3-55
3.8	COSTS AND FUNDING	3-55
3.8.1	Major Investment Study (MIS) Process	3-56
3.9	ALTERNATIVES CONSIDERED IN PAST STUDIES.....	3-56
3.9.1	1987 Scoping Decision Document Alternatives.....	3-56
3.9.2	1990 Draft EIS Alternatives.....	3-59
3.9.3	1995 Final EIS Preferred Alternative	3-59
3.9.4	1999 Amended Scoping Decision Document Alternatives	3-59
3.9.5	2003 Amended Scoping Document and 2004 Amended Final Scoping Decision Document Alternatives.....	3-59

**CHAPTER 4
TRANSPORTATION SYSTEMS AND IMPACTS**

4.0	INTRODUCTION	4-1
4.1	EXISTING TRANSPORTATION SYSTEM	4-1
4.1.1	Main Highway Corridors.....	4-1
4.1.1.1	Facility Descriptions.....	4-1
4.1.1.2	Traffic Volumes.....	4-6
4.1.1.3	Traffic Diversion	4-8

TABLE OF CONTENTS (continued)

Page No.

4.1.2	Lift Bridge	4-10
4.1.2.1	Facility Description	4-10
4.1.2.2	Lift Bridge Traffic Volumes	4-14
4.1.2.3	Lift Bridge Traffic Patterns	4-16
4.1.2.4	Regional Traffic Diversion	4-17
4.1.3	Alternate Modes.....	4-19
4.1.3.1	Existing and Planned Transit Services	4-19
4.1.3.2	Park-and-Ride Lots.....	4-19
4.1.3.3	HOV Facilities	4-20
4.1.3.4	Pedestrian and Bicycle Systems	4-20
4.1.3.5	Navigational and Recreational Boating	4-22
4.1.3.6	Employer Promotion of Alternate Modes.....	4-23
4.1.4	Existing Service and Operations	4-23
4.1.4.1	Analysis Methodology and Background	4-23
4.1.4.2	Existing Levels of Service	4-24
4.1.4.3	Safety	4-27
4.1.5	Summary of Issues Affecting Existing Transportation System Operations	4-30
4.2	ALTERNATIVES	4-33
4.2.1	Highway System.....	4-33
4.2.1.1	No-Build	4-33
4.2.1.2	Alternative B-1 _a	4-34
4.2.1.3	Alternative B-1 _b	4-34
4.2.1.4	Alternative C.....	4-34
4.2.1.5	Alternative D	4-35
4.2.1.6	Alternative E.....	4-35
4.2.2	Alternate Modes.....	4-35
4.2.2.1	Bicycle/Pedestrian System.....	4-35
4.2.2.2	Navigational and Recreational Boating	4-37
4.3	ALTERNATIVES ANALYSIS AND EVALUATION	4-37
4.3.1	Roadway Travel Demand Forecasts	4-38
4.3.1.1	Methodology.....	4-38
4.3.1.2	Regional Forecasts.....	4-39
4.3.1.3	Local Forecasts	4-43
4.3.2	Local Traffic Operations Analysis	4-44
4.3.2.1	Intersection Operations	4-44
4.3.2.2	Freeway Operations	4-47
4.3.3	Safety.....	4-47
4.3.3.1	Crashes.....	4-47
4.3.3.2	Incident Management and Emergency Response	4-49
4.3.4	Benefit/Cost Analysis.....	4-49

TABLE OF CONTENTS (continued)

Page No.

4.3.5	Access and Local Road Connectivity	4-50
4.3.5.1	TH 36 Partnership Study Area (TH 5 to Osgood)	4-51
4.3.5.2	TH 95 and 56th Street (CSAH 21)/Pickett Avenue (CSAH 28)	4-52
4.3.5.3	TH 36/95 Interchange	4-53
4.3.5.4	Downtown Stillwater	4-53
4.3.5.5	Wisconsin Approach Roadways	4-53
4.3.6	Vehicular Energy Consumption.....	4-55
4.3.7	Alternate Mode Systems.....	4-56
4.3.7.1	Transit	4-56
4.3.7.2	Bicycle/Pedestrian System.....	4-56
4.3.7.3	Navigational and Recreational Boating	4-57
4.3.8	Compatibility with Regional Transportation Plans	4-57
4.3.8.1	Roadways.....	4-57
4.3.8.2	Alternate Modes.....	4-58
4.3.9	Summary of Effects	4-58
4.4	MITIGATION OF IMPACTS ON TRANSPORTATION SYSTEM.....	4-59

**CHAPTER 5
SOCIAL, RELOCATION, AND ECONOMIC IMPACTS**

5.0	INTRODUCTION	5-1
5.1	SOCIAL IMPACTS.....	5-1
5.1.1	Affected Environment	5-1
5.1.1.1	Project Area and Population	5-1
5.1.1.2	Socio-Economic Characteristics	5-2
5.1.2	Environmental Consequences.....	5-2
5.1.2.1	Community Cohesion	5-2
5.1.2.2	Travel Patterns and Accessibility	5-7
5.1.2.3	Community Facilities and Services	5-7
5.1.2.4	Parks and Recreation Areas	5-10
5.1.2.5	Environmental Justice.....	5-14
5.1.3	Mitigation of Social Impacts.....	5-18
5.2	RIGHT-OF-WAY ACQUISITION AND RELOCATION.....	5-18
5.2.1	Affected Environment	5-19
5.2.2	Environmental Consequences.....	5-19
5.2.2.1	Minnesota	5-19
5.2.2.2	Wisconsin	5-43
5.2.2.3	Conclusions.....	5-46
5.2.3	Mitigation	5-46
5.2.3.1	Generalized Relocation Criteria	5-46

TABLE OF CONTENTS (continued)

Page No.

5.3	ECONOMIC IMPACTS: COMMERCIAL	5-47
5.3.1	Affected Environment	5-48
5.3.1.1	Overview of Washington County and the Stillwater Area Economies	5-48
5.3.1.2	Downtown Stillwater	5-51
5.3.1.3	Overview of St. Croix County and the Houlton Community	5-53
5.3.1.4	Origins and Destinations of Stillwater Lift Bridge Travelers.....	5-55
5.3.2	Environmental Consequences	5-56
5.3.2.1	Consequences to Downtown Stillwater	5-57
5.3.2.2	Consequence to the TH 36 Commercial Corridor	5-59
5.3.2.3	Consequences to Houlton, Wisconsin	5-66
5.3.2.4	Consequences to the Regional Economy.....	5-67
5.3.3	Conclusions	5-68
5.4	ECONOMIC IMPACTS: FISCAL.....	5-69

**CHAPTER 6
LAND USE IMPACTS**

6.0	INTRODUCTION	6-1
6.1	AFFECTED ENVIRONMENT	6-1
6.1.1	Regional Context	6-1
6.1.2	Study Area	6-3
6.1.3	Existing Conditions and Trends	6-3
6.1.3.1	Existing Land Use.....	6-3
6.1.3.2	Population, Households, and Employment.....	6-16
6.1.3.3	Recent Development and Growth Patterns.....	6-17
6.1.3.4	Transportation Patterns	6-20
6.1.3.5	Future Population Trends	6-21
6.1.4	Land Use Planning and Regulation	6-22
6.1.4.1	Planning Authority.....	6-22
6.1.4.2	Future Land Use	6-25
6.2	ENVIRONMENTAL CONSEQUENCES	6-36
6.2.1	Direct Impacts	6-36
6.2.1.1	Right-of-Way Acquisition	6-36
6.2.1.2	Redevelopment of Previously-Acquired Right-of-Way	6-36
6.2.1.3	Farmland Impacts	6-38
6.2.2	Indirect Impacts: Potential for Land Use Changes	6-38
6.2.2.1	Factors Affecting Indirect Land Use Change	6-38
6.2.2.2	Discussions with Local Government and Planning Officials	6-40
6.2.2.3	Accessibility-Based Growth Redistribution Scenarios.....	6-40
6.2.3	Findings	6-44
6.2.3.1	Commercial Development Impacts	6-44

TABLE OF CONTENTS (continued)		<u>Page No.</u>
6.2.3.2	Residential Development Impacts	6-46
6.2.3.3	Consistency with Local Land Use Plans	6-47
6.3	MITIGATION	6-48
6.3.1	Mitigation of Direct Land Use Impacts	6-48
6.3.1.1	Right-of-Way Acquisition	6-48
6.3.1.2	Redevelopment of Previously-Acquired Right-of-Way	6-48
6.3.1.3	Farmland Impacts	6-48
6.3.2	Mitigation of Indirect Land Use Impacts	6-49
6.3.2.1	Previous Planning Assistance Provided in Anticipation of a New River Crossing.....	6-49
6.4	SUMMARY OF LAND USE IMPACTS.....	6-51
6.4.1	Direct Impacts.....	6-51
6.4.2	Indirect (Secondary) Impacts	6-51
6.4.3	No-Build Alternative Impacts.....	6-51
6.4.4	No Effect	6-52

