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TH 33

from I-35 to TH 53

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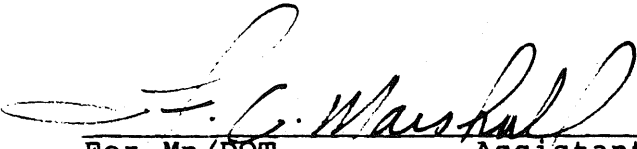
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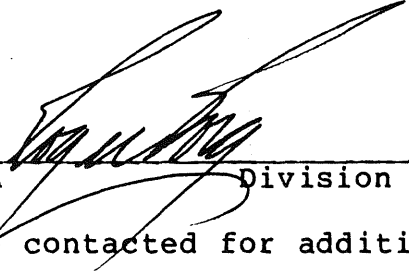
Minnesota Trunk Highway 33 from Junction of Interstate 35
to Junction of U.S. Trunk Highway 53.
Carlton & St. Louis Counties

Minnesota Project F 073-1()
Minnesota State Project 0905-38, 0905-39, 0906-31,
0906-32, 6911-25, 6911-26

Draft
Environmental Impact Statement and 4(f) Evaluation
Submitted Pursuant to 42 U.S.C. 4332(2)(c), 49 U.S.C. 303
U.S. Department of Transportation
Federal Highway Administration
and
Minnesota Department of Transportation

Cooperating Agencies
U.S. Fish and Wildlife Service
MN Department of Natural Resources
MN Pollution Control Agency

7/18/84
Date of Approval  For, Mn/DOT Assistant Commissioner of
Technical Services

7/25/84
Date of Approval  For FHWA Division Administrator

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

Mr. Roger Borg
FHWA Division Administrator
Suite 490 Metro Square Bldg.
St. Paul, MN. 55101
Phone: 612/725-7001

Mr. John Sandahl
Mn/DOT District Engineer
1123 Mesaba Ave.
Duluth, MN 55811
Phone: (218) 723-4801

The proposed action involves improvements from the junction of I-35
and T.H. 33 to the junction of T.H. 33 and T.H. 53 a distance of
19.7 miles. Various location and design alternatives are
discussed. The facility may involve the use of property classified
as section 4(f) property.

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I. SUMMARY

DESCRIPTION OF PROPOSED ACTION

The Federal Highway Administration (FHWA) and the Minnesota Department of Transportation (Mn/DOT) propose the improvement of Trunk Highway 33 (TH 33) from primarily a two lane highway to a four lane expressway from the junction with Interstate Highway (I-35) to the junction with Trunk Highway 53 (TH 53). An interchange with TH 2 is also proposed with a one mile section of TH 2 also being constructed to four lanes. The project is approximately 20 miles in length (Figure 1A).

OTHER GOVERNMENTAL ACTIONS

No other government agencies are known to be proposing any significant actions in the same geographic area.

MAJOR ALTERNATIVES

The following major alternatives were considered:

Rural Section: (North of Cloquet)

West Corridor: immediately west of existing TH 33

East Corridor: immediately east of existing TH 33

Range Line Corridor: approximately one to two miles east of in place TH 33.

No Build Alternative (Two Lane Upgrade)

Urban Section: (In and around Cloquet)

West Cloquet Bypass: A bypass west of Cloquet

East Cloquet Bypass: A bypass east of Cloquet

Through Town Corridor :Along existing TH 33

No Build Alternative

**SIGNIFICANT
ENVIRONMENTAL IMPACTS**

The proposed action would:

- . provide four lane route continuity between the Twin Cities metropolitan area and the Iron Range (Build Alternatives)
- . displace from 0 to 100 residences, 0 to 9 small businesses, 0 to 1 church/residence, and 0 to 1 parochial school.
- . impact from 15 to 174 acres of wetland and 0 to 182 acres of forest land
- . result in an increase in the number of receptors exceeding Federal and State Noise Standards
- . impact from one to five historic sites (urban section)
- . impact a significant park and potentially a privately owned golf course (West Cloquet Bypass)
- . potentially involve the Fond du Lac Indian Reservation (West Cloquet Bypass)

**AREAS OF
CONCERN**

Areas of significant concern raised by agencies and the public include:

- . need for constructing TH 33 to a four lane expressway;
- . economic impacts of bypassing Cloquet;
- . impact caused by the relocation of homes and businesses.
- . Indian Reservation
- . Historic Sites; 4(f) Lands

UNRESOLVED ISSUES

In the rural section of the project the unresolved issues are:

- . determination of mitigation measures;
- . a need for detailed impact analysis based upon an exact alignment rather than a general corridor.

Unresolved issues in the urban section of the project are:

- . final development of a preferred build alternative;
- . need for exact alignments to determine impacts for relocation, parks, historic sites and Indian Reservation;
- . determination of mitigation measures.

INDICATION OF FUTURE
ACTION

Based upon information obtained up to this time, including that contained in this document, a geometric layout of a possible alternative is being developed. This will be presented at information meetings and at the next public hearing. Refer to the Future Action section of this document.

PERMITS/APPROVALS

The following permits and/or approvals will be required for the TH 33 project:

U.S. Army Corps of Engineers - 404 permit
MN Pollution Control Agency -
401 Certification
MN Department of Natural Resources -
Public Waters Permit
City of Cloquet - Plan Approval
City of Scanlon - Plan Approval (East
Cloquet Bypass)

II. PURPOSE AND NEED

EXISTING FACILITY

Trunk Highway (TH) 33 is located in northeastern Minnesota, between the communities of Cloquet and Independence, a distance of slightly under twenty miles (Figures 1 & 2). The highway was originally constructed prior to 1934, as a gravel road between old TH 61 (Cloquet) and TH 53 (Independence). From 1937 to 1939 the roadway was upgraded with a paved surface and shoulders. Through the years there has been continuous maintenance and minor improvement. In 1968 the entire section was given 1.5 inches of bituminous overlay.

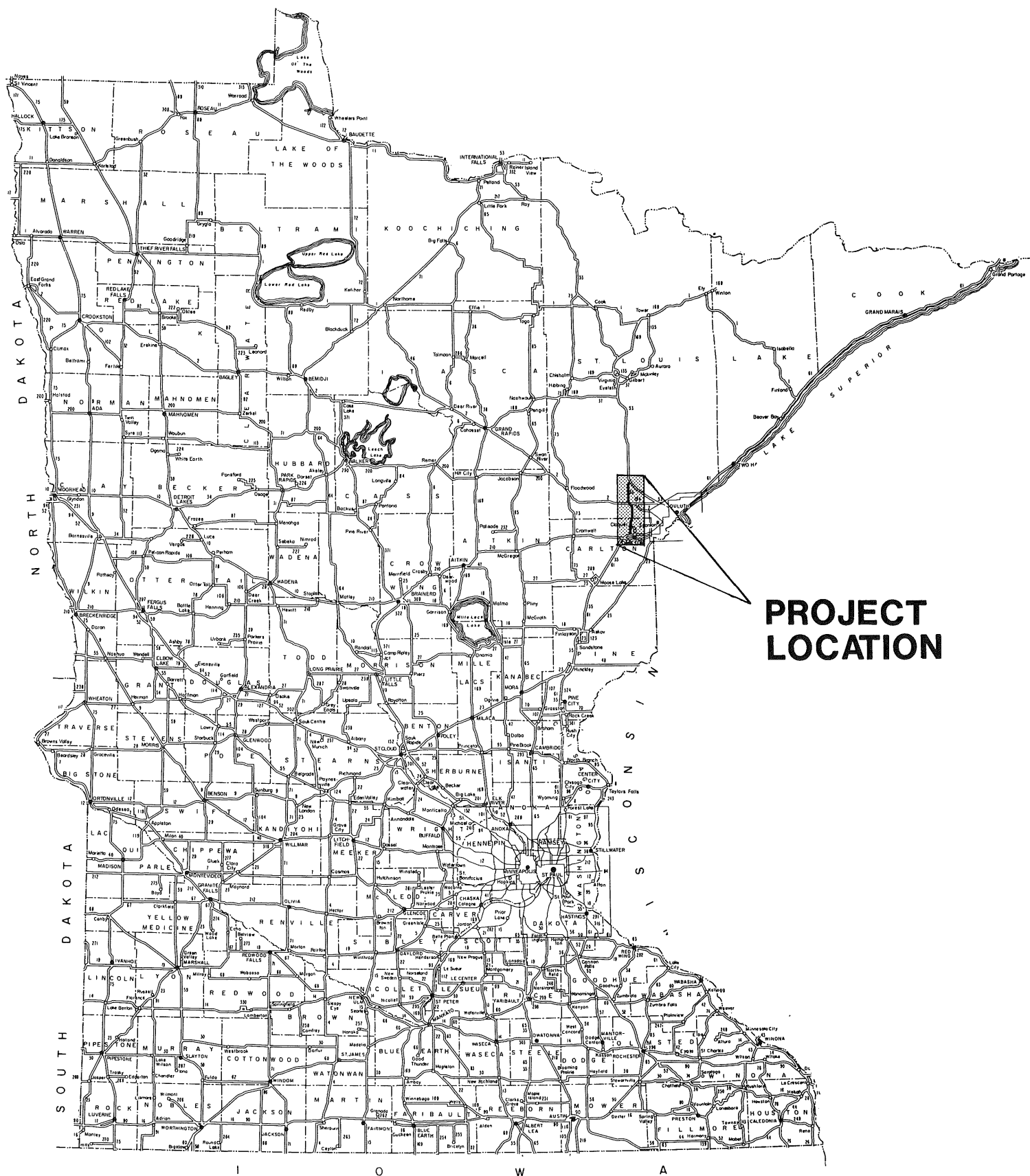
The bridges were built over a period of six years. The bridge from Dunlap Island to the north bank of the St. Louis River was built in 1934 (Bridge No. 5272). Bridges over the White Pine River, Dutch Slough and the Duluth, Mesabi and Iron Range Railroad (DM & IR) were built in 1936 and the bridge from the south bank of the St. Louis River to Dunlap Island was built in 1940 (Bridge No. 5273).

Although TH 33 is primarily a two lane road, the southern two miles of the highway have been rebuilt to four lanes. In 1952 four lanes were built from TH 45 to Doddridge Avenue (County Road 16). I-35 near Cloquet was constructed in 1966 and as part of that project, TH 33 was rebuilt to four lanes from Doddridge Avenue to I-35. An improved interchange between TH 33 and I-35 was constructed in 1983. Table 1 has a summary of existing roadway characteristics of TH 33.

PROJECT HISTORY

The Minnesota Highway Department began preliminary investigations into building a four lane highway in the TH 33 corridor in the late 1960's. A preliminary alignment, including a bypass of Cloquet, was developed, but no major steps to advance the project occurred for almost a decade.

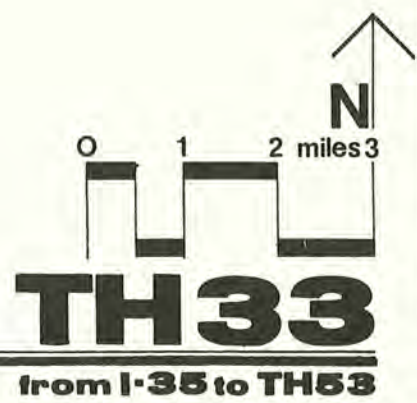
The following is a chronological listing of major events leading up to selection of alternatives for study in the Environmental Impact Statement.



**PROJECT
LOCATION**

Project location in Minnesota

Figure 1



TH 33 study area

Figure 2

TABLE 1
EXISTING ROADWAY CHARACTERISTICS OF TH 33 BETWEEN
I-35 AND TH 53 AT REFERENCE POINTS

<u>ROADWAY CHARACTERISTICS</u>					
<u>REFERENCE POINTS</u>	Driving Lanes- Number and Width	Shoulders- Number and Width	Type of Road Surface*	Right of Way (feet)	Sidewalk Location and Width
I-35 to Doddridge Ave.	4 lanes at 12 feet	1 at 3 feet 1 at 8 feet	B	225 to 287.5	None
Doddridge Ave. to TH 45	4 lanes at 12 feet	None	B	125 to 250	None
TH 45 to South end of Bridge 5273	2 lanes at 12 feet (with 13' gore area)	None	B	100	None
South end to north end of Bridge 5273	2 lanes at 15 feet	None	C	Public Waters	West, 6 feet
North end of Bridge 5273 to south end of Bridge 5272	2 lanes at 12 feet	2 at 7 feet	B	155	West, 5 feet
South end to north end of Bridge 5272	2 lanes at 15 feet	None	B	Public Waters	West, 5.8 feet
North end of Bridge 5272 to Memorial Drive	1 lane at 14 feet 2 lanes at 12 feet	1 at 8 feet	B	125 to 255	East, 5 feet

TABLE 1
EXISTING ROADWAY CHARACTERISTICS OF TH 33 BETWEEN REFERENCE POINTS

ROADWAY CHARACTERISTICS					
Reference Points	Driving Lanes- Number and Width	Shoulders- Number and Width	Type of Road Surface*	Right of Way (feet)	Sidewalk Location and Width
Memorial Drive to St. Louis- Carlton County Line	2 lanes at 12 feet	2 at 12 feet	B	125 to 255	None
St. Louis- Carlton County Line to TH 2	2 lanes at 12 feet	2 at 4 feet	B	150 to 200	None
TH 2 to TH 53	2 lanes at 12 feet	2 at 4 feet	B	200	None

***Note:**

B-Bituminous
C-Concrete

September 29, 1978 - The State Department of Transportation approved a Project Development Report for upgrading TH 33 and categorized this project as a major action.

November 1, 1978 - The Federal Highway Administration approved the above Project Development Report with the major action determination.

1980 - Project development into a major upgrading of TH 33 was halted due to funding constraints.

July 7, 1982 - The State Department of Transportation approved a Project Memorandum for a two lane upgrade of TH 33 between TH 2 and the south St. Louis Co. line. This was determined to be a categorical exclusion¹ project covered by the Federal Highway Administration's Certification Acceptance program.

1983 - Separate project development of a two lane upgrade of TH 33 from TH 2 to TH 53 was halted with the resurgence of development, in this case involving a four lane upgrade project.

September 12, 1983 - Draft Study Outline and Scoping Document for upgrading of TH 33 (between I-35 and TH 53) from a two lane to a four lane expressway was circulated to agencies and the public.

September 29, 1983 - Scoping Meeting was held in Cloquet High School auditorium for the purpose of discussing various alternatives and scoping out the major impacts of the project.

¹Categorical Exclusion means that the project does not individually or cumulatively have a significant impact upon the environment. No Environmental Impact Statement or Environmental Assessment is required.

February 15, 1984 - A Final Study Outline/Scoping Decision Document was distributed which described the alternatives and issues to be analyzed in the Draft Environmental Impact Statement (DEIS).

SYSTEMS PLANNING

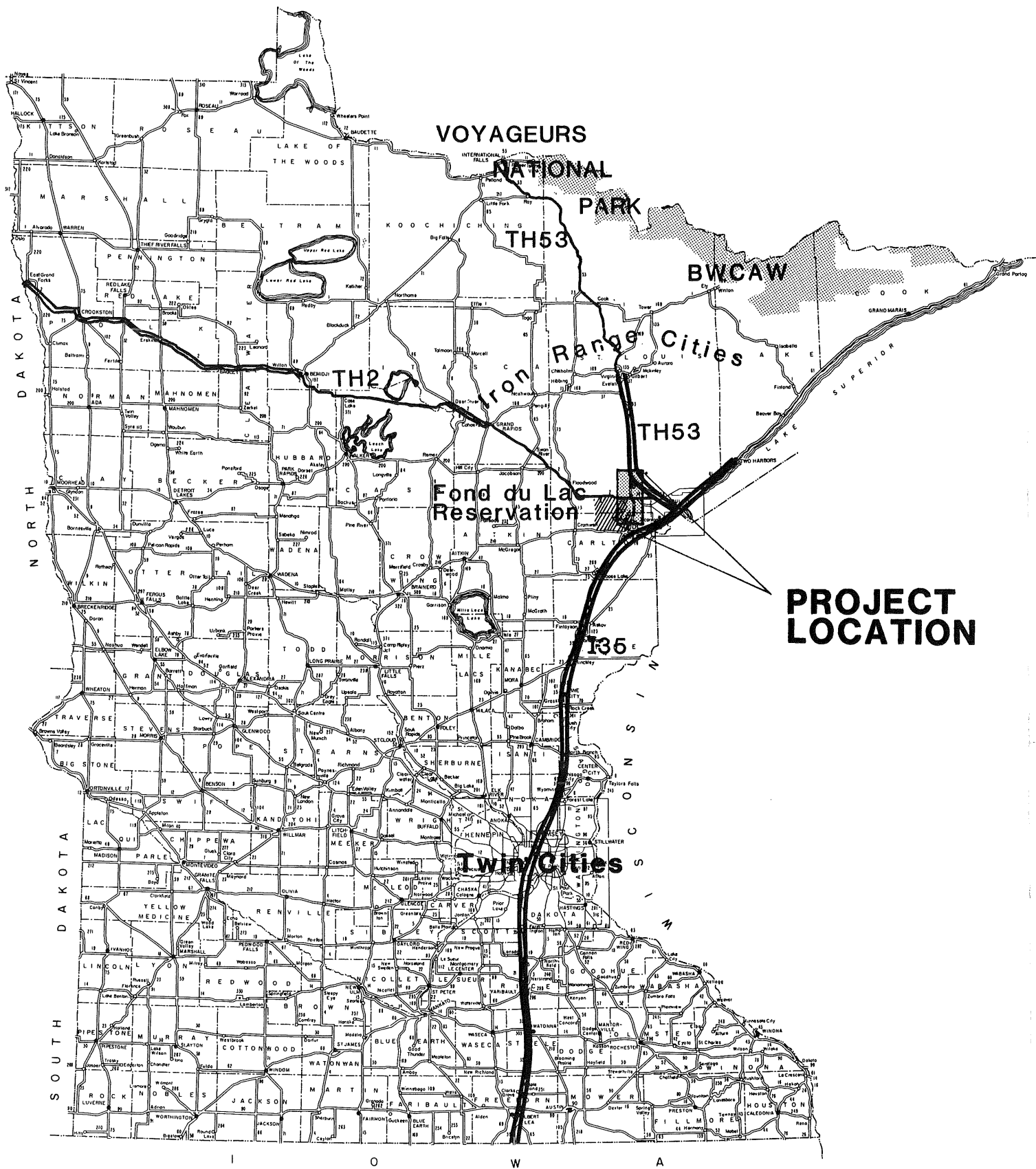
TH 33 is functionally classified as a principal arterial. It primarily serves for commuter trips to the Cloquet area. It also serves as the primary route between I-35 and TH 53 for travel to and from the Iron Range cities, Voyageurs National Park, the Boundary Waters Canoe Area, and other destinations in northern Minnesota and Canada (Figure 3). TH 33 is a major truck route, particularly the segment between Cloquet and TH 2.

Three improvement projects on TH 33 are programmed in the next few years. These projects are:

- Two lane reconstruction from the south St. Louis County Line to 1.7 miles south of TH 2 (1984 letting).
- Frontage road construction in Cloquet from Washington Avenue to Doddridge Avenue (1984 letting).
- TH 33/TH 45 intersection improvements in Cloquet (1986 letting).

These programmed improvements will improve traffic flow, safety and access to commercial property adjacent to the highway. These improvements have independent need and utility and will be constructed regardless of which TH 33 alternative is selected.

The Arrowhead Regional Development Commission (ARDC) developed a 20 year Highway Investment Strategy for the Region in 1979 and has updated this highway improvement plan in 1981 and 1983. ARDC's 20 year highway improvement priorities include upgrading TH 33 in Cloquet (including a new bridge over the River) and two lane reconstruction from the county line to TH 53. A planning budget limited the number of improvements included in the 20 year plan. Other highway improvement needs in the region were considered to have priority over



Highway systems

Figure 3

upgrading TH 33 to a four lane highway. Four lane improvements included in the 20 year plan are TH 2 from Deer River to Cohasset (presently under construction) and TH 169 from Grand Rapids to Pengilly (project and studies now in progress). The ARDC Board of Directors supported upgrading TH 33 to four lanes provided special funding could be obtained.

TRAFFIC

Existing 1982 Average Daily Traffic (ADT) and projected ADT for the year 2006, for the various segments of TH 33 are shown in Table 2. The year 2006 ADT was calculated assuming that Voyaguers National Park would be developed, and that the Park would generate 800,000 visitors per year. 92 percent of the Park visitors are assumed to enter Voyaguers National Park from the South.

The projected design year traffic volumes between the junction of TH 45 and TH 33, and the junction of TH 2 and TH 33 decrease from 14450 ADT to 6180 ADT. This is a gradual, rather than abrupt drop, as local traffic exits TH 33 via intersecting streets, driveways, county and township roads. The volume of traffic indicates a need for a four lane facility between TH 45 and TH 2.

LEVEL OF SERVICE

The traffic carrying ability of a road is reflected by the level of service provided under design hour traffic conditions. Level of service is graded as follows:

- A; Free traffic flows with no restrictions on ability to select speed or lane.
- B; Stable traffic flows with reasonable freedom to select speed and lane.
- C; Stable traffic flows with some restrictions on speed and lane selection.
- D; Approaches unstable flow with little freedom to maneuver.
- E; Flow is unstable and there may be stoppages of momentary duration.

TABLE 2

PRESENT AND PROJECTED AVERAGE DAILY TRAFFIC (ADT) FOR TH 33

Roadway Segment	1982 ADT	2006 ADT
North of I-35	4600	Not Calculated
South of TH 45	10300	24390
North of TH 45	9800	14450
North of Morris		
Thomas Rd.	3250	8070
South of TH 2	2900	6180
North of TH 2	2200	4430
South of CR 7	2450	3850
South of TH 53	1650	4010

The percentage of heavy commercial traffic (trucks) in the average daily traffic currently ranges between 7 and 16 percent. This is expected to remain constant or decrease slightly in the year 2006.

TABLE 3

ACCIDENT RATES FOR TH 33 COMPARED TO STATEWIDE AVERAGE

	Accident Rate	Statewide Average Rate for similar roads
I-35 to TH 45	5.4	3.2
TH 45 to TH 2*	2.3	1.3
TH 2 to TH 53	0.6	1.3

* Includes TH 33 and TH 2 intersection

F; Stop and go traffic flow, with highly unstable and unpredictable operations.

The design hour traffic volume is the predicted one hour volume in the design year (2006) which is used for determining highway design. That volume for TH 33 is projected to increase approximately 13 percent. Most of this increase is attributed to development of Voyageur's National Park. A great deal of the traffic visiting the park will consist of recreational vehicles (campers, trailers, motorhomes, etc.) which will have a greater adverse effect on level of service than automobiles.

Rural trunk highways are normally designed to service level "B". Urban trunk highways are normally designed to service level "C". The projected year 2006 ADT for a two lane roadway, whether upgraded or not, will result in service levels of "D" within Cloquet, "C" north of Cloquet, and "B" for the northerly four miles of TH 33.

ACCIDENT HISTORY

Accident data for the years 1978 through 1982 are summarized in Table 3.

ROADWAY DEFICIENCIES

A wide variety of deficiencies and problem conditions have been identified on the existing roadway. These can be summarized as follows:

- Bridges are narrow compared to modern design standards.
- Roadway width is 30 feet, whereas modern design calls for a width of approximately 47 feet.
- The two lane roadway, north of the St. Louis River, is insufficient to handle projected traffic volumes.
- The intersection of TH 33 and TH 2 has a high accident history.
- There has been an increase in residential and business driveways, especially in and near the northern part of Cloquet. Turning movements into and out of these driveways has increased traffic congestion on TH 33.

PROJECT OBJECTIVES

TH 33 was established to fulfill the functions of providing transportation links to the City of Cloquet and to provide a direct route between TH 61/I-35 to the south and TH 53 to the north. Within the framework of these primary functions the objectives of the major upgrading of TH 33 are:

- to provide four lane continuity. TH 33 is the only gap in the approximately 200 miles of four lane highway (I-35 and TH 53) between the Twin Cities and the Iron Range cities.
- to improve accessibility to tourism areas of northern Minnesota, including Voyageurs National Park and the Boundary Waters Canoe Area Wilderness.
- to stimulate and support business expansion and long term economic growth by investing in transportation facility improvements.

- to decrease the number of highway accidents, primarily along the portion of TH 33 between I-35 and TH 2.
- to improve traffic flow through the City of Cloquet.
- to maintain level of service "B" in the rural section and level of service "C" in the urban section.
- to replace or improve deficient bridge structures.

SUMMARY OF NEED

Physical deterioration and design deficiencies of existing TH 33, high accident rates, and inadequate service levels establish the need for improving TH 33. Traffic volumes and turning movements indicate a need for a four lane facility, at least to the junction of TH 2. A direct relationship exists between a strong transportation system and longterm economic development of a region, particularly for the tourism industry. To support and enhance the economic vitality of northeastern Minnesota and to complete the 20 mile gap in the expressway/freeway system between the Iron Range, the Twin Cities and points beyond, the need exists to extend a four lane facility from I-35 to TH 53.

III. ALTERNATIVES

STUDY AREA

The Federal Highway Administration has determined the logical termini of TH 33 to be I-35 at the southern end and TH 53 at the northern end. These termini became the southern and northern limits of the study (Figure 2).

The primary functions of TH 33 are to provide a transportation link to the City of Cloquet, and to provide a direct route between I-35 and TH 53. The east and west limits of the study area need to be determined with these functions in mind.

Whether the current proposal results in the selection of a new alignment alternative, or one on existing alignment, TH 33 must still serve these functions. First, it must be located in or near Cloquet. Second, travel distance should be minimized so that travelers would be attracted to the new facility.

These functions dictate a narrow study area. The St. Louis and Cloquet rivers form a topographic barrier to the west of TH 33, and will define the western boundary of the study area. East of TH 33, the Grand Lake chain of lakes presents a large topographic feature which cannot easily be crossed. A TH 33 location east of this chain would add sufficient distance so as to fail to attract travelers to the new road. Therefore, a line from Grand Lake southward will service as the eastern boundary of the study area.

ALTERNATIVES DISMISSED DURING SCOPING

Prior to scoping, no alternative corridors were proposed west of the St. Louis and Cloquet rivers or east of Grand Lake, since those would not serve the transportation purposes of this project. At the scoping meeting an alternative corridor was suggested. This corridor would proceed north from I-35 at Esko along county roads to TH 53 at Twig. It is about five miles east of in place TH 33 and would increase travel distance more than 25 percent. This alternative was dismissed because it would be four miles from the corporate limits of Cloquet, thus failing the first transportation function of TH 33. Because

of increased travel distance, sufficient traffic would not be attracted to justify the construction of an improved facility thus failing the second transportation function of TH 33.

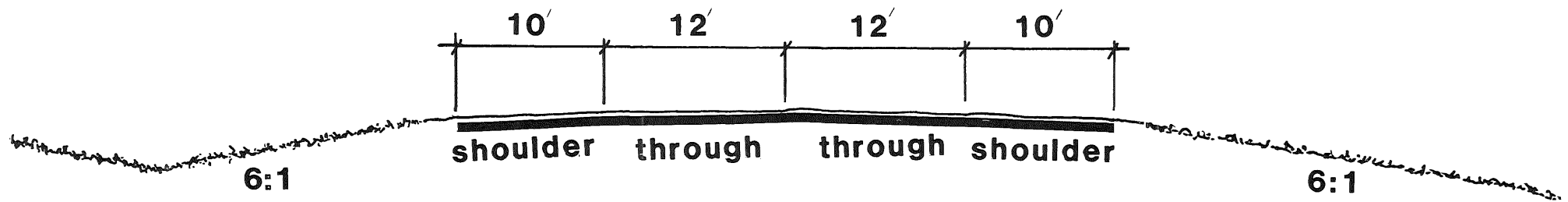
NO BUILD ALTERNATIVE

All EIS's must evaluate a No Build Alternative, sometimes called a "Do-Nothing Alternative." The No Build Alternative for TH 33 is not a "do nothing" alternative. The No Build Alternative excludes the construction of a four lane highway, however, improvements to the existing two lane highway would be constructed under this alternative.

There are three highway improvement projects currently scheduled for existing TH 33. The first project is an upgrading of the two lane road from the north Cloquet city limits to one and one half miles south of TH 2 (under construction). This project involves replacing the road surface, widening shoulders, constructing right turn lanes, replacing or extending culverts, regrading side slopes, and cutting down some hills to improve sight distances. Additional right of way would not be required. The second project, also under construction, is the building of a frontage road along TH 33 in Cloquet, approximately one and one half miles north of I 35. The third project scheduled to be built in 1986, is to improve the intersection of TH 33 and TH 45 in Cloquet.

In addition, should the No Build Alternative be chosen, two lane improvements, similar to those on the first project, will be scheduled for the portion of TH 33 from one and one half miles south of TH 2 to TH 53 (Figure 4). These improvements are "categorical exclusions" as defined by Federal Highway Administration (23 CFR Part 771). They do not require the preparation of detailed environmental documents.

During the Scoping process the U.S. Fish and Wildlife Service suggested that an alternative which involved upgrading the existing two lane roadway be included in the EIS. The No Build Alternative will evaluate this two lane reconstruction, less the interchange at TH 2 and the passing lanes suggested by the Fish and Wildlife



The No Build Alternative will result in the continuance of two lane upgrade projects for TH 33.

Typical section of proposed No Build Alternative for TH 33

Figure 4

Service. These improvements were not included in the analysis of the No Build Alternative because they were not within the scope of the previously scheduled projects, they would have required considerable additional right of way [compared to the No Build Alternative], and would have similar impacts to the Build Alternatives.

FHWA Guidelines suggest that in the EIS a Transportation System Management (TSM) Alternative be considered. In major urbanized areas this includes measures such as ridesharing, fringe parking and High Occupancy Vehicle lanes. Since Cloquet is not a major urbanized area and the project is essentially rural in character, the guidelines suggest that the TSM Alternative should evaluate reconstruction and rehabilitation of the existing road. This will be evaluated with the No Build Alternative.

BUILD ALTERNATIVES

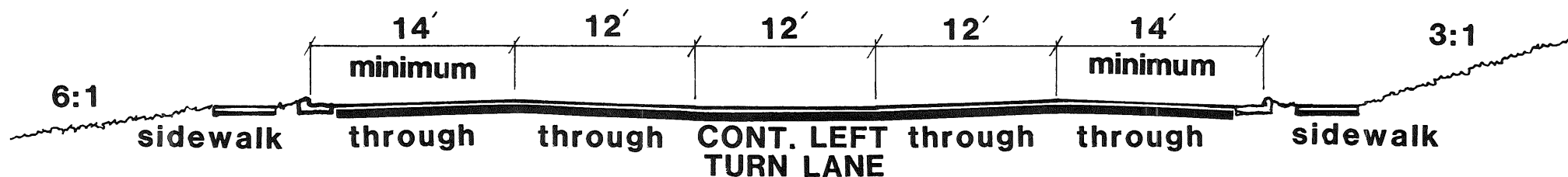
The build alternatives will evaluate construction of a four lane expressway. Interchanges with TH 53, TH 2 and I-35 are proposed for all the alternatives. A one mile section of TH 2 will be reconstructed to four lanes through the interchange with TH 33.

All build alternatives were analyzed on a corridor basis. Exact alignments or geometric layouts within each corridor were not developed. The alternative corridors were generally 500 feet wide. Where potential constraints are found (e.g. homes, businesses, wetlands) the corridor may expand to as much as 2000 feet.

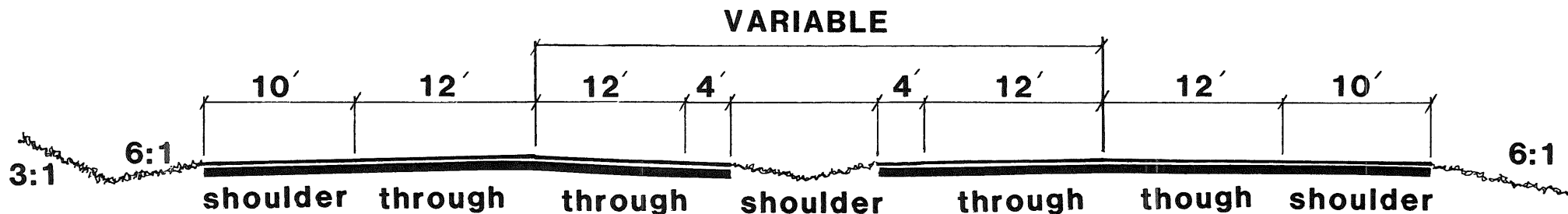
A number of design options are possible.

- A) Construct a two lane roadway as a companion to the existing road, resulting in a four lane road.
- B) Construct a four lane expressway on new alignment.
- C) Rebuild the existing road bed into a four lane road, widening as needed.

The typical sections of these design options are found in Figure 5. Design options A or B would be appropriate for the rural section. Design options B and C are suitable for the urban section.



URBAN DESIGN



RURAL DESIGN

The urban design could be used for portions of the Through Town Corridor, north of the St. Louis River. The rural design could be used for portions of the Through Town Corridor, both bypass alternatives, and the rural section alternatives. Detail design has not been finalized and changes in these cross sections may occur for all or parts of this project.

Typical section of TH 33 - Build Alternatives

Figure 5

Environmental considerations will be analyzed for an entire corridor and they will be used to develop the specific alignment within that corridor, should it be selected as the preferred alternate. Where specific acreages are given in the environmental analysis an approximate alignment was fixed within that corridor. For computing acreages a width of 150 feet was used for design option A, 300 feet for design option B and 100 feet for design option C. Ranges of acreages are used wherever possible to show the variability of alignments within a given corridor.

At the Scoping Meeting, and in the scoping documents, the project was divided into four segments; A,B,C, and D. In the DEIS, the project is divided into only two segments; an urban section and a rural section. Those familiar with the scoping discussion should note that the area which the scoping documents called segments A,B, or C is here included in the rural section. Segment D is herein referred to as the urban section. Figure 6 indicates the boundaries of the urban and rural sections.

