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# EPARTMENT OF TRANSPORTATION
# FEDERAL HIGHWAY ADMINISTRATION

# DRAFT
# ENVIRONMENTAL IMPACT STATEMENT
# AND SECTION 4(f) EVALUATION

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# MISSISSIPPI RIVER BRIDGE
# AT WABASHA, MINNESOTA

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PREPARED BY
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

FHWA-MN-EIS 80-01-D
Region 5

Minnesota Trunk Highway 60 and Wisconsin State Highway 25
Mississippi River Bridge & Approaches at Wabasha, Minnesota
From U.S. 61 at Wabasha, Minnesota to W.S.H. 35 at Nelson, Wisconsin

Minnesota Project F 108-1( ) & F 046-( )
Minnesota State Project 7910 & 7911
Wisconsin Project ID 7172-0-00

Draft

Environmental Impact Statement & Section 4(f) Evaluation
U.S. Department of Transportation
Federal Highway Administration
and
Minnesota Department of Transportation

5/27/80
Date

For Mn/DOT

5-28-80
Date

For FHWA

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

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The proposed action is for a highway bridge facility to replace the existing bridge and approaches over the Mississippi River at Wabasha, Minnesota. Five location alternatives and a no build alternative are discussed. The build alternatives vary in length from 1.0 to 1.8 miles. The proposed facility will contain two 12 foot wide traffic lanes, 10 foot wide shoulders and partial access control. All build alternatives involve Section 4(f) property.

Comments on this draft EIS are due by _____, 1980 and should be sent to:

Mr. Roy J. Larson
Mn/DOT District Engineer
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Rochester, Mn. 55901

# T A B L E  O F  C O N T E N T S


| | | Page |
|---|---|---|
| LIST OF EXHIBITS | | iii |
| LIST OF TABLES | | iv |
| I. | SUMMARY | 5 |
| II. | NEED FOR PROJECT | 8 |
| III. | DESCRIPTION OF PROPOSED ACTION | 21 |
| IV. | SOCIAL,ECONOMIC & ENVIRONMENTAL CONTEXT OF THE AREA | 24 |
| V. | LAND USE PLANNING | 47 |
| VI. | ALTERNATIVES | 53 |
| VII. | PROBABLE IMPACTS OF THE PROPOSED ACTION | 60 |
| | A. Transportation | 60 |
| | B. Social | 66 |
| | C. Relocation | 68 |
| | D. Economic | 72 |
| | E. Air Quality | 74 |
| | F. Noise | 77 |
| | G. Water Quality | 89 |
| | H. Fisheries | 95 |
| | I. Wildlife & Wetlands | 97 |
| | J. Stream Modification | 106 |
| | K. Flood Plains | 107 |
| | L. Flood Hazard | 109 |
| | M. Historic & Cultural Sites | 111 |
| | N. Draft Section 4(f) Evaluation | 124 |
| | O. Scenic & Aesthetic | 144 |
| | P. Construction | 147 |
| VIII. | PROBABLE UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS | 164 |
| IX. | RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF THE ENVRIONMENT AND LONG-TERM PRODUCTIVITY | 165 |
| X. | IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES | 166 |
| XI. | COMMENTS AND COORDINATION | 167 |
| XII. | LIST OF PREPARERS | 169 |
| APPENDIX | | 171 |

# L I S T  O F  E X H I B I T S


| Exhibit No. | | Page |
|---|---|---|
| 1. | State Index Map | 1 |
| 2. | Regional Map | 2 |
| 3. | Area Setting | 3 |
| 4. | Alternates | 4 |
| 5. | Oblique Photo of Bridge | 10 |
| 6. | Main Span Photo | 11 |
| 7. | Minnesota Approach | 11 |
| 8. | Wabasha Trade Area | 14 |
| 9. | Traffic Volume Map | 16 |
| 10. | Typical Sections | 22 |
| 11. | Geological Profile | 26 |
| 12. | Nelson-Trevino Scientific Area | 34 |
| 13. | Park & Recreation Areas | 39 |
| 14. | Historic Areas | 43 |
| 15. | Community Facilities | 45 |
| 16. | Existing Land Use - Wabasha | 48 |
| 17. | Planned Land Use - Wabasha | 49 |
| 18. | Land Use - Wisconsin | 50 |
| 19. | Alternatives | 54 |
| 20. | Alternative Profiles | 55 |
| 21. | Dismissed Alternatives | 57 |
| 22. | Noise Contour Map - Existing Facility | 83 |
| 23. | Noise Contour Map - Build Alternatives | 84 |
| 24. | Natural Resources | 110 |
| 25. | Alternatives 3A, B, C, & 4 - Historic District | 115 |
| 26. | Warehouse (old livery stable) | 117 |
| 27. | Private Residence | 117 |
| 28. | Garage (old livery stable) | 118 |
| 29. | Anderson Hotel | 118 |
| 30. | Chiropractic Clinic | 119 |
| 31. | Grace Memorial Episcopal Church | 119 |
| 32. | Upper Mississippi River Wildlife & Fish Refuge | 130 |
| 33. | Mississippi River Park | 132 |
| 34. | City Campgrounds | 133 |
| 35. | Ike's Park | 134 |
| 36. | Central Athletic Field | 136 |
| 37. | Athletic Field Rearrangement | 137 |
| 38. | County Fairgrounds | 138 |
| 39. | Overflow Nature Area | 139 |
| 40. | 4(f) Areas | 143 |
| 41. | View From Minnesota Approach | 145 |
| 42. | View From Wisconsin Approach | 145 |

# L I S T  O F  T A B L E S


| Table No. | | Page |
|---|---|---|
| 1. | Predicted Traffic Characteristics | 15 |
| 2. | Accident Rates | 17 |
| 3. | Design Features | 21 |
| 4. | Project Development Schedule | 23 |
| 5. | Population | 35 |
| 6. | Housing Unit Summary | 36 |
| 7. | Transportation Facilities | 36 |
| 8. | Wabasha Park & Recreation Acreage | 37 |
| 9. | Community Facilities | 44 |
| 10. | Economic Indicators | 46 |
| 11. | Wabasha Industries | 46 |
| 12. | Alignment Features | 59 |
| 13. | Price Range Of Homes To Be Acquired | 68 |
| 14. | Available Housing 1978 | 69 |
| 15. | Commercial Buildings To Be Acquired | 71 |
| 16. | Estimated Carbon Monoxide Concentrations | 76 |
| 17. | Lead Concentrations | 77 |
| 18. | Federal and State Noise Standards | 79 |
| 19. | Noise Levels | 81 |
| 20. | Number of Receptors Exceeding Standards | 85 |
| 21. | Water Quality Standards | 90 |
| 22. | Water Quality Parameters | 91 |
| 23. | Wetland Impacts | 99 |
| 24. | 4(f) Lands Displaced | 124 |
| 25. | Impact Matrix | 162 |

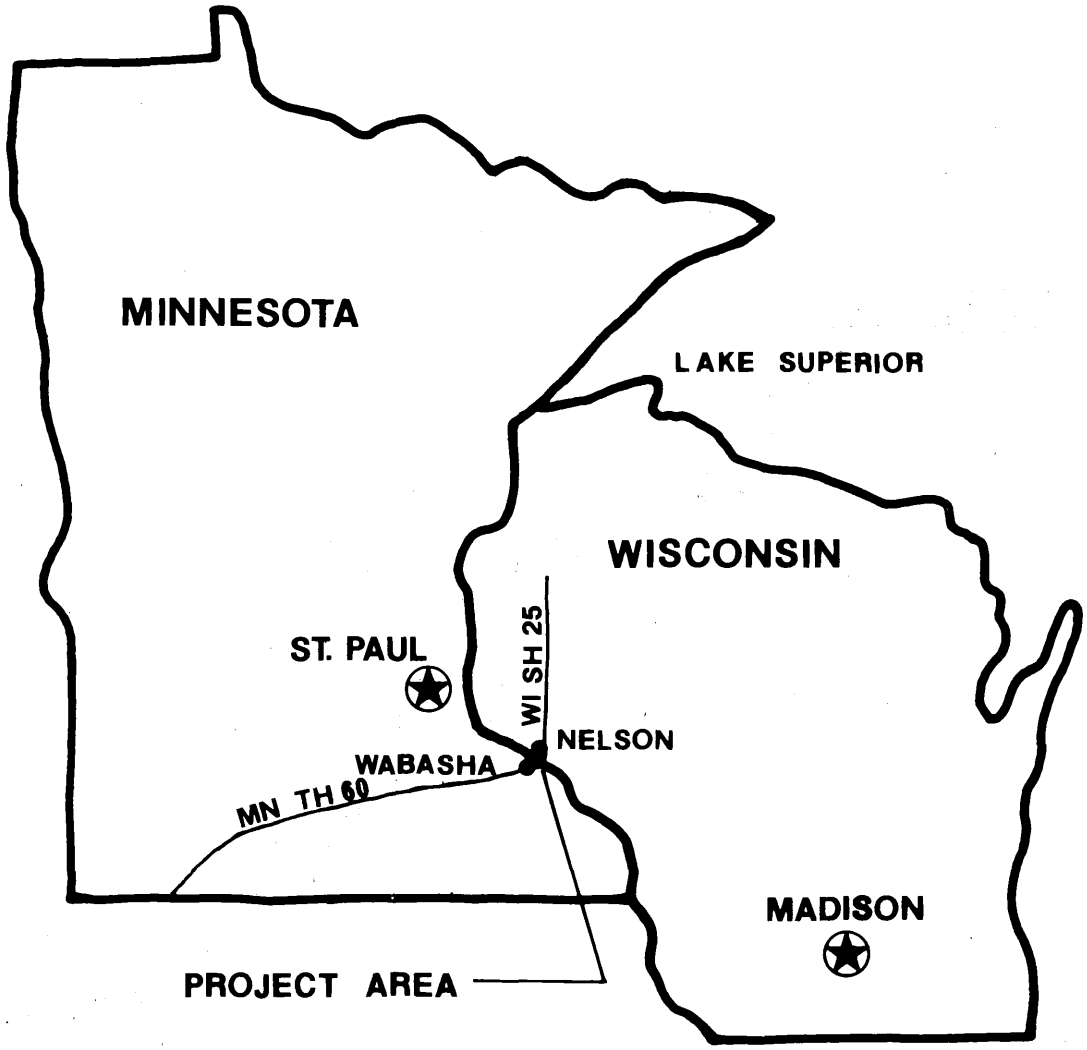



Exhibit No. 1

# STATE INDEX MAP

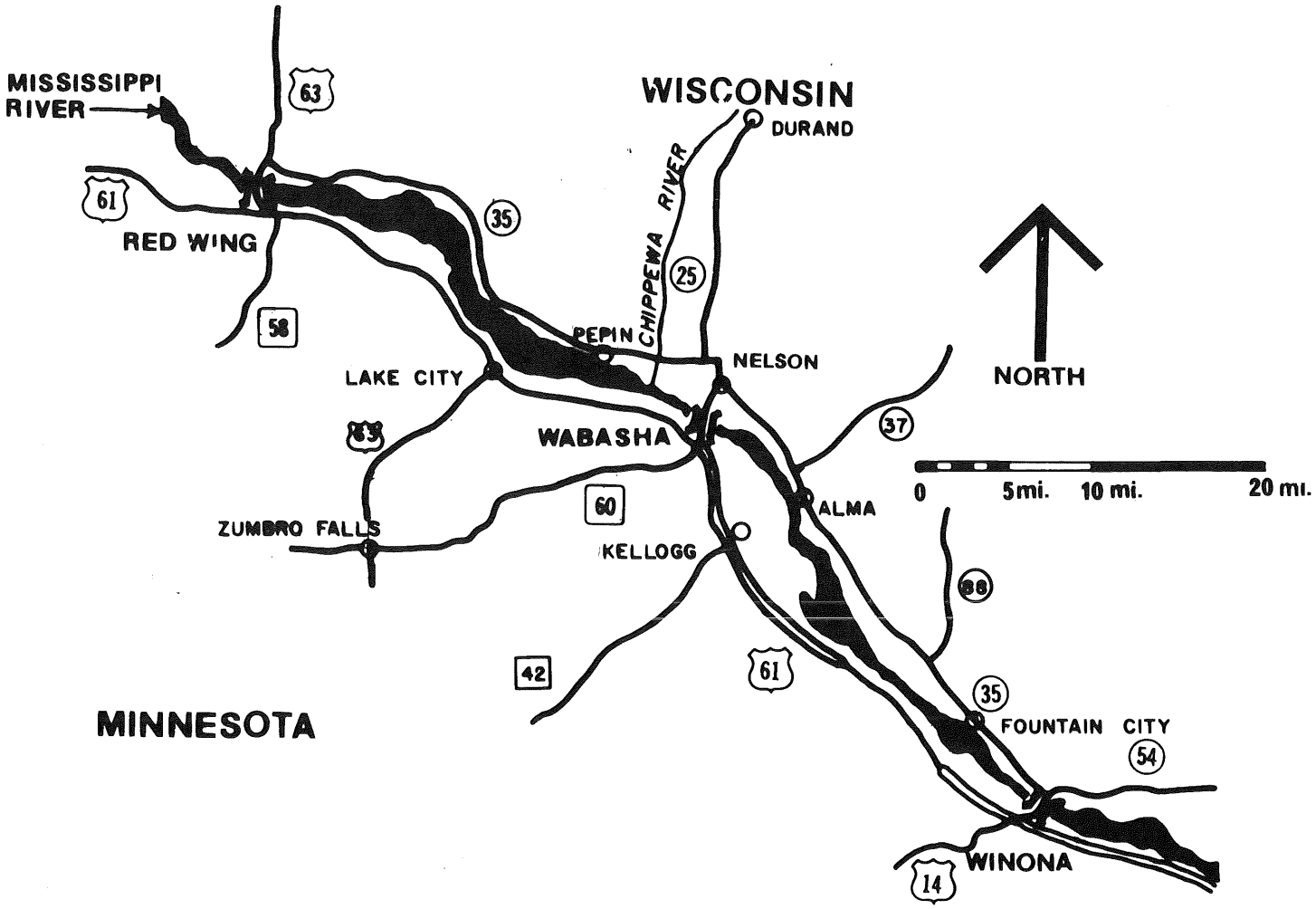



Exhibit No. 2

# REGIONAL MAP

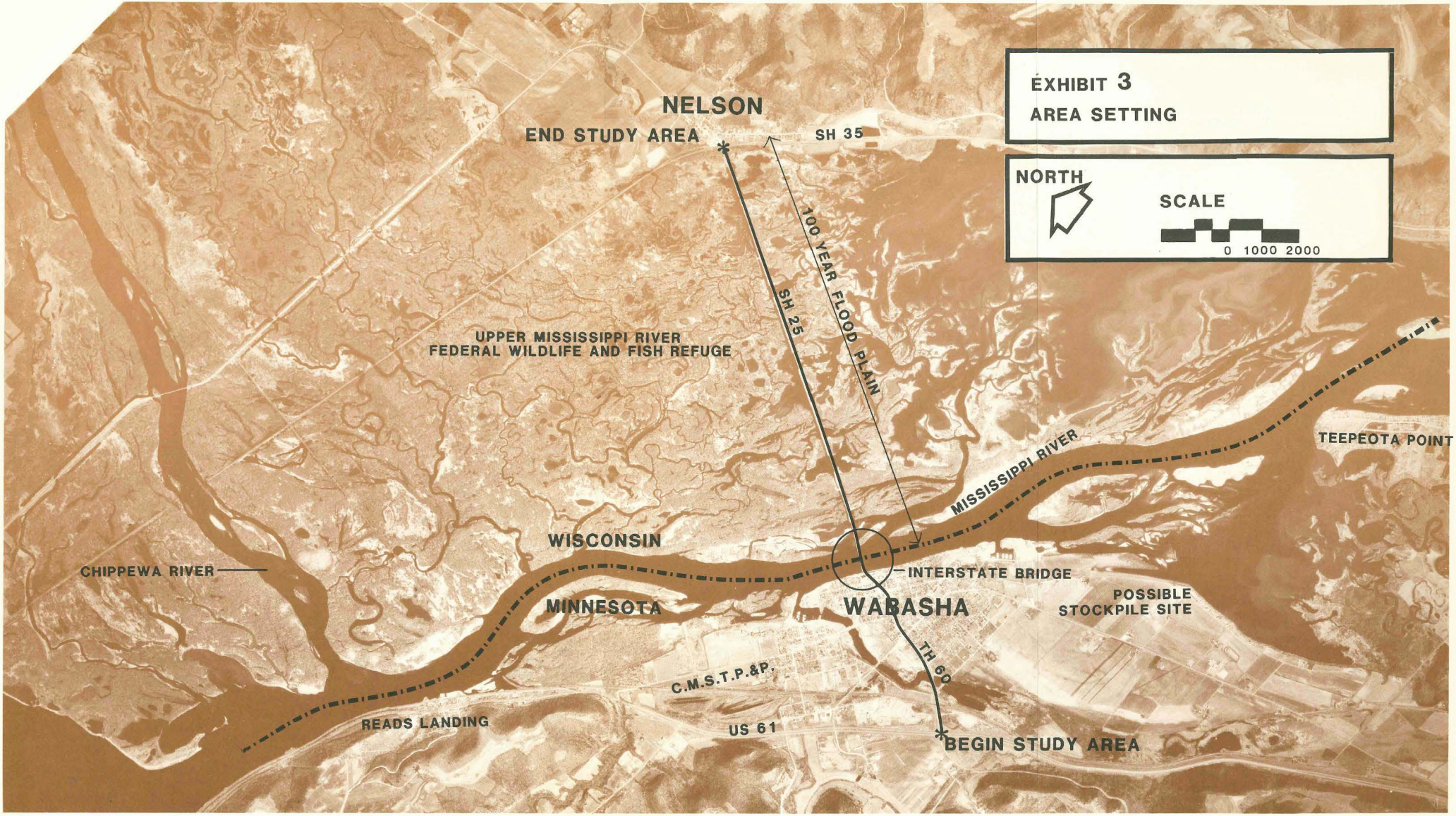
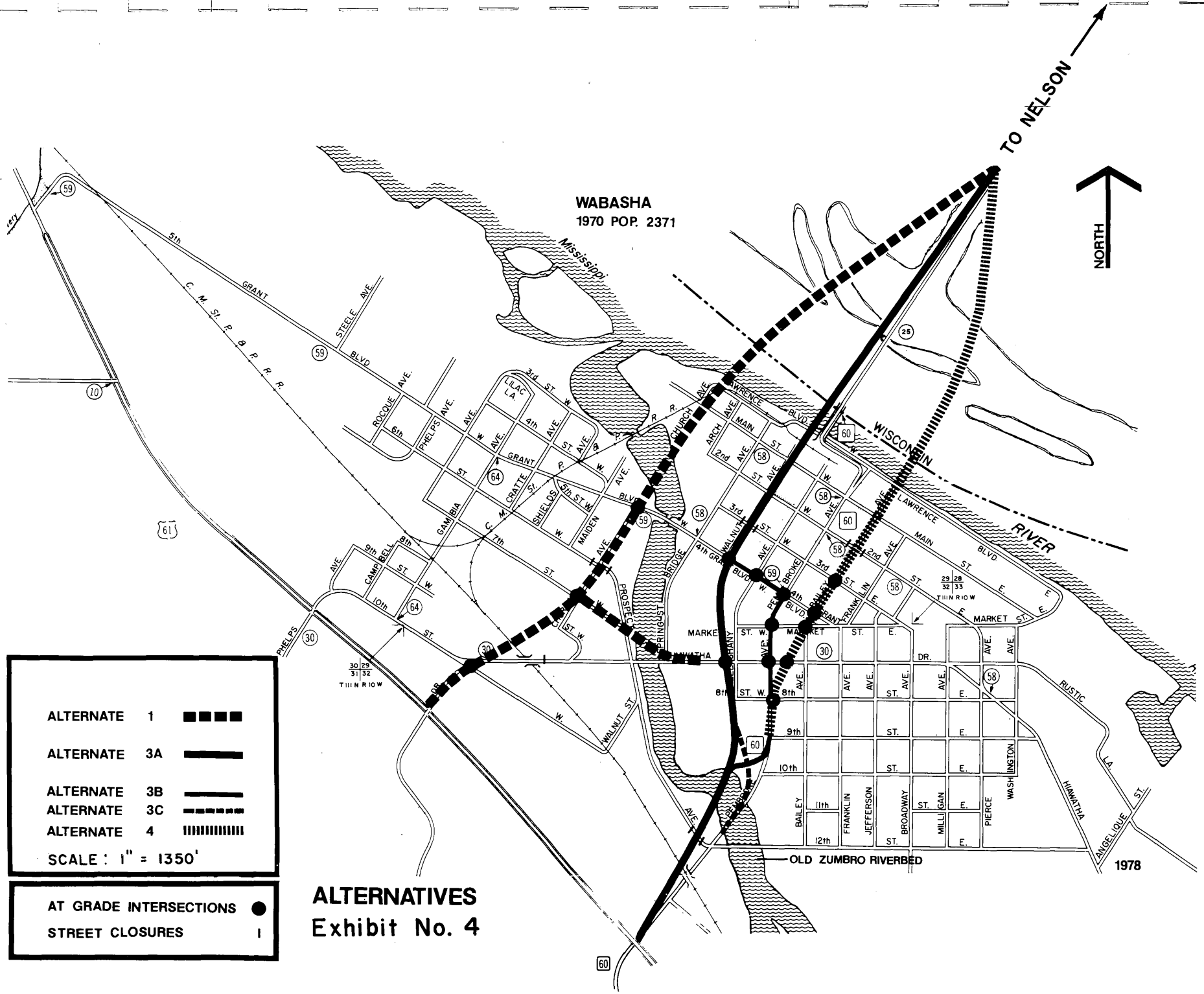


EXHIBIT 3
AREA SETTING
NORTH
SCALE
0 1000 2000
NELSON
END STUDY AREA
SH 35
100 YEAR FLOOD PLAIN
SH 25
UPPER MISSISSIPPI RIVER
FEDERAL WILDLIFE AND FISH REFUGE
MISSISSIPPI RIVER
TEEPEOTA POINT
WISCONSIN
CHIPPEWA RIVER
INTERSTATE BRIDGE
MINNESOTA
WABASHA
POSSIBLE
STOCKPILE SITE
TH 60
C.M.S.T.P.&P.
READS LANDING
US 61
BEGIN STUDY AREA


WABASHA
1970 POP. 2371
TO NELSON
NORTH
Mississippi
WISCONSIN
RIVER
OLD ZUMBRO RIVERBED
1978
ALTERNATE 1
ALTERNATE 3A
ALTERNATE 3B
ALTERNATE 3C
ALTERNATE 4
SCALE : 1" = 1350'
AT GRADE INTERSECTIONS
STREET CLOSURES
ALTERNATIVES
Exhibit No. 4

## I. SUMMARY

Federal Highway Administration
Administrative Action Environmental Statement

(X) Draft ( ) Final

(X) Draft Section 4 (F) Evaluation

Additional information about this proposal and statement can be obtained from:

Mn/Dot District Director
Box 6177
Rochester, Minnesota 55901
Telephone: 507 - 285-7374

FHWA Division Administrator
Suite 490 Metro Square Building
St. Paul, Minnesota 55101
Telephone: 612 - 725-7001

### Description of Proposed Action

The proposed action is for a highway bridge facility to replace the existing bridge and approaches over the Mississippi River at Wabasha, Minnesota. The subject bridge carries Minnesota Trunk Highway 60 (TH 60) and Wisconsin State Highway 25 (WSH 25) between Wabasha, Minnesota and Nelson, Wisconsin. Study termini are the TH 60 - US 61 Junction in Wabasha and the WSH 25 - WSH 35 junction in Nelson, see exhibit No. 3 on page 3. The study length is 3.9 miles.

Project alternatives vary in length from 1.0 to 1.8 miles. Study length exceeds alternative lengths since the study area extends to logical termini, highway intersections, for purposes of more complete determination of project effects. The proposed facility will contain two 12 foot wide traffic lanes with 10 foot shoulders and partial access control. Estimated cost is 11 to 16 million dollars.

Actions required by other Federal Agencies:

1) U.S.Army Corps of Engineers Section 404 Permit
2) U.S. Coast Guard Bridge Permit

### Environmental Impacts

Beneficial: Continuity of social-economic area
Continuity of interstate transporation system
Improved safety
Reduced travel time
Increased capacity
Reduced maintenance

Adverse: Displacement of 6 to 9 residences
Displacement of 0 to 2 commercial buildings
Require 19 to 35 acres of right-of-way
Impact 4 to 14 acres of wetlands
Destruction of 0.5 acres of fish habitat
Acquisition of 2 to 10 acres of 4 (f) areas
Alts. 3A, 3B, 3C & 4 displace historic properties
Noise level changes

Alternatives

The following major alternatives are being considered:

| | |
|---|---|
| Alternative 1: | Bridge - Church Avenue |
| Alternative 3A: | Bridge - Walnut Avenue (new alignment to U.S. 61) |
| Alternative 3B: | Bridge - Walnut Ave. (existing streets to U. S. 61) |
| Alternative 3C: | Bridge - Walnut Ave. (existing U. S. 61 intersection) |
| Alternative 4: | Bridge - Bailey Avenue |
| Alternative 6: | No Build (close bridge after 12 years) |

Alternative locations are shown on Exhibits No. 19, 24, 40 & pages 54, 110 & 143. Impacts are tabulated on pp. 162 & 163. All build alternatives involve 4 (f) areas.

In addition to the major alternatives listed above, several other alternatives including up and downstream corridors, channel relocation,lift bridge, replace at existing location, tunnel and ferry were considered and dismissed.

State EIS Requirements

Minnesota Environmental Quality Board (MEQB):

This project has been reviewed under MEQB regulations and found to be a major action with potential for significant environmental effects. This EIS will be formally submitted to the MEQB.

Impact on State Government by Federal Controls:

State Government will be influenced by Corps of Engineers Section 404 and Coast Guard Permits and U. S. Fish and Wildlife jurisdiction over the Upper Mississippi Wildlife and Fish Refuge. Anticipated funding is 76%-80% Federal with Minnesota and Wisconsin sharing the remainder.

Multi-State Responsibilities:

The proposed action is located on the Minnesota-Wisconsin border and will affect both States. The project development is a joint Minnesota-Wisconsin effort, with Minnesota acting as the lead agency under an agreement executed by the two States in 1974.

State permits required include Minnesota Department of Natural Resources (MDNR) waters permit, Wisconsin Department of Natural Resources (WDNR) waters permit, and Minnesota Pollution Control Agency (MPCA) 401 certification.

Comments on this statement are being requested from the following agencies and group:

U. S. Department of Agriculture
U. S. Department of the Army
    Corps of Engineers, St. Paul District
U. S. Department of Housing and Urban Development
U. S. Department of Commerce
U. S. Department of Health, Education and Welfare
U. S. Department of Interior
    Fish and Wildlife Service
    Heritage Conservation and Recreation Service
U. S. Department of Transportation
    Second Coast Guard District
    Federal Railroad Administration
    Federal Aviation Administration
    Urban Mass Transportation Administration
Advisory Council on Historic Preservation
Environmental Protection Agency
U. S. Department of Energy
Minnesota Energy Agency
Minnesota Department of Economic Development
Minnesota Environmental Quality Board
Minnesota Historical Society
Minnesota Department of Natural Resources
Minnesota Pollution Control Agency
Minnesota State Planning Agency
Minnesota-Wisconsin Boundary Area Commission
Southeastern Minnesota Regional Development Commission (A-95)
Wisconsin Department of Agriculture, Trade and Consumer Protection
Wisconsin Department of Economic Development
Wisconsin Historical Society
Wisconsin Department of Natural Resources
Wisconsin State Planning Office for Governor
Wisconsin Office of Planning and Energy (A-95)
Wisconsin Scientific Area Preservation Council
Wisconsin Department of Local Affairs & Development
Mississippi River Regional Planning Commission
Wabasha County
Buffalo County
City of Wabasha
Village of Nelson
Great River Environmental Action Team

## II. NEED FOR PROJECT

A. Existing Facility

The existing bridge was constructed in 1931 by a private firm, the Wabasha-Nelson Bridge Company and operated as a toll structure until 1947. It was then purchased jointly by states of Minnesota and Wisconsin at a cost of $400,000 and now operates toll-free. The two states share in the maintenance of it also but not in equal portions. Wisconsin maintains the easterly 526 feet and Minnesota maintains the remainder plus the navigation and aircraft obstruction lights.

The existing structure is 2229 feet long, 19 feet wide curb to curb, and consists of 52 spans. The 2229 feet length includes a 671 feet long concrete Through Girder on the Minnesota approach, a 422 feet long high truss over the navigation channel, a 608 feet long Deck Truss and a 528 feet long concrete Through Girder on the Wisconsin Approach. The piers under the high truss and deck truss are supported by original untreated wood piling further reinforced with steel piling in 1969. These piers are protected by rock filled sheet pile cells capped with concrete.

The bridge was constructed prior to the construction of the 9 foot deep navigation channel and the series of lock and dams on the Mississippi which established pool levels and created a wider width of flow. Piers which were initially constructed on dry land are now located within the river and subjected to river currents. The original pier pilings are untreated oak logs bottomed in the gravel foundation.

Some of the present deficiencies were built into the original structure, others have resulted from the age of the bridge. The very narrow 19' width and severe approach geometrics of the original design are totally incompatible with modern roadway standards. The Wabasha approach has 2 right angle curves with radii of 50 feet and 100 feet and a 7% vertical grade. These combined with the narrow width and marginal load capacity (operating rating HS* 19.0) result in a permissible speed of only 10 m.p.h. over the bridge. Trucks are not permitted to meet on

* See footnote on following page.

the bridge and automobiles can pass on the approach curves only with considerable caution. Trucks are required to maintain a minimum interval of 200 feet.

See Exhibits No. 5 thru 7 on pages 10 and 11.

Structural deficiencies due to age and other causes have caused extensive repairs several times since 1968 and have increased the frequency and cost of routine maintenance work. In June, 1968 one pier became undermined to such an extent that it collapsed. After a complete investigation of all pier foundations, a new pier was placed on new piling. In 1969 new piling was driven at all piers located within the river and concrete and gravel filled caissons placed to protect them from damage from barge collisions. These repairs cost $480,000, or more than the original purchase price of the entire bridge.

In 1970, a barge struck a pier caisson and required an expenditure of $6,500 to repair. Additional repairs to the abutments, deck, and approaches plus cleaning, painting and replacement of bridge lighting has required an expenditure of approximately $80,000 in the past 8 years.

While the pier reinforcement completed in 1969 appears to have eliminated the possibility of further pier collapse from undermining or barge collision, the portion of the bridge most subject to deterioration and additional repair is the bituminous treated timber deck and steel stringers. These are subjected to cycles of wetting and drying, impact and abrasion from traffic and ice treatment salts. Repair and replacement of some deck planking is required almost every year.

In the Spring of 1974, it was necessary to make substantial deck repairs including the reinforcement of several steel deck stringers and floor beams.

*See P. 8 HS is an AASHTO bridge lane loading classification system. The number refers to a design vehicle weight. An HS20 rating allows unrestricted bridge usage by trucks with legal axle loads.

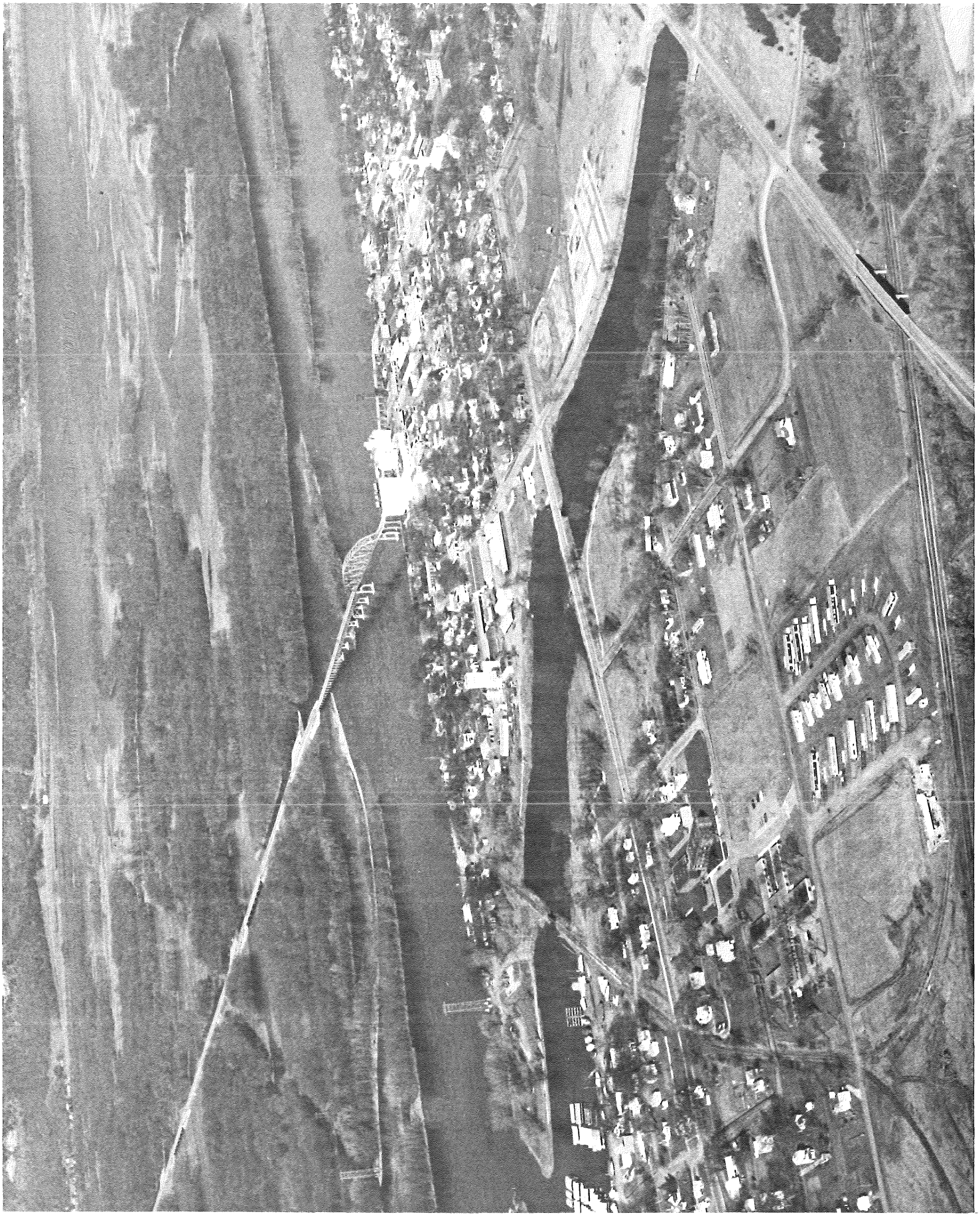


Exhibit No. 5: OBLIQUE PHOTO OF BRIDGE

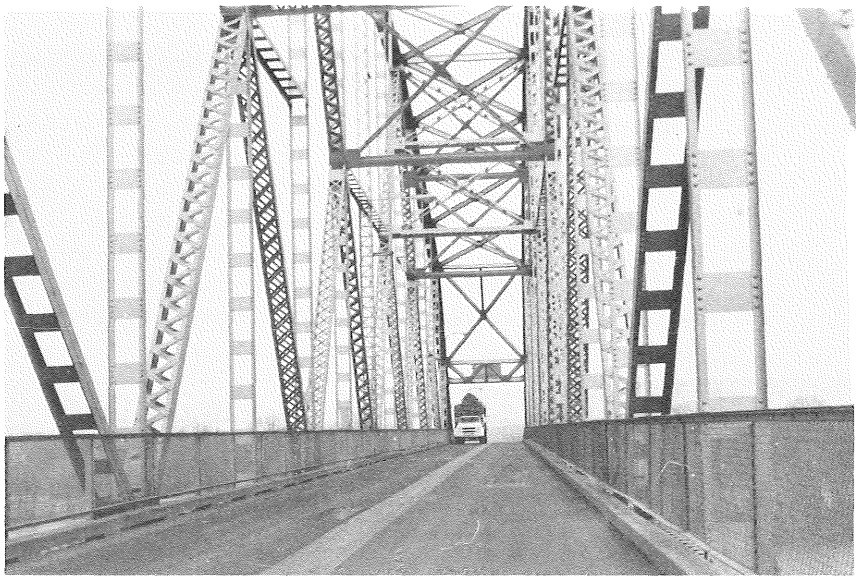


Exhibit No. 6: MAIN SPAN HIGH TRUSS - 422 feet long, 19 feet wide curb to curb, no sidewalks.

Exhibit No. 7: MINNESOTA APPROACH - 50 feet radius curve, 10 MPH speed limit.

These were weakened from deterioration caused by moisture and ice treating chemicals. It was necessary to close the bridge to all truck traffic for several days and to require reduced truck loadings for several weeks while the repairs were made. This diversion of trucks created some economic hardships for businesses. The repairs cost approximately $50,000.

The bridge is inspected annually. The 1980 inspection shows that the substructure and deck have minimum adequacy to tolerate present traffic and immediate rehabilitation is necessary. The superstructure structural items need major repair. The estimated remaining life of the structure is 7 years. However, if the current rate of deterioration continues, additional restrictions on heavy commercial use could be necessary. The current bridge operating rating is HS 19.

The Minnesota Department of Transportation (Mn/DOT) uses a Sufficiency Rating System to help determine construction priorities. The sufficiency rating consists of assigning a numerical value related to the condition, safety, and service features of a highway segment. Segments of TH 60 from the U.S. 61 jct. to the center of the subject bridge have 1978 Sufficiency Ratings of 52 to 69, whereas the Minnesota statewide average is 71. The below statewide average rating indicates these segments of TH 60 should be evaluated for reconstruction.

B. System Linkage

The subject bridge is the only direct link in the area between the transportation systems on each side of the Mississippi River. No river ferry service exists. The nearest river crossings are 30 miles upstream at Red Wing and 30 miles downstream at Winona.

Transportation systems serving Wabasha, Minnesota parallel the river, except for TH 60 which generally extends east-west through southern Minnesota. Parallel systems are U.S. Highway 61, a principal arterial route, & the Chicago, Milwaukee St. Paul, & Pacific Railroad. Parallel systems in Nelson, Wisconsin, are WSH 35, a principal arterial route, & the Burlington Northern Railroad.

Wisconsin State Highway 25 extends northerly from Nelson approximately 87 miles.

C. Social Service Demands

Minnesota TH 60 extends generally in an east-west direction through southern Minnesota while WSH 25 extends northerly through western Wisconsin. Because of this lack of direction continuity between the routes in the two states and the predominance of smaller towns along both routes, the existing bridge carrys a relatively small percentage of long distance trips. The bulk of the trips originate in or are destined for locations within 25 miles of the structure. A 1967 origin-destination study (1) revealed that approximately 75% to 80% of the traffic volume on TH 60 in Wabasha is local. A large percentage of the trips crossing the existing bridge are work, shopping, or social trips between the Pepin-Nelson-Alma area in Wisconsin and Wabasha. The bridge allows the Wabasha-Nelson area to function in a sense as a single economic unit.

The Wabasha trade area, as defined in the Wabasha Comprehensive Plan, is shown in Exhibit No. 8, Page 14 .

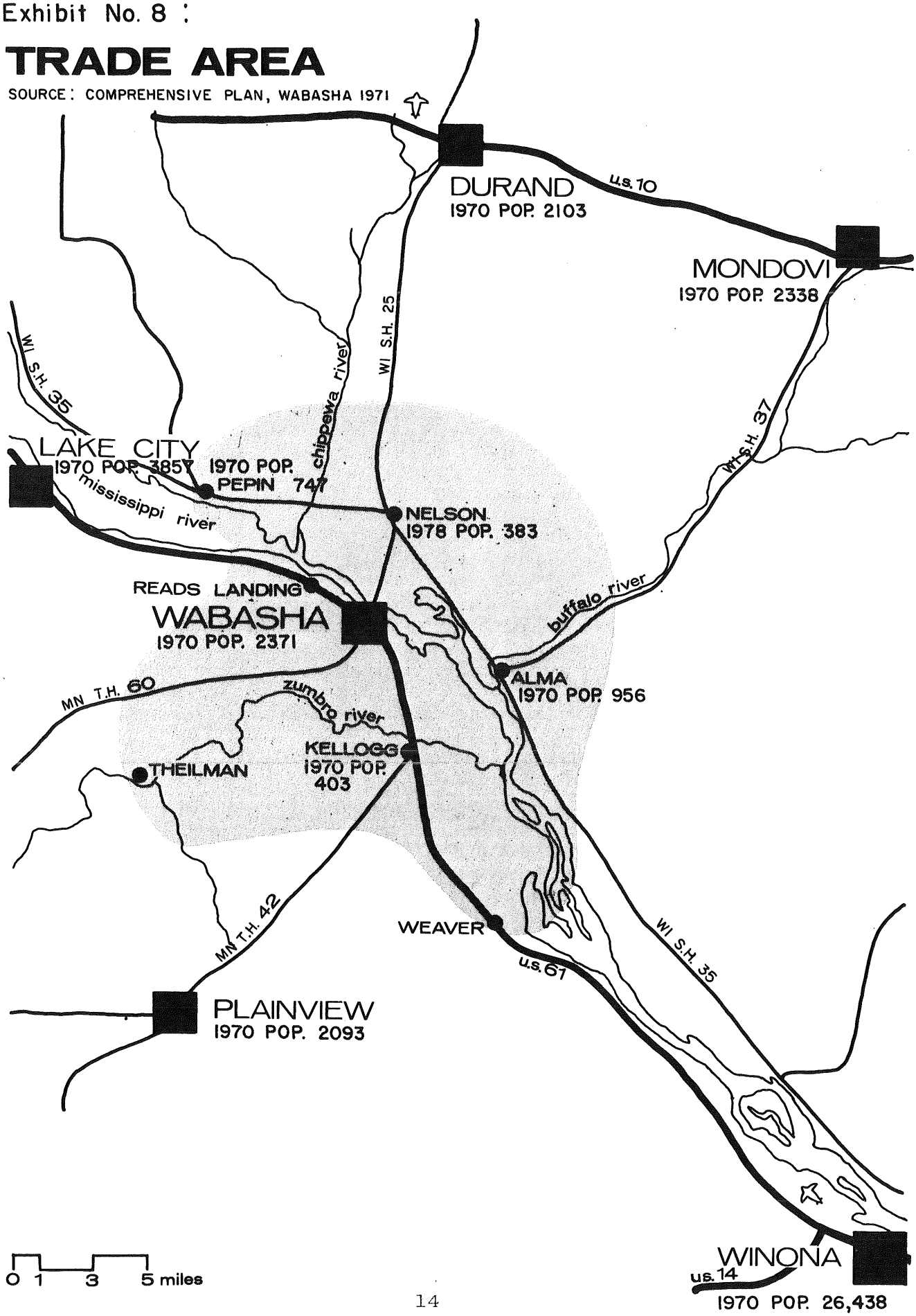
Wabasha provides retail and other community services to the Nelson area which in turn provides a significant percentage of the Wabasha labor force. Wabasha businessmen stated that from 15% to 60% of their customers come from Wisconsin, in a survey conducted in 1969 (2). Survey results indicated that on the average 40% of the business trade comes from Wisconsin.