**CHAPTER 7
VISUAL IMPACT ANALYSIS**

7.0	INTRODUCTION	7-1
7.1	VISUAL IMPACT ASSESSMENT PROCESS.....	7-1
7.1.1	Step 1: Identify Affected Visual Resources	7-3
7.1.2	Step 2: Identify Affected Population.....	7-3
7.1.3	Step 3: Define Existing Visual Quality.....	7-4
7.1.3.1	Critical Viewsheds of the St. Croix River Crossing Project	7-6
7.1.3.2	Visual Corridors of the St. Croix River Crossing Project	7-13
7.1.4	Step 4: Identify Affected Populations	7-17
7.1.5	Step 5: Summarize Impacts by Alternatives	7-17
7.1.6	Step 6: Mitigate Visual Impacts	7-17
7.2	NO-BUILD ALTERNATIVE	7-17
7.3	ALTERNATIVE B-1.....	7-18
7.3.1	Critical Viewsheds (Alternative B-1)	7-22
7.3.1.1	Viewshed 1: Historic Downtown Stillwater (Alternative B-1)	7-22
7.3.1.2	Viewshed 2: The Minnesota Bluff and TH 95/TH 36 (Alternative B-1).....	7-28
7.3.1.3	Viewshed 3: The Wisconsin Bluff (Alternative B-1).....	7-28
7.3.1.4	Viewshed 4: Stillwater Municipal Barge Facility Property – Proposed Park (Alternative B-1)	7-33
7.3.1.5	Viewshed 5: St. Croix Overlook (Alternative B-1)	7-33

TABLE OF CONTENTS (continued)

Page No.

7.3.2	Visual Corridors (Alternative B-1)	7-33
7.3.2.1	Visual Corridor 1: Views Traveling along the St. Croix River (Alternative B-1).....	7-33
7.3.2.2	Visual Corridor 2: Views Traveling along the Project Corridor (Alternative B-1).....	7-37
7.3.3	Step 5: Summary of Potential Visual Impacts (Alternative B-1)	7-38
7.3.4	Step 6: Mitigation of Visual Impacts (Alternative B-1)	7-39
7.3.4.1	Minimization of Visual Impacts Through the Designs of Alternative B-1 Bridge Types.....	7-39
7.3.4.2	Proposed Mitigation For Visual Impacts.....	7-39
7.4	ALTERNATIVE C.....	7-39
7.4.1	Critical Viewsheds (Alternative C)	7-44
7.4.1.1	Viewshed 1: Historic Downtown Stillwater (Alternative C).....	7-44
7.4.1.2	Viewshed 2: The Minnesota Bluff and TH 95/TH 36 (Alternative C).....	7-48
7.4.1.3	Viewshed 3: The Wisconsin Bluff (Alternative C)	7-51
7.4.1.4	Viewshed 4: Stillwater Municipal Barge Facility Property – Proposed Park (Alternative C)	7-51
7.4.1.5	Viewshed 5: St. Croix Overlook (Alternative C)	7-52
7.4.2	Visual Corridors (Alternative C)	7-52
7.4.2.1	Visual Corridor 1: Views Traveling along the St. Croix River (Alternative C).....	7-52
7.4.2.2	Visual Corridor 2: Views Traveling along the Project Corridor (Alternative C).....	7-60
7.4.3	Step 5: Summary of Potential Visual Impacts (Alternative C)	7-61
7.4.4	Step 6: Mitigation of Visual Impacts (Alternative C)	7-62
7.4.4.1	Minimization of Visual Impacts Through the Designs of the Alternative C Bridge.....	7-62
7.4.4.2	Proposed Mitigation For Visual Impacts.....	7-62
7.5	ALTERNATIVE D.....	7-62
7.5.1	Critical Viewsheds (Alternative D)	7-66
7.5.1.1	Viewshed 1: Historic Downtown Stillwater (Alternative D)	7-66
7.5.1.2	Viewshed 2: The Minnesota Bluff and TH 95/TH 36 (Alternative D).....	7-73
7.5.1.3	Viewshed 3: The Wisconsin Bluff (Alternative D)	7-74
7.5.1.4	Viewshed 4: Stillwater Municipal Barge Facility Property – Proposed Park (Alternative D).....	7-74
7.5.1.5	Viewshed 5: St. Croix Overlook (Alternative D)	7-79
7.5.2	Visual Corridors (Alternative D)	7-79
7.5.2.1	Visual Corridor 1: Views Traveling along the St. Croix River (Alternative D).....	7-79
7.5.2.2	Visual Corridor 2: Views Traveling along the Project Corridor (Alternative D).....	7-80
7.5.3	Step 5: Summary of Potential Visual Impacts (Alternative D)	7-86

TABLE OF CONTENTS (continued)

Page No.

7.5.4	Step 6: Mitigation of Visual Impacts (Alternative D).....	7-86
7.5.4.1	Minimization of Visual Impacts Through the Designs of the Alternative D Bridge.....	7-87
7.5.4.2	Proposed Mitigation For Visual Impacts (Alternative D)	7-87
7.6	ALTERNATIVE E	7-87
7.6.1	Critical Viewsheds (Alternative E).....	7-92
7.6.1.1	Viewshed 1: Historic Downtown Stillwater (Alternative E).....	7-92
7.6.1.2	Viewshed 2: The Minnesota Bluff and TH 95/TH 36 (Alternative E).....	7-96
7.6.1.3	Viewshed 3: The Wisconsin Bluff (Alternative E).....	7-96
7.6.1.4	Viewshed 4: Stillwater Municipal Barge Facility Property – Proposed Park (Alternative E)	7-101
7.6.1.5	Viewshed 5: St. Croix Overlook (Alternative E).....	7-101
7.6.2	Visual Corridors (Alternative E).....	7-102
7.6.2.1	Visual Corridor 1: Views Traveling along the St. Croix River (Alternative E)	7-102
7.6.2.2	Visual Corridor 2: Views Traveling along the Project Corridor (Alternative E)	7-106
7.6.3	Step 5: Summary of Potential Visual Impacts (Alternative E).....	7-107
7.6.4	Step 6: Mitigation of Visual Impacts (Alternative E).....	7-108
7.6.4.1	Minimization of Visual Impacts Through the Designs of	7-108
7.6.4.2	Proposed Mitigation For Visual Impacts (Alternative E).....	7-108

CHAPTER 8

AIR QUALITY, TRAFFIC, NOISE AND CONTAMINATED SITES

8.0	INTRODUCTION	8-1
8.1	AIR QUALITY	8-1
8.1.1	Affected Environment	8-1
8.1.1.1	Carbon Monoxide	8-4
8.1.2	Environmental Consequences on Air Quality.....	8-5
8.1.2.1	Background Carbon Monoxide Concentrations	8-6
8.1.2.2	Intersection Carbon Monoxide Analysis	8-7
8.1.3	Discussion and Conclusions	8-9
8.1.4	Summary	8-10
8.2	TRAFFIC NOISE	8-11
8.2.1	Noise Regulations.....	8-12
8.2.2	Land Based Receptors.....	8-14
8.2.2.1	Affected Environment–Land	8-14
8.2.2.2	Environmental Consequences.....	8-16
8.2.2.3	Noise Mitigation	8-27

TABLE OF CONTENTS (continued)

Page No.

8.2.3	Noise On River	8-29
8.2.3.1	Affected Environment	8-30
8.2.3.2	Environmental Consequences.....	8-30
8.2.3.3	Mitigation of Noise Impacts – Water	8-31
8.3	POTENTIALLY CONTAMINATED PROPERTIES	8-31
8.3.1	Impacts.....	8-32
8.3.2	Mitigation	8-33

**CHAPTER 9
NATURAL RESOURCE IMPACTS**

9.0	INTRODUCTION	9-1
9.1	ST. CROIX RIVER	9-2
9.1.1	Affected Environment	9-2
9.1.1.1	Freshwater Mussels	9-2
9.1.1.2	Fish and the Aquatic Community	9-5
9.1.1.3	Terrain and Climate	9-6
9.1.2	Environmental Consequences.....	9-6
9.1.2.1	Freshwater Mussels	9-7
9.1.2.2	Fish and the Aquatic Community	9-8
9.1.2.3	Terrain and Climate	9-8
9.1.3	Mitigation	9-8
9.1.3.1	Freshwater Mussels	9-8
9.1.3.2	Fish and the Aquatic Community	9-9
9.1.3.3	Terrain and Climate	9-9
9.2	MINNESOTA SHORE AND UPLAND.....	9-10
9.2.1	Affected Environment	9-10
9.2.1.1	Vegetation.....	9-10
9.2.1.2	Wildlife	9-10
9.2.1.3	Protected Species	9-10
9.2.1.4	Terrain and Climate	9-12
9.2.2	Environmental Consequences.....	9-12
9.2.2.1	Vegetation.....	9-12
9.2.2.2	Wildlife	9-12
9.2.2.3	Protected Species	9-13
9.2.2.4	Terrain and Climate	9-13
9.2.3	Mitigation	9-14
9.2.3.1	Vegetation.....	9-14
9.2.3.2	Wildlife	9-14
9.2.3.3	Protected Species	9-14
9.2.3.4	Terrain and Climate	9-14

TABLE OF CONTENTS (continued)

Page No.