RURAL SECTION

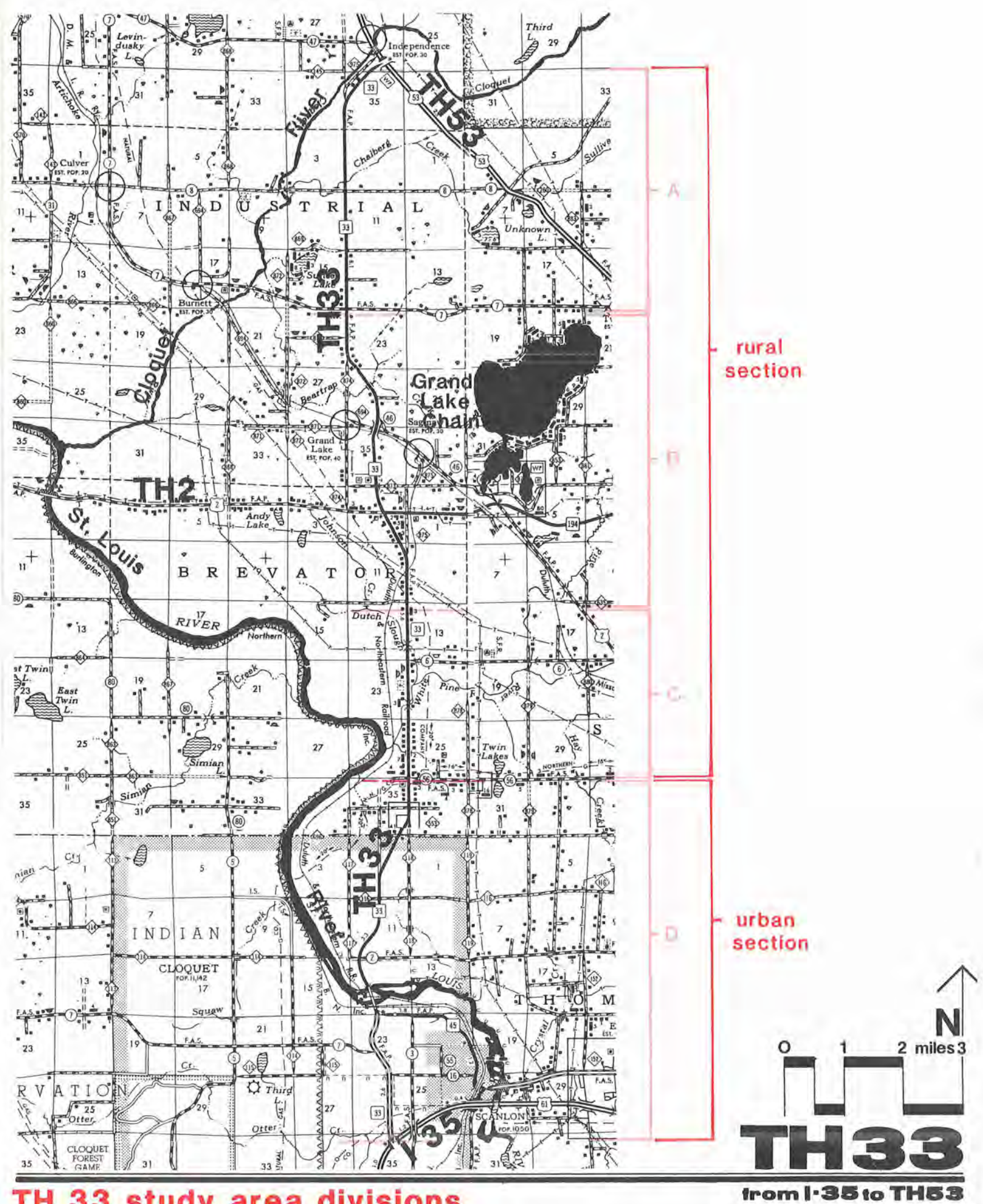
Three alternative corridors will be analyzed in the rural section of the study area (Figure 7).

West Corridor

The West Corridor runs from the junction of TH 53 to the Morris Thomas Road, immediately west of inplac TH 33. Corridor widths have been expanded at the DM&IR Railroad Crossing, the junction with TH 2 and in the White Pine River/Dutch Slough area.

East Corridor

The East Corridor runs from the junction of TH 53 to the Morris Thomas Road, immediately east of inplac TH 33. Corridor widths have been expanded at the DM&IR Railroad and in the White Pine/Dutch Slough area.



TH 33 study area divisions

Figure 6

Range Line Corridor

The Range Line Corridor follows the range line between R.17W. and R.16W. from the junction of TH 53 to the Morris Thomas Road. This corridor is parallel to and approximately one to two miles east of in place TH 33. This alternative was suggested by a citizen during the scoping process, and would essentially follow new alignment on already existing roadway easements.

Corridor Combination

All alternatives have been studied and compared separately. In the rural section, combinations of corridors and design options will be considered during the selection of a preferred alternative. Choice of alternative and design option combinations will be governed by environmental, social, economic, and engineering considerations. Discussion of future action is found in the Future Action Section of this document.

URBAN SECTION

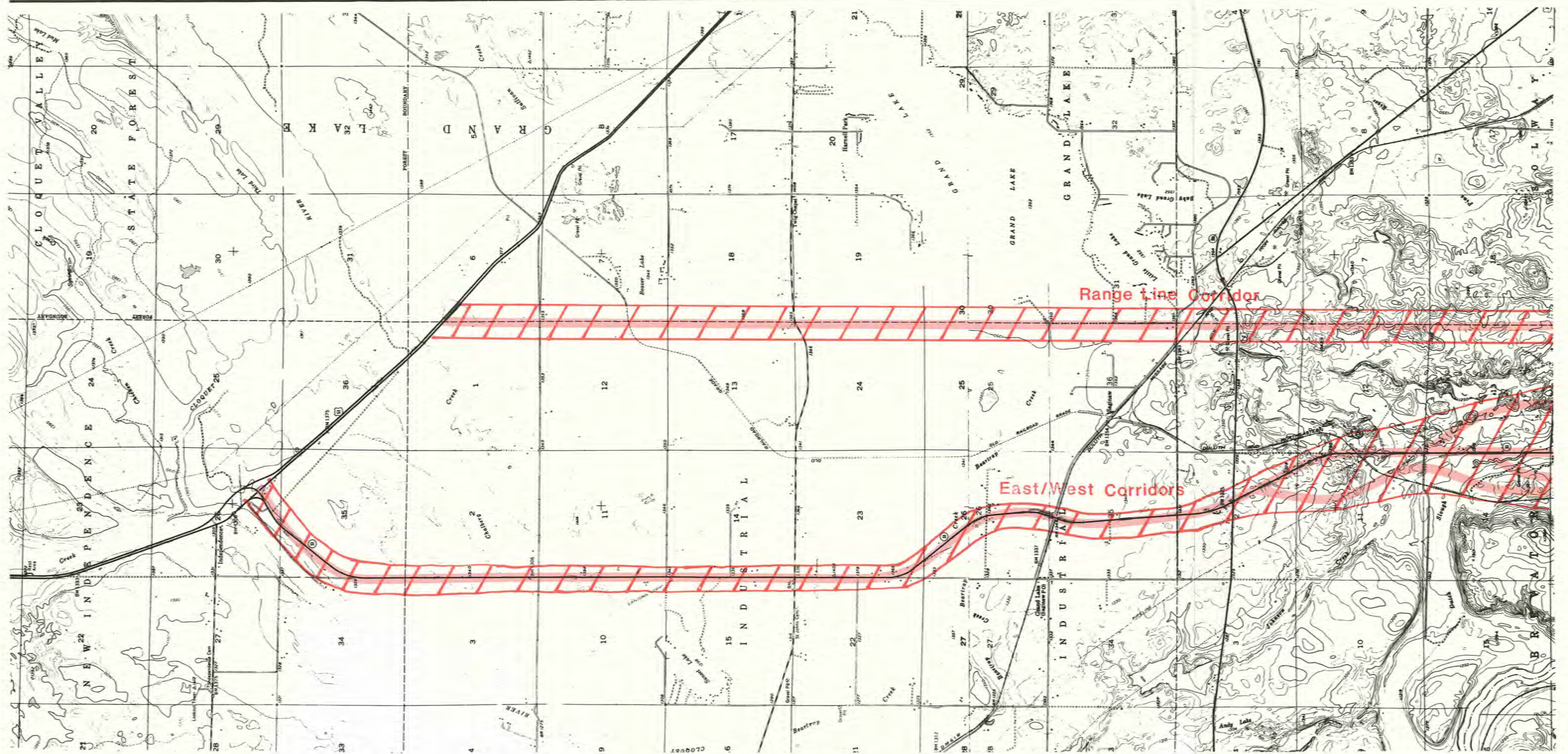
Three primary alternative corridors were analyzed in the urban section of the study area (Figure 7).

West Cloquet Bypass

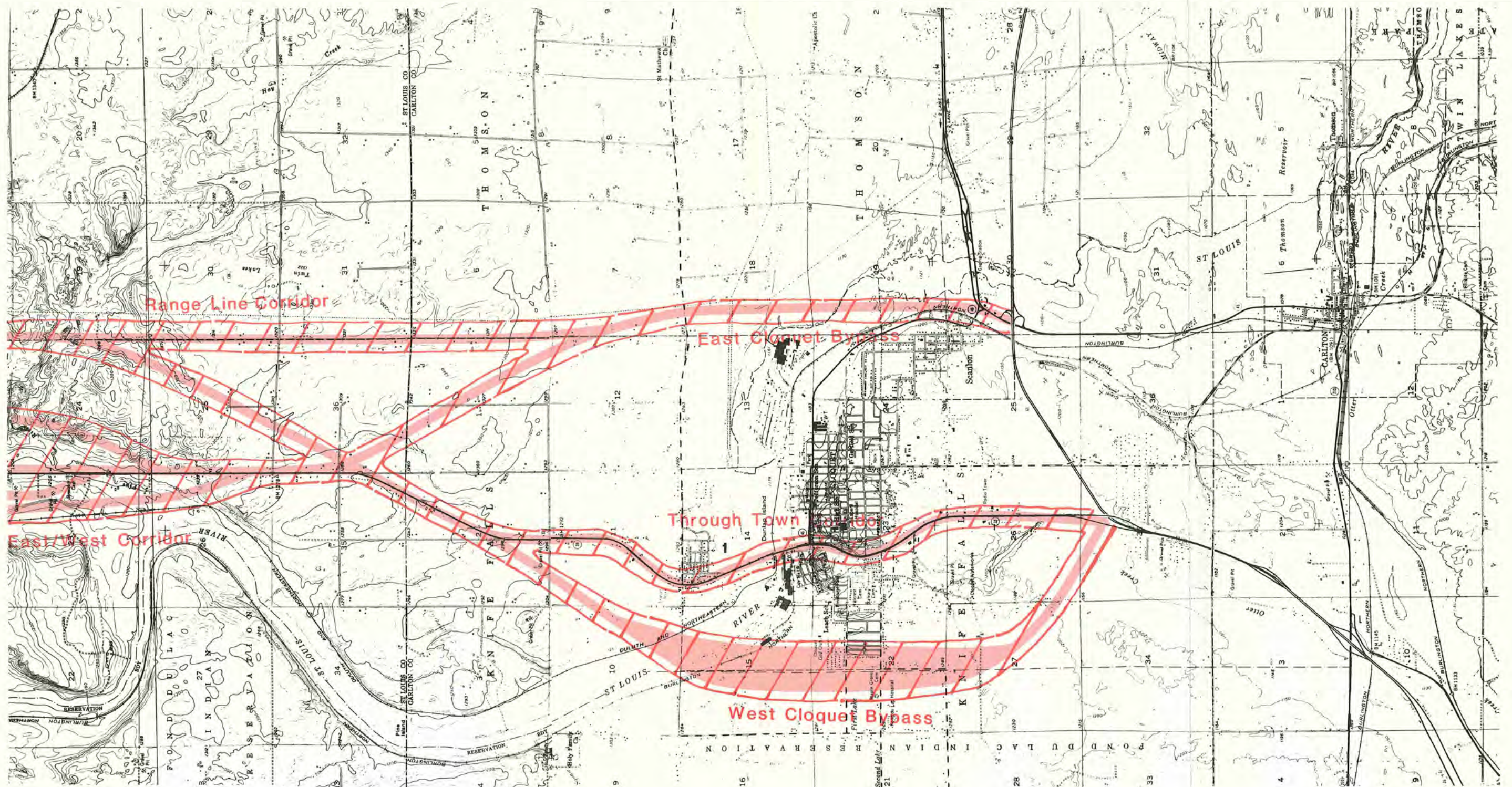
The West Cloquet Bypass begins at the junction of TH 33 and I-35, circles to the west, crosses the St. Louis River and rejoins existing TH 33 approximately 1.5 miles south of the Morris Thomas Road. This corridor evaluates the options of passing through or avoiding the Fond du Lac Indian Reservation.

Through Town Corridor

The Through Town Corridor stays along existing TH 33 from the junction with I-35 to the Morris Thomas Road. There is a crossing of the St. Louis River just north of TH 45. While the southern terminus of this project is I-35, a four lane roadway already exists between I-35 and TH 45. No additional construction, other than the already programmed frontage road and safety improvements, would be proposed south of TH 45.



TH 33 Alternative Corridors in the rural section
Figure 7a



TH 33 Alternative Corridors in the urban section
Figure 7b

TH33
 from I-35 to TH53

East Cloquet Bypass

The East Cloquet Bypass begins at the junction of I-35 and TH 45 approximately one and one half miles east of in place TH 33. This corridor proceeds north through Scanlon, crosses the St. Louis River, angles across the north corporate limits of Cloquet and rejoins existing TH 33 just south of the Morris Thomas Road.

Secondary Corridors

Two secondary corridors are also evaluated in the urban section of this project. Should the Range Line Corridor be selected in the rural section and either the West Cloquet Bypass, the Through Town Corridor or the No Build Alternative be selected in the urban section, the Range Line One Corridor will be needed to connect the two. Should the East Cloquet Bypass be selected along with the Range Line Corridor, the Range Line Two Corridor will be needed to connect the two (Figure 7).

The Final EIS will identify the selected alternative based upon comments received on this EIS and will discuss the basis for that selection. Selection of the No Build Alternative does not prohibit any future highway construction in those sections, where it is selected provided appropriate environmental studies are done and documents are approved.

AFFECTED ENVIRONMENT

INTRODUCTION:

This section describes the environmental setting of the TH 33 study area. It consists of two categories: natural environment and social/economic environment.

NATURAL ENVIRONMENT

The study area is located in Northeastern Minnesota, famous for its wilderness resources of lakes, forests and streams.

Climate

The study area has a continental climate with cold winters and warm summers. Average annual precipitation is 29 inches, with 46 percent occurring in the months of June, July and August. Average snowfall is 50 to 60 inches, with an average of 130 days having a snowcover of an inch or more. Prevailing wind direction is southwesterly during the summer months and northwesterly during the winter.

Topography

Northeastern Minnesota's land surface has been shaped by repeated glacial action. The area is dotted with hills and contains numerous wetlands that are drained by small streams. The overall terrain ranges from flat to gently rolling.

Geology/Soils

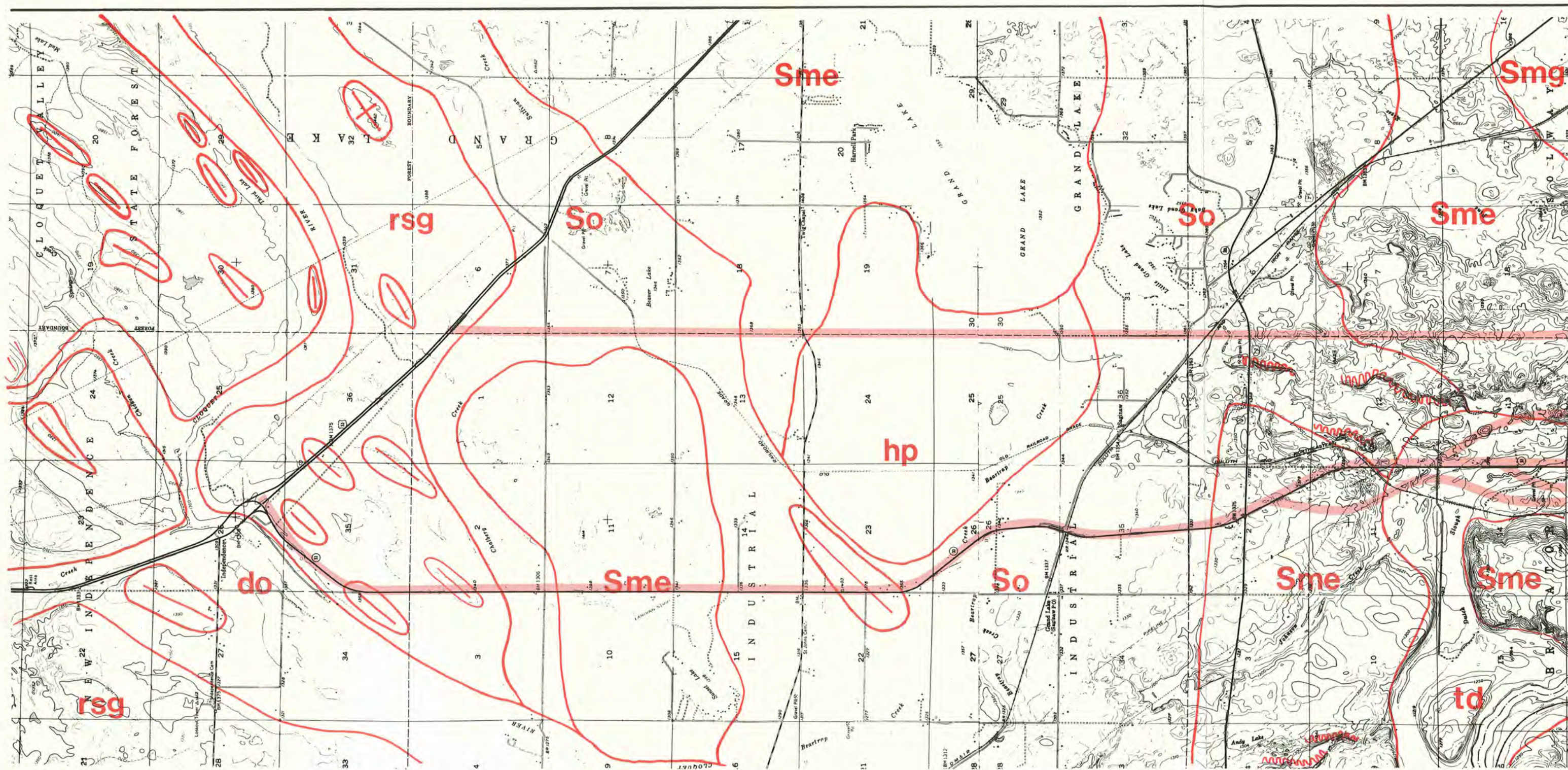
A complex glacial history is revealed by the abundant unconsolidated sediments, moraines (bodies of unsorted and unstratified rock) eskers (long ridges of sand, gravel, cobbles and boulders), and drumlins (elongated, streamlined hills). (Figure 8a and 8b). An exemplary geologic feature is the Cloquet Esker, located west of Cloquet. Glacial sediments range from 35 to 212 feet thick and ultimately reflect the underlying bedrock of Pre-Cambrian granities, Cambrian sandstones, silt stones and shales (Figure 9a and 9b).

Vegetation

Vegetation of the study area is typical of northeastern Minnesota, consisting of extensive second growth comprised of aspen/poplar/birch and spruce/fir/pine associations. Wetland vegetation consists mostly of spruce, ash, willow and alder species. A small percentage of the area is hayfields and pasture.

Wildlife

A variety of wildlife is found in the study area, including white-tailed deer, mink, raccoon, beaver, muskrat, woodcock,

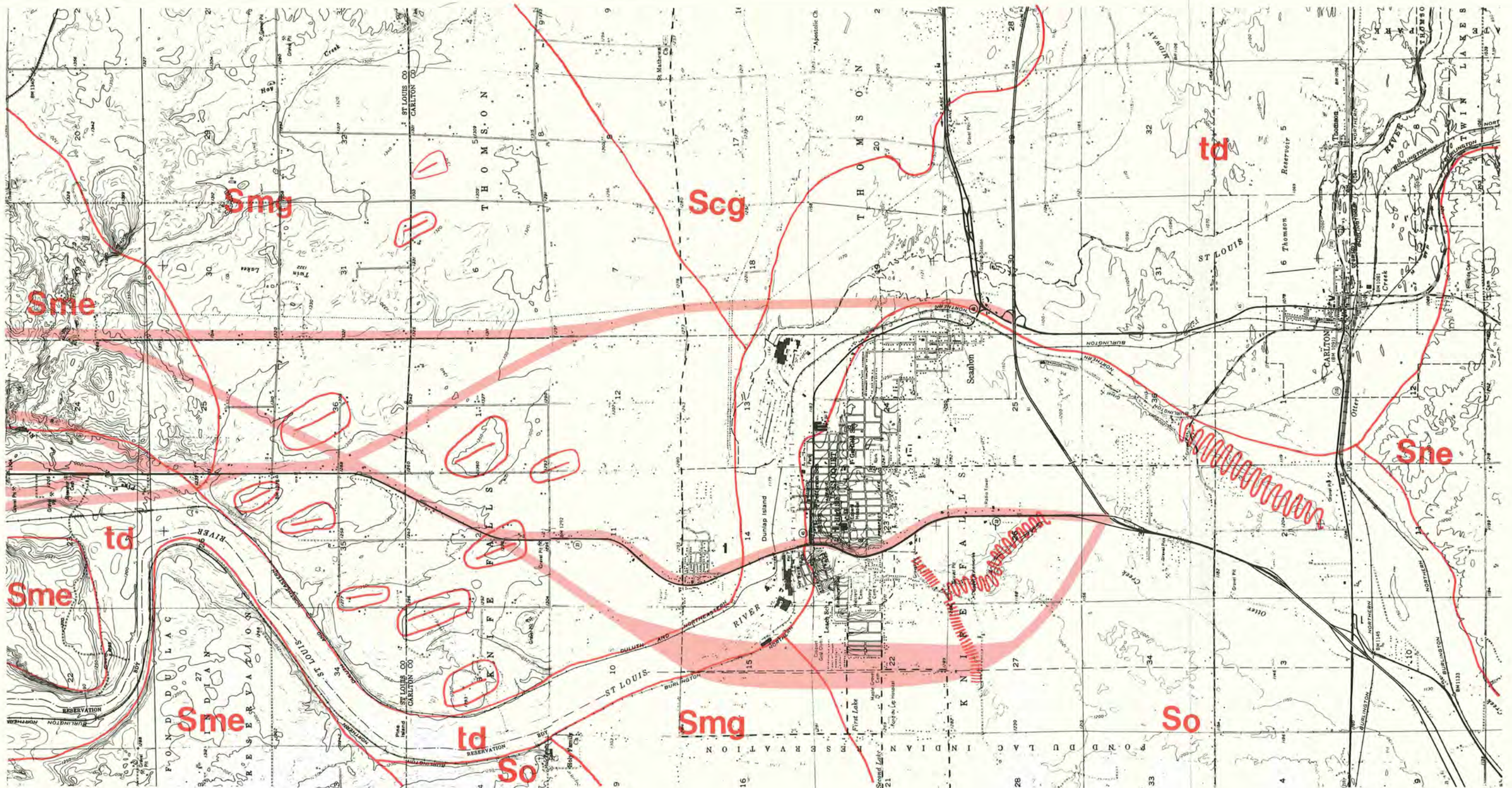


- hp** • Peat – organic deposits, continuous deposit exceeds 4 square miles
td • Terrace – Remnants of former channels and floodplains above present floodplains but below adjacent morains or outwash surface
do • Outwash – Des Moines Lobe–St. Louis Sublobe
Smg • Ground Moraine – Superior Lobe–Mille Lacs Highland Moraine Association
Sme • End Moraine – Superior Lobe–Mille Lacs Highland Moraine Association

- So** • Outwash – Superior Lobe
Scg • Ground Moraine – Superior Lobe–Cloquet Moraine Association
Sne • End Moraine – Superior Lobe–Nickerson Moraine Association
rsg • Ground Moraine – Rainy Lobe–St. Croix Moraine

Surface geology of TH 33 study area

Figure 8a

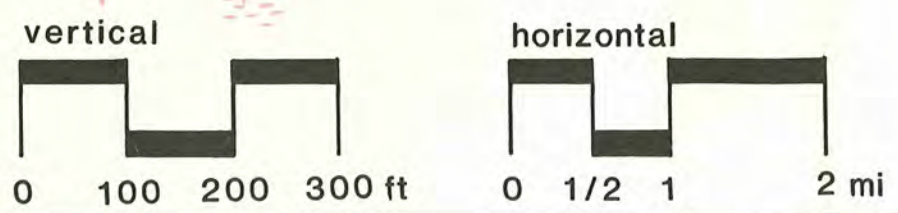
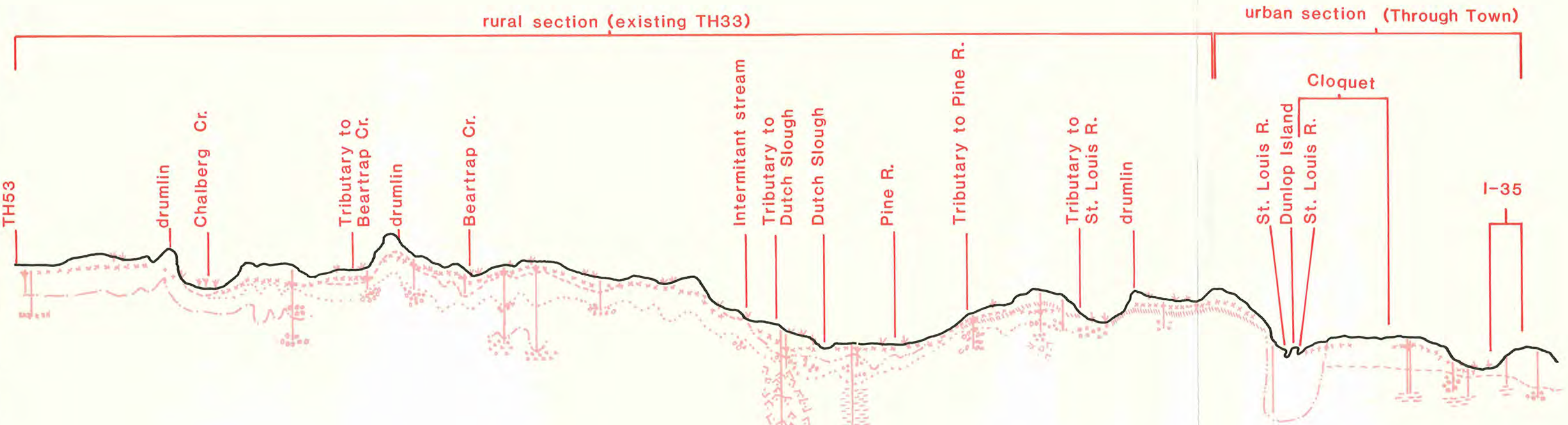
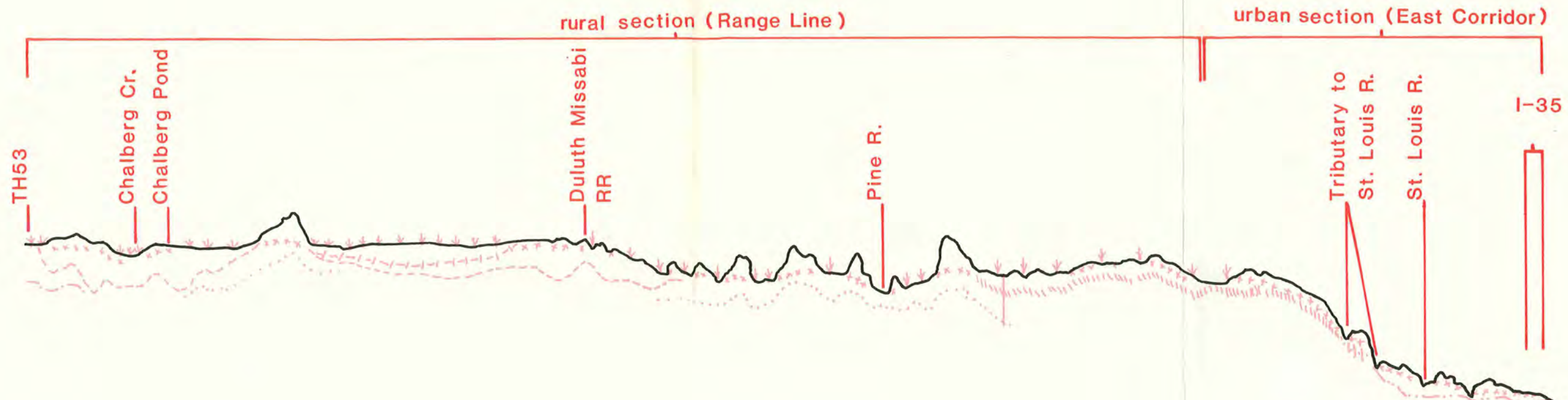


-  Contact boundary
-  Toimi drumlins
-  Automba drumlins
-  Eskers
-  Ice contact features
-  Kame



TH33
from I-35 to TH53

Surface geology TH 33 study area
Figure 8b



TH33

Geologic cross-sections of TH 33 Alternative Corridors
Figure 9a

from I-35 to TH53

ruffed grouse, waterfowl, raptors, and various non-game species. For a discussion of threatened and endangered species, see the Threatened and Endangered Species section of this document.

Water Resources

The study area lies within the St. Louis River watershed. Three major rivers originate within this watershed. These are the Whiteface, St. Louis and Cloquet rivers. Only the St. Louis and Cloquet rivers extend into the study area. Five major floodplains are located in the study area. Flow patterns across the area are west and south towards the Cloquet and St. Louis rivers. Glacial sediments of the area contain a significant supply of groundwater, the depths of which vary greatly.

Wetlands

Wetlands are plentiful in the study area. Spruce and shrub swamps with grassy meadow components are prevalent. Wetlands were classified according to Circular 39 of the U.S. Fish and Wildlife Service (Table 4). Table 5 presents this wetland classification system and how it corresponds to the more recent U.S. Fish and Wildlife Wetland and Deepwater Habitat Classification.

Fisheries

The study area contains seven designated trout streams: Johnson Creek, Crystal Creek, White Pine River, Dutch Slough, Big Otter Creek, Beartrap Creek, and Chalberg Creek. Other fisheries resources include the Cloquet River, the St. Louis River, Grand Lake and several small lakes. Major game fish species in the area are brown trout, brook trout, walleye, channel catfish and northern pike.

TABLE 4.

WETLAND TYPES ACCORDING TO CIRCULAR 39

WETLAND TYPE	DESCRIPTION
Type 1 -	<u>Seasonally flooded basin.</u> Basin is flooded only briefly during heavy rains or spring runoff. Vegetation is generally floodplain forest, weeds or cultivated crops.
Type 2 -	<u>Sedge Meadow.</u> Shallow, grassy wetland with little open water which may only have waterlogged soil during dry periods. Vegetation is typically grasses or sedges.
Type 3 -	<u>Shallow Marsh.</u> Wetland basin usually covered with six inches to two feet of water and is heavily vegetated with cattails, bulrushes or broad-leaved aquatic plants. Small patches of open water may occur.
Type 4 -	<u>Deep Marsh.</u> Wetland basin with permanent water depths from two to four feet. Open water areas are fringed by cattails, bulrushes, etc.
Type 5 -	<u>Shallow Lake & Pond.</u> Open water basins from four to ten feet in depth which are too shallow to support permanent gamefish populations.
Type 6 -	<u>Shrub Swamp.</u> Shallow wetland basin which may only have waterlogged soil during dry periods and are heavily vegetated with alder, willow or dogwood.
Type 7 -	<u>Wooded Swamp.</u> Wetland may have standing water but typically has only waterlogged soil and are vegetated with tamarack, black spruce, red maple and black ash.
Type 8 -	<u>Bogs.</u> Low lying or floating vegetative mat with waterlogged soils, supporting spongy covering of mosses, sedges or heathlike shrubs.

TABLE 5

COMPARISON OF TWO WETLAND CLASSIFICATION SYSTEMS

U.S.F.W.S.	Classification of Wetland and Deepwater Habitats of the United States
Circular 39(1971)	Cowardin et al. (1979)
	Palustrine System
Type 1	<u>Nonpersistent Emergent Wetland.</u> Water regimes are temporarily or intermittently flooded.
Type 2	<u>Persistent Emergent Wetland.</u> Water regime is saturated.
Type 3	<u>Persistent Emergent Wetland.</u> Water regimes are semipermanently or seasonally flooded.
Type 4	<u>Aquatic Bed</u> with floating vascular plants, fringed by <u>Persistent Emergent wetland.</u> Water regimes are permanently flooded, intermittently exposed or semipermanently flooded.
Type 5	<u>Aquatic Bed, with floating vascular plants, and Unconsolidated Bottom,</u> consisting of mud. Water regimes are permanently flooded and intermittently exposed.
Type 6	<u>Scrub-Shrub Wetland,</u> with predominantly broad-leaved deciduous plants. Water regimes are temporarily flooded, seasonally flooded, semipermanently flooded, intermittently exposed and permanently flooded.
Type 7	<u>Forested Wetland,</u> with broad-leaved deciduous, needle-leaved deciduous and needle-leaved evergreen plants. Water regimes are identical to those for <u>Scrub-Shrub Wetland</u> above.
Type 8	<u>Scrub-Shrub Wetland, Forested Wetland, Moss-Lichen Wetland</u> with broad-leaved deciduous, needle-leaved deciduous and needle-leaved evergreen plants. Water regime is saturated.

SOCIAL/ECONOMIC ENVIRONMENT

Population Size

The population of the City of Cloquet is 11,142 which is an increase of 2,443 from the population in 1970. The city has enjoyed relative stability in population for many years. The 1960 population was slightly more than 9,000 persons. In the rural section of the project there are many areas of low density rural residential, although the number living adjacent to the roadway is not known.

Demographic Structure

The age structure of the Cloquet population is not significantly different from that of the state as a whole (Table 6). The population of Cloquet tends to be slightly "older" than that of the state.

The population of Cloquet is on the average, less likely to have graduated from high school or college. This is likely a corollary of the age structure of the population.