Wabasha also provides medical services for the same general trade area shown on Exhibit No. 8. Records at St. Elizabeth's Hospital in Wabasha indicate that 44% of the inpatients were from Wisconsin in 1977. The Community Clinic in Wabasha also stated that about half of their patients are Wisconsin residents.

(1) TAS 570, 1967 Wabasha O-D Report, Office of Transportation System Planning, Mn/DOT.

(2) Planning Studies, a basis for comprehensive planning for Wabasha, Minnesota 1970, The Hodne/Stageberg Partners, Inc. Minneapolis, Minnesota.

Exhibit No. 8 :


TRADE AREA
SOURCE: COMPREHENSIVE PLAN, WABASHA 1971
DURAND
1970 POP. 2103
u.s. 10
MONDOVI
1970 POP. 2338
WI S.H. 25
WI S.H. 35
chippewa river
WI S.H. 37
LAKE CITY
1970 POP. 3857
PEPIN
1970 POP. 747
mississippi river
NELSON
1978 POP. 383
READS LANDING
WABASHA
1970 POP. 2371
buffalo river
ALMA
1970 POP. 956
MN T.H. 60
zumbro river
KELLOGG
1970 POP. 403
THEILMAN
WEAVER
MN T.H. 42
u.s. 61
WI S.H. 35
PLAINVIEW
1970 POP. 2093
WINONA
u.s. 14
1970 POP. 26,438
0 1 3 5 miles

D. Traffic Capacity

The existing 1978 Average Annual Daily Traffic (AADT) on the bridge is 2700 and the projected AADT for the year 2000 is 4300 (3). Predicted traffic characteristics for the year 2000 are shown in the following table. Traffic volumes for alternatives 1, 3A and 4 are shown on Exhibit No. 9 on the following page.

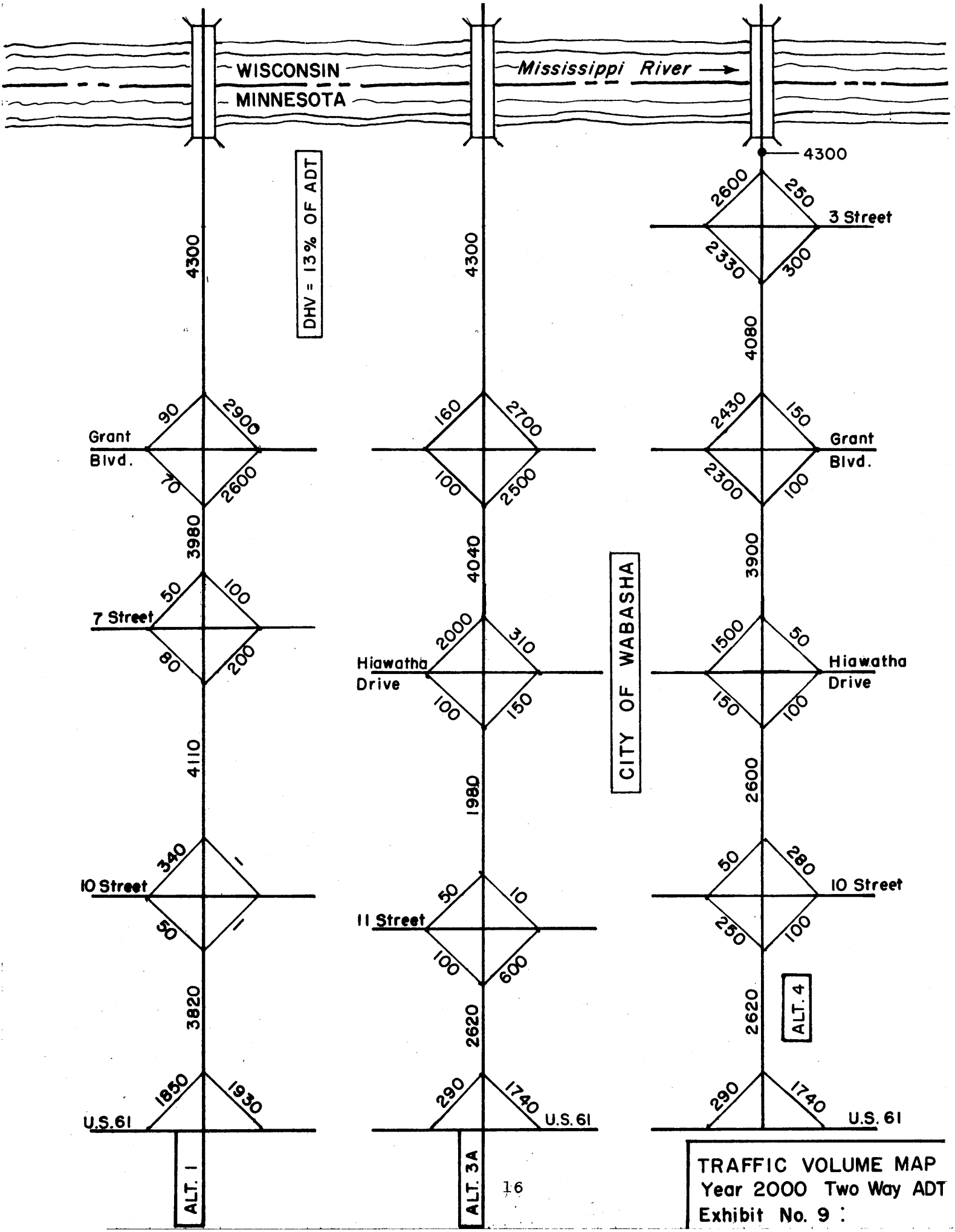
Table No. 1 Predicted Traffic Characteristics (3) Across Bridge Year 2000

| Vehicle Type | ADT |
|---|---|
| Pass. cars & 4 tire trucks | 3798 |
| Single unit - 2 axle - 6 tire trucks | 200 |
| Single unit - 3 axle trucks | 67 |
| Tractor-Truck - 3 axle | 14 |
| Tractor-Truck - 4 axle | 12 |
| Tractor-Truck - 5 axle | 192 |
| Buses & Trucks with Trailer | 17 |
| Total ADT | 4300 |
| Total Heavy Commercial ADT | 502 |
| Total DHV (Design Hourly Volume) | 559 |
| Directional Distribution | 60% - 40% |

The 19 feet bridge width, sharp curves on Minnesota approach, and 10 MPH speed limit severely restrict the traffic capacity of the existing structure. The existing level of service (4) is D to E as a result of the low travel speed and delays caused by trucks on the Minnesota approach. As traffic volumes increase, delays will increase and level of service will become E for longer periods of time.

(3) System Planning & Analysis Report S-149, 1973, Office of System Planning Mn/DOT.

(4) Level of service is a qualitative measure of traffic flow using letters A thru F. Level A being free flow and level F being completely jammed. Highway Research Board Special Report 87, Highway Capacity Manual, 1965.




TRAFFIC VOLUME MAP
Year 2000 Two Way ADT
Exhibit No. 9 :

The proposed action will provide level of service B to C and be consistent with the level of service of adjacent highways.

E. Safety

The narrow width and substandard horizontal and vertical alignment of the existing structure present a large potential for accidents. Accident rates for the years 1977 through 1979 are shown in the following table. The statewide averages listed are for similar type highways. Analysis of reported accidents shows clustering on the Minnesota approach and at intersections in Wabasha near the bridge. No fatalities have occurred within the past 4 years. The majority of the accidents occurring on the bridge are property damage and related to the narrow roadway width and poor geometrics.

Table No. 2 Accident Rate Per Million Vehicle Mile (rmvm)*

| Year | TH 60 (U.S. 61 to center of bridge) length 1.26 mile | WSH 25 (center of bridge to Wisc. 35) length 2.61 mile |
|---|---|---|
| | rmvm | rmvm |
| 1977 | 14.7 | 3.1 |
| 1978 | 13.8 | 3.1 |
| 1979 | 10.6 | 2.6 (6 months) |
| 3 year Average | 12.9 | 3.0 |
| 1978 statewide average | 6.3 | 2.7 |

*rmvm = rate per million vehicle miles

F. Modal Inter-relationships

The study area is served by two modes of transportation, railroad and highway. Although a considerable amount of barge traffic passes through the area, no barge terminals exist at Wabasha or Nelson. No airports exist in the study area. The nearest airports (general aviation) being north of Nelson and at Winona, Minnesota approximately 7 and 30 miles respectively

from Wabasha. In addition to the railroads and highways mentioned under System Linkage on page 12, Wabasha is served by an inter-city bus route operated by Greyhound Bus Lines. The bus route follows U.S. 61 in Minnesota. Direct bus service between Wabasha and Nelson is not provided. No local bus service exists. The study area is served by one taxicab company located in Wabasha. The lack of alternate modes reinforces the need for the proposed action.

G. Social, Economic and Environmental Effects of No Build

Not replacing the bridge in the near future would create severe adverse social and economic effects since continued deterioration would ultimately require the structure to be closed. Although the remaining service life of the existing bridge is estimated to be 7 years, extraordinary maintenance could possibly extend the service life an additional 5 years. Closing the bridge would then sever the transportation link between the two halves of the trade area as shown on Exhibit No. 8 page 14. The Mississippi River would at that time become an insurmountable barrier. The highway distance from Nelson to Wabasha would increase from 4 miles to 60 miles. As a result, Wisconsin residents would be forced to travel greater distances for medical care, shopping and other community services. The demand for social and community services at Durand and Modovi, Wisconsin would increase. Wabasha's retail trade would be reduced significantly since about 40% of that trade comes from Wisconsin. Reduction of retail trade would in turn cause loss of employment and businesses. The distance to recreational areas across the river would be increased considerably. The labor force which now crosses the bridge daily would be forced to travel the increased trip distance or seek new employment.

Not building would avoid several adverse impacts associated with the proposed action such as relocation, changes in traffic noise location, and displacement of 4 (f) lands. However, the adverse impacts of building are minor when compared to those of not building. The long term impact of not building would include a large economic loss to Wabasha, reduced availability of community and medical services to thousands of Wisconsin residents, and severe changes in traffic patterns resulting in an overall reduction in the quality of life for area residents.

Although the magnitude of no build impacts would be greatest after the bridge closing, adverse impacts would also occur before the closing. The extraordinary maintenance required to keep the bridge in service for 12 years is estimated to cost about $80,000 annually. As that maintenance became more extensive, temporary bridge closings would be required. Temporary closings are very distuptive to the social-economic area because of the 60 mile detour and large amount of community services and labor force dependant upon daily use of the bridge. Wabasha businessmen claim that total sales dropped sharply during one and two month temporary bridge closings in 1968 and 1969.

In summary, the existing bridge must be perpetuated to avoid severe adverse social and economic effects and to provide a reasonable transportation system.

## H. Transportation Planning

Minnesota: TH 60 is part of the Federal Aid Primary System.

An Interim Service Level Classification Plan was adopted in 1966 as the basis for developing the State Trunk Highway System. That plan classifies TH 60 as a Trunk Highway in the study area.

The 1990 National Functional Classification Study classified all of the nations public roads according to type and character of service. TH 60 is designated as a Minor Arterial in the study area.

The Mn/DOT/Plan, the current transportation development guide for the State of Minnesota, lists the subject action for the Fiscal Year 1984-85 biennium.

Replacement of the existing structure is number 23 of 4747 on the statewide bridge replacement priority list.

The Comprehensive Plan (5) for the City of Wabasha stressed the importance of the bridge to the area and need for replacement in the general vicinity of the existing structure.

Wisconsin: WSH 25 is part of the Federal Aid Secondary System.

The 1990 National Functional Classification Study designated WSH 25 as a Minor Arterial in the study area.

Replacement of the existing structure is number 33 of 338 on the statewide bridge replacement priority list.

(5) Comprehensive Plan Wabasha Minnesota 1971 by The Hodne/Stageberg Partners, Inc., Minneapolis, Minnesota.

## III. DESCRIPTION OF PROPOSED ACTION

A. Type

Replacement of the bridge and approaches over the Mississippi River at Wabasha, Minnesota. Estimated costs of alternatives range from 11 to 16 million dollars.

B. Location

The subject bridge carries Minnesota Trunk Highway 60 and Wisconsin State Highway 25 between Wabasha, Minnesota and Nelson, Wisconsin. Study termini are the TH 60 - U.S. 61 junction in Wabasha and the WSH 25 - WSH 35 junction in Nelson, a distance of 3.9 miles. The build alternatives vary in length from 1.0 to 1.8 miles. The study length exceeds the alternative lengths as a result of establishing logical termini for the study. See Exhibit No. 3, page 3.

C. Design Features

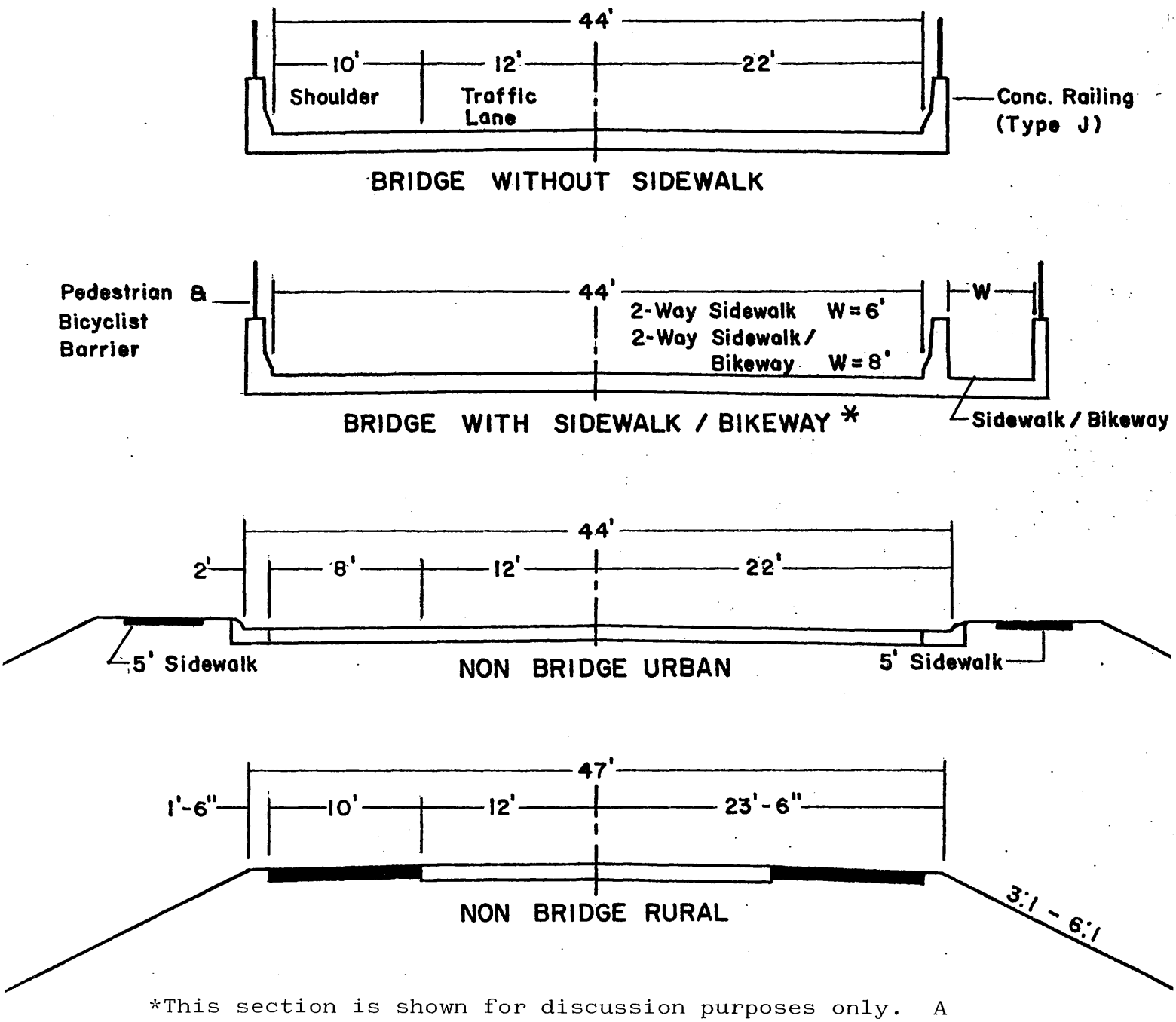
Table 3: Design Features

| | |
|---|---|
| No. of Traffic Lanes | 2 |
| Traffic Lane Width | 12 ft. |
| Shoulder Width | 10 ft. |
| Design Speed | 50 MPH |
| Approx. Bridge Length | 3000 to 4000 ft. |
| Navigational Clearance: | |
| Vertical** | 60 ft. above normal pool or 52 ft. above the 2% flowline, whichever is greater |
| Non Bridge Hwy. Section: | |
| Rural * | 2 lane w/10 ft. shoulders |
| Urban * | 2 lane w/parking lane and curb and gutter |
| Access Control | Partial |

*Typical sections are shown on Exhibit No. 10 on the following page.

**Actual vertical and horizontal clearances and pier locations for the proposed bridge shall be approved by the Commandant, U.S. Coast Guard (33 U.S.C. Section 525).

# Exhibit No. 10: TYPICAL SECTIONS




*This section is shown for discussion purposes only. A sidewalk/bikeway is not proposed since the 10 foot wide shoulders will provide an adequate bicyclist and pedestrian facility, pedestrian traffic is expected to be light, a 6 foot wide sidewalk would cost about $1.1 million and an 8 foot wide sidewalk/bikeway would cost about $1.4 million. Eight feet is the width suggested for a two way bikeway in the AASHTO GUIDE FOR BICYCLE ROUTES.

D. Status

As a result of the substandard geometrics of the existing structure, replacement has been contemplated since the early 1960's. However, a general lack of bridge replacement funds and development of the Interstate Highway System caused the project to lay dormant. Extensive repairs ($480,000) required in 1968 and 1969, re-emphasized the need for replacement. Active project development began in 1972. The Project Development Report was approved by the Federal Highway Administration (FHWA) on March 5, 1975. The project was deactivated in the fall of 1975 as a result of an anticipated funding shortage. In August 1977, the Minnesota and Wisconsin D.O.T.'s agreed to proceed with the project. A public information meeting was held in Wabasha in April, 1978. A scoping meeting at which 9 State and Federal agencies reviewed natural resource impacts was held on April 23, 1979.

E. Project Development Steps

Table 4: Project Development Schedule

| | | |
|---|---|---|
| Draft EIS | Summer | 1980 |
| Location Public Hearing | Summer | 1980 |
| Final EIS | Summer | 1981 |
| Location Approval | Summer | 1981 |
| Layout Approval | Fall | 1981 |
| Design Public Hearing | Spring | 1982 |
| Design Study Report Approval | Fall | 1982 |
| Determine Construction Limits | Fall | 1982 |
| Acquire Right of Way | Fall | 1984 |
| Approval of P.S. & E | Fall | 1984 |
| Construction Letting | December | 1984 |
| Completion | Fall | 1987 |

## IV. SOCIAL, ECONOMIC & ENVIRONMENTAL CONTEXT OF THE AREA

### A. Natural Environment

1. Topography

Southeastern Minnesota is located on a plateau of bedrock which is extensively dissected by the Mississippi River and its tributaries. The plateau rises more than 500 feet above the Mississippi River Valley. The floor of the river valley is level to gently rolling.

The proposed project is located within this valley near the confluence of the Mississippi and Chippewa river valleys. Granular deposits from the Chippewa River have sedimented much of the valley at this confluence.

Alluvial deposits form a vast floodplain which is roughly 3 miles wide. The present channel of the Chippewa River empties into the Mississippi River three miles north of subject bridge.

The main channel of the Mississippi River is located on the western edge of this floodplain, adjacent to Wabasha. At the Wabasha Bridge the main channel of the Mississippi River is about 1800 feet wide. A navigation channel is located on the extreme western edge of the main channel. This navigation channel is approximately 400 feet wide and varies from 15 to 22 feet deep. Water depth across the rest of the main channel varies from 4 to 10 feet. Bottom sediments in this channel are probably fine to coarse sands. Sediment in the navigation channel is probably coarser. River currents are constantly resuspending and redepositing this sediment resulting in unstable bottom conditions.

A huge complex of braided channels and meandering backwaters exist between the main channel of the Mississippi River and the Wisconsin side of the floodplain. Except where dredging has maintained deeper channels adjacent to WSH 25, water depth in these backwaters varies from less than 2 to 5 feet. West of WSH 25, the dredged depth varies from 6 to 10 feet. East of WSH 25 access to the boat ramp is maintained at 12 to 15 feet. More than 20 square miles of backwaters exist within a 5 mile radius of the Wabasha Bridge.

The backwaters are partially isolated from the main channel of the river by natural levees, a wing dam and dredged materials deposited along the banks of the main channel.

A former channel of the Zumbro River cuts through the City of Wabasha. Segments of the old channel are flooded with backwaters from the Mississippi River. The old Zumbro Riverbed is shallow, 3 to 6 feet water depths, and contains much silt and sediment in the study area. Much of the old Zumbro Riverbed is classified as Type 5 wetland, see Exhibit No. 24 on page 110.

2. Soils

The City of Wabasha has been built on alluvial deposits from the Mississippi River and its tributaries. The soils in Wabasha, between the Mississippi River and U. S. 61 range from unconsolidated sand, near the river to well drained sandy loam on high ground farther back from the river. Soils are fairly stable and highly permeable. Natural fertility of these alluvial deposits is relatively low. The backwater sediments on the Wisconsin side of the river are predominately sandy and organic alluvial deposits.

The geological profile is shown in Exhibit No. 11 on the following page.

3. Terrestrial Vegetation

The backwaters on the Wisconsin side are undeveloped areas of floodplain forest, isolated marshes and running side channels. Lowland Hardwoods are the major vegetation type within the Mississippi River fllodplain. Tree species found in the floodplain, near the Wabasha Bridge, include elm, maple, cottonwood and willow. Understory plants include prickly ash, virginia creeper, wild grape, red osier dogwood and poison ivy.

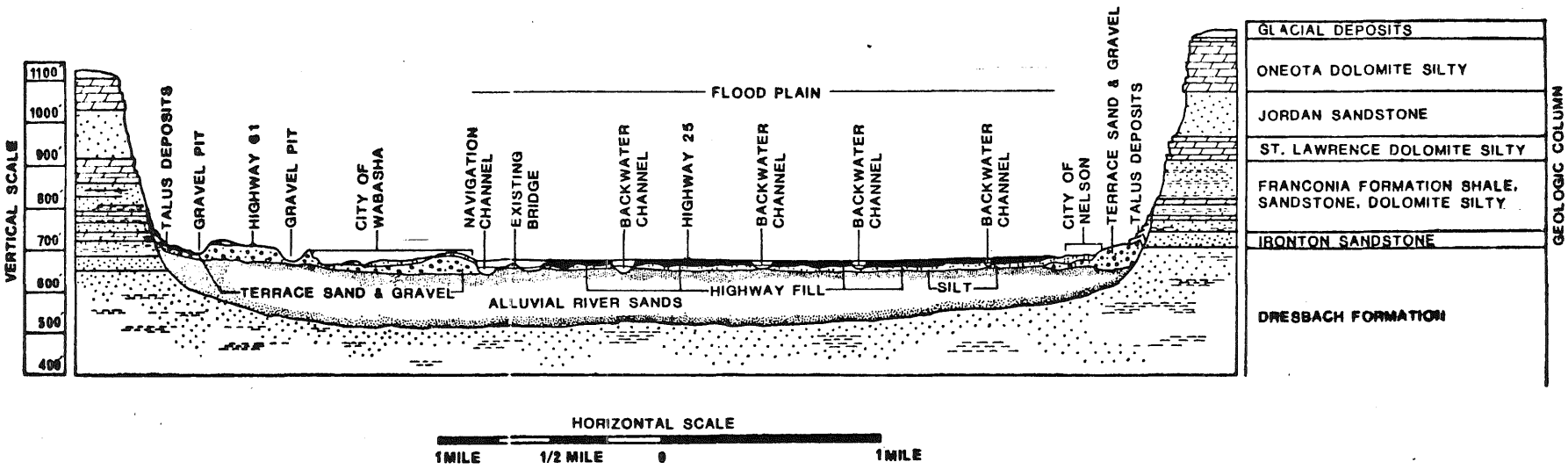
4. Aquatic Vegetation

Submerged and floating aquatic vegetation is scarce in the main river channel and those side channels which receive some direct river flow. Aquatic vegetation is abundant only in backwaters which are

Exhibit No. 11: GEOLOGICAL PROFILE

## CROSS SECTION · MISSISSIPPI RIVER VALLEY

### WABASHA MN. TO NELSON WI. CROSSING



isolated from direct river current. Refer to Exhibit No. 24, page 110 for locations of major beds of aquatic vegetation. The dominant species found in these backwaters are coontail and lesser duckweed. Other species include wild celery, elodea, curled leaf, floating leaf and snailseed pondweeds and mud plantain. Periphyton (attached algae) is abundant on most of the submerged vegetation. Emergent vegetation found along the margins of these backwaters include cattail, bulrush and arrowhead. Wetland grasses and forbs found adjacent to backwaters include cord grass, reed canary grass, rice cut grass, sedge, wild millet and smartweed.

The former Zumbro River channel in Wabasha is in a highly developed area. It is surrounded by city and farmlands. The channel has been filled in several areas for buildings, roads and recreational lands. The channel still contains considerable wetland vegetation, especially south of the present T. H. 60 crossing. Wetland vegetation in the old channel consists of patches of lowland hardwoods, brush, marsh grasses and aquatic vegetation. Dominant species of aquatic vegetation include waterlilies, duckweed, coontail and cattails. North of Hiawatha Avenue the channel is too deep to support rooted aquatic vegetation.

5. Wildlife

The maze of backwater channels, islands and wetlands on the Wisconsin side of the Mississippi River are prime wildlife habitat. A wide variety of species occur there. Muskrat, beaver, raccoon and gray squirrels are the most common mammals. White tailed deer, red fox and mink also occur. Water snakes, bullsnakes, frogs and turtles are common. Water birds found in the area include herons, egrets and terns. However, rookeries of these colonial waterbirds do not occur along any of the proposed alignments. Several species of ducks are abundant and extensive stands of lowland hardwoods offer excellent woodduck nesting habitat. Waterfowl use the backwater marshes for nesting and also for resting and feeding during spring and fall migrations. Hawks, owls and songbirds are numerous and include a variety of species.

The former Zumbro River channel in Wabasha supports the same kinds of wildlife as the Wisconsin side of the river valley. However, disturbances by man have reduced its value for wildlife to a moderate level.

Except for a few small tracts of grassland and cropland the uplands West of the Mississippi River, in and around Wabasha, are all commercial or residential developments. These lands have low value for wildlife.

The Wisconsin side of the floodplain is used heavily for hunting and trapping. However, the area west of WSH 25 is closed to all hunting during the Wisconsin Waterfowl Season.

6. Wetlands

All wetlands within the project area are contiguous with the Mississippi River. These wetlands can be separated into wetlands associated with the former Zumbro River channel, on the Minnesota side, and wetlands associated with the Mississippi River floodplain, on the Wisconsin side. Wetlands associated with the former Zumbro channel total approximately 135 acres in area, while wetlands contiguous with the Mississippi River floodplain total well into the tens of thousands of acres, if not significantly larger.

The larger wetland basins have been broken down into types and classified according to U.S.F.W.S. Circular 39. Refer to Exhibit No. 24, page 110 for locations of the various wetlands. Descriptions of the various wetlands found along the proposed alternatives are as follows:

Type 1 Seasonally Flooded Basins; The soil is covered with water, or waterlogged during variable seasonal periods, but is usually well drained during much of the growing season. Vegetation varies greatly according to the season and duration of flooding, but primarily includes weeds and grasses.

Type 1L Seasonally Flooded Lowland Hardwoods: These are floodplain hardwoods which are inundated during periods of high water. Wetlands of this type offer considerably greater wildlife habitat than do the other type 1 wetlands. These wetlands are often interlaced with permanent backwater channels.

Type 2 Inland Fresh Meadow; The soil is usually without standing water during most of the growing season, but waterlogged within at least a few inches of the surface. Vegetation includes grasses, sedges, rushes and various broad leaved plants.

Type 5 Inland Open Fresh Water; Shallow areas of open water having water depths from 3 to 10 feet. Vegetation includes pondweeds, elodea, wild celery, coontail, and waterlilies.

Type 6 Shrub Swamps; The soil is usually waterlogged during the growing season and is often covered with as much as 6 inches of water. Vegetation can include alders, willows, buttonbrush and dogwood.

7. Threatened and Endangered Species

Northern Bald Eagle

The Northern Bald Eagle, is currently listed as a threatened species by the U.S.Fish and Wildlife Service. The eagles are known to winter along the Mississippi River from mouth of the Chippewa River at Reads Landing to Teepeeota Point located about six miles downstream. Wabasha bridge is situated approximately in the middle of this segment of river. The eagles have concentrated along this segment because it is the only large area of the river that remains open during winter. The water is kept open by constant flow from the Chippewa River. The eagles are dependent upon open water areas for food. The open waters attract schools of fish, crippled waterfowl, and contain dead fish, all of which the eagles feed upon.

Counts of wintering eagles along the open water segment have been conducted by the U.S.Fish and Wildlife Service and a local chapter of the Audubon Society. These counts indicate that the total number of wintering eagles has varied over the years

from 20 to 55 birds. Based upon counts made by local bird watchers, as of December 1978, the population, is probably between 40 and 50 birds. Because of the number of birds present, this population represents a significant concentration of wintering bald eagles on a national scale.

Migrant eagles arrive from October through December and most remain in the area until the first major breakup of river ice, usually during March. During the winter, the eagles feed and roost throughout the open water segment of river. Small groups and single eagles have been observed feeding and roosting in tall trees along the river bank just upstream and downstream of the present Wabasha bridge. The eagles usually keep a distance of 400-500 feet away from the bridge. It is not uncommon for the birds to use the bridge area. However, the area around Reads Landing is the most important for the wintering eagles. This area receives the most frequent use and has the highest concentration of birds. It is especially important as winter progresses and the area of open water shrinks.

No eagle nests are known to occur along any of the proposed alignments or along the Mississippi River from Reads Landing to Teepeeota Point. The region has been used by nesting eagles in the past and could potentially be used again in the future.

American and Artic Peregrine Falcons

The American and Artic Peregrine Falcons, currently listed as endangered species, have ranges which include both Minnesota and Wisconsin. The Mississippi River bluffs between Minnesota and Wisconsin, including those in the Wabasha area, have been listed as potential nesting sites for reintroduction of the American Peregrine Falcon. The bluffs which could be used for nesting are located several miles from the proposed project.

Lampsilis Higginsii Mussel

A species of clam, the Higgins Eye Pearly Mussel (Lampsilis Higginsii), currently designated an endangered species, has been known to occur in portions of the Upper Mississippi River, including the project area. However, a survey undertaken during the summer of 1979 did not reveal the presence of Lampsilis Higginsii or any other endangered species of mussels.

8. Fisheries

The Mississippi River near Wabasha supports a substantial and varied fishery. Many species of game and roughfish inhabit the many backwater areas and main river channel within the project area.

Fish species known to utilize the river and adjacent backwaters include walleye, sauger, northern pike, large and smallmouth bass, black crappie, bluegill, rock bass, white bass, yellow perch, various species of bullhead, channel and flathead catfish, redhorse, river carpsucker, bowfin, drum, carp and various minnow species. Angling pressure in the immediate area is considerable.

A rock wing dam is located approximately 200 feet upstream and parallel to the existing bridge. The dam extends from a nearby island to the edge of the main river channel. Wing dams and the scour holes they produce offer excellent fish habitat and are used heavily by anglers.

The former Zumbro River channel, within the town of Wabasha also supports a fishery but not as varied as that of the Mississippi River. The channel has resident populations of sunfish, crappies and various species of roughfish. Bass and walleyes are known to migrate in from the Mississippi River during the spring. Fishing is common in the channel, with most angling pressure located below Hiawatha Avenue.

Most of the fish species present in the river use the many backwater channels as spawning and nursery areas. A survey by the Wisconsin Department of Natural Resources could not pinpoint specific spawning beds along any of the suggested bridge alignments due to turbid water conditions. However, fish spawning undoubtedly occurs in the area and the backwater channels are invaluable as fish nursery areas.

9. Flood Plain

The major portion of this project will be constructed within the Mississippi River floodplain. Refer to Exhibits No. 3 & 24 for the delineation of the 100 year floodplain.

10. Groundwater

Groundwater usually moves at right angles to topographic contours from upland to lowland areas. Near Wabasha, the direction of groundwater movement is from the bedrock plateau west of Wabasha toward the alluvial sediments deposited by the Mississippi River. Wabasha is able to obtain most of its groundwater from near surface aquifer of saturated alluvial and valley fill deposits of the river.

Carbonates and bicarbonates are the major ions present in the groundwater. Most of the bedrock aquifers have been eroded back from the Mississippi River. The bedrock plateau is nearly 1.5 miles west of the present channel of the Mississippi River.

11. Upper Mississippi Fish & Wildlife Refuge

The area between the Mississippi River main channel and the Burlington Northern Railroad in Wisconsin is included in the Upper Mississippi Fish and Wildlife Refuge. This refuge contains 195,093 total acres and extends from the Chippewa River southerly to Rock Island, Illinois, a distance of approximately 284 miles. Of the total refuge area, 33,000 acres are in Minnesota and 88,000 are located in Wisconsin. Purchase of the refuge commenced in 1924 following an Act of Congress and continued into the 1930's. The land is owned by the federal government with approximately 82,000 acres under the jurisdiction of the Department of the Interior (U. S. Fish and Wildlife Service) and the remainder under the jurisdiction of the Department of Defense (U. S. Army Corps of Engineers). Through mutual agreement, the Corps of Engineers retain flowage rights while the U. S. Fish and Wildlife Service retain wildlife management rights.

Part of the refuge in the Nelson-Wabasha area is a waterfowl refuge only. West of WSH 25, the refuge is closed to waterfowl hunting at all times and to all hunting and trapping during the State waterfowl season. It is otherwise open to all hunting, fishing or trapping as permitted by the State of Wisconsin. On the east side of WSH 25, the refuge is open to all hunting, trapping, and fishing permitted by the State of Wisconsin including waterfowl.

12. Scientific Area

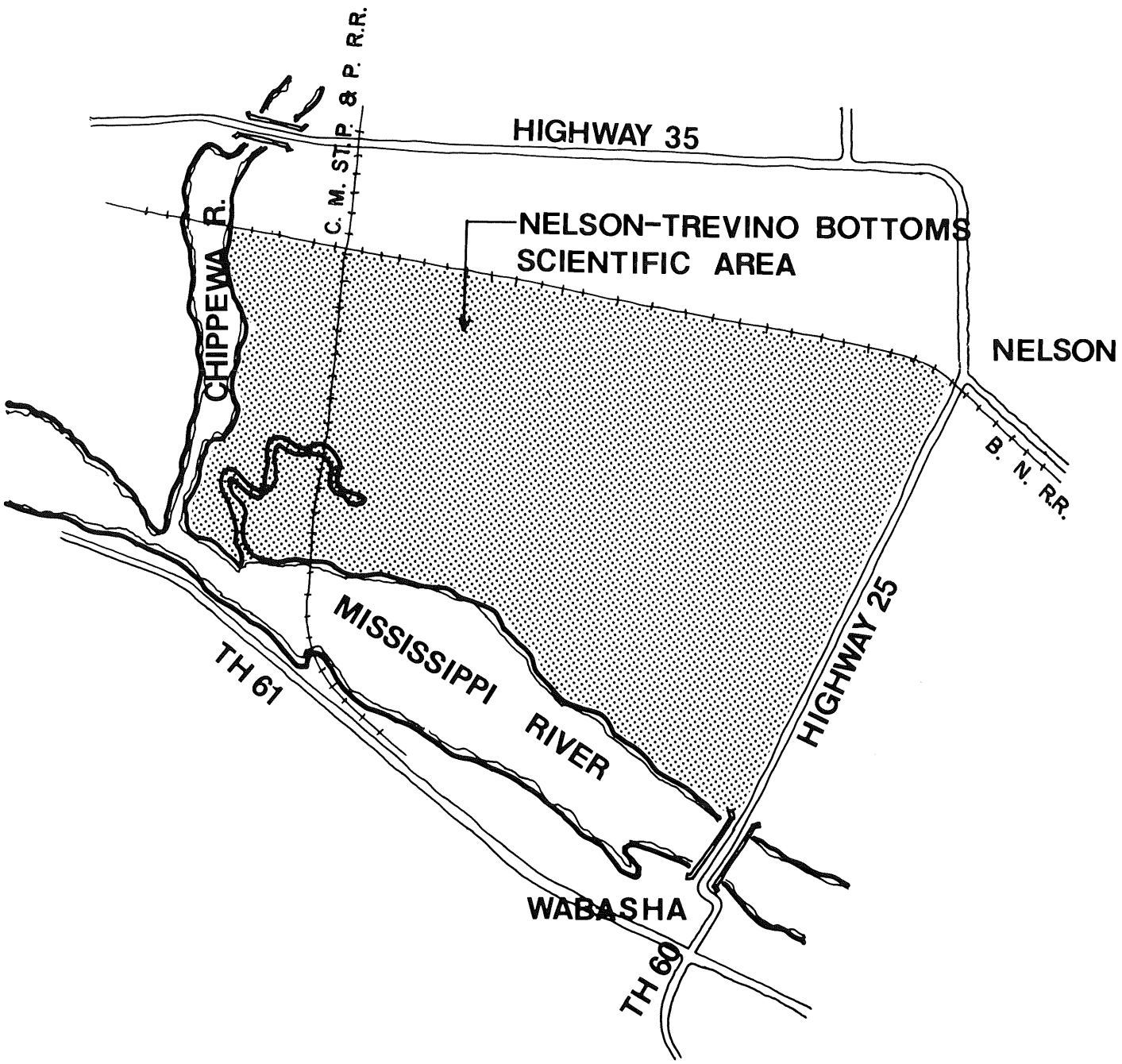
The 3740 acre portion of the refuge on the west side of WSH 25, is also designated by the State of Wisconsin as the "Nelson - Trevino Bottoms Scientific Area," see Exhibit No. 12 on the following page.

This designation was given to this and other areas in Wisconsin to aid in preserving tracts of land or water in an undisturbed or almost undisturbed condition. The lands so designated are generally publicly owned and are selected by the Wisconsin Scientific Areas Preservation Council on the basis of the quality, uniqueness, diversity and potential value for research and formalized class use. This Council does not acquire or hold land but acts instead as an advisory agency in the selection, acquisition and use of scientific areas.

The portion of the refuge west of WSH 25 is also being considered by the Department of the Interior for possible inclusion in the National Wilderness Preservation System. A study was completed in 1974 by the U. S. Fish and Wildlife Service and recommended that this and all other areas of the Upper Mississippi River Fish and Wildlife Refuge not be designated a wilderness area. However, consideration is still being given to inclusion of this area in the National Wilderness Preservation System.

A boat access is located on the east embankment of WSH 25 near the northeastern terminus of the existing bridge. This access is located on a backwater channel, which is navigable by small boats to the main river.

Another boat access is located in Minnesota on the west bank of the former Zumbro River channel in Wabasha, above the railroad crossing upstream from the Mississippi River.




# NELSON-TREVINO BOTTOMS SCIENTIFIC AREA

Exhibit No. 12

13. Climate

| Coldest Month: January | | Hottest Month: July |
|---|---|---|
| Mean Daily Max | 27.3°F | 87°F |
| Mean Daily Min | 9.4°F | 65°F |
| Ave. annual precipitation | | 29 inches |
| Ave. annual snow | | 44 inches |
| No. days over 90° | | 14 |
| No. days between killing frosts | | 125 |
| Prevailing wind direction | | southeast |
| Prevailing wind speed | | 9 MPH |

B. Social Environment

1. History

Wabasha, Minnesota is built on the site of one of the earliest pioneer settlements on the upper Mississippi River. In 1826 Augustine Rocque made a winter camp at the location. By 1838 it was called Cratte's Landing after Oliver Cratte who was the first white man to build a permanent building in what is now the city. The settlement was officially named Wabasha in 1843 after a progression of Dakota Sioux chiefs named Wapashaw. The town was surveyed and laid out in 1855 and incorporated in 1857.

2. Population

The recent population history of Wabasha, Nelson, and the two counties in which they are located is listed below:

Table 5: Population (source U. S. Census)

| Area | Year 1950 Total | 1960 Total | 1970 Total | 1970 non-white | 1980*** (Projected) |
|---|---|---|---|---|---|
| City of Wabasha | 2,468 | 2,500 | 2,371 | 1 | 2,500 |
| Wabasha County | 16,878 | 17,007 | 17,224 | 27 | 19,000 |
| Village of Nelson | NA* | NA* | 383** | 0 | NA* |
| Buffalo County | 14,719 | 14,202 | 13,743 | 17 | 14,560 |

* Not available since Nelson was not incorporated until June,1978.
** 1978 Population
*** Mn. State Planning Agency & Wis. Department of Administration.

Population in the area has declined slightly during the 1960-1970 period primarily as a result of reduced industrial activity. For planning purposes however, moderate population gains are expected over the next two decades. Gains are expected as a result of agricultural employment stabilizing, tourism/recreation activity increasing, and industrial employment rising moderately.

3. Housing

Table 6: Housing Unit Summary

| Area | No. of Units 1960 | No. of Units 1970 |
|---|---|---|
| City of Wabasha | 701 | 778 |
| Village of Nelson | NA | NA |
| Wabasha County | 4,859 | 5,827 |
| Buffalo County | 4,499 | 4,597 |

Sources: Background Report, Southeastern Minnesota Areawide Planning Organization 1974

Census Notes - Regional Housing Data Mississippi River Regional Planning Commission 1973

Analysis of the number of housing units indicates the number of farm dwelling units are diminishing while non-farm units are increasing.

A survey conducted during the summer of 1978 revealed 49 available homes in the project area.

4. Transportation Facilities

Table 7: Transportation Facilities

| | Wabasha | Nelson |
|---|---|---|
| Highways | U.S. 61, Minn. 60 | Wisc. 25, Wisc. 35 |
| Highway Load Limits | Minn. 60 - 6 Tons | Legal |
| Miles to Interstate Hwy. | 37 to I-90 | 41 to I-94 |
| Rail Lines | 1 - C.M.St.P. & P. | 1 - BN |
| Rail Service | Freight | Freight |
| No. of Truck Lines | 4 | - |
| No. of Truck Terminals | 1 | 0 |
| Nearest Airport | 30 Mi. - Winona | 5 Mi. General Service |
| Inter City Bus | Greyhound | 0 |
| Taxicab Companies | 1 | 0 |
| Navigable Water Depth | 9 Feet | 9 Feet |

The study area of the Mississippi River is included in Pool 4 created by Lock and Dam No. 4 at Alma, Wisconsin.