9.3	WISCONSIN SHORE AND BLUFF	9-14
9.3.1	Affected Environment	9-14
9.3.1.1	Vegetation.....	9-15
9.3.1.2	Wildlife	9-16
9.3.1.3	Protected Species	9-16
9.3.1.4	Terrain and Climate	9-16
9.3.2	Environmental Consequences.....	9-17
9.3.2.1	Vegetation.....	9-17
9.3.2.2	Wildlife	9-17
9.3.2.3	Protected Species	9-17
9.3.2.4	Terrain and Climate	9-17
9.3.3	Mitigation	9-18
9.3.3.1	Vegetation.....	9-18
9.3.3.2	Wildlife	9-33
9.3.3.3	Protected Species	9-33
9.3.3.4	Terrain and Climate	9-33
9.4	WISCONSIN UPLAND.....	9-33
9.4.1	Affected Environment	9-33
9.4.1.1	Vegetation.....	9-33
9.4.1.2	Wildlife	9-35
9.4.1.3	Protected Species	9-35
9.4.1.4	Terrain and Climate	9-35
9.4.2	Environmental Consequences.....	9-35
9.4.2.1	Vegetation.....	9-35
9.4.2.2	Wildlife	9-36
9.4.2.3	Protected Species	9-36
9.4.2.4	Terrain and Climate	9-36
9.4.3	Mitigation	9-36
9.4.3.1	Vegetation.....	9-36
9.4.3.2	Wildlife	9-36
9.4.3.3	Protected Species	9-37
9.4.3.4	Terrain and Climate	9-37

**CHAPTER 10
WATER RESOURCES**

10.0	INTRODUCTION	10-1
10.1	WATER QUANTITY (DRAINAGE)	10-7
10.1.1	Affected Environment	10-7
10.1.2	Environmental Consequences to Water Quantity (Drainage).....	10-10
10.1.3	Mitigation of Impacts on Water Quantity.....	10-17

TABLE OF CONTENTS (continued)

Page No.

10.2	WATER QUALITY	10-18
10.2.1	Background Information	10-19
10.2.2	Water Quality Protection.....	10-19
10.2.3	Affected Environment – Water Quality	10-20
10.2.4	Environmental Consequences.....	10-24
10.2.5	Mitigation of Impacts on Water Quality	10-25
10.3	FLOODPLAINS	10-29
10.3.1	Affected Environment	10-29
10.3.2	Environmental Consequences to Floodplains	10-29
10.3.2.1	Alternative Impact Description.....	10-30
10.3.2.2	Potential for Interruption of a Transportation Facility	10-37
10.3.2.3	Impacts on Natural and Beneficial Floodplain Values	10-37
10.3.2.4	Flooding Risks	10-37
10.3.2.5	Incompatible Floodplain Development	10-38
10.3.3	Mitigation of Impacts on Floodplain.....	10-38
10.4	GROUNDWATER	10-38
10.4.1	Affected Environment	10-39
10.4.2	Environmental Consequences to Groundwater.....	10-39
10.4.3	Mitigation of Impacts on Groundwater.....	10-41
10.5	WETLANDS	10-41
10.5.1	Introduction.....	10-41
10.5.1.1	Jurisdiction.....	10-41
10.5.1.2	Methodology.....	10-42
10.5.2	Affected Environment	10-47
10.5.2.1	Affected Basins.....	10-47
10.5.3	Environmental Consequences to Wetlands.....	10-50
10.5.3.1	Wetland Basin Impacts	10-50
10.5.4	Mitigation of Impacts on Wetlands.....	10-53
10.5.4.1	Avoidance of Wetland Impacts	10-53
10.5.4.2	Minimization of Wetland Impacts	10-53
10.5.4.3	Mitigation Measures	10-54

**CHAPTER 11
ARCHAEOLOGICAL AND HISTORIC RESOURCES**

11.0	INTRODUCTION	11-1
11.1	HISTORICAL BACKGROUND AND CONTEXT	11-2
11.2	AGENCY COORDINATION AND PUBLIC INVOLVEMENT	11-3
11.2.1	1990 Draft EIS and 1995 Final EIS.....	11-4

AUGUST 2004

TABLE OF CONTENTS (continued)

Page No.

11.2.2	Braun Facilitation Process and Supplemental DEIS Studies (1996 – 2001).....	11-6
11.2.3	2004 Supplemental Draft EIS.....	11-8
11.2.3.1	Public Involvement and Consultation.....	11-8
11.2.3.2	Architectural History	11-9
11.2.3.3	Archaeology.....	11-12
11.3	ASSESSMENT OF ADVERSE EFFECTS.....	11-14
11.3.1	Log Cabin Restaurant (Club Tara), 15021 60th Street North.....	11-16
11.3.1.1	Affected Environment	11-16
11.3.1.2	Environmental Consequences.....	11-16
11.3.2	Berstein Shoddy Mill, 6041 Stagecoach Trail	11-18
11.3.2.1	Affected Environment	11-18
11.3.2.2	Environmental Consequences.....	11-19
11.3.3	Stillwater State Prison Historic District, 5500 Pickett Avenue	11-19
11.3.3.1	Affected Environment	11-19
11.3.3.2	Environmental Consequences.....	11-19
11.3.4	St. Croix Overlook, East Side of Lookout Trail.....	11-19
11.3.4.1	Affected Environment	11-19
11.3.4.2	Environmental Consequences.....	11-20
11.3.5	William N. Danforth House, 1224 S. Third Avenue	11-21
11.3.5.1	Affected Environment	11-21
11.3.5.2	Environmental Consequences.....	11-21
11.3.6	Fairview Cemetery, Southwest Corner of S. Fourth Street and W. Orleans Street	11-22
11.3.6.1	Affected Environment	11-22
11.3.6.2	Environmental Consequences.....	11-22
11.3.7	Hersey & Bean Sawmill and Planing Mill Site	11-23
11.3.7.1	Affected Environment	11-23
11.3.7.2	Environmental Consequences.....	11-23
11.3.8	Slab Alley, TH 95 North of River Oasis Cafe.....	11-25
11.3.8.1	Affected Environment	11-25
11.3.8.2	Environmental Consequences.....	11-26
11.3.9	Stillwater & St. Paul Railroad.....	11-26
11.3.9.1	Affected Environment	11-26
11.3.9.2	Environmental Consequences.....	11-26
11.3.10	St. Croix Boom Site.....	11-26
11.3.10.1	Affected Environment	11-26
11.3.10.2	Environmental Consequences.....	11-27
11.3.11	Stillwater Lift Bridge, St. Croix River at Chestnut Street.....	11-27
11.3.11.1	Affected Environment	11-27
11.3.11.2	Environmental Consequences.....	11-29

TABLE OF CONTENTS (continued)

Page No.