TABLE 6
SELECTED DEMOGRAPHIC STATISTICS: CARLTON
AND ST. LOUIS COUNTIES, CLOQUET AND MINNESOTA, 1980

Item	Minnesota	Cloquet	St. Louis County	Carlton County
Population	4,075,970	11,142	222,229	29,936
Median Age	29.2	31.8	30.0	30.5
Mean Persons per Housing Unit	2.74	2.7	2.7	2.8
Percent of Population				
Under 5 years	7.5	7.2	7.3	7.6
5-17 years	21.2	21.7	19.8	23.3
18-64 years	59.5	56.3	59.4	56.3
65 and older	11.8	14.8	13.5	12.7
Persons 25 yrs and older				
Percent H.S. Grad	73.1	66.6	72.0	66.7
Percent 4 or more yrs at College	17.4	11.9	14.8	10.6
Percent Employed in Manufacturing	20.2	32.8	10.4	26.1
Median Family Income (1979)	\$21,185	\$19,279	\$20,903	\$18,913
Per Capita Income (1979)	\$ 7,451	\$ 6,453	\$ 7,063	\$ 6,013
Percent of Families Below Poverty level (1979)	7.0	5.4	6.2	6.8

Economic Setting

The economic setting of the City of Cloquet is dominated by the forest products industry and is often referred to as the "Wood City". The largest employer is Potlatch Corporation, Northwest Paper Division, with + 1,100 employees. Conwed Corporation, a manufacturer of acoustical ceiling products, employs + 750. Diamond International employs + 200. Other employers include the community hospital, the local school system and a variety of smaller firms and agencies.

It is served by rail as well as truck, and Greyhound bus. The city has an airport although, no scheduled air service is available. Duluth International Airport is approximately 25 miles distant.

Community Services

Schools

The study area is covered by two school districts, 710 in St. Louis County and 94 in and near Cloquet. A total of two high schools, one junior high school, two elementary schools and four private/parochial schools are found within the study area. Approximately 3000 students are served by these schools.

Churches

Churches serving the study area include 12 Protestant, four Catholic and four other demoninations.

Recreation

The City of Cloquet offers a number of recreational possibilities, including 11 parks and playgrounds, 17 tennis courts, two swimming pools and a hockey arena. The area also has a number of shopping facilities, meeting facilities, a library, two radio stations and cable TV. A community center in Cloquet provides a variety of services including a library, a museum and a child care center.

Police/fire protection

Police and fire protection are provided by City of Cloquet for the majority of the study area. The fire station also provides ambulance service throughout the study area. A hospital is located just north of the St. Louis River.

Park Lands

Seven parks are located in the Cloquet area: Pinehurst Park, Veterans Park, Spafford Park, Hillside Park, Pine Valley Park, Sunnyside Park, and Athletic Park. The Cloquet Golf Club golf course is also located within the city limits.

Indian reservation

The Fond du Lac Indian Reservation is located generally west and north of Cloquet. The reservation is greater than 21,000 acres in size. Nearly 10,000 acres are located in Carlton County and approximately 11,500 acres are in St. Louis County. Total Tribal enrollment is approximately 2,800 persons. Most do not live on the reservation. The 1980 census enumerated 514 American Indians living on the Reservation. Non-Indian residence is common on the Reservation. The portion of the Reservation adjacent to the western Cloquet City limit is heavily residential.

Historical properties

Fourteen sites identified as having historic value are located within the urban section of the study area. Of these, ten have been identified as being historic by the Minnesota Historical Society and four have historical significance according to the Carlton County Historical Society.

The following sites have been identified by the Minnesota Historical Society as historic sites and structures.

- 1) Dunlap Island
- 2) Phillips "66" Station: Frank Lloyd Wright
SE corner, Cloquet Avenue and T.H.
33 Cloquet

- 3) Cloquet Boom House and Sorting Sheds Site.
SW,SE, Sec. 10, T.49, R.17 St.
Louis River and North End of Posey Island Cloquet
- 4) Cloquet Steam Mill Company Site
NW,SW, Sec. 14, T.49, R.17 Cloquet
- 5) Johnson-Wentworth Sawmill Company Site
NW,SW,Sec.13, T.49, R.17 Cloquet
- 6) Lindholm House
N.E., NE, Sec. 26, T.49, R.17
Cloquet
- 7) Northern Lumber Company
NW,SW, Sec. 14, T.49, R.17 Cloquet
- 8) Northeastern Hotel
N1/4, SE, Sec.14, T.49, R.17
Cloquet
- 9) Upper Northern Sawmill Company Site
NW,SW, Sec. 13, T.49, R.17 Cloquet
- 10) Water Power Sawmill Company site
NW,SW, Sec.13, T.49, R.17 Water
Power Island Cloquet

Four additional sites were identified by the Carlton County Historical Society as also having historical significance.

- 11) Knife Portage
SW1/4, Sec. 13, T.49, R.17
NE,NE,Sec.24, T.49, R.17; Cloquet
- 12) Womans' Portage
from Maple Island to Fortress
Island west side of St. Louis river
Sec.13, T.49, R.17 Cloquet
- 13) Womans' Portage
from Maple Island to Fortress
Island east side of St. Louis River
Sec.13, T.49, R.17
- 14) C.N. Nelson Lumber company

V). ENVIRONMENTAL
CONSEQUENCES:

This section describes the potential social, economic and environmental impacts of the proposed T.H. 33 project. The No Build and six build alternatives are evaluated.

Analysis of the build alternatives are divided into the rural section (three alternatives) and the urban section (three alternatives). All of the build alternatives are evaluated on a corridor basis. No specific alignments were analyzed. The corridors range in width from 500 feet to over 2,000 feet depending on environmental and geometric constraints. Where specific acreages are given in the environmental analysis, an approximate alignment was fixed within that corridor. Ranges of acreages are used wherever possible to show the variability of alignments within a given corridor. Where appropriate, mitigation measures are discussed.

SOCIAL IMPACTS

A major transportation improvement has the potential to cause significant social impacts to the community through which it may pass. These are discussed on the following pages.

Rural Section

Community/Neighborhood Cohesion

None of the alternatives being considered are anticipated to cause significant adverse impacts to community or neighborhood cohesion. The selection of either the TH 33 East or West corridor would result in construction adjacent to existing TH 33. As a result, the project would remain within the existing corridor, and no residential neighborhood would be split or become isolated. The acquisition of residential property located along TH 33, and the subsequent relocation, may cause some adverse impacts to neighbor relationships. However, the proposed improvement will not create any physical barrier effect. Access to community facilities will not be adversely impacted, but rather will be enhanced. The provision of a safer and more efficient transportation system will make it easier for residents living anywhere along the TH 33 corridor to reach community facilities, in Cloquet, on the Iron Range, in Duluth and elsewhere.

The Range Line Corridor is also not expected to cause significant adverse impacts to community cohesion. For most of the distance of this alternative, it would traverse undeveloped land, or land very sparsely populated. It does not traverse an urban area or incorporated place in the rural section. As a result it will not divide any existing cohesive neighborhood. Some relocation would be caused by this alternative and some neighbor relations may be harmed as a result. However, it is not anticipated to be a significant community impact. For people living near the Range Line Corridor, access to community facilities will be enhanced.

The No Build Alternative would not be expected to exert any adverse impact upon community cohesion.

Travel Patterns/
Accessibility

Construction of a four lane highway within the TH 33 corridor will not adversely impact travel patterns or accessibility. Travelers currently using the TH 33 corridor would continue to use it. Travel patterns would remain the same, and accessibility may be increased as a result of travel time reductions. Also, construction within the TH 33 corridor should not adversely impact the accessibility of residents currently living in proximity to the Range Line Corridor. If construction is undertaken in the TH 33 corridor, residents living within the Range Line Corridor can be expected to continue their current travel patterns.

Construction in the Range Line Corridor will alter non-resident travel patterns. Most through-trip motorists will divert from the existing TH 33 corridor and travel on the new facility.

This can be expected to have a number of effects, as follows.

- A. Reduction of traffic on TH 33, particularly tourist traffic, will improve travel and accessibility for those residents currently living along the TH 33 corridor.
- B. Construction of a four lane divided facility will enhance accessibility for those now living in the Range Line Corridor.
- C. Construction in the Range Line Corridor would imply that existing TH 33 will remain as is. This will mean no change from the existing condition.

Replacement of the current TH 33-TH 2 intersection with a grade separated interchange will improve travel and accessibility in the Corridor.

Construction of a four lane divided highway in either the existing TH 33 corridor or the Range Line Corridor would not cause any significant adverse impacts as a result of alterations in travel patterns or changes in accessibility.

Selection of the No Build Alternative will not adversely impact accessibility compared to the existing condition. The improvements associated with the No Build will increase accessibility, not to a lesser degree than the build alternatives.

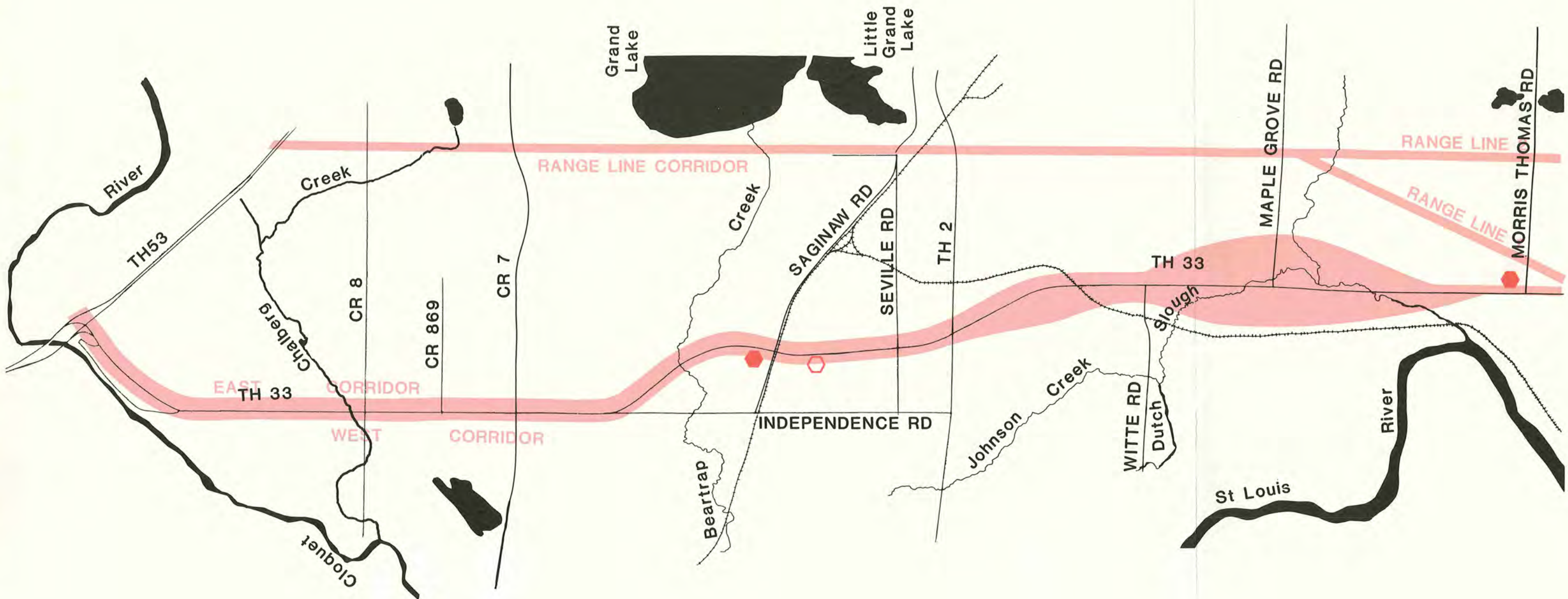
Community Facilities (Figure 10)

Schools

Albrook School, a public high school for grades 9 through 12 is located within the West Corridor at the junction of TH 33 and Seville Road, approximately one half mile north of TH 2. This is a combined high school, drawing students from the communities of Alborn and Brookston. The two companion lane design option in the West Corridor would eliminate the schools parking area, located adjacent to in place TH 33. The four lane design option in the West Corridor would require the relocation of Albrook School and/or the football field and track located west of the school building. The East Corridor and Range Line Corridor have no direct impact on the school.

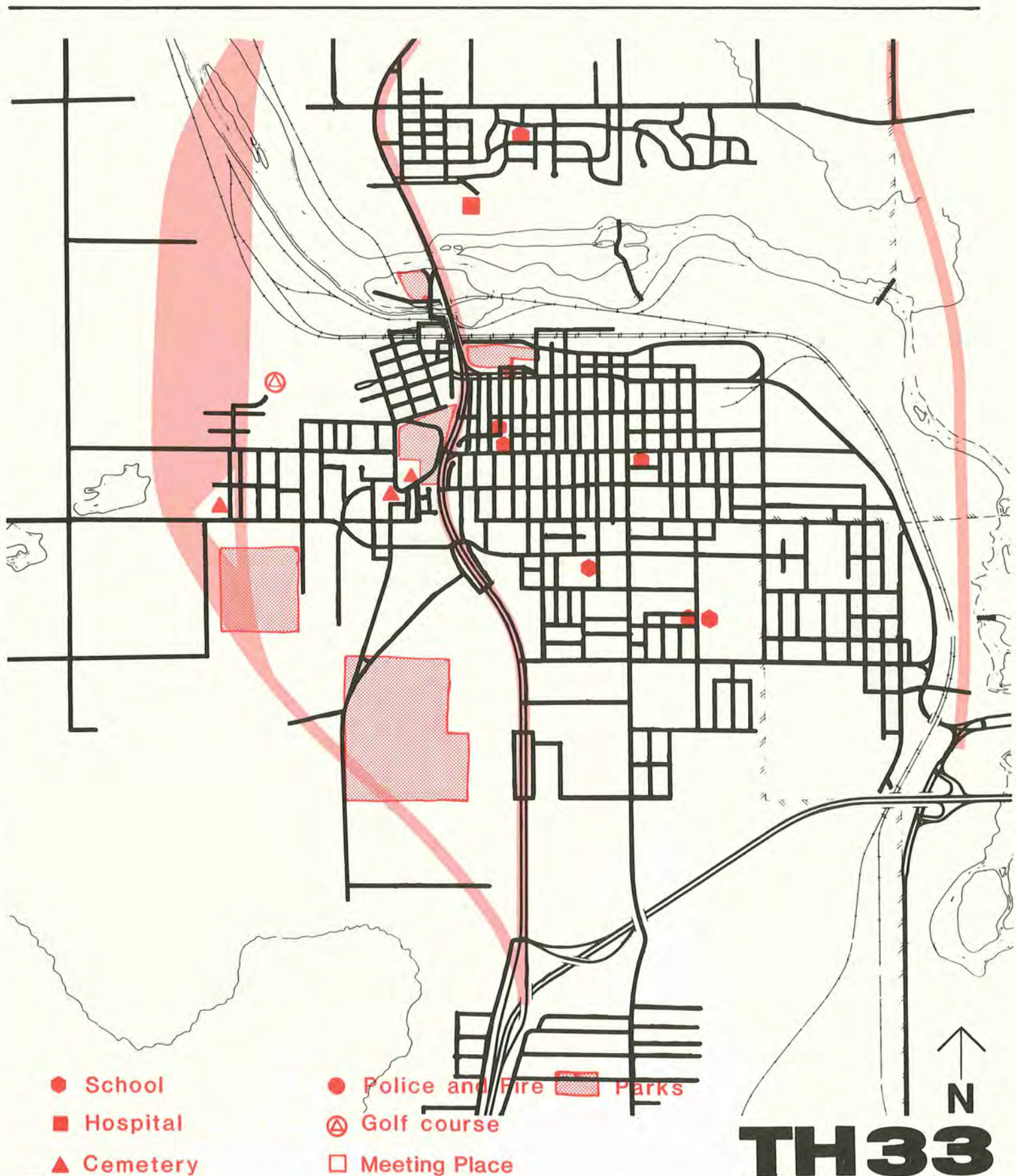
Faith Christian School is a private, religious elementary school located within the East Corridor at the intersection of TH 33 and the Morris Thomas Road. The two companion lane design option in the East Corridor would require the relocation of this school. The four lane design option in the East Corridor, the West Corridor and the Range Line Corridor would not directly impact this school.

The No Build Alternative would not adversely impact any school facilities.



Community services in the TH 33 rural section
Figure 10a

TH33
 from I-35 to TH53



Community services
in TH 33 urban section
Figure 10b

School Districts

The rural portion of the project is included in School District 710, headquartered in Duluth. Potential School District impacts include the number of school children, the location of bus routes, and potential tax losses caused by relocation. This third effect will be discussed under the "fiscal impacts" section rather than here.

The number of school children potentially impacted was estimated. This procedure begins with the number of housing units likely to be displaced, and multiplies this by the average number of persons per housing unit in St. Louis County. This is then multiplied by the proportion of the population aged 5-17 for St. Louis County. The result is an estimate of the school aged children which may be displaced. Although previous research indicates that most displaced residents settle near their old residence, worst case analysis is used to estimate the maximum impact. For the TH 33 project, the worst case assumption is that all displaced residents will move from the region. If this were the case, District 710 might lose as many as 21 school aged children in any one year. The State of Minnesota guarantees school districts a certain level of expenditure per 'pupil unit', which varies from year to year. The allocation formula is quite complex and includes a large number of variables. The formula requires that local factors be included in this computation. This process causes the actual amount of state aid received to vary between districts and over time. It is therefore not possible to exactly determine changes in school aid. Table 7 contains the amount of aid which could be lost if each displaced student left the district, and the district lost the full dollar amount of foundation aid it had received on a per student basis. This represents a "worst case" analysis and over estimates losses which would actually occur. The highway design is such that no physical barriers will be created which could cause the alteration of school bus routes. Coordination with school district staff has revealed that no adverse impacts are anticipated.

Table 7
Potential Impacts to School Districts

	RURAL SECTION DISTRICT 710			URBAN SECTION DISTRICT 94			Through Town Corridor	Range Line Corridor
	West Corridor	East Corridor	Range Line Corridor	West Cloquet Bypass	East Cloquet Bypass			
Potential Homes Displaced	30-40	20-35	7	19-60	17	11		3-6
1980 Mean Persons per Housing Unit ¹	2.7			2.7				
Estimate of Persons Displaced	81-108	54-95	19	51-162	46	30		8-16
Percent of Population Aged 5-17 ¹	19.8			21.7				
Estimate of School Aged Children Displaced	16-21	11-19	4	11-35	10	7		2-3
Fall 1983 District Enrollment ²	2871			2322				
Foundation Aid Received, 1983-84 ^{2,3}	\$3,764,000			\$3,145,000				
Foundation Aid Per Student	\$ 1,311			\$ 1,354				
Estimated Maximum Loss of Foundation Aid	\$ 20,976 27,531	14,421- 24,909	\$ 5,244	\$ 14,894- 47,390	\$ 13,540	\$ 9,478		\$ 2,708 \$ 4,062
Maximum Loss as Percent of Foundation Aid Received	.7%	.7%	.1%	1.5%	.4%	.3%		.1%

49. ¹ 1980 Census Data
² Minnesota Department of Education
³ A variety of state aids are received. Foundation aids are the most sensitive to numbers of students.

Recreation Areas

The only publicly owned recreation area in the rural section of the project is the football/track athletic field associated with the Albrook High School. This field would be severely impacted by the West Corridor, four lane design option. None of the other alternatives will adversely impact this recreation area.

Churches

A private home used for nondenominational Christian religious services, is located within the West Corridor, immediately north of TH 2. Relocation of this church/dwelling will occur with either the two or four lane design option. No direct impacts to this church/dwelling will occur with the East or Range Line Corridors. No other churches will be impacted by any of the project alternatives.

Public Safety/Emergency Services

In the rural section, construction of any of the four lane alternatives will facilitate the movement of emergency vehicles north of Cloquet. Either the East or West Corridor would provide the same level of service. Construction in the Range Line Corridor would not provide the high level of service to the north or west along TH 2. The No Build Alternative would provide a better level of service than the existing condition, but less than the four lane alternatives.

Construction of either bypass alternative in the urban section would not adversely impact the provision of emergency services in the rural area; neither would it cause a beneficial effect. Emergency vehicles traveling in a north/south direction, north of Cloquet would continue to use existing routes. The reduction of through traffic on existing TH 33 would facilitate emergency vehicle movement somewhat.

The limited improvements associated with the No Build Alternative will facilitate the movements of emergency vehicles. This

will be less than the free flow which would be associated with a four lane design in the rural section.

The construction of the Through Town Corridor would have the most beneficial effect upon emergency service provision in the rural area. The location of the public safety building is very near existing TH 33 (Figure 10). Access to a westerly bypass would be sufficiently distant from the intersection of existing TH 33 and TH 45 that it would not generally be used for emergency vehicle movement. An easterly bypass would be even more distant and would presumably be used even less. The Through Town Corridor would provide the best facility for movement of emergency vehicles north of TH 45.

Access to the hospital would be most positively impacted by the Through Town Corridor. Either bypass alternative would not pass sufficiently near the hospital to reduce access time. The Through Town Corridor would pass only a few blocks from the hospital, providing all users increased access.

Special Group Impacts

Previous research has shown some categories of people are particularly sensitive to the personal and social dislocations which transportation improvements sometimes cause. These categories include the elderly, handicapped, non-drivers, and minorities. The percentage of elderly in the general population in Carlton County is 12.7. In Cloquet it is 14.8. This compares with 11.8 for the state and 11.5 for the nation. This indicates that the proportion of elderly in the project area is somewhat higher than other areas. The project is such that non-drivers are not apt to be affected in any way by the project. Significant numbers of minorities live in proximity to the project area. The Fond du Lac Indian Reservation is located in Carlton and St. Louis counties, west of the St. Louis River and the project study area. Within the rural section of the project, none of the proposed alternatives involve land within the reservation. The improvement

can be expected to effect minority group members to essentially the same degree as it does majority group members, e.g. safety improvements, travel times, etc. Minority travelers will be benefitted to the same degree as non-minority travelers by the proposed highway improvement.

Urban Section

The construction of a bypass of an urban area can be expected to have several social effects. The removal of through-traffic from city streets will:

- A. Make it easier for pedestrians/bicyclists, especially children and elderly, to travel from one part of town to another, and increase their safety.
- B. Reduce conflicts between local and through traffic, increasing safety.
- C. Reduce or remove the annoying effects of traffic from residential areas.
- D. Have a generally positive effect on social cohesion.

These effects could be expected to be associated with any bypass alternative. Other social impacts may be as follows.

Neighborhood Effects

Neither the West or East Cloquet Bypass would be located in a densely populated urban residential area and neither would cause major adverse effects on neighborhoods. The East Cloquet Bypass is an area that is very sparsely populated, and should not therefore exert any adverse indirect impact on neighborhood cohesion.

A portion of the West Cloquet Bypass would traverse an area which has residential land uses. This could create an adverse affect by separating that area, including the Fond du Lac Indian Reservation, from the rest of Cloquet. Traffic associated nuisances may be relocated to this area by a west bypass.

Selection of the Through Town Corridor would keep TH 33 on existing alignment and thereby not create any new significant adverse effect on community cohesion other than what already exists. Neither would the selection of the Through Town Corridor reduce any current adverse impact of existing TH 33. The No Build Alternative would not exert any adverse effect upon community cohesion.

North of the St. Louis river, on the Through Town Corridor, some access modifications may be necessary. This may impact that residential area, although precise impacts cannot be determined until a selected alternative is chosen and a detailed layout is available.

By removing through traffic from local streets, adoption of either bypass will facilitate travel within the City of Cloquet, particularly in an east-west direction.

Community Facilities (Figure 10)

School District 94

The number of school children potentially impacted, and the possible effect on state foundation aids, were estimated using the same procedure described earlier in the rural section.

Depending on which alternative is examined, the build alternative could cause the displacement of as many as 35 school aged children. This could in turn translate to loss of foundation aid which could exceed one percent of foundation aid received. Table 7, contains summary information of these impacts. The No Build Alternative would cause no relocation, and therefore would not cause any adverse impacts to school district facilities or operations.

Construction of either Cloquet bypass alternative may over time alter residential development patterns. This in turn could cause the alteration of school bus routes. While they may affect residential location, none of the project

alternatives are expected to exert any influence on population size or characteristics.

Recreation Areas

Construction in the East Cloquet Bypass will not affect any known publicly owned and used recreation areas. Construction of the West Cloquet Bypass would likely cause some right of way acquisition in Pine Valley Park. A west bypass which would avoid the use of Indian Reservation land would encroach upon the golf course of the Cloquet Golf Club.

The Through Town Corridor may cause some encroachment upon Veterans Park, located at the intersection of TH 33 and TH 45. Spafford Park, located on Dunlap Island, could be impacted as well. The No Build Alternative would not cause any significant adverse impacts to any publicly used recreation area.

Precise acreage figures cannot be determined until a detailed layout is available. Any taking of public recreational property must be preceded by the determination that no feasible or prudent alternate exists. Any such proposed taking will be discussed in a "Section 4(f) Determination."

Public Safety/Emergency Services

Movement of emergency vehicles will be facilitated by any of the build alternatives. Either bypass alternative will reduce traffic on existing TH 33 and thereby facilitate emergency movement. However, either bypass alternative would be located such that use by emergency vehicles would be rare. Either bypass would be located sufficiently far from the community hospital that access time would not be reduced in any meaningful way. The Through Town Corridor would positively impact the movement of emergency vehicles north of the TH 33/TH 45 intersection, and will improve accessibiity to the community hospital from any southerly point. The limited improvements associated with the

No Build Alternative would exert a positive effect upon emergency vehicle movement.

Special Groups

Previous research has found that some categories of people are more sensitive to the adverse impacts which are sometimes associated with transportation projects. Such categories include the elderly, minorities, mobility impaired, non-drivers and others. The adverse effects include relocation effects, isolation, separation, etc.

The scope and design of the proposed facility is such that it is unlikely to cause undue adverse impacts to any of these groups, other than that which may be associated with relocation. The No Build Alternative would have no effect upon any special group.

The West Cloquet Bypass would pass in or near the Fond Du Lac Indian Reservation, through an area in which residential land use is common. Non-Indian residence is common in this section of the Reservation.

A highway frequently comes to serve as an unofficial "boundary" demarcating neighborhoods or communities. It is likely that a West Cloquet Bypass would, over time, come to be defined as such a boundary between the Reservation and the remainder of the community.

ECONOMIC IMPACTS

Major transportation improvements have the potential to exert major effects on the economy. They may reduce transportation user costs, open new areas for residential or commercial development, or in other ways exert a substantial economic effect.

Rural Section

Business Impacts

In the rural section of the proposed project, a number of businesses currently operate along and adjacent to existing TH 33. A number of these businesses are oriented to through motorists. Construction of a four lane facility in either the East or West Corridor may cause some disruptions during construction. Some number of these businesses may be displaced by construction.

Construction of a four lane facility in the Range Line Corridor would cause the major traffic flow to divert from existing TH 33. This may cause adverse impact to those businesses on TH 33 which cater to the transient motorist. Construction in the Range Line Corridor can be expected to result in business growth in the new Corridor. Some of this growth can be expected to be genuine growth, other is simply economic activity which has relocated.

Regional economic impacts are not expected to vary under any of the build alternatives. The provision of the improved facility will exert some affect on the demand for traveler oriented goods and services, i.e. gasoline, motel rooms, etc. However, that effect can be expected to be constant across the location alternatives. While the specific location of the economic activity will vary according to the Corridor chosen, regionally, the impact will be the same.

Tax Revenue

Property acquired for transportation right of way is permanently removed from the rolls of the taxing district in which it is located. This may result in a temporary

increase in the ad valorem tax on remaining real property. If all, or a substantial proportion, of displaced property owners choose to relocate outside of the original taxing district, such a tax increase could be permanent. Previous experience indicates that most property owners relocate within the same general area. This will normally result in a property tax impact of insignificant proportion.

In general, either of the locations in the TH 33 Corridor can be expected to be approximately equal in tax loss impacts. Property within the Range Line Corridor is generally undeveloped and its conversion to a transportation use can be expected to be less of an impact than the TH 33 Corridor property would be. The No Build Alternative would cause the least amount of right of way acquisition, and corresponding fiscal impacts would be minimal.

Public Expenditures

The overall project, rural and urban, will add approximately 36-40 miles of travel lanes. These will require plowing, sanding, and other maintenance efforts. In addition, the median will require some mowing and other related maintenance efforts. These costs will be borne by Mn/DOT from the normal funds used for these purposes. No public expenditures will be required from the local units of government through which the roadway will pass.

However, depending upon the alternative selected, local units of government will have to expend public funds to maintain portions of existing TH 33 which may be returned to local governmental ownership. The Range Line Corridor would result in approximately 30 lane miles being turned back to local control.

The design option which would add a companion two lanes to the existing highway within the East or West Corridor, would result in zero miles being turned back to local control, as would the No Build Alternative. If four lanes on new alignment were to be constructed within

the East or West Corridor, 20 lane miles would be turned back to local control.

Development

No major commercial, residential or industrial developments are expected to occur as a result of this project. Construction of either of the alternatives in the existing TH 33 Corridor, or selection of the No Build Alternative, can be expected to result in development in the existing Corridor continuing at its historic pace. While new development may occur within this Corridor to serve increased traffic levels, such development will be incremental in nature.

Construction within the Range Line Corridor can be expected to force some development of traffic serving commercial operations. However, no major commercial development is foreseen as a result of this project. Construction in the Range Line Corridor could be expected to result in increased residential land use in that Corridor. The rate of such land use conversion will depend upon individual location decisions and cannot be accurately predicted.

Employment Opportunities

No significant post-construction employment opportunities are anticipated to be directly caused by the project. The project is designed to facilitate recreational, commercial and other travel between Iron Range communities and any southernly point. This may make the northern part of the state more attractive and thereby exert some long range beneficial effect upon commercial activity in the area.

Direct construction employment effects are discussed in Construction Impacts section of this document. The construction of the proposed improvement may provide approximately 1.19 million employee-hours. In addition, large amounts of locally provided materials will be needed on the project.

Accessibility

Physical accessibility will not be changed in any significant manner by this project. Because of the divided nature of the proposed improvement, some people living

along the roadway may experience some increase in circuitry of travel. Crossovers are planned at every intersecting county or township road, which are located every one to two miles. Increased circuitry could not exceed two miles for any resident. Travel times will be reduced for most highway users.

Urban Section

Development

Adoption of the Through Town Corridor would leave existing TH 33 to serve the adjacent commercial development of recent years. Most of the new development is located near TH 33, between I-35 and Doddridge Road. A shopping mall and other free standing retail outlets have grown in the area in the recent past. TH 33 is four lane in this area.

Construction of either of the bypass alternatives would not serve any existing or planned commercial, industrial or residential development. Under the No Build Alternative, development could be expected to continue, unaffected by any transportation improvement.

The East Cloquet Bypass has limited development potential. South of the St. Louis River crossing, the topography and industrial land use combine to make development very difficult. The East Corridor, generally between East Cord Road and North Road, would appear to have good development potential. Should the East Cloquet Bypass be selected it should be assumed that over time, business oriented to the traveling public would develop along it. The precise timing of such actions is a function of individual location decisions and is not possible to predict accurately.

The West Cloquet Bypass also has limited development potential, for many of the same reasons. The area between the St. Louis River and existing TH 33, north of Stark Road, would appear to have good development potential.

Fiscal Impacts

As in the rural section, it is not possible, at the Corridor level of analysis, to precisely predict fiscal impacts. The East Corridor would require the acquisition of the largest amount of property. The West Cloquet Bypass would require the next larger amount of right of way. The Through Town would require the least amount of right of way. However, property adjacent to the Through Town route is the most highly developed and therefore more highly assessed. The No Build would require no right of way.

Employment Opportunities

The project is not expected to cause any significant post construction employment opportunities.

The project will facilitate travel between Iron Range Communities and any southerly point. It may therefore exert some long range positive results on tourism and other industries dependent upon ease of travel. It may benefit other road using industries. However, there are no known commercial, industrial, or residential development plans which are contingent upon the upgrade of TH 33.

There is the possibility that the proposed improvement may improve retail sales in the Cloquet area.

Any of the build alternatives will cause a substantial, although short term, impact on the local/regional area through construction related employment and purchases. Refer to the Construction Impacts section of this document.

Accessibility

Either of the bypass alternatives would increase accessibility to areas which are currently generally undeveloped or underdeveloped.

The Through Town Corridor would not result in any change in accessibility to the downtown area from any northerly or southerly point. The Through Town Corridor would facilitate travel to the Cloquet Hospital from any northerly or southerly point. It would also increase accessibility to the downtown area from any northerly point.

Retail Sales

The overall project, including the urban section, has the potential to increase retail/commercial sales in Cloquet. Following project construction, Cloquet will have generally increased accessibility to Iron Range communities. From the junction of TH 33-TH 53, it will take less time to reach Cloquet than it would to reach the Hermantown - Miller-Hill strip commercial development near Duluth. This is particularly true of the Through Town Corridor. The No Build Alternative, by providing only limited improvement would not be expected to provide benefits in this area. Retail merchants in and near Cloquet may exploit this ease of access and reduction in travel time to expand the Cloquet Market Area. This effect will, of course, be dependent upon the decisions and marketing efforts of Cloquet commercial interests. Given the assumption that total regional retail expenditures will not increase as a result of the highway improvement, any gains in retail sales in Cloquet would be offset by equivalent losses elsewhere in the region.

Business Impacts

Forest Industry

The Cloquet economy is heavily dependent upon the forest products industry, which is the major employer. These firms purchase large amounts of wood from local and regional suppliers. A substantial proportion of this raw material reaches these plants via TH 33. The proposed improvement will insure that the forest products industries will have adequate transportation routes available to them for the foreseeable future. The provision of a four lane divided facility will decrease user costs to forest product truckers, and will make TH 33 safer, both for truck and non-truck traffic.

Cloquet Bypass Impacts

The construction of either the West or East Cloquet Bypass can be expected to

exert some adverse impact upon those businesses currently located along TH 33 which serve and are to some degree dependent upon, transient motorists. Examples of such businesses are gasoline service stations, motels, and convenience food outlets.