Although neither Wabasha or Nelson have barge terminals, the bridge clearances required for barge traffic do affect the geometrics of the interstate bridge. Commercial barge traffic has significantly increased since the completion of the 9 feet deep navigational channel in 1939. Corps of Engineers records show the total barge traffic in the St. Paul District has increased from 1.1 million tons in 1940 to 26.2 million tons in 1978. The total number of lockages at Lock and Dam No. 4 was 5,127 in 1977 including 3,027 pleasure boat lockages.

The predominant commodities shipped by barge are grain, coal, and petroleum. The nearest barge terminals are located at Alma, Wisconsin and Red Wing, Minnesota at distances of 7 miles downstream and 25 miles upstream respectively from Wabasha.

5. Recreation

Recreational activities available within the study area include:

Boating, waterskiing, fishing, swimming, hunting, picnicking, camping, golfing, tennis, canoeing, ice skating, ice hockey, snow skiing, snowmobiling, bowling, scenic drives, nature walks, and routine park and atheletic field activities. Nearby facilities are shown on Exhibit No. 40, page 143.

A summary of park and recreation areas within the city of Wabasha is as follows:

Table 8 Wabasha Park & Recreation Acreage

| Type of Facility | Number of Facilities | Acreage (approximate) |
|---|---|---|
| Neighborhood Parks | 4 | 7 |
| School Playgrounds | 2 | 1 |
| Community Parks | 4 | 24 |
| Undeveloped Areas | 4 | 22 |
| TOTAL | 14 | 54 Acres |

All build alternatives will affect some park and recreation areas. These areas are shown on Exhibits No. 13 and 40 on pages 39 and 143 respectively and include the following:

A. Upper Mississippi River Fish and Wildlife Refuge, a 195,000 acre federally owned game refuge located in Wisconsin.

B. Mississippi River Park, a narrow one acre passive use park owned by the City of Wabasha and located between Lawrence Blvd. and the Mississippi River.

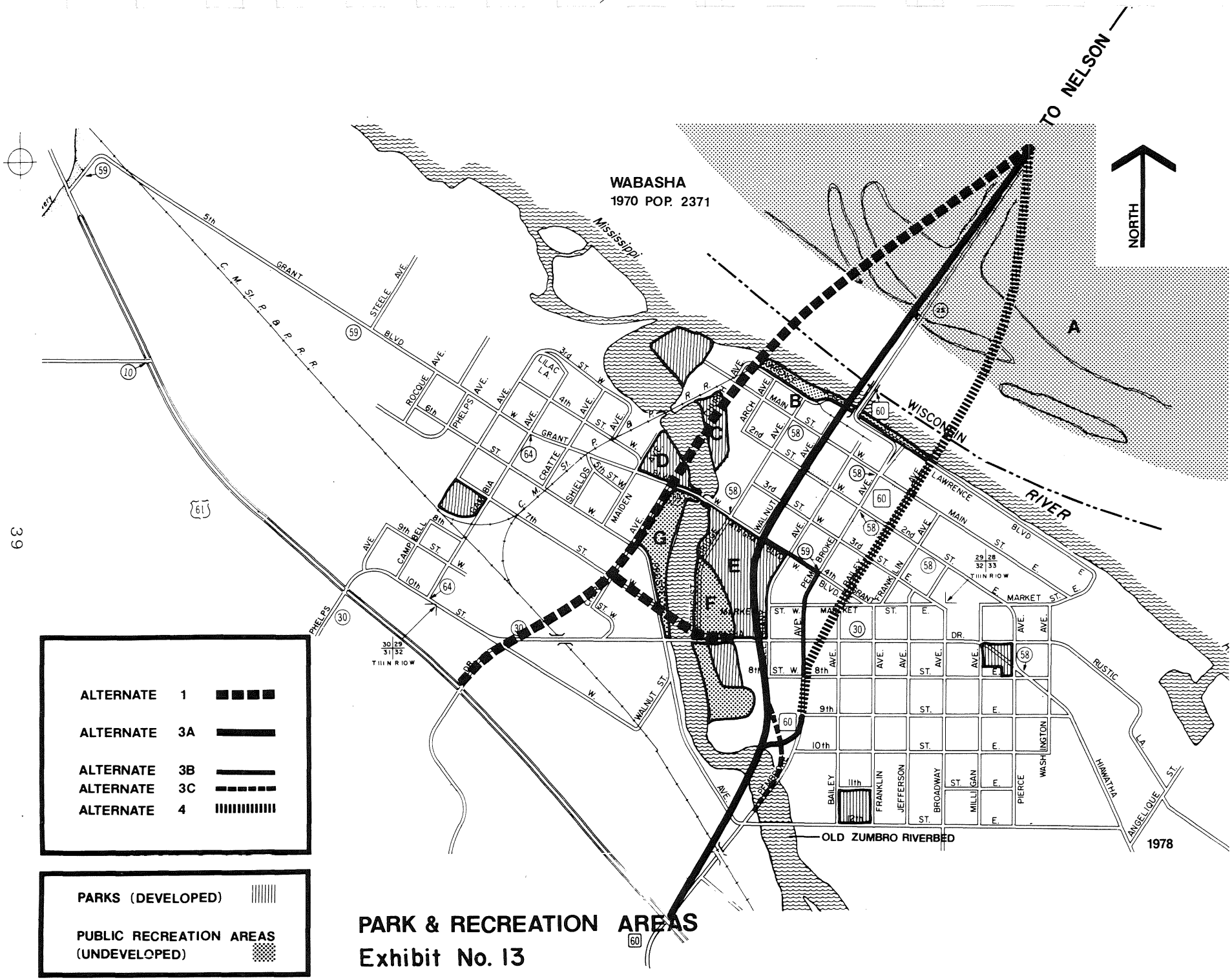
C. City Campgrounds, a 2.6 acre area with camping hookups owned by the City of Wabasha and located along the north side of the Old Zumbro Riverbed near Church Avenue.

D. Ikes Park, a 4.4 acre well developed park (includes boat ramp) owned by the City of Wabasha and located along the south side of the Old Zumbro Riverbed and north of Grant Blvd.

E. Central Athletic Field, a 10.7 acre area which includes ball fields, skating rinks and tennis courts owned by tht City of Wabasha and located south of Grant Blvd. and west of Alleghany Avenue.

F. County Fairgrounds, a 6.0 acre area used for county fair midway, leased by Wabasha County from the City of Wabasha located north of Hiawatha Drive and east of the Old Zumbro Riverbed. This area is mostly utilized as an unimproved open space park or parking for events at the adjacent athletic field.

G. Overflow Nature Area, a 9.2 acre undeveloped area used for fishing, owned by the City of Wabasha and located west of the Old Zumbro Riverbed and south of Grant Blvd.




# PARK & RECREATION AREAS
## Exhibit No. 13

Wabasha Recreation Plan

The 1974 City of Wabasha Recreation Plan* used the guidelines that a community should provide 10 acres of park land, exclusive of special use parks and athletic fields, for 1,000 persons in its urban area. The plan indicated that Wabasha provided 18.5 acres of park and recreational land (excluding one half of the Central Athletic Field due to its frequent high school use) whereas a population of 2500 requires 25 acres. The Recreation Plan recommended two neighborhood playgrounds be acquired in southeast Wabasha, additional acquisition and development of areas along the Old Zumbro Riverbed from the Mississippi River to Pembroke Avenue, and protection of natural areas along the Old Zumbro Riverbed south of Pembroke Avenue.

Current review of Wabasha facilities reveals that a neighborhood park has been acquired at 12th Street East and Bailey Avenue as suggested by the Recreation Plan. That park contains 2.4 acres and is being developed with ball fields and playground facilities. Wabasha currently provides about 25 acres of park and recreation land (excluding school playgrounds, undeveloped areas and one half of the Central Athletic Field), an amount equal to that suggested by the Recreation Plan.

Wabasha's current park improvement plans include the following:

J. C.'s Park (12th Street East and Bailey Avenue) - landscaping and ball field construction.

Overflow Nature Area (West side of Old Zumbro Riverbed between Grant Blvd. and Hiawatha Drive) - filling, landscaping and picnicking facilities.

County Fairgrounds (East of Old Zumbro Riverbed and north of Hiawatha Drive) - The County Fairboard is searching for another fairground location and is currently considering four different areas. Long range city plans, if the fairgrounds are relocated, are for picnic facilities, landscaped open space areas, and a swimming pool.

*Recreation Plan City of Wabasha July, 1974 by Wallace, Holland Kastler, Schmitz & Company, Consulting Engineers and Planners, Rochester, Minnesota and Mason City, Iowa.

6. Historic and Architectural Sites

At the present time the Anderson Hotel, located at the corner of Main Street and Bridge Avenue in Wabasha, is the only site in the study area listed on the National Register of Historic Places. The Anderson Hotel is the oldest operating hotel in the State of Minnesota. Originally the Old Hurd House, the structure has been restored to an 1880 decor and includes 40 rooms, dining facilities, and an ice cream parlor.

The Minnesota Inventory of Historic and Prehistoric Places lists two sites, the Anderson Hotel and Wabasha Commercial Historic District. The historic district is a well preserved example of an early Minnesota river town.

A report recently prepared for the Minnesota Historical Society entitled "An Historical Survey Of The Alternate Routes For Proposed Trunk Highway 60 In Wabasha, Minnesota" identified the Anderson Hotel as being on the National Register of Historic Places. The report also identified the Commercial District (comprised of 59 properties) and the First Congregational Parsonage & the Grace Memorial Episcopal Church as being eligible for National Register nomination. Seven of the 59 properties within the Commercial District were determined ineligible for National Register nomination. The location of historic properties is shown on Exhibit No. 14 on page 43.

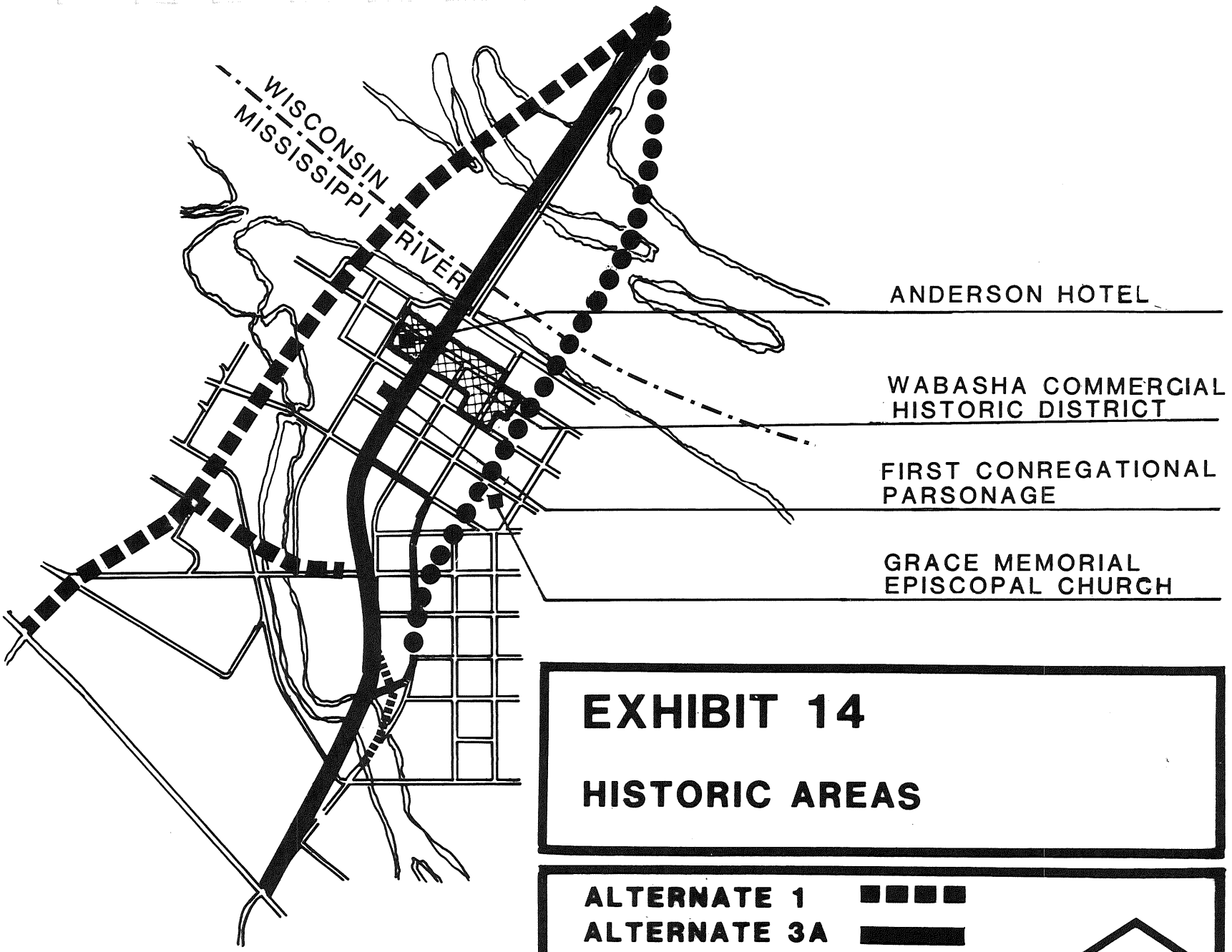
The Wisconsin State Historic Preservation Officer (SHPO) indicates that there are no known historic or architectural sites in the Wisconsin segment of the study area. A copy of the SHPO's letter is contained in the appendix, page A-3.

7. Archaeological Sites

Investigation by the Minnesota Historical Society revealed that only one archaeological site was known to exist within the study area. The site consisted of 5 large burial mounds when recorded in 1883. All surface features of that site have been completely destroyed by housing and city streets.

Surveys revealed an area of archaeological potential along the east bank of the Old Zumbro Riverbed between TH 60 and Hiawatha Drive. Test excavations made in 1975 indicate that no archaeological materials exist in that location, see correspondence in the appendix, page A-7.

Investigation by the Wisconsin State Archaeologist revealed that there are no archaeological sites in the Wisconsin segment of the study area along the group 3 alternates.




# EXHIBIT 14

## HISTORIC AREAS

ALTERNATE 1
ALTERNATE 3A
ALTERNATE 3B
ALTERNATE 3C
ALTERNATE 4

NORTH

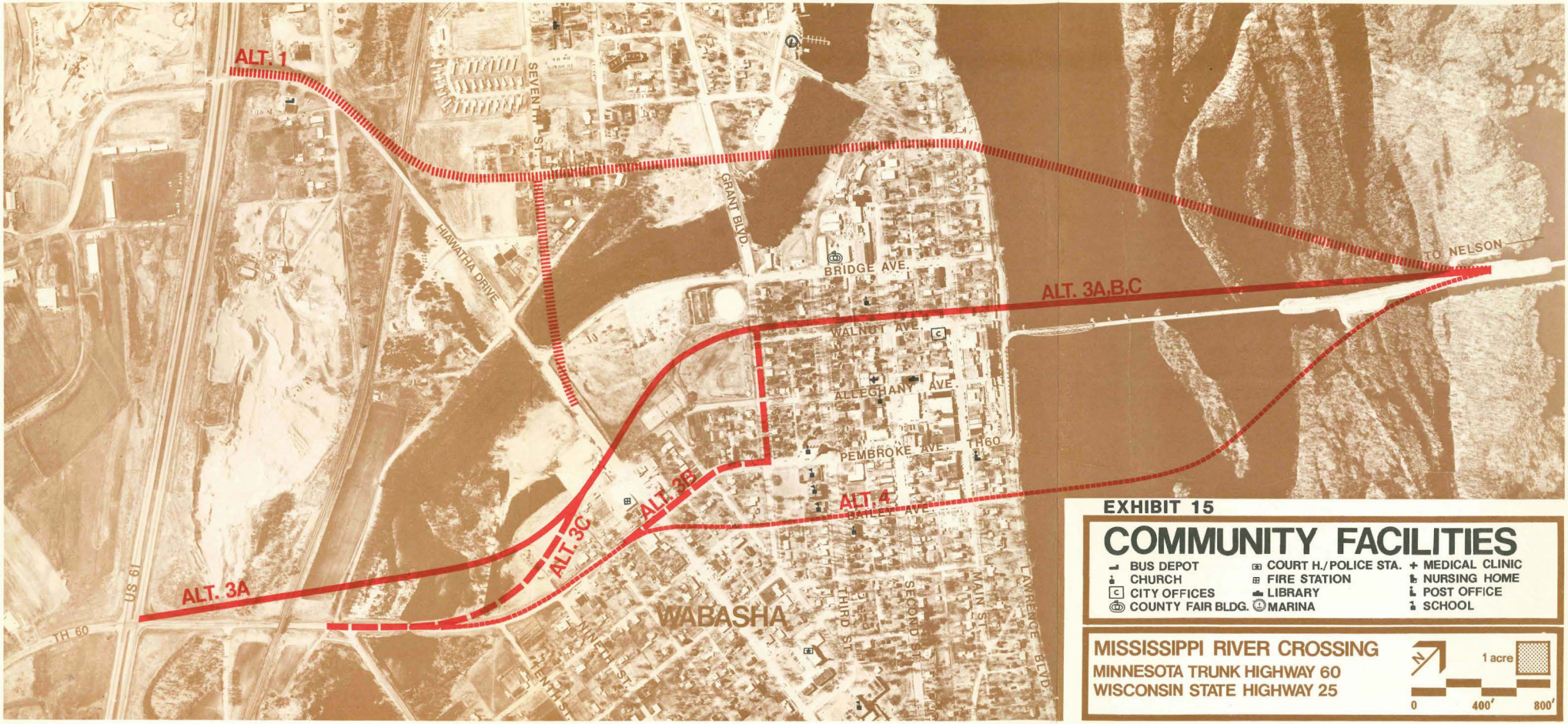
8. Community Facilities

Table 9: Community Facilities

| | Wabasha (6) | Nelson |
|---|---|---|
| No. of Hotels | 1 - 51 Rooms | 1 |
| No. of Motels | 2 - 30 Units | 0 |
| No. of Hospitals | 1 - 48 Beds | 0 |
| No. of Doctors | 6 | 0 |
| No. of Dentists | 3 | 0 |
| No. of Churches | 4 | 2 |
| No. of Marinas | 2 | 0 |
| No. of Golf Courses | 1 - Private | 0 |
| No. Public Libraries | 1 - 14,431 Vol. | 0 |
| Post Office | 2nd Class | 3rd Class |
| No. Meeting Facilities | 6 | 1 |
| No. of Banks | 1 | 1 |
| Newspapers | 1 - Weekly | 1 - Weekly |
| Radio Stations | 1 - AM | 0 |
| Industrial Sites | 2 - 46 Acres | 0 |
| Elementary Schools | 2 - 254 Pupils | Nearest 5 Mi. |
| Middle Schools | 1 - 250 Pupils | Nearest 5 Mi. |
| High Schools | 1 - 409 Pupils | Nearest 7 Mi. |
| Parochial Schools | 1 - 169 Pupils | 0 |
| Nearest College | Winona - 30 Mi. | Winona - 34 Mi. |
| City Government | Mayor-Council | Village Board |
| Police Force | 3 | 0 |
| Fire Department | 28 - Volunteer | Volunteer |
| Municipal Water Source | Wells | Wells |
| Storage Capacity | 500,000 Gallons | - |
| Pumping Capacity | 1,365 Gal/Min. | 200 Gal/Min. |
| Average Demand | 662,400 G/D | 24,000 G/D |
| Sewage Plant Capacity | 350,000 G/D | 36,000 G/D |
| Average Demand | 150,000 G/D | 20,000 G/D |

Major community facilities in Wabasha are shown on Exhibit No. 15 on the following page. Most of Nelson's community facilities are located near the study area north termini, will not be affected by the proposed action and are not shown on the exhibit.

(6) Minnesota Department of Economic Development 1977.


ALT. 1
ALT. 3A
ALT. 3B
ALT. 3C
ALT. 3A,B,C
ALT. 4
SEVENTH ST.
GRANT BLVD.
HIAWATHA DRIVE
BRIDGE AVE.
TO NELSON
WALNUT AVE.
ALLEGHANY AVE.
PEMBROKE AVE.
BAILEY AVE.
TH 60
US 61
WABASHA
THIRD ST.
SECOND
MAIN ST.
LAWRENCE BLVD.
NINTH ST.
EXHIBIT 15
COMMUNITY FACILITIES
BUS DEPOT
CHURCH
CITY OFFICES
COUNTY FAIR BLDG.
COURT H./POLICE STA.
FIRE STATION
LIBRARY
MARINA
MEDICAL CLINIC
NURSING HOME
POST OFFICE
SCHOOL
MISSISSIPPI RIVER CROSSING
MINNESOTA TRUNK HIGHWAY 60
WISCONSIN STATE HIGHWAY 25
1 acre
0
400'
800'

C. Economic Setting

Wabasha's economic functions are primarily a rural trade and service center and secondarily a manufacturing center. Related to the primary and secondary functions are roles of administration, education, and medical center.

Nelson's economic function is a rural trade and service center. Economic indicators are summarized in the following table:

Table 10: Economic Indicators (6)

| | City of Wabasha | Wabasha County, Minnesota | Buffalo County, Wisconsin |
|---|---|---|---|
| Employment: | (1976) | (1970) | (1975) |
| Manufacturing | 89 | 1245 | 150 |
| Non-Manufacturing | 430 | 5185 | 5590 |
| Per Capita Income: | | | |
| (1969) | $2,341 | $2,498 | $2,248 |
| (1975) | $3,747 | $3,958 | $4,019 |
| Retail Sales: | | | |
| (1975) | NA | $37.9 Million | $17.1 Million |
| Assessed Valuation: | | | |
| 1978 Taxable Property | $5.4 M. | $66.4 Million | $137.4 Million |
| Mill Rate (total) | 0.1234 | 0.0866 | 0.0192 |

Leading industrial employers in the City of Wabasha are listed in the following table:

Table 11: Wabasha Industries

| Firm | Product/Service | No. Employees |
|---|---|---|
| International Multifoods | Flour | 46 |
| Petite Products | Wood Products | 2-13 |
| Wabasha Ready-Mix | Cement | 12 |
| Dolphin Products, Inc. | Canoes | 9 |
| Great River Industries, Inc. | Plastic Fabricator | 5 |
| IBP Equipment/Merit Export | Metal Working Equip. Overseas Marketing | 9 |

(6) Source: Minnesota Department of Economic Development,& Mississippi River Regional Planning Commission.

## V. LAND USE

A. Planning

Land use planning in Wabasha is performed by the City Planning Commission. Existing and proposed land use is identified in the Wabasha Minnesota Comprehensive Plan. (5) Although not officially adopted, the Comprehensive Plan is used as a guide for land use development.

Land use planning in Wisconsin is performed by the Mississippi River Regional Planning Commission since Buffalo County does not have a planning committee. The Village of Nelson was incorporated in 1978 and is expected to establish a land use planning body in the near future.

The U. S. Fish and Wildlife Service manages the Upper Mississippi River Federal Wildlife and Fish Refuge. Use of the Mississippi River main channel is controlled by the U. S. Army Corps of Engineers and U. S. Coast Guard.

B. Zoning

Wabasha has an outdated zoning ordinance which is not being enforced. Recent attempts to update the zoning ordinance have not been successful. Land use within the City is controlled by municipal construction permits and a 1976 floodplain ordinance.

The Wisconsin area operates under a zoning ordinance managed by the Buffalo County Zoning Administrator.

C. Existing and Planned

Existing and possible planned land uses are shown on Exhibits No. 16 thru 18 on pages 48 thru 50 . As shown on those exhibits, no major changes in land use are planned in the project area. Exhibit No. 17 shows a new bridge and realignment of T.H. 60 at a location similar to that provided by Alternative 1. The Wabasha Comprehensive Plan did not discuss the various alternate routes available at that time (1971), but did indicate an initial preference for the location shown on Exhibit No. 17. The Plan states that other routes may be more desirable after further study and public hearings and the basic concept of the Land Use Plan will probably not change if an alternate route within the City is selected.

(5) Comprehensive Plan Wabasha, Minnesota 1971

Exhibit No. 16:

# 1970 LAND USE / COMMUNITY FACILITIES

Source: COMPREHENSIVE PLAN, WABASHA 1971

## LAND USE

**RESIDENCE**
- SINGLE FAMILY
- TWO FAMILY
- MULTIPLE FAMILY
- MOBILE HOME
- SINGLE FAMILY, FARM

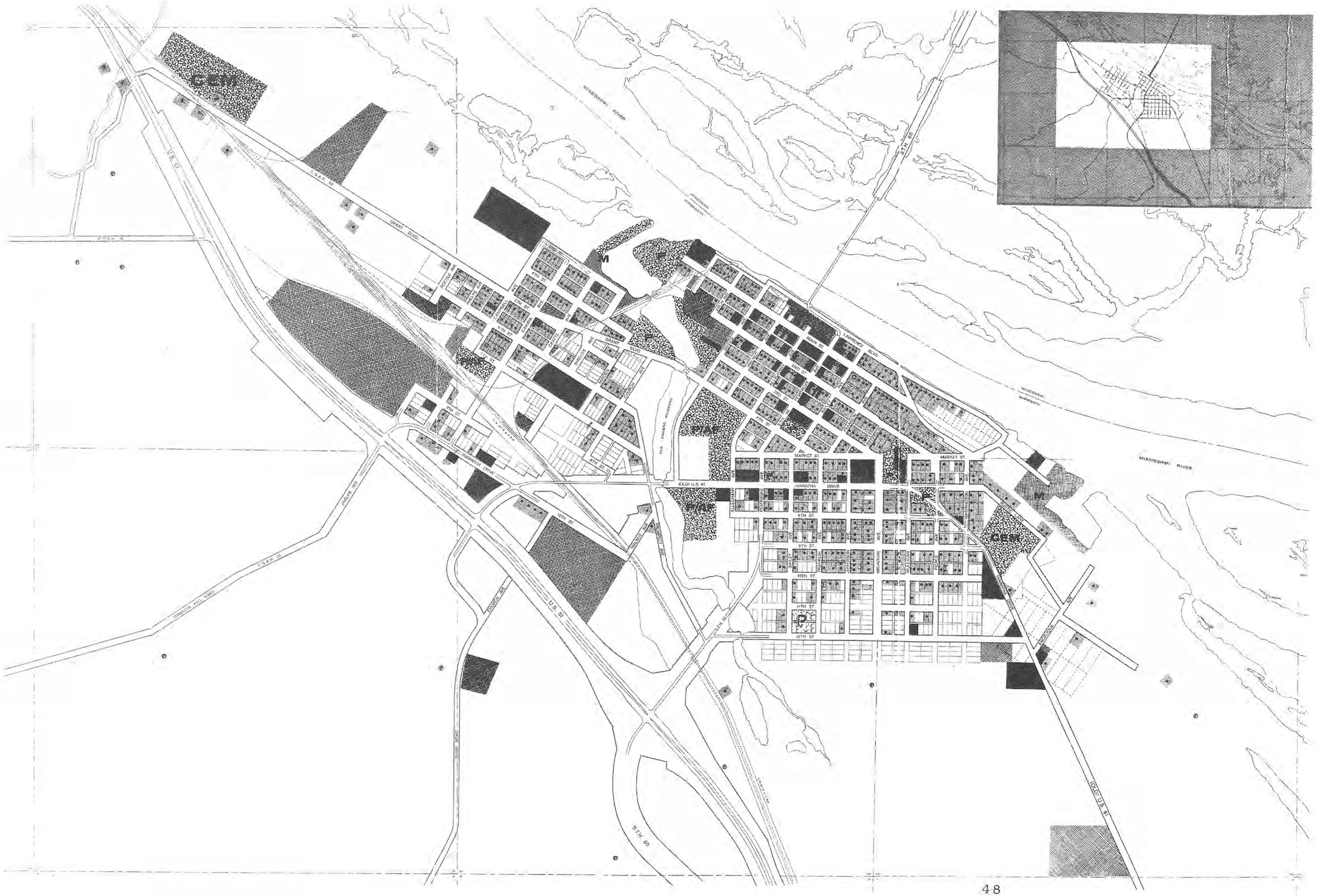
**COMMERCE**
- RETAIL COMMERCE

**INDUSTRY**
- MANUFACTURING
- NON-MANUFACTURING/ HEAVY-COMMERCE

**PUBLIC / SEMI-PUBLIC**
- BUILDINGS
- OPEN SPACE

## COMMUNITY FACILITIES

| | |
|---|---|
| S | PUBLIC SCHOOL |
| PS | PAROCHIAL SCHOOL |
| C | CHURCH |
| CV | CONVENT |
| A | U.S. ARMY RESERVE |
| PO | U.S. POST OFFICE |
| CH | COUNTY COURT HOUSE/JAIL |
| G | COUNTY GARAGE |
| F | CITY HALL/FIRE DEPARTMENT |
| L | LIBRARY |
| H | HOSPITAL |
| NH | NURSING HOME |
| W | WATER SYSTEM FACILITIES |
| SP | SEWAGE TREATMENT PLANT |
| M | MARINA |
| P | PARK/PLAYGROUND |
| AF | ATHLETIC FIELD |
| CEM | CEMETERY |




PREPARATION OF THIS MAP WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED, AND ADMINISTERED BY THE STATE PLANNING AGENCY, OFFICE OF LOCAL AND URBAN AFFAIRS. SEPTEMBER 1968

0 400 800 FEET N

# WABASHA MINNESOTA

Exhibit No. 17.

# COMPREHENSIVE PLAN (UNOFFICIAL)

Source: COMPREHENSIVE PLAN, WABASHA 1971

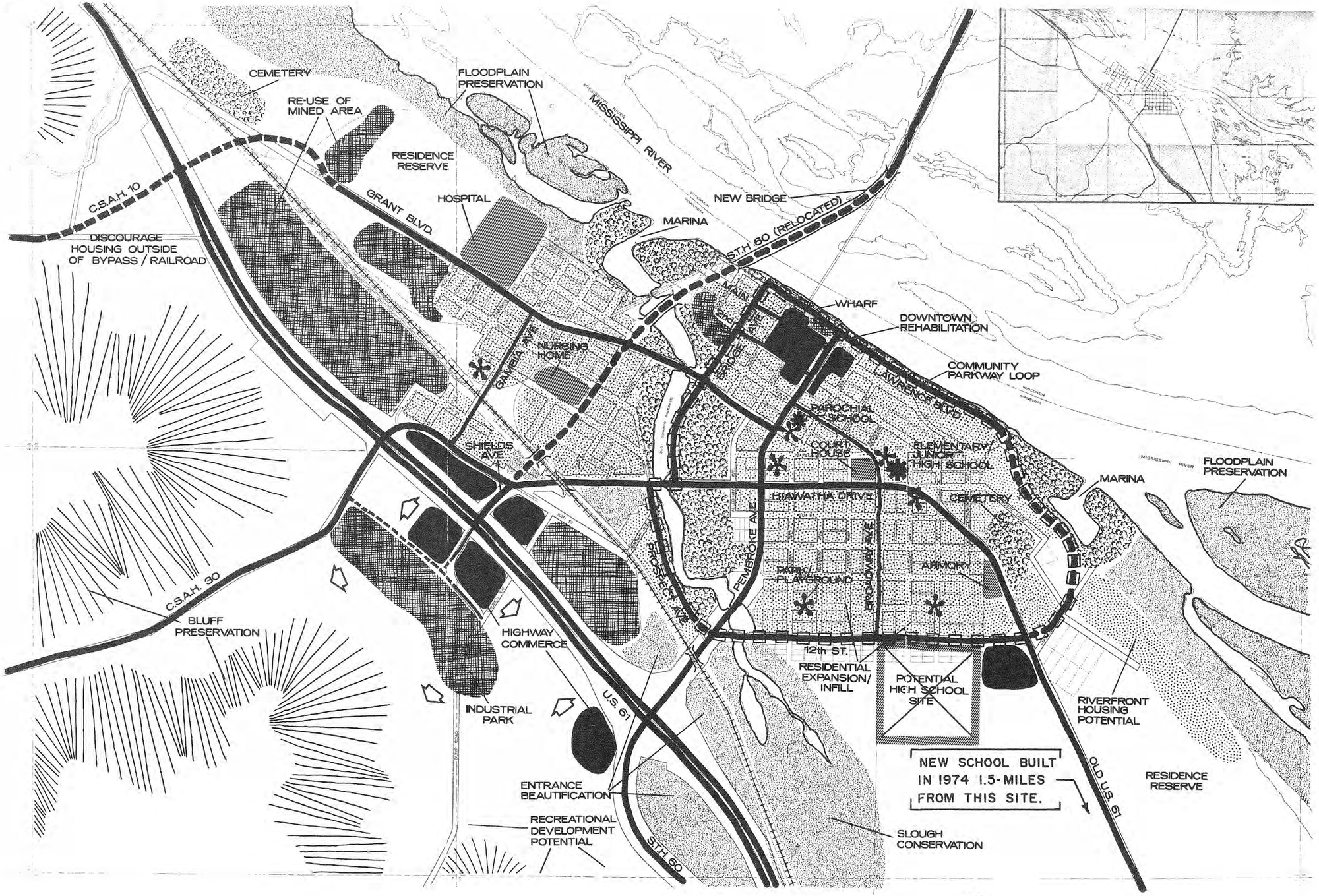
## LAND USE

- RESIDENCE
- COMMERCE
- INDUSTRY
- PUBLIC/SEMI-PUBLIC
- PARK/OPEN SPACE
- PRESERVATION/ CONSERVATION

## CIRCULATION

- EXPRESSWAY
- ARTERIAL
- PARKWAY
- COLLECTOR

NOTE: DASHED LINES INDICATE PROPOSED ROUTES



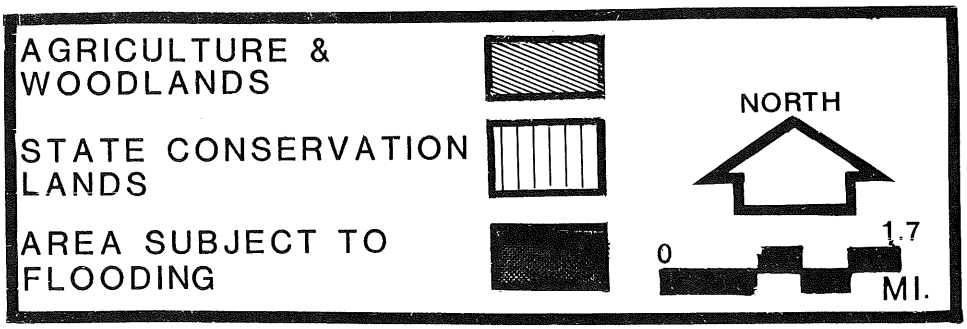

PREPARATION OF THIS MAP WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED, AND ADMINISTERED BY THE STATE PLANNING AGENCY, OFFICE OF LOCAL AND URBAN AFFAIRS. SEPTEMBER 1968

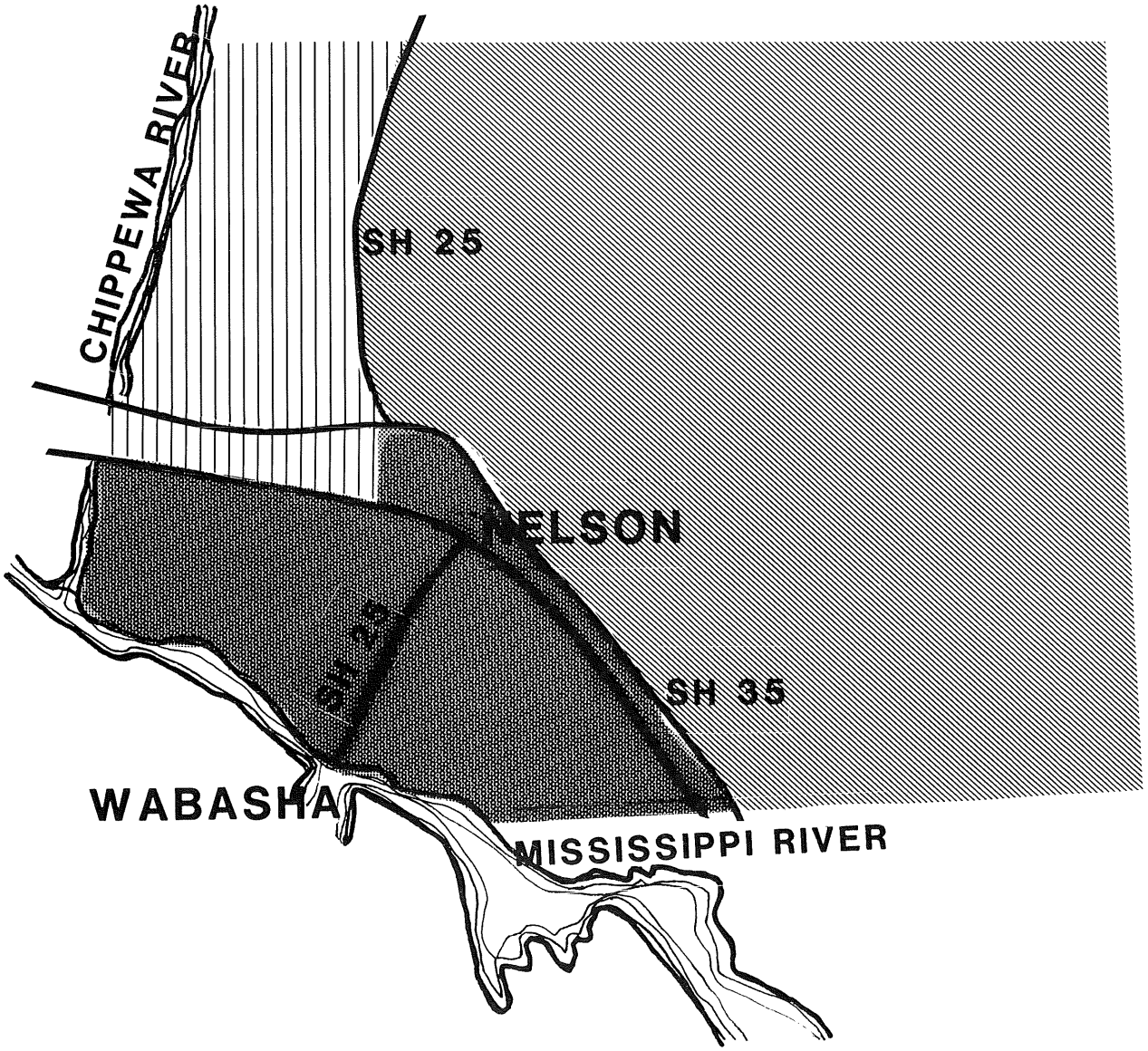
0 400 800 FEET N

# WABASHA MINNESOTA

# EXHIBIT 18

## LAND USE PLAN-NELSON WISCONSIN AREA



In 1978 a consulting firm prepared a feasibility report for redevelopment of downtown Wabasha. The report listed several options for revitalizing one or two blocks of the existing downtown business area. Although considered feasible and compatible with the proposed bridge replacement, the redevelopment concept was not widely supported and has been tabled by the City Council.

D. Action Effects

The proposed action is not expected to cause any major land use changes since it is consistent with existing and planned land use and all alternatives make use of portions of existing city streets.

The size of the city and relatively low rate of development or redevelopment within the central portion of the city in recent years make Wabasha less susceptible to land use change from a relocation of a portion of its traffic load.

Traffic studies indicate that the bulk of traffic on Trunk Highway 60 is local traffic with possibly as little as 25% being thru traffic. Thus the incentive or need for development of traffic sensitive businesses along any new route of Trunk Highway 60 is minimized. Most land use change in Wabasha has and will continue to occur at locations and for reasons unrelated to Trunk Highway 60. However, without effective zoning control, some localized land use changes can be expected as highway orientated businesses migrate toward the new highway location.

There could be some desire for commercial development at the 7th Street intersection on Alternative 1 where residential development would otherwise occur. Commercial development near the intersection of Trunk Highway 61 and Alternate 1 may occur at an accelerated rate also. Under existing conditions the area is developing as mixed residential and commercial.

Alternatives 3A, 3B, & 3C could increase commercial pressure in the Grant Blvd. and Pembroke Avenue area.

Alternate 4 would provide some opportunity for redevelopment of lots abutting its elevated approach. Most lots would probably be of insufficient size to redevelop unless adjacent lots were also redeveloped. Several larger lots could be redeveloped with residential use most likely.

E. Coordination

The proposed action has been coordinated with the appropriate planning agencies and determined to be compatible with existing and planned land use. Early coordination revealed the following concerns:

Wabasha - The new bridge must provide convenient access to downtown businesses.

Federal Refuge - The existing Wisconsin approach should be utilized as much as possible to minimize encroachment.

The proposed action is consistent with the above concerns.

## VI. ALTERNATIVES

**Type of Facility**

The existing mode of transportation and physical constraints of the project area limit the types of feasible facilities to the following three:

1. highway - bridge
2. highway - tunnel
3. highway - river ferry

The highway-bridge facility was selected over the tunnel facility since the tunnel would have a first cost approximately twice that of the bridge, have relatively high operational costs, and could have significant adverse environmental impacts. The river-ferry facility was not selected because it would result in a poor level of service and not be consistent with adjacent transportation systems.