11.3.12	Stillwater Commercial Historic District.....	11-31
11.3.12.1	Affected Environment	11-31
11.3.12.2	Environmental Consequences.....	11-33
11.3.13	Stillwater Cultural Landscape District.....	11-36
11.3.13.1	Affected Environment	11-36
11.3.13.2	Environmental Consequences.....	11-39
11.3.14	The John Nichols Thelen Farmstead, 134 CTH E, Town of St. Joseph.....	11-43
11.3.14.1	Affected Environment	11-43
11.3.14.2	Environmental Consequences.....	11-44
11.3.15	St. Croix Hilltop Drive-In Theatre, 1433 STH 35/64, Town of St. Joseph.....	11-44
11.3.15.1	Affected Environment	11-44
11.3.15.2	Environmental Consequences.....	11-45
11.3.16	Louis C. Kriesel Farmstead, 132 STH 35/64, Town of St. Joseph.....	11-45
11.3.16.1	Affected Environment	11-45
11.3.16.2	Environmental Consequences.....	11-46
11.4	DETERMINATION OF EFFECTS	11-47
11.5	POTENTIAL FOR CUMULATIVE EFFECTS	11-48
11.6	MITIGATION	11-48
11.6.1	Mitigation for Effects for Historic Properties.....	11-48
11.6.2	Assessment of Mitigation Measures Identified for Other Types of Impacts	11-49
11.7	MEMORANDUM OF AGREEMENT AND COORDINATION	11-49

**CHAPTER 12
CONSTRUCTION IMPACTS**

12.0	INTRODUCTION	12-1
12.1	AFFECTED ENVIRONMENT.....	12-1
12.1.1	Minnesota TH 36/TH 95.....	12-1
12.1.2	Wisconsin STH 35/64.....	12-3
12.1.3	Bridge Crossing over the St. Croix River.....	12-4
12.2	ENVIRONMENTAL CONSEQUENCES	12-5
12.2.1	Air Quality and Dust	12-6
12.2.2	Noise	12-6
12.2.3	Vibration.....	12-6

AUGUST 2004

TABLE OF CONTENTS (continued)

Page No.

12.2.4	Visual Impacts.....	12-6
12.2.5	Traffic Access and Rerouting	12-7
12.2.6	Grading and Excavation	12-8
12.2.7	Stormwater Runoff and Water Quality Impacts.....	12-8
12.2.8	Excess Materials Generation and Disposal	12-10
12.2.9	Utilities and Railroads.....	12-10
12.2.10	Navigation Impacts – Operation of Work Barges and Other Water-Based Construction Equipment	12-11
12.2.11	River Substrate/Habitat and Upland Habitat Impacts	12-12
12.2.12	Potential Contaminated Substance Spills/Leaks.....	12-13
12.3	MITIGATION	12-13
12.4	CONSTRUCTION STAGING	12-15
12.4.1	TH 36 – TH 5 to Osgood Avenue.....	12-15
12.4.1.1	Minor Modifications.....	12-16
12.4.1.2	Full Construction of TH 36.....	12-16
12.4.2	Alternative B-1	12-23
12.4.2.1	Minnesota TH 36/95 and the St. Croix River Crossing – Alternative B-1.....	12-23
12.4.2.2	Wisconsin STH 64 and STH 35/64 – Alternative B-1	12-27
12.4.3	Alternative C	12-31
12.4.3.1	Minnesota TH 36/95 and the St. Croix River Crossing – Alternative C.....	12-31
12.4.3.2	Wisconsin STH 64 and STH 35/64 – Alternative C – Option 1.....	12-35
12.4.3.3	Wisconsin STH 64 and STH 35/64 – Alternative C – Option 2.....	12-35
12.4.4	Alternative D	12-36
12.4.4.1	Minnesota TH 36/95 and the St. Croix River Crossing – Alternative D.....	12-36
12.4.4.2	Wisconsin STH 64 and STH 35/64 – Alternative D.....	12-45
12.4.5	Alternative E	12-50
12.4.5.1	Minnesota TH 36/95 and the St. Croix River Crossing – Alternative E.....	12-50
12.4.5.2	Wisconsin STH 64 and STH 35/64 – Alternative E.....	12-53

**CHAPTER 13
CUMULATIVE IMPACTS**

13.0	INTRODUCTION	13-1
13.1	METHODS	13-1
13.1.1	Study Area	13-2
13.1.2	Time Frame	13-2
13.1.3	Factors Considered.....	13-2
13.1.4	Existing Conditions and Development Trends.....	13-3
13.1.5	Anticipated Actions	13-4
13.1.6	Cumulative Impacts Subgroup.....	13-7

TABLE OF CONTENTS (continued)

Page No.

13.2	EFFECTS ON LAND USE AND RELATED ISSUES	13-7
13.2.1	Land Development	13-7
13.2.1.1	Existing Conditions	13-7
13.2.1.2	Impacts from the Proposed Action	13-7
13.2.1.3	Impacts from Other Actions	13-8
13.2.1.4	Potential for Cumulative Impacts	13-8
13.2.2	Prime Agricultural Land	13-9
13.2.2.1	Existing Conditions	13-9
13.2.2.2	Impacts from the Proposed Action	13-9
13.2.2.3	Impacts from Other Actions	13-10
13.2.2.4	Potential for Cumulative Impacts	13-10
13.2.3	Social	13-10
13.2.3.1	Existing Conditions	13-10
13.2.3.2	Impacts from the Proposed Action	13-11
13.2.3.3	Impacts from Other Actions	13-11
13.2.3.4	Potential for Cumulative Impacts	13-11
13.2.4	Regional Economy	13-11
13.2.4.1	Existing Conditions	13-11
13.2.4.2	Impacts from the Proposed Action	13-12
13.2.4.3	Impacts from Other Actions	13-12
13.2.4.4	Potential for Cumulative Impacts	13-12
13.3	PHYSICAL ENVIRONMENT	13-13
13.3.1	Air Quality	13-13
13.3.1.1	Existing Conditions	13-13
13.3.1.2	Impacts from the Proposed Action	13-13
13.3.1.3	Impacts from Other Actions	13-13
13.3.1.4	Potential for Cumulative Impacts	13-14
13.3.2	Noise	13-14
13.3.2.1	Existing Conditions	13-14
13.3.2.2	Impacts from the Proposed Action	13-14
13.3.2.3	Impacts from Other Actions	13-15
13.3.2.4	Potential for Cumulative Impacts	13-15
13.4	WATER RESOURCES	13-16
13.4.1	Wetlands	13-16
13.4.1.1	Existing Conditions	13-16
13.4.1.2	Impacts from the Proposed Action	13-17
13.4.1.3	Impacts from Other Actions	13-17
13.4.1.4	Potential for Cumulative Impacts	13-18
13.4.2	Water Quality and Quantity	13-18
13.4.2.1	Existing Conditions	13-18
13.4.2.2	Impacts from the Proposed Action	13-19

TABLE OF CONTENTS (continued)

Page No.

13.4.2.3	Impacts from Other Actions	13-19
13.4.2.4	Potential for Cumulative Impacts	13-20
13.5	NATURAL RESOURCES	13-20
13.5.1	Aquatic Resources	13-20
13.5.1.1	Existing Conditions	13-20
13.5.1.2	Impacts from the Proposed Action	13-20
13.5.1.3	Impacts from Other Actions	13-21
13.5.1.4	Potential for Cumulative Impacts	13-21
13.5.2	Vegetation.....	13-21
13.5.2.1	Existing Conditions	13-21
13.5.2.2	Impacts from the Proposed Action	13-22
13.5.2.3	Impacts from Other Actions	13-22
13.5.2.4	Potential for Cumulative Impacts	13-22
13.5.3	Wildlife.....	13-23
13.5.3.1	Resource Baseline.....	13-23
13.5.3.2	Impacts from the Proposed Action	13-23
13.5.3.3	Impacts from Other Actions	13-24
13.5.3.4	Potential for Cumulative Impacts	13-24
13.6	RECREATIONAL, VISUAL, AND CULTURAL RESOURCES.....	13-24
13.6.1	Parks and Recreational Lands	13-24
13.6.1.1	Existing Conditions	13-24
13.6.1.2	Impacts from the Proposed Action	13-25
13.6.1.3	Impacts from Other Actions	13-25
13.6.1.4	Potential for Cumulative Impacts	13-25
13.6.2	Aesthetics	13-25
13.6.2.1	Existing Conditions	13-25
13.6.2.2	Impacts from the Proposed Action	13-26
13.6.2.3	Impacts from Other Actions	13-26
13.6.2.4	Potential for Cumulative Impacts	13-26
13.6.3	Archaeological and Historic Resources	13-26
13.6.3.1	Existing Conditions	13-26
13.6.3.2	Impacts from the Proposed Action	13-27
13.6.3.3	Impacts from Other Actions	13-28
13.6.3.4	Potential for Cumulative Impacts	13-28
13.7	CONCLUSIONS	13-29
13.7.1	Summary of Potential Cumulative Impacts.....	13-29
13.7.2	Possible Measures to Minimize or Reduce Potential Cumulative Impacts.....	13-30

CHAPTER 14

ADVERSE IMPACTS THAT CANNOT BE AVOIDED, RELATIONSHIP OF LOCAL SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY, AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