The subject of bypass impacts has a substantial body of research literature. Literally hundreds of bypass studies have been conducted. The conclusions of this literature are strikingly consistent, as follows:

- A. When examined at the level of community or county, a bypass project does not exert a discernible effect.
- B. Although overall community economy is not affected, some individual businesses may be adversely impacted.
 - 1. There is evidence that businesses which are oriented to the motoring public may be adversely impacted by traffic diversion. Generally, these businesses have been defined on ad hoc basis. Normally included businesses are service stations, motels, and convenience food outlets.
 - a) Some businesses may regain reduced customer flow through a variety of measures which may include more aggressive marketing, focusing on a segment of the market, specialization of goods or services, etc.
 - b) Some businesses may relocate. Frequently businesses relocate near the new highway, and may realize great success. The vital retail center at the intersection of I-35 and TH 48 in Hinckley is an example of relocation and economic growth.

c) Some businesses may close.

- C. There is no evidence that "non-motorist" businesses are adversely impacted. It is sometimes alleged that all, or some substantial proportion, of businesses will be adversely impacted. There is no evidence that businesses which offer "shopping" or "speciality" goods or services (e.g. major consumer durable goods such as television sets, refrigerators, or financial services) are at all affected.
- D. Bypasses sometimes beneficially impact local shopping areas by reducing traffic congestion or eliminating through traffic-local traffic conflicts. This may make it easier for local shoppers, upon whom most businesses depend, to reach retail destinations.

Public Expenditures

Depending on the alternative selected, the urban project will add between six and ten lane miles of road to the trunk highway system. These additional miles will require plowing, maintenance, and right of way upkeep, e.g. mowing. These expenses will be paid for from the normal user taxes dedicated to these purposes. Should the East or West Cloquet bypass be selected, existing TH 33 would most likely be turned back to the City of Cloquet. The local unit of government would be responsible for the cost of maintaining the approximately 14 lane miles of existing TH 33 within the city limits of Cloquet. The No Build Alternative would not result in any turnback.

RELOCATION IMPACTS

Depending on the alternative selected, relocation of homes and businesses is a significant adverse impact of the TH 33 project. This conceptual stage relocation plan will analyze this project in terms of the following three areas:

- A). A description and approximate count of homes which would be relocated on each of the proposed alternatives.
- B). The approximate number of businesses which would have to relocate on the different alternatives.
- C). A survey of the homes, building lots, acreage and other commercial property presently available in the area.

Table 8 summarizes the number and type of relocations which would potentially occur for each alternative corridor in both the urban and rural section of this project.

The limited improvements associated with this No Build Alternative are not anticipated to cause any relocation.

TABLE 8
RELOCATION IMPACTS WITHIN TH 33 STUDY AREA

Rural	West	East	Range Line
Section	Corridor	Corridor	Corridor
Homes	31-41a	20-35a	7
Business	4	4	0
Miscellaneous	1-Public Safety Weigh Station 1-Church/home 1-NW Bell Utility Building	1-Parochial School	0

Urban	West	Through	East	Range	Range
Section	Cloquet Bypass	Town Corridor	Cloquet Bypass	Line One	Line Two
Homes	19-60b	11	17	3	6
Business	2	2	6	1	1
Miscellaneous	0	1-Gas Pump Island	1-Petroleum Bulk Plant	0	0

a The range of homes to be relocated depends on the four or two lane design option.

b The range of homes to be relocated depends on whether the alignment passes through the Fond du Lac Indian Reservation.

Residential Relocation

As this is a conceptual stage study plan, no personal contacts have been made with the residents or businesses involved. Field drives were made to estimate the number of homes involved and to survey the residential characteristics involved in the proposed project area. The types of homes along TH 33 cover a rather general range. The homes are concentrated most heavily around the north City Limits of Cloquet.

In both the urban and rural sections of TH 33 the homes are newer, of substantial size and well kept. The area and the homes indicate that the families and individuals are probably in the middle income level. Many of the residents living in the rural area commute to jobs in Cloquet.

Business Relocation

Considering the scope of the proposed project, commercial relocation will be minimal regardless of the alternative selected. At this time it is thought that the project could cause a maximum of four commercial displacements. Of these, two can be categorized as oriented to transient motorist traffic. Relocation sites for such businesses will need to be along the main traveled road. A field review of the route indicated that suitable building sites or buildings do exist along TH 33. Another option which may be feasible for some business owners is to use that part of their property which will remain following right of way acquisition. They may be able to stay in the same location by moving back on their property.

Businesses not oriented to the transient motorist do not require a location directly on the highway. An adequate number and variety of commercial sites are presently available to meet needs.

Weigh Station Relocation

Selection of the West Corridor will cause the relocation of the State Department of Public Safety (DPS), Truck Weigh Station, located in the southwest quadrant of the TH2/TH33 intersection.

DPS has indicated that they would prefer to remain in the same quadrant of the new TH2/TH33 interchange. Relocation of the weight station will require the acquisition of approximately 20 acres and one home (16 wooded and 4 wetland).

Residential Availabilities

To determine the availability of suitable replacement housing, realtors in the Cloquet area were contacted, and a field drive was undertaken.

This review revealed that an adequate supply of suitable housing is available to meet the demand for replacement which the project may generate.

The review established that in the Cloquet area, in mid-July 1984, 350 homes were for sale. The price range for these homes was from a low of \$10,000 to a high of \$98,000. The houses available also vary in size. The largest number of homes were three bedrooms, followed by two bedroom homes. Both one and four bedroom homes are also available. The homes are well distributed between urban and rural locations.

The field review revealed that perhaps one potential residential displacements may have a mobility impairment. No other potential special needs households were identified.

It is anticipated that the TH 33 project, regardless of the alternative selected, will not present significant problems in finding safe, sanitary and otherwise suitable replacement housing for all displaced households.

Also, it may be noted that in the rural section of the project, many of the potentially displaced homes are located on parcels several acres or more in size. These people may build new homes on the same parcel of land or move their present homes further back on their property. This may be the only way those displacees currently living along the highway may remain, as residential availabilities in this area are limited.

It is not anticipated that the relocation required by this project will exert a significant disruptive effect on the community.

Relocation Assistance

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, provides that assistance be granted to persons, businesses, farms, and non-profit organizations which may be displaced by public improvements.

The Minnesota Department of Transportation (Mn/DOT) attempts to ensure that each displaced household is relocated into housing that is "decent, safe, and sanitary", is in the same general neighborhood (if desired), and is affordable within the financial means of the household. Mn/DOT attempts to complete each relocation within 90 days from the date of property acquisition. The Mn/DOT relocation office, through many sources, keeps a current listing of homes for sale and apartments for rent. Persons of lower income are given priority for public housing. Moving expenses are computed on a room schedule basis. Business and farm operations are also granted moving expenses, payment for time spent in search of a replacement site, and appraisal fees.

A displaced owner-occupant may receive a supplemental replacement housing payment from Mn/DOT of up to \$15,000. This payment is the amount, if any, which when added to the amount Mn/DOT pays for the acquired dwelling, equals the actual cost which the owner pays for a comparable dwelling or the amount determined by Mn/DOT as necessary to purchase a comparable dwelling, whichever is less.

Increased interest payments are provided to eligible owner-occupants to compensate for the increased cost required for financing a replacement dwelling. For example, if the old mortgage was financed at 8 percent interest and the interest required to finance the replacement home is 10 percent, Mn/DOT will allow a payment based on this difference in interest of 2 percent on the amount and time remaining

on the old mortgage. Mn/DOT will also pay all closing costs required on the transaction of buying a new home.

As a last resort, if satisfactory replacement housing of comparable value to that acquired cannot be located, Mn/DOT will locate the displaced household in other housing with no upper limit on cost. Given the housing situation in the area, it is doubtful that last resort housing will be needed.

Mn/DOT is exploring all possible sources of relocation assistance funding which may be available to displaced businesses. Emphasis will be placed on providing relocation advisory services to businesses. Appropriate measures will be taken to ensure that all businesses which are to be displaced are fully aware of their benefits and entitlements, courses of action which are open to them, and any special provisions designed to encourage businesses to relocate within the same community.

LAND USE IMPACTS

Any of the build alternatives will require the conversion of a certain amount of land to a transportation purpose. The types of land potentially impacted, by acreage, are presented in Table 9. Specific land use impacts are detailed in the following discussion of Land Use Conversion, Agriculture, Forestry and the special land use categories of Indian Land and Parks and Recreation.

TABLE 9
LAND USE IMPACTED BY VARIOUS ALTERNATIVES WITHIN TH 33 STUDY AREA

Alternative	Land Type Impacted (Acres)*				
<u>Rural Section</u>	<u>Forested</u>	<u>Cleared</u>	<u>Wetland</u>	<u>Developed</u>	<u>Total</u>
West Corridor	137	63	40	24	264
East Corridor	115	74	46	14	249
Range Line Corridor	163-182	112-163	155-163	-	430-508
<u>Urban Section</u>					
Through Town	1	24	11	23	59
West Cloquet Bypass	75	172	42	14	228
East Cloquet Bypass	69	164	14	3	181

*Values represent acreage impacted within a 150 foot corridor for two lane construction, a 300 foot corridor for four lane construction and a 100 foot corridor for the Through Town Alternative. The No Build Alternative is not anticipated to cause any right of way acquisition.

Land Use Conversion

The potential for commercial development has been previously discussed in the Economic Impact section. Construction of the East or West Corridors, or the Through Town Corridor, can be expected to perpetuate existing development patterns. As detailed earlier in the Relocation Section, displaced businesses and residences may relocate within the same corridor. However, absent any increase in the economic vitality of the Cloquet area, land use conversion along three alternates covering the existing TH 33 corridor is not expected to change significantly.

Construction in the Range Line Corridor, or either of the urban bypass alternatives, can be expected to foster some long term land use conversion. Commercial or residential development can be expected to develop along these routes and would take land which is currently in some other land use. The location of such development, and the rate at which such conversion may take place are dependent upon individual location decisions and cannot be accurately predicted. However, it is reasonable to assume that over the long term such development would occur.

Agricultural Impacts

Construction of any of the alternates will cause the conversion of some amount of agricultural land to a transportation land use.

General impacts to agricultural land can be seen in Table 9. Agricultural land includes forested and cleared land. Minnesota Statute 17.80 et.seq. also includes some wetlands as agricultural land. This discussion will not include wetlands. In the rural section, either east or west corridor will impact approximately equal amounts of land - 200 acres for the West Corridor and 189 for the East Corridor. The Range Line Corridor could require between 275 and 345 acres. In the urban section, either bypass would impact approximately the same acreage. The West Cloquet bypass would impact 172 acres, compared to 164 for the East Cloquet bypass. The Through town Corridor would impact approximately 25 acres.

Consultation with the U.S. Soil Conservation Service regarding proposed improvements to TH 33 has gone on since at least 1977. Recent consultation with SCS has resulted in the development of the detailed soils map presented in Figure 17. Prime farmland is depicted on that Figure.

The large majority of land along all of the alternate corridors is not under cultivation or used for the production of food or fiber crops. Active agricultural use along TH 33 is quite limited (Table 9). Most of the land adjacent to TH 33 has forest cover. Hay is the predominant field crop.

Beginning at the interchange of TH 33 and TH 53, agricultural uses occur as follows. Field crops are found in the vicinity of TH 33 and CSAH 7 and somewhat to the north. Field crops are again found generally between Beartrap Creek and TH 2. South of TH 2, forest cover predominates. Field crops exist in the general area of the Dutch Slough River and again in the vicinity of the intersection of TH 33 and CSAH 56. Between CSAH 56 and the north corporate limits of Cloquet, land use is a mixture of rural residential and agriculture.

The Range Line Corridor for most of its length crosses undeveloped land. Within this corridor some agricultural uses are found, as follows. Near CSAH 7 and near the DMIR Crossing some agricultural uses are present. South of TH 2 nearly no agricultural uses are found until the vicinity of the Morris Thomas Road. South of the Morris Thomas Road agricultural uses predominate.

Prime/Unique Farmland

No unique farmland is found in the project vicinity. Prime farmland is land which meets a number of physical, chemical, and other criteria which make it well suited for high yield crop production. Generally, the land has soil quality, growing season and moisture availability to produce high yields when managed according to acceptable farming methods. It may or may not be used for crop production, and it includes pastureland, rangeland and forestland as well as cropland. Land in soil capability class I or class II is generally defined as prime farmland. Steep slopes, poor drainage, shallow soil are a few of many features which may limit soils from being class I or class II land.

The most common prime land occurring along the various alternates is Ahmeek Silt Loam, on relatively gentle slopes. In Figure 17, these prime soils are numbered 21, 21A, and 21B.

In St. Louis County the East Corridor would impact approximately 65 acres of prime land. The West Corridor would impact approximately 59 acres and the Range Line Corridor approximately 136 acres. In Carlton County, a West Cloquet Bypass would impact approximately seven acres, the East Cloquet Bypass approximately four acres. The Through Town Corridor would not impact any prime land.

Indirect Agricultural Effects

Generally, the alternatives follow existing roads. As a result, indirect farm impacts through severance and/or triangulation will be avoided. An area where severance and/or triangulation is likely is that area where the bypass alternatives return to the existing TH 33 alignment (Figure 7).

Every effort will be made to minimize farmland taking and to mitigate any adverse impacts to prime farmland agricultural operations.

It is not anticipated that the adoption of any of the build alternatives will cause significant adverse impacts to agricultural land, operations, or production in the project area.

Forestry Impacts

The regrowth aspen-birch forest type is the predominate upland forest cover on the corridors studied. Species include trembling and big-tooth aspen, balsam poplar and paper birch. Associate species include red maple and green ash. This forest type reflects a history of fairly intense management because of its proximity to wood processing mills in Cloquet. Aspen is used heavily in both the paper industry (Northwest paper) and the match industry (Diamond National), while birch is used as a fuel.

Approximately 15 percent of the upland forest cover consists of the spruce-fir forest type. Dominant species include white spruce and balsam fir. Hardwoods associated with the aspen-birch type represent an ever diminishing percentage of the cover in the spruce-fir type. A minimal amount of pine and spruce plantations occur in the corridors.

Bottomland coniferous forests in the corridors are predominantly black spruce. Tamarack and northern white cedar occur to a lesser degree. Black ash and American elm are common bottomland hardwoods.

Comparison of Alternatives

The route with the least direct impact on forest lands is a combination of the Through Town Corridor and either the East or West Corridors (Table 9). On the other hand, the route with the most direct impact on forest lands is a combination of the West Cloquet Bypass and the Range Line Corridor. A good share (over 40 percent) of the Range Line Corridor is owned by private timber companies and the State of Minnesota. The East and West Corridors would impact smaller land ownerships.

Positive Impacts

- A. Any of the build alternatives will improve the road system for the transport of raw material to the wood processing plants in Cloquet.
- B. Depending on the alternative selected, access to forested land in the area may be improved. The Range Line Corridor would provide increased accessibility to State forest lands and forest products industry lands.

Negative Impacts

- A. Forest lands on the route selected will be permanently removed from forestry production.
- B. The potential exists for bottomland forest to be adversely impacted by altered drainage patterns.

Mitigation

- A. Reforest selected cut and fill sections to blend the roadway into the adjacent forestland. Where economic and aesthetic conditions allow, appropriate forestry practices may be employed.
- B. Preserve specimen (picturesque individuals or groups) trees wherever possible. Some trees may be deliberately considered in the final

design of the selected route while others may be preserved with field adjustments as determined by the Project Engineer.

Fond du Lac
Indian
Reservation

The Fond du Lac Indian Reservation is located westerly and northerly of the City of Cloquet.

A westerly bypass of Cloquet would pass on or near this Indian Reservation, near the western city limits of Cloquet.

The impacts to Indian people from such a project are not clear. Land use in this area is low density residential. Land ownership is distributed among the Indian Reservation, State and local government, corporations, and individuals. Non-Indian residential land use in this section of the Indian Reservation is common.

The Fond du Lac Reservation Business Committee, the governing body of the Reservation has reviewed the proposal, including a westerly bypass and has pointed out a number of problem areas:

- A. The route would cross lands to which there is not clear title or which are currently the subject of various land claims.
- B. The route may cross Tribal or Band Trust Lands. The Reservation has a policy of not selling any of its land.
- C. The route could interfere with the hunting and fishing resources of the reservation.
- E. A four lane highway through the Reservation would foster undesired land use changes and may directly or indirectly impact graveyards or possible sites of Indian origin which may be of archeological significance.

Parks and Recreation

In the rural portion of the TH 33 project there is only one publicly owned park or recreation area. This is the football/track athletic field located at Albroom High School near the intersection of TH 33 and Seville Road, just north of TH 2. This athletic field is located within the West Corridor and has the potential to be impacted by the four lane design option. Impacts have been previously discussed in the Social Impacts (Community Facilities/Schools) section.

In the urban portion of the project five parks within the city limits of Cloquet, are adjacent to project alternates (Figure 10).

Pinehurst Park is located adjacent (westerly) to existing TH 33 just south of the TH 45 intersection. Pinehurst Park is used as open space and for special events, such as county fairs. TH 33 is already a four lane roadway at this location and no construction on the Through Town Corridor would occur south of TH 45. Pinehurst Park will not be impacted by this project.

Veterans Park is an athletic field located in the northeast corner of the TH 33/TH 45 intersection and portions are within the Through Town Corridor. Preliminary engineering has shown the Mn/DOT owns sufficient right of way such that no land from this park is needed to construct the Through Town Corridor.

A small wayside park is located in the northwest corner of the TH 33/TH 45 intersection. This wayside is administered by the City of Cloquet, but is situated on Mn/DOT owned right of way. The city of Cloquet has determined this wayside park to be a non-significant park. This park would be impacted by the Through Town Corridor, in order to avoid the significant Veterans Park.

Spafford Park is a city camping and boat launching facility located on Dunlap Island in the St. Louis River. Existing TH 33 is the eastern boundary of this

park. This park is located within the Through Town Corridor, however any widening of the road would occur to the east, away from the park, and access to Spafford Park would be maintained from TH 33. Therefore Spafford Park will not be impacted by this project.

Pine Valley Park is owned by the City of Cloquet. It is located about one mile from the downtown Cloquet area. It contains 154 acres and is in the NW 1/4 of Section 26, Township 49 North, Range 17 West. The Pine Valley Ice Arena, also owned by the City, is located just north of the park on 10 additional acres (Figure 11).

The Cloquet Public Works Department occupies about 12 acres in the northwest corner of the park area. Included in this area are public works buildings, a gravel pit, city wells, and pumping station.

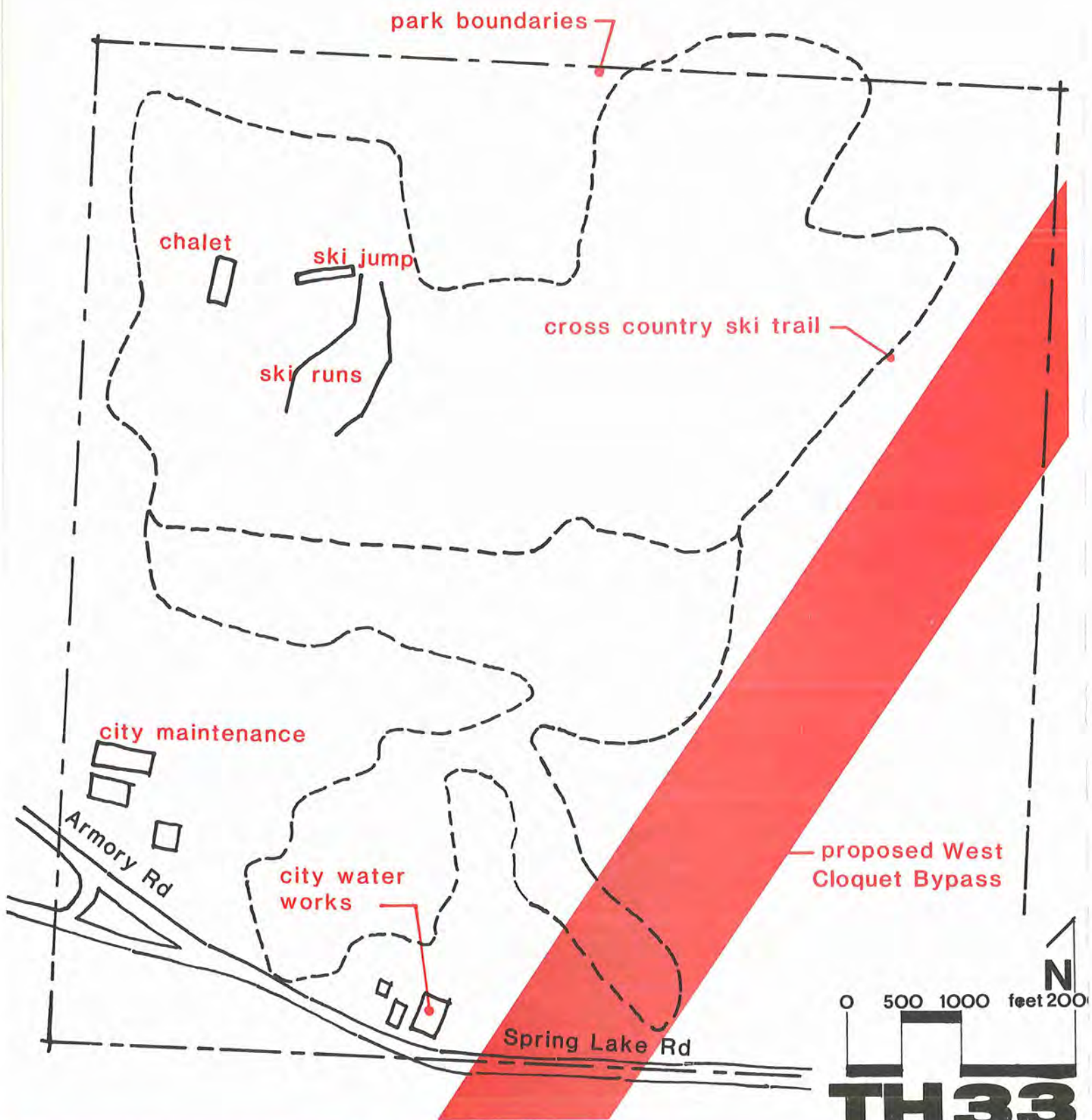
The park facilities include the following:

- Two ski jumps
- Two downhill ski runs
- A rope tow for skiers
- Cross country ski trail
- Chalet
- Picnic area
- Indoor ice skating rink

The cross country ski trail, part of which runs on private property, is two and one half miles long.

The terrain in the area of the highway alignment is rolling and wooded with deciduous trees. Most of the rest of the park area is wooded with pine trees.

Pine Valley Park would be effected by the West Cloquet Bypass which would run diagonally across the southwest corner of the park. Right of way would be 375 feet wide and would take 20 acres. The park area in the southwest corner contains 17 acres and would be severed by this alignment. The highway right of way area would effect about 900 feet of cross country ski trail. The total trail length is about two and one half miles.



Potential impacts to Pine Valley Park

Figure 11

0 500 1000 feet 2000

TH 33

from I-35 to TH53

Funding for improvements to the park was from private sources. There was no State or Federal funding. Also, there is no indication of any restrictions effecting the title to the property.

AIR QUALITY

This project is in an area where the State Implementation Plan (SIP) is not required to contain any transportation control measures. Therefore, the conformity procedures of 23 CFR 770 do not apply to this project.

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 SIP. A Memorandum of Understanding with the Minnesota Pollution Control Agency (MPCA) specifies that prior consultation with the MPCA is considered as accomplished for highway sections such as this project, which are outside of a Standard Metropolitan Statistical Area.

The EPA 1975 Volume 9 screening procedure, Evaluating Indirect Sources, updated with the EPA 1978 emission factors was used to estimate the peak carbon monoxide concentration at the nearest critical receptors along this project. The screening procedure assumptions include a one meter per second wind at 10° to the roadway (variable direction at intersections), a Pasquill-Gifford stability classification of "D", an eight-hour persistence factor of 0.6, 10% cold starts at 20°F, and a 1975 background concentration of five and two ppm for one and eight hour periods respectively (1ppm in rural areas) (Table 10).

Two receptors were selected as the most critical because of their nature and their closeness to the roadway. The impact to any receptors adjacent to the bypass or the Range Line alternatives would be less than the impact at these two locations.

The standards will not be violated. An indirect source permit is not required. Construction and operations of this proposal will conform to Federal, State and local air quality regulations.

TABLE 10

CARBON MONOXIDE CONCENTRATIONS IN PARTS PER MILLION (PPM)
AT SELECTED RECEPTORS ALONG TH 33.

RECEPTORS			ONE HOUR		EIGHT HOUR	
			1988	2005	1988	2005
1).	Phillips 66 Gas Station TH 33 and TH 45	Build	11.5	8.4	4.3	3.1
		No Build	11.5	8.4	4.3	3.1
2).	Rural School TH 33 and CSAH 56 (Morris Thomas Rd.)	Build	1.8	1.6	1.3	1.2
		No Build	1.8	1.6	1.3	1.2

Standards	1-hr.	8-hr.
Minnesota	30ppm	9ppm
Federal	35ppm	9ppm

NOISE ANALYSIS

In general either the East or West Cloquet Bypass would result in a decrease of noise levels along the existing facility and an increase of noise levels along the selected bypass. Receptors north of the bypass area will have noise levels that will be higher than that which they are experiencing now (Table 11).

Analysis indicates that noise levels will exceed FHWA Noise Abatement Criteria at several receptors along each alternative (Table 12).

Identification of Receptors

Representative sensitive noise areas along each alternative were selected and are listed in Table 11 and identified on the noise contour maps in Figure 12.

Determination of Existing Noise Levels

Existing noise levels at the representative noise areas were estimated from field noise monitoring and cross-checked by the FHWA NOISE MODEL RD-77-108, computer program STAMINA 2.0/OPTIMA.

Field monitoring was performed at 25 sites on weekdays between 9 am and 4 pm during the summer of 1983. Nighttime levels were predicted, and the values represent the worst nighttime hour.

Prediction of Future Noise Levels

The year 2006 noise levels for the existing facility and each alternative were calculated using the FHWA NOISE MODEL (RD-77-108) computer program STAMINA 2.0/OPTIMA. The model uses vehicle number, type and speed and the physical characteristics of the roadway. Modeling was performed without any special noise abatement measures.

Traffic volume predictions for the year 2006 are contained in Table 2.

Predicted noise levels for 25 receptor areas are listed in Table 11. The noise levels listed are for the worst case receptor within the area or the proposed right of way line. The predicted noise levels were also used to prepare the noise contour maps (Figure 12).

TABLE 11

NOISE LEVELS (dBA) FOR TYPICAL RECEPTORS ALONG TH 33

Receptor	Alternative	*Measured and Predicted				Predicted			
		Existing 1983				Future 2006			
		Peak Day		Peak Night		Peak Day		Peak Night	
		L10	L50	L10	L50	L10	L50	L10	L50
FHWA Noise Abate-		70	---	---	---	70	---	---	---
ment Criteria									
Minnesota PCA		65	60	55	50	65	60	55	50
Noise Standards									
1. Dept. Nat.	Through	*66	*59						
Resources NBL	Town	70	62	66	57	72	65	69	60
	Corridor								
2. Nat. Guard	Through	*67	*61						
Armory SBL	Town	67	60	63	55	69	63	65	58
(*1)	Corridor								
3. N. Carlton	Through	*66	*57						
Ave. NB	Town	71	62	67	58	73	65	69	60
	Corridor								

(*) Measured values were obtained between 9:00 AM and 4:00 PM

(*1) State Noise Area Classification (NAC2) and Federal Noise Abatement Criteria C applies to L10 of 70 and 75 respectively.

TABLE 11

NOISE LEVELS (dBA) FOR TYPICAL RECEPTORS ALONG TH 33

Receptor	Alternative	*Measured and Predicted				Predicted			
		Existing 1983				Future 2006			
		Peak Day		Peak Night		Peak Day		Peak Night	
		L10	L50	L10	L50	L10	L50	L10	L50
4. Locomotive	Through	*65	*58						
	Town								
	Corridor	71	64	67	58	72	65	68	60
5. North East Hotel	Through	*64	*58						
	Town								
	Corridor	69	61	64	56	69	63	65	58
6. Campground	Through	*57	*54						
	Town								
	Corridor	59	54	56	49	61	56	57	52
7. Kentucky Fried Chicken (*1)	Through	*66	*58						
	Town								
	Corridor	69	62	64	55	72	65	68	60
8. Trailer Court	Through	*63	*55						
	Town								
	Corridor	70	63	66	57	71	65	67	59

(*) Measured values were obtained between 9:00 AM and 4:00 PM

(*1) State Noise Area Classification (NAC2) and Federal Noise Abatement Criteria C applies to L10 of 70 and 75 respectively.

TABLE 11

NOISE LEVELS (dBA) FOR TYPICAL RECEPTORS ALONG TH 33

Receptor	Alternative	*Measured and Predicted				Predicted			
		Existing 1983				Future 2006			
		Peak Day		Peak Night		Peak Day		Peak Night	
		L10	L50	L10	L50	L10	L50	L10	L50
9. Gravel Pit	Through	*61	54						
	Town								
	Corridor	70	63	66	57	71	65	67	59
10. Garage near Hos.	Through	*61	*47						
	Town								
	Corridor	69	62	64	56	69	64	65	58
11. Old Well	West	*59	*52						
	Corridor	69	63	64	56	70	64	65	58
12. Maple Grove	West	*60	*50						
	Corridor	65	59	60	52	68	62	64	56
13. 2nd Residence	East	*55	*48						
	Corridor	68	61	63	54	69	63	64	56
14. & 15. Eliminated									
16. Church	West	*59	*51						

(*) Measured values were obtained between 9:00 AM and 4:00 PM

TABLE 11

NOISE LEVELS (dBA) FOR TYPICAL RECEPTORS ALONG TH 33

Receptor	Alternative	*Measured and Predicted				Predicted			
		Existing 1983				Future 2006			
		Peak Day		Peak Night		Peak Day		Peak Night	
		L10	L50	L10	L50	L10	L50	L10	L50
	Corridor								
17. Schoolhouse	West	*51	*47						
	Corridor	60	54	54	46	58	53	53	47
18. Horse Barn	East	*52	*49						
	Corridor	61	54	55	46	61	56	56	49
19. Steel Bldg.	West	*57	*46						
	Corridor	66	58	60	50	67	66	62	53
20. Independence Rd.	West	*57	*53						
	Corridor	63	56	57	48	64	59	59	51
21. Farm	West	*51	*45						
	Corridor	65	57	59	49	67	60	61	52
22. Jct. 53	West	*61	*48						
	Corridor	68	59	62	51	70	62	64	54

(*) Measured values were obtained between 9:00 AM and 4:00 PM

TABLE 11

NOISE LEVELS (dBA) FOR TYPICAL RECEPTORS ALONG TH 33

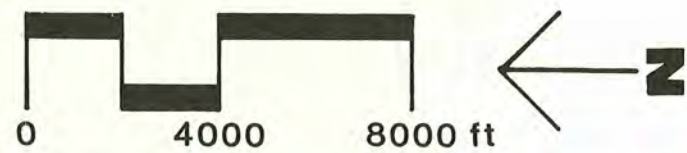
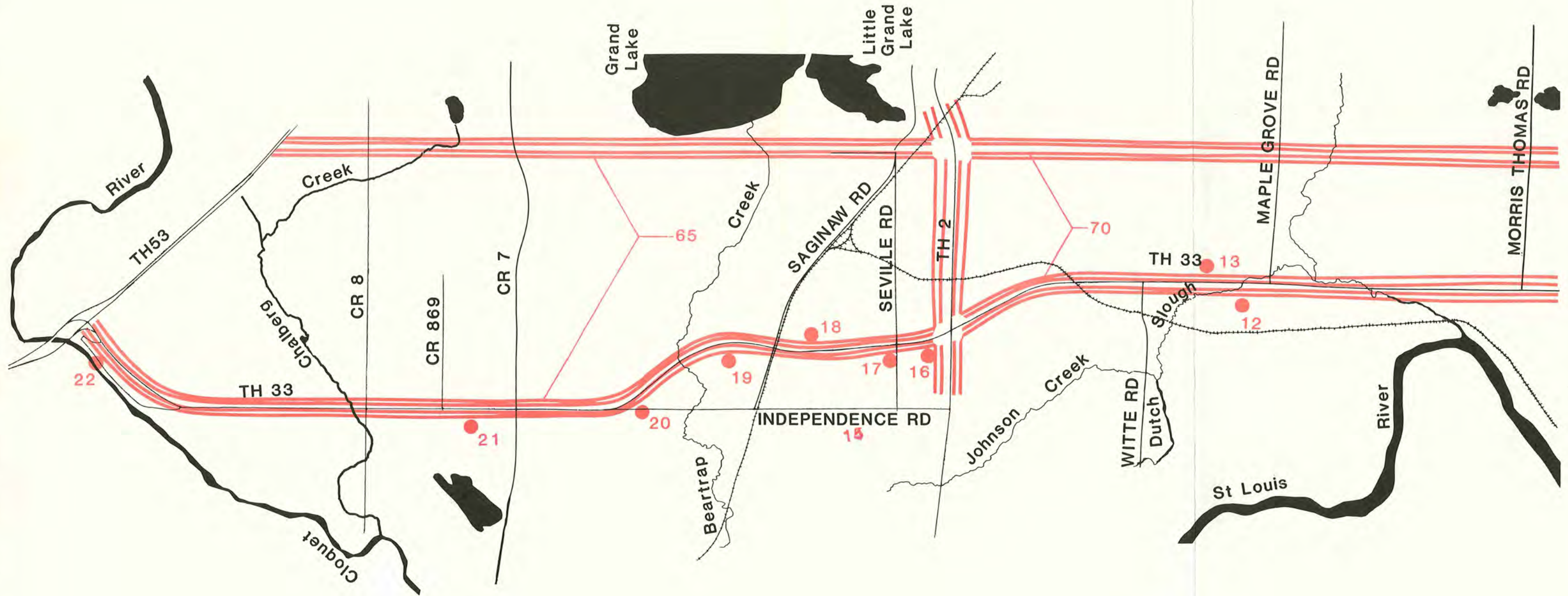
Receptor	Alternative	*Measured and Predicted				Predicted			
		Existing 1983				Future 2006			
		Peak Day		Peak Night		Peak Day		Peak Night	
		L10	L50	L10	L50	L10	L50	L10	L50
23. East Cloquet	East	*50	*35			66		59	
Bypass 100 feet	Cloquet								
Lt. or Rt.	Bypass								
24. West Cloquet	West	*59	*47			66		59	
Bypass 100 feet	Cloquet								
Lt. or Rt.	Bypass								
25. Range Line	Range	*69	*53			71		66	
Corridor at	Line								
TH 2 100 feet	Corridor								
Lt. or Rt.									