**Major Alternatives**

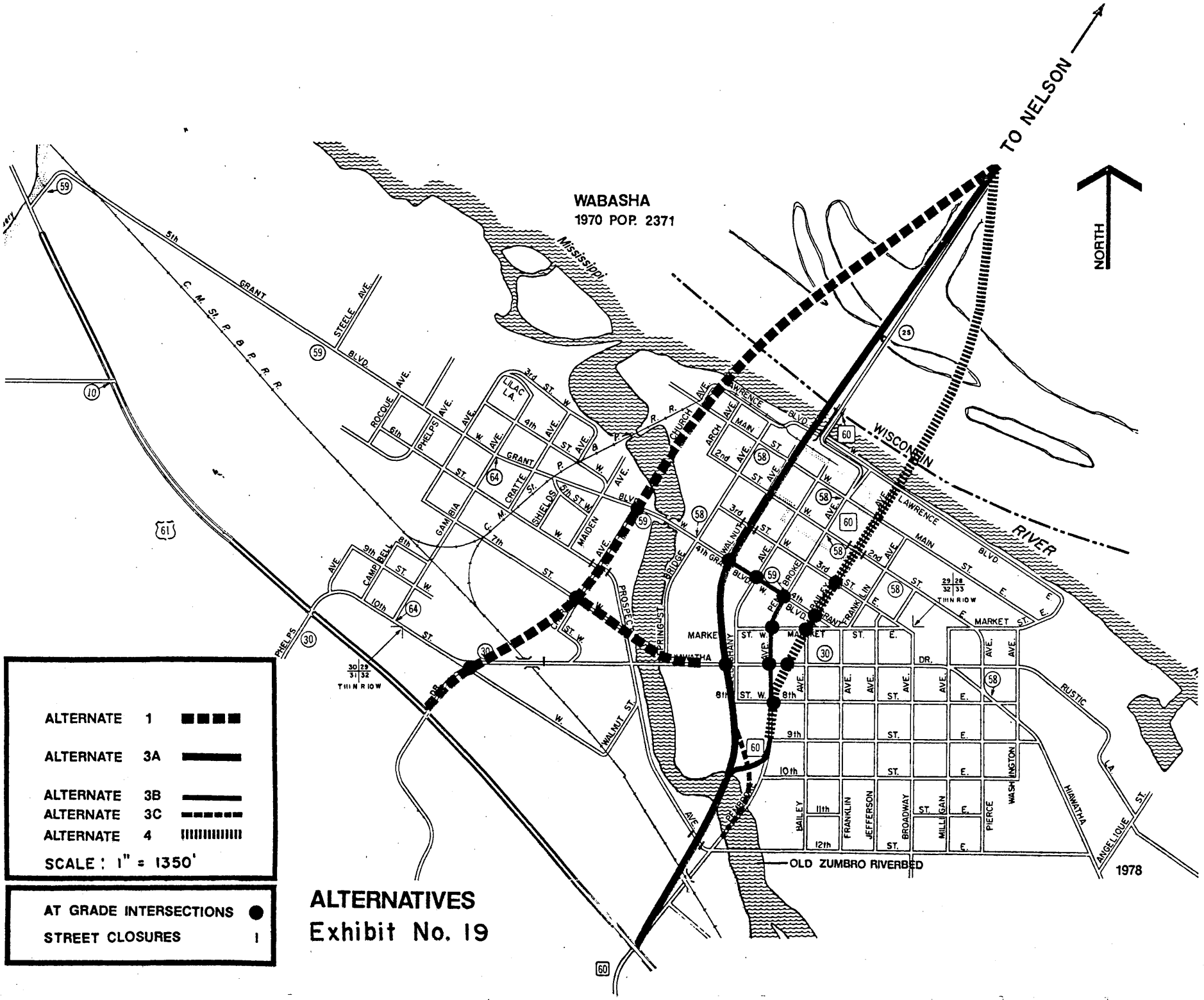
The following six highway-bridge alternatives are being considered:

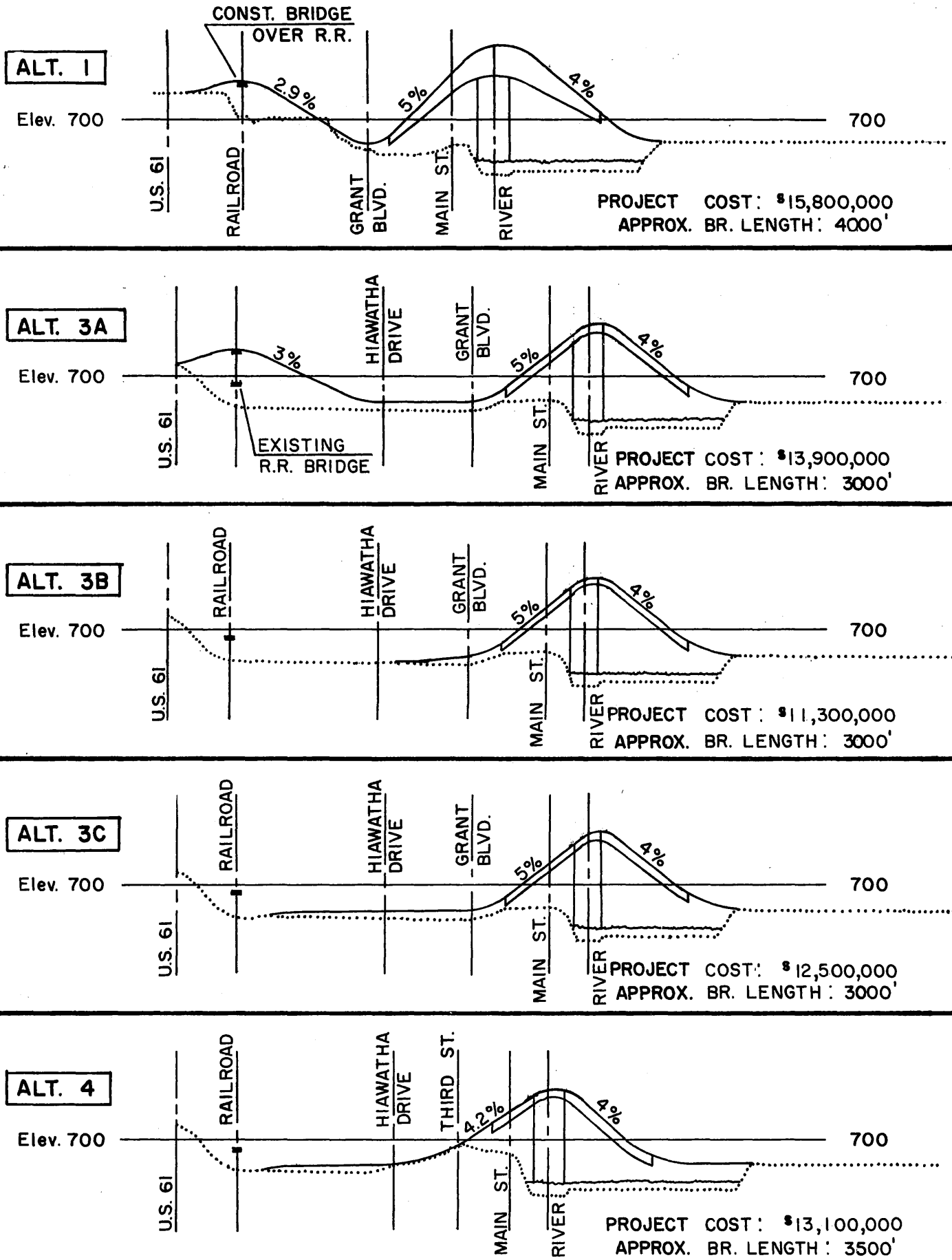
| | | |
|---|---|---|
| Alternative | 1 | Church Avenue |
| " | 3A | Walnut Ave. (New alignment to US 61) |
| " | 3B | Walnut Ave. (Existing Sts. to US 61) |
| " | 3C | Walnut Ave. (Existing US 61 Inter.) |
| " | 4 | Bailey Avenue |
| " | 6 | No Build |

Alternative locations and profiles are shown on Exhibits No. 19 and 20 on the following pages.

Design features and typical sections are shown on pages 21 and 22 .

An alternative will be selected after a location public hearing has been conducted and comments on this DEIS have been reviewed. However, from the transportation viewpoint Alternative 3C is most attractive since it provides desirable bridge and approach alignment, displaces the least amount of federal refuge land, and is reasonable in cost.


WABASHA
1970 POP. 2371
TO NELSON
NORTH
Mississippi
WISCONSIN
RIVER
C. M. St. P. & P. R. R.
5th
GRANT
STEELE AVE.
BLVD
ROCQUE AVE.
PHELPS AVE.
LILAC LA.
3rd ST. W.
4th AVE.
6th
W AVE.
GRANT ST.
CRATTE ST.
GAMBIA ST.
SHIELDS
6th ST W.
MAIDEN AVE.
7th ST.
9th AVE.
BELL ST.
CAMBRIA
10th ST.
PHELPS
PROSPECT
SPRING ST.
BRIDGE
8th GRANT BLVD
CHURCH AVE.
ARCH AVE.
MAIN ST.
2nd AVE.
3rd ST.
WALNUT AVE.
LAWRENCE BLVD
BROKE AVE.
PEMBINA BLVD
FRANKLIN ST.
MARKET ST.
HIAWATHA
ST. W.
8th
9th
10th
11th
12th
DR.
WALMUT ST.
BAILEY
FRANKLIN
JEFFERSON
BROADWAY
MILLIGAN
PIERCE
WASHINGTON
HIAWATHA
RUSTIC
ANGELIQUE ST.
OLD ZUMBRO RIVERBED
1978
T111N R10W
ALTERNATE 1
ALTERNATE 3A
ALTERNATE 3B
ALTERNATE 3C
ALTERNATE 4
SCALE : 1" = 1350'
AT GRADE INTERSECTIONS
STREET CLOSURES
ALTERNATIVES
Exhibit No. 19




## Exhibit No. 20:
## ALTERNATE PROFILES

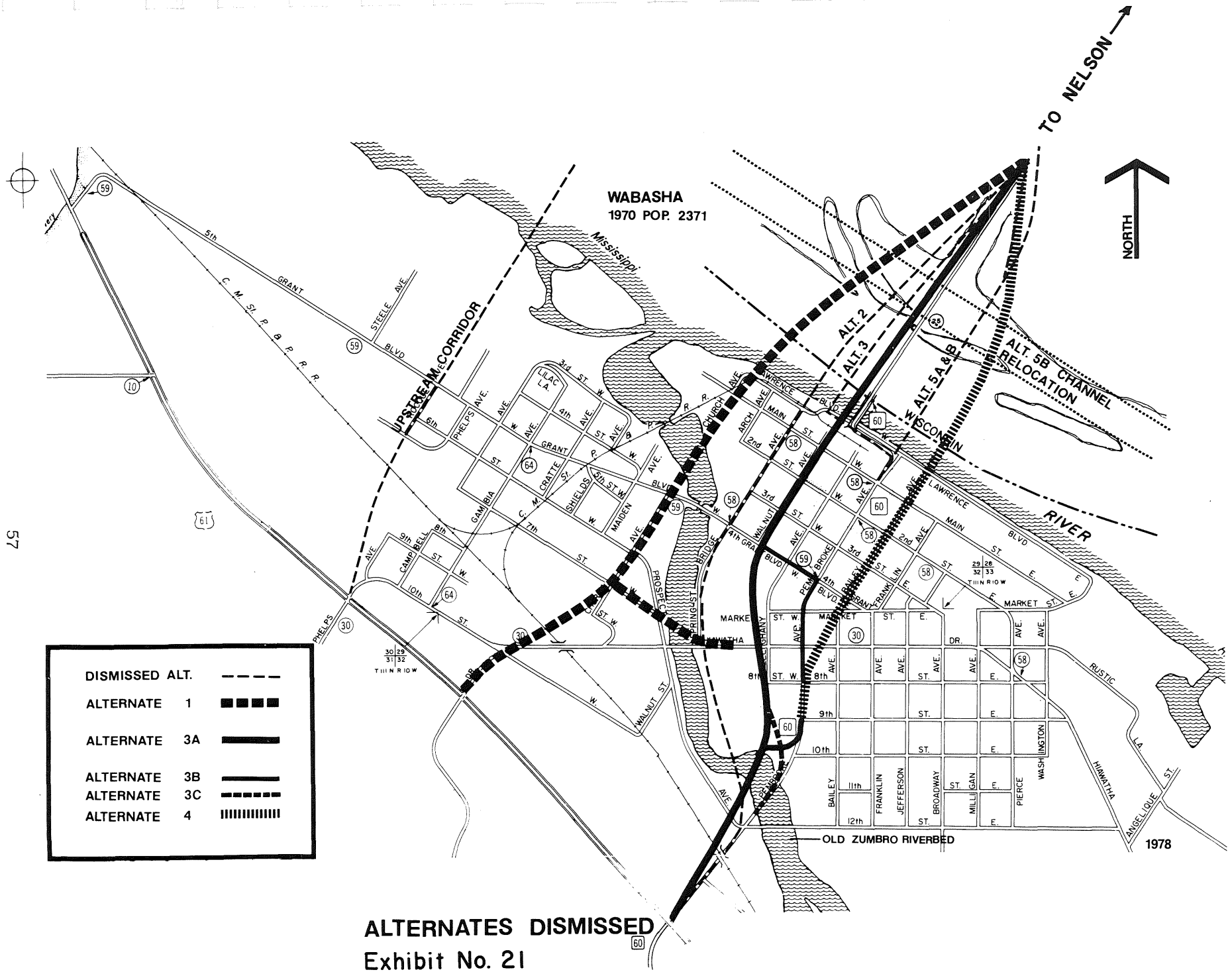
SCALES: 1" = 2000' HORZ.
1" = 100' VERT.
normal river elev. 666.55
high water elev. 679.5 4·20·65
100 yr. flood elev. 678

Other Alternatives

In addition to the major alternatives under consideration, several other alternatives as listed below have been considered and dismissed.

| Alternative | Reason for Dismissal |
|---|---|
| Upstream corridor from N. Jct. Wisc. 25 & 35 to NW edge of Wabasha | More than double construction length and cost - greatly increased wetland impacts. |
| Downstream corridor between Wisc. 37 & Minn.42 near Kellogg, Minnesota | Severe adverse social-economic impacts to Wabasha and Nelson - more than double construction length, cost and natural resource impacts. |
| Alt. 2 Bridge Avenue | Would displace national historic site (Anderson Hotel). |
| Alt. 3 Rebuild at or near existing location | Substandard Minnesota approach alignment - 1 to 2 year interruption of service during construction. |
| Alt. 5A Pembroke Avenue with low level lift bridge. | Lift bridge length required (400') for navigation not practicable - reduction in level of service - emergency service disruption. |
| Alt. 5B Pembroke Avenue with 10,000 foot navigational channel relocation. | Severe adverse environmental impacts - additional cost - discouraged by Corps of Engineers. |
| Sub-alternate:TH 60-US 61 Interchange | Not warranted under current conditions and policy. |

Locations of dismissed alternatives, except the downstream corridor, are shown on Exhibit No. 21 on the following page.




**ALTERNATES DISMISSED**
Exhibit No. 21

Description of Major Alternatives:

Alternative 1 — The bridge would be located approximately 900 feet northwest (upstream) of the existing structure and at a 20° skew with the navigational channel. The Minnesota approach would be west of the Wabasha business district, following Church Avenue in part, pass over the C.M. St. P. & P. Railroad, and intersect US 61 about 3,300 feet northwest of the existing T.H. 60 - U.S. 61 junction. The first at grade intersection in Minnesota, would be at Grant Boulevard. Hiawatha Avenue would be reconnected with T.H. 60 at the 7th St. W. intersection. The Wisconsin approach would connect with existing WSH 25 about 1,400 feet northerly of the existing bridge abutment.

Alternative 3A — The bridge would be located about 120 feet northwest of and parallel to the existing structure. The Minnesota approach would pass along the west edge of the Wabasha business district, touch down at Grant Boulevard, pass through the Central Athletic Field, go over the C.M. St. P. & P. Railroad and connect with the existing T.H. 60 - U.S. 61 junction. Pembroke Avenue would be reconnected to T.H. 60 near Ninth Street. The Wisconsin approach would connect with existing WSH 25 about 1,100 feet northerly of the existing bridge abutment.

Alternative 3B — Alignment from WSH 25 to Grant Boulevard would be identical to 3A. The Minnesota approach would follow Grant Boulevard from Walnut Avenue to Pembroke Avenue and then utilize existing T.H. 60 to reach U.S. 61 and thereby avoid passing through the Central Athletic Field.

Alternative 3C — Alignment is identical to 3A except that instead of passing over the C. M. St. P. & P. Railroad in Wabasha, the existing T.H. 60 alignment from the Old Zumbro Riverbed to U.S. 61 would be utilized.

Alternative 4 — The bridge would be located approximately 1,000 feet downstream from the existing structure. The Minnesota approach would pass along the east edge of Wabasha business district, follow Bailey Avenue in part, connect with Pembroke Avenue near Eighth St. East, and then follow existing T.H. 60 to U.S. 61. The Wisconsin approach would connect with WSH 25 about 1,100 feet northerly of the existing bridge abutment.

Alternative 6 No build, includes maintaining the existing facility as long as practicable and then closing the bridge. The estimated remaining life of the bridge is 7 years. However, by using extraordinary maintenance the life could possible be extended an additional 5 years. The bridge would be closed in 1992.

Estimated alignment features are listed in the following table:

Table 12: Alignment Features

| | Alt. 1 | Alt. 3A | Alt. 3B | Alt. 3C | Alt. 4 |
|---|---|---|---|---|---|
| Total Length | 9100 ft. | 9000 ft. | 5400 ft. | 8300 ft. | 7500 ft. |
| R/W Required | 35 Ac. | 35 Ac. | 19 Ac. | 33 Ac. | 33 Ac. |
| Approx. Bridge Length | 4000 ft. | 3000 ft. | 3000 ft. | 3000 ft. | 3500 ft. |
| Max. Br. Grade | 5% | 5% | 5% | 5% | 4.2% |
| Max. Br. Curve | 3° | 0°20' | 0°20' | 0°20' | 5°30' |
| Est. Construction Cost (Million) | $15.5 | $13.1 | $10.7 | $11.7 | $12.4 |
| Est. R/W and Relocation Cost (Million) | $ 0.3 | $ 0.8 | $ 0.6 | $ 0.8 | $ 0.7 |
| Est. Total Project Cost (Million) | $15.8 | $13.9 | $11.3 | $12.5 | $13.1 |

NOTE: Cost estimates are based on current (1979-1980) average prices.

## VII. PROBABLE IMPACTS OF THE PROPOSED ACTION

Impacts of both regional and local significance for the build alternatives are included in this section. No build impacts are discussed on pages 18 and 19 . The format used for discussion of long term impacts is 1. Direct Beneficial, 2. Direct Adverse, 3. Secondary, and 4. Mitigation. Construction impacts are described on pages 147 thru 161.

### A. Transportation

1. Direct Beneficial:

a. Continued Linkage of the area highway transportation systems in Minnesota and Wisconsin will be provided. The proposed action will insure existing regional traffic patterns by perpetuating the only Mississippi River crossing for a distance of 30 miles up or downstream.

b. Improved Safety produced by modern standards of width and geometrics will greatly reduce the potential for collisions and other accidents. A semi-trailer unit negotiating the existing right angle curve at the foot of the Wabasha approach for instance must use the entire available width of roadway. Although all alternatives comply with Federal and State safety standards, alternatives 3A and 3C are the most desirable from the safety viewpoint since they provide nearly tangent bridge alignment, whereas alternatives 1 and 4 include horizontal curves on the bridge at areas with steep grades. Alternative 3B provides desirable bridge alignment, but includes two right angle turns on city streets, see Exhibit No. 4.

c. Increased Capacity of the roadway produced by improved width and geometrics. At the present time the existing bridge and approaches constitutes a bottleneck on the highway 60 - 25 route; the bridge having a capacity of approximately half of that of adjacent segments of the roadway. A new bridge and approaches would have a capacity similar to that of the adjacent segments, thereby eliminating the capacity bottleneck.

d. Reduced Maintenance. Because of the age of the present structure (49 years) and its now obsolete features, maintenance costs are increasing and can be expected to increase at an accelerated rate. Routine maintenance costs which have averaged $20,000 annually over the past 10 years will increase and the potential for non-routine maintenance work such as the major deck repair performed in 1974 also increases. Over $500,000 of major, non-routine maintenance has been required since 1968. Routine maintenance on a new structure would be minimal.

e. Reduced Travel Time resulting from a higher allowable running speed on the bridge and approach. At 10 m.p.h., it now requires a vehicle about 2.5 minutes to negotiate the bridge and 5½ minutes to travel between Wabasha and Nelson. A new structure on improved alignment will reduce this by 2 minutes on every vehicular crossing. The reduction in travel time will be a significant improvement in service especially for emergency vehicles and for the many short distance trips between Wabasha and Nelson.

f. Eliminate the effects of future bridge closings. The disruption of the economy of the Wabasha - Nelson area and the loss of emergency medical care to areas in Wisconsin are two of the more significant effects created by the temporary closing of the present bridge for repairs several times during the past six years. These events can be anticipated to occur again and at greater frequency as the bridge continues to age. The uncertainty over the condition of the existing bridge has probably had some dampening effect on potential new developments. These effects would be eliminated by replacement of the bridge.

g. Pedestrian and Bicyclist Safety will be improved. The proposed action will provide 10 ft. wide shoulders throughout and sidewalks at appropriate non-bridge urban areas. A pedestrian and bicyclist barrier will be provided on the bridge railing. See typical sections Exhibit No. 10, page 22.

Although a separate sidewalk and bikeway on the bridge is desirable, such a facility should be evaluated on the basis of usage, cost, and safety.

Due to the narrow 19 ft. existing bridge width, current bicycle traffic is very light and pedestrians dare not use the bridge. The proposed action is anticipated to generate increased pedestrian and bicyclist use, but the total volumes are expected to be light. Although the bridge is the only river crossing for 60 miles, the 3 miles distance between Wabasha and Nelson and lack of development are not conducive to pedestrian travel. Some pedestrian and bicyclist use for recreational trips from Wabasha to the federal refuge are expected. No specific pedestrian or bicyclist use projections are available.

Estimated costs for a separate 6 foot wide sidewalk range from $950,000 to $1,250,000 depending upon bridge length. A separate sidewalk/bikeway would be 8 feet wide for 2 way use and cost $1,230,000 to $1,700,000. Eight feet is the minimum width for a two way bikeway recommended by the AASHTO GUIDE FOR BICYCLE ROUTES.

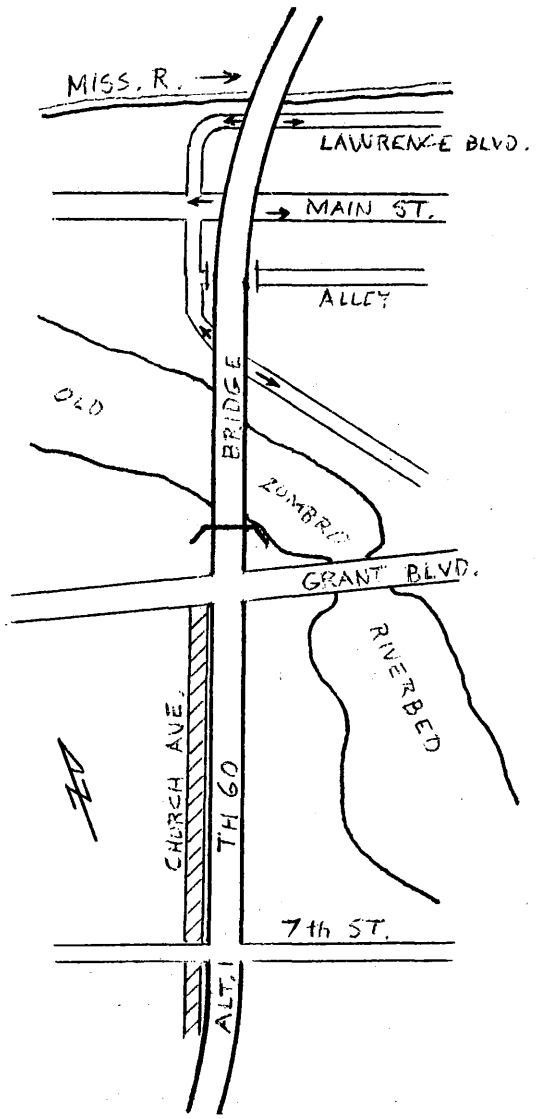
A separate facility would provide greater pedestrian and bicyclist protection than the 10 foot shoulders. However, experience to date in Minnesota shows no safety problems related to pedestrian and bicyclist usage of 10 ft. shoulders on bridges with low to moderate traffic volumes.

A separate sidewalk/bikeway does not appear justified in view of the high cost, low usage, and reasonable safety provided by the 10 ft. shoulders.

2. Direct Adverse:

Wabasha Traffic Patterns will be changed since all the alternatives involve at least a partial realignment of TH 60 in Wabasha, see Exhibit No. 4 on page 4.

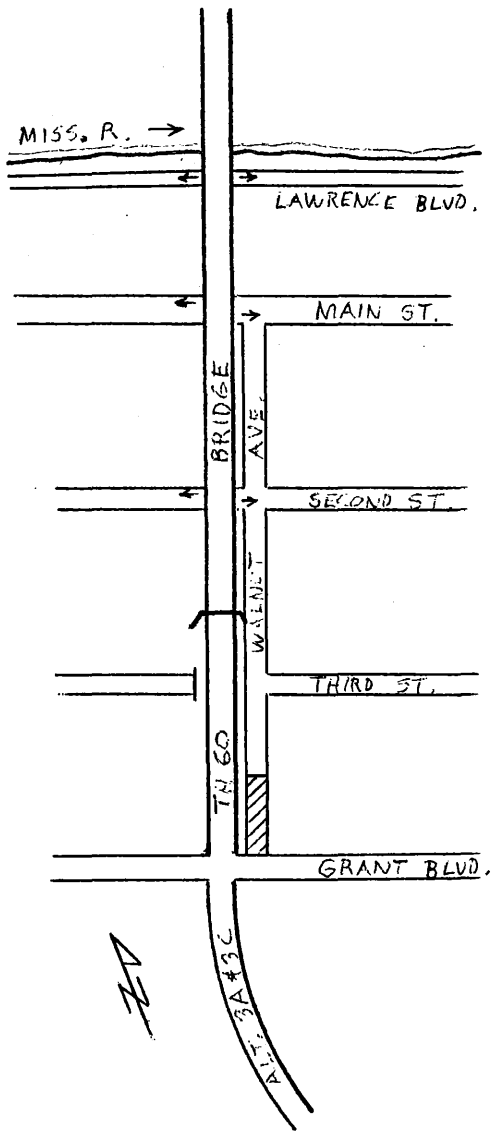
Present traffic patterns are produced by the use of Pembroke, Bridge, and Gambia Avenues as the major north-south streets and Second Street, Grant Boulevard, Twelfth Street, and Hiawatha Drive as the major east-west streets in Wabasha. All other streets are either relatively low volume collector or local streets.



ALT. 1 POSSIBLE TRAFFIC PATTERNS

Alternative 1 would produce several changes in these patterns. The most significant would be use of four blocks of Church Avenue for Highway 60, use of 7th Street and Grant Boulevard as entrances to the city from Highway 61 to the north replacing Hiawatha Drive, and use of Grant Boulevard as the entrance to Wabasha from Wisconsin. Portions of Church Avenue, 7th Street, and Grant Boulevard would thus experience increases in traffic. Church Avenue and 7th Street would experience a change in function from local streets to major streets.

Alternative 1 also produces an intersection of U.S. Highway 61 approximately 5/8 miles northerly of the existing intersection of the two highways. It thus requires that Highway 60 be routed over Highway 61 for this distance and forces motorists following Highway 60 to pass through two major intersections rather than the single intersection now existing. Traffic volumes at the intersections will probably never reach a magnitude sufficient to warrant installation of traffic signals or construction of grade-separated interchanges at both locations.



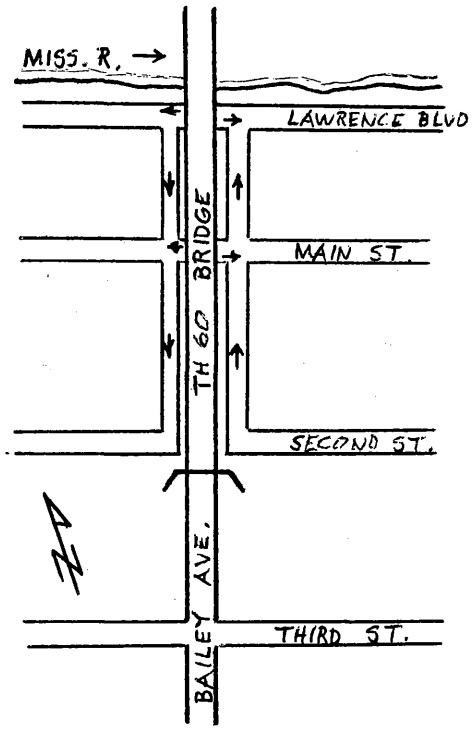

ALT. 3A, B & C POSSIBLE TRAFFIC PATTERNS

Alternatives 3A, 3B, 3C, and 4 retain the single existing highway 60-61 intersection and minimize the maneuvers required to follow highway 60. During initial construction of Hwy. 61, additional right of way was acquired at the highway 60 intersection to accommodate future construction of an interchange if ever warranted. Warrants for major traffic control measures at the existing intersection are more apt to be met if a second highway 60 - 61 intersection is not created.

Alternative 3A would take thru traffic from Pembroke Ave. and place it on new alignment from U.S. 61 to Grant Boulevard. Grant Blvd. would become the entrance to the city from Wisconsin. Pembroke Ave. would be reconnected to TH 60 near Ninth St. and serve as a downtown feeder route. By placing the approach to one side of and parallel with Walnut Ave., existing traffic patterns would be perpetuated except that a ½ block of Walnut Ave. north of Grant Blvd. would be closed and Third St. would dead end at the bridge approach.

Alternative 3B would continue the existing traffic patterns from U.S. 61 to Grant Blvd. Grant Blvd. would be utilized as TH 60 for two blocks from Pembroke Ave. to Walnut Ave. Grant Blvd. would become the downtown entrance from Wisconsin. Traffic movements on Walnut Ave. would be the same provided by Alternative 3A. Alternative 3C would result in the same traffic patterns as Alternative 3A except that the existing Pembroke Ave. - U.S. 61 intersection would be perpetuated.

Alternative 4 would require use of Third Street as a major entrance to the city from Wisconsin thus increasing the traffic on portions of that street. The continuity of Second Street as an east-west through street would be disrupted at Bailey




ALT. 4 POSSIBLE TRAFFIC PATTERNS

Avenue as insufficient vertical clearance would exist to permit Second Street to be carried under the bridge approach. One way streets adjacent to the bridge approach between Lawrence Boulevard and Second Street would reduce the effects of the Second Street closing since Main Street would be carried under the bridge.

The continuity and effectiveness of Bailey Avenue as a north-south street would be impaired although the one way pair would restore north-south circulation at least in the central business district. Operational problems at Third Street would not permit extension of the one way streets southerly to Third Street.

Traffic pattern changes resulting from the proposed action are all of only local significance with the exception of the second TH 60 - U.S. 61 intersection created by Alternative 1.

3. Secondary:

Increased Traffic volumes resulting from the improved facility will be the most transportation related secondary impact. Traffic Analysis (3) indicates that the proposed facility will generate approximately 620 AADT two years after the facility is opened to traffic. The generated traffic will not adversely affect the level of service of the proposed facility or adjacent transportation systems.

4. Mitigation:

Changes in local traffic patterns will be minimized by the use of parallel offset alignment, local one way pairs, underpasses, and under bridge parking where appropriate. Utilization of these features will depend upon City of Wabasha desires and detailed geometrics.

(3) Systems Planning & Analysis Report S-149

B. Social

1. Direct Beneficial:

Insure Continuity of the socio-economic area which is divided by the Mississippi River. The proposed action will allow Wabasha and Nelson to continue to function nearly as a single socio-economic unit as evidenced by the existing heavy local traffic on TH 60 in Wabasha. A large percentage of trips are between the Pepin, Nelson, Alma Area and Wabasha.

2. Direct Adverse:

a. Neighborhood Character Changes will result in Wabasha. Alternative 1 would pass through a small residential neighborhood, sparsely developed residential areas, and a city park.

Alternatives 3A and 3C would alter the character of a two block long residential area, a two block long area of mixed residential and commercial, and the central athletic field.

Alternative 3B would transverse a five block long residential area and a five block long area of mixed residential and commercial development.

Alternative 4 would pass through an eight block long developed area which is basically residential with several scattered businesses.

The neighborhood character changes will be from residential to highway frontage type. The impact of Alternative 1 would probably be greater than that of the other alternatives since Alternative 1 would pass through a more residential type area with less existing traffic than the other routes. Although all alternatives would cause localized impacts, the overall neighborhood character of Wabasha is not expected to be significantly affected. No public services or social institutions will be displaced.

b. Social Desire Paths will be disturbed in some areas as a result of the elevated approach, relocations. and changes in traffic concentration. Such disturbances will be localized and would be experienced by all build alternatives.

c. Pedestrian Movements will be altered. No serious pedestrian problems exist today in Wabasha with respect to Highway 60. A number of factors such as low speed and volume on the highway and lack of major pedestrian generators contribute to this. This situation will not be altered significantly by use of any of the alternatives. All build alternatives would move the location of the pedestrian-vehicular conflicts, but would also reduce the total exposure to the conflicts by reason of the elevated segments of those routes which would permit safe pedestrian passage beneath the roadway. Alternatives 1, 3A, 3B, and 3C would however cause increased traffic on Grant Boulevard which could increase pedestrian - vehicle conflicts adjacent to the city owned athletic field. Alternatives 3A and 3C would pass through the central athletic field and thereby introduce vehicle - pedestrian conflicts. Appropriate landscaping and/or fencing would be provided in the athletic field area to channelize pedestrian movements and limit the number of vehicle - pedestrian conflict locations. Alternative 4 would cause increased traffic on Third Street in the vicinity of the St. Felix Parochial School complex. This school originally housed both elementary and secondary grades but since 1968 has contained only the elementary grades. Pedestrian conflicts can be anticipated adjacent to the school if Alternate 4 is selected. However, since existing TH 60 lies one block east of the alternative 4 location, the parochial school pedestrian conflict would not be significantly increased, but rather moved one block.

3. Secondary:

a. Community Cohesion and pride will improve as a result of replacing the existing substandard bridge with a modern transportation facility. Completion of the proposed action is expected to have an overall positive effect on the social attitudes of area residents.

b. Land Use Changes associated with neighborhood character alterations could cause localized changes in social patterns. Localized changes would not adversely affect the overall social climate in Wabasha.

c. Social Services Demand will increase slightly as a result of the increased traffic generated by the proposed facility. Although the new bridge could generate up to 15% additional traffic, the social services desires of that traffic are not expected to tax the social service capacity of the area.

4. Mitigation

Social desire paths will be perpetuated whenever possible. Features such as sidewalks, underpasses, offset alignment, and local one way pairs will be utilized where appropriate to facilitate local pedestrian and vehicle movements and to minimize neighborhood impacts.

C. Relocation

1. Direct Beneficial: None

2. Direct Adverse:

a. Residences Displaced will range from 6 to 9 in number. The following table lists the number and price range of residences which would be displaced.

Table 13: Price Range of Homes To Be Acquired (Summer 1978)

| Estimated Price Range in $ Thousands | Alt. 1 | Alt. 3A, 3B, & 3C | Alternative 4 |
|---|---|---|---|
| 0 to 15 | 3 | | 1 |
| 15 to 25 | 2 | 1 | 1 |
| 25 to 35 | | 2 | 5 |
| 35 to 50 | | 2 | 1 |
| Over 50 | 1 | 3 | 1 |
| Totals | 6 | 8 | 9 |

Two or three residences on each alternative are tennant occupied and the remainder are owner occupied. No minorities are involved.

Availability of homes and undeveloped land in the project area indicates relocation of displaced residents should not be a problem. A survey conducted in the summer of 1978 revealed 25 available homes in Wabasha and another 24 available houses within 5 miles of Wabasha, see following table. Available rental housing is in a somewhat short supply, but sufficient to accommodate the two or three families which will be displaced.

Table 14: Available Housing (Summer 1978)

| Estimated Price Range in $ Thousands | City of Wabasha | Within 5 Mi. of Wabasha |
|---|---|---|
| 0 to 15 | 1 | 4 |
| 15 to 25 | 1 | 3 |
| 25 to 35 | 5 | 1 |
| 35 to 50 | 8 | 8 |
| Over 50 | 10 | 8 |
| Totals | 25 | 24 |

A Pre-Draft EIS review raised concerns about relocation of the five low priced homes on Alternative 1. Further investigation in July, 1979, revealed the following low cost housing information.

| Estimated Price Range in $ Thousands | Alternative 1 Acquisitions | Status July, 1979 | Available Housing in City of Wabasha |
|---|---|---|---|
| 0 - 15 | 1 | Vacant | 0 |
| 15 - 25 | 3 | 1 - Tenant Occupied | 4 |
| | | 1 - Owner Occupied | |
| | | 1 - Summer Recreational | |

The estimated prices of homes to be acquired have increased since 1978 due to a general increase in area property values. Renovation was also a factor in the value of two homes. One which had an estimated value of $12,000 a year ago now falls into the 20 - 25,000 range. The other which was estimated at $15,000 has undergone a complete renovation and is now estimated over $35,000.

There remain on Alternative 1 four low priced homes (under $25,000). However, one of the homes is a summer recreational home owned by a couple whose permanent residence is Cedar Falls, Iowa. The home in the poorest condition on this alternate is vacant and from its condition may remain that way.

Two occupied low priced homes may be displaced. One is occupied by an owner, the other a tenant.

Occupants of the low priced homes have no unique or unusual family characteristics. No elderly, handicapped, or minorities are involved. Current evaluation of households which could be displaced and available replacement housing indicates that adequate relocation can be accomplished in accordance with the mitigation measures described on page 72 .

b. Commercial Buildings Displaced range from 0 to 2. The following table lists the building use for each alternative.

Table 15: Commercial Buildings To Be Acquired

| | Alternative 1 | Alternatives 3A & 3C | Alternative 3B | Alternative 4 |
|---|---|---|---|---|
| | none | 1-mill office<br>1-warehouse | 1-mill office<br>1-warehouse | 1-auto dealer<br>1-car wash |
| Totals | 0 | 2 | 2 | 2 |

Commercial relocation sites are available and fair compensation will be made to displacees. An industrial park in Wabasha is not yet filled and has space available for new buildings suitable for certain types of businesses. Vacant commercial properties comparable to those which may be displaced are also available in the city's central business district. Suitable relocation opportunities would be available either in the Industrial Park or in the Central Business District for those businesses which desire to relocate.

3. Secondary:

a. Displacement of 6 to 9 Residences will result in an increased demand for housing and related services in the Wabasha area. The amount of available housing (49) compared to the maximum number of displacements (9) indicates the impact will not be significant.

b. Business Displacement significance will depend upon whether the businesses relocate in Wabasha. Businesses which could be displaced include an auto dealership and car wash. The other possible business building displacements, a mill office and a warehouse, are part of the International Multifoods mill and

elevator complex. Given the type of businesses impacted and the ample relocation opportunities available, all displaced businesses are expected to relocate in Wabasha.

4. Mitigation

Fair and just compensation will be made for the lands and buildings acquired for the proposed action. A Comprehensive Relocation Assistance and Payment Program will be utilized to assist displacees.

Residential displacees will receive assistance in locating safe, decent, and sanitary housing. Displacees may be eligible for relocation payments involving replacement housing payment or rent supplement, moving expenses, closing costs, interest differential and appraisal fees. Negotiations for property acquisition will commence as early as possible to allow the maximum time for finding suitable housing. The normal allowance of 120 days in which to vacate following acquisition should provide ample time to carry out an orderly and humane relocation program.

Business organizations may be eligible for the following relocation payments; moving expenses, payment for time spent searching for replacement business or site, and appraisal fees.

There are no known Federal, State or community projects which will cause concurrent displacement.

D. Economic

1. Direct Beneficial: a. Trade Area Continuity will be perpetuated by the proposed action. As shown on Exhibit No. 8 on page 14, the Wabasha trade area is divided in half by the Mississippi River with the subject bridge being the only transportation link located within the trade area.

b. Highway Efficiency will improve as a result of the improved vertical and horizontal alignment and increased bridge width. The proposed bridge will have a 50 MPH design speed compared to the 10 MPH speed limit on the existing structure. Travel time on the bridge will be reduced by about 75%. The proposed Minnesota approach will have a maximum grade of 5% compared to the existing 7%. The improved geometrics will allow a more uniform running speed and reduce vehicle fuel consumption. The proposed action will reduce passenger car fuel consumption about 14% (7) per trip across the bridge.

2. Direct Adverse: Acquisition of **19** to **35** Acres of additional right of way including 6 to 9 residences and 0 to 2 commercial buildings. The acquisitions will result in an annual tax loss of $4900 to $9300 for the City of Wabasha. The tax loss represents 0.7% to 1.4% of the 1978 gross tax due in Wabasha.

3. Secondary:

a. Access to the Central Business District in Wabasha will be revised. Alternative 1 and the group 3 Alternatives (3A, 3B, & 3C) would use Grant Blvd. as a downtown feeder route. Alternative 4 would use Third St. to provide access to the central business district (CBD). Increases in travel distance to the CBD from TH 60 would be 7, 4 and 4 blocks for Alternatives 1, group 3, and 4 respectively. Even though convenient CBD access from Minn. 60 would be provided, traffic from Minnesota could avoid any additional travel by using Pembroke Ave.

(7) Based on two way average, Environmental Assessment Notebook Series, Notebook 3, p.190, U.S. DOT 1975.

All alternatives provide relatively convenient access to the CBD and no significant adverse impacts on Wabasha's economy are expected. However, the changes in alignment will be undesirable to some highway oriented businesses. The proposed action could therefore cause migration and/or some economic loss to a few traffic-sensitive businesses. However, that impact is not expected to be significant since about 75% the of the traffic on TH 60 in Wabasha is local.

b. Traffic Generated by the propsed facility will cause a slight increase in area revenues through increased transportation related spending. Although the magnitude of revenues resulting from generated traffic is unknown, the effect will be beneficial to the area economy.

4. Mitigation:

A fair market price will be paid for acquired lands and property. Because of the relocation opportunities and assistance program, most displaced residences and/or businesses are expected to relocate in Wabasha and thereby reduce the tax loss impact. At grade intersections nearest to the CBD will be utilized to provide the most direct access possible to downtown businesses. Features such as sidewalks, underpasses, offset alignment, local one way pairs, and under bridge parking will be incorporated where appropriate to provide convenient access to the CBD.

E. Air Quality

1. Direct Beneficial:

Diversion of through traffic from Pembroke Ave. in downtown Wabasha will result in approximately a 15% reduction in carbon monoxide and lead concentrations in that area. As shown in tables 16 and 17 on the following pages, the receptor on existing TH 60 (Alt. 6) has slightly higher concentrations than receptors on other alternates.

However, all existing and predicted carbon monoxide and lead concentrations are below Federal and State standards.

2. Direct Adverse:

Slight changes in concentrations of carbon monoxide and lead in the atmosphere.

The air quality impact of the proposed improvement has been analyzed. The proposed improvement is not anticipated to have significant air quality impacts and is considered consistent with the approved State Implementation Plan (SIP). A Memorandum of Understanding with the Minnesota Pollution Control Agency (MPCA) specifies: 1) that prior consultation with the MPCA is considered as accomplished for highway sections outside of a Standard Metropolitan Statistical Area (SMSA); and 2) an air quality analysis, which demonstrates that the project is considered consistent with the approved SIP, is considered as accomplished for highway proposals outside of a SMSA where the annual average daily traffic is not expected to exceed 20,000 vehicles per day (including intersecting traffic) within 10 years following construction. The proposed action meets these criteria.