14.0	INTRODUCTION	14-1
14.1	ADVERSE IMPACTS THAT CANNOT BE AVOIDED	14-1
14.1.1	Right-of-Way Acquisition and Relocation	14-1
14.1.2	Farmland	14-2
14.1.3	Parkland/Recreational Areas	14-3
14.1.4	Lower St. Croix National Scenic Riverway	14-3
14.1.5	Visual	14-4
14.1.6	Noise	14-4
14.1.7	Protected Species	14-4
14.1.8	Vegetation.....	14-5
14.1.9	Floodplains	14-5
14.1.10	Wetlands	14-6
14.1.11	Archaeological and Historic Resources	14-6
14.1.12	Construction.....	14-7
14.2	POTENTIAL MITIGATION	14-8
14.2.1	Potential Mitigation Items	14-11
14.2.1.1	Riverway Impacts – Potential Mitigation Measures.....	14-11
14.2.1.2	Archaeological and Historic Resources – Potential Mitigation Measures	14-16
14.2.1.3	Potential Measures Outside of DOT/FHWA Jurisdiction	14-16
14.2.2	Implementation of Mitigation Items	14-19
14.3	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES	14-19
14.3.1	Commitment of Land Resources.....	14-19
14.3.2	Commitment of Natural and Material Resources	14-19
14.3.3	Commitment of Fiscal Resources	14-19
14.3.4	Conclusions.....	14-20
14.4	RELATIONSHIP OF LOCAL SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY	14-20
14.4.1	Land Resources.....	14-21
14.4.2	Natural and Material Resources	14-21
14.4.3	Financial Resources.....	14-21
14.4.4	Conclusions.....	14-21

**CHAPTER 15
AGENCY COORDINATION, STAKEHOLDER GROUP AND PUBLIC
INVOLVEMENT**

15.0	INTRODUCTION	15-1
15.1	AGENCY COORDINATION	15-1
15.1.1	Stakeholder Group	15-1
15.1.1.1	Bridge Type Subgroup.....	15-4
15.1.1.2	Cultural Resources Subgroup	15-5
15.1.1.3	Cumulative Impacts Subgroup	15-5
15.1.1.4	Public Involvement Subgroup	15-5
15.1.1.5	Water Resources Subgroup.....	15-5
15.1.2	Technical Advisory Team	15-5
15.1.3	Natural Resources Coordination.....	15-6
15.1.4	Archaeological and Historic Resources Coordination	15-6
15.1.5	Other Agency Coordination and Correspondence	15-7
15.2	PUBLIC INVOLVEMENT	15-7
15.2.1	Trunk Highway (TH) 36 Partnership Study Policy Advisory Committee (PAC), Technical Advisory Group (TAG) and Business Owners Group.....	15-7
15.2.2	Open House Public Meetings.....	15-8
15.2.2.1	Public Scoping Meetings	15-9
15.2.2.2	Public Information Meetings – June 15, 2004 and June 22, 2004.....	15-9
15.2.2.3	Public Hearings.....	15-10
15.2.3	Additional Meetings with the Public.....	15-10
15.2.3.1	Meetings with Affected Business Owners on TH 36	15-10
15.2.3.2	Local Government Updates	15-10
15.2.3.3	Community Groups	15-10
15.2.4	Newsletters, Brochures and Project Website	15-11
15.2.5	Media Coverage	15-11
15.2.6	One-on-One Conversations, Email and Phone Calls.....	15-12
15.3	REVIEW OF PROJECT DOCUMENTATION AND SUPPLEMENTAL DRAFT EIS	15-12
15.4	PERMITS AND APPROVALS	15-12
15.5	COMMENTS.....	15-13

**CHAPTER 16
LIST OF PREPARERS**

**CHAPTER 17
LIST OF AGENCIES AND ORGANIZATIONS TO WHOM THE SUPPLEMENTAL
DRAFT EIS WAS PROVIDED**

**CHAPTER 18
INDEX**

APPENDICES

APPENDIX A PROJECT DOCUMENTS AND AVAILABILITY

**APPENDIX B STAKEHOLDER RESOLUTION PROCESS OPERATING
AGREEMENT**

APPENDIX C AGENCY COORDINATION

**APPENDIX D ENVIRONMENTAL JUSTICE – HOULTON AREA PUBLIC
MEETING**

APPENDIX E DRAFT SECTION 4(f) EVALUATIONS

- Introduction
- Lower St. Croix National Scenic Riverway
- Lift Bridge
- Stillwater Municipal Barge Facility Property
- Kolliner Park
- Lowell Park
- New Stillwater Park (unnamed park)
- Stillwater Commercial Historic District
- Stillwater Cultural Landscape District
- Fairview Cemetery

APPENDIX F NATIONAL PARK SERVICE CORRESPONDENCE TO FHWA

APPENDIX G 1994 SECTION 106 MEMORANDUM OF AGREEMENT (MOA)

**APPENDIX H 1999 U.S. FWS CORRESPONDENCE TO FHWA – ZEBRA MUSSEL
DECONTAMINATION PROTOCOL**

2004 St. Croix River Crossing Project Supplemental Draft EIS

LIST OF FIGURES AND TABLES

		<u>Page No.</u>
<u>Executive Summary</u>		
Figure ES-1	Project Location – Local Setting.....	ES-2
Figure ES-2	Transportation Issues Map.....	ES-3
Figure ES-3	Project Area and Supplemental Draft EIS Alternatives B-1, C, D and E...	ES-8
Table ES-1	Comparative Summary of Project Impacts.....	ES-16
Table ES-1	Agency Permits, Approvals and Other Required Documents	ES-12
<u>Chapter 1: Introduction to the Supplemental Draft EIS</u>		
Figure 1-1a	Project Location – Regional Setting	1-4
Figure 1-2b	Project Location – Local Setting.....	1-5
Figure 1-2	Project Area and Supplemental Draft EIS Alternatives B-1, C, D, and E..	1-6
Figure 1-3	Lower St. Croix National Scenic Riverway Boundary	1-7
Figure 1-4	Lift Bridge	1-14
No Tables		
<u>Chapter 2: Purpose of and Need for Action</u>		
Figure 2-1	Transportation Issues Map.....	2-5
Figure 2-2	Downtown Stillwater Congestion.....	2-8
Figure 2-3	Stillwater Side Street Traffic	2-8
Figure 2-4	Signalized TH 36 Expressway.....	2-10
Figure 2-5	TH 36 Frontage Road Proximity.....	2-10
Figure 2-6	Chestnut/Main Street and Lift Bridge.....	2-11
Figure 2-7	STH 64/CTH E Intersection	2-11
Figure 2-8	Flooded Lift Bridge.....	2-13
Figure 2-9	Lift Bridge Physical Condition	2-14
No Tables		
<u>Chapter 3: Description of Alternatives</u>		
Figure 3-1	St. Croix River Crossing Alternatives B-1, C, D, E	3-2
Figure 3-2	Minnesota TH 36 (TH 5 to Osgood Avenue) – Build Alternatives.....	3-7

LIST OF FIGURES AND TABLES (continued)

Page No.

Figure 3-3a	Minnesota TH 36 – Typical Sections.....	3-9
Figure 3-3b	Minnesota TH 36 – Typical Sections.....	3-11
Figure 3-4	TH 36 & TH 95 Interchange Area – Alternative B-1	3-13
Figure 3-5	Wisconsin STH 35/64 – Alternative B-1	3-15
Figure 3-6	Minnesota TH 95 – Typical Sections	3-18
Figure 3-7	River Bridges – Typical Sections	3-21
Figure 3-8	Wisconsin STH 64 – Typical Sections	3-22
Figure 3-9	Wisconsin STH 35 – Typical Sections	3-24
Figure 3-10	TH 36 & TH 95 Interchange Area – Alternative C	3-27
Figure 3-11	Wisconsin STH 35/64 – Alternative C (Option 1).....	3-29
Figure 3-12	Wisconsin STH 35/64 – Alternative C (Option 2).....	3-31
Figure 3-13	TH 36 & TH 95 Interchange Area – Alternative D	3-37
Figure 3-14	Wisconsin STH 35/64 – Alternative D	3-39
Figure 3-15	Minnesota TH 95 (Alternative D) and TH 36/95 (Alternative E) – Typical Sections (downtown Stillwater).....	3-43
Figure 3-16	TH 36 & TH 95 Interchange Area – Alternative E.....	3-47
Figure 3-17	Wisconsin STH 35/64 – Alternative E.....	3-49
Figure 3-18	St. Croix River Crossing: Alternatives Studied 1985-2004.....	3-57
Table 3-1	Build Alternatives Cost Estimates	3-56

Chapter 4: Transportation Systems and Impacts

Figure 4-1	System Map	4-3
Figure 4-2	Frontage Road Intersection Locations	4-2
Figure 4-3	Proximity of Frontage Road to TH 36 (TH 36 in Background)	4-2
Figure 4-4	Looking South on TH 36 in Downtown Stillwater.....	4-5
Figure 4-5	Looking North on TH 95	4-5
Figure 4-6	Existing 2000 Average Annual Daily Traffic on Area Roadways	4-7
Figure 4-7	Popular Routes for Locally Diverting TH 36 Traffic	4-9
Figure 4-8	Lift Bridge Operation Schedule	4-12
Figure 4-9	Observed Traffic Queues During Lift Bridge Operation.....	4-13
Figure 4-10	Daily Traffic Variations on the Lift Bridge	4-15
Figure 4-11	Regional Traffic Diversion if Stillwater River Crossing is Not Operating	4-18
Figure 4-12	Existing Bicycle System	4-21
Figure 4-13	Intersections Analyzed for Existing and 2030 No-Build Conditions	4-26
Figure 4-14	Transportation Issues Map.....	4-31
Figure 4-15	Bicycle Systems Alternatives	4-36
Figure 4-16	Reduction in 2030 Regional Daily Vehicle Hours Traveled Compared With No-Build	4-42
Figure 4-17	Difference in 2030 Regional Daily Vehicle Miles Traveled Compared With No-Build	4-42

LIST OF FIGURES AND TABLES (continued)

Page No.