(*) Measured values were obtained between 9:00 AM and 4:00 PM

TABLE 12

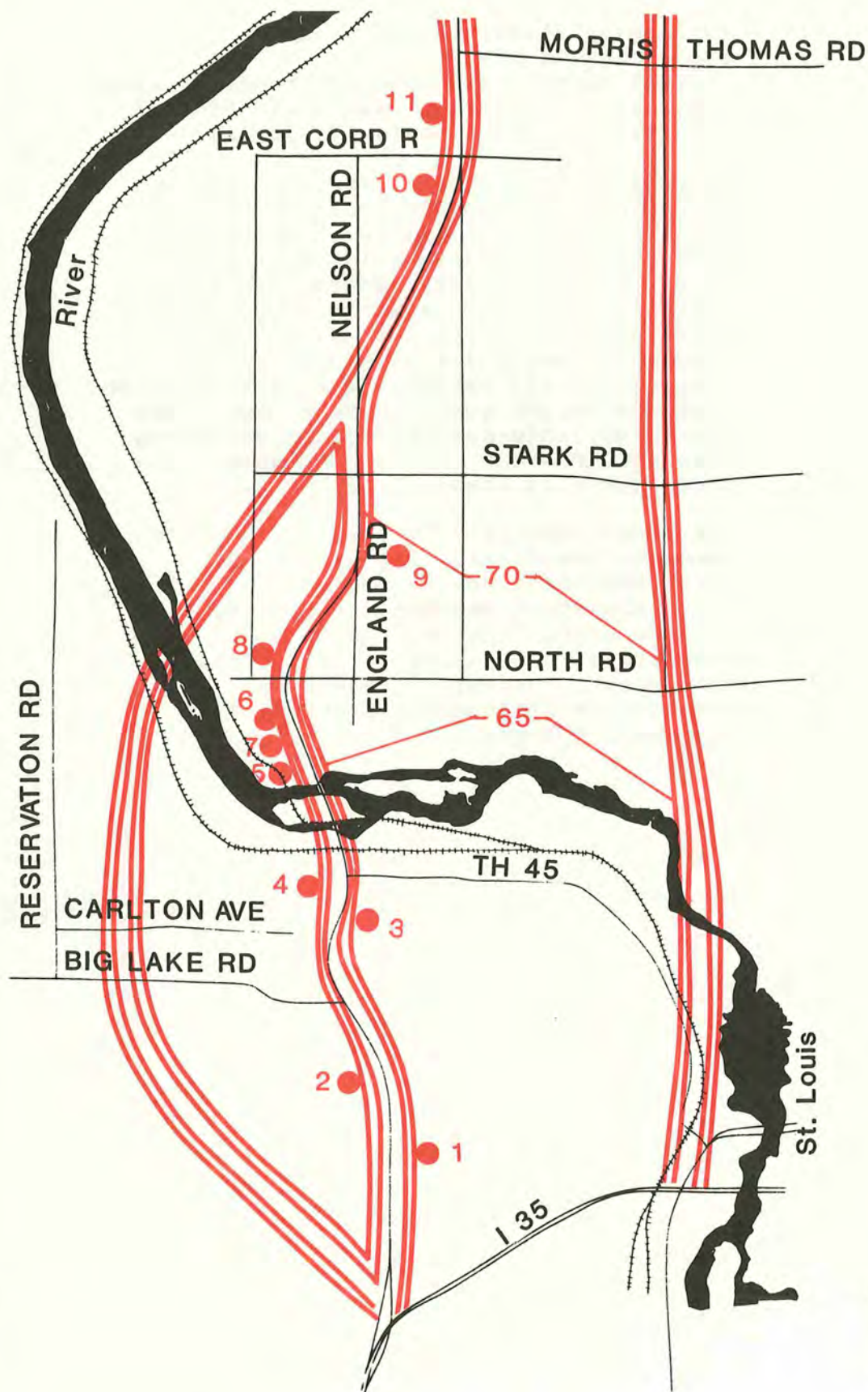
NUMBER OF INDIVIDUAL RECEPTORS LOCATED ALONG TH 33 WHICH EXCEED
FEDERAL AND STATE NOISE STANDARDS

Alternative	Existing 1983			Year 2006			Abatement Considered
	Federal	State		Federal	State		
	Day / Night			Day / Night			
RURAL SECTION:							
West Corridor	11	77	92	22	84	96	Yes
East Corridor	11	77	92	22	84	96	Yes
Range Line Corridor	0	0	0	8	8	8	Yes
No Build	11	77	92	22	84	96	Yes
URBAN SECTION:							
West Cloquet Bypass	0	0	0	10	11	11	Yes
Through Town Corridor	16	79	241	34	111	309	Yes
East Cloquet Bypass	0	0	0	16	16	16	Yes
No Build	16	79	241	34	111	309	Yes

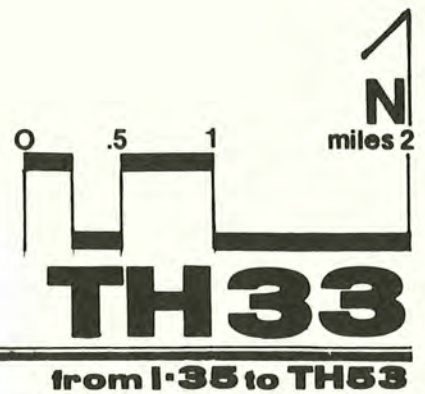


Noise contours of TH 33 rural section
Figure 12a

TH 33
from I-35 to TH 53



Noise contours of TH33 urban section
Figure 12b



Application of
Noise Standards

FHWA noise abatement criteria and Minnesota Pollution Control Agency (MPCA) Noise Standards were examined to determine applicable Federal and State noise criteria (Table 11).

Determination
of Noise Impacts

Probable noise impacts were determined by comparing the predicted future noise levels with the estimated or measured existing noise levels and applicable Federal and State criteria. Table 11 is arranged to allow a convenient comparison of noise levels. Changes in noise are also apparent by comparing field readings with future noise contours on the noise contour maps. The number of individual receptors exceeding Federal and State criteria on each alternative is shown in Table 12.

Examination of
Abatement
Alternatives

For areas experiencing noise impacts, the feasibility of noise abatement was evaluated. Noise abatement measures considered include accoustical barriers, sound insulation, vegetative screens, traffic management, roadway surface type, acquisition of impacted property and alignment changes.

Noise Abatement

Abatement measures are being considered for all build alternatives. Measures proposed for the selected alternative will be described in the Final Noise Report. The following abatement measures are being evaluated.

Acoustical Barriers

Acoustical Barriers including walls and mounds are the most effective noise abatement method currently in use. Mounds or earth berms are suitable for this action when right of way is available near sensitive receptors.

Noise level reductions of five to ten dBA could be expected from such mitigation. However, noise walls and earth berms do not appear feasible for most areas because of the numerous access points to TH 33 from adjacent property. 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, and cost effectiveness.

Sound Insulation

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.

Vegetative Screens

Vegetative Screens dense enough to provide a five dBA attenuation would require a substantial amount of additional right of way and are therefore not practical 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 study area's alternatives. Landscape plantings will be used where appropriate and although they do not provide attenuation, a psychological reduction in noise irritation often results.

Traffic Mangement Measures

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. Special traffic management measures would be an inconvenience to the traveling public and inconsistent with the adjacent transportation systems.

Roadway Surface Type

Roadway Surface Type is being investigated to determine its effect on noise. 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.

Acquisition of Noise Impacted Property

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

This measure will, however, remain viable throughout the project development process and may become practical at some locations

after the construction limits are better defined.

Property acquisition is not within the scope of FHPM 7-7-3 as an ordinary noise abatement measure. If the noise impact is especially severe and if conventional measures are unacceptable, this extraordinary measure could be considered on a case by case basis. FHPM 7-7-3 does not define especially severe impacts. This determination must be made by Mn/DOT and any proposal of extraordinary abatement measures must be approved by the Regional Federal Highway Administrator.

Alignment Changes

Alignment Changes are not a viable means of abating traffic noise for this project. Slight alignment revisions of the alternatives would result in negligible changes in noise impacts.

ENERGY IMPACTS

This energy section evaluates the effects of the proposed project alternatives in terms of their energy consumption impacts. Two types of energy consumption are involved. Direct consumption is the energy consumed in the actual propulsion effort of the vehicle. It refers to the impacts of operating the highway after it is constructed. Indirect energy impacts include the energy required to construct and maintain the highway, substantial changes in consumption likely to result from project induced land use changes or modal shifts, and manufacture and maintenance energy requirements due to changes in vehicular usage.

Table 13 shows the results of the energy analysis for each alternative, averaged in terms of equivalent barrels of crude oil per day (Bbl/Day) over a 20 year period. There are no significant project induced land use changes anticipated so peripheral effects were considered nil for the Build and No Build alternatives.

Each of the build options in the tables show a figure entitled "Payback Period". The Payback Period is the number of years that it will take the energy saved by implementing the project to equal the energy needed to construct and maintain it. It gives a realistic look at when true energy savings would be realized or when there is an irreversible commitment of resources.

TABLE 13
ENERGY CONSUMPTION AND PAYBACK PERIODS FOR TH 33 ALTERNATIVES

RURAL SECTION

ENERGY CONSUMPTION BY SOURCE	ALTERNATIVES			
	West Corridor Bbl/Day	East Corridor Bbl/Day	Range Line Corridor Bbl/Day	No Build Alternative Bbl/Day
DIRECT				
Vehicle Fuels	84	84	77	86
INDIRECT				
Vehicle Manufacturer & Maintenance	14	14	14	14
Roadway Construction	34	34	34	0
Resurfacing	0	0	0	5
Maintenance	1	1	1	0
PAYBACK PERIOD	113 Yrs.	113 Yrs.	49 Yrs.	---

URBAN SECTION

ENERGY CONSUMPTION BY SOURCE	ALTERNATIVES			
	Through Town Corridor Bbl/Day	East Cloquet Bypass Bbl/Day	West Cloquet Bypass Bbl/Day	No Build Alternative Bbl/Day
DIRECT				
Vehicle Fuels	109	109	114	114
INDIRECT				
Vehicle Manufacturer & Maintenance	16	16	16	16
Roadway Construction	4	22	26	0
Resurfacing	0	0	0	0
PAYBACK PERIOD	16 Yrs.	88 Yrs.	Infinity	---

The energy analysis shows that only one build option, the Through Town Corridor from I-35 to the county line, will result in a payback period that will give a true energy savings. All of the other build alternatives have payback periods in excess of 35 years, which is the approximate number of years the highway can operate before major reconstruction and another large expenditure of construction energy is required. In conclusion, constructing this project will result in an irreversible commitment of energy resources.

WATER RESOURCES:

This portion of the environmental consequences section discusses the water resources of the area and potential impacts and mitigations. The discussion has been divided up into the following categories:

Wild & Scenic Rivers, Flood Plains, Water Quality, Stream Modification, and Ground Water.

Wild and Scenic Rivers

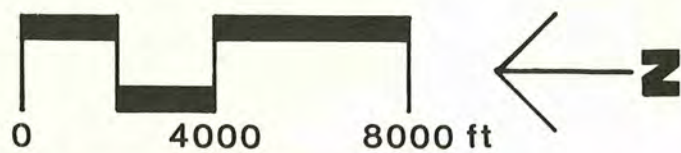
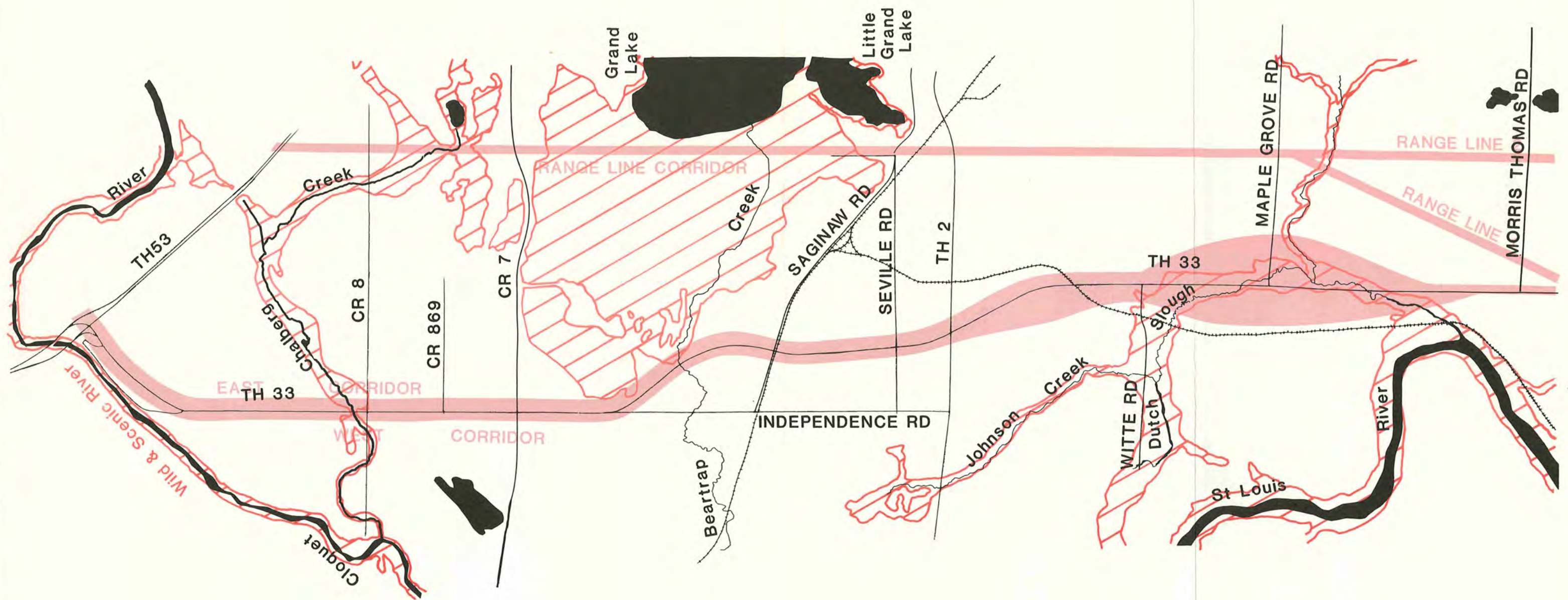
The Cloquet River, is not presently a candidate for inclusion in the State of Minnesota Wild and Scenic River System.

The Cloquet River, from its mouth to its source, (excluding Island Lake impoundment) is a candidate for inclusion in the National Wild and Scenic River System.

The Cloquet River will not be crossed by this project. This river is located 500 to 1000 feet from the most northerly one mile section of existing TH 33. At this point, the TH 33 West Corridor includes 6100 feet of the Cloquet River (Figure 13). The Cloquet River lies within the West Corridor, however, there will be no encroachment into its 100 year floodplain. All road design alternatives are located outside of the floodplain limits.

Only the two companion lane design option is being considered in either the East or West Corridors near the northern project terminus. Construction of two companion lanes in the East Corridor would have minimal impact on the Cloquet River, provided erosion control measures are followed, which prevent sediment and other possible pollutants from reaching drainage ways that feed into the Cloquet River.

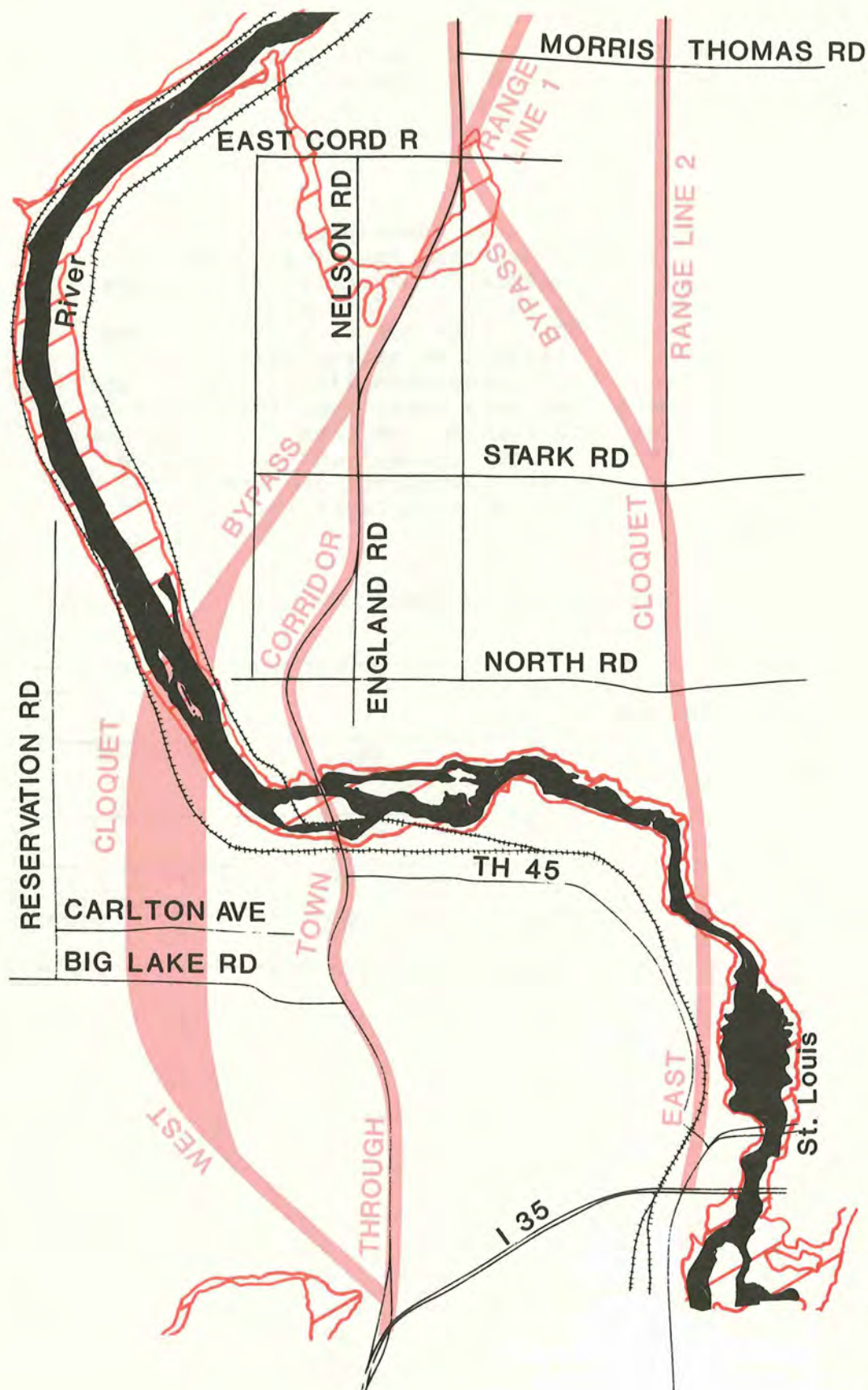
Construction of two companion lanes in the West Corridor has greater potential to impact the Cloquet River. Construction activities within this corridor will be adjacent to the steep wooded slopes of the river valley, thereby having greater



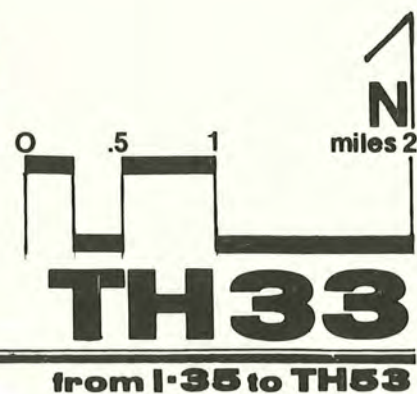
Key
 100 year floodplain

Water resources in TH 33 rural section
Figure 13a

TH33
 from I-35 to TH53



Water resources in TH 33 urban section
Figure 13b



erosion potential. Special attention should be given to erosion control measures. With proper erosion control measures, no significant adverse impacts should occur to the Cloquet River.

Floodplains

Federal Insurance Administration Flood Hazard Boundary Maps have been examined for the possible TH 33 corridors from the junction of TH 33 and I-35 south of Cloquet, Mn. to the junction of TH 33 and TH 53, a distance of approximately 20 miles. The floodplains illustrated on the segment maps were taken from the cities of Cloquet and Scanlon and from St. Louis and Carlton counties floodplain maps (Figure 13). Possible floodplain crossings are shown by corridors in Table 14.

TABLE 14
POTENTIAL FLOODPLAIN ENCROACHMENTS FOR TH 33 ALTERNATIVES

RURAL SECTION				
	Range Line Corridor	East Corridor	West Corridor	No Build
Chalberg Creek	T	T	T	T
Beaver Lake	T	NC	NC	NC
Grand Lake	L	NC	NC	NC
Bear Trap Creek	T	T	T	T
Cloquet River	NC	NC	NC	NC
Dutch Slough	NC	T and L	T	T and L
White Pine River	T	T and L	T	T and L
Unnamed	NC	T	T	T
URBAN SECTION				
Floodplains	East Cloquet Bypass	Through Town Corridor	West Cloquet Bypass	No Build
St. Louis River	T	T	T	NC

NC: Denotes no floodplain crossing.

T: Denotes transverse floodplain crossing.

L: Denotes longitudinal floodplain crossing.

It is the policy of the FHWA to avoid longitudinal encroachment where practical. Table 14 and Figure 13 show that possible longitudinal floodplain encroachments exist at Grand Lake, White Pine River, and the Dutch Slough.

If the Range Line Corridor is chosen, there will be a 12,000 foot longitudinal encroachment into the Grand Lake floodplain. No encroachment would occur in the lake.

If equalizing culverts are placed underneath the road, then no significant amount of food storage would be lost.

Avoiding longitudinal encroachment at Grand Lake would require shifting the alignment 8000 feet west outside floodplain limits.

If the TH 33 additional two lane design option occurs in the East Corridor there will be a 2700 foot longitudinal encroachment into the White Pine River floodplain and a 600 foot longitudinal encroachment into the Dutch Slough floodplain. These encroachments will occur in the flood fringe portion of each floodplain. The White Pine River and Dutch Slough floodways will not be affected.

The No Build Alternative will result in 2700 foot longitudinal encroachment in the White Pine River 100 year floodplain and 500 foot longitudinal encroachment in the Dutch Slough 100 year floodplain. This encroachment will occur in the flood fringe of both rivers.

Longitudinal encroachment at the White Pine River and Dutch Slough can be avoided by choosing either the West Corridor or the new four lane design option in the East Corridor. All distances are approximate and are subject to change depending upon final design alignment.

In addition to the floodplains listed in Table 14, there will be numerous small watercourse crossings. These watercourses usually have floodplains less than 100 feet in width, and usually do not have any

significant potential for causing flood damages. Consequently, hydraulic structures to convey these watercourses should not result in any significant stage increases. At these small watercourse crossings however, if flooding is known to occur, the design of the roadway will include measures to minimize or eliminate any flooding problems.

The floodplain encroachments listed in Table 14 are not expected to be significant for the following reasons:

- A. There is no significant potential for interruption or termination of a transportation facility which is needed for emergency vehicles or which provides a community's only evacuation route. Roadway elevations will be designed above the 100 year flood elevations.
- B. No significant risks such as increased flooding of property or hazard of life, will result from this project. Hydraulic structures will be designed to minimize stage increases. Mn/DNR criteria for public waters permits and for floodplain management will be met.
- C. No significant adverse impact on natural and beneficial floodplain values will be a result of this project.
 - 1. Appropriate turf establishment and erosion control measures will be taken. MnDOT specification 1803.5 (Erosion Control) will be followed.
 - 2. Where determined necessary rock riprap or root rap will be placed on bridge abutment slopes and next to major culverts to minimize streambank erosion.
 - 3. Construction of hydraulic structures will not take place during periods of fish migration or spawning. Special provisions will be included in the construction plans to insure that

normal fish movement is not interrupted.

4. Wetland impacts in floodplain areas will be adequately mitigated. A mitigation plan shall be agreed upon by Mn/DOT, Mn/DNR & U.S. Fish and Wildlife Service before construction is started.
 5. Oil products and other possible pollutants will be stored in a manner so that no possible spills will reach wetlands or waterways.
 6. No threatened or endangered flora or fauna is known to lie within or adjacent to any highway corridor.
- D. The proposed construction of a four lane highway from I-35 south of Cloquet to TH 53 should not support potential incompatible floodplain development for the following reasons:
1. The counties of St. Louis and Carlton have zoning ordinances which regulate floodplain development in unincorporated areas.
 2. The cities of Cloquet and Scanlon have zoning ordinances which regulate floodplain development.

Based on the above assessment, the construction of a four lane highway from the junction of I-35 and TH 33 south of Cloquet to the junction of TH 33 and TH 53 should not have any significant floodplain impacts. Any impacts that do occur will be adequately mitigated.

Water Quality

The proposed corridors for Trunk Highway 33 traverse the St. Louis River, White Pine River, Chalberg Creek, Dutch Slough (also a creek), and Beartrap Creek as well as a number of unnamed water courses. The quality of these surface water resources is generally good. Water samples were collected from all of the rivers and creeks that could be affected by the

proposed corridors. Locations of the sampling sites are shown in Figure 13.

Chalbert Creek, Dutch Slough, Beartrap Creek and the White Pine River are designated as trout streams by the Minnesota Department of Natural Resources (DNR). This is indicative of the quality of surface waters in the corridor, as trout require well oxygenated, relatively unpolluted waters to survive.

The impacts this project will have upon water quality are dependent upon: 1) the corridor and alignment selected in the Final EIS, 2) thoroughness of erosion control plans and 3) drainage design, which includes the design of stormwater detention areas to minimize pollution of receiving waters downstream. All of these factors are important as they interact to produce an acceptable or adverse impact on the quality of adjacent surface waters.

Quality of Highway Runoff

Highway runoff was the potential to degrade receiving waters. Pollutants that may be found in highway runoff include:

- A. Particulate matter generated by erosion during construction and by normal use when the facility is complete. Particulates are generated from operating roadway by: abrasion of tires, litter dust, organic residue (such as leaves) and by the road itself.
- B. Deicing salt, usually 95 percent or more sodium chloride by weight.
- C. Trace Pollutants:
 - 1) Heavy metals such as lead, zinc, chromium, copper and nickel.
 - 2) Petroleum product residues such as rubber, n-parrafin, grease, gas and oil.
 - 3) Pesticides and fungicides.
 - 4) Nutrients such as nitrogen and phosphorous.

C(1) and C(2) are residues of motor vehicle emissions or they are from wear of tire and mechanical parts. C(3) and C(4) are caused by normal maintenance of highway right of way and from accumulation of dust, dirt and organic matter.

TH 33 Drainage

Runoff from existing and proposed TH 33 should not contain high concentrations of pollutants. Highways in rural areas do not generate and collect pollutants as effectively as urban highways and streets.

Drainage from TH 33 will be discharged into shallow wetlands and ditches whenever feasible to minimize the effects of discharge directly into streams or lakes. The use of wetlands and ditches to collect highway runoff is intended to deposit roadway pollutants in ditches and wetlands instead of transporting them (via surface flow) to streams or lakes. Research regarding wetlands and biological treatment of storm water indicates that shallow wetlands reduce pollutant loads and are not rendered less biologically productive because of urban runoff. Similar processes occur in ditches if they are vegetated and open.

Hazardous Spills

Spills can occur anytime hazardous materials are transported over trunk highways. If a hazardous spill occurs near and/or adjacent to a sensitive area (i.e. wetlands, floodplains), the potential for environmental degradation is increased. It is not practical to provide ponds, ditch blocks and other storage methods to contain a hazardous spill at each bridge crossing and culvert installation along the roadway perimeter.

The location of a river crossing and subsequent bridge design, if any, for the St. Louis River has not been determined at this time. Any crossing of the St. Louis River however, warrants consideration of a spill containment design. This will be examined during final design.

Should a hazardous spill occur, the cleanup will follow a Spill Prevention Control and Countermeasure Plan (SPCC) to be outlined through correspondence with the MPCA.

Erosion

Disruption of the soil and landscape will occur during highway construction.

Erosion of exposed soil and underlying sediment is the primary concern. Erosion occurs when soil or sediment particles become detached from each other and are transported by wind or water.

Erosion Control

Permanent, temporary and administrative controls will be used to minimize erosion. Permanent control measures include items such as, replacement of top soil, seed, sod and rock riprap. Seed, sod and topsoil are used to reestablish vegetation after construction. Vegetation cover is the best permanent means of controlling and reducing erosion on large exposed areas. Permanent erosion control measures are included in the construction plans by the designer and it is the project engineer's responsibility to see they are implemented.

Temporary controls of erosion include items such as, bale ditch checks, earth diversions, bale diversions, and temporary sediment basins. Temporary controls which will be included in construction plans are used at the discretion of the project engineer. Administrative erosion controls occur in the form of standard specifications, licenses, permits and requirements placed upon the contractor.

To establish vegetation in areas disturbed by construction, Mn/DOT usually requires topsoil lime (if necessary), fertilizer, sod and/or seed and mulch. The type and rate of application of fertilizer used depends upon the nature of the topsoil.

Normally topsoil within a construction area is salvaged and reused. When a project is being designed, existing topsoil is sampled and tested. Test results provide information on topsoil gradation, pH, organic matter, phosphorous and potassium content. From test information the proper fertilizer type and rate may be derived. If more topsoil is required than may be obtained by salvaging

inplace topsoil, topsoil borrow (topsoil obtained from a source other than the construction site) may be used.

Little or no adverse effects upon the quality of ground and surface waters are anticipated due to the use of fertilizer. The soil and vegetation will store nutrients and inhibit their entrance to ground or surface waters. The beneficial effect of fertilizer in reestablishing vegetative cover far outweighs the effect of fertilizer contributing nutrients to aquatic areas.

Overview of the TH 33 Study Area.

Groundwater

Average annual precipitation in the St. Louis Watershed is 17.5 inches. Sixty-five percent of this precipitation, 11.4 inches, is returned to the atmosphere through evapotranspiration. Run off to the St. Louis River accounts for 6.1 percent of the precipitation. The remaining 5.0 percent is available for groundwater recharge. Most of the recharge area for the regional groundwater system is the Mesabi Iron Range. Locally, recharge is occurring through Grand Lake and the Pine River area. Groundwater discharges from surficial sediments into the Cloquet River and in the vicinity of the St. Louis River. Groundwater flow is toward the river and discharge occurs into the river. Direction of groundwater flow in the north and northeast. Near the south end, groundwater tends to follow the flow of the St. Louis River to the southeast.

Within the study area, the surficial sands and gravels are the most easily developed sources of groundwater. The fine to coarse grained outwash sediments are also good sources of groundwater. These sediments approach 150 feet of thickness in buried valleys. Both of these sources should receive protection from potential pollution. Till is generally not considered to be an aquifer, however, tills do yield small amounts of water. Buried sands and gravels yield sufficient water for domestic supplies, however, their existence is difficult to predict between till sheets.

In the study area, the drift is moderately developed for water use. Most cities in this region use groundwater for municipal water supplies. Seventy-five percent of these users rely on drift aquifers as their municipal water source. The Cloquet/Scanlon population is served by six municipal water wells. Depth of these wells range from 47 to 113 feet. The static water level ranges between 34 and 55 feet. Normal pumping is 347 million gallons with 83 million gallons used by industries and 264 million gallons for domestic useage. Percapita domestic useage is 74 gallons per day. The wood processing industries concentrated in Cloquet use water from the St. Louis River or import water from Lake Superior. Approximately four to six percent of this water is consumed. The remainder is returned to the St. Louis River. Sewage treatment at Cloquet also discharges into the St. Louis River. Three hydroelectric power dams are located on the St. Louis River near Cloquet.

Results of chemical analysis were obtained for a "typical" water well in the study area (Table 15). The pH of the water in this particular well was 7.4.

TABLE 15.

CHEMICAL ANALYSIS OF A "TYPICAL" WATER WELL IN THE TH 33 STUDY AREA

Parameter	Milligrams/Liter	Parameter	Milligrams/Liter
Dissolved Solids	468.00	Magnesium (Mg)	48.00
Bicarbonates (NCO ₃)	413.00	Sodium (Na)	8.5
Chloride (Cl)	9.50	Potassium (K)	1.8
Sulfate (SO ₄)	79.00	Hardness	420.00
Flouride (Fl)	0.21	Total Iron (Fe)	5.60
Total Nitrogen (N)	0.20	Manganese (Mn)	1.80
Calcium (Ca)	90.00	Boron (B)	0.11

Impacts

The proposed transportation project will remove a relatively small amount of surface area available for recharge. Of the proposed alternatives, the No Build Alternative removes the smallest area from potential recharge. The Range Line Corridor removes the most. The No Build Alternative will also have the smallest potential of altering the existing groundwater quality since TH 33 is already inplace and increased transportation useage along the present alignment will not substantially alter the quality of runoff currently having the potential of entering the groundwater. The Range Line Corridor, has the greatest potential of affecting the groundwater quality. This alternative generally has a higher ground water level, greater acreage of wetlands which receive runoff from this corridor and it would be all new construction.

The West Cloquet Bypass also has the potential of affecting the groundwater. Near the north end of this bypass, a potential water tower site has been identified by the City of Cloquet. Near the south end of this bypass, the Cloquet water works is located, as well as 15 test well sites. Three existing municipal wells are located close to this bypass.

Stream Modification

Chalberg Creek, Beartrap Creek, Dutch Slough, Big Otter Creek, three small unnamed creeks, the St. Louis River and the White Pine River could be affected by the alternate selected in the Final EIS. Existing culverts and bridges will be replaced or improved and new structures will be needed. Stream modifications may occur from the placement of bridge piers, removing the natural stream channel by extending existing culverts or constructing new ones, and by relocating or channelizing streams to improve hydraulic capacity or the geometrics of stream/highway crossings.

It is expected that all stream crossings will use culverts, with the exception of the St. Louis River, which would be bridged. New structures would need to be constructed on the East or West Cloquet Bypass, while the existing bridges on the Through Town Corridor may be either widened or replaced. Number, location, and size of bridge piers have not been determined at this time.