Carbon Monoxide

The EPA 1975 Volume 9 screening procedure, Evaluating Indirect Sources, updated with the EPA 1978 emission factors was also used to estimate the peak carbon monoxide concentration at the nearest critical receptor along each alternate. The screening procedure assumptions include a 1 meter per second wind at 10° to the roadway (variable direction at intersections), a Pasquill-Gifford stability classification of "D", an 8-hour persistence factor of 0.6, 10% cold starts at 20° F, a 1988 background concentration of 2.1 and 1.0 ppm for 1 and 8 hour periods respectively, and a 1999 background concentration of 1.2 and 1.0 ppm for 1 and 8 hour periods respectively.

Predicted CO concentrations and Federal and State standards are tabulated below for periods one and eleven years after estimated construction completion.

Table 16: Estimated Carbon Monoxide Concentrations (PPM)

| Receptor* | Peak 1-Hour Concentration 1988 | Peak 1-Hour Concentration 1999 | Peak 8-Hour Concentration 1988 | Peak 8-Hour Concentration 1999 |
|---|---|---|---|---|
| 1 Alt. 1-Park | 3.1 | 1.7 | 1.4 | 1.1 |
| 2 Alt. 3A, B&C-House | 3.4 | 1.8 | 1.4 | 1.2 |
| 3 Alt. 4-School yard | 3.6 | 1.9 | 1.5 | 1.2 |
| 4 Alt. 6-Bank | 3.8 | NA | 1.6 | NA |
| Federal Standard | 35 | 35 | 9 | 9 |
| State Standard | 30 | 30 | 9 | 9 |

* Worst case sensitive receptor for each alternate, concentrations at park & school yard R/W and at nearest wall of house & bank. Receptor locations are shown on Exhibit No. 23 page 84.

Lead

The analysis of the airborne lead from this project indicates no violations of the lead standard.

The airborne lead concentration at the nearest critical receptor ** along each alternate has been analyzed using a procedure based upon a 1-31-78 FHWA memorandum, "Proposed National Ambient Air Quality Standard for Lead". This procedure has been reviewed by the FHWA and the Minnesota Pollution Control Agency (MPCA).

Mn/DOT has checked with MPCA (12-11-78) and has been informed that: There are no lead monitoring results and no known point sources of lead in the project area.

** Same receptors used for CO analysis, locations shown on Exhibit No. 23, page 84.

The worst case receptor locations have been analyzed. This analysis takes into account major crossroads and parallel highways as well as this proposed project. A background level of 0.008 μg/m3 is assumed. No violations of the lead standard (1.50 micrograms per cubic meter) were indicated, see following table.

Table 17: Lead Concentrations (μg/m3)

| Receptor* | Existing 1979 | 1988 |
|---|---|---|
| 1 Alt. 1-Park | 0.1 | 0.1 |
| 2 Alt. 3A, B&C-House | 0.5 | 0.2 |
| 3 Alt. 4-School yard | 0.1 | 0.2 |
| 4 Alt. 6-Bank | 1.3 | 0.2 |
| Federal Standard | 1.5 | 1.5 |

* Same receptors used for CO analysis, locations shown on Exhibit No. 23, page 84.

3. Secondary: None
4. Mitigation: None

F. Noise

In accordance with FHPM 7-7-3, the proposed action is classified as a type 1A project since highway construction and partial access control are involved.

This section provides a summary of noise impacts with regard to existing and predicted noise levels at sensitive receptors along each alternative. Sufficient data is presented to indicate the magnitude of noise impacts. More detailed noise information is contained in the PRELIMINARY NOISE ANALYSIS REPORT. That report is a technical supplement to this EIS and is available from the Mn/DOT upon request.

The PRELIMINARY NOISE ANALYSIS REPORT has been furnished to federal, state and local agencies for review and comment. Agency comments are contained in the appendix. A Final Noise Report will be prepared subsequent to the selection of an alternative and initiation of preliminary roadway design.

Receptors

Representative sensitive noise areas along each alternative are listed in Table 19 page 81. These 14 areas are representative of susceptible receptors and land use along the various alternatives. Area locations are shown on Exhibit No. 23 page 84.

Noise Levels

Noise levels for the existing facility and alternatives in the year 2000 were calculated using the FHWA NOISE MODEL RD-77-108 computer program. Existing noise levels for the build alternatives were estimated from 1978 field readings and cross checked by computer noise models NCHRP 117/144 and FHWA NOISE MODEL RD-77-108. Noise levels are dependent on a number of factors such as average running speeds, surface conditions, shielding conditions, and volume of cross-road traffic, many of which cannot be determined with any great certainty at this time.

The noise predictions are based on projected traffic counts for the year 2000 but use present day traffic noise emissions for comparison. At the present time there are programs in operation to lower the noise output of traffic related noise generators. Areas of concern are muffling systems on trucks and tire designs. The Minnesota Pollution Control Agency, in cooperation with the Environmental Protection Agency has established a maximum noise level of 83 dBA at 50 feet for trucks traveling at 35 miles per hour.

This standard went into effect on January 1, 1978, and applies to all trucks manufactured after that date. By January, 1982, this standard will be lowered to 80 dBA.

The present average noise level at 50 feet for trucks traveling at 35 miles per hour is 88 dBA. Therefore actual future noise level should tend to be lower than the predicted levels.

Current and future noise level contours for the existing facility are shown on Exhibit No. 22, page 83. Predicted future noise contours and 1978 field readings for the build alternatives are shown on Exhibit No. 23, page 84.

Standards

Federal and State noise standards are listed in Table 18 below.

Table 18: Federal Design Noise Levels and State Noise Standards

State-Minnesota Pollution Control Agency*

| Category | General Land Use Types | Daytime Noise Level | Nighttime Noise Level (10 PM to 7 AM) |
|---|---|---|---|
| NAC-1 | Residential & Institutional | $L_{10}$ of 65 dBA<br>$L_{50}$ of 60 dBA | $L_{10}$ of 55 dBA<br>$L_{50}$ of 50 dBA |
| NAC-2 | Commercial & Recreational | $L_{10}$ of 70 dBA<br>$L_{50}$ of 65 dBA | $L_{10}$ of 70 dBA<br>$L_{50}$ of 65 dBA |
| NAC-3 | Industrial | $L_{10}$ of 80 dBA<br>$L_{50}$ of 75 dBA | $L_{10}$ of 80 dBA<br>$L_{50}$ of 75 dBA |

* NPC-2 - Noise Standards; Adopted September 17, 1974.

## Federal Design Noise Levels and State Noise Standards

Federal - FHWA*

| Activity Category | Design Noise Level - $L_{10}$ | Description of Activity Category |
|---|---|---|
| A | 60 dBA (exterior) | Tracts of lands in which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, or open spaces which are dedicated or recognized by approporiate local officials for activities requiring special qualities of serenity and quiet. |
| B | 70 dBA (exterior) | Residences, motels, hotels, public meeting rooms, schools, churches, libraries, picnic areas, recreation areas, playgrounds, active sports areas and parks. |
| C | 75 dBA (exterior) | Developed lands, properties or activities not included in categories A and B above. |
| D | n/a | Undeveloped lands. |
| E | 55 dBA (interior) | Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums. |

* FHPM 7-7-3, Figure 3-1.

Noise Definitions

dB = Decibel is a unit of sound pressure level.

dBA = A unit of sound level used as a measure of human response to sound. dBA is obtained through the use of A-weighting characteristics specified by ANSI Standard S1.4-1971.

$L_{10}$ = The sound level that is exceeded 10 percent of the time for the period under consideration.

$L_{50}$ = The sound level that is exceeded 50 percent of the time for the period under consideration.

1. Direct Beneficial: Noise Levels will Decrease along existing TH 60 in downtown Wabasha as a result of the proposed realignment. A decrease of 5 to 8 dBA is expected as a result of diversion of through traffic.

2. Direct Adverse: Noise Levels will Increase along the selected alternative. Existing and future noise levels at representative areas along each alternative are listed in the following table. Existing noise levels were estimated from 1978 field readings adjusted for time and day of week. Future noise levels were interpolated from Exhibit No. 23.

Table 19: Existing & Future Exterior Noise Levels dBA (without abatement)

| Alternative Number | Receptor* Area Number | Land Use | FHWA Standards DHV $L_{10}$ | MPCA Daytime Standards $L_{10}$ | MPCA Daytime Standards $L_{50}$ | Existing 1978 $L_{10}$ |
|---|---|---|---|---|---|---|
| 1 | ① | Residential | 70 | 65 | 60 | 55 |
| 1 | ② | Park | 70 | 70 | 65 | 57 |
| 1 | ③ | Residential | 70 | 65 | 60 | 59 |
| 3A & C | ④ | Park | 70 | 70 | 65 | 55-63 |
| 3A, B & C | ⑤ | Residential | 70 | 65 | 60 | 60 |
| 3A, B & C | ⑥ | Commercial | 75 | 70 | 65 | 60 |
| 3B | ⑦ | Residential | 70 | 65 | 60 | 60 |
| 4 | ⑧ | Residential | 70 | 65 | 60 | 57 |
| 4 | ⑨ | Church | 70 | 65 | 60 | 59 |
| 4 | ⑩ | Residential | 70 | 65 | 60 | 57 |
| 3B, 4 & 6 | ⑪ | Campground | 70 | 65 | 60 | 69 |
| 6 | ⑫ | School | 70 | 65 | 60 | 68 |
| 6 | ⑬ | Commercial | 75 | 70 | 65 | 68 |
| 3A, B, C & 6 | ⑭ | Refuge | 70 | 70 | 65 | 68 |

*Locations shown on Exhibit No. 23 page 84.

NOTE: The year 2000 $L_{10}$ noise levels calculated using DHV are identical to the daytime peak $L_{10}$ levels. Therefore, the DHV and daytime noise levels are listed in only one column in Table 19. The column titled Future Yr. 2000 (DHV & Daytime) should be compared against both Federal FHWA Standards and State MPCA Daytime Standards.

at Representative Receptor Areas

| Future Yr. 2000 (DHV & Daytime) | | MPCA Nighttime Standards | | Future Yr. 2000 Nighttime | | Receptor* |
|---|---|---|---|---|---|---|
| $L_{10}$ | $L_{50}$ | $L_{10}$ | $L_{50}$ | $L_{10}$ | $L_{50}$ | Area Number |
| 70 | 60 | 55 | 50 | 64 | 54 | ① |
| 60-70 | 50-60 | 70 | 65 | 55-65 | 44-54 | ② |
| 67 | 56 | 55 | 50 | 62 | 51 | ③ |
| 60-70 | 50-60 | 70 | 65 | 55-65 | 44-54 | ④ |
| 72 | 62 | 55 | 50 | 66 | 56 | ⑤ |
| 66 | 55 | 70 | 65 | 60 | 50 | ⑥ |
| 71 | 61 | 55 | 50 | 65 | 55 | ⑦ |
| 70 | 60 | 55 | 50 | 64 | 54 | ⑧ |
| 72 | 62 | 55 | 50 | 66 | 56 | ⑨ |
| 66 | 55 | 55 | 50 | 60 | 50 | ⑩ |
| 71 | 61 | 55 | 50 | 65 | 55 | ⑪ |
| 73 | 63 | 55 | 50 | 67 | 57 | ⑫ |
| 73 | 63 | 70 | 65 | 67 | 57 | ⑬ |
| 70 | 60 | 70 | 65 | 64 | 54 | ⑭ |

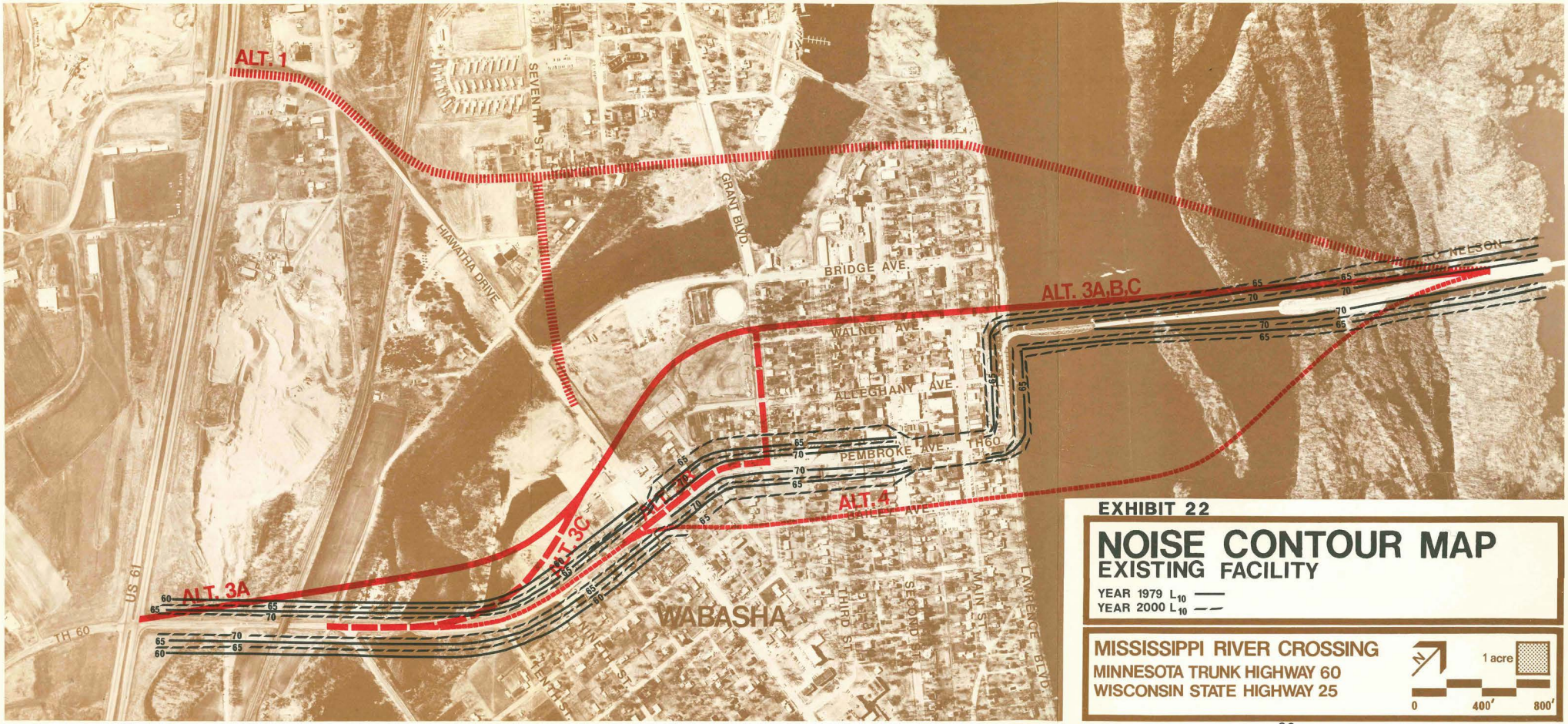



EXHIBIT 22

# NOISE CONTOUR MAP
## EXISTING FACILITY

YEAR 1979 $L_{10}$ ——
YEAR 2000 $L_{10}$ – –

MISSISSIPPI RIVER CROSSING
MINNESOTA TRUNK HIGHWAY 60
WISCONSIN STATE HIGHWAY 25

NW
1 acre
0 400′ 800′

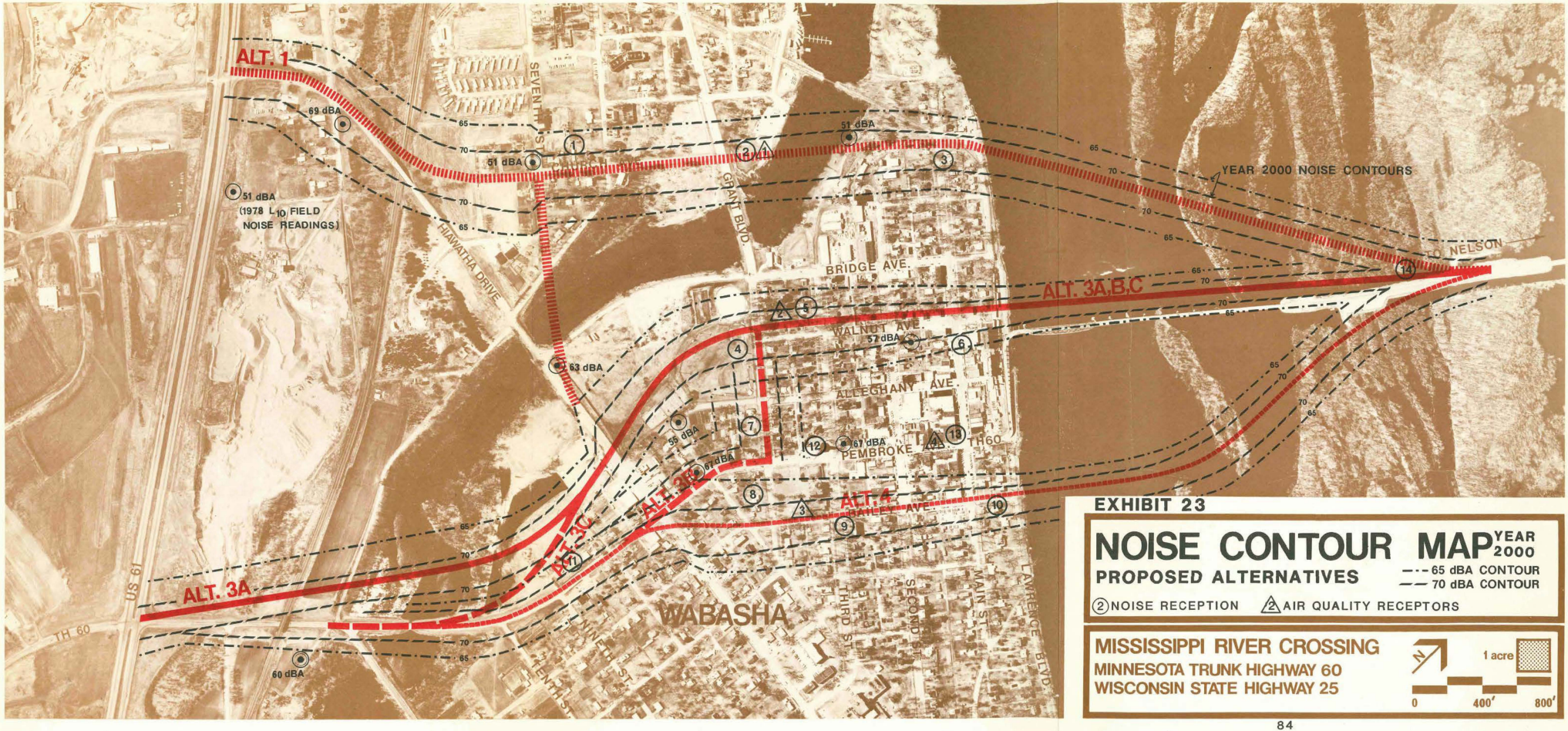



EXHIBIT 23

# NOISE CONTOUR MAP YEAR 2000

**PROPOSED ALTERNATIVES**

--- 65 dBA CONTOUR

— — 70 dBA CONTOUR

(2) NOISE RECEPTION  (2) AIR QUALITY RECEPTORS

## MISSISSIPPI RIVER CROSSING

MINNESOTA TRUNK HIGHWAY 60

WISCONSIN STATE HIGHWAY 25

N

1 acre

0  400'  800'

Analysis indicates that noise levels will exceed Federal Design Noise Levels and State Standards at several receptors on all alternatives. The number of receptors exceeding standards are listed in the following table.

Table 20: Number of Individual Receptors Exceeding Federal and State Noise Standards

| Alternative No. | Existing 1978 Federal | Existing 1978 State | Proposed 2000 Federal | Proposed 2000 State | Abatement Studied |
|---|---|---|---|---|---|
| 1 | 0 | 1 | 0 | 15 | yes |
| 3A | 0 | 0 | 1 | 25 | yes |
| 3B | 0 | 12 | 25 | 60 | yes |
| 3C | 0 | 0 | 1 | 25 | yes |
| 4 | 0 | 0 | 13 | 46 | yes |
| 6 | 3 | 18 | 44 | 62 | no |

NOTE: Alt. 6 in the year 2000 is for the existing facility since the bridge would be closed in the year 1992 under the no build alternative.

As can be seen from the table, any of the build alternatives would result in fewer receptors exceeding standards than the existing facility.

3. Secondary:

The magnitude of noise related impacts such as changes in land use and neighborhood deterioration will depend upon the alternative selected and the mitigation measures implemented. However, all alternatives utilize some existing city streets for part of their length. These areas are subject to existing traffic noise and should not be significantly impacted.

Noise impacts are of local significance only. The total traffic related noise received by the study area will not increase as a result of the proposed action. The slight increase in noise from generated traffic will be offset by the reduction resulting from improved geometrics and mitigation measures.

4. Mitigation: As indicated by the Table No. 20 page 85, abatement measures are being considered for all build alternatives. Although abatement measures will reduce noise levels at some locations, complete compliance with all standards does not appear feasible. Therefore an exception to some noise level standards will probably be requested in the Final Noise Report.

The following abatement measures are being studied. Measures proposed for the selected alternative will be described in the Final EIS.

a. Accoustical Barriers including walls and mounds are the most effective noise abatement method currently in use. Mounds or earth berms are not suitable for this action because of the limited right of way available near sensitive receptors.

Noise walls however, could be constructed at locations such as the central athletic field where the proposed profile and natural ground are approximately the same elevation. Noise walls in the athletic field **would** be multi-purpose providing pedestrian control and athletic event containment as well as noise reduction. Noise level reductions of 5 to 10 dBA could be expected from such walls. However, noise walls do not appear feasible for most areas because of the limited distance between receptors and roadway, elevation differences, adverse aesthetic and psychological impacts, openings required for driveways, and setbacks from intersections necessary to provide safe sight distance. Barriers are not usually effective on highways which have only partial control of access. Therefore the extent of noise wall utilization will be dependent upon the alternative selected, public opinion, Wabasha City Council's desires, and cost effectiveness.

b. Sound Insulation does not appear to be a practical abatement measure for wide use on this project. Sound insulation of existing buildings is relatively

expensive and does not reduce noise levels at outdoor areas. Sound insulation is suitable for large public buildings with little outside use such as hospitals and churches.

Sound insulation for schools and churches impacted by this action does not appear warranted since preliminary analysis indicates interior noise levels will comply with standards.

c. Vegetative Screens dense enough to provide a 5 dBA attenuation would require a substantial amount of additional right of way and are therefore not practicable for the proposed action. Dense vegetation about 50 feet deep and 15 to 30 feet high would be needed to produce a noticeable reduction in noise levels. Due to the physical problem of transplanting trees and establishing an effective vegetative screen, this measure is only considered where the required vegetation already exists. No such vegetation exists along any of the subject alternatives. Landscape plantings will be used where appropriate and although they do not provide attenuation, a psychological reduction in noise irritation often results.

d. Traffic Management Measures including prohibition of certain vehicle types, time use restrictions, modified speed limits, and traffic control devices do not lend themselves to this project. The subject facility is the only river crossing for a distance of 30 miles up or downstream. Special traffic management measures would be an inconvenience to the traveling public and inconsistent with the adjacent transportation systems.

e. Roadway Surface Type is being investigated to determine its effect on noise. The Mn/DOT is currently involved in a variety of research projects to determine the long term noisiness of various surface types and to develop a procedure for classifying pavements on the basis of noisiness. Until such studies are completed, the present state of the art does not allow for incorporation of pavement noise into surface type determination procedures. Ideally the surface type selected will represent the optimum combination of safety, durability, economic, and noise factors.

f. Acquisition of Noise Impacted Property and the creation of a buffer zone is the most positive means of meeting all noise standards. However, such a technique is only practical in relatively undeveloped areas. The excessive cost of acquiring developed property, additional relocations, and maintenance of excess right of way make the acquisition of noise impacted property undesirable for the proposed action.

This measure will however remain viable throughout the project development process and may become practicable at some locations after the construction limits are better defined.

g. Alignment Changes are not a viable means of abating traffic noise for this project. A corridor outside of Wabasha is not desirable because of the existing equal distance of up and downstream river crossings and the desirability of utilizing a 2.4 mile segment of existing Wisconsin SH 25. Slight alignment revisions of the alternatives would result in negligible changes in noise impacts. A depressed roadway is not feasible because of the flood level and navigational clearance required over the Mississippi River main channel.

h. Copies of "The Audible Landscape" have been furnished to all Cities, Counties, and Regional Development Commissions in Minnesota by the Mn/DOT. This handbook provides guidance for land use planning, plat layout and building design for compatible development near traffic noise corridors.

i. Proposed Plats for land adjacent to all Minnesota State Highways are submitted to the Department for review prior to plat approval. When potential for noise impact is identified in the review process, it is noted in the review comments to insure that the approving authority is aware of an existing or possible highway noise impact on proposed noise sensitive areas.

## G. Water Quality*

### MPCA Standards And Classifications

The Minnesota Pollution Control Agency (MPCA) classifies streams and rivers according to their potential public uses. Categories of use or users are:

| | Classification |
|---|---|
| Domestic Consumption | 1 |
| Fisheries and Recreation | 2 |
| Industrial Consumption | 3 |
| Agriculture and Wildlife | 4 |
| Navigation and Waste Disposal | 5 |
| Other Uses | 6 |

The 6 uses are subject to minimum chemical and biological quality standards denoted by the letters (A-D). Standard (A) is most restrictive (of the highest quality) and (D) is least restrictive.

Maintenance of water quality in receiving waters is achieved by applying the most restrictive standard (A-D). The Mississippi River from Hastings to the Iowa border is classified 2B, 3B, 4A and B, 5 and 6. The applicable water quality standards have been summarized in Table 21 on the following page.

### Physical And Chemical Characteristics

The MPCA monitors water quality of the Mississippi River at several locations near Wabasha. While water quality data immediately at Wabasha is scanty, more complete data is available from sites upstream and downstream of the project area. Refer to Table 22 for summaries of MPCA water quality sampling for the Mississippi River at Red Wing, Wabasha, Kellogg and Lock and Dam No. 5, located 37, 0, 8, and 22 miles respectively along the river from Wabasha.

* Source: Natural Resource Assessment, Mn/DOT Office of Environmental Affairs 1979.

The Mississippi River at Wabasha contains abundant amounts of nutrients, sediment and dissolved matter. Upstream, above Lake Pepin, at Red Wing, the concentrations of nutrients and sediment are generally higher. Lake Pepin acts as a trap for sediments and nutrients causing relatively lower concentrations to occur downstream of the lake at Wabasha and other locations. Despite this cleansing effect, the Mississippi River's mean concentrations below Lake Pepin, still violate state standards for Copper, Fecal Coliform, Oil and Grease, and Cyanide.

Table 21: Water Quality Standards (MPCA 1978)

| Parameter | River Standard | Effluent Standard |
|---|---|---|
| Suspended Solids | | 30 mg/1 |
| Turbidity | 25 | 25 |
| Specific Conductance | 1,000 umhos/em | |
| Ammonia (N) | 1 mg/1 | .2 mg/1 as unionized ammonia |
| BOD | | 25 mg/1 |
| Dissolved Oxygen | 6 mg/1, April 1 - May 31<br>5 mg/1, at other times | |
| pH | 6.5 - 8.5 | 6.5 - 8.5 |
| Cholride | 100 mg/1 | |
| Oil & Grease | .5 mg/1 | free of visible oil |
| Cyanide | .005 mg/1 | .12 mg/1 |
| Chromium | .05 mg/1 | 7.0 mg/1 |
| Copper | .01 mg/1 | .4 mg/1 |
| Iron | 1 mg/1 | 10 mg/1 |
| Lead (non-filterable) | .05 mg/1 | |
| Zinc | .076 mg/1 | 7.6 mg/1 |
| Nickel | .1 mg/1 | 10 mg/1 |
| Fecal Coliform | 200 MPN/100 ml | 200 MPN/100 ml |

Table 22: Water Quality Parameters - Mean River Concentrations

| Parameter | Miss. R. at Red Wing (R.Mi.797) | Miss. R. at Wabasha (R.Mi.760) | Miss. R. at Kellogg (R.Mi.752) | Miss. R. at Lock & Dam 5 (R.Mi.738) |
|---|---|---|---|---|
| Years of Record | 1967-1977 | 1967-1968 | 1971-1974 | 1974-1977 |
| Turbidity | 17.6 (FTU) | 14.86 (FTU) | 7.29 (FTU) | 11.24 (FTU) |
| Conductivity (UMHO) | 399 | 297 | 307 | 324 |
| BOD mg/1 | 5.21 | 3.414 | 3.55 | 3.75 |
| COD | | | | 32.89 |
| Total Solids | 278.75 | 225.71 | 202.7 | 229.8 |
| $NH_3$ -N | .798 | .376 | .324 | .306 |
| $NO_2$ -N | .0425 | .0329 | .025 | .050 |
| $NO_3$ -N | .626 | .6929 | .951 | .863 |
| Total Phosphorous | .332 | .2414 | .26 | .212 |
| Sodium | 23.13 | | 9.67 | 9.02 |
| Chloride | 21.3 | 9.5 | 9.8 | 14.56 |
| Copper | .010 | | | .0121 |
| Chromium | | | .0074 | .008 |
| Iron | .457 | | .638 | .774 |
| Lead | .010 | | .0112 | .012 |
| Nickel | .013 | | .0107 | .0118 |
| Zinc | .0137 | | .0229 | .0177 |
| F-Coliform MPN | 580.6 | 445.7 | 211.4 | 494 |
| Oil & Grease mg/1 | | | 4.05 | 1.10 |
| Cyanide | | | .0125 | .016 |

* MPCA "STORET" data. All concentrations are mean values from all sampling done at these locations for variable sampling periods.

1. Direct Beneficial: None

2. Direct Adverse: Slight Effluent Increase will result from the increased bridge width and generated traffic.

Pollutants Associated With Highway Runoff

A number of pollutants are contained in drainage from highway facilities including the following:

1) Sediment, generated by erosion or dredging during construction, winter sanding practices and accumulation on roadways.

2) Chloride, from the application of highway deicing chemicals.

3) Other pollutants which include:

   a) Heavy metals such as lead, zinc, chromium, copper and nickel.

   b) Petroleum product residues such as rubber, n-paraffin, grease, gas and oil.

   c) Asbestos fibers.

These pollutants are residues of motor vehicle emissions or arise from the wearing of tires and mechanical parts.

   d) Pesticides and herbicides.

   e) Nutrients such as nitrogen and phosphorous.

These pollutants result from normal maintenance of highway rights-of-way and from the accumulation of dust, dirt and plant residues.

Runoff Impacts

Potential water quality impacts were analyzed by the Mn/DOT Office of Environmental Affairs. That analysis is documented in the Natural Resource Assessment report for this project. Copies of the Natural Resource Assessment report can be obtained from the Mn/DOT Office of Environmental Affairs, St. Paul, Minnesota.

The Natural Resource Assessment report concludes that runoff from the proposed project will have no appreciable effect on the quality of the Mississippi River. The slight amount of additional contaminants from generated traffic will not render the water less useful or valuable. No changes in MPCA classification for waters in the area will result from the proposed action. No major resultant change in species composition of the aquatic community is expected.

Deicing Salt

Deicing salt is 90% or more sodium chloride by weight. Runoff from the Wabasha Bridge which will seasonally have high concentrations of sodium chloride, discharges into the Mississippi River. The mean chloride concentration of the Mississippi River near Wabasha, is approximately 15 mg/l. This concentration may be considered to be the average chloride concentration for streams in Minnesota, as the watershed of the Mississippi River encompasses approximately 2/3 of the state.

Sodium chloride is the most innocuous of water pollutants. Only in high concentrations is sodium chloride toxic to fish and wildlife. Lethal effects were noted on fish when concentration of 8000 mg/1 were reached (Clemens and Jones 1954), on fish fry at concentrations of 3800 mg/1 (Edmister and Gray 1948) and on invertebrates at 3000 mg/1 (Anderson 1948, Clemens and Jones 1954). Concentrations of 2000 mg/1 have been shown to affect the development of fish eggs (Doudoroff and Katy 1953).

Sodium chloride is presently applied at an average rate of 1.5 tons/lane mile/year. With the bridge lane width increasing by 26% the salting rate will increase corresponding. Also while the length of bridge will increase slightly (Alt. 3A, B, or C) or increase greatly (Alt. 1&4) over the exsting bridge, the overall length of roadway will not vary significatly. Roadway lengths within construction limits vary from 1.7 miles (Alt. 3B& C) to 1.5 miles (Alt. 1). The exsting facility has a length of 1.6 miles. The average amount of deicing salt applied, will vary from approximately 6 tons/year (Alt. 3B&C) to 5 tons/year (Alt. 1). The average existing amount applied is approximately 4.5 tons/year.

Sodium chloride concentrations in bridge runoff cannot be accurately determined, but concentrations of chloride in excess of 2000 mg/1 may occur. This concentration is unlikely to be maintained as the large volume of the Mississippi River, in relation to the volume of bridge runoff, will dilute the high chloride concentration of bridge runoff.

Because the river dilutes deicing salts effectively and because sodium chloride has low toxicity, the influence of deicing salt runoff on the chemical and biological characteristics of the river will not be significant.

Hazardous Spills

When hazardous spills of toxic materials occur, it is the responsibility of the transport company to notify the MPCA and arrange for corrective measures to be taken. Depending on the magnitude of the spill, the MPCA may send inspectors to survey the situation and recommend the implementation of cleanup procedures. Mn/DOT maintenance personnel may also be called to assist in cleanup procedures on highway rights-of-way.

The chances of a spill of hazardous or toxic materials occurring on or near the Wabasha Bridge are slight (approximately 47 such spills, greater than 10 gal., occurred on all Minnesota state highways in 1977).

Groundwater Impacts

Replacement of the Wabasha bridge and possible realignment of T.H. 60 will have no impact on the regional bedrock aquifer system. The nearest bedrock aquifer is over 1/2 mile from proposed construction limits of T.H. 60. There should be little affect on the near surface alluvial aquifer. Near surface sediments are highly permeable, but the short residence time of groundwater in this area should reduce potential problems relating to highway runoff. Groundwater discharges into the Mississippi River.

3. Secondary: None

4. Mitigation:

a. To the extent possible, bridge piers will be located on land rather than in backwater channels.

b. Highway runoff will not be directly outletted into sensitive areas such as mussel beds.

H. Fisheries *

1. Direct Beneficial: None

* Source: Natural Resource Assessment, Mn/DOT, O.E.A. 1979

2. Direct Adverse:

Destruction of about 0.5 acre of fish habitat.

The major potential fisheries impact is the filling of backwater channels for bridge approach and pier construction. Fill will directly destroy small amounts of fish spawning and nursery areas. Bridge approach fill could also indirectly destroy fish spawning and nursery areas in backwater channels if flow from the main channel is cut off. An exchange of water with the main channel must be maintained or the backwater channels stagnate and will not support fish and other aquatic organisms.

Beginning an elevated roadway near Wisconsin Highway 25 will limit loss of fish habitat. However, some bridge approach fill must be done in order to connect the bridge to the existing roadway. Fill must be placed in the backwater channel immediately adjacent to the inplace fill. Although the area will vary slightly depending upon the alternate selected and final bridge design, approach fills will cover about 0.5 acre of fish habitat, see Exhibit No. 24 page 110.

Given the large area of backwater channels available in the immediate area, this loss will not have a major effect on local fish populations.

Construction of bridge piers will cause a loss of habitat. However, demolition of the existing bridge, with its greater number of piers, will yield more open water for fish habitat.

Anticipated Number of Bridge Piers Northerly of Minnesota Shore

| Alt. 1 | Alt. 3A, B&C | Alt. 4 | Existing |
|---|---|---|---|
| 16 | 14 | 20 | 29 |

The wing dam upstream of the existing bridge lies between the proposed routes for Alternatives 1 and 3 (Refer to Exhibit No. 24). Alternate 3 skirts the downstream edge of the dam while Alternate 1 lies upstream of the dam by several hundred feet. Construction of either alternative should not result in any alteration of the wing dam and no effect on the quality of fish habitat the dam provides, is anticipated.

3. Secondary: None

4. Mitigation:

a. Water flow in backwater channels which will be filled will be maintained. Water flow will be perpetuated by rechannelization or culverts prior to filling the backwater channel.

b. To the extent possible, gravel and concrete in the existing pier caissons will be placed on the streambed. These materials will cause current breaks, increase habitat diversity and attract fish, particularly walleye.

I. Wetlands and Wildlife *

Executive Order 11990

Executive Order 11990 "Protection of Wetlands" specifies that new construction in wetlands shall be avoided unless there is no practicable alternative to such construction and the proposed action includes all practicable measures to minimize harm to wetlands. All of the build alternatives under consideration involve wetlands.

* Source: Natural Resource Assessment, Mn/DOT, O.E.A. 1979

Information contained in this EIS supports the determination that there is no practicable alternative which would avoid wetlands and that all practicable measures to minimize harm will be taken.

1. Direct Beneficial: None

2. Direct Adverse: Each project alternate disturbs a small area of floodplain forest (Type 1L wetland) on the Wisconsin side of the river. Most of the forest area affected will be cleared and spanned with bridge structure. A small part of the total impacted area would be filled for roadway embankments to make the bridge approaches, see Exhibit No. 24 page 110.

Each alternate also impacts the former Zumbro River channel in Wabasha. Partial filling of this channel will be necessary for road crossings. Alternate 1 includes a bridge over the channel. Minimal impacts upon vegetation and wildlife are anticipated in the uplands in Wabasha. This area lacks wildlife habitat since it is heavily developed. Table 23 gives the approximate area of wetland vegetation that would be impacted by each alternative.

Table 23: Wetland Impacts

| Alternates | | Wetland Types 1 | 1L | 2 | 1/6 | 2/6 | 5 | Total (Acres) |
|---|---|---|---|---|---|---|---|---|
| 1 | Filled | 1.0 | 1.0 | - | 0.3 | - | 1.0 | 3.3 |
| | Bridged | - | 5.0 | - | - | - | .5 | 5.5 |
| | Total | | | | | | | 8.8 |
| 3A | Filled | 2.0 | 4.5 | - | - | 2.0 | 4.0 | 12.5 |
| | Bridged | - | 1.0 | 0.3 | - | - | - | 1.3 |
| | Total | | | | | | | 13.8 |
| 3B | Filled | 0.5 | 1.5 | - | - | 0.3 | .8 | 3.1 |
| | Bridged | - | 1.0 | 0.3 | - | - | - | 1.3 |
| | Total | | | | | | | 4.4 |
| 3C | Filled | 2.0 | 1.8 | - | | 0.3 | 1.0 | 5.1 |
| | Bridged | - | 1.0 | 0.3 | | - | - | 1.3 |
| | Total | | | | | | | 6.4 |
| 4 | Filled | 0.5 | 1.5 | - | - | 0.3 | .8 | 3.1 |
| | Bridged | - | 5.0 | - | - | - | - | 5.0 |
| | Total | | | | | | | 8.1 |

Wetlands are shown on Exhibit No. 24 page 110.

Wetlands filled for embankments will be destroyed. Alternate 3A fills roughly three times more wetland area than the other alternates because this route must be elevated to pass over the railroad tracks just west of the channel. Alternates 3B, 3C, & 4 pass under the railroad on existing TH 60.

Wetlands spanned by bridge structure will change. The bridge deck is approximately 50 feet wide. Low steel elevation of the bridge ranges from 5 to 50 feet above the wetlands. Beneath the bridge, large trees will be removed, while brush emergent and submerged aquatic plants will probably remain. Plant density and composition also alters by shading from the bridge deck. Plant species which require full sunlight may not thrive beneath the bridge deck.

Clearing of highway right-of-way will open up the dense canopy of lowland hardwoods to sunlight. This will encourage growth of forbes and shrubs along the edges of the right-of-way. These plants will add species diversity to the flood plain which is predominantly covered by lowland hardwoods and may provide new habitat for some wildlife species.

From 3.1 to 12.5 acres of wetland habitat will be filled for embankment depending upon the alternative selected and from 1.3 to 5.5 acres of wetland habitat will be spanned by bridge structure. The total area of wetlands affected by the various alternatives varies from 4.4 to 13.8 acres. None of the proposed alternatives are expected to have a significant impact upon wildlife because the proposed bridge design maximizes the length of the bridge span, which minimizes disturbance in the river channel and floodplain.

Furthermore, the new bridge is being replaced in an area that has already been affected by the presence of a highway and bridge. The proposed project also impacts only a very small portion of the vast expanse of floodplain habitat in the area. The range of wetland areas effected, 4.4 to 13.8 acres, represents 0.04% to 0.14% of the approximately 10,000 acres of wetlands in the area.

Comparison of Alternatives

It is difficult to compare the relative impact of the five alternatives based upon vegetation and wildlife. Each alternative effects different factors of the environment.

Wisconsin Side

On the Wisconsin side of the river Alternative 3 has less impact than Alternatives 1 and 4. The main impacts of Alternate 3 (A, B and C variants are identical in Wisconsin) involves the filling of 0.4 acre of a backwater channel which runs parallel along the north side of W.H. 25 and the bridging of the tip of an island just off shore. The tip of the island affected is a 1 1/2 acre sedge-grass meadow. It is the only sedge-grass meadow in the project vicinity on the Wisconsin side. The relative scarcity of this habitat type may make this island locally important to wildlife in the area for nesting and feeding. About 0.2 acre of the sedge-grass meadow would be spanned by the bridge.

Impacts associated with Alternate 1 include fill of 0.2 acres of the channel along the north side of W.H. 25, the fill and bridging of 6.0 acres of floodplain forest including two islands in the river and the bridging of a major concentration of aquatic vegetation. The concentration of aquatic vegetation including coontail, pondweeds and duckweeds is located in a shallow, protected bay north of W.H. 25 between the nearest island and the floodplain forest. This aquatic vegetation may be important as a feeding area for local waterbirds since it is the only major weedbed in the project vicinity on the Wisconsin side.

The main impacts of Alternate 4 include: fill of 0.1 acre of the backwater channel which parallels the south side of W.H. 25, two bridgings of the same channel where it makes a loop to the south of W.H. 25, fill and bridging of 6.5 acres of floodplain forest including the tips of two islands and bridging of an exposed sand bar located south of W.H. 25 between the nearest wooded island and the floodplain forest. This sand bar contains several stumps and logs and is valuable to wildlife as a resting and loafing site.

Alternate 4 is considered to have more potential impact upon wildlife than Alternate 1 because of its greater involvement with backwater channels.

Minnesota Side

On the Minnesota side of the river Alternate 1 has the least impact to vegetation and wildlife. With this alternative the river bridge is extended all the way across to the west side of the old Zumbro River channel in Wabasha. However, about 1.0 acre of the channel would be filled for a connection between Seventh Street and Hiawatha Drive. The portion of the old Zumbro River channel bridged by T.H. 60 and filled for the connector is poor habitat for wildlife. The channel consists of an area of open water that is too deep to support rooted aquatic plants. Shoreline vegetation is also limited. This part of the channel is bordered by a boat landing, picnic area, undeveloped campground, athletic fields and the County Fairgrounds. Those facilities result in considerable disturbance to the channel area from boat traffic, campers, picnickers and other human activities which also make this part of the channel undesirable for wildlife.