Figure 4-18 Change in 2030 Local Stillwater Traffic Volumes Compared with Existing Volumes..... 4-43

Figure 4-19 Difference in Number of Crashes from 2011-2030 Compared with No-Build 4-48

Table 4-1 Traffic Volume Growth on Roadways in the Project Area..... 4-8

Table 4-2 Summary of Stillwater Bridge Origin-Destination Results 4-17

Table 4-3 Trip Purposes 4-17

Table 4-4 Existing (2002) Intersection Operations – P.M. Peak Hour 4-25

Table 4-5 Effects of Bridge Deck Lift – 2002 P.M. Peak Hour 4-27

Table 4-6 STH 64/TH 36 Crash Rates 4-28

Table 4-7 2030 Daily Vehicle Crossings for Twin Cities Region – St. Croix River Crossings 4-29

Table 4-8 Daily Hours of Congestion by Alternative – St. Croix River Crossing..... 4-40

Table 4-9 2030 No Build Intersection Operations – P.M. Peak Hour 4-41

Table 4-10 Analysis of Over Capacity Intersections..... 4-45

Table 4-11 Summary of Benefit/Cost Results..... 4-46

Table 4-12 Summary of 2030 Transportation Analysis 4-50

Chapter 5: Social, Relocation, and Economic Impacts

Figure 5-1 Census Tract Boundaries 5-5

Figure 5-2a Community Facilities..... 5-8

Figure 5-2b Parks and Recreation Areas 5-11

Figure 5-3a Minnesota TH 36 (TH 5 to Osgood Avenue – Build Alternatives Right of Way Impacts 5-23

Figure 5-3b TH 36 & TH 95 Interchange Area – Alternative B-1 Right of Way Impacts 5-25

Figure 5-3c TH 36 & TH 95 Interchange Area – Alternative C Right of Way Impacts 5-27

Figure 5-3d TH 36 & TH 95 Interchange Area – Alternative D Right of Way Impacts 5-29

Figure 5-3e TH 36 & TH 95 Interchange Area – Alternative E Right of Way Impacts 5-31

Figure 5-4a Wisconsin STH 35/64 – Alternative B-1 Right of Way Impacts..... 5-33

Figure 5-4b Wisconsin STH 35/64 – Alternative C Right of Way Impacts (Option 1). 5-35

Figure 5-4c Wisconsin STH 35/64 – Alternative C Right of Way Impacts (Option 2). 5-37

Figure 5-4d Wisconsin STH 35/64 – Alternative D Right of Way Impacts..... 5-39

Figure 5-4e Wisconsin STH 35/64 – Alternative E Right of Way Impacts 5-41

Figure 5-5 Location of Retail Activities in Stillwater and Oak Park Heights 5-49

Figure 5-6 Trip Purpose for Stillwater Lift Bridge Crossing Trips 5-55

Figure 5-7 Stillwater Stops for Trips Between Rest of Minnesota and Wisconsin (Weekdays) 5-57

Figure 5-8 Minnesota TH 36 (TH 5 to Osgood Avenue) – Parcels Available for Redevelopment 5-63

LIST OF FIGURES AND TABLES (continued)

Page No.

Table 5-1	Project Area Population Change.....	5-2
Table 5-2	Minnesota Project Area Demographics, Census 2000 Data.....	5-3
Table 5-3	Wisconsin Project Area Demographics, Census 2000 Data.....	5-4
Table 5-4a	Right-of-Way Acquisitions Required for Build Alternatives.....	5-20
Table 5-4b	Properties Acquired Through Total Takes for Build Alternatives.....	5-21
Table 5-4c	Properties Acquired Through Partial Takes for Build Alternatives.....	5-22
Table 5-5a	Properties Acquired in Minnesota for Build Alternatives.....	5-44
Table 5-5b	Properties Acquired in Wisconsin for Build Alternatives.....	5-45
Table 5-6	Employment Profile for the State of Minnesota, Wisconsin, Washington County, and the City of Stillwater.....	5-48
Table 5-7	Profile of Economic Activity in the TH 36 Corridor.....	5-49
Table 5-8	Profile of Stillwater Retail and Service Employment: Downtown and Rest of City.....	5-52
Table 5-9	Profile of Houlton, State and County Employment.....	5-54
Table 5-10	Characteristics of Commercial Parcels Acquired (TH 36 Commercial Corridor).....	5-60
Table 5-11	Characteristics of Available Property for Relocated and New Businesses (Within the Oak Park Heights Portion of the TH 36 Corridor).....	5-65

Chapter 6: Land Use Impacts

Figure 6-1	Regional Setting.....	6-2
Figure 6-2	Washington County Existing Land Use (2000).....	6-5
Figure 6-3	St. Croix County Existing Land Use (1993).....	6-11
Figure 6-4	Metropolitan Council Planning Framework (2030).....	6-23
Figure 6-5	Washington County Future Land Use (2015).....	6-27
Figure 6-6	St. Croix County Planning Areas (2020).....	6-31
Figure 6-7	St. Croix County – Limitations for Septic Systems.....	6-33
Figure 6-8	Maximum Growth Redistribution.....	6-42
Table 6-1	Washington County Land Use by Percent of Total Area.....	6-4
Table 6-2	Housing Units – Year Structure Built (Minnesota).....	6-7
Table 6-3	St. Croix County Land Use in Unincorporated Area.....	6-10
Table 6-4	Housing Units – Year Structure Built (Wisconsin).....	6-14
Table 6-5	Historic Population Growth, Minnesota and Wisconsin Communities.....	6-16
Table 6-6	Population and Component of Change, St. Croix County.....	6-17
Table 6-7	Building Permit Activity 1995 to 2003, Wisconsin and Minnesota Communities.....	6-18
Table 6-8	Destination of St. Croix County Workers’ Trip to Work.....	6-20
Table 6-9	Future Population Growth by County.....	6-21
Table 6-10	Planning and Zoning Authority for Selected Villages and Towns in St. Croix County, Wisconsin.....	6-26
Table 6-11	St. Croix County Planning Areas.....	6-30

LIST OF FIGURES AND TABLES (continued)

Page No.

Table 6-12	Summary of Farmland Impacts (St. Croix County).....	6-38
Table 6-13	Wisconsin Model Area Accessibility-Based Demographic Forecasts.....	6-44
Table 6-14	Development Design Scenarios and Opportunity Sites (Metropolitan Council/Calthorpe Associates).....	6-50