Bridges generally have fewer long term adverse effects upon aquatic ecosystems than culverts. Bridge piers require less disturbance of floodplain and stream bottom areas, while offering a more natural environment for aquatic organisms such as crayfish and insects that dwell in rock or gravel substrates. Fish feed on these organisms. Culverts often contain no substrate (ie, rocks or gravel) and are dark for the majority of their length. Culverts subtract length from a stream's area of biological productivity in most instances. A four lane freeway culvert stream crossing eliminates approximately

200 feet of stream. Where a companion two lane design option is possible, culvert crossings eliminate about 125 feet of stream. Meandering streams, skewed crossings and high road fills increase these distances.

Table 16 estimates the length of stream that will be affected by bridges or culverts. It must be emphasized that these numbers are only estimates and the impact of the selected alternative may change due to minor alignment shifts or changes from a typical fill height. The No Build Alternative assumes that an upgraded two lane highway will be constructed, with existing culverts either extended or replaced.

TABLE 16
POTENTIAL STREAM IMPACTS FROM TH 33 ALTERNATIVES

RURAL SECTION				
Alternatives	West Corridor		East Corridor	
Design Option	Two Lane	Four Lane	Two Lane	Four Lane
STREAM IMPACTS (FEET)*				
Chalberg Creek(T)	125	-	150	-
Unnamed Stream	125	-	250	-
Beartrap Creek(T)	125	200	125	200
Dutch Slough(T)	150	250	250	0
White Pine river(T)	150	200	125	200
Alternatives	Range Line		No Build	
Design Option	Corridor		Two Lane	Upgrade
	Four Lane			
STREAM IMPACTS (FEET)*				
Chalberg Creek(T)	300		50	
Unnamed Stream	0		50	
Beartrap Creeek(T)	200		50	
Dutch Slough(T)	0		50	
White Pine river(T)	200		50	
* Denotes approximate width of river which would be bridged				
(T): Designated trout stream				
- : Design option is not being considered at this particular stream location				
0 : Alternative does not cross stream				

TABLE 16
POTENTIAL STREAM IMPACTS FROM TH 33 ALTERNATIVES

URBAN SECTION

Alternatives Design Option	West Cloquet Bypass	East Cloquet Bypass	Through Town Corridor
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STREAM IMPACTS
(FEET)*

Unnamed Stream	150	0	150
Unnamed Stream	0	400	0
St. Louis river	1500	250	500
Big Otter Creek(T)	400	0	0

Alternatives Design Option	Range Line Secondary One	Corridors Two	No Build Two Lane Upgrade
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STREAM IMPACTS
(FEET)*

Unnamed Stream	250	0	0
Unnamed Stream	0	0	0
St. Louis river	0	0	0
Big Otter Creek(T)	0	0	0

* Denotes approximate width of river which would be bridged.

- (T) : Designated trout stream
 - : Design option is not being considered at this particular stream location
 0 : Alternative does not cross stream

Channel changes can cause significant disruption and permanent damage to fish habitat and floodplain areas. Any new channel would be constructed to perpetuate or improve ambient conditions for fish and wildlife resources. Mitigation measures would include considerations such as maintaining stream length, and improving fish habitat through the use of rock deflectors, gravel riffles and random boulder placement. Details of any channel change will be refined during the Final EIS and finalized during the permit process.

In the rural section of the project there is the potential for small (less than 250 feet) channel changes at the White Pine River (West Corridor companion two lane design option) and Dutch Slough (West Corridor). Potential channel changes on the White Pine River in the East Corridor have been eliminated by bulbing the alignment around the stream.

In the urban section of the project there is a potential channel change associated with the West Cloquet Bypass crossing of Big Otter Creek.

WETLANDS

Introduction

A wetlands inventory was prepared for the study area. Wetland basins in the vicinity of the alternatives were mapped on aerial photographs, classified by type and their basin size calculated. For this broad of an inventory, wetland acreages were rounded to the nearest acre. Extremely small wetlands, less than 1.5 acre, were assigned the value of one acre. A value of 300 acres was assigned to very large wetland basins of 300 or more acres. Wetlands were classified according to circular 39 of the U.S. Fish and Wildlife Service (Table 4).

Overview of Study Area Wetlands

Much of the project area is low-lying in character, with about 20 to 25 percent of its acreage in lowland hardwoods or wetlands (Figure 14). Due to flat and gently rolling topography, vegetation in the area grades gradually from lowland to upland with very broad transitional zones. This results in extensive intergrading of vegetation types and establishment of exact boundaries is difficult and arbitrary. Many wetland basins are comprised of several wetland types.

Wetland characteristics are summarized for each corridor (Tables 17-24). A total of 127 wetland basins were identified, covering a minimum estimate of 3,600 acres. Generally sizes of wetland basins range from 1 acre to 300 acres, the average size being 29 acres. Most (35 percent) are small (1-10 acres), 26 percent are one acre, and only three percent are 300 acres in size. The most frequently occurring wetland types are Type 6 and 7, followed by Type 2. These wetland types are most often found in combination rather than separately. Type 2/6/7 is the prevalent combination, accounting for 52 percent of the total wetland basin acreage. The second most prevalent combinations are Type 6/7 which accounts for 15 percent and Type 2/6, which accounts for 14 percent of the total wetland basin acreage. Type 7 wetlands are comprised mainly of black spruce and black ash. Tamarack and white cedar are present in limited amounts.

TABLE 17
CHARACTERISTICS OF URBAN SECTION CORRIDOR WETLANDS.

Corridor	Through Town	West Cloquet Bypass	East Cloquet Bypass	No Build
Characteristic				
Number of Wetlands	15	22	11	4
Total Basin Acreage	300+	490+	480+	126.3
Most Frequent Wetland Combination	T2/6	T7	None	None
Greatest Acreage Combination	T2/6	T2/6/7	T7	T2/6/7/8
Most Frequent Size Class (Acres)	1-10	1	1-10	None
Average Wetland Basin Size (Acres)	20	21	44	32
Two Lane Acreage Impacted* (125 ft. corridor)	7	NA	NA	NA
Four Lane Acreage Impacted** (200 ft. corridor)	NA	15	4	NA
No Build Acreage***	NA	NA	NA	NA

* Acres impacted within 125 ft. corridor

** Acres impacted within 200 ft. corridor

*** Acres impacted by widening existing road from Morris Thomas Road to the Carlton/St. Louis County line, plus frontage road construction in Cloquet.

NA: Not applicable

TABLE 18
CHARACTERISTICS OF RURAL SECTION CORRIDOR WETLANDS.

Corridor	West Corridor	East Corridor	Range Line Corridor	No Build
Characteristic				
Number of Wetlands	31	30	38	24
Total Basin Acreage	1620+	1650+	1570+	1560+
Most Frequent Wetland Combination	T2/6/and T2/6/7	T2/6	T7	T2/6
Greatest Acreage Combination	T2/6/7	T2/6/7	T2/6/7	T2/6/7
Most Frequent Size Class (Acres)	1	1-10	1-10	1-10
Average Wetland Basin Size (Acres)	49	52	42	68
Two Lane Acreage Impacted* (125 ft. corridor)	32	50	NA	NA
Four Lane Acreage Impacted** (200 ft. corridor)	48	63	57	NA
No Build Acreage***	NA	NA	NA	15

* Acres impacted within 125 ft. corridor

** Acres impacted within 200 ft. corridor

*** Acres impacted by widening existing road from Morris Thomas Road to TH 53.

NA: Not applicable

TABLE 19

CONSTRUCTION IMPACTS TO RURAL SECTION WEST CORRIDOR WETLANDS
(REFER TO FIGURE 14 FOR LOCATIONS)

Wetland Number	Wetland Type	Basin Size (Acres)	Two Lane* Impacts	Four Lane** Impacts
1	6/7	40	1.1	1.1
2	2	1	---	---
5	2/6/7	27	1.8	1.8
6	2/6	46	1.9	1.9
7	2/6/7	300	2.5	2.5
12	2	1	---	---
14	2/6	1	1.0	1.0
16	2	1	1.0	1.0
17	7	14	---	---
18	2/3/6	35	2.5	2.5
19	2/6	65	0.1	0.2
20	2/6/7	300	1.4	2.3
21	2/6	200	5.1	8.2
22	2/6/7	78	2.6	4.1
23	2/6	9	1.1	1.7
24	2/6/7	72	3.2	5.1
25	6/7	49	2.4	3.9
27	7	36	--	---
29	2/6	4	0.4	0.7
30	6	5	---	---
34	2/6/7	300	2.0	7.6
36a	7	4	---	---
36b	5	1	---	---
36c	5	1	---	---
36d	6/7	1	1.0	1.0
36e	4	3	---	---
36f	4	1	---	---
36g	4	3	---	---
37	4	1	---	---
38	6/7	2	1.1	1.7
42	7	5	---	---
Total:			32.2	48.3

No
Four Lane
Proposed

* Acres impacted within 125 ft. corridor.

** Acres impacted within 200 ft. corridor.

TABLE 20

CONSTRUCTION IMPACTS TO RURAL SECTION EAST CORRIDOR WETLANDS.
(REFER TO FIGURE 14 FOR LOCATIONS)

Wetland Number	Wetland Type	Basin Size (Acres)	Two Lane* Impacts	Four Lane** Impacts
1	6/7	40	4.2	4.2
3	7	19	---	---
4	2	1	1.0	1.0
6	2/6	46	0.6	0.6
7	2/6/7	300	4.6	4.6
8	2	1	---	---
9	2/6/7	2	---	---
10	2	1	1.0	1.0
11	3	5	---	---
13	2/6	1	0.3	0.3
15	7	29	0.4	0.4
18	2/3/6	35	1.4	1.4
19	2/6	65	0.7	1.1
20	2/6/7	300	2.9	4.7
21	2/6	200	7.9	12.6
22	2/6/7	78	2.1	3.3
23	2/6	9	1.1	1.7
23a	3/6	1	1.0	1.0
24	2/6/7	72	3.4	---
25	6/7	45	1.5	5.5
26	2/6	11	---	2.4
28	6	7	---	---
31	2	2	---	---
32	2/6	1	1.0	1.0
33	6	1	---	---
34	2/6/7	300	10.9	9.1
35	3/6	1	---	---
36	2	1	0.3	0.5
39	6/7	2	2.5	4.0
40	7	2	---	---
41	3/6	2	1.6	2.6
Total:			50.4	63.0

No
Four Lane
Proposed

* Acres impacted within 125 ft. corridor.

** Acres impacted within 200 ft. corridor.

TABLE 21

CONSTRUCTION IMPACTS TO RANGE LINE RURAL SECTION CORRIDOR WETLANDS.
(REFER TO FIGURE 14 FOR LOCATION)

Wetland Number	Wetland Type	Basin Size (Acres)	Four Lane** Impact
R17	7	20	2.8
R2	6/7	14	---
*R3	2/6/7	300	16.1
R4	6/7	14	---
*R5	2/5/6/7	300	26.6
R6	2/6/7	6	---
R7	2/6	6	---
R8	2/5/6/7	300	---
R9	6/7	53	1.4
R10	6/7	101	---
R11	7	6	0.9
R12	7	5	2.8
R13	6/7	57	---
R14	7	1	---
R15	7	16	2.3
R16	7	8	---
R17	7	3	---
R18	7	2	---
R19	7	1	---
R20	7	2	---
R21	2/6	5	---
R22	7	11	0.2
R23	2/6	2	---
R24	7	49	0.5
R25	6/7	31	---
R26	7	1	---
R27	3	1	0.5
R28	7	1	---
*R29	2/6	73	---
R30	6/7	1	---
R31	6/7	35	---
R32	7	9	0.2
R33	6/7	5	1.4
R34	2/6	33	0.7
R35	6/7	75	---
R36	6	5	---
R37	6	4	---
R38	6/7	12	0.2
Total:			56.6

* Wetland not unique to this corridor.

** Acres impacted within 200 ft. corridor.

TABLE 21A

CONSTRUCTION IMPACTS TO NO BUILD ALTERNATIVE RURAL SECTION WETLANDS.

Wetland Number Rural	Wetland Type	Basin Size (Acres)	Impact (Acres)
1	6/7	40	0.75
4	2	1	0.80
5	2/6/7	27	0.16
6	2/6	46	0.53
7	2/6/7	300	0.93
13	2/6	1	0.06
15	7	29	0.07
16	2	1	0.03
18	2/3/6	35	0.73
19	2/6	65	0.14
20	2/6/7	300	0.37
21	2/6	200	2.48
22	2/6/7	78	1.05
23	2/6	9	0.43
23A	3/6	1	0.22
24	2/6/7	72	1.38
25	6/7	45	0.70
32	2/6	1	0.16
34	2/6/7	300	3.06
36D	6/7	1	0.34
38	6/7	2	0.14
39	6/7	2	0.24
41	3/6	2	0.36
Total:			15.13

TABLE 22

CONSTRUCTION IMPACTS TO THE TH 33 THROUGH TOWN CORRIDOR WETLANDS.
(REFER TO FIGURE 14 FOR LOCATIONS)

Wetland Number	Wetland Type	Basin Size (Acres)	Two Lane** Impacts	No Build
*45	2/6	73	1.8	1.06
46	2/6	1	---	0.03
46a	7	2	---	---
47	2/6/7	73	3.9	---
48	2	1	---	---
49	2/6	15	---	---
50	2/6	18	---	---
51	2/6	1	---	---
52	4	6	---	---
53	2	3	---	---
54	6/7	14	---	---
55	6/7	7	0.3	---
56	6/7	16	---	---
57	6	2	---	---
58	6/7/8	71	1.3	---
59 Frontage	6	1	---	---
60 Road	2/6/7/8	106	---	<u>0.30</u>
Total:			10.7	1.39

* Wetland not unique to this corridor.

** Acres impacted within 200 ft. corridor.

TABLE 23

CONSTRUCTION IMPACTS TO THE TH33 WEST CLOQUET BYPASS WETLANDS.
(REFER TO FIGURE 14 FOR LOCATION)

Wetland Number	Wetland Type	Basin Size (Acres)	Four Lane** Impact
* W1	2/6	73	---
* W2	2/6	1	---
* W3	7	2	---
* W4	2/6/7	73	4.7
* W5	2	1	---
* W6	2/6	15	1.6
* W7	2/6	1	---
W8	6/7	20	1.4
W9	6/7	5	---
W10	7	1	---
W11	7	4	---
W12	2	1	---
W13	7	1	0.5
W14	7	3	0.5
W15	6/7	20	0.9
W16	2	1	---
W17	2	1	0.5
W18	2	10	---
W19	2/4/6	47	1.8
W20	7	2	---
W21	7	1	---
W22	2/6/7	200	<u>2.8</u>
Total			14.7

* Wetland not unique to this corridor.

** Acres impacted within 200 ft. corridor.

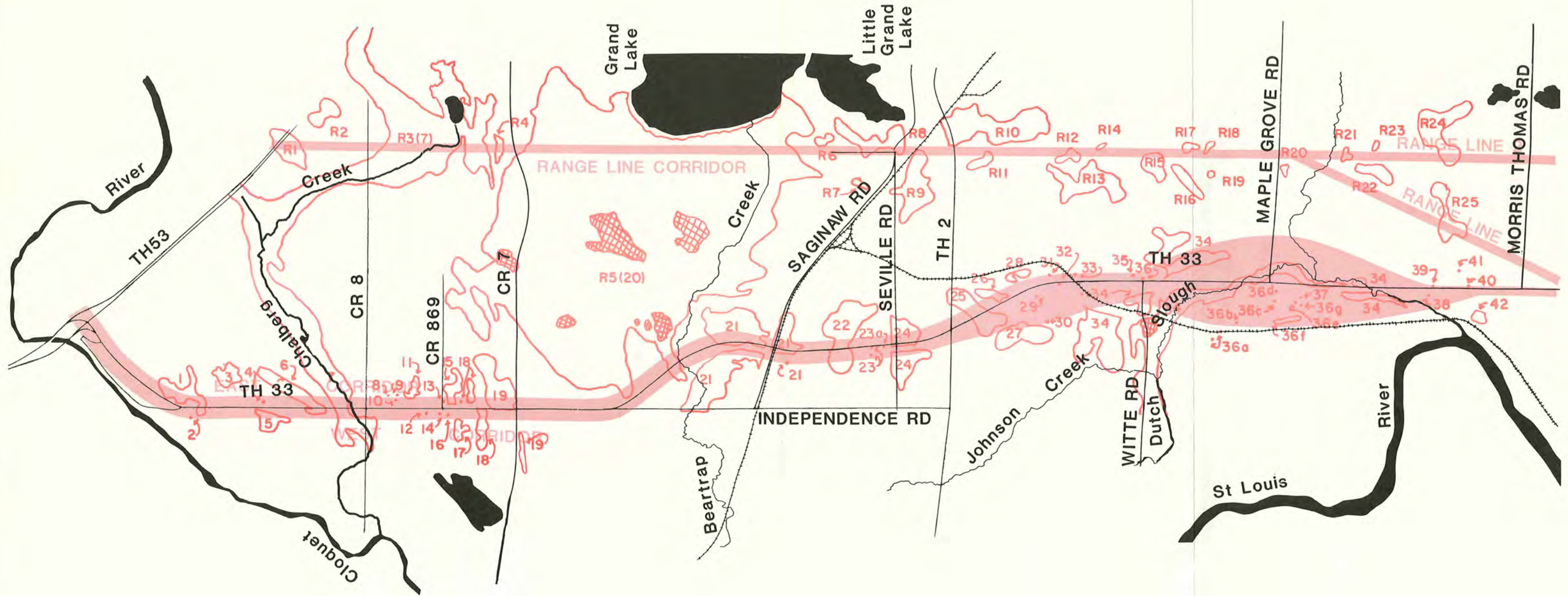
TABLE 24

CONSTRUCTION IMPACTS TO THE TH33 EAST CLOQUET BYPASS WETLANDS.
(REFER TO FIGURE 14 FOR LOCATION)

Wetland Number	Wetland Type	Basin Size (Acres)	Four Lane** Impact
* E1	2/6	73	2.3
E2	6	13	1.4
E3	6/7	4	---
E4	2/6/7	125	---
E5	2/6	23	---
E6	2	2	---
E7	2	2	---
E8	6/7	77	---
E9	7	11	---
E10	4/7	5	---
E11	7	144	<u>0.7</u>
Total			4.4

* Wetland not unique to this corridor.

** Acres impacted within 200 ft. corridor.

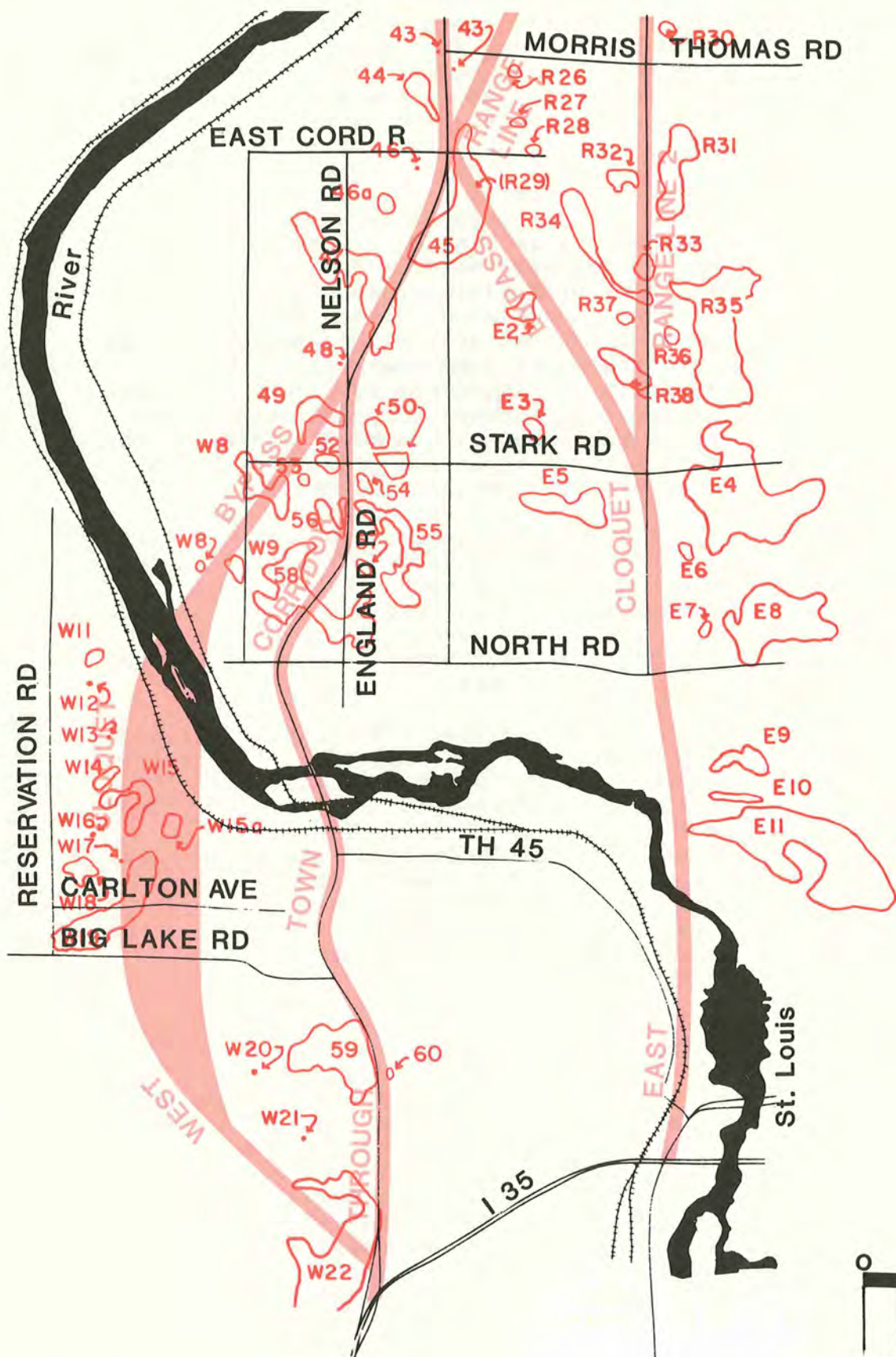


 = UPLAND in WETLAND area

Wetland basins in TH 33 rural section

Figure 14a

TH33
from I-35 to TH53



Wetland basins in TH 33 urban section

Figure 14b

TH33

from I-35 to TH53

Value of Wetland Habitats

The value of wetlands in the project area is assessed from both a hydrologic and a wildlife standpoint. The project area, characteristic of northeastern Minnesota, has a large water storage capacity, reducing the potential threat of floods and flood damage to natural resources, human life and property. During heavy rains, snowmelt and spring thaw, essentially the entire area retains water due to slow runoff and saturation. Some of the wetlands drain into adjacent streams; others are isolated pockets with poorly permeable substrate, either seasonally wet (storing water from heavy rains or snowmelt) or supported by a perched water table; still others are connected to the major watershed by groundwater flow. When many wetland types are present within a single basin, wetland classification results in a combination of predominant types. This multiple classification yields a better understanding of the full range of habitat values of each wetland, and indicates which wetland basins have higher wildlife values due to the greater diversity of habitats (i.e., water, trees, shrubs and grasses).

Concerning wildlife, the types of wetlands in the project area have a relatively low value for waterfowl and aquatic wildlife, but have a moderate to high value for deer due to the availability of good winter cover. The wetlands also have a moderate to high value for snowshoe hare, grouse, songbirds and small game such as fox, raccoon and mink. This is afforded by the high level of diversity within these wetlands.

Wetland Impacts In General

Wetlands located within and adjacent to the selected alternative will be directly impacted by the proposed project from construction of the road and from polluted drainage flowing off the completed roadway. Wetlands located throughout the project area may be indirectly impacted by the proposed project when residential and industrial development results. Wetlands presently crossed by a roadway will sustain less impact because their water regimes have already been affected.

Impacts to Alternative Corridors

Impacts to wetland basins were derived by placing a construction corridor in the center of corridor alignments (Figure 7). A 125 foot corridor was used in the case of a two lane companion roadway, and a 200 foot corridor was used in the case of a four lane roadway on new alignment. The No Build Alternative assumed an impact area 25 feet into wetlands directly adjacent to the existing road. These widths represent potential construction limits, rather than potential right of way limits (which reflect the acreages shown in Table 9).

West and East Corridors

Overall, the West and East Corridors pass through similar habitat and many of the same wetlands (Figure 14). The West and East Corridors rank second and third respectively in the number of wetlands within the corridor (Table 18). In total wetland basin acreage the East Corridor ranks first and the West Corridor is second. Although the majority of wetlands in both corridors are less than ten acres, three very large wetlands comprise more than half of the basin acreage totals. These major wetlands are formed around three streams and their tributaries: Chalberg Creek (no. 7), Beartrap Creek (no. 20), and White Pine River/Dutch Slough (no. 34). Areas of potential interest in the West Corridor and four type 4 and two type 5 wetlands, consisting of man made ponds in a series of gravel pits. Wetland acreages impacted in the West Corridor by two lane and four lane construction would be 32 and 48 acres respectively. Wetland acreages impacted in the East Corridor by two lane and four lane construction would be 50 and 63 acres respectively.

Range Line Corridor

The Range Line Corridor ranks first in the number of wetlands and third in total wetland basin acreage (Table 18). Three of its wetlands are also a part of the TH 33 corridor area (Figure 14). Although the majority of wetlands are between one and 50 acres in size, three very large wetlands comprise more than two thirds of the total basin acreage (Table 21). These major

wetlands are formed around streams, lakes and their tributaries: Chalberg Creek (R3 and no. 7), Beartrap Creek/Grand Lake (R5 and no. 20), and Little Grand Lake (R8). Wetland acreage impacted in the Range Line Corridor by four lane construction would be 57 acres.

Through Town Corridor

The Through Town Corridor ranks sixth in the number of wetlands and seventh in total wetland basin acreage (Table 17). One of its wetlands is also a part of the East Corridor (Figure 14). The majority of wetlands are between one and 50 acres in size (Table 22). There are no wetlands greater than 300 acres in this corridor. Areas of potential interest in this corridor include one excellent type 4 wetland (no. 52) and a type 6/7/8 combination wetland containing an open bog and a spruce swamp (no. 57). Wetland acreage impacted in the Through Town Corridor by two lane construction would be seven acres.

West Cloquet Bypass

The West Cloquet Bypass ranks fifth in the number of wetlands as well as in total wetland basin acreage (Table 17). Seven of its wetlands are also a part of the East Corridor and the Through Town Corridor (Figure 14). The majority of wetlands in this corridor are ten acres or less in size (Table 23). There are no wetlands greater than 300 acres in this corridor. The largest wetland (W22-200 acres) is formed around Big Otter Creek. An area of potential interest in this corridor is a medium size type 2/4/6 wetland (W19) formed around First Lake. Wetland acreage impacted in the West Cloquet Bypass by four lane construction would be 15 acres.

East Cloquet Bypass

The East Cloquet Bypass ranks seventh in the number of wetlands and sixth in total wetland basin acreage (Table 18). One of its wetlands is also part of the East Corridor, Through Town Corridor, and West Cloquet Bypass (Figure 14). The majority of wetlands are between one and 50 acres in

size (Table 24). There are no wetlands greater than 300 acres in this corridor. An area of potential interest in this corridor is a small type 4/7 wetland combination (E10) formed around an unnamed pond. Wetland acreage impacted in the East Cloquet Bypass by four lane construction would be four acres.

No Build Alternative

Urban and Rural Sections

Only wetlands present within 50 feet of the existing roadway would be impacted by the No Build Alternative. The filling of wetland fringes by decreasing fill slopes and damage done by construction vehicles used during upgrading would represent the most significant impacts. The rural and urban sections rank fourth and eighth, respectively, in the number of wetlands involved and the total wetland basin acreage (Tables 17 and 18). A total of 16 acres would be impacted along this alternative, with 15 acres in the rural section and one acre in the urban section (Table 21A).

Mitigation Measures

Several mitigation measures are recommended to minimize negative impacts and to enhance wetlands wherever practical.

- A. Standard erosion control measures will be employed throughout the construction period, including mulching, seeding and fertilization immediately upon completion of construction. Hay bales will be used where appropriate to avoid gully formation.
- B. In the following areas, special erosion control measures will be taken to control erosion and maintain habitat value: Chalberg Creek, White Pine River, Beartrap Creek, Dutch Slough and Big Otter Creek.
- C. Disposal of excess material will be worked out using Mn/DOT guidelines.

Mitigation of floral and faunal impacts will entail replacement of lost habitat through purchase and preservation of an existing area or the creation of a new wetland. Several wetlands are under study as potential mitigation sites. Habitat Evaluation Procedures (HEP) developed by the U.S. Fish and Wildlife Service will be applied to the project area and all potential mitigations sites to insure adequacy of the measures ultimately proposed. Personnel from the U.S. Fish and Wildlife Service, Minnesota Department of Natural Resources, and Minnesota Department of Transportation will cooperatively conduct the habitat evaluation.

WILDLIFE

Overview

For corridor analysis, wildlife habitat has been classified into the same broad categories as in the Land Use Section (Table 9): forest land, cleared land, wetlands and developed land. Acreages were calculated using 150 foot corridors for alternatives involving two lane right of way adjacent to existing highway, and 300 foot corridors for four lane right of way on new alignment. Thus the values shown in Table 9 represent an over-estimation of potential impacts within construction limits. Acreages were not calculated for the No Build Alternative since it will not involve the purchase of additional right of way.

General Impacts

The project will impact wildlife nesting and breeding habitat regardless of which alternative is chosen. Construction of four lanes on new alignment will impact considerably more habitat than construction of two lanes on new alignment. The No Build Alternative would have the least amount of impact, since construction would be within present right of way limits. Habitat loss caused by this project will not threaten the existence of any local wildlife population. Total numbers of most wildlife species in the study area will decline in a proportion equal to, or greater than the quantity of habitat destroyed. This decline is negligible on a regional scale but could be a major impact upon the wildlife resources within the project area, depending on the preferred alternate.

Impacts to Alternative Corridors

Rural Section

The West and East Corridors are very similar with respect to their adjacent land use (Table 9). The East Corridor is about 0.2 miles longer than the west. An area of high wildlife habitat value is located east of the East Corridor in the vicinity of the White Pine River. It consists of a large upland area containing aspen-birch-pine ridges. Construction on new alignment would have a significant negative impact in this area, with four lanes being more detrimental than two lanes.

The Range Line Corridor would impact the largest acreage of all types because 75-80 percent of its length would be on new alignment. This corridor also would transect the greatest amount of wetland in the project area. In addition, it would come within 0.2 mile of Grand Lake and two smaller lakes.

Urban Section

The Through Town Corridor would impact the least amount of acreage of any land use type (Table 9). It does, however, come in proximity to two unique wildlife habitat areas; wetland no. 52 (an excellent waterfowl nesting area) and wetland no. 58 (an open bog/spruce swamp). This corridor contains more developed area than the other corridors in this section, thus lowering its value for most wildlife.

The West Cloquet Bypass and East Cloquet Bypass are similar in their adjacent land use with the exception of wetlands, which are more abundant in the West Cloquet Bypass Corridor. (Table 9). Both corridors are transected by roads. The West Cloquet Bypass contains more developed area in its southern reaches, thus lowering that portion's value for most wildlife.

Mitigation Measures

The detrimental effects of these impacts upon wildlife could be partially minimized and mitigated through the following procedures:

- A)- By impounding shallow water in the wet meadow and shrub swamp areas adjacent to the corridor. Most of these wetlands lack sufficient water to be good wetland habitat. With proper design these wetlands can serve as ponding areas for highway runoff and at the same time provide improved wildlife habitat for waterfowl.
- B)- By landscaping and seeding with species of plants that provide food and shelter for wildlife.

- C)- By limiting mowing of roadsides to provide nesting cover for ducks and songbirds.
- D)- By narrowing construction limits adjacent to wetlands (e.g. shifting alignment and changing profile).

THREATENED AND ENDANGERED SPECIES

The study area lies within the ranges given in the U.S. Fish and Wildlife Service red book for nesting bald eagles, timber wolves and peregrine falcons.

None of the proposed corridors pass near large bodies of water that could potentially be used for feeding by bald eagles. No active eagle nests are known to exist close enough to the project area to be disturbed, so it is evident that there will be no significant adverse effects on bald eagles.

All proposed corridors lie in peripheral timber wolf range. Mn/DNR estimated the 1979 wolf density in the area to be one wolf per 50 square miles (Minnesota Timber Wolf Management Plan; Mn/DNR, 1980). No discrete wolf concentrations are known to exist in the immediate project area. Possible impacts on wolf populations of any of the proposed alternatives for TH 33 involve impaired dispersal and road killed animals. Significant wolf habitat loss will not occur, and the food base of the wolves (primarily white-tailed deer) is not expected to be impacted at a level that would affect wolves.

Increased traffic volumes and speed may result in an increase in road killed wolves if sight distances are not improved (S. Fritts, Pers. Comm.). The behavior of individual wolves toward two lane highways varies from indifference to reluctance to cross (R.P. Thiel, Pers. Comm.). Upgrading or adding additional lanes may increase the reluctance of wolves to cross T.H. 33.

The road improvements and increased traffic volume may deter some wolves from crossing the road, which would reduce the road kill hazard, but this restricted movement would also slow the dispersal to, and subsequent recolonization of, areas in Wisconsin with suitable habitat and low wolf populations. Wolves northwest of Cloquet near TH 33 and TH 2 may disperse southeast to Wisconsin (L.D. Mech, Pers. Comm.). Upgrading TH 33 would add to the

barriers already present and could reduce the number of wolves that would venture into Wisconsin. The dispersal of wolves into Wisconsin has not been well documented, and it is difficult to speculate on the number of animals that would be affected.

Peregrine falcons migrate through the general area but do not nest there. No suitable nesting reintroduction sites exist along any of the potential corridors.

Mn/DOT Wildlife Biologists have determined that, for the above reasons, the proposed project will not affect bald eagles or peregrine falcons regardless of the corridor chosen. There will be no significant impacts on current wolf populations; however, the no build alternative which is the upgrading of the current two lane road would be preferable to a four lane highway in regard to wolf dispersal.