Alternate 3A has the most impact upon the old Zumbro River channel. This alternate crosses the channel on a 1000 foot long fill section at a height of about 20-50 feet above the existing normal pool elevation. This portion of the Wabasha channel is in a relatively natural state that provides fairly good habitat for wildlife. It consists of a mixture of lowland hardwoods, shrub swamp, wet meadow and small patches of cattails. The open water in the channel contains coontail, yellow water lillies and duckwood.

This alternate fills 4.0 acres of floodplain forest, 4.0 acres of open water and 4.0 acres of shrub swamp, wet meadow and seasonably flooded basins in the Wabasha channel.

Alternates 3B and 4 would cross the Wabasha channel about 300 feet south of Alternate 3A on the existing T.H. 60 fill. Thus, these alternates would have less impact than Alternate 3A since they would only involve enlarging of the existing fill slopes. Alternate 3C, while basically following the existing roadway, will require fill of an additional .3 acre of open channel, .3 acre of floodplain forest and 1.5 acre of seasonally flooded basin. However, Alternatives 3B, 3C and 4 have more impact on the Wabasha channel than Alternate 1 because they cross the channel in an area that is more valuable for wildlife.

In summary, Alternate 3A has the most impact on vegetation and wildlife because it results in fill and permanent loss of 3 to 4 times as much wetland as any of the other alternatives. Alternates 4 and 1 would have the second most impact followed by Alternate 3C. Alternate 3B would have the least impact.

No practicable alternative exists which would avoid construction in wetlands. Reconstruction of the bridge at the existing location would have the least impact on wetlands. That alternative is not practicable because of the substandard Minnesota approach and two year interruption of service required for construction.

| | |
|---|---|
| Threatened and Endangered Species<br><br>Bald Eagle | The Northern Bald Eagles which winter in the vicinity of the Wabasha bridge could be disturbed by construction activities associated with this project. Once the bridge is built it is assumed the eagles would still find the area suitable habitat since they feed and roost around the present highway and bridge. The disturbance to the eagles and possible avoidance of the bridge area should not adversely affect them since it is a temporary impact and since it involves only a small portion of the wintering area which is not heavily used nor critical to their survival. This project would not affect the Reads Landing area which is the area primarily used by the wintering eagles. |
| Higgins Eye Pearly Mussel | A survey for the Lampsilis Higginsii (Higgins Eye Pearly Mussel) was performed by a consultant during June and July 1979. The survey included sampling upstream and downstream of each proposed bridge alignment with crowfoot bars or clam takes. The location of all dense mussel beds were documented and hand sampled by certified skin divers. The survey did not reveal the presence of the Lampsilis Higginsii or any other endangered mussels within the study area, see correspondence in the appendix. |
| American and Artic Penegrine Falcons | The proposed action will have no impacts on American or Artic Peregrine Falcons. These species migrate through the State of Minnesota but neither currently nests here. A review of the project area by the Mn/DOT Wildlife Biologist did not reveal any potential nesting sites for the peregrine falcon.<br><br>No other threatened or endangered species exist in the project area. |
| 3. Secondary: | None |

4. Mitigation:

Displacement of wetlands and wildlife habitat will be minimized by using 4:1 inslopes in wetland areas rather than the more common 6:1 inslopes. The 4:1 inslopes comply with Mn/DOT Technical Memorandum No. 79-18-RD-2 which provides guidelines for roadway cross sections in wetlands.

Also see sections VII. G. Water Quality and H. Fisheries.

Since this project may affect a Federally listed species of wildlife or its habitat the Federal Highway Administration is required by the Endangered Species Act to convey a written request for consultation with available information to the Regional Director of the U.S. Fish and Wildlife Service.

The Regional Director will then conduct an examination of the proposed project. He will determine if the proposal project is likely to jeopardize the listed species or result in destruction or adverse modification of its critical habitat. If so, he will also submit a biological opinion which will include recommendations for modification of the proposed project which would enhance the preservation protection of the listed species or its critical habitat.

Results of consultation with the U.S. Fish and Wildlife Service and biological opinion (if issued) will be included in the Final EIS.

Due to the large amount of nearby wetlands, about 10,000 acres, replacement of impacted wetlands is not proposed.

Coordination

Interagency coordination has been maintained throughout the development of this project to insure its consistency and compatibility with State and Federal policies for protection of the environment. Reviews have been conducted by the Department of Interior, U.S. Fish & Wildlife Service, Minnesota Department of Natural Resources, Wisconsin Department of Natural Resources, and U.S. Corps of Engineers.

Comments from these agencies are included in the Appendix and were given consideration in the revision of the Pre-Draft EIS.

J. Stream Modification

1. Direct Beneficial: None
2. Direct Adverse: Backwater Channels adjacent to the WSH 25 roadway will be displaced by approach fill. As can be seen on Exhibit No. 24, page 110, backwater channels exist on both sides of the WSH 25 roadway between the main channel and Wisconsin Bridge B6-24. All of the build alternatives cross one of these backwater channels. No other stream modification is proposed.

Coordination with the Minn. DNR, Wisconsin DNR, and U.S. Fish & Wildlife revealed that flow must be maintained in the subject backwater channels to recharge other backwater channels and to allow fish migration.

3. Secondary: None

4. Mitigation: Flow in the affected channel will be perpetuated by reconstructing the channel around the approach fill, placing culverts through the fill, or lengthening the bridge to span the channel. The method selected will depend upon the governing agencies desires, hydraulics, bridge design, and economics and be described in the Final EIS.

K. Flood Plains

Executive Order 11988 concerning flood plain management was issued in May, 1977. The Water Resources Council has interpreted the Order as stating that no federal monies may be spent within the 100-year flood plain of any stream, lake or wetland unless no practicable alternative exists to avoid the flood plain and that all possible measures to minimize harm to the flood plain are taken.

The proposed action has been analyzed in accordance with FHWA's Flood Plain Regulations FHPM 6-7-3-2 effective November 15, 1979.

Since the flood plain is about 14,000 feet wide at the project site, construction of a bridge in this area requires construction within the flood plain by definition. The entire flood plain near the existing bridge is shown on Exhibit No. 3, page 3. The base 100 year flood plain near Wabasha and alternative encroachments are shown on Exhibit No. 24 on page 110. The Alternatives Section of this document, pages 53 thru 59 lists all alternatives considered for this action. No practicable alternative exists which would avoid flood plain encroachment.

Hydraulic analysis indicates the proposed action will not affect floodwater elevation. Since the hydraulic capacity of the proposed facility will be equal to or slightly greater than the existing structure, and the proposed approaches will occupy about the same area of flood plain as the existing approaches, the impact to the flood plain will be negligible.

None of the alternatives will increase flooding, therefore this action will not increase the risk of property loss or of hazard to life.

Since the proposed action is for replacement of an existing facility, the most noticeable impact to the flood plain will be the appearance of the new bridge and approaches. The appearance of the new facility on the edge of the three mile wide flood plain should not detract from the natural beauty and spaciousness of the flood plain. Bridge details and color will be selected to harmonize with the environment.

Impacts to natural flood plain values are discussed in the Water Quality, Fisheries, Wildlife & Wetlands, and Stream Modification sections of this EIS.

The proposed action will not significantly affect aquaculture, outdoor recreation, natural moderation of floods, water quality maintenance or groundwater recharge.

The proposed action will not encourage additional base flood plain development. Partial access control will be acquired to prohibit future entrances and thereby inhibit flood plain development. However, the new facility will perpetuate highway service to existing developments. Much of the flood plain development in the project area is park or recreational in nature. Park and recreational uses with low flood damage potential and which do not obstruct flood flows are allowed in the flood way by the Wabasha Flood Plain Zoning Ordinance.

The mitigation discussions in the Water Quality, Fisheries, Wildlife and Wetland, Stream Modification and Construction sections of this EIS contain information supporting the determination that all possible measures to minimize harm to the flood plain will be taken.

This action offers little opportunity to preserve impacted flood plain values. However, the new bridge will be of greater total and individual span length and therefore bridge more of the flood plain than the existing facility. Also removal of the existing bridge will result in restoration of the flood plain at that area.

In accordance with FHPM 6-7-3-2, the proposed action will not significantly encroach on the flood plain.

L. Flood Hazard

1. Direct Beneficial: Less Inundation of T.H. 60 in Wabasha during floods could result. Approximately 2400 feet of existing T.H. 60 between U.S. 61 and 8th Street is below the 100 year flood elevation of 678. The existing sag vertical curve under the C.M. St. P. & P. Railroad was covered with about 5 feet of water during the flood of record in 1965, see Exhibit No. 20 profiles. During the past 25 years T.H. 60 in Wabasha has been closed on 3 different occasions (duration of 1 to 3 days) because of inundation.

Alternatives 1 and 3A could provide roadways a minimum of one foot above the 100 year flood elevation and thereby be relatively unaffected by floods. Alternatives 3B, 3C, and 4 would utilize the existing vertical alignment under the C.M. St. P. & P. Railroad and be subject to inundation at that location. However, by raising about a 700 feet segment of Hiawatha Drive from 1 to 3 feet, a connection above the 100 year flood elevation could be provided to U.S. 61. All alternatives will accommodate the 100 year flood.

Coordination with Corps of Engineers revealed that none of the alternatives would have any adverse flood effects on the City of Wabasha. The Corps has investigated a dike system for Wabasha, but because of a benefit-cost ratio of less than 1.0 planning has ceased. None of the alternatives conflict with possible future flood control projects.

2. Direct Adverse: None

3. Secondary: None

4. Mitigation: None

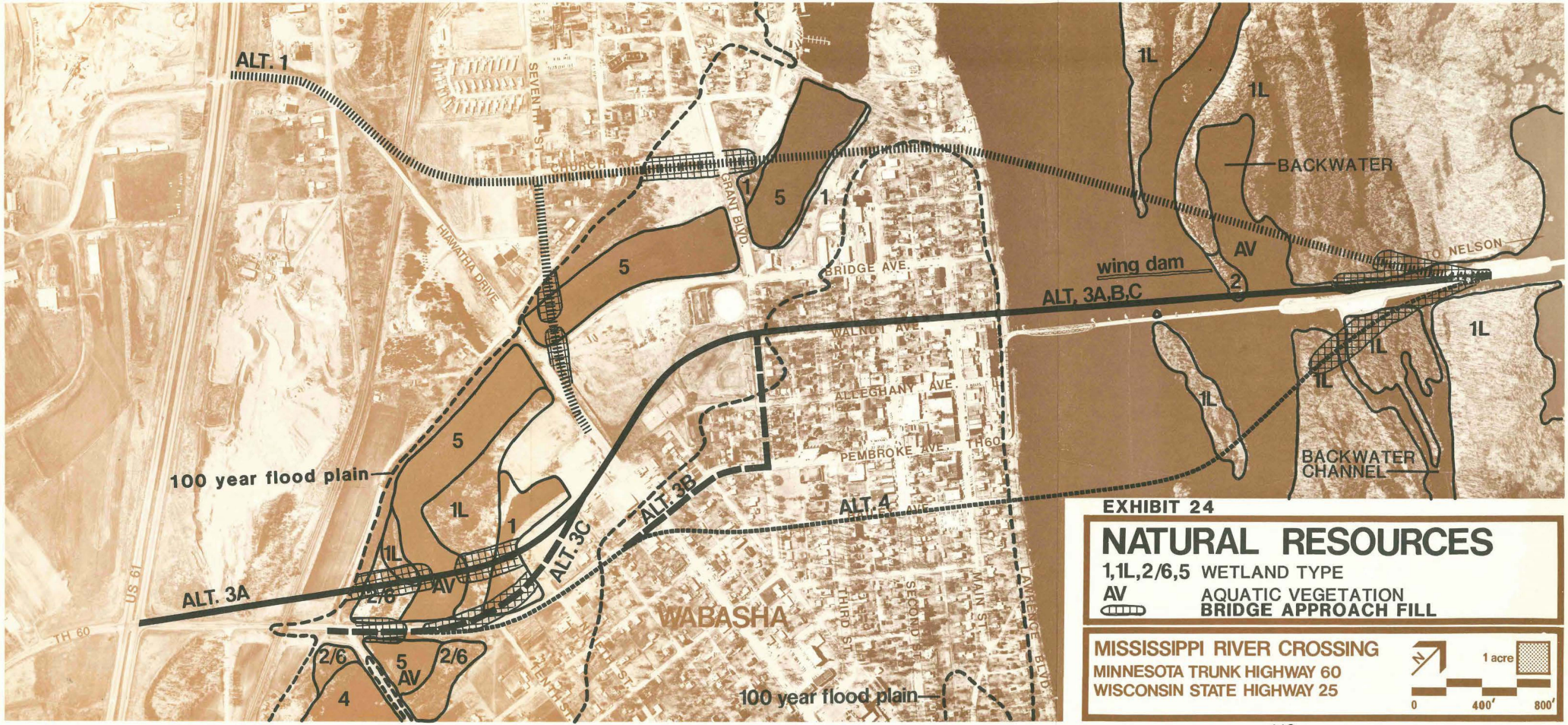



EXHIBIT 24

# NATURAL RESOURCES

1,1L,2/6,5 WETLAND TYPE

AV AQUATIC VEGETATION

BRIDGE APPROACH FILL

MISSISSIPPI RIVER CROSSING

MINNESOTA TRUNK HIGHWAY 60

WISCONSIN STATE HIGHWAY 25

1 acre

0 400′ 800′

## M. Historic and Cultural Sites

Wisconsin

The Wisconsin State Historical Preservation Officer (WSHPO) has determined that no buildings of historical or architectural significance listed on or eligible for the National Register of Historic Places will be affected by any of the alternatives in Wisconsin. See WSHPO correspondence in the appendix, page A-3.

The Wisconsin State Historical Society highway archaeologist has determined that no archaeological sites exist along the group 3 alternatives (Alternative 3A, B, & C) in Wisconsin. The highway archaeologist indicates that any archaeological sites likely to be found along alternative 1 or 4 would probably be small. See correspondence in the appendix, pages A-4 and A-5.

Minnesota

Investigation by the Minnesota Historical Society reveals no archaeological sites in Minnesota will be affected by any of the alternatives. The only known site has been destroyed by housing and city streets. Also the only area with archaeological potential affected by the alternatives was sampled by test excavations and found to contain no archaeological materials. See correspondence in the appendix, pages A-6 and A-7.

A report entitled AN HISTORICAL SURVEY OF THE ALTERNATE ROUTES FOR PROPOSED TRUNK HIGHWAY 60 IN WABASHA, MINNESOTA, prepared for the Minnesota Historical Society under an agreement with Mn/DOT, identified the following historical properties: Anderson Hotel (on the National Register), the Wabasha Commercial District comprised of 59 properties, First Congregational Parsonage, and Grace Memorial Episcopal Church (all eligible for the National Register). Copies of the report are available from Mn/DOT upon request. The Minnesota State Historic Preservation Officer (MSHPO) has concurred in the findings of that report, see correspondence in the appendix, page A-8. Historical property locations are shown on Exhibits No. 14 & 25 on pages 43 and 115.

Section 106 Procedures:

Federally funded projects which could affect historic properties on or eligible for the National Register of Historic Places are governed by Section 106 of the National Historic Preservation Act of 1966. Section 106 procedures require the following:

- Determination of National Register eligibility by the Secretary of the Interior. On April 3, 1980, the Keeper of the National Register (acting for the Secretary of the Interior) determined that all properties listed in the historical survey are eligible for the National Register, see correspondence in appendix, pages A-9&10.

- Determination of effect and adverse effect. Information presented later in this section identifies a potential adverse effect.

- A Preliminary Case Report requesting comments from the Advisory Council on Historic Preservation (ACHP). This DEIS (along with the historical survey) will be utilized as the Preliminary Case Report.

- The FHWA, SHPO and Executive Director of the ACHP shall be consulting parties to consider alternatives which avoid adverse effects or satisfactorily mitigate adverse effects.

- The consulting parties shall execute a Memorandum of Agreement (MOA) specifying how the proposed action is to proceed, including mitigation measures.

Results of the 106 process will be documented in the Final EIS.

Determination of Effect (ACHP Section 800.3)

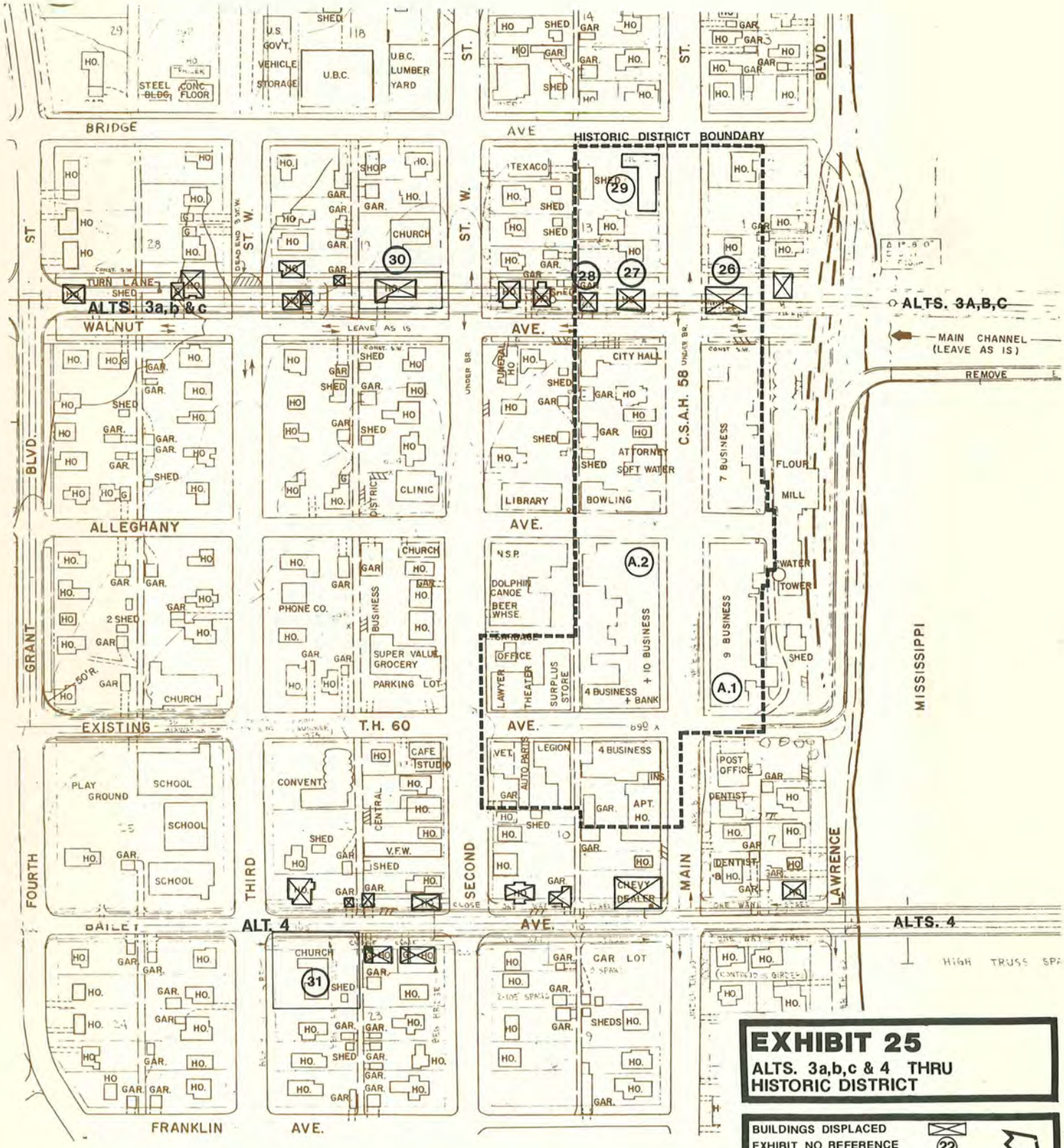
The Minnesota State Historic Preservation Officer's (MSHPO) opinion that all build alternatives will adversely affect historical sites is contained in the appendix on pages A-11 thru A-13. Effects cited by the MSHPO range from the direct effect of alteration to the indirect effect of changing access to TH 60.

All of the build alternatives would affect the historic Commercial District by removing existing TH 60 from the Commercial District. The MSHPO is concerned that relocating TH 60 will encourage the relocation of businesses and thereby adversely affect the vitality and maintenance of the Commercial District. Although the relocation of TH 60 may be undesirable to some highway oriented businesses, a significant adverse impact is not expected since convenient access to the Commercial District will be provided, about 75% of the TH 60 traffic in Wabasha is local, and the nearest competing commercial business district is about 14 miles away.

Business district orientation in Wabasha has not been strongly influenced by the location of TH 60 as is evidenced by the business district location on Main Street.

The possible adverse economic effect on the Commercial District from the proposed action is very small compared to the economic loss and decay that would result from severing the trade area by not replacing the existing bridge. Perpetuating TH 60 at its present location in the Commercial District is not feasible, see Alternatives section of this EIS.

The effects of relocating TH 60 are further discussed in the Land Use Planning, Transportation Impacts, and Economic Impacts sections of this EIS.




# EXHIBIT 25

ALTS. 3a,b,c & 4 THRU
HISTORIC DISTRICT

BUILDINGS DISPLACED
EXHIBIT NO. REFERENCE (22)
EXHIBITS WITH PREFIX 'A' ARE CONTAINED IN THE APPENDIX

0 100' 200' 300'

Additional effects of individual alternatives follow:

Alternative 1 would be located two blocks from the nearest historical property (westerly edge of the Commercial District). Although the Alternative 1 bridge would be visible from the Commercial District, no visual, audible, or atmospheric elements out of character with the Commercial District would be introduced.

Alternatives 3A,3B & 3C historical effects are identical since these three alternatives have coincident alignment at historical properties. Alternatives 3A, 3B & 3C would pass over the Commercial District on a bridge structure elevated 27 to 45 ft. above street level.

Three structures (warehouse, residence and garage) within the Commercial District would be displaced, see Exhibits No. 25, 26, 27 and 28 on the following pages. Existing pedestrian and vehicular traffic patterns within and adjacent to the historic district would be perpetuated. Passage beneath the proposed bridge would not be prevented or discouraged.

About 0.6 acre of the 10.7 acre Commercial District would be acquired as highway right of way. The 0.6 acre consists of an 85 ft. wide strip adjacent to the westerly edge of Walnut Avenue.

The edge of the Alternative 3A, 3B & 3C bridge would be about 140 feet from the nearest wall of the Anderson Hotel, see Exhibit No. 25. The bridge would be elevated 30-35 feet in that area and be about the same elevation as the hotel roof. The Anderson Hotel as seen from near the group 3 alignment is shown in Exhibit No. 29. Effects on the hotel

Exhibit No. 26

307 West Main St.
International
Milling Co.

Warehouse
(Livery Stable 1887)
1½ story, brick,
stucco covered
Displaced by 3A,
B or C.

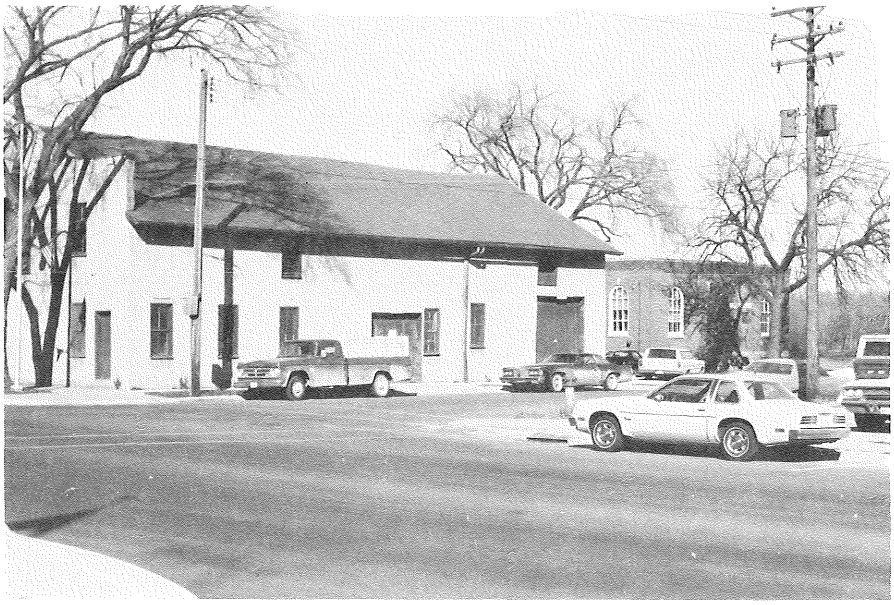


Exhibit No. 27

305 West Main St.
Private Residence
(Replogle House
1916)
2-story, red brick
Displaced by 3A,
B or C.

Exhibit No. 28

Rear of 305 West Main facing Walnut Avenue
Garage
( M. McKenzie Livery Stable Ca. 1893)
2-story, brick veneer
Displaced by 3A, B or C.

Exhibit No. 29

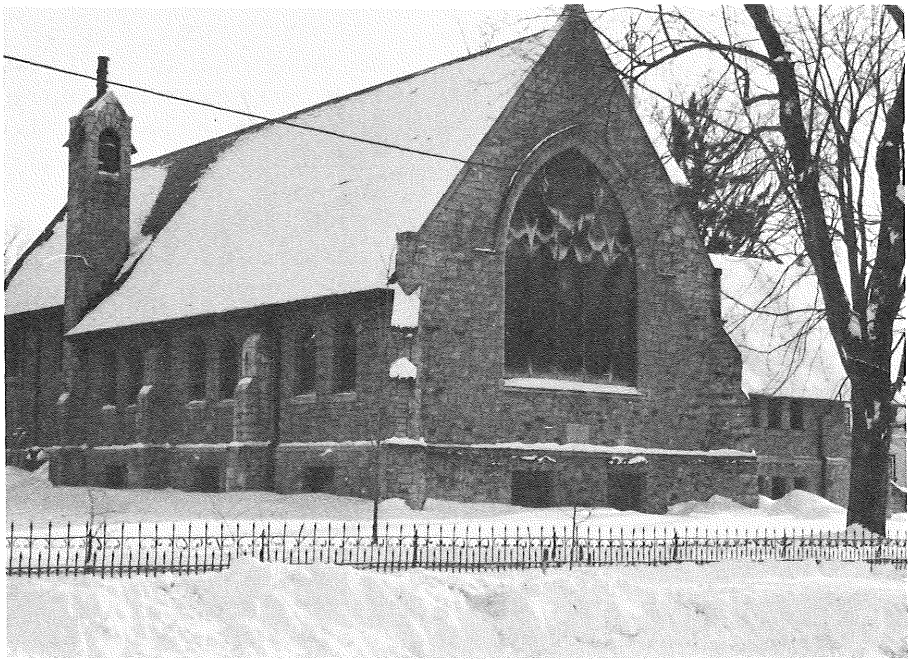
333 West Main St.
Anderson Hotel
(Hurd House 1856)
3-story, red brick
As seen from the corner of Main St. and Walnut Ave.

Exhibit No. 30

305 West 2nd St.
Chiropractic
Clinic
(First Con-
gregational
Parsonage - 1872)
2-story frame
Displaced by 3A,
B or C.

Exhibit No. 31

205 East 3rd St.
Grace Memorial
Episcopal Church
(1900)
50 ft. east of
Alt. 4 traffic
lane.



would include a slight increase in noise levels from about 60 dBA existing to about 65 dBA in the year 2000 and the appearance of the bridge. The noise impact would be minor since the human ear usually cannot detect noise level changes less than about 3 dBA and levels would be below state and federal standards. The appearance of the bridge from the hotel would change since the existing bridge is about 470 feet from the hotel. The proposed bridge will be detailed to harmonize with the historic setting of Wabasha and will not detract from the Anderson Hotel.

Alternatives 3A, 3B, & 3C would also displace one historical structure (Chiropractic Clinic) located outside the Commercial District, see Exhibits No. 25 and 30. The Chiropractic Clinic, former First Congregational Parsonage, is located on a 143 ft. x 80 ft. tract. The entire tract would be acquired for highway right of way.

Alternatives 3A, 3B & 3C would have an adverse effect on the four historical structures displaced. The Commercial District and Anderson Hotel would be effected, but not necessarily adversely effected. The impacts on the Commercial District and Anderson Hotel would be minor visual and audio, and with appropriate mitigation, not out of character or significantly alter the setting. No physical isolation would result due to the elevation of the bridge through the historical area. The existing street and sidewalk system in the Commercial District would be perpetuated.

Alternative 4 would be located about half a block from the easterly edge of the Commercial District and 50 ft. from the Grace Memorial Episcopal Church, see Exhibits No. 25 and 31. This alternative would be elevated 12 to 35 ft. above existing streets on a bridge structure near the Commercial District. The Alternative 4 impacts (visual and audio) on the Commercial District would be slight and not significantly out of character with the Commercial District.

The edge of the Alternative 4 traffic lane would be located about 50 ft. from the nearest wall of the Grace Memorial Episcopal Church. The Alternative 4 elevation would be approximately the same as existing Bailey Avenue near the church. The church property includes two lots with a total area of 17,160 square feet. Alternative 4 would require the acquisition of a 20 ft. wide strip from the westerly edge of the property. The 2,860 square feet within the 20 ft. strip would be about 17% of the total tract. Other impacts would include relocation of the wrought iron fence about 20 ft. closer to the church and increased noise levels. Exterior noise levels at the church would increase from the existing 60 dBA to about 72 dBA in the year 2000. Although exterior noise levels would exceed state and federal standards, interior noise levels would comply with standards.

Alternative 4 would have an adverse effect on the Grace Memorial Episcopal Church since a 20 ft. strip of the property would be acquired as highway right of way.

| | |
|---|---|
| Construction Impacts: | Construction is expected to require about 2½ years, during which time temporary street closings, noise level increases and slight increases in air pollution will be experienced. No unusual or severe construction impacts on historical properties are expected. However construction vibrations have been identified as a potential adverse impact. Therefore vibrations will be considered in the foundation analysis. Vibrations will be controlled by contract special provisions and construction techniques if warranted. Overall construction impacts are discussed on pages 147 thru 161. |
| Secondary Impacts: | All build alternatives will provide continued trade area continuity and help insure Wabasha's economic stability. The proposed action will therefore help the community prosper which should include the capacity to maintain historical properties.<br><br>As a result of relocating TH 60 in Wabasha, traffic sensitive businesses could suffer some economic loss. However since the increased travel distance to the center of the Commercial District would be only 4 to 7 blocks and about 75% of the TH 60 traffic is local, no significant impacts are expected. |
| Mitigation: | General mitigation will include considering the historic setting during all stages of design. Features such as guardrail, bridge superstructure, retaining walls, bridge rails, light standards, etc. will be designed to harmonize with the historic period of the area as much as possible consistent with safety standards. The type and extent of historical detail is dependent upon the alternative selected and will be described in the Final EIS. |

Mitigation measures being considered for individual alternatives include:

Alternative 1 would not effect any historical structures and warrants no additional mitigation.

Alternatives 3A, 3B & 3C would displace 4 historical buildings. Those buildings could be physically relocated if a suitable relocation area could be secured and appropriate maintenance arrangements made. Due to grade restraints required to provide a convenient touchdown point in Wabasha, raising the grade enough to place the bridge above all the buildings in the Commercial District is not possible. However, depending upon the type of bridge superstructure utilized, preservation of the warehouse at 307 West Main St. beneath the new bridge may be possible.

Other mitigation for the displaced buildings could include providing photographs and dimensioned drawings to the Historic Society. The open areas created by building displacements within the Commercial District could be developed as parks, playgrounds, parking lots, display area for a plaque describing the district, etc.

Alternative 4 impacts offer little opportunity for mitigation other than the general measures mentioned above.

Mitigation measures specified in the Memorandum of Agreement will be described in the Final EIS.

N. Draft Section 4(f) Evaluation

1. Involvement

All build alternatives involve public lands used for recreation related purposes and alternatives 3A, 3B, 3C and 4 would effect historic properties. Use of land from these areas for transportation purposes is governed by Section 4(f) of the 1966 Department of Transportation Act.

Recreation and historic areas are described generally on pages 37 thru 43 and shown on Exhibit No. 40, page 143.

A tabulation of displaced 4(f) lands follows.

Table 24: 4(f) Lands Displaced (acres)

| Parcel | Alt. 1 | Alt. 3A | Alt. 3B | Alt. 3C | Alt. 4 | Alt.6 |
|---|---|---|---|---|---|---|
| A. Federal F & W Refuge | 6.5 | 1.0 | 1.0 | 1.0 | 5.5 | 0 |
| B. Miss. R. Park | 0.1 | 0.1 | 0.1 | 0.1 | 0 | 0 |
| C. City Campgrounds | 0.7 | 0 | 0 | 0 | 0 | 0 |
| D. Ikes Park | 0.9 | 0 | 0 | 0 | 0 | 0 |
| E. Central Athletic Field | 0 | 3.8 | 0 | 3.8 | 0 | 0 |
| F. County Fairgrounds | 0.8 | * | 0 | * | 0 | 0 |
| G. Overflow Nature Area | 1.0 | 0 | 0 | 0 | 0 | 0 |
| H. Commercial District | 0 | 0.6 | 0.6 | 0.6 | 0 | 0 |
| I. First Congregational Parsonage | 0 | 0.3 | 0.3 | 0.3 | 0 | 0 |
| J. Grace Memorial Episcopal Church | 0 | 0 | 0 | 0 | 0.1 | 0 |
| TOTALS | 10.0 | 5.8 | 2.0 | 5.8 | 5.6 | 0 |

* No land will be displaced, but use will change as a result of relocating Central Athletic Field facilities.

A tabular description of the 4(f) lands is contained on the following five pages.

## DESCRIPTION OF 4(f) PARCELS

| ITEM | PARCEL A | PARCEL B | PARCEL C | PARCEL D |
|---|---|---|---|---|
| | Upper Miss. River Fish and Wildlife Refuge | Miss. River Park | City Campgrouds | Ikes Park |
| Size | 195,093 Acres | 1.0 Acre | 2.6 Acres | 4.4 Acres |
| Type | Recreational & Game Refuge | Recreational | Recreational | Recreational |
| Available Activities | Hunting, fishing, boating, trapping | Fishing, picnicking, hiking | Camping, boat launching, fishing | Picnicking, boat launching, fishing |
| Existing Facilities | Boat launch areas, two privy type toilets, parking areas, trash barrels | Picnic tables, trash barrels | Boat launch area, picnic tables trash barrels water | Picnic pavilion, boat launch area, barbeque pit, picnic tables, trash barrels, well, playground equipment, outdoor privies |
| Planned Facilities | None | Same as Existing | Same as Existing | Same as Existing |
| Usage | Moderate | Light | Light | Moderate |
| Relation-ship to Other Similar Lands | This refuge extends for 284 miles to the south. | Several similar use areas exist in Wabasha. | Several similar use areas exist in Wabasha. Others are planned. | There are several picnic type parks in Wabasha but this is one of the best equipped. |
| Access | Wisconsin State High-way 25, Mississippi River & Chippewa River (boat or pedestrian access only, no vehicular access) | Lawrence Blvd. (vehicular & pedestrian) | 3rd Street (vehicular & pedestrian) | Grant Boulevard (vehicular & pedestrian) |
| Ownership | United States | City of Wabasha or C.M. St. P. & P. RR | City of Wabasha, RR and Private | City of Wabasha |

| | | | | |
|---|---|---|---|---|
| Deed Restrictions | None | None | None | Yes - public ownership contingent on use |
| Significance | Regional | Local | Local | Local |
| Unusual Characteristics | 3740 Acres designated Wisc. Scientific & Natural Area, subject to flooding | Subject to periodic flooding | Subject to periodic flooding | Subject to periodic flooding |
| Existing Use Compatible with Local Goals & Plans | Yes | Yes | Yes | Yes |
| 6(f) | No | No | No | No |

| ITEM | PARCEL E | PARCEL F | PARCEL G | PARCEL H |
|---|---|---|---|---|
| | Central Athletic Field | County Fairgrounds | Overflow Nature Area | Historic Commercial District |
| Size | 10.7 Acres | 6.0 Acres | 9.2 Acres | 10.7 Acres |
| Type | Recreational | Recreational | Natural Area | Historical |
| Available Activities | Baseball, football, hockey, tennis, track, skating | Annual county fair activities, unimproved open space, parking, fishing | Fishing, picnicking | Commerce, Residential |
| Existing Facilities | Baseball diamond, hockey rink, 2 tennis courts, toilets, illumination, equipment building, bleachers, football field | Bituminous surfaced walkways | Benches, trash barrels | Residences, businesses, manufacturing, city offices |
| Planned Facilities | Same as Existing | Picnic, game courts & open areas | Similar as Existing (fill & landscape) | Same as Existing |
| Usage | Heavy | Annual county fair, Light | Light | Moderate |
| Relationship to Other Similar Lands | This is the major athletic field in the City. Other smaller fields exist at the several schools. | Only fairgrounds in Wabasha County, open space similar to Parcel G | Several similar use areas in Wabasha. | Includes most of downtown Wabasha. |
| Access | Grant Boulevard, Bridge Avenue, Alleghany Avenue (vehicular & pedestrian) | Bridge Avenue (vehicular & pedestrian) | Church Avenue & Grant Boulevard (vehicular and pedestrian) | Pembroke, Alleghany, Walnut & Bridge Avenue Second & Main St. (vehicular and pedestrian) |
| Ownership | City of Wabasha | City of Wabasha | City of Wabasha | Private except for City Hall & Post Office |

| | | | | |
|---|---|---|---|---|
| Deed Restrictions | None | Yes-public ownership contingent on use | None | Unknown |
| Significance | Local | County Wide | Local | Local |
| Unusual Character-istics | Subject to periodic flooding. Is main athletic field in the City. | Subject to periodic flooding. Used once annually. | Subject to periodic flood-ing. | Business District late 19th century architecture |
| Existing Use Compati-ble with Local Goals & Plans | Yes | Temporarily | Yes | Yes |
| 6(f) | No | No | No (proposed) | No |

| ITEM | PARCEL I | PARCEL J |
|---|---|---|
| | First Congregational Parsonage | Grace Memorial Episcopal Church |
| Size | 0.26 Acre Tract | 0.39 Acre Tract |
| Type | Historical | Historical |
| Available Activities | Chiropractic Treatment | Religious |
| Existing Facilities | Chiropractic Clinic | Church |
| Planned Facilities | Minor interior remodeling and outside restoration | Same As Existing |
| Usage | Moderate | Moderate |
| Relationship to Other Similar Lands | One block south of Historic Commercial District | One and one half blocks from Historic Commercial District |
| Access | Walnut Avenue & Second Street | Bailey Avenue & Third Street |
| Ownership | Private | Private |
| Deed Restrictions | Unknown | Unknown |
| Significance | Local | Local |
| Unusual Characteristics | Italianate Architecture 1872 | English Gothic Architecture 1900 |
| Existing Use Compatible with Local Goals & Plans | Yes | Yes |
| 6(f) | No | No |

2. Impacts

Of the possible 4(f) lands, only Parcel A is affected by all alternatives and therefore the only certain 4(f) parcel. It is discussed below with a discussion of other possible 4(f) parcels following.

Parcel A

Background

This parcel is the Upper Mississippi River Wildlife and Fish Refuge, a 195,093 acre national refuge which borders the Mississippi River and extends from Rock Island, Illinois to the Chippewa River just north of Wabasha, Minnesota. The linear refuge is 280 miles in length and consists almost entirely of flood plain and contains vast marshes, woodlands, and open water.

Exhibit No. 32 : Upper Mississippi River Wildlife and Fish Refuge

Established by Act of Congress on June 7, 1924 to preserve wildlife, fish, and terrestial and aquatic habitat, its principal role is to provide migration habitat for waterfowl

in the Mississippi and Atlantic flyways. Land was originally acquired by the U. S. Bureau of Biological Survey, the forerunner of the U. S. Bureau of Sport Fisheries. With the establishment of the 9 foot Navigation Channel project in 1930, the U. S. Corps of Engineers began purchasing lands for flowage rights. Subsequently, the Bureau of Sport Fisheries and Wildlife gave the Corps of Engineers flowage rights on previously acquired refuge land in return for wildlife management rights on Corps owned land. This method increased the refuge to the current size of 195,093 acres.

Scientific Area

The 3,740 acre portion of the refuge on the west side of Wisconsin Highway 25, is also designated by the State of Wisconsin as the "Nelson-Trevino Bottoms Scientific Area," see Exhibit No. 12 page 34.

This designation was given to this and other areas in Wisconsin to aid in preserving tracts of land or water in an undisturbed or almost undisturbed condition. The lands so designated are generally publicly owned and are selected by the Wisconsin Scientific Areas Preservation Council on the basis of the quality, uniqueness, diversity and potential value for research and formalized class use. This Council does not acquire or hold land but acts instead as an advisory agency in the selection, acquisition and use of scientific areas.

Wilderness Area Consideration

The portion of the refuge west of WSH 25 is also being considered by the Department of the Interior for possible inclusion in the National Wilderness Preservation System. A study was completed in 1974 by the U. S. Fish and Wildlife Service and recommended that this and all other areas of the Upper Mississippi River Fish and Wildlife Refuge not be designated a wilderness area. However, consideration is still being given to inclusion of this area in the National Wilderness Preservation System.

Impacts

The project will displace from 1 to 6.5 acres of refuge depending on the alternate used and consisting of approximately 5 acres of woodlands and 1 acre of water. This displacement will be located immediately adjacent to the Mississippi River and on either side of Wisconsin State Highway 25, see Exhibit No. 40 page 143.

No facilities will be affected with the possible exception of one boat launch area. There will be no increase or decrease in physical effects on users of the refuge. No change in vehicular or pedestrian access will result. Since all alternatives are located near the existing facility, no new or significantly increased impacts will be introduced to the refuge. The proposed action will simply shift the location of the existing impacts, such as noise, auto emissions, runoff and aesthetics, a distance of 100 to 1000 feet.

In order to maintain a river crossing in the Wabasha area for the approximate two year construction period of a new bridge, the existing structure must remain intact while a new bridge is constructed. Use of a new location for a replacement bridge therefore is a necessity and because of the proximity of the refuge to the existing roadway on both sides, any relocation will require displacement of some portion of the refuge. This displacement can be avoided only if the bridge is not replaced.

Parcel B

Exhibit No. 33: Mississippi River Park

Alternatives 1, 3A, 3B and 3C would be elevated through the Mississippi River Park. A vertical clearance of about 40 feet would be provided. Continued use of this undeveloped linear park beneath the bridge would be possible. Effects would include the existence of one or two bridge piers, changes in noise levels, and a different view of the bridge. Since the existing approach parallels this park for a distance of about 500 feet and then crosses at an elevation about 40 feet above the ground, the proposed action will not introduce any new or increased effects, but actually reduce the parks exposure to highway traffic impacts.