Chapter 7: Visual Impacts

Figure 7-1	Visual Impact Assessment Flow Chart.....	7-2
Figure 7-2	Critical Viewsheds and Visual Corridors	7-5
Figure 7-3	Viewshed 1 (Historic Downtown Stillwater)	7-7
Figure 7-4	Viewshed 2 (Minnesota Bluff)	7-8
Figure 7-5	Viewshed 3 (Wisconsin Bluff)	7-10
Figure 7-6	Viewshed 4 (Stillwater Municipal Barge Facility Property)	7-11
Figure 7-7	Viewshed 5 (St. Croix Overlook)	7-12
Figure 7-8	Wisconsin STH 35 Wayside	7-14
Figure 7-9	Visual Corridor 1 (Traveling on the St. Croix River)	7-15
Figure 7-10	Visual Corridor 2 (Project Corridor)	7-16
Figure 7-11	Alternative B-1 – 1,500’ Cable Stay Bridge Type.....	7-20
Figure 7-12	Alternative B-1 – 6-500’ Extradosed Box Girders Bridge Type	7-21
Figure 7-13	Alternative B-1 – 10-360’ Haunched Concrete Box Girders Bridge Type	7-23
Figure 7-14	Existing View from Lowell Park	7-24
Figure 7-15	View from Lowell Park – Alternative B-1 1,500’ Cable Stay Bridge Type	7-25
Figure 7-16	View from Lowell Park – Alternative B-1 500’ Extradosed Box Girder Bridge Type	7-26
Figure 7-17	View from Lowell Park – Alternative B-1 10-360’ Haunched Concrete Box Girders Bridge Type.....	7-27
Figure 7-18	Minnesota Bluff Cross-Sections – Alternative B-1	7-29
Figure 7-19	Wisconsin Bluff Cross-Sections – Alternative B-1	7-31
Figure 7-20	View from St. Croix River – Alternative B-1 – 1,500’ Cable Stay Bridge Type	7-34
Figure 7-21	View from St. Croix River – Alternative B-1 – 6-500’ Extradosed Box Girders Bridge Type	7-35
Figure 7-22	View from St. Croix River – Alternative B-1 – 10-360’ Haunched Concrete Box Girders Bridge Type	7-36
Figure 7-23	Alternative C – 6-350’ Haunched Concrete Box Girders Bridge Type.....	7-41
Figure 7-24	Alternative C – 4-500’ Extradosed Girders Bridge Type	7-42
Figure 7-25	Alternative C – 500’ Concrete Deck Arch with Back Spans and Box Girder Approaches Bridge Type.....	7-43
Figure 7-26	View from Lowell Park – Alternative C – 6-350’ Concrete Haunched Box Girders Bridge Type	7-45
Figure 7-27	View from Lowell Park – Alternative C – 500’ Concrete Deck Arch Bridge Type	7-46

LIST OF FIGURES AND TABLES (continued)

Page No.

Figure 7-28	View from Lowell Park – Alternative C – 4-500’ Extradosed Box Girders Bridge Type	7-47
Figure 7-29	Minnesota Bluff Cross-Sections – Alternative C.....	7-49
Figure 7-30a	Wisconsin Bluff Cross-Sections – Alternative C (Option 1).....	7-53
Figure 7-30b	Wisconsin Bluff Cross-Sections – Alternative C (Option 2).....	7-55
Figure 7-31	View from St. Croix River – Alternative C – 6-350’ Haunched Concrete Box Girders Bridge Type.....	7-57
Figure 7-32	View from St. Croix River – Alternative C – 500’ Concrete Deck Arch with Back Spans & Box Girder Approaches Bridge Type	7-58
Figure 7-33	View from St. Croix River – Alternative C – 4-500’ Extradosed Girders Bridge Type	7-59
Figure 7-34	Alternative D – 3-350’ Steel Thru Trusses Bridge Type.....	7-64
Figure 7-35	Alternative D – 500’ Steel Bow String “Main Span” with 5-250’ Haunched Concrete Girders Bridge Type.....	7-66
Figure 7-36	Alternative D – 7-250’ Concrete Arches Bridge Type	7-67
Figure 7-37	Alternative D – 500’ Concrete Thru Arch with 5-250’ Concrete Arches Bridge Type	7-69
Figure 7-38	View from Lowell Park – Alternative D – 3-350’ Steel Thru Trusses Bridge Type	7-70
Figure 7-39	View from Lowell Park – Alternative D – Flush Haunched Concrete Girders 5-250’ with “Main Span” 500’ Steel Bow String Truss Bridge Type	7-71
Figure 7-40	View from Lowell Park – Alternative D – 7-250’ Concrete Arches Bridge Type	7-72
Figure 7-41	View from Lowell Park – Alternative D – 5-250’ Concrete Arches with 500’ Main Span Concrete Thru Arch Bridge Type	7-73
Figure 7-42	Minnesota Bluff Cross-Sections – Alternative D	7-75
Figure 7-43	Wisconsin Bluff Cross-Sections – Alternative D	7-77
Figure 7-44	View from St. Croix River – Alternative D – 3-350’ Steel Thru Trusses Bridge Type	7-79
Figure 7-45	View from St. Croix River – Alternative D – 500’ Steel Bow String with 5-250’ Flush Haunched Concrete Box Girders Bridge Type.....	7-80
Figure 7-46	View from St. Croix River – Alternative D – 7-250’ Concrete Arches Bridge Type	7-81
Figure 7-47	View from St. Croix River – Alternative D – 500’ Concrete Thru Arch with 5-250’ Concrete Deck Arches Bridge Type	7-82
Figure 7-48	Alternative E – 4-350’ Steel Thru Trusses Bridge Type	7-87
Figure 7-49	Alternative E – 4-350’ Bow String Trusses Bridge Type.....	7-88
Figure 7-50	Alternative E – 500’ Main Span Thru Arch with 4-250’ Flush Haunched Concrete Box Girders Bridge Type	7-90
Figure 7-51	View from Lowell Park – Alternative E – 4-350’ Steel Thru Trusses Bridge Type	7-91
Figure 7-52	View from Lowell Park – Alternative E – 4-350’ Bow String Trusses Bridge Type	7-92

LIST OF FIGURES AND TABLES (continued)

Page No.

Figure 7-53	View from Lowell Park – Alternative E – Flush Haunched Concrete Girders (4@250’) with “Main Span” 500’ Bow String Truss Bridge Type	7-93
Figure 7-54	Minnesota Bluff Cross-Sections – Alternative E.....	7-95
Figure 7-55	Wisconsin Bluff Cross Sections – Alternative E.....	7-97
Figure 7-56	View from St. Croix River – Alternative E – 4-350’ Steel Thru Trusses Bridge Type	7-99
Figure 7-57	View from St. Croix River – Alternative E – 4-350’ Steel Bow String Trusses Bridge Type	7-100
Figure 7-58	View from St. Croix River – Alternative E – 500’ Steel Bowstring Truss with 4-250’ Flush Haunched Concrete Box Girders Bridge Type	7-101

No Tables

Chapter 8: Air Quality, Traffic Noise, and Contaminated Sites

Figure 8-1	Noise Receptor Locations – Minnesota	8-17
Figure 8-2	Noise Receptor Locations – Wisconsin	8-19
Figure 8-3	Potentially Contaminated Sites – Approximate Locations	8-34
Table 8-1	Minnesota Background Carbon Monoxide Concentrations	8-6
Table 8-2	Wisconsin Background Carbon Monoxide Concentrations	8-6
Table 8-3	Intersection and Conditions Used for Air Quality Analysis	8-8
Table 8-4	Carbon Monoxide Modeling Results	8-8
Table 8-5	Noise Level Comparisons	8-12
Table 8-6	Minnesota State Noise Standards.....	8-13
Table 8-7	St. Croix River Crossing – Minnesota Daytime Peak Noise Results	8-14
Table 8-8	St. Croix River Crossing – Minnesota Nighttime Peak Noise Results	8-21
Table 8-9	Noise Impact Summary Table - Minnesota	8-22
Table 8-10	St. Croix River Crossing – Wisconsin Daytime Peak Noise Results	8-23
Table 8-11	Noise Impact Summary Table - Wisconsin	8-25
Table 8-12	Noise on the River – Results for the Build Alternatives	8-26
Table 8-13	Known or Potentially Contaminated Properties That May Be Affected By The Project	8-31

Chapter 9: Natural Resource Impacts

Figure 9-1	Lower St. Croix National Scenic Riverway Boundary	9-3
Figure 9-2	Protected Species Nesting Locations (Approximate)	9-11
Figure 9-3	Wisconsin Bluff Boundary (per Lower St. Croix National Scenic Riverway Cooperative Management Plan)	9-19
Figure 9-4a	Wisconsin Bluff Impacts – No-Build Alternative	9-21

LIST OF FIGURES AND TABLES (continued)

Page No.