Personal Correspondence

Steven Fritts, Wildlife Biologist
U.S. Fish and Wildlife Service
Grand Rapids, Minnesota 55744

L. David Mech, Wildlife Biologist
U.S. Fish and Wildlife Service
North Central Forest Experiment Station
St. Paul, Minnesota 55108

Richard P. Thiel, Wolf Biologist
Wisconsin Department of Natural Resources
Madison, Wisconsin 53707

**BICYCLE AND PEDESTRIAN
CONSIDERATIONS**

TH 33 is a major north-south route providing access to a northern tourism region. The proposed design for the TH 33 rural section (divided, four 12 foot lanes, ten foot paved outside shoulder, four foot inside shoulder) would improve the rating for bicycle travel from "unsatisfactory" to "good" according to Mn/DOT's bikeway design standards.

Any of the alternative corridors would produce a positive impact for bicycle transportation by providing a safer bicycle travel corridor. If the Through Town Corridor in the City of Cloquet is part of the selected alternative, special attention should be directed toward a continuous design which will safely accomodate bicyclists and pedestrians. Public parklands, schools and historic sites are among the sites in Cloquet which TH 33 serves. Because the TH 33 crossing of the St. Louis River in Cloquet is one of the only river crossings in many miles, its design is quite important with regards to safe and continuous bicycle transportation and pedestrian traffic. A separate sidewalk and bikeway on the TH 33 crossing of the St. Louis River is desirable, however no decision has been made and these features will be evaluated on the basis of usage, cost and safety.

The proposed TH 33 design within any of the alternatives is consistent with 23 U.S.C. 109(n), in that the project would not result in the severance or destruction of an existing major route for non-motorized transportation.

VISUAL ANALYSIS

The landforms and landcover types in the TH 33 study area combine to create a variety of views. A visual analysis studies these views and develops ways to enhance the positive views and improve or eliminate the negative ones. There are two main criteria involved in doing a visual analysis for a roadway corridor. These are; the view of the road and the view from the road.

Views of the Road:

Land use in the rural section is relatively undeveloped and, as a result, views of the road in any of the corridors will be limited in number. Land use in the urban section is more developed and due to this development, views of the road will be more numerous and cluttered.

Views from the Road:

The visual character of both the rural and urban sections of the study area is created by a variety of view types which range from limited-confined views to open-extended views. This diversity enhances the road corridors visual character and provides visual stimuli. The land uses in the urban section are more developed and this lowers the visual qualities of this area. There are some extended views of the St. Louis River and these should be preserved.

Impacts:

Impacts to the visual character of both the rural section (which includes the Range Line Corridor) and the urban section of the study area, will be insignificant. There are, however, steps which should be taken in allowing the road to be a visually positive feature in the landscape.

Views of the Road: Mitigation

Steps to be taken to allow the road to be unobtrusive yet to provide good views of the road are as follows: design the road to reflect existing topography, thereby allowing it to fit into the environment, and provide vegetation in certain areas to act as buffer zones. This would break up any long extended views of the road which may occur in these areas.

Views from the Road:
Mitigation

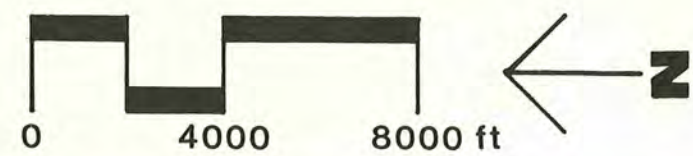
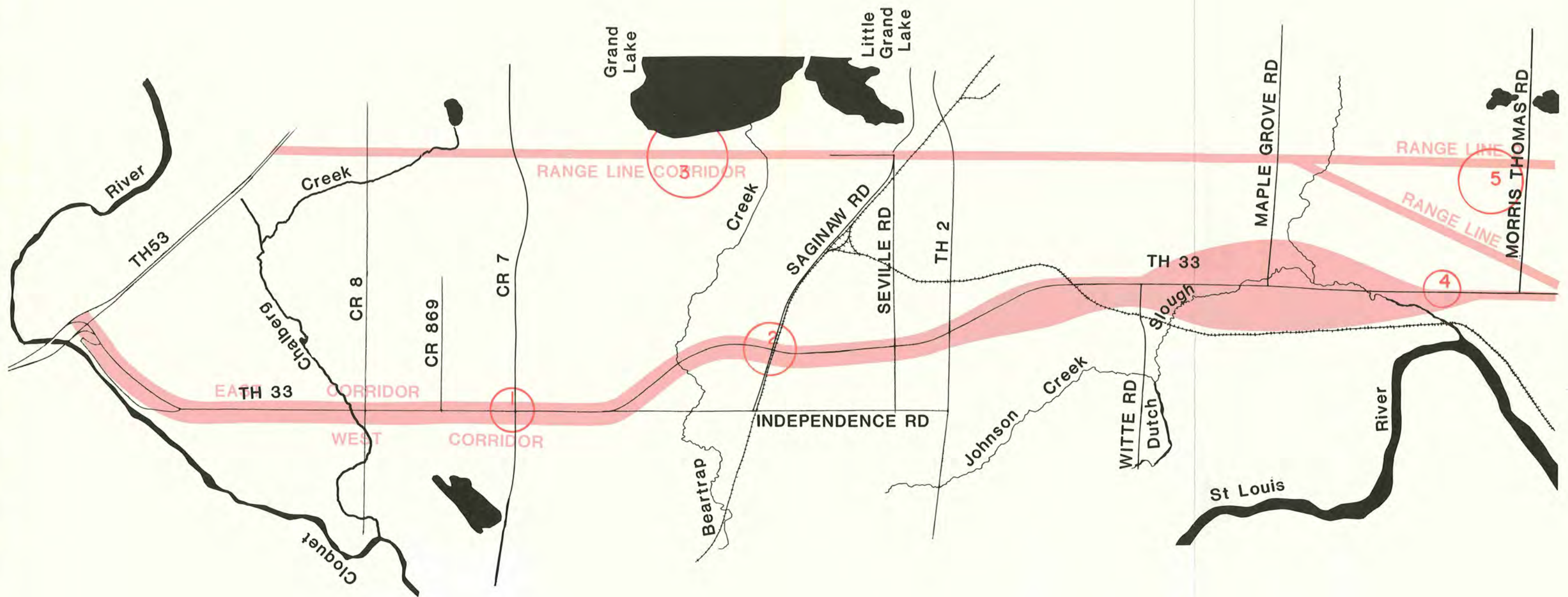
Steps to be taken to enhance and improve the study area's visual character as seen from the road are as follows: maintain a variety of view types; thin vegetation in areas where scenic views are blocked by existing vegetation; plant or retain vegetation in medians where feasible and or widen medians to allow for vegetation; design the road to reflect the natural topography; and create a natural edge of vegetation along the roadside. This natural edge can be created by feathering the vegetation to resemble a natural forest edge. A combination of selective cutting and planting (plant sizes should vary) would provide the desired effect. This feathering would provide visual interest as well as add additional wildlife habitat.

Figures 15a and 15b highlight potential sites for improvement and preservation of the visual character. The numbered areas on these figures correspond to the following observations.

Figure 15.

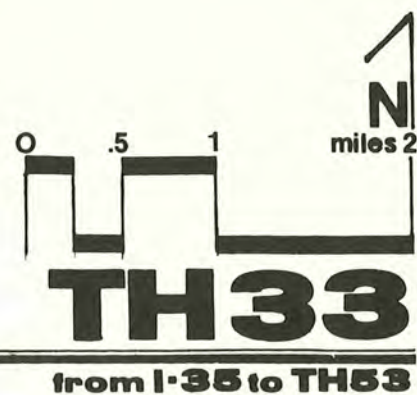
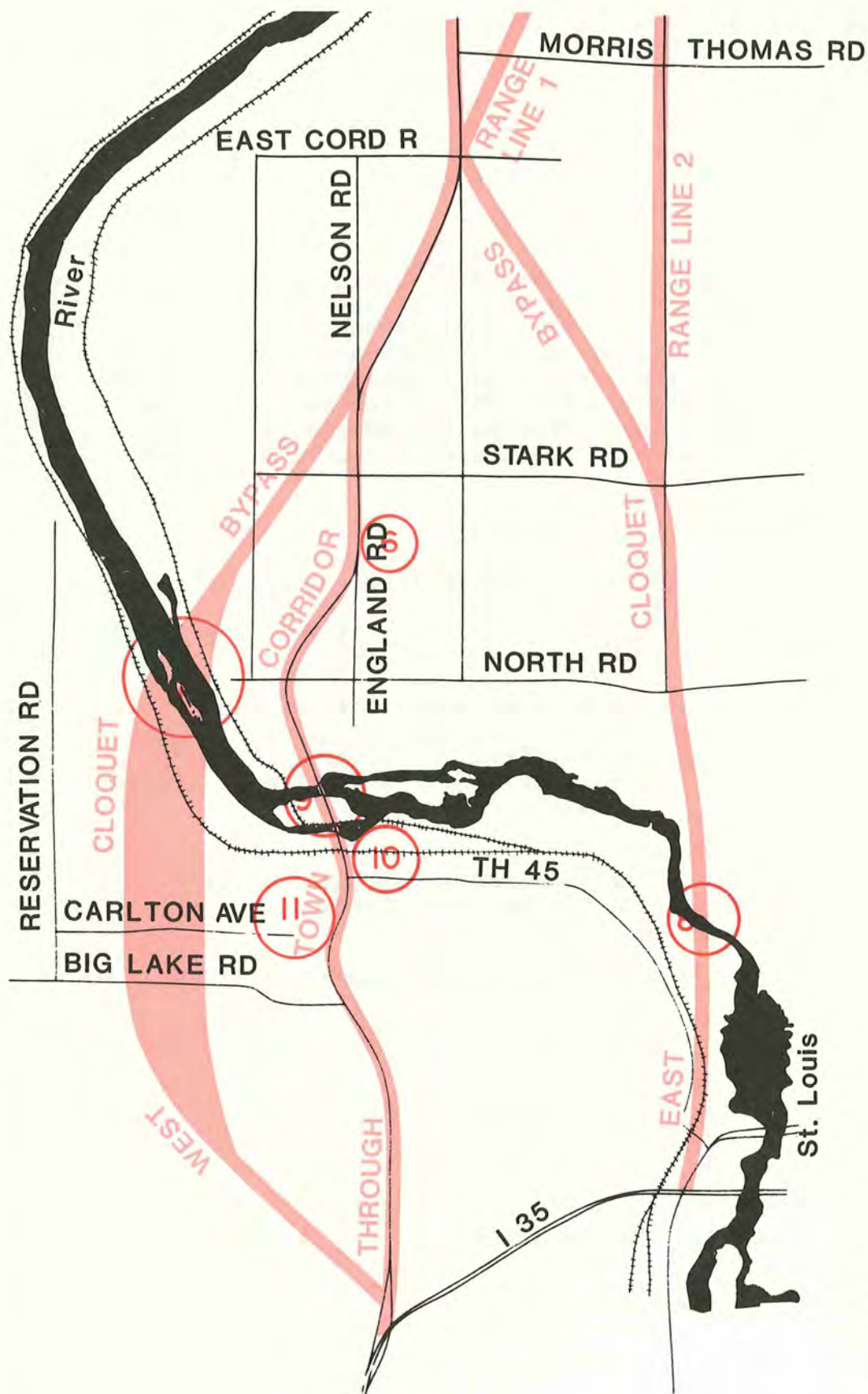
- Rural Section
- 1). The scenic open views found here should be preserved.
 - 2). A railroad overpass (road over rail) has potential for allowing open, scenic views to the surrounding landscape.
 - 3). This area may have potential to provide scenic views to Grand Lake.
 - 4) & 5) Upland areas provide potential for opening up scenic views to the surrounding landscape.
- Urban Section
- 6). A vegetation screen here could buffer views to the negative urban feature located here.
 - 7) & 8) New river crossings will have two different effects on the area's visual character.
 - a) The new bridge has potential to provide scenic views of the river.

- b) The new bridge has potential to detract from the natural environment which will lower the visual quality of the area.
- 9). The visual character of this area should remain relatively unaffected because a bridge already exists in this area.



Potential mitigation of visual impacts in TH 33 rural section
Figure 15a

TH33
from I-35 to TH53



**Potential mitigation of visual impacts
in TH 33 urban section
Figure 15b**

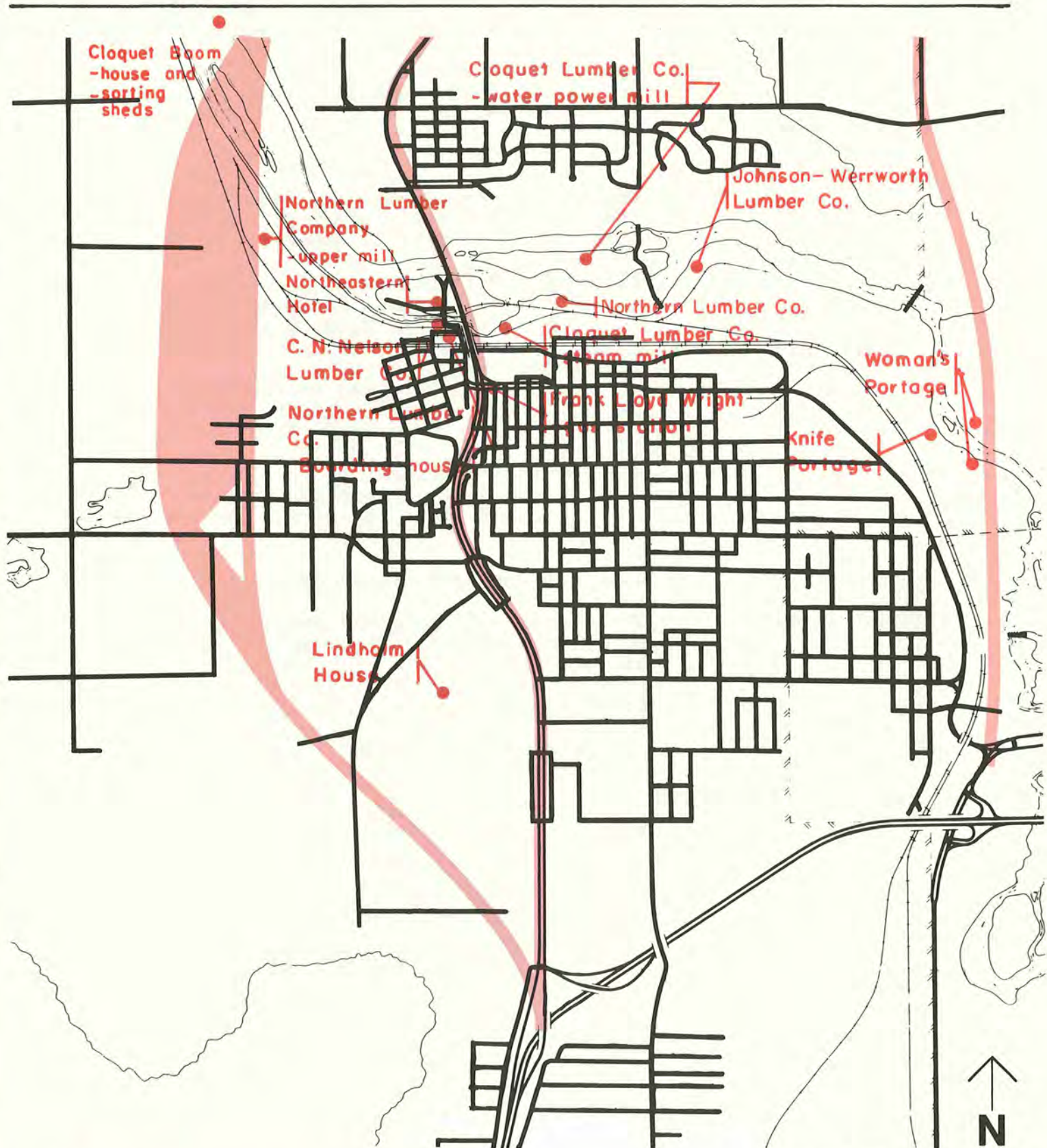
HISTORICAL/ARCHEOLOGICAL
IMPACTS

The State Historic Preservation Officer (SHPO) has been contacted and has identified ten historic sites within the study area. The Carleton County Historical Society has identified four additional sites (Figure 16).

Introduction:

The rich history of the Cloquet area was influenced by the fur trade and logging eras. All of the sites which have been identified as having historic value are located within the urban section of the TH 33 study area. The following sites have been identified by the Minnesota Historical Society as historic sites and structures.

- 1) Dunlap Island
- 2) Phillips "66" Station: Frank Lloyd Wright
SE corner, Cloquet Avenue and TH 33
Cloquet
- 3) Cloquet Boom House and Sorting Sheds Site.
SW,SE, Sec. 10, T.49, R.17 St.
Louis River and North End of Posey Island
Cloquet
- 4) Cloquet Steam Mill Company Site
NW,SW, Sec. 14, T.49, R.17
Cloquet
- 5) Johnson-Wentworth Sawmill Company Site
NW,SW,Sec.13, T.49, R.17
Cloquet
- 6) Lindholm House
N.E., NE, Sec. 26, T.49, R.17
Cloquet
- 7) Northern Lumber Company
NW,SW, Sec. 14, T.49, R.17
Cloquet
- 8) Northeastern Hotel
N1/4, SE, Sec.14, T.49, R.17
Cloquet



● Indicates general location only

**Historic sites and structures
 in TH 33 urban section
 Figure 16**

9) Upper Northern Sawmill Company Site
NW,SW, Sec. 13, T.49, R.17
Cloquet

10) Water Power Sawmill Company site
NW,SW, Sec.13, T.49, R.17 Water
Power Island
Cloquet

Four additional sites were identified by the Carlton County Historical Society as also having historical significance.

11) Knife Portage
SW1/4, Sec. 13, T.49, R.17
NE,NE,Sec.24, T.49, R.17; Cloquet

12) Womans' Portage
from Maple Island to Fortress
Island west side of St. Louis river
Sec.13, T.49, R.17 Cloquet

13) Womans' Portage
from Maple Island to Fortress
Island east side of St. Louis River
Sec.13, T.49, R.17

14) C.N. Nelson Lumber company

Potential Impacts

The sites which have the potential to be impacted by various alternatives are as follows:

No Build Alternative

Frank Lloyd Wright
"Phillips-66" Gas
Station

Through Town Corridor:

Dunlap Island
Northeastern Hotel
C. N. Nelson Lumber Co.
Northern Lumber Co. Boarding House
Frank Lloyd Wright "Phillips-66"
Gas Station

West Cloquet Bypass

Cloquet Boom House & Sorting Sheds
(alignment through the Fond du
Lac Indian Reservation)

Northern Lumber Co. Upper Mill
(alignment outside of the Fond du
Lac Indian Reservation)

East Cloquet Bypass

Woman's Portage (west side)

Woman's Portage (east side)

This DEIS is a corridor study with no specific alignments available at this time. As a result, the exact nature or degree of the potential impacts to these sites cannot as yet be determined. Only one site is known, at this time, to be unavoidably impacted. The Through Town Corridor (and existing TH 33) pass across Dunlap Island. Should this alternative be selected, an undeveloped portion of the island will be impacted by highway widening and bridge construction.

For all other sites the possibility exists that a final highway alignment could avoid impacts to these historic sites. Further study of this area is currently being conducted and more specific information on the selected alternative will be presented in the FEIS.

Federally funded projects which could affect properties on, or eligible for, the National Register for Historic Places are governed by Section 106 of the National Historic Preservation Act of 1966. Implementing rules are found in 36 CFR 800.

No archeological sites have been identified at this time. If any are identified they will be afforded proper consideration in accordance with the provisions of 36CFR800 Min. Stat. Ch. 138 and Minn. Stat. 307.08.

Any adverse impacts to sites of historic or archeological importance will be discussed in the FEIS, as well as appropriate mitigation measures.

CONSTRUCTION IMPACTS

A major transportation project will exert significant short term effects on the local and regional economy. This impact is caused by the introduction of employment and income, and the purchase of construction material and supplies. Construction cost estimates for TH 33 vary between \$33 million and \$48 million, depending on the build alternative selected. The No Build Alternative would have a cost of approximately \$11 million.

The data presented and discussed below are based upon information empirically generated by the FHWA from contractors reports. Although the data are quite precise for the level of aggregation and years indicated there are two limiting conditions. First the data are national averages. To the extent that a project is not "average", i.e. involves unique construction or engineering problems, the cost distributions may vary. Second, costs for highway construction have been subject to variable rates of change over the past few years. This means that the data discussed below should not be construed as a prediction of costs in 1986, but rather as a description of average projects constructed during 1979, 1980 and 1981.

Employment and Income

Two different statistics are available to estimate labor impacts (Table 25). For projects completed during 1981, 19.7 percent of construction costs for non-interstate highways were allocated to labor. On this basis, we may expect between \$6.5 million (\$33 million project) and \$9.5 million (\$48 million project) to be generated. The No Build Alternative could generate approximately 2.2 million dollars.

Another available datum is employee-hours per million dollars of construction cost. For recently completed projects, the FHWA reports that nearly nearly 25,000 employee hours of labor were generated by each million dollars of construction costs. Using that figure, the project build alternatives could generate between 825,000 and 1,200,000 employee hours of employment. Assuming a construction wage

of \$13/hr., the project build alternatives may produce between \$10.7 and \$15.6 million dollars of labor income. The No Build Alternative may produce approximately 275,000 hours of employment and 3.6 million dollars of labor income.

TABLE 25
ANTICIPATED EMPLOYMENT EFFECTS OF CONSTRUCTION: TH 33 FROM I-35 TO TH 53

Item	Range of Potential Expenditures		
			No Build
	\$33,000,000	\$48,000,000	\$11,000,000
Potential Direct Labor Income (a)	\$ 6,500,000	\$ 9,456,000	\$ 2,167,000
Potential Person-Hours of Labor (a)	\$ 825,000	\$ 1,189,800	\$ 275,000
Wage Earnings at \$13.00 per hour (b)	\$10,634,000	\$15,967,000	\$ 3,575,000

a Figures generated from data in Highway Statistics 1982 (March 1983) Federal Highway Administration.

b Mn Dept. of Economic Security. Average hourly earnings of highway and heavy construction workers was \$13.14 in March 1984.

**Materials/Supplies
Acquisition**

A project such as the one proposed involves the purchase of substantial quantities of construction material and supplies. Table 26 presents data regarding the cost of supplies and material on non-interstate federal-aid projects completed during 1981, and estimates the amount which would have been expended on TH 33. Many of these cost items would also involve labor impacts, e.g. the purchase of aggregates would cause employment for equipment operators, truck drivers, and others.

Other/Economic Impact

All funds introduced through project construction and right-of-way acquisition are subject to the "multiplier" effect. Purchases which are made from other regions require dollars to flow out of the local economy, while money received by local business may be used to pay wages, purchase products, pay taxes and become profits. Wages received, will be partly saved and partly spent. Some of the products purchased from labor income will have been produced in the region, others from outside the region. This cycle repeats itself until the original money injection is completely dissipated.

TABLE 26
TYPICAL EXPENDITURES FOR MATERIALS
AND SUPPLIES: NON-INTERSTATE PROJECTS 1979-1981*

Item	Percent of Construction Costs Expended on Item, Percent	Expected Value of Purchases of Materials and supplies on Non-Interstate Projects costing		
		\$33,000,000 (000)	\$48,000,000 (000)	\$11,000,000 (000)
Cement	1.7	\$ 561	\$ 816	\$ 187
Aggregates	8.0	2,640	3,840	880
Bitumens	2.7	891	1,296	297
Lumber	0.3	99	144	33
Corrugated				
Steel Culvert	0.8	264	384	88
Reinforcing Steel	2.2	726	1,056	242
Structural Steel	3.4	1,122	1,632	374
Ready-Mix Concrete	4.8	1,584	2,304	528
Premixed Bit Paving	9.8	3,234	4,704	1,078
Concrete culvert	1.5	495	720	165
Clay Pipe	0.1	33	48	11
Misc. Steel	0.6	198	288	66
Fencing	1.3	429	624	143
Guardrail	1.2	396	576	132
Bridge Rail	0.2	66	96	22
Petroleum Products	3.4	1,122	1,632	374
Other	6.6	2,178	3,168	726
Total Materials and Supplies	48.6	\$16,038	\$23,328	\$ 5,346

* Table generated from data in Highway Statistics 1982 (March 1983) Federal Highway Administration, Federal Aid Division

Air Quality

Construction will have a negative impact on air quality. Air pollution will include emissions from vehicles, equipment and also possibly a hot mix paving plant. Fugitive dust sources which are mainly grading operations and temporary dirt roads, will also be a source of air pollution.

Since this is an area of air pollution attainment, no special precautions or permits are needed to stay within the standards with the normal amount of construction required. Neither exhaust nor dust should be of a magnitude to constitute a health hazard.

Construction regulations and Mn/DOT's "Standard Specifications for Construction" will mitigate dust (e.g. watering) thus minimizing the impact.

Construction Noise

The high noise levels of typical construction equipment indicate a potential noise impact in the selected corridor. Typical construction noise levels are listed in Table 27. No predictions of construction noise levels have been made, since it is impossible to accurately estimate the actual equipment that will be utilized at any given time.

The impact of construction noise can be minimized by restricting the hours of work, utilizing the quietest equipment available, constructing temporary barriers, and careful attention to muffler maintenance. Minnesota Standard Specifications for Highway Construction - Section 7, Subsection 1701, states in part that the contractor shall comply with all applicable laws, ordinances, regulations, orders and decrees. This includes any federal, state or local noise control regulation.

TABLE 27
TYPICAL CONSTRUCTION MACHINERY NOISE*

	dBa at 50'	dBa at 100'	dBa at 200'
Air Compressor	81	75	69
Backhoe	85	79	73
Concrete Mixer	85	79	73
Concrete Pump	82	76	70
Concrete Vibrator	76	70	64
Crane, Derrick	88	82	76
Crane, Mobile	83	77	71
Dozer	80	74	68
Generator	78	72	66
Grader	85	79	73
Jack Hammer	88	82	76
Loader	79	73	67
Paver	89	83	77
Pile Driver	101	95	89
Pneumatic Tool	85	79	73
Pump	76	70	64
Rock Drill	98	92	86
Roller	74	68	62
Saw	78	72	66
Scraper	88	82	76
Shovel	82	76	70
Truck	91	85	79

*Source: Traffic Noise and Vibration Manual, Illinois
Department of Transportation, March 1977

Traffic

Construction work will cause some disruptions to local traffic patterns. Mn/DOT's specifications requires contractors to conduct their operations in a way that will cause the least obstruction to traffic. Access to adjacent property will be maintained. Construction will be scheduled in such a manner that alternative routes can be developed.

Pollution control

All applicable regulations of pollution control relating to the prevention and abatement of pollution shall be complied with during hauling and construction operations.

Soils

The soil types are shown on Figure 17 (see attached Legend). The soil types have been divided into three groups for this study according to their suitability for construction (see Legend).

The soils considered good for road construction are typically represented by gravelly loamy coarse sands and fine sandy loams. Their composition for roadfill is considered good to fair. Slopes usually vary from zero to 18 percent and can range up to 45 percent.

The soils considered fair for road construction are typically represented by silt loams. Their composition for roadfill is considered fair to poor. Slopes usually vary from zero to eight percent and can range up to 25 percent. These soils are considered less favorable for highway construction.

The soils considered poor for road construction are typically peats. Their composition for roadfill is considered poor. Slopes usually vary from zero to two percent. These soils are usually considered unsuitable for roadway foundations and may require excavation, resulting in increased construction costs.

Slope

Slopes, or the surfaces of an area, are considerations for highway location. Specifically, it is more difficult to build through rough topography. This increases the construction time and cost.

LEGEND: FIGURES 17a AND 17b SOIL TYPES OF TH 33 RURAL AND
URBAN SECTIONS

SOIL TYPES: ST. LOUIS COUNTY SOIL SURVEY

MAPPING UNIT MAPPING UNIT NAME
SYMBOL

** 21A	Ahmeek silt loam, 1 to 3 percent slopes
** 21B	Ahmeek silt loam, 3 to 8 percent slopes
21C	Ahmeek silt loam, 8 to 18 percent slopes
268B	Cromwell fine sandy loam, 0 to 8 percent slopes
337	Warman mucky silt loam
355B	Cloquet fine sandy loam, 0 to 8 percent slopes
355C	Cloquet fine sandy loam, 8 to 18 percent slopes
355E	Cloquet fine sandy loam, 18 to 45 percent slopes
420	Twig muck
531	Beseman mucky peat
534	Mooselake mucky peat, 0 to 1 percent slopes
540	Seelyville muck
541	Rifle mucky peat
544	Cathro muck
549	Greenwood peat
*1005	Pengilly and Unnamed fine loamy fluvaquents, freq. flooded
1029	Pits, gravel
*1310B	Ahmeek-Cloquet fine sandy loam complex, 1 to 8 percent slopes
*1312	Unnamed (1312) very fine sandy loam (somewhat poorly drained Cloquet)
*1313	Unnamed (1313) silt loam (Hermantown)
*1314	Cathro and Seelyville muck soils
*1316A	Unnamed (1316) silt loam, 1 to 3 percent slopes (Finland)
*1316B	Unnamed (1316) silt loam, 3 to 8 percent slopes (Finland)
*1316C	Unnamed (1316) silt loam, 8 to 18 percent slopes (Finland)
*1316E	Unnamed (1316) silt loam, 18 to 35 percent slopes (Finland)
*1317A	Unnamed (1317) sandy loam, 1 to 3 percent slopes (Toimi)
*1317B	Unnamed (1317) sandy loam, 3 to 8 percent slopes (Toimi)
*1317C	Unnamed (1317) sandy loam, 8 to 18 percent slopes (Toimi)
*1320	Beseman and Greenwood soils
*1323B	Unnamed (1323), 0 to 8 percent slopes (Vermilion)
*1323C	Unnamed (1323), 8 to 18 percent slopes (Vermilion)
*1323E	Unnamed (1323), 18 to 35 percent slopes (Vermilion)

* Denotes Trial legend mapping unit

** Prime farmland potentially impacted

LEGEND: FIGURES 17a AND 17b SOIL TYPES OF TH 33 RURAL AND
URBAN SECTIONS

SOIL TYPES: CARLTON COUNTY SOIL SURVEY

MAPPING UNIT MAPPING UNIT NAME
SYMBOL

12C	Emmert gravelly fine sandy loam, 1 to 12 percent slopes
12E	Emmert gravelly fine sandy loam, 12 to 25 percent slopes
** 21	Ahmeek loam, 0 to 2 percent slopes
21C	Ahmeek loam, 2 to 12 percent slopes
21E	Ahmeek loam, 12 to 25 percent slopes
V166	Mora fine sandy loam, wet
186	Nemadji fine sand
188C	Omega loamy sand, 2 to 12 percent slopes
274	Newson mucky loamy sand
337	Warman mucky loam
355	Cloquet fine sandy loam, 0 to 2 percent slopes
355C	Cloquet fine sandy loam, 2 to 12 percent slopes
502	Dusler silt loam
504C	Duluth very fine sandy loam, 2 to 12 percent slopes
504G	Duluth very fine sandy loam, 25 to 35 percent slopes
530	Greenwood mucky peat
531	Beseman muck
533	Loxley muck
534	Mooselake mucky peat
535	Merwin mucky peat
977G	Cloquet - Emmert complex, 25 to 60 percent slopes
980	Blackhoof and Mahtowa soils
990	Twig and Parent soils
1005	Fluvaquents
1073	Borofolists
1074	Borosaprists

** Prime farmland potentially impacted

LEGEND: FIGURES 17a AND 17b SOIL TYPES OF TH 33 RURAL AND
URBAN SECTIONS

SUITABILITY OF SOILS FOR CONSTRUCTION

SOILS CONSIDERED GOOD FOR ROAD CONSTRUCTION:

12C	504G
12E	977G
V166	1029
186	1310B
188C	1312
268B	1317A
355	1317B
355B	1317C
355C	1323B
355E	1323C
504C	1323E

SOILS CONSIDERED FAIR FOR ROAD CONSTRUCTION:

21	502
21A	1313
21B	1316A
21C	1316B
21E	1316C
337	1316E

SOILS CONSIDERED POOR FOR ROAD CONSTRUCTION:

274	541
337	544
420	549
530	980
531	990
533	1005
534	1073
535	1074
540	1314
	1320

Erosion will vary with different soil types. Steepness of slope is also a main factor. The greater the degree of slope, the greater the erosion potential.

Potential Soil Impacts

The East and West Corridors have similar soil compositions. A large area of poor soils is located in the vicinity of White Pine River and Dutch Slough. The majority of the soils in this area are peats or poorly drained mineral soils. This area could be avoided if the four lane on new alignment design option is chosen. The northern portion of the Range Line Corridor has large expanses of organic soils. These organic soils could make highway construction extremely difficult and costly. Within the urban section, the West Cloquet Bypass encounters the largest percentage of organic and poorly drained mineral soils. Road construction may be more difficult and costly in the West Cloquet Bypass. In addition, a bridge crossing of the St. Louis River may require cuts and fill in the steep slopes which are adjacent to the river. Special attention to erosion control measures should be followed in this area.

Erosion Control

Special attention to erosion control measures will be given where the alignment crosses or passes near lakes or streams. These measures will be included in the final construction plan. These measures include but are not limited to hay bales, check dams, silt fences, mulches, seeding and sodding.

Close attention will be given to revegetating disturbed areas so that a good vegetative cover is established.

Unsuitable Material Disposal

Since specific alignments have not been determined and soil borings have not been done on all alternatives its is impossible to even estimate the amount of unsuitable soil material (muck) for which disposal will be required. Generally unsuitable soils are encountered in wetlands and floodplains. Unsuitable soils have been identified in Figure 17 and discussed previously in the soils section.

Mn/DOT has Guidelines for the Disposal of Excess Material (Technical Memorandum No. 83-11-ENV-1) to aid in the determination of whether there are no feasible and prudent alternatives to disposal of excess materials in wetlands or other environmentally sensitive areas. In brief these guidelines allow disposal in wetland areas only where cost or engineering considerations make removal of the material to upland sites, extremely impractical. These conditions are usually encountered where a highway alignment traverses large expanses of unsuitable soils.