Parcel C

Exhibit No. 34: City Campgrounds

The elevated approach of Alternative 1 would span the City Campgrounds with sufficient vertical clearance (20 to 30 feet) to allow the continuation of existing vehicular movements through the park. Although 2 or 3 camping spaces would be displaced, the area beneath the bridge could continue to be utilized as park land.

Impacts would include the following:

- loss of 2 or 3 camping spaces
- existence of 3 or 4 bridge piers
- noise level increases of 10 to 15 dBA
- visual appearance of bridge
- interruption of upward lines of sight
- corridor spanning 0.7 acres

Although the campgrounds would become less desirable, the effects are not expected to be of sufficient magnitude to cause a change in use. Since campgrounds with hookups are dependent upon highway facilities for user access, campgrounds of this type are often located adjacent to highways.

Parcel D

Exhibit No. 35: Ikes Park

Alternative 1 would displace about 0.9 acre of land from Ikes Park. The bridge abutment would be located near the Old Zumbro Riverbed - Ikes Park shoreline. The displaced area is undeveloped and receives little use, except during the City's 4th of July celebration. The City of Wabasha has no current plans to improve this area of the park.

Developed park facilities nearest the proposed roadway include a surfaced parking area (100 feet to the west), playground equipment (175 feet to the west), and a picnic shelter (250 feet to the west). Pedestrian access to the portion of the park which would be located east of the alternative 1 roadway may be possible underneath the bridge. A vertical clearance of about 10 feet would be provided near the Old Zumbro Riverbed shore. Small watercraft vertical clearance would be provided over the Old Zumbro Riverbed.

Impacts would include the following:

- displacement of 0.9 acre
- existence of bridge approach and abutment
- noise level increases of about 10 dBA
- visual appearance of the bridge
- interruption of lines of sight

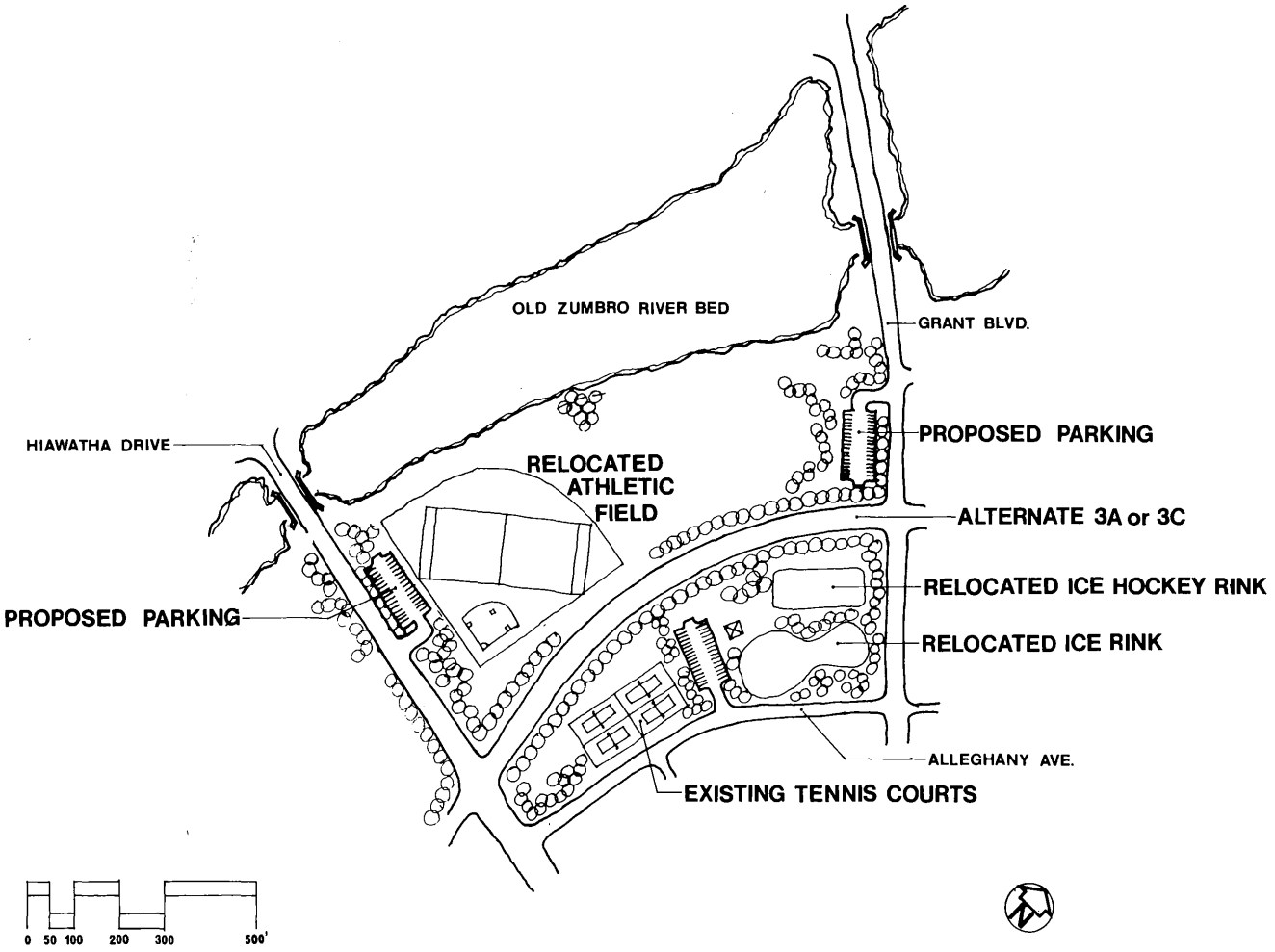
Since Alternative 1 would displace an undeveloped area and be 175 feet from the nearest developed use area, no significant changes in use are anticipated.

Exhibit No. 36: Central Athletic Field

The Central Athletic Field would be affected equally by Alternatives 3A and 3C which have identical alignment through this park. The roadway corridor would pass through the existing combination baseball and football field and adjacent to the hockey and ice skating rinks as shown on Exhibit No.40 . The roadway elevation would be about 5 feet above natural ground through the park. The roadway would be constructed on fill with an inslope ratio of 4:1.

Impacts would include the following:

- displacement of 3.8 acres of land
- displacement of combination baseball and football field
- possible displacement of hockey and ice skating rinks
- noise level increases of about 10 dBA
- visual division of athletic field
- visual appearance of the roadway




**REARRANGEMENT of ATHLETIC AREA for ALTERNATE 3A or 3C**

Exhibit No. 37

Even though 3.8 acres would be displaced, all developed facilities could be relocated in the immediate area by utilizing the County Fairgrounds area. A possible relocation plan is shown in Exhibit No. 37. Such a relocation would significantly reduce the most serious impacts. Also as discussed in the noise section of the attached DEIS, the Central Athletic Field is an area where noise walls could be utilized. Noise walls could serve as a park fence and also reduce noise levels by about 5 to 10 dBA.

Parcel F

Exhibit No. 38: County Fairgrounds
(Center of Photo: Between Channel & Ballfield)

Alternative 1 would require the use of about 0.8 acres of the County Fairgrounds for construction of the 7th Street to Hiawatha Drive connection.

The Alternative 3A and 3C corridor would be adjacent to the County Fairgrounds and would displace little if any of that area. However, if the ballfields displaced from the Central Athletic Field were relocated in the fairgrounds area, a change of use would result.

The county fairboard is currently seeking a new fairground location, since additional area is desired. The relocation plan shown in Exhibit No. 37 is compatible with long range city plans, if the fairgrounds are relocated.

The fairgrounds would be subject to noise and visual impacts similar to those of the adjacent Central Athletic Field.

Parcel G

Exhibit No. 39: Overflow Nature Area

The Alternative 1 roadway would displace about 1 acre from the western edge of the Overflow Nature Area. This entire park is undeveloped and is currently only used for fishing and occasional picnicking.

Impacts would include the following:

- displacement of 1.0 acre
- noise level increases of 10 to 15 dBA
- visual appearance of the roadway

The proposed action would be compatible with City plans for a primitive nature type park in this area.

Parcel H

The Historic Commercial District would be affected equally by alternatives 3A, B and C. The group 3 alternative historic impacts are described on pages 114 thru 122 and include the following:

- displacement of 0.6 acres of land
- displacement of 2-3 buildings
- noise level increases up to 10 dBA.

Parcel I

Alternatives 3A, B & C would displace the historic First Congregation Parsonage. Impacts are discussed on pages 120 thru 122.

Parcel J

Alternative 4 would displace about 17% of the historic Grace Memorial Episcopal Church tract. Impacts are discussed on pages 121 and 122.

Construction Impacts (All Parcels)

Construction activities will temporarily increase air, water, and noise pollution Control of construction operations by laws, regulations, specifications and special provisions will prevent 4(f) users and the environment from becoming significantly impacted. Although some activities may be annoying to 4(f) land users, no park or recreational area closings are anticipated.

3. Mitigation

Parcel A

Various steps will be taken to minimize harm to the refuge. Selection of a specific alignment will be made with the intent of reducing the total displacement of refuge land while still providing a safe, modern highway design. Cutting of trees and clearing of the highway right of way will be kept to a minimum also commensurate with current standards of highway safety. Disruption of existing flowage patterns, which has the greatest potential for damage to the refuge, will be given careful study during the design stage and placement of culverts, construction of ditches or other steps taken as required to insure continuation of these patterns. Inslope ratios of 4:1 rather than 6:1 will be utilized to minimize refuge encroachment.

Excavation of unsuitable sub-soils beneath the embankment through the refuge is expected to involve a relatively small volume of material because of the granular nature of the soils. What material is excavated will be utilized on the embankment slopes as dressing rather than placed in waste piles adjacent to the embankment.

Damage to the water quality in the refuge resulting from sedimentation caused by eroding or sloughing of the embankment slopes either during construction or by floodwaters after construction will be minimized by slope protection measures. Heavy stone riprapping will be placed from ground level up to an elevation at least 3 feet above recorded high water. The slopes will be vegetated above that point.

Parcels B, C, D, E, F & G

Detailed mitigation features will be described in the Final Section 4(f) Statement after an alternative has been selected. General mitigation features which will be included where appropriate and desired by the agency with jurisdiction include:

- replacement of displaced facilities
- replacement or monetary compensation for land areas displaced
- landscaping
- pedestrian facilities
- noise barriers

Parcels H, I & J — Mitigation measures for historic sites are described on pages 122 and 123.

Construction mitigation (all parcels) will include:

- not closing any parks
- signing all work areas
- strict enforcement of all applicable laws, regulations, and specifications
- construction of replacement facilities before removing existing facilities, so no loss of use will occur
- temporary and permanent erosion control

4. Conclusion

Section 4(f) of the 1966 DOT Act prohibits the use of 4(f) land for transportation purposes unless:

1) there is no feasible and prudent alternative and

2) the program includes all possible planning to minimize harm.

Alternative 6, No Build, is the only feasible alternative to the use of 4(f) land for this project. However, because of the 30 mile distance to adjacent bridges in either direction from Wabasha, and the function of the area on both sides of the Mississippi River as a single socio-economic unit (40 percent of Wabasha's retail sales and 45% of Wabasha's hospital and community clinic admissions come from Wisconsin) not replacing the bridge would cause critical and permanent economic and social effects to Wabasha and neighboring areas in Wisconsin. Loss of trade and a portion of the labor force would cause a crippling and irreplaceable loss to Wabasha's economy. Loss of jobs, their market, and medical facilities would cause a reduction in quality of life in abutting Wisconsin areas if replacement services could not be provided. Therefore, the no build alternative is not prudent.

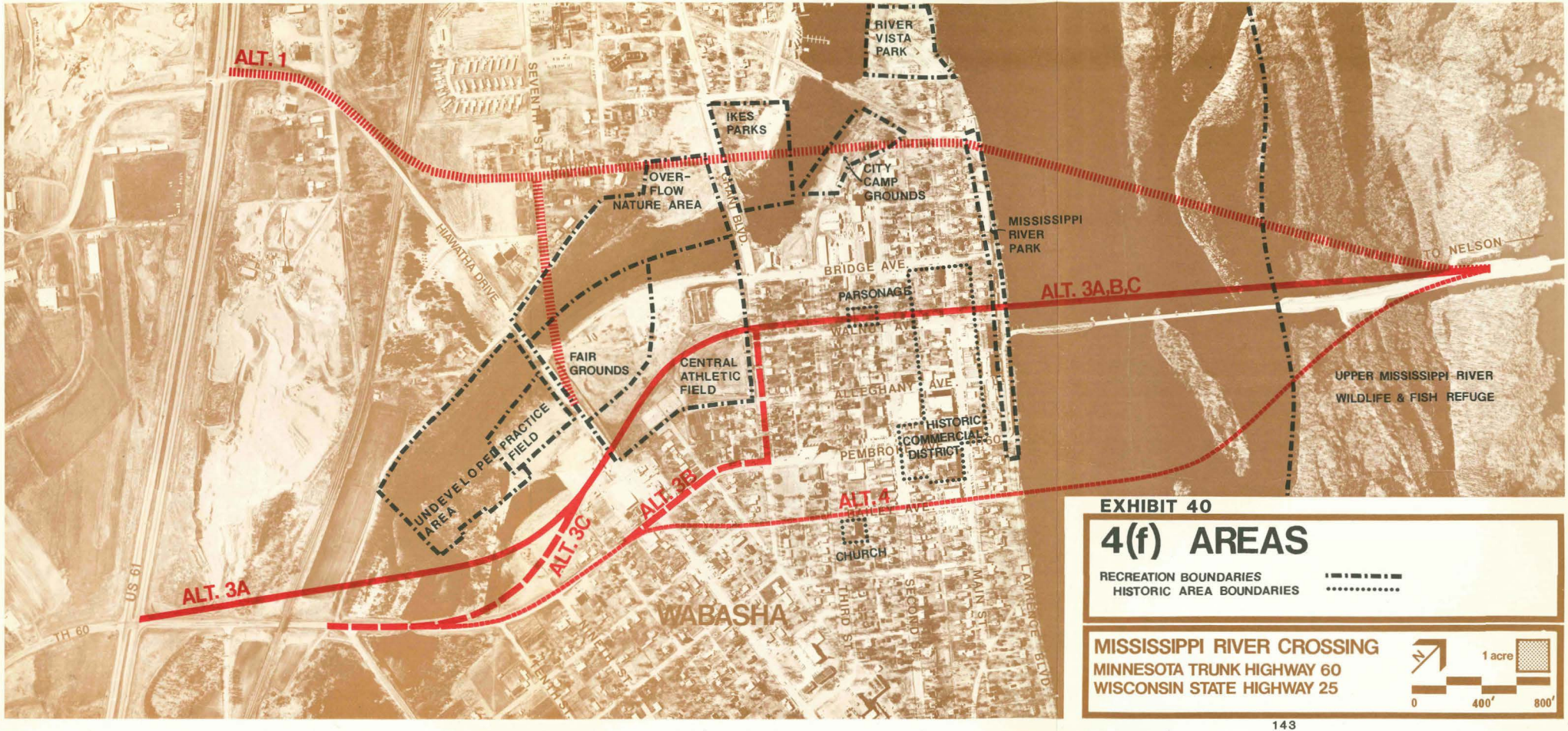



EXHIBIT 40

# 4(f) AREAS

RECREATION BOUNDARIES

HISTORIC AREA BOUNDARIES

## MISSISSIPPI RIVER CROSSING

MINNESOTA TRUNK HIGHWAY 60

WISCONSIN STATE HIGHWAY 25

1 acre

0 400′ 800′

5. Coordination

In the process of planning the proposed action, contacts with the agencies having jurisdiction over the 4(f) lands have been made. These contacts revealed general support for the project, but no consensus favoring an individual alternative.

This document will be submitted to the DOI, HUD and DOA for review. Coordination with appropriate governing agencies will continue through the project development and implementation phases. Early coordination is described in Section XI of this E.I.S.

O. Scenic & Aesthetic

1. Direct Beneficial:

View from the Bridge

The View of Wabasha will be improved by the proposed action. The existing view towards Minnesota is restricted by the large storage silos near the Minnesota approach; see Exhibits No. 5, 41 and 42 on pages 10 and 145. Although the alignments under consideration will not be above the storage silos, the horizontal relationship will allow viewing a much wider angle of the Wabasha area than is possible from the existing facility.

The View of Wisconsin from the proposed bridge will be nearly identical to the existing vista since all alternatives touch down on the existing Wisconsin approach. The proposed facility will however, make the act of observation easier by providing a wider roadway and improved vertical alignment.

View of the Bridge

A more harmonious facility will result from the proposed action. Whereas the existing facility includes three different types of bridge superstructures and two different styles of piers and columns, the proposed facility will be as consistent as possible. The Minnesota and Wisconsin approach bridge types and styles will be identical. The main channel superstructure may be of a different type than the adjacent approaches, but scenic considerations will be given to features such as depth to length ratio, superstructure type, piers, columns, railings, light standards and retaining walls to insure aesthetic agreement between all segments of the facility.

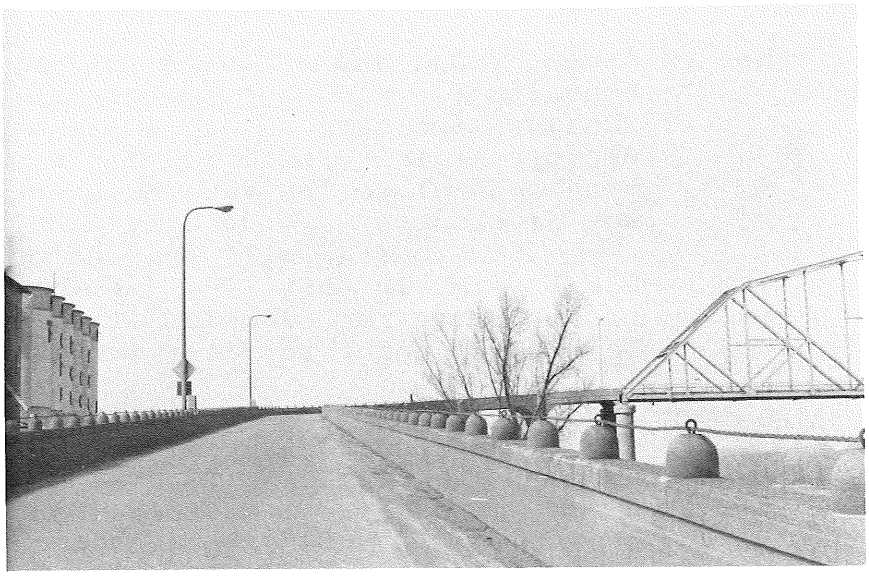


EXHIBIT No. 41 : VIEW FROM EXISTING MINNESOTA APPROACH - storage silos on the left and main channel bridge on the right.

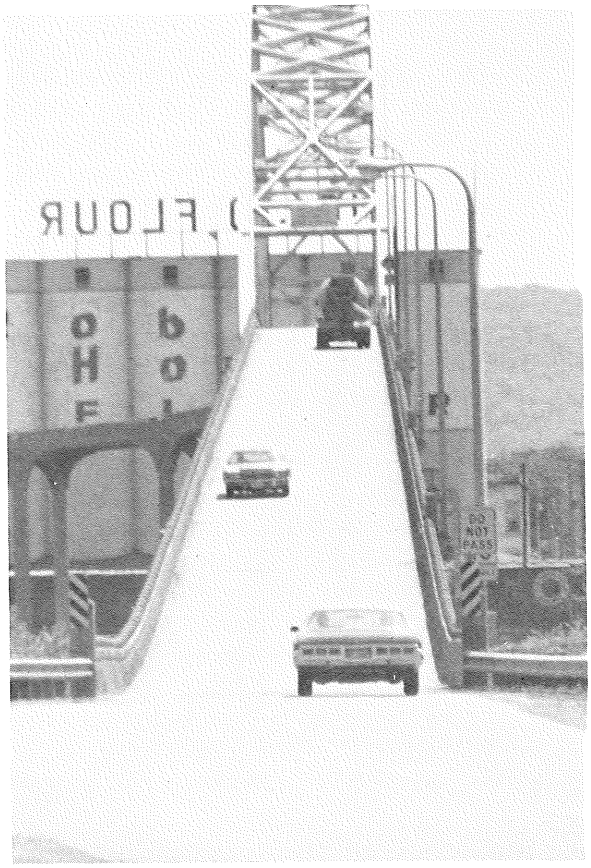



Exhibit No. 42: EXISTING VIEW OF WABASHA AREA - from Wisconsin.

2. Direct Adverse:

View of the Bridge

A new bridge and approach roadway will constitute a dominant feature of the Wabasha landscape on any route selected. Because of the proximity of the navigation channel to the Wabasha shore and the development of the city along the shore, the bridge will be a natural focal point in the city. As the only river bridge for 60 miles it will also be a focal point to river travelers.

The view of the bridge will be dominated by a superstructure spanning the navigation channel with its deck approximately 70 feet above the water elevation. The type of structure and materials used on the bridge will be determined during actual bridge design. It will be an imposing sight, however, and consideration will be given during the bridge design to provide a structure which is aesthetically pleasing and one that compliments the adjacent landscape.

The greatest aesthetic effect will be where an elevated approach passes through a developed area. This effect would be greatest on Alternates 3A, B & C, and 4 where the approach spans will be elevated up to 50 feet above street level. For those developed properties adjacent to the approach and which are not displaced by the approach, the view in the direction of the approach will be interrupted by the approach structure, and piers. Near the shoreline the approach spans will be above the tops of buildings and interrupt lines of sight upwards. Further from the river the roadway will be at or below building level and interrupt more level sight lines. Approximately 30 to 40 developed properties would have immediate sight lines affected on Alternates 3A, B & C or 4 and approximately 20 properties would be affected on Alternative 1. Many other properties would have occasional or distant sight lines affected as the elevated approach would be visible from many areas of the city.

Aesthetics along the remainder of the project should be largely unaffected. With the exception of an elevated embankment approach to a railroad overpass required on Alternatives 1 and 3A, grade lines are relatively close to natural ground elevation. All exposed or newly constructed slopes will be vegetated and landscape plantings will be used wherever possible to prevent erosion and to blend the roadway into the adjacent surroundings. Removal of trees will be kept to a minimum. The railroad overpass approaches would affect immediate sight lines for 10 to 20 properties.

3. Secondary: Secondary scenic and aesthetic impacts may be considered speculative at best. However, the new harmonious facility should promote a feeling of strength and commitment to the area.

4. Mitigation: Consideration of aesthetic aspects throughout the project development process will help to insure scenic compatability. Also special attention will be given to details during final design so that an aesthetically pleasing facility will be provided.

P. Construction (2½years)

1. Transportation

a. Impacts: All viable alternatives provide alignment which will allow use of the existing facility during construction. Therefore no detours or bypasses will be required. Although Alternatives 3B, 3C and 4 utilize short segments of existing T.H. 60, those segments could be constructed under traffic.

Local transportation system impacts will include temporary closings of streets under the elevated approach in Wabasha. A maximum of three streets could be so affected causing localized circuitous travel. A temporary increase in heavy equipment traffic will also result.

b. Mitigation: Appropriate signing of work areas will be provided. Local traffic patterns will be interrupted only when necessary. Appropriate emergency and service units will be notified as temporary closures and work areas change during construction.

2. Social

a. Impacts: Social impacts will include slight additional disruption of neighborhoods, pedestrian movements, and social desire paths as a result of temporary street closings in Wabasha. Also a slight increase in demand for social services such as food, shelter, medical, etc. will result from the temporary increase in labor force associated with construction of this project.

b. Mitigation: Appropriate signing of work areas will be provided. Existing social movement patterns will be perpetuated as much as construction operations allow.

3. Economic

a. Impacts: Three general types of economic impacts can be expected.

1. Direct expenditures on labor and materials for construction. The significance of the impact is dependant upon the expenditures made within the Wabasha trade area. Considering the cost and type of project and resources of the Wabasha trade area, the majority of direct expenditures will probably be made outside of the trade area. However, Wabasha does have a ready-mix company and a few small construction companies exist within the trade area. Therefore moderate increases in construction related revenues can be expected.

2. Additional expenditures induced by direct expenditures. Money spent for construction, labor and materials in the trade area will circulate through the regional economy stimulating more sales and income. The magnitude of this impact is speculative, but some positive effect on the area is anticipated.

3. Losses to businesses near the construction zone as a result of decreased accessibility are expected to be insignificant. Access will be provided to businesses at all times.

Localized changes in access routes of a few blocks will have a minimal effect on businesses.

b. Mitigation: None

4. Energy

a. Impacts: Estimates of total energy consumption required for transportation construction range from about 59,000 to 339,000 gallons of petroleum/million dollars of construction cost. Using the median of that range (200,000 gallons/million dollars) results in an energy consumption of 2.1 to 3.1 million gallons of petroleum for construction of the proposed action.

However, if the proposed action is not implemented the bridge would be closed around the year 1992. The closing would necessitate using up or downstream river crossings located 30 miles from Wabasha. Assuming that only one half of the predicted traffic volumes would travel between Nelson and Wabasha (increased trip distance of 60 miles and fuel consumption of 25 miles per gallon) an additional 1.7 million gallons of fuel would be required annually after the bridge is closed. Therefore in less than two years operation (compared to bridge closed) the proposed facility will save more energy than is required for construction.

b. Mitigation: None

5. Erosion

a. Impacts: Grading and earth moving operations will greatly increase the potential for erosion. Erosion control measures will, however, reduce that potential significantly and prevent significant erosion.

b. Mitigation: Control over construction operations will be provided by Mn/DOT "Standard Specifications For Highway Construction", contract special provisions, and all applicable air, noise, and water pollution rules and regulations in effect at the time of construction.

Mn/DOT Standard Specification 1803.5 provides in part that:

- The contractor must submit an erosion control plan for approval prior to construction.

- All permanent erosion control features shall be incorporated at the earliest practicable time.

- Temporary erosion control devices will be used to correct conditions developing during construction and/or to serve until permanent facilities are operative.

- Earthwork operations in or adjacent to flowing streams and rivers shall be separated from the stream by a sediment barrier or dike.

Permanent erosion control features will include seeding, sodding, riprap, and drainage facilities.

Temporary erosion control devices such as mulches, slope drains, dikes, sediment barriers and basins and turf establishment will be utilized where appropriate.

6. Borrow Material

a. Impacts: Approximately 100,000 cubic yards of borrow material will be required. No borrow sites have been designated since the feasibility of using material dredged from the Mississippi River is being investigated. The Corps of Engineers dredges about 50,000 cubic yards annually in the Wabasha area. Since disposal of dredged material is a continuous problem

for the Corps of Engineers they support the use of that material for the proposed action. Use of dredged material would require leasing a private on land stockpile site. The Corps would stockpile dredgings on the site over a two or three year period. During construction the material would be truck hauled to the project area. Preliminary contacts indicate that an area southeast of the Wabasha Marina Boat yard could be used for a stockpile site, see Exhibit No. 3. That area has been used for spoil disposal in recent years and contains no ground cover.

b. Mitigation: Temporary erosion control features will be utilized in borrow areas. All borrow areas shall be left in a neat and presentable condition suitable for planned land use.

If borrow sites are designated, an archaeological survey will be performed prior to use of the sites.

7. Air Quality

a. Impacts: The principal sources of air pollution from highway construction are burning during the clearing phase, dust during earth moving phase, and hydrocarbons during the paving phase. Control of these principal sources of pollution as well as other construction operations will prevent significant air pollution.

b. Mitigation: Control of construction operations will be provided by Mn/DOT "Standard Specifications For Highway Construction", contract special provisions, and all applicable air, noise, and water pollution rules and regulations in effect at the time of construction.

Mn/DOT specifications require the following:

- Burning is allowed only if the required burning permits are obtained.
- Application of water as directed by the Engineer (will be used to control dust).

- The contractor shall acquaint himself with local conditions and regulations pertaining to air pollution before commencing operation of a hot-mix plant, aggregate crusher, or similar facility.

- Adherence to local and state laws pertaining to fugitive dust emissions and debris disposal.

8. Noise

a. Impacts: Construction noise has been considered and no long term impacts are anticipated. Receptors near the bridge (mostly residences) may be temporarily exposed to excessive noise levels during pile driving operations. Effects will be short term and mostly limited to daylight hours. No unique noise receptors have been identified.

b. Mitigation: Construction noise will be controlled by Mn/DOT Standard Specifications for Highway Construction of which Section 7, Subsection 1701, states in part that the contractor shall comply with all applicable laws, ordinances, regulations, orders, and decrees in the performance of the construction. This would include any local noise control laws. The City of Wabasha has a noise ordinance which governs unmuffled engine noise.

9. Water Quality*

a. Impacts: Construction activity near or especially within a stream, will increase turbidity by causing sediment (solids) to become suspended in a stream. High concentrations of suspended solids and the resulting sedimentation of downstream areas of the river, have the potential to cause severe adverse impacts to fish, benthic invertebrates (mollusks, crustaceans and insect larva; all important as fish food), aquatic

*Source: Natural Resource Assessment, Mn/DOT O.E.A. 1979

macrophytes (rooted plants) and plankton (microscopic plants and animals). These impacts can include:

1) Clogging of fish gills which can, in sufficiently high concentrations, lead to fish mortality (Ellis 1937; Wallen 1951, as cited in Cordone and Kelly 1961).

2) Suffocation of fish eggs and larva (Hassler 1970; Everhardt and Duchrow 1970; Muncy 1962, as cited in Johnson and McCullogh 1978).

3) Shifts in fish movement and feeding patterns as high concentrations of suspended solids cause avoidance reactions in fish (Bachman 1958, as cited in Johnson and McCullogh 1978, Barton 1977).

4) Mortality of benthic invertebrates by mechanical removal or suffocation (Ellis 1936).

5) Increased drift rates of benthic invertebrates (Bjournn et al 1974, Gammon 1970, Rosenberg and Snow 1975).

6) Changes in substrate composition and resultant shift in species composition of benthic invertebrates and aquatic macrophytes (Johnson and McCullogh 1978).

7) Reduced light penetration and reduction in aquatic macrophyte growth and plankton photosynthesis (Hynes 1960).

Which impacts, the degree to which they will occur and extent of the downstream river area effected, depend on the interaction of a number of factors. These include: existing river turbidity, current velocity and substrate composition as well as species composition and abundance.

Excessive levels of suspended solids should not result from the replacement of the Wabasha Bridge, due to the nature of the river substrate. In 1973, the North Star Research Institute completed an EIS on POOL 4 for the U.S. Army Corps of Engineers. A bottom sample taken near the Wabasha bridge showed the substrate to consist of over 90% medium sand to granular material. This is to be expected as the Chippewa River annually deposits 3,500,000 tons of sand and gravel into the Mississippi 3 miles upstream of Wabasha. Most of the sediment suspended in the river by construction activities will settle rapidly due to the large particle size. Turbidity, caused by construction activity, should be localized.

Mortality of adult fish, during bridge and roadway construction is not anticipated. Suspended sediment concentrations during construction should not reach critical levels to fish. In addition, fish usually avoid water with high concentrations of suspended sediment.

Mortality to fish eggs and larva is possible, since they are more sensitive to suspended sediment and cannot avoid areas of high turbidity. This mortality will be reduced, because most of the backwater spawning and nursery sites will be bridged, thus minimizing inchannel construction. Mortality can be virtually eliminated by scheduling construction so that inchannel work will not occur during the vulnerable spawning period.

Shifts in fish movement and feeding patterns will occur near instream construction. However, this effect will be temporary and localized.

Mortality of benthic invertebrates by mechanical removal and suffocation is unavoidable. This adverse impact will be limited to the immediate vicinity of instream construction.

High levels of suspended sediment, near instream construction, will increase the rate of invertebrate drift. Drifting organisms will either find new habitat suitable for them, be eaten by predators or lost (Hynes 1970). To what extent this will occur cannot be determined but it is not expected to have a significant impact upon the overall invertebrate population of the river.

Sediment, suspended by instream construction will consist largely of sand and gravel. Deposition of this material will not change the substrate composition significantly and a shift in aquatic species composition is unlikely.

Macrophytes (rooted aquatic vegetation) are not found in the main river channel, but are limited to backwaters which receive no direct river flow. Alternate 1 crosses an area of dense aquatic vegetation on the Wisconsin side, while Alternates 3 and 4 cross an area of dense macrophyte growth in the former Zumbro River channel, in Wabasha (See Exhibit No. 24). Any potential detrimental effects of suspended sediment on this type of vegetation would be confined to these areas. Since these areas lack flowing water, adverse impacts to macrophytes should be limited to only the immediate vicinity of inchannel construction.

Localized regions of turbidity will reduce the photosynthesis of phytoplankton drifting into them. However, this will not occur on a widespread basis and will be short term in nature. No significant impact to the food chain of the river is anticipated.

The preceding adverse impacts are short term and will occur only in localized areas. Research has shown that biological recovery of disturbed stream and river channels is rapid once construction and accompanying elevated suspended sediment levels cease (Barton 1977; Gammon and White 1970; Hamilton 1961, as cited in Johnson and McCulloch 1978). In most instances new organisms will colonize the portions of the channel which have been disturbed. Therefore, construction of any of the build alternatives should not cause significant degradation of the Mississippi River provided that the best practical measures to minimize erosion, turbidity and water pollution are utilized.

b. Mitigation:

1. Specification 1803.5 for the control of erosion and sedimentation shall be strictly enforced by the Construction Engineer. The entire project area will be designated a critical erosion area and treated accordingly. See erosion mitigation discussion on page 141.

2. Specification 1717 regarding Air and Water Pollution shall be strictly enforced by the Construction Engineer.

   Specification 1717 provides in part that:

   - The contractor shall take all necessary precautions and actions to prevent pollution of flowing and impounded waters.

   - Water containing sediment from aggregate wash operations shall not be allowed to enter public waters until its sediment content has been reduced to that of the water it will enter.

   - Wash or waste water from concrete mixing operations will not be allowed to enter live streams.

- Frequent fording of live streams with hauling equipment will not be permitted.

3. The following measures are also being considered. Mitigation measures proposed for the selected alternative will be described in the Final EIS.

   - Materials dredged from the riverbed for pier construction not be discharged to the river. Spoils be used as fill material or deposited at an approved disposal site.

   - During pier construction, dewatering effluent not be discharged directly into the river. The effluent be pumped to settling basins or filtered, to allow sediment to be removed prior to discharge to the river.

   - To the extent possible, piers be located upon land rather than in backwater channels.

   - Instream construction within backwater spawning and nursery areas not occur during fish spawning periods, from March 1 to June 15.

10. Fisheries

a. Impacts: Construction will disturb fish spawning and nursery areas. Although specific spawning area locations have not been determined, Mississippi River backwaters are generally nursery areas and contain scattered spawning areas. Construction of bridge piers will disturb a corridor about 200 feet wide and 1200 to 2000 feet long through backwaters in Wisconsin. These backwaters are shallow, 3 to 5 feet deep, and contain several small islands.

The type of method utilized for pier construction will affect the magnitude of impacts. The most desirable method would be entirely from barges. However, shallow water and islands would probably require dredging for total barge type construction. The most

common method used where barging is not feasible is a temporary construction road. The construction road is created by placing fill into the backwaters.

This method temporarily displaces fish habitat and if not carefully controlled can increase water pollution.

b. Mitigation: Construction from barges will be encouraged where possible. If a temporary construction road is required, special provisions as outlined below will be used to minimize impacts.

- Filter fabric will be placed underneath and on the sides of the construction road.
- Clean granular material will be used for fill.
- Culverts will be utilized to maintain water circulation and fish migration patterns.
- Temporary erosion control measures will be utilized.
- The construction road will be completely removed as soon as practical.

11. Wetlands

a. Impacts: During construction there will be some impact to wetlands from sedimentation and disruption of flow in backwater channels. These will be short-term, temporary impacts. They should cease soon after construction is complete. (i.e., after soils are stabilized with vegetative cover and the flows in backwater channels are re-established through culverts or rechannelizing the backwater channels around fill embankments). These impacts should be minor. The flood plain ecosystem is naturally capable of withstanding high sedimentation and fluctuation in water flows which frequently occur during normal flooding.

b. Mitigation: Construction activities will be prohibited in nearby wetlands. The contractor will be required to restrict the operation of equipment to an absolute minimum in wetlands located outside the construction limits. Erosion and pollution controls are described in Sections VII P. 5.b and 9.b pages 150 and 156 respectively.

12. Wildlife

a. Impacts: Construction activities may temporarily disturb wildlife located near the project. Since the project will only displace a maximum of 13 acres of wildlife habitat from a 195,000 acre habitat area, the wildlife impacts will not be significant. However, two species of wildlife deserve special consideration.

The Northern Bald Eagles which winter in the vicinity of the Wabasha bridge could be adversely affected by the construction activities associated with this project. The increased activity and noise of construction may cause the eagles to abandon the area, at least temporarily. Once the project is built it is assumed the eagles would still find the area to be suitable habitat since the present highway and bridge do not seem to bother them.

No impacts to the endangered species of clam, Lampsilis Higginsii, are expected since a 1979 survey indicates that species is not present in the project area.

b. Mitigation: The construction contractor will be encouraged to stage construction activities to minimize eagle disturbances during the critical feeding period of November through March.

13. Historic and Cultural Sites:

a. Impacts: Increases in noise and air pollution as discussed on pages 151 and 152.

b. Mitigation: If objects of archaeological or paleontological nature are discovered during construction operations, appropriate State Historical Society officials will be contacted under established procedures to preserve the discovered objects or record desired data.

14. 4(f) Lands

a. Impacts: Construction operations will increase noise levels and dust. Increased noise levels will probably be the most significant impact and annoyance to 4(f) land users. However, construction activities usually cease on weekends, which is the time of greatest park and recreation use.

No parks or 4(f) areas will be closed as a result of construction operations. Some temporary changes in access may, however be required.

Although several 4(f) parcels could be affected, the only developed facilities which could be displaced are the Central Athletic Field ballfields, a boat ramp in the Upper Mississippi River Fish and Wildlife Refuge, and four buildings on historic properties.

b. Mitigation: Construction impacts will be minimized by:

- Signing all work areas.
- Strict enforcement of all applicable laws, regulations and specifications.
- Construction of replacement athletic and recreational facilities before removing existing facilities so no loss of use will occur.

15. Scenic and Aesthetic

a. Impacts: Construction will temporarily disturb the existing scenic qualities of the area and thereby create an undesirable appearance. The impact will be short term, however, and is unavoidable.

b. Mitigation: The contractor will be required to complete the work in an orderly and timely manner.

TABLE 25: Impact*

| | Alt. 1 | Alt. 3A | Alt. 3B |
|---|---|---|---|
| Trans-portation | Perpetuate system linkage & improve safety & efficiency | Perpetuate system linkage & improve safety and efficiency | Perpetuate system linkage & improve safety & efficiency |
| Social | Provide social area continuity | Provide social area continuity | Provide social area continuity |
| Reloca-tion | 6 homes, 0 Comm. Buildings | 8 homes, 2 Comm. Buildings | 8 homes, 2 Comm. Buildings |
| Economic | Provide trade area continuity & generate 15% traffic | Provide trade area continuity & generate 15% traffic | Provide trade area continuity & generate 15% traffic |
| Noise | 0 receptors exceed federal standards | 1 receptor exceedsfederal standards | 25 receptors exceed federal standards |
| Fisheries | Destroy 0.5 acre of fish habitat | Destroy 0.5 acre of fish habitat | Destroy 0.5 acre of fish habitat |
| Wetlands | Destroy 3.3 Ac. Bridge 5.5 acres | Destroy 12.5 Ac. Bridge 1.3 acres | Destroy 3.1 acres Bridge 1.3 acres |
| Historic Sites | None | Displace 4 Buildings | Displace 4 Buildings |
| 4(f) Lands | Displaced acres 6.5 refuge 3.5 park | Displaced acres 1.0 refuge 3.9 park 0.9 historic | Displaced acres 1.0 refuge 0.1 park 0.9 historic |
| Aesthetics | Improve view from bridge & provide harmonious type | Improve view from bridge & provide harmonious type | Improve view from bridge & provide harmonious type |
| Construc-tion | Temporary in-creases in noise, air, & water pollution, increased revenues | Temporary in-creases in noise, air, & water pollution, increased revenues | Temporary in-creases in noise, air & water pollution, increased revenues |
| Cost | $15.8 Million | $13.9 Million | $11.3 Million |

*Impacts not included in matrix are relatively equal for all alternatives.

MATRIX

| Alt. 3C | Alt. 4 | Alt. 6 | |
|---|---|---|---|
| Perpetuate system linkage & improve safety & efficiency & most desirable align. | Perpetuate system linkage & improve safety and efficiency | Close facility in 1992 | Transportation |
| Provide social area continuity | Provide social area continuity | Sever social area | Social |
| 8 homes, 2 Comm. Buildings | 9 homes, 2 Comm. Buildings | None | Relocation |
| Provide trade area continuity & generate 15% traffic | Provide trade area continuity & generate 15% traffic | Sever trade area in 1992 | Economic |
| 1 Receptor exceedsfederal standards | 13 Receptors exceed federal standards | 44 Receptors exceed federal standards | Noise |
| Destroy 0.5 acre of fish habitat | Destroy 0.5 acre of fish habitat | None | Fisheries |
| Destroy 5.1 acres Bridge 1.3 acres | Destroy 3.1 acres Bridge 5.0 acres | None | Wetlands |
| Displace 4 Buildings | Displace 17% of Grace Memorial Episcopal Church tract | None | Historic Sites |
| Displaced acres<br>1.0 refuge<br>3.9 park<br>0.9 historic | Displaced acres<br>5.5 refuge<br>0.1 historic | None | 4(f) Lands |
| Improve view from bridge & provide harmonious type | Improve view from bridge & provide harmonious type | None | Aesthetics |
| Temporary increases in noise, air, & water pollution, increased revenues | Temporary increases in noise, air, & water pollution, increased revenues | None | Construction |
| $12.5 Million | $13.1 Million | $960,000 Maintenance until closing in 1992 | Cost |

## VIII. PROBABLE UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

Adverse environmental effects which cannot be mitigated to an acceptable level include:

- Destruction of about 0.5 acres of fish habitat.
- Alteration of 4 to 14 acres of wetlands.
- Noise level increases to some receptors.

Adverse environmental effects which will be minimized by corrective measures include:

- Displacement of 6 to 9 residences.
- Displacement of 0 to 2 commercial buildings.
- Require 19 to 35 acres of right of way.
- Acquisition of 2 to 10 acres of 4(f) areas.
- Displacement of historic properties. (Alternatives 3A, 3B, 3C and 4).

## IX. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

Short Term

Gains:
- Improvement of transportation system safety and efficiency.

Losses:
- Disturbance of natural and scenic resources.
- Displacement of residences and commercial buildings.
- Reduction of tax base.

Long Term

Gains:
- Improvement of transportation system safety and efficiency.
- Continuity of Wabasha trade area increasing economic and social stability.
- Increased tax base.

Losses:
- Use of 19 to 35 acres of land for transportation facility.
- Loss of wetlands and wildlife habitat.