Figure 9-4b	Wisconsin Bluff Impacts – Alternative B-1.....	9-23
Figure 9-4c	Wisconsin Bluff Impacts – Alternative C (Option 1).....	9-25
Figure 9-4d	Wisconsin Bluff Impacts – Alternative C (Option 2).....	9-27
Figure 9-4e	Wisconsin Bluff Impacts – Alternative D.....	9-29
Figure 9-4f	Wisconsin Bluff Impacts – Alternative E.....	9-31
Table 9-1	Wisconsin Bluff Impacts.....	9-18

Chapter 10: Water Resources

Figure 10-1a	Existing Drainage Area – Minnesota.....	10-3
Figure 10-1b	Existing Drainage Area – Wisconsin.....	10-5
Figure 10-2a	Proposed Storm Treatment Ponds Minnesota.....	10-11
Figure 10-2b	Proposed Stormwater Treatment – Wisconsin.....	10-13
Figure 10-3a	Existing St. Croix River Floodplain.....	10-31
Figure 10-3b	Proposed Floodplain Impacts – Alternative B-1.....	10-33
Figure 10-3c	Proposed Floodplain Impacts – Alternative C.....	10-34
Figure 10-3d	Proposed Floodplain Impacts – Alternatives D and E.....	10-35
Figure 10-4	Wetland and Mitigation Site (Minnesota).....	10-43
Figure 10-5	Wetland and Mitigation Site (Wisconsin).....	10-45
Table 10-1	Proposed Design Criteria.....	10-2
Table 10-2	Impervious Area Within Project Limits.....	10-15
Table 10-3	Minnesota Receiving Waters and Impaired Status.....	10-22
Table 10-4	Existing St. Croix River Water Quality Data and Minnesota Rules Chapter 7050 MPCA Water Quality Standards.....	10-23
Table 10-5	Proposed Drainage Area Data and Treatment Methodology.....	10-27
Table 10-6	St. Croix River Crossing Project Floodplain Impacts.....	10-30
Table 10-7	Potential Wetland Impact Summary.....	10-51

Chapter 11: Archaeological and Historic Resources

Figure 11-1	Location of National Register Listed or Eligible Properties in Project Area.....	11-11
Figure 11-2	Lift Bridge.....	11-13
Figure 11-3	Location of Stillwater Commercial Historic District and Build Alternatives.....	11-17
Figure 11-4	Stillwater Cultural Landscape District Boundaries.....	11-24
Figure 11-5	Location of National Register Eligible Archaeological Sites in Project Area.....	11-28
Figure 11-6	Location of Stillwater Commercial Historic District and Build Alternatives.....	11-32
Figure 11-7	Stillwater Cultural Landscape Boundaries.....	11-37

AUGUST 2004

LIST OF FIGURES AND TABLES (continued)		<u>Page No.</u>
Table 11-1	St. Croix River Crossing Tribal Contacts (2001).....	11-10
Table 11-2	NRHP-Listed, Determined Eligible, and Potentially Eligible Properties Evaluated for Effects.....	11-15
Table 11-3	Summary of Effects to NRHP-Listed, Determined Eligible, and Potentially Eligible Properties (Preliminary).....	11-47

Chapter 12: Construction Impacts

Figure 12-1	Minnesota TH 36 ButtonHook Area – Staging Phase 1 (Build Alternatives)	12-17
Figure 12-2	Minnesota TH 36 ButtonHook Area – Staging Phase 2 (Build Alternatives)	12-19
Figure 12-3	TH 95 & TH 36 Interchange Area – Staging Phase 1 (Alternative B-1)....	12-25
Figure 12-4	Wisconsin STH 35/64 – Staging Phase 1 (Alternative B-1).....	12-29
Figure 12-5	TH 95 & TH 36 Interchange Area – Staging Phase 1 (Alternative C)	12-33
Figure 12-6	Wisconsin STH 35/64 – Staging Phase 1 (Alternative C – Option 1).....	12-37
Figure 12-7	Wisconsin STH 35/64 – Staging Phase 1 (Alternative C – Option 2).....	12-39
Figure 12-8	TH 95 & TH 36 Interchange Area – Staging Phase 1 (Alternative D).....	12-41
Figure 12-9	Wisconsin STH 35/64 – Staging Phase 1 (Alternative D).....	12-47
Figure 12-10	TH 95 & TH 36 Interchange Area – Staging Phase 1 (Alternative E)	12-51
Figure 12-11	Wisconsin STH 35/64 – Staging Phase 1 (Alternative E)	12-55
Table 12-1	Distance From River Bridge Abutment to Shoreline – Build Alternatives	12-9
Table 12-2	River Crossing Characteristics – Build Alternatives	12-11

Chapter 13: Cumulative Impacts

No Figures

Table 13-1	Comparison of Existing and Projected Amounts of Developed Land by County	13-3
Table 13-2	Past and Future Population Growth by County	13-4
Table 13-3	List of Major Actions Proposed by Other Governmental Agencies/Other Interests	13-4
Table 13-4	Summary of Effects to NRHP-Listed, Determined Eligible, and Potentially Eligible Properties (Preliminary).....	13-27
Table 13-5	Summary of Potential Cumulative Impacts Findings	13-30

Chapter 14: Adverse Impacts That Cannot Be Avoided

No Figures

Table 14-1	Summary of Number of Residential and Commercial Properties Acquired Through Total Takes.....	14-2
Table 14-2	Summary of Right-of-Way Acquisition.....	14-2
Table 14-3	Summary of Effects to NRHP-Listed, Determined Eligible, and Potentially Eligible Properties (Preliminary).....	14-7
Table 14-4	Summary of Potential Mitigation Items.....	14-16

Chapter 15: Agency Coordination, Stakeholder Group and Public Involvement

No Figures

Table 15-1	Local, State, and Federal Agencies and Non-Governmental Groups Involved in the Stakeholder Group Discussions.....	15-2
Table 15-2	List of Stakeholder Group Meetings	15-3
Table 15-3	List of Public Meetings	15-8
Table 15-4	Agency Permits, Approvals, and Other Required Documents	15-12

Chapter 16: List of Preparers

No Figures

No Tables

Chapter 17: List of Agencies and Organizations to Whom Supplemental Draft EIS was Provided

No Figures

No Tables

Chapter 18: Index

No Figures

No Tables

APPENDIX A: ST. CROIX RIVER CROSSING PROJECT: PROJECT DOCUMENTS AND AVAILABILITY

Table A-1	2004 Supplemental Draft EIS Documents.....	A-1
Table A-2	\$5 Million Lift Bridge Repair Project Documents	A-2
Table A-3	2001 Supplemental Draft EIS and Braun Facilitation Process Documents	A-3
Table A-4	1990 Draft EIS and 1995 Final EIS Documents.....	A-4

APPENDIX E: DRAFT SECTION 4(f) EVALUATIONS

Introduction

No Figures

Table E-1	Section 4(f) Resources and Build Alternatives – Summary of Section 4(f) Use	E-3
Table E-2	Summary of NRHP-listed and Determined Eligible Properties	E-12
Table E-3	Summary of Build Alternatives and Section 4(f) Resources	E-14

Lower St. Croix National Scenic Riverway

Figure E-1	Location of St. Croix River and Build Alternatives	E-16
Figure E-2	Lower St. Croix National Scenic Riverway	E-17

No Tables

Lift Bridge

Figure E-3	Location of Lift Bridge and Build Alternatives	E-36
Figure E-4	Lift Bridge	E-37
Figure E4-a	Lift Bridge – General Plan, Elevation and Section	E-39

No Tables

Stillwater Municipal Barge Facility Property

Figure E-5	Location of Stillwater Municipal Barge Facility Property and Build Alternatives	E-51
Figure E-6	Aiple Property Master Plan (December 1998).....	E-55
Figure E-7a	Stillwater Municipal Barge Facility Impacts – Alternative B-1	E-59
Figure E-7b	Stillwater Municipal Barge Facility Impacts – Alternative C	E-63
Figure E-7c	Stillwater Municipal Barge Facility Impacts – Alternative D	E-65
Figure E-7d	Stillwater Municipal Barge Facility Impacts – Alternative E.....	E-69

No Tables

Kolliner Park

Figure E-8	Location of Kolliner Park and Build Alternatives	E-75
Figure E-9	Kolliner Park Master Plan	E-77
Figure E-10a	Kolliner Park Impacts – Alternative D	E-83

LIST OF FIGURES AND TABLES (continued)

Page No.

Figure E-10b Kolliner Park Impacts – Alternative E..... E-87

No Tables

Lowell Park

Figure E-11 Location of Lowell Park and Build Alternatives E-91

No Tables

New Stillwater Park (yet unnamed park)

Figure E-12 Location of New Stillwater Park and Build Alternatives E-99

Figure E-13 New Stillwater Park E-101

No Tables

Stillwater Commercial Historic District

Figure E-14 Location of Stillwater Commercial Historic District and Build
Alternatives E-108

Figure E-15 Stillwater Cultural Landscape District Boundaries E-111

No Tables

Stillwater Cultural Landscape District

Figure E-16 Location of Stillwater Cultural Landscape District and Build
Alternatives E-119

Figure E-17 Location of Other Historic Resources E-121

No Tables

Fairview Cemetery

Figure E-18 Location of Fairview Cemetery and Build Alternatives E-135

Figure E-19 North Frontage Road – Fairview Cemetery Impacts (Build Alternatives). E-138

No Tables