Examining the soils map (Figure 17) and the wetlands map (Figure 14) it can be determined that the Range Line Corridor will encounter the most unsuitable soils and, being long distances from upland areas, will most likely have the most wetland muck disposal. Depending on the depth of the unsuitable soils, the additional wetland area impacted could approach or equal the wetland area impacted by the highway fill itself. The West Corridor followed by the East Corridor will have lesser disposal problems in the rural section of the project. In the urban section, none of the alternatives encounter large expanses of unsuitable soils and disposal should not pose great problems.

Landfill

A construction impact unique to the East Cloquet Bypass in the urban section, is involvement with the Scanlon Landfill (closed). This landfill is located between TH 45 and the St. Louis River, immediately north of County Road 61. While an exact alignment through this area has not yet been determined, up to seven acres of landfill could potentially be located within construction limits.

If the landfill materials must be excavated (to create suitable subbase) the following special construction considerations must be followed:

- A) All buried refuse must be disposed of in a satisfactory manner at a MPCA permitted facility.

- B) All containerized (drummed) waste must be stored in a designated area until identified and a disposal plan is approved by the MPCA. Should any of these wastes be identified as a hazardous waste material, disposal must be at a hazardous waste storage, treatment or disposal facility.
- C) All surface areas of the landfill disturbed during construction shall be filled, sloped (two percent minimum) and recompactd with a minimum two feet of soil cover having a maximum permability of 2×10^{-6} cm/sec. Surface water runoff shall not be drained to areas containing waste. All disturbed areas must be revegetated.

**TRANSPORTATION
IMPACTS**

The Purpose and Need Section of this document lists seven transportation objectives of this project:

- 1) to provide four lane continuity
- 2) to improve accessibility to tourism areas of northern Minnesota
- 3) to stimulate and support business expansion and longterm economic growth
- 4) accident reduction
- 5) improve traffic flow in Cloquet
- 6) maintain appropriate level of service
- 7) replace or improve deficient bridges

Table 28 identifies the ability of each alternative to meet the transportation objectives of this project.

Table 28. TRANSPORTATION OBJECTIVES FULFILLED BY ALTERNATIVES

Rural Section		
Objective	Build Alternatives	No Build Alternative
1) four lane continuity	Fully meets	Does not meet objective
2) tourism accessibility	all transportation	Partially meets objective
3) economic development	objectives	Partially meets objective
4) accident reduction		Partially meets objective
5) Cloquet traffic flow (not applicable in Rural Section)		Not Applicable
6) level of service		Fully meets objective
7) bridge improvement		Fully meets objective
Urban Section		
Objective	Build Alternatives	No Build Alternative
1) four lane continuity	Fully meets	Does not meet objective
2) tourism accessibility	all transportation	Does not meet objective
3) economic development	objectives	Does not meet objective
4) accident reduction		Partially meets objective
5) Cloquet traffic flow		Does not meet objective
6) level of service		Partially meets objective
7) bridge improvement		Partially meets objective

TABLE 29
TH 33 IMPACT MATRIX (SIGNIFICANT IMPACTS AND INVOLVEMENTS)

	West Corridor	<u>RURAL SECTION</u> East Corridor	Range Line Corridor	No Build				
LAND USE (acres impacted)								
Forested	118	113	163-182	0				
Cleared	59	71	112-163	0				
Developed	24	11	0	0				
WETLANDS (acres impacted)	36-55	53-68	57	15				
RELOCATION								
Homes	30-40	20-35	7	0				
Businesses	4	4	0	0				
COMMUNITY SERVICES	1 high school 1 church/home 1 public safety weigh station	1 parochial school	none	None				
NOISE (receptors) exceeding standards 2006)	<u>Fed</u> 20	<u>State</u> 96	<u>Fed</u> 22	<u>State</u> 96	<u>Fed</u> 2	<u>State</u> 8	<u>Fed</u> 22	<u>State</u> 46
ECONOMIC	-	-	Shift traffic from businesses along existing TH 33	-				
HISTORIC SITES (Potential involvement)	-	-	-	-				
INDIAN RESERVATION	-	-	-	-				
WILDLIFE	General habitat losses related to land use changes	same as West Corridor and impacts to high quality habitat around White Pine River	same as West Corridor	- - -				
STREAM MODIFICATION	Channel changes to White Pine River or Dutch Slough: both designated trout streams	-	-	-				
CONSTRUCTION RELATED	Short term-water quality, noise Large quantities of excess material	Short term- water quality, noise. Moderate quantities of excess materials	Short term- water quality, noise. Extreme quantities of excess materials	Short term water quality, noise, low to moderate quantities of excess materials				

TABLE 29
TH 33 IMPACT MATRIX (SIGNIFICANT IMPACTS AND INVOLVEMENTS)

	West Cloquet Bypass	URBAN SECTION Through Town Corridor	East Cloquet Bypass	No Build
LAND USE (acres impacted)				
Forested	75	1	69	0
Cleared	97	24	95	0
Developed	14	23	3	0
WETLANDS (acres impacted)				
	15	7	4	1.4
RELOCATION				
Homes	19-60	11	17	0
Businesses	2-3	3-4	7-8	0
COMMUNITY SERVICES				
	Pine Valley Park Cloquet Golf Club	Wayside Park	None	None
NOISE (receptors exceeding standards 2006)				
	<u>Fed</u> 10	<u>State</u> 11	<u>Fed</u> 34	<u>State</u> 309
	<u>Fed</u> 16	<u>State</u> 16	<u>Fed</u> 34	<u>State</u> 309
ECONOMIC				
	Shift traffic from businesses along existing TH 33	-	same as West Cloquet Bypass	-
HISTORIC SITES (Potential involvement)				
	1	5 (1 definite involvement)	2	1
INDIAN RESERVATION				
	Corridor may pass through Fond du Lac Indian Reservation	-	-	-
WILDLIFE				
	General habitat losses related to land use changes	-	same as West Cloquet Bypass	-
STREAM MODIFICATION				
	Channel change to Big Otter Creek - a designated trout stream	-	-	-
CONSTRUCTION RELATED				
	Short term-water quality, noise Moderate quantities of excess material	Short term-water quality, noise	Short term- water quality, noise Scanlon landfill	Short Term Noise

VIII. FUTURE ACTION

Guidelines of the FHWA indicate that all alternatives considered in a draft EIS should receive the same level of attention and detail. This has been followed in this document. These guidelines also allow a highway agency to designate a "preferred" alternative if one has emerged from the early coordination and environmental studies undertaken by the highway agency.

As a result of such coordination and the environmental research undertaken during the development of the draft EIS, Mn/DOT has developed "preferred" alternatives. These preferred alternatives are not final. Final selection of preferred alternatives will not be made until the comments on the draft EIS and the public involvement process have been fully evaluated.

In the rural section of the TH 33 project, the preferred alternative is a build alternative in the TH 33 East and West Corridors. Construction would change from one corridor to the other to address social, economic, environmental and engineering considerations. The preferred design option throughout most of the rural section is the construction of a companion pair of lanes, which when completed would result in a four lane facility. However, between Smith Road and the White Pine River, the preferred alternative is the construction of four lanes on new alignment. These preferred alternatives are further detailed in Figure 18 and Table 30.

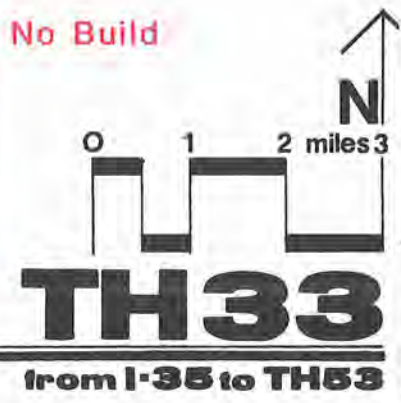
In the urban section, the preferred alternative at this time is the No Build.



Two Lane

Four Lane

No Build



TH 33 Preferred Alternative Corridor

Figure 18

TABLE 30
PREFERRED CORRIDORS AND DESIGN OPTIONS FOR TH 33

Segment	Preferred Corridor	Preferred Design Option*
TH 53 to Co. Rd. 975	East	Two Lane
Co. Rd. 975 to 1/3 Mi. N. Co.Rd. 869	West	Two Lane
1/3 Mi. N. Co.Rd. 869 to Independence Road	East	Two Lane
Independence Road to Smith Road	West	Two Lane
Smith Road to 1/2 Mi. N. Seville Road	West	Four Lane
1/2 Mi. N. Seville Road to TH 2	East	Four Lane
TH 2 to Witte Road	West	Four Lane
Witte Road to 1/4 Mi. S. White Pine River	East	Four Lane
1/4 Mi. S. White Pine River to Morris Thomas Road	East	Two Lane
Morris Thomas Road to I-35		No Build

*Two lane: two companion lanes to existing TH 33
Four Lane: four lanes on new alignment.

This is only an indication of the preferred alternative. Preliminary engineering layouts will be developed for this alternative and presented at the Draft EIS (location) public hearing. The Final EIS will identify the selected alternative based upon comments received on the Draft EIS and will discuss the basis for that selection. The selected alternative may be different from the preferred alternative identified in this document. Selection of the No Build alternative does not prohibit any future highway construction in those sections. The need for additional, more detailed studies is the primary reason for considering a temporary No Build Alternative for the urban section of Cloquet.

Dates for future significant actions in the development of the TH 33 project are as follows:

DEIS publication	August 1984
Public Hearing	September 1984
FEIS publication	November 1984
Right of Way acquisition	June 1985
	April 1986
Construction begins	Summer 1986
Construction completed	
(Witte Rd. to TH 53)	Fall 1989

VI. LIST OF PREPARERS

NAME	EDUCATION	YEARS OF EXPERIENCE	EIS RESPONSIBILITY
<u>DISTRICT:</u>			
Gustaf E. Peterson	UMD	9 yrs	Energy Analysis
Orrin P. Scholberg	BA Political Science	2 Yrs	Parks & Recreation
Paul J. LaTour	BA Business and Economics	20 yrs	Project Manager Purpose and Need
<u>Mn/DOT: CO</u>			
Frank Pafko	BS Fisheries	8 yrs	Alternatives EIS Editing
Joe Thomas	BS Soil & Water Mgmt.	5 yrs	Soils, Wild & Scenic Rivers, Floodplains
Gerry Larson	MA	5 yrs	Social, Economic Agricultural
Jim Halvorson	BS Civil Eng. BS Meteorology	12 yrs	Air Quality
Jim O'Conner	BCE	10 yrs	Noise Analysis
Sarma Jatnieks- Straumanis	BS Zoology MS Biology	4 yrs	Affected Environment, Wetlands, Wildlife
Jayne Andersen	BS Landscape Architecture	.5 yrs	Visual Analysis, Summary, EIS Editing, Graphics Coordination
Ron Peterson	BS Wildlife Mgmt. MS Natural Resources	5 yrs	Wetland & Wildlife Mitigation, Threatened Endangered Species
Scott Carlstrom	BS Forestry MS Hydrology	9 yrs	Water Quality and Stream Modification

NAME	EDUCATION	YEARS OF EXPERIENCE	EIS RESPONSIBILITY
Roxanne Sullivan	BS Biology BS Geology, Geophysics	6 yrs	Geology, Ground Water
Roger Sadecki	BA Math BCE	10 yrs	Construction Impacts
Pat Bursaw	BA American Studies	5 yrs	Bikeways
Larry Foote	PhD Agronomy- Ecology	24 yrs	EIS Editing
John Dustman	BS Geology	3 yrs	Geology, Ground Water
Joe Jubert	Student Civil Engineer	5 yrs	EIS Editing
Scott Posner	BS Wildlife Management MS Candidate Forestry	2.5 yrs	Threatened and Endangered Species

VII. COMMENTS AND COORDINATION

PUBLIC AND AGENCY INVOLVEMENT

Scoping Meeting

A scoping meeting was held on September 29, 1983 to receive input from agencies and the public regarding the scope of the Environmental Impact Statement Mn/DOT is preparing for the TH 33 project. Comments were solicited for the purpose of determining which alternatives should be studied in further detail and which alternatives should be dismissed, as well as which areas of environmental impacts were of particular concern and worthy of more detailed analysis. Written comments are included in the appendix to this report.

Public Hearing

A formal public hearing on the DEIS and the location of the project will be held following the publication of the DEIS. This is anticipated to be sometime during the Fall of 1984.

Cooperating Agencies

The following agencies have agreed to be cooperating agencies:

U.S. Fish and Wildlife Service
MN Department of Natural Resources
MN Pollution Control Agency

Additional Suggested Alternatives

During scoping several additional alternatives were suggested by the public. One such alternate would proceed east on I-35 to Esko. There it would turn north and follow Carlton and St. Louis County roads to a junction with TH 53 at Twig.

A second suggested alternative is a corridor which would follow the range line between Range 17W. and Range 16W. This corridor would be parallel to and approximately one to two miles east of in place TH 33. Within the urban section this corridor could either connect with in place TH 33, or follow 14th Street in Cloquet to its junction with I-35.

Another alternative, suggested both by the public and governmental agencies, is to reconstruct the in place two lane roadway. This would include widening shoulders, adding passing lanes, and providing a grade separated interchange with TH 2.

SCOPING DECISION

As a result of the scoping process, including the scoping meeting and comments received during the comment period, decisions have been made regarding the inclusion of alternatives to study during the EIS process. The Esko alternative was dismissed as it did not meet the transportation needs of this project. The Two Lane Reconstruction Alternative in the rural section of the project was not further analyzed as it is considered the same as the No Build Alternative in this rural section. The alternatives included for further study are as follows. In the rural section (north of Cloquet) three corridors were studied. These are called the East Corridor, the West Corridor and the Range Line Corridor. In the urban section (in and around Cloquet) three alternatives were studied. These are: (1) the West Cloquet Bypass; (2) the East Cloquet Bypass; and (3) a Through Town Corridor. A No Build Alternative was also analyzed in the urban section. For further information on alternatives refer to Section II Alternatives of this document.

APPENDIX

Comment letters from
governments
agencies
associations



United States Department of the Interior

FISH AND WILDLIFE SERVICE
St. Paul Field Office, Ecological Services
570 Nalpak Building
333 Sibley Street
St. Paul, Minnesota 55101

IN REPLY REFER TO:

October 11, 1983

Mr. Paul LaTour
Minnesota Department of Transportation
District 1, Transportation Office
1123 Mesabe Avenue
Duluth, Minnesota 55811

Dear Mr. LaTour:

This letter responds to your September 12, 1983 request for comments on the Draft Study Outline and Scoping Document (DSOSD) for proposed upgrading of T.H. 33 between Cloquet and Independence in Carlton/St. Louis Counties, Minnesota. Proposed construction alternatives involve upgrading the existing 2-lane highway to a 4-lane expressway from the Jct. of I-35 to Jct. 53.

At this early planning stage, it is difficult to assess and identify site specific impacts to fish and wildlife resources. However, based on the limited information provided in the DSOSD, I offer the following general observations:

1. Numerous wetland basins will be adversely affected by the proposed upgrading. The amount of acreage and types of wetlands involved will be dependent on the corridor selected. In general, by-pass alternatives will have considerably more impacts on wetlands as compared to upgrading totally within the existing right-of-way.
2. A number of rivers, streams and associated floodplains will be bisected by all proposed alternatives. Again by-pass alternatives will involve additional river crossings of the St. Louis River. In addition, the amount of floodplain vegetation being affected will significantly increase if a 4-lane alternative is selected. Of particular concern are designated trout streams within the project area. Included in this group are the White Pine River, Big Otter Creek, Bear Trap Creek and Dutchess Slough Creek. Special precautions must be taken at all stream/river crossings to minimize soil erosion and sedimentation.

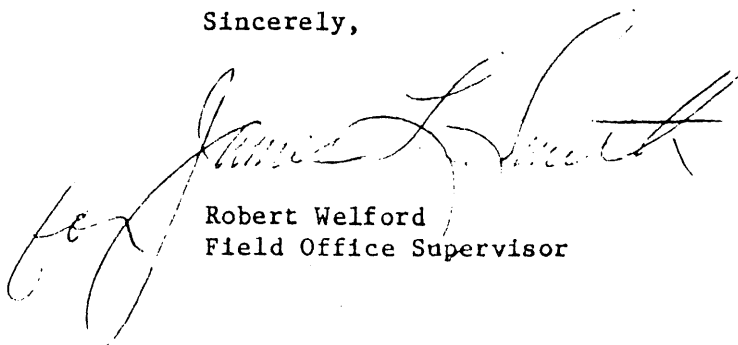
that this or a similar 2-lane upgrading alternative be incorporated and given adequate consideration prior to formulation of the DEIS.

In summary, the Fish and Wildlife Service believes that all alternatives presently being considered go beyond addressing the existing and foreseeable traffic problems associated with this segment of T.H. 33. Any 4-lane alternative will result in significant and irreparable damage to fish and wildlife resources. To date, no 2-lane upgrading alternative has been considered and we recommend that such an alternative be designed and discussed in the DEIS.

We appreciate the opportunity to review the DSOSD and offer our assistance as a cooperating agency in the preparation and subsequent review of various project features.

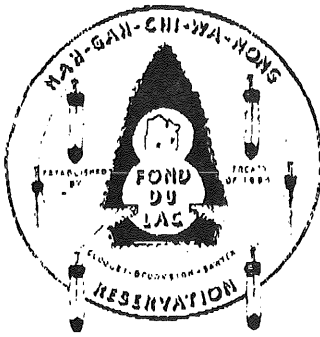
These comments have been prepared under the authority of and in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act of 1973, as amended and are consistent with the intent of the National Environmental Policy Act of 1969. This project was also examined for its conformance with Section 4(f) of the Department of Transportation Act (P.L. 89-670, 80 Stat. 931) and Executive Orders 11988 and 11990.

Sincerely,

A handwritten signature in dark ink, appearing to read "Robert Welford", is written over a faint, larger signature that is partially obscured. The signature is written in a cursive style.

Robert Welford
Field Office Supervisor

cc: MDNR, St. Paul, MN
MPCA, St. Paul, MN
COE, St. Paul, MN



FOND DU LAC RESERVATION

BUSINESS COMMITTEE

WM. HOULE, Chairman
CLARENCE "CHUCK" SMITH, Sec./Treas.
ROBERT PEACOCK, Executive Director

106 UNIVERSITY ROAD
CLOQUET, MINNESOTA 55720
PHONE 1-218-879-4593

October 14, 1983

Mr. Paul LaTour
MN Department of Transportation
1123 Mesaba Avenue
Duluth, MN 55802

RE: Proposed Western Alternate Route for State Highway 33

Dear Mr. LaTour:

The Fond du Lac Reservation Business Committee, the governing body of the Sovereign Fond du Lac Indian Reservation, has reviewed the above referenced proposal and offers the following comments.

- 1) The proposed route will cross Indian Trust lands within the Reservation which are currently the subject of "2418" land claims, which means that there is not clear title to the land.
- 2) The proposed route will cross fee lands which are currently the subject of "2418" land claims.
- 3) The proposed route may cross Tribal or Band Indian Trust Lands which are not subject to the State's power of eminent domain and the Fond du Lac Reservation currently has a policy of not selling any of its land.
- 4) The proposed route would interfere with the hunting and fishing resources of the Reservation which are protected by Treaty, Federal Law and Reservation Law, and thus the route would be contrary to the Goals and Laws of the Reservation.
- 5) The development of a four-lane highway and its accompanying commercial corridor would be contrary to the land use policies of the Reservation for that area.
- 6) The proposed route would interfere with existing graveyards and possible archeological sites of Indian origin.

Therefore, at this time the Fond du Lac Reservation Business Committee must request that the Department of Transportation consider another alternate route. The Fond du Lac Reservation Business Committee supports and recommends that the Department of Transportation use the existing route of Highway 33 for its plan to upgrade the road.

Sincerely,

Jeffrey T. Wallace, Attorney at Law
Fond du Lac RBC Legal Department

7 OCT 1983

Mr. Paul LaTour
Minnesota Department of Transportation
District 1, Transportation Office
1123 Mesaba Avenue
Duluth, Minnesota 55811

RE: S-FHW-F40239-MN

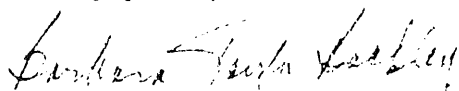
Dear Mr. LaTour:

Thank you for sending the U.S. Environmental Protection Agency (EPA) a copy of the Draft Study Outline for the proposed construction of a four lane expressway on existing Trunk Highway 33 between the cities of Cloquet and Independence, Carlton and St. Louis Counties, Minnesota. The document has been prepared as a scoping document for the project in anticipation of a forthcoming draft Environmental Impact Statement (EIS).

Upon reviewing the Draft Study Outline, we find that all of the major issues we believe should be included in the draft EIS are listed in the scoping document. In accordance with our responsibility to scope the significant issues of the project, the U.S EPA is particularly interested in the project's effect on the noise environment in the City of Cloquet, its effect on wetlands, and its effect on land use patterns (secondary impacts) if a bypass alternative around Cloquet is considered. If the study of these potential adverse effects indicates they may be significant, then we will be interested in the development of ways to mitigate the impact.

Please continue to coordinate this project with us. If we may be of assistance to you by participating in a field review or by reviewing and commenting on preliminary documents, please feel free to call us. I have assigned Mr. James Hooper of my staff to manage the review of the project for this Agency. He may be called at FTS 886-6694 or Commercial 312/886-6694.

Sincerely yours,



Barbara Taylor Backley, Chief
Environmental Review Branch
Planning and Management Division



STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

BOX CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
(612) 296-6157

FILE NO _____

October 24, 1983

Mr. Paul LaTour
District 1, Transportation Office
Minnesota Department of Transportation
1123 Mesaba Avenue
Duluth, Minnesota 55811

RE: Scoping Report for T.H. 33 upgrading,
Cloquet to Independence

Dear Mr. LaTour:

The Department of Natural Resources (DNR) has reviewed the Scoping Report for the proposed T.H. 33 improvements and offers the following suggestions for information which should be included in the EIS.

The greatest impacts from this proposal would result if a 4-lane alternative is selected and/or one of the Cloquet by-pass corridors is selected. It is imperative that the EIS evaluate present and future traffic volumes and local transportation needs in a manner sufficient to make an informed decision on these issues. Generally, because of the significant impacts which can be expected from the 4-lane and by-pass alternatives, we would support upgrading the road to 2-lane standards on the present alignment. The selection of any other alternative would have to be fully justified by the information presented in the EIS, and acceptable mitigation for environmental impacts would have to be proposed.

Specific concerns of the Department which should be addressed in the EIS include the following:

- A. Use of present T.H. 33 alignment including the through-Cloquet route
1. Otter Creek in Cloquet is closely paralleled by existing T.H. 33. The creek is a designated trout stream and also a protected watercourse. If realigning the old highway or widening occurs then the risk of impacting the stream is great.
 2. The St. Louis River crossing in Cloquet involves a major recreational fishing river as well as a protected watercourse. Many species of gamefish (panfish, northern pike, walleye and catfish) are present. Channel catfish are the predominant species caught at Cloquet. The river has cool flows comparable to other large northern Minnesota rivers.

B. Use of present T.H. 33 alignment north of Cloquet with an eastern by-pass of Cloquet

1. The impacts are similar to the alignment discussed under item A. All ten streams (items 2 through 11 under A) north of Cloquet will be crossed, however a new crossing of the St. Louis River will occur east of Cloquet. Otter Creek in Cloquet will not be impacted.
2. In addition to the above ten streams, two other streams will be crossed and/or impacted. One unnamed stream is located in T.49, R.16, S.18 (Carlton County). It is not a protected watercourse and fisheries information is lacking. The other stream is in T.50, R.17, S. 36 (St. Louis County). This is a protected watercourse downstream, but not in the area of the eastern by-pass crossing. Fisheries information is lacking.

C. Use of T.H. 33 alignment north of Cloquet with utilization of a western by-pass of Cloquet

1. Impacts north of Cloquet are the same as in items A and B preceding. However a new crossing of Otter Creek will occur south of Cloquet in T.49, R.17, S.26 (Carlton County). The stream is a protected watercourse and a designated trout stream.
2. In addition, First Lake (T.49, R.17, S.22), a protected wetland, will be adversely impacted by filling, dredging or draining. No fisheries information is available on this lake.
3. A new crossing of the St. Louis River will occur.
4. The Cloquet Esker is located in T.49, R.17, S.26 roughly paralleling the proposed by-pass. The original esker was an excellent example of this type of feature, but it has been degraded by gravel removal operations. However, the remaining part of the esker is still a significant geologic feature and should be addressed in the EIS. While it does not appear that the proposed alignment will directly impact the esker, it could be threatened if it is to be used as source of gravel for the project.

D. General considerations

1. Dredge and Fill. The disposal of spoil from cut-areas and the obtaining of fill are likely to have impacts outside the immediate construction area. These impacts should be assessed.
2. Hydrology. The project area is poorly drained and has complex drainage patterns. Past highway projects have had major impacts on local drainage patterns (dried up some areas, flooded others). A detailed hydrologic study should be done.

Mr. Paul LaTour
Page 4
October 24, 1983

3. Compensation for Wetland Impacts. Wetland impacts are likely to be significant. The U.S. Fish and Wildlife Service (USFWS) will require compensation based on federal Executive Orders on wetland and floodplains. Compensation areas both on-site and off-site should be identified with the cooperation of the USFWS and DNR.

Regardless of the alternative chosen, impacts to lakes, wetlands and watercourses will occur. Impacts should be minimized or eliminated to the extent possible, and mitigated or compensated for where they will occur.

If you have any questions regarding these comments, please feel free to call Ken Wald of my staff at 296-4790.

Sincerely,

Thomas W. Balcom

Thomas W. Balcom
Environmental Review Coordinator

pje
1974F

c: Dick Carlson
Earl Huber
Ron Harnack
Barb Coffin
John Chell
Rich Staffon
Pete Otterson



FOUNDED IN 1849

MINNESOTA HISTORICAL SOCIETY

690 Cedar Street, St. Paul, Minnesota 55101 • (612) 296-6126

20 April 1984

Mr. C.P. Kachelmyer
Preliminary Design Engineer
Department of Transportation
Room 612H - Transportation Building
St. Paul, Minnesota 55155

Dear Mr. Kachelmyer:

RE: S.P. 0906-31, 0906-32, 6911-25, 6911-26
(T.H. 33)
From Jct. I-35 South of Cloquet
To Jct. T.H. 53 at Independence
Upgrading and Relocation
Carlton and St. Louis Counties

MHS Referral File Number: F-396, S-973
(PLEASE REFER TO THIS NUMBER IN
ALL FUTURE CORRESPONDENCE)

Trunk Highway archaeologist Les Peterson has forwarded a summary of work completed and recommendations for future work to this office in a memorandum dated April 4, 1984. We concur with the conclusions resulting from survey work completed to date and endorse the recommendations for future survey. Rather than repeat the memo, it is included by reference, and a copy enclosed for your information.

We do specifically note that the small 20th century building complex identified in the 1983 survey (field number 83-1-6) is not eligible for listing to the National Register of Historic Places, given available documentation.

Again, thank you for your participation in this important effort to preserve Minnesota's heritage.

Sincerely,

Russell W. Fridley
State Historic Preservation Officer

Encl.

cc: Les Peterson, Archaeologist
Fort Snelling History Center

DEPARTMENT MINNESOTA HISTORICAL SOCIETY
Trunk Highway Archaeology

Office Memorandum

TO : Ted Lofstrom
Environmental Assessment Officer

DATE: April 4, 1984

FROM : Leslie Peterson
Trunk Highway Archaeologist

PHONE: 726-1171

SUBJECT: MnDOT
S.P. 0906-31, 0906-32, 6911-25, 6911-26 (T.H. 33)
From Jct. I-35 South of Cloquet
To Jct. T.H. 53 at Independence
Upgrading and Relocation
Carlton and St. Louis Counties
MHS Reference File F-396

MnDOT has requested a status report from SHPO on this complex project, which has been under review since 1979, to allow planning to progress. As the most recent MnDOT submittal (February 22, 1984) and enclosed scoping document describe, this 16-mile project is currently in the alternate route selection stage with two major routes under consideration. The primary route which has been studied for some years generally follows the existing alignment of T.H. 33, diverging slightly in several places along its length, including two 4-to-5 mile long alternate alignments on new locations at the southern terminus which bypass the city of Cloquet on the east and west sides, respectively. A newly defined "Range Line Route" follows a totally new alignment 1-to-2 miles east of the "In-place Alignment" (Figure 1).

Project History

In 1979 review of an initial submittal of alternate alignments in the Cloquet vicinity resulted in the identification of 10 State Inventory sites in the project area, including:

1. Dunlap Island
2. Phillips "66" Station
3. Cloquet Boom House & Sorting Sheds
4. Cloquet Steam Mill Company Site
5. Johnson-Wentworth Sawmill Company Site
6. Lindholm House
7. Northern Lumber Company
8. Northeastern Hotel
9. Upper Northern Sawmill Company Site
10. Water Power Sawmill Company Site

After approximately four years of inactivity on the project and resulting low prioritization on the Trunk Highway Survey, new planning

data were submitted in 1983 which defined the limits of proposed construction for the upgrading of the T.H. 33 existing alignment, including the east and west bypass corridors at Cloquet (Figure 2). At that time, MnDOT requested that field surveys for cultural resources be conducted in the northern twelve miles of the project defined as segments "A," "B," and "C" but that such surveys be deferred in the southern four miles (Segment "D") pending better definition of the limits of the three alternate study corridors. The requested field surveys were conducted in September and October 1983. The project, methods, and results of that survey are presented on pages 35-43 of the 1983 Annual Report of the Trunk Highway Survey (copy enclosed).

Project Review Status

The various planning segments of the alternate corridors for T.H. 33 have been reviewed at several different levels of intensity and thus require different recommendations for future action.

1. "EXISTING T.H. 33 ALIGNMENT"

a. Segments "A," "B," and "C"

As documented in the 1983 Annual Report, surface reconnaissance and shovel testing were completed by Trunk Highway Survey staff in 1983 within all of Segments "A," "B," and "C" (Figure 2). No historical or archaeological sites were known to exist within these project segments prior to the survey. The 1983 survey resulted in the recording of one new possible site--field numbered 83-1-6, a small early to mid-twentieth century building site and crib well. It is my opinion that this feature exhibits little potential for yielding significant new information about past human occupation. It has, thus, been recommended that the site warrants no further consideration. It is my opinion that surveys within Segments "A," "B," and "C" of the existing T.H. 33 alignment have been adequate to define the existence of significant cultural resource sites in that portion of the project study area and that no further field investigations are required in those segments unless the project design is altered.

b. Segment "D"

Although Segment "D" comprises three alternate alignments through Cloquet, including 1) Through Town Corridor, 2) East Corridor, and 3) West Corridor (Figure 2), field reconnaissance on these corridors was deferred in 1983 to await better definition. Therefore, review to date in Segment "D" has been limited to a records check for involvement of known sites.

(1) "Through Town"

As noted in the enclosed 1983 section, including Figure 6, the currently proposed construction for T.H. 33 on the "Through Town" route directly affects only one site listed on the state inventory--Dunlap Island. This "site" is amorphously defined, however, and will require better definition during the course of survey. Two additional inventory sites, the Frank Lloyd Wright Service Station and the Northeastern Hotel, are located within several hundred feet of the proposed corridor but do not appear to be directly affected under present plans. No archaeological sites are known to exist in the area of the "Through Town" corridor.

(2) "East Corridor"

A review of existing records has revealed the presence of no historic or archaeological sites in the proposed "East Corridor" for Segment "D."

(3) "West Corridor"

A review of existing records has revealed the presence of one State Inventory historic site, the Cloquet Boom House and Sorting Sheds complex on the St. Louis River at the west edge of Cloquet in the vicinity of the "West Corridor" for Segment "D." The exact location, condition, and significance of this site is unclear at the present time, however, as is its exact relationship to the study corridor.

2. "RANGE LINE ROUTE"

The "Range Line Route" depicted in Figure 1 was newly submitted by MnDOT early in 1984. Therefore, no field review of any kind has been conducted within its limits. A review of existing records, however, has revealed involvement of no known historical or archaeological sites or data.

Summary and Recommendations

On that basis, it is my opinion that adequate records review and archaeological field survey has been conducted within Segments "A," "B," and "C" covering the northern 12 miles of this project. The one cultural resource site discovered in the study area during the 1983 field survey consisted of a small twentieth century building complex (Field #83-1-6) which appears to exhibit little historical or archaeological significance. I would, therefore, recommend that no further review of Segments "A," "B," and "C" is warranted unless the present corridor design is altered.

Ted Lofstrom
Page 4
April 4, 1984

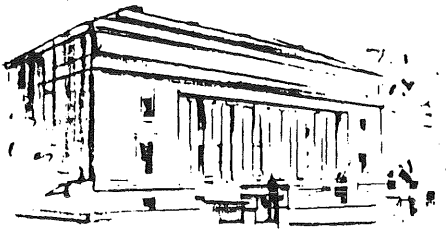
I would recommend that archaeological surveys will be required within any of the three alternate corridors for Segment "D" which remain under consideration. These surveys should be conducted with the goal of more accurate definition of the project's relationship to the known historic resources as well as reconnaissance for as yet unrecorded sites at these high potential St. Louis River crossings.

I would also recommend that reconnaissance level surveys be conducted within the new "Range Line Route" if it remains under active consideration since the project area has apparently never been assessed for archaeological potential in any way in the past.

Please consider this summary and recommendations regarding the current MnDOT proposal for upgrading of T.H. 33 from Cloquet to Independence and forward a status report to C.P. Kachelmyer at MnDOT.

Leslie Peterson
Trunk Highway Archaeologist
Minnesota Historical Society

LP:lt
ENC



MINNESOTA HISTORICAL SOCIETY

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

March 20, 1979

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

Dear Mr. Kachelmyer:

RE: S.P. 0905.0906/6911 (TH33)
Minn. Project F 073-1 ()
From I-35 South of Cloquet
To TH 53 at Independence
Upgrading & Possible Relocation
Carlton & St. Louis Counties

MHS Referral File Number F396

The Trunk Highway Archaeologist, per your request for a record search and overview for the above referenced project, has submitted the following information. Our office finds this data to be an accurate historical and archaeological summary of the area in question. In addition, we concur with the recommendation that