Long term gains associated with perpetuation of the Wabasha trade area will outweigh all short and long term losses. This action will allow economic and social stability for the area whereas not building would sever the trade area in 1992 and severely reduce productivity. Since this action is for the replacement of an existing facility and most impacts will be extremely localized, the options of future generations will not be significantly affected.

## X. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

| | |
|---|---|
| Land: | Land areas converted from non-highway to highway use will essentially be irreversibly committed. |
| Surface Resources: | Surface resources displaced such as vegetation, wildlife, animal habitat, developed and undeveloped land will generally be irreversibly committed. |
| Labor & Materials: | The manpower, materials, energy and money used in design, construction and maintenance will be irretrievable. |

## XI. COMMENTS AND COORDINATION

The proposed action has been discussed and coordinated with the general public and several groups and agencies. Most coordination was accomplished during the periods of 1972 thru 1974 and 1977 to the present. Recent coordination includes:

April 13, 1978, a public information meeting was held in Wabasha. About 200 people attended and voiced strong general support for the proposed action, but the majority did not favor any individual alternative. Social, economic, and environmental concerns expressed involved localized effects to individual properties along each alternative.

March, 1979, copies of the NATURAL RESOURCE ASSESSMENT REPORT prepared by the Mn/DOT Office of Environmental Affairs weredistributed to appropriate state and federal agencies. Copies of the Pre-DEIS were submitted to the U. S. Corps of Engineers and U. S. Coast Guard for review and comment. Recent agency comments are contained in the appendix.

April 23, 1979, an agency meeting to discuss natural resource impacts was held in Wabasha. State and federal agencies with permit and/or regulatory authority and Wabasha city officials were invited. The following agencies attended: Wisconsin Department of Natural Resources, Minnesota Department of Natural Resources, U. S. Fish and Wildlife Service, U. S. Corps of Engineers, Minnesota Historical Society, representatives of the City of Wabasha, FHWA, Mn/DOT and Wisconsin Department of Transportation. All agencies were asked to submit written comments for inclusion in this DEIS.

The following contacts have been made for input:

Wabasha City Council

Wabasha Park Board

Nelson City Clerk

Southeastern Regional Development Commission

- Mississippi River Regional Planning Commission
- Minnesota Historical Society

Wabasha County Historical Society

- Wisconsin Historical Society

St. Elizabeth's Hospital, Wabasha

Wabasha Community Clinic

Wabasha County Zoning Administrator

Wallace, Holland, Kastler & Schmitz Consulting Engineers

Buffalo County Zoning Administrator

Hodne - Stageberg Associates

- Wisconsin Department of Natural Resources

Minnesota State Planning Agency

- Minnesota Department of Natural Resources

Minnesota Pollution Control Agency

Wisconsin Scientific Preservation Council

- U. S. Coast Guard
- U. S. Corps of Engineers

U. S. Bureau of Sport Fisheries and Wildlife

- U. S. Fish and Wildlife Service

Newspaper Outdoor Writer

Marine Biologist

- Correspondence included in the Appendix.

## XII. LIST OF PREPARERS

| Name/Title | Expertise Applied to EIS | Experience |
|---|---|---|
| Richard Klobuchar<br>Mn/DOT<br>Asst. Dist. Engr. | General Supervision,<br>Wrote 1973 PDEIS | B.S. Civil Engineering<br>25 yrs. Mn/DOT,<br>10 yrs. Asst. Dist. Engr. |
| Frank Schloegel<br>Mn/DOT<br>Dist. Pre.Design Engineer | Project Manager | B.S. Civil Engineering<br>22 yrs. Mn/DOT,<br>11 yrs. Pre. Design |
| Joseph Meade<br>Mn/DOT<br>Asst. Dist.<br>Pre. Des. Engr. | General Author | B.S. Civil Engineering<br>11 yrs. Mn/DOT,<br>4 yrs. Pre. Design |
| Jim Weimerskirch<br>Mn/DOT<br>Dist. Relocation Advisor | Residential and business relocation | 15 yrs. Mn/DOT,<br>12 yrs. Relocation Advisor |
| Allen Bothun<br>Mn/DOT<br>Senior Technician | Noise Analysis | 17 yrs. Mn/DOT,<br>13 yrs. Pre. Design |
| Clement Kachelmyer<br>Mn/DOT<br>Pre. Des. Engr. | Historic coordination and review | B.S. Civil Engineering<br>30 yrs. Mn/DOT<br>21 yrs. Pre.Design |
| Tom Johnson<br>Mn/DOT - Chief,<br>Off. Env. Affairs | Environmental review and supervision | B.S. Urban & Reg. & Env. Studies<br>8 yrs. Planner<br>2 yrs. Mn/DOT |
| Roxanne Sullivan<br>Mn/DOT Geologist | Natural Resource Assessment | B.S. Geology<br>2 yrs. Mn/DOT |
| Scott Carlstrom<br>Mn/DOT Forester | Natural Resource Assessment | B.S. Forest Hydrology<br>4 yrs. Env. Analysis Mn/DOT |
| Richard Staffon<br>Mn/DOT<br>Wildlife Biologist | Natural Resource Assessment | M.S. Wildlife Biology<br>4 Yrs. Env. Analysis Mn/DOT |

| Name/Title | Expertise Applied to EIS | Experience |
|---|---|---|
| Frank Pafko<br>Mn/DOT<br>Aquatic Biologist | Natural Resource Assessment | B.S. Aquatic Biology<br>1 Yr. DNR<br>2½ Yrs. Mn/DOT |
| Lee Markell<br>Mn/DOT<br>Landscape Architect | Graphics, Athletic Field Rearrangement | B. S. Landscape Architecture<br>5½ Yrs. Mn/DOT |
| James Shrouds<br>FHWA - Division<br>Env. Specialist | Review, content and policy guidance | B.S. Civil Engineering<br>5½ yrs. Environmental Specialist |

## Consultant Studies

| Organization | Individual/Title | Study |
|---|---|---|
| National Biocentric Inc. | Roger Blomquist<br>Vice President | MUSSEL SURVEY AT PROPOSED BRIDGE SITES |
| for Minnesota Historical Society | Camille Kudzia<br>Private Consultant | AN HISTORICAL SURVEY OF THE ALTERNATE ROUTES FOR PROPOSED TRUNK HIGHWAY 60 IN WABASHA, MINNESOTA |

# APPENDIX


| Contents | Page |
|---|---|
| Literature cited in Section VII | A-1 |
| Wisconsin Historical Society Correspondence | A-3 |
| Minnesota Historical Society Correspondence | A-6 |
| Determination of National Register Eligibility | A-9 |
| MSHPO Opinion of Effects | A-11 |
| Photos of Commercial District | A-14 |
| Clam Survey Findings | A-15 |
| Comments from Agencies | A-16 |
| Wisconsin DNR | A-16 |
| Minnesota DNR | A-18 |
| U. S. Coast Guard | A-20 |
| U. S. Corps of Engineers | A-22 |
| U. S. Fish and Wildlife Service | A-25 |
| Miss. River Regional Planing Commission | A-27 |
| U. S. Environmental Protection Agency | A-28 |

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THE STATE HISTORICAL
SOCIETY OF WISCONSIN
816 STATE STREET / MADISON, WISCONSIN 53706

January 18, 1978

Mr. Clement P. Kachelmyer
Preliminary Design Engineer
Minnesota Department of Transportation
Transportation Building
St. Paul, Minnesota 55155

SHSW 1035-77
Your reference: 330
Minn. ID 7910-07;7911-05 (TH60)
Wis. ID 7172-1-00

Dear Mr. Kachelmyer:

We have examined the information you submitted concerning the proposed new Mississippi River Crossing from Wabasha, Minnesota to Nelson, Wisconsin.

In the Wisconsin portion of the project, no buildings of historical or architectural significance listed on or eligible for inclusion on the National Register of Historic Places will be affected by any of the alternates indicated on the maps you supplied. A survey to locate archeological resources which may exist in the alternate alignments will be undertaken by Mr. John Penman (608/262-9566) under a cooperative agreement between the Wisconsin Department of Transportation and the State Historical Society of Wisconsin.

A determination of the effect that this project may have on archeological sites eligible for inclusion on the National Register of Historic Places will have to await our review of the results of Mr. Penman's survey. In the meantime, if we can be of any further assistance, please contact Mr. Richard W. Dexter (608/262-2732) in the Historic Preservation Division.

Sincerely,

Richard A. Erney
State Historic Preservation Officer

by Jeffrey M. Dean
State Preservation Planner

RAE:mm

cc: Mr. John Novick
Wisconsin Department of Transportation

Mr. Russell W. Fridley
Minnesota Historical Society

cc LGEitz
RJCrosson - RPKlobuchar
FJSchlagel -
AHHuebner

THE STATE HISTORICAL SOCIETY OF WISCONSIN
1846

HISTORIC PRESERVATION DIVISION

December 14, 1978

Mr. Clement P. Kachelmyer
Design Engineer
Minnesota Department of Transportation
Transportation Building
St. Paul, Minnesota 55155

SHSW 1035-77
RE: 330; S.P. 7910-07 and 7911-05
(T.H. 60) Wisconsin ID 7172-1-00

Dear Mr. Kachelmyer:

We have been informed by Mr. John Penman, highway archeologist for the State Historical Society of Wisconsin, that he has completed an archeological survey of alternate 3 of the proposed Wabasha, Minnesota to Nelson, Wisconsin bridge replacement. No archeological sites were found in this alignment of the project in Wisconsin. Therefore, the proposed project will have no effect on properties listed on, or eligible for inclusion on, the National Register of Historic Places in Wisconsin.

Should one of the other alternates be selected for construction, additional archeological survey work may be necessary.

If I can be of any further assistance, please contact me at (608) 262-2732 in the Historic Preservation Division.

Sincerely,

Richard W. Dexter

Richard W. Dexter
Compliance Coordinator

RWD:cm



THE STATE HISTORICAL SOCIETY OF WISCONSIN
816 STATE STREET · MADISON, WISCONSIN 53706 RICHARD A ERNEY, DIRECTOR

THE STATE HISTORICAL SOCIETY OF WISCONSIN
1846

MUSEUMS DIVISION
Accredited by the American Association of Museums

February 9, 1979

Mr. C. P. Katchelmyer
Preliminary Design Engineer
Minnesota Department of Transportation
Transportation Building
St. Paul, MN 55155

Re: Project 7172-1-00
S.T.H. 25 (Wisconsin)
Buffalo County

Dear Mr. Katchelmyer:

Alternate 3 of the Wabasha (Minnesota) to Nelson (Wisconsin) bridge was surveyed in July, 1978 for archaeological sites and none were found. This alternate parallels the existing highway and due to past construction in the area ground disturbance has been great. Therefore, we do not anticipate that there are any significant archaeological sites within Alternate 3.

Due to poor field conditions the other alternates were not investigated, however. These other routes have a greater potential for archaeological remains since there has been no observable construction activity in the respective areas. In observing other Mississippi River island sites I would suspect that any archaeological sites which could be in the alternate routes would be small. These sites would probably be hunting camps or fishing stations and not extensive villages.

While we have no recorded sites in the corridor area, an archaeological survey would be necessary if any route other than Alternate 3 is chosen. Should we find archaeological remains in such a survey they sites would be tested under Paragraph 4 of our Cooperative Agreement with the Wisconsin Department of Transportation. I would suspect that a Testing Project (Para 4) would be sufficient in evaluating any such sites.

Sincerely,

John T. Penman
Highway Archaeologist

JTP:jf

cc: R. W. Baker
R. W. Dexter

Excerpts from Minnesota Historical Society correspondence dated March 20, 1975.

Preliminary research has now been completed in the vicinity of the proposed approaches for T.H. 60 at Wabasha. This research conducted by Leslie Peterson, Highway Archaeologist, and Tom Lutz of the Minnesota Historical Society's Historic Site Survey and Planning staff has revealed that this area holds considerable potential for the existence of very significant historical and archaeological data. This potential must be explored completely and all possible effects assessed during the planning and corridor selection stages of this project.

## ARCHAEOLOGICAL DATA

A records search and field surveys revealed that only one archaeological site was known to exist within the study area (Fig. 1). This site, designated 74-6-1 (21 WB 31) originally consisted of five large burial mounds when recorded in 1883. Since that time, however, all surface features have been completely destroyed by housing and city streets. The site lies between alternate routes 1 & 2 and should not be affected by either.

Surveys have revealed that only one area affected by the five alternate alignments displays significant potential for the existence of undisturbed archaeological materials. This area is a low terrace along the east bank of the Old Zumbro Riverbed between present T.H. 60 and Hiawatha Drive. Although time was not available during the 1974 survey to accomplish test excavations at this location to determine whether archaeological materials do exist, such testing will be completed during the 1975 field season.

## HISTORICAL-ARCHITECTURAL DATA

At the present time, there are no sites listed on the National Register within the Wabasha study area. Two properties listed on the State Inventory of Historic Places do lie within this area however.

Wabasha Commercial Historic District - This district, including the central business area, has been recognized as a well preserved example of an early Minnesota river town. The area bounded roughly by Arch Avenue, Lawrence Boulevard, Franklin Avenue and Third Street must be considered as potentially eligible for inclusion on the National Register.

Anderson Hotel - Situated within the above Commercial District, this structure has been listed independently based on its historical significance. At least a portion of this structure appears to be a remnant of the "Old Hurd House" and, therefore, stands as one of the last of the old-time river town hotels still functioning within the region.

Excerpts continued

Preliminary historical research and architectural assessments, however, have indicated that the town of Wabasha has been largely bypassed by the main stream development and modernization and, therefore, contains great potential for the existence of many more National Register and State Inventory quality sites.

Research, to date, has revealed only that much more work will be necessary to completely and accurately assess the nature and significance of possible archaeological materials and each of the structures listed as potentially significant. A complete review, by a trained individual, of the historic record of Wabasha and the physical attributes of the structures and districts themselves will be necessary to determine which structures and areas qualify for further consideration, and which need not be considered an absolute constraint. An attempt will be made to accomplish this "in-depth" review during the first one half of 1975.

STATE OF MINNESOTA

DEPARTMENT Highway Archaeology — Office Memorandum

TO : C. P. Kachelmyer, Preliminary Design Engineer
Room 612E, State Highway Building

DATE: July 7, 1975

FROM : Leslie Peterson, Highway Archaeologist
Alan Woolworth, Chief Archaeologist

SUBJECT: PROGRESS REPORT FOR THE TRUNK HIGHWAY ARCHAEOLOGICAL RECONNAISSANCE SURVEY, AGREEMENT NO. 55699, FOR THE MONTH OF JUNE 1975

During the month of June, the following surveys were conducted:

SP7910, T.H. 60, Wabasha County, Wabasha Bridge Relocation

In order to complete the assessment of potential archaeological materials begun during 1974, test excavations were conducted along the old Zumbro River Channel approached by alternate corridor #3. These test excavations indicate that no archaeological materials exist in that location. Therefore, no archaeological sites should be affected by any of the alternate corridors presently under consideration. The final assessment of impacts upon historic structures within the city of Wabasha has yet to be completed.

Minn Proj. F 108-1 ( )
SP 7910-07 & 7911-05 (TH 60)
At Wabasha

# MINNESOTA HISTORICAL SOCIETY

690 Cedar Street, St. Paul, Minnesota 55101 • 612-296-2747

March 13, 1980

Mr. C. P. Kachelmyer
Preliminary Design Engineer
Department of Transportation
Room 604 - Transportation Bldg.
St. Paul, MN 55155

Dear Mr. Kachelmyer:

You have received a report prepared by the Minnesota Historical Society pursuant to contract #59783 between the Department of Transportation and the Society. That report identified sites in Wabasha, Minnesota, on and eligible for inclusion on the National Register of Historic Places which might be affected by the construction of a new Mississippi River bridge. I concur with the findings of that report: the First Congregational parsonage, Grace Memorial Church, and the commercial district on Main and Pembroke Streets are the eligible Register properties in the affected area.

With this information in hand, with the likelihood that the Keeper of the National Register will agree that these sites are eligible, and with the urgency of completing the EIS for the project in mind, I believe that it would be most appropriate to meet at the earliest possible date with those persons who are preparing the EIS. Issues raised by the identification of these sites will be resolved only by paying prompt and careful attention to them. I would be more than happy to participate in such a meeting.

Sincerely,

Russell W. Fridley

Russell W. Fridley
State Historic Preservation Officer

RWF/sl

APR 8 1980

# United States Department of the Interior

HERITAGE CONSERVATION AND RECREATION SERVICE
WASHINGTON, D. C. 20243

IN REPLY REFER TO: 436

APR 3

Mr. E. Dean Carlson
U.S. Department of Transportation
Federal Highway Administration
Suite 490, Metro Square Building
St. Paul, Minnesota 55101

Dear Mr. Carlson:

Thank you for your letter requesting a determination of eligibility for inclusion in the National Register pursuant to Executive Order 11593 or the National Historic Preservation Act of 1966, as amended. Our determination appears on the enclosed material.

As you are aware, transportation projects requiring the use of lands from significant historic properties are also subject to the provisions of section 4(f) of the Department of Transportation Act of 1966. Your request for our professional judgment constitutes a part of the Federal planning process. We urge that this information be integrated into the National Environmental Policy Act and section 4(f) analyses in order to bring about the best possible program decisions. This determination does not represent the results of formal consultation by the Department of Transportation with the Department of the Interior pursuant to section 4(f). Such requirements would be fulfilled only when the Department of the Interior separately comments on any section 4(f) statement which may be prepared and approved by you for circulation. The determination also does not serve in any manner as a veto to uses of the property, with or without Federal participation or assistance. Any decision on the property in question and the responsibility for program planning concerning such properties lie with your agency after the Advisory Council on Historic Preservation has had an opportunity to comment.

We are pleased to be of assistance in the consideration of historic resources in the planning process.

Sincerely,

Carol D. Shull

Carol D. Shull
Acting Keeper of the National Register

Enclosure

# E.O. 11593

## DETERMINATION OF ELIGIBILITY NOTIFICATION

**National Register of Historic Places**
**Heritage Conservation and Recreation Service**

**Project Name:** Trunk Highway 60 Project

**Location:** Wabasha, Wabasha County **State:** MN

**Request submitted by:** DOT/FHWA/E. Dean Carlson

**Date received:** 3/25/80 **Additional information received:**

## 36 CFR Part 63[illegible] Determination

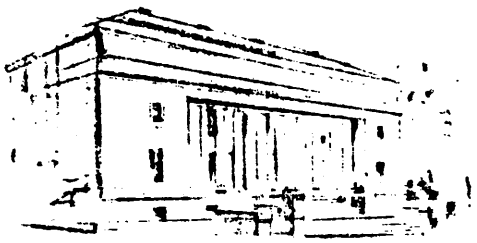
| Name of property | SHPO opinion | Eligibility: Secretary of the Interior's opinion | Criteria |
|---|---|---|---|
| Wabasha Commercial District | eligible | eligible | A,C |
| Grace Memorial Episcopal Church | " | " | B,C |
| First Congregational Parsonage | " | " | C |

for D. Ray Lucas
**Keeper of the National Register**

**Date:** 4/3/80



FHR 8-267 2/79
GPO 942 577



MINNESOTA HISTORICAL SOCIETY

690 Cedar Street, St. Paul, Minnesota 55101 • 612-296-2747

April 17, 1980

Mr. C. P. Kachelmyer
Preliminary Design Engineer
Department of Transportation
Room 604 - Transportation Building
St. Paul, MN 55155

Dear Mr. Kachelmyer:

RE: 7910 and 7911-05 (TH 60)
From Junction TH 61 to East State Line
At Wabasha, Wabasha County, MN

MHS Referral File Number: H 129

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the National Advisory Council on Historic Preservation (36CFR800).

The review has been conducted for Alignments One; Three A, B, and C; and Four. For purposes of clarity, my review will follow this same organization.

Alignment Alternate One:

There are no structures within this alignment which are on the National Register of Historic Places or eligible for inclusion on the National Register, and, therefore, none which will be affected by the proposed construction.

Nevertheless, the effect of Alignment One will be to "change," in the words of the Advisory Council regulations, "the pattern of land use, population density, (and) growth rate" within the historic center of Wabasha, particularly its currently healthy commercial district. A substantial portion of this district was determined on April 3, 1980, to be eligible for listing on the National Register of Historic Places. The existing bridge routes traffic to the foot of the commercial district; the proposed bridge in Alignment One would route that same, critically important commercial traffic, outside of town. More precisely, it is my understanding that 60% of the retail and other business activity in Wabasha is created by Wisconsin residents. If this Wisconsin trade is routed to a new location located a substantial distance from the current commercial center, it



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will surely affect the economy -- and, hence, the physical health of the historic center.

Alignment Alternates Three A, B, and C:

This alignment will also have an adverse effect on the Wabasha Commercial District. The proposed bridge will involve the demolition of several structures within the commercial district; as a consequence, under Section 800.3 (b)(1) of the Advisory Council regulations, it will clearly have an adverse effect. There is apparently no possibility that the bridge could be built in this alignment without the demolition of at least some structures important to the district.

It is also reasonable to believe that construction of the structure will result in other physical damage to designated structures; vibration, pollution, and other effects of traffic will adversely destroy or alter properties within the district.

The bridge will also isolate a portion of the district from the balance of the district and its historic setting by physically dividing it. See Section 800.3 (b)(2). Although traffic will literally be able to pass below the roadway, I believe, nevertheless, that it will discourage pedestrian and other movement and lead to a deterioration of the entire district.

Moreover, the elevated roadway will adversely affect the district by introducing visual elements (as a result of its very design) and audible elements (as a result of vehicular traffic on it) which are out of character with the district. Section 800.3 (b)(3).

More generally, I am extremely concerned, as I stated with regard to Alignment One, about the likely change in "the pattern of land use, population density, or growth rate" within the community. The placement of the bridge and the roadway may discourage use of currently viable downtown businesses. The proposed plan, which routes a critically important amount of traffic to a location some distance from downtown may encourage either the relocation of the central business district to a new and currently undeveloped area or to the development of competitive businesses in a new area. This effect on commercial and retail patterns may as surely result in the decay and alteration of the district as would the physical demolition of the designated buildings. In my letter to you of June 6, 1979, I asked that this problem be addressed. I hope, and expect, that it will receive the careful attention it deserves.

In addition to the adverse effect which Alternate 3 will have on the commercial district, it will also adversely affect the First Congregational Parsonage at 305 West 2nd Street. This property was determined to be eligible for listing on the National Register on April 3, 1980. According to the proposed plans, Alternate 3 would result in the demolition of this structure.

There are no other structures on or eligible for inclusion on the National Register of Historic Places which would be affected by Alternate 3.

Alignment Alternate Four:

Alternate Four will pass within one half block of the eastern end of the commercial district. At that point the roadway will be elevated. It is reasonable to assume that it will introduce visual and audible elements adversely affecting the district. As with Alternates One and Three, the alternate will affect the historically designated commercial district by routing traffic away from the current retail and commercial center and, consequently, adversely affect the district.

Alternate Four will also involve the widening of Bailey Avenue as it passes Grace Memorial Episcopal Church (located at the intersection of Bailey and Second Street). This physical alteration of the church property and the introduction of visual and audible elements out of character with the existing setting will adversely affect the structure.

While I believe the above comments reflect my current opinion on the effects of this project, I should mention that more precise plans for the roadway and bridge might lead me to amend my comments.

Thank you for the opportunity to comment on this project.

Sincerely,

Russell W. Fridley
State Historic Preservation Officer

Ex. A.1

Wabasha Business
District-Intersection
Pembroke & Main

Ex. A.2

Wabasha Business
District-Intersection
Main & Alleghany

# NATIONAL BIOCENTRIC, INC.

*Office & Engineering:*
1306 WEST COUNTY ROAD F
SAINT PAUL, MINNESOTA 55112
(612) 633-8997

*Laboratory:*
4663 CHATSWORTH
SAINT PAUL, MINNESOTA 55112
(612) 484-9070


September 1, 1979

Mr. Frank Pafko
Environmental Affairs
Minnesota Department of Transportation
Transportation Building, Room 807
St. Paul, Minnesota 55155

Dear Mr. Pafko:

National Biocentric, Inc. is pleased to submit this final report of the Mussel Survey conducted on the Mississippi River at the proposed bridge site at Wabasha, Minnesota. The purpose of this study has been to determine the presence or absence of Lampsilis higginsii (Higgin's Eye) or any other species of endangered mussels protected under Public Law 93-205, the Endangered Species Act of 1973.

Extensive brailing with a crowfoot bar and diving with SCUBA have not turned up any specimens, live or relic, of Lampsilis higginsii or any other endangered mussels within the defined study area. A diverse clam population, however, has been described.

We at National Biocentric, Inc. wish to thank the Minnesota Department of Transportation for having given us the opportunity to perform this important study for them. Also, deepest appreciation must be given to Dr. Don Gilbertson, Professor of Biology at the University of Minnesota and Mr. John Bates of Ecological Consultants, Inc., for their time and effort expended to verify the identifications of collected specimens for this project. Mr. Ed Olson and Mr. Al Marquardt were also very instrumental in the achievement of the goals of this study. These men endured many hazards to hand-pick mussels with the use of SCUBA.

If you should have any questions or if there is any way that we can be of assistance to you, please contact us.

Sincerely,

Roger V. Blomquist

Roger Blomquist, Ph.D.
Vice President

Duane Dittberner

Duane Dittberner

Wayne Sarappo Jr.

Wayne Sarappo

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES
West Central District Headquarters
1300 West Clairemont Avenue
Call Box 4001
Eau Claire, Wisconsin 54701

Anthony S. Earl
Secretary

April 24, 1979

IN REPLY REFER TO: 1600

Mr. Richard C. Staffon
Office of Environmental Affairs
Minnesota Department of Transportation
Transportation Building, Room 807
St. Paul, MN 55155

Dear Mr. Staffon:

Re: Natural Resource Assessment for Interstate Bridge Replacement at Wabasha, Minnesota (Nelson, Wisconsin-Wabasha, Minnesota bridge)

I have reviewed the subject report and believe it represents a responsible and sensitive analysis of the relatively minor problems this project might create for the natural resources of Wisconsin.

I particularly agree with your conclusion that alternate #3 represents the best opportunity to minimize environmental degradation and that regardless of which alternative is chosen, provisions must be made for the continuation of present water flow patterns through the network of side channels and backwaters.

I was pleased to note that the Minnesota Department of Transportation has chosen to minimize the amount of fill on our side of the channel, preferring instead to bridge most of our critical fish and wildlife habitat areas. As I pointed out at the April 23 meeting in Wabasha, our level of resistance to this project is closely correlated to the fill issue.

I would like you to reconsider conclusion #7 on page 4 of your assessment. I cannot agree that leaving the existing bridge piers in place will result in benefits to the resource. The amount of fish habitat provided would be minimal indeed.

Wisconsin's experience with abandoned piers is that they are a real eyesore, they serve as debris collectors and they represent a significant hazard to navigation. I have therefore concluded that abandoned piers are not only an ugly nuisance, but (unless illuminated at night) also a major liability. It would also seem that removal of the piers to at least four to five feet below low water levels would significantly improve hydraulics in the area.

Thank you for providing this opportunity for review and comment. I am looking forward to seeing your draft E.I.S. later this summer.

Sincerely,

Gordon E. Slifer
Environmental Impact Coordinator

GES:rr
cc: H. S. Druckenmiller
Jon L. Bugenhagen

STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING · ST. PAUL, MINNESOTA · 55155

June 1, 1979

DNR INFORMATION
(612) 296-6157

Mr. Richard Staffon
Minnesota Department of Transportation
Office of Environmental Affairs
Room 807
Transportation Building
St. Paul, Minnesota 55155

Dear Mr. Staffon:

Based upon the, "Natural Resource Assessment for Interstate Bridge Replacement near Wabasha, Minnesota" and a field review of the proposed project the Minnesota Department of Natural Resources (MDNR) has identified the following concerns.

We are concerned about the impact on the floodplain of the Mississippi backwater channel from placement of fill materials and impacts to the Mississippi River from placement of bridge piers and modifications to existing approach fills.

All of the five proposed alternatives use the existing 2.3 mile long approach fill on the Wisconsin side. However, alternatives 1 and 4 propose new crossings to the north and south, respectively, of the existing bridge. We have serious concerns about the filling in the floodway from these two alternatives. One acre of open water would be filled in the old Mississippi backwater under alternative 1 in addition to 2.3 acres of filling within the adjacent floodway.

Alternatives 3A, 3B and 3C all follow the existing approach fills with minor deviations as follows. Alternative 3A has an approximately 1000'long fill section which results in the filling of 12 acres of floodplain. Alternative 3B is similar to 3A until the old backwater channel is reached, at which point the proposed T.H. 60 turns and follows the 100 year flood boundary until joining the existing T.H. 60 fill. An additional .5 acre of fill in the wetland will be added to the existing T.H. 60 under alternative 3B.

Alternative 3C which falls between 3A and B will require 2.1 acres of fill in the backwater floodplain.

Alternate 4 is a new crossing of the river approximately 1000' southerly of the existing bridge. This route will require 3.1 acres of fill in the Mississippi River.

Alternatives 3B and 4 have the least impact on the backwater channel and floodplain however, alternative 4 has a significantly greater impact on the river. Alternative 1 also has a greater impact on the river as well as the backwater area.



AN EQUAL OPPORTUNITY EMPLOYER

Based upon the currently available information on the project our position from a natural resources viewpoint is as follows.

Alternatives 3B and 3C are preferable to the other three with 3B being the most acceptable as it has the least impact. Alternatives1,4 and 3A are not acceptable.

Our remaining concerns are for the amount of dredging and channel work required for each alternative, the placement of spoil materials, the impact to the 100 year flood elevation resulting from new filling, and the possible loss of 4f lands.

Any filling should comply with the Wabasha floodplain ordinance. Also, Mn/DOT should evaluate what changes in the 100 year flood will result from filling for each alternative.

Thank you for the opportunity to comment on this project at the early coordination stage. We are looking forward to continued involvement as this project progresses.

If you have any questions please contact Bob Hance of this office at 296-0568.

Sincerely,

Bob Hance

Bob Hance, Environmental Planner
For: Alan Wald
Acting Environmental Review Coordinator

BH:AW: rlh
cc: Robert Story
Charlotte Cohn
Oliver Jarvenpa
Frank Knoke

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
COMMANDER (obr)
SECOND COAST GUARD DISTRICT
1430 OLIVE STREET
ST. LOUIS, MO 63103
Tel. 314-425-4607
• FTS 279-4607

16590/760.2 UMP
10 April 1979

Mr. John S. Bowers
Assistant Division Administrator
and Engineering Coordinator
Federal Highway Administration
Suite 490, Metro Square Building
St. Paul, MN 55101

Re: Wabasha Highway Bridge, Mile 760.2, Upper Mississippi River

Dear Mr. Bowers:

Please refer to your letter dated 12 March 1979 asking for our comments on the preliminary draft of the Draft Environmental Impact Statement/Section 4(f) Information for Minnesota Federal-Aid Project F 108-1( ) and Wisconsin Federal-Aid Project F 046( ) and to the questions asked in that letter concerning our interest in that project.

In response to your first question, a U. S. Coast Guard Bridge Permit in accordance with the General Bridge Act of 1946 will be required. This Act requires that location and plans for bridges over navigable waters of the United States be approved by the Commandant, U. S. Coast Guard prior to commencing construction.

Second, we concur in your designation as the "lead agency" committing the federal government to a course of action as prescribed in the Memorandum of Understanding between the U. S. Coast Guard and Federal Highway Administration.

We do not concur with the navigational clearances stated on page 25 of the preliminary Environmental Impact Statement. All clearances must be approved by the Commandant, U. S. Coast Guard following due process of application for a Coast Guard Bridge Permit. Since the inclusion of such clearances could be interpreted as acceptance, it is suggested that the references thereto be stricken from the publication and substituted as follows:

Navigational clearance:

Vertical: Not less than 52 feet above the 2% flowline or 60 feet above normal (flat) pool, whichever is greater.

Horizontal: As determined by the U. S. Coast Guard.

Re: Wabasha Highway Bridge, Mile 760.2, Upper Mississippi River

The opportunity for early coordination of this project is appreciated.

Sincerely,

S. W. THOROUGHMAN
Chief, Bridge Branch
Second Coast Guard District
By direction of the District Commander

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
1135 U. S. POST OFFICE & CUSTOM HOUSE
ST. PAUL, MINNESOTA 55101

REPLY TO
ATTENTION OF:

NCSCO-GR(SF 79-0242-13) 22 May 1979

Mr. E. Dean Carlson
Division Administrator
Federal Highway Administration
Suite 490, Metro Square Building
St. Paul, Minnesota 55101

Dear Mr. Carlson:

We have reviewed the draft EIS on the proposed replacement of the Wabasha Bridge and approaches on Minnesota Trunk Highway 60 and Wisconsin State Highway 25.

A permit will be required under Section 404 of the Clean Water Act for the placement of fill material in the Mississippi River in conjunction with the bridge replacement.

Section 9 of the River and Harbor Act of 1899 pertains to bridge crossings of navigable waters of the United States. You should contact the U.S. Coast Guard at:

Commander (OC)
Second Coast Guard District
1430 Olive Street
St. Louis, Missouri 63136
Telephone: (314) 425-4607

We concur that the Federal Highway Administration should be the lead agency for this project.

Inclosed are our comments on the draft EIS.

Thank you for the opportunity to comment on the draft EIS.

Sincerely,

William D. Parsons

WILLIAM D. PARSONS
Chief, General Regulatory Branch
Construction-Operations Division

1 Incl
As stated

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

1. We concur that FHWA should be the lead agency for this project.

2. Based on the information in the draft EIS, we concur that Alternative 3b, which utilizes the existing roadway, would have the least impact on the natural environment.

3. The following comments should be considered in the preparation of the final EIS:

a. Social Impact Assessment

(1) Noise Levels - Because the general public is not familiar with noise analysis, they would find the description of noise levels (as presented in this report) insufficient to judge specific noise level impacts. Perhaps it would be beneficial to the reader if terms such as "dBA" and "$L_{10}$" were defined. You should also consider using a comparison between noise levels expressed in "dBA" and common indoor and outdoor noise levels.

(2) Business and Home Relocations - The following information on home and commercial relocations should be included:

(a) Home Relocations:

i. Number of persons to be relocated.
ii. Number of elderly persons to be relocated.
iii. Number of low-income households to be relocated.

(b) Commercial Relocations:

i. Number employed by the business.
ii. Value of lands and buildings to be relocated.
iii. Total sales volume.

(3) Property Values - What are the expected changes in the value of properties located in the vicinity of the proposed highway bridge facility? Compare these values to present values and future values should the project not be implemented. How will the presence of this facility affect the resale of homes and businesses in the area?

(4) Public Services and Facilities - Are the present facilities capable of accommodating a temporary increase in demand due to a short-term increase in the labor force associated with construction? This may include a discussion of housing, sewage treatment, and water facilities. During the construction phase, what percentage of the incoming labor force is expected to locate in Wabasha? What other communities are expected to absorb the incoming labor force? Will there be sufficient housing for incoming construction workers and their families? During the construction phase, at what levels will the sewage treatment and water facilities be expected to operate? How do these levels compare to present levels?

(5) Community Cohesion - The interpretation of improved community cohesion, pride, and attitudes should include supporting data. To assume positive impacts based on unsubstantiated statements is not acceptable.

(6) Controversy - An update and summary of topics discussed at public meetings should be included. Concerns of the local public and correspondence received in support of and/or opposition to the project should also be presented.

b. Archaeological Assessment

(1) We have reviewed the sections on historic and cultural properties and the related correspondence included in the draft EIS. We concur with the Minnesota SHPO that, from a cultural viewpoint, Alternative 1 would have the least impacts on recognized historic buildings in the study area.

(2) We suggest that, if Alternatives 3a, 3b, 3c, or 4 are selected, further planning efforts be directed to avoid or minimize the structural or aesthetic impacts to the historic buildings and district.

c. Natural Resource Assessment

(1) There appear to be a number of errors in the table on MPCA water quality standards (p. 83).

(2) The natural resource assessment should (a) address the feasibility of routing Alternative 1 through the intersection of Church Avenue and Prospect Avenue in Wabasha so that no new construction crosses the old Mississippi River channel, or (b) if re-routing of Alternative 1 is not feasible, address the impacts of the construction of piers to span the old Mississippi River channel.

(3) The EIS should address the water quality impacts of stockpiling dredged material on land and of discharge of the dewatered effluent (after settling) on the river.

(4) The EIS should address the environmental impact of expanding and improving the boat ramp and parking area in the Upper Mississippi Fish and Wildlife Refuge.

(5) The EIS should better define the area within the Upper Mississippi Fish and Wildlife Refuge that is proposed as a National Wilderness Area. It is not clear what percentage of the proposed wilderness area would be affected by construction of Alternatives 1 or 3.

(6) The EIS should address the likelihood of successful versus unsuccessful relocation of the Higgin's Eye Pearly Mussel, an endangered species, if detected along this reach of the river.

# United States Department of the Interior

IN REPLY REFER TO

FISH AND WILDLIFE SERVICE
TWIN CITIES AREA OFFICE
530 Federal Building and US Court House
316 North Robert Street
St. Paul, Minnesota 55101

JUN 0 4 1979

Mr. Larry Foote
Office of Environmental Affairs
Minnesota Department of Transportation
Transportation Building
St. Paul, MN, 55155

Dear Mr. Foote:

This letter is in reference to an April 23, 1979 meeting conducted by Rich Staffon of your office, and the Natural Resources Assessment concerning the proposed replacement of the Wabasha Bridge in Wabasha, Minnesota (S.P. 7910-07 and 7911-05, T.H. 60).

The five alternatives presently considered will result in adverse impacts to valuable fish and wildlife resources. The severity of these impacts will depend upon the route selected and the project design standards. The above alternatives also encroach upon lands within our Upper Mississippi River Wild Life and Fish Refuge, and we would strongly favor a route that would minimize encroachment, such as alternative 3. In this regard, consideration should be given to the maximum use of pilings to support the approaches, steepest inslopes feasible, and a touchdown point as close to the existing bridge as feasible. We fully support the proposal to maintain access to our parking area and boat ramp and the possibility of expanding and improving this area as part of the proposed project.

In response to comments in Section D on page 36 of the Natural Resources Assessment, statements are made comparing the amount of Refuge lands impacted by the proposed project to the total amount of Refuge lands nationwide and in Wisconsin. These statements imply that the area affected by the project is insignificant because only a small percentage of our Refuge lands will be impacted. The U. S. Fish and Wildlife Service considers all refuge lands to be of significant value, and we suggest deleting these statements in the draft Environmental Impact Statement since determination of significance should be made by the land managing agency. A simple statement that the alternatives will take from 1.0-6.5 acres of Refuge lands would be preferable.

The touchdown point in Minnesota is of lesser concern to us, but we would certainly favor a route, such as 3B, that would avoid or minimize adverse impacts to wetlands, wooded areas, the former Mississippi River channel (Old Zumbro River), and Section 4 (f) lands. Each alternative will involve the placement of fill material in wetlands, and design speeds should coincide with current traffic restrictions to avoid unnecessary impacts to fish and wildlife resources and comply with the intent of Executive Orders 11988 and 11990.

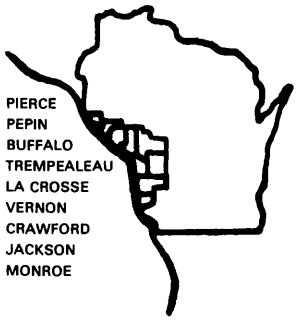
Overall, the Natural Resources Assessment appeared to be well written and covered biological impacts in a commendable manner. Our comments are intended to aid you in making wise environmental decisions in planning the routing and design of the proposed bridge. Since federal permits will be required for this project, these comments do not in any way preclude additional and separate evaluation and comments by the Service pursuant to the Fish and Wildlife Coordination Act.

We appreciate the opportunity to offer you our comments concerning this matter.

Sincerely yours,

George G. P. Bekeris
Area Manager

cc: U.S. EPA, Chicago
U.S. EPA, Mpls.
Minn. DNR, St. Paul
Earl Huber, Minn.DNR, St. Paul
Wisc. DNR, Madison
Upper Miss. NWR, Winona
Upper Miss. NWR, Trempealeau, Wisc.




**MISSISSIPPI RIVER**
**REGIONAL PLANNING COMMISSION**
315 South Front Street, La Crosse, Wisconsin 54601
Phone: (608) 785-9396

JOHN M. THOMAS, La Crosse, Wis.
*Chairman*

TONY POLZER, Durand, Wis.
*Vice-Chairman*

LAURENCE WEBER, Elmwood, Wis.
*Secretary & Treasurer*

WILLIAM J. KROLL, La Crosse, Wis.
*Director*

April, 24, 1980

Roy Larson
District Engineer
Minnesota Det. of Transportation
North Highway 52
Rochester, MN 55109

Dear Mr. Larson:

We have received a copy of the Preliminary Noise Analysis Report for the proposed improvements to the Wabasha Bridge. The imporvements will be primarily in the city of Wabasha, which is not within the planning area of the Mississippi River Regional Planning Commission; therefore we have no comments to make on this particular report.

We appreciate being informed, and do wish to be apprised of further developments in this important bridge development.

Sincerely,

MISSISSIPPI RIVER REGIONAL PLANNING COMMISSION

Robert G. Fisher
Transportation Planner

cc Al Lorenz - Wisconsin Dept. of Transportation
Bergie Ritscher - Buffalo Co. Highway Commissioner

RGF/jac

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:

Mr. Roy Larson
District Engineer
North Highway 52
Rochester, Minnesota 55109

16 MAY 1980

RE: TR 109

Dear Mr. Larson:

We have completed our review of the Noise Analysis Report for Minnesota Trunk Highway 60 and Wisconsin Trunk Highway 25. The purpose of this project is to replace an existing bridge and approaches over the Mississippi River, at Wabasha, Minnesota.

Your letter of March 27, 1980, which provided us with a copy of the noise analysis report, also requested our review of the report. The noise analysis report adequately discussed the existing environment and noise levels, and any potential problem areas. The noise analysis report provided information on the various alternatives including noise contours and sensitive receptors affected by each alternative. This report also included adequate discussion of construction noise impacts.

Based upon the information provided in the noise analysis report, Alternative 1 should be the preferred alternative. This alternative exposes one residence to a L(10) noise level of 70 dBA and 16 other residences to an L(10) noise level of 65 dBA. All other alternatives expose additional residences, schools, churches, and a funeral home to increased noise levels. Our recommendation of Alternative 1 is based exclusively on the noise impacts. The final selection of an alternative will have to be based on a consideration of all other environmental issues.

We appreciate the opportunity to review this noise analysis report. If you have any questions in regard to our comments, please contact Mr. William D. Franz at 312/886-6687.

Sincerely yours,

William D Franz

for Barbara J. Taylor, Chief
Environmental Impact Review Staff
Office of Environmental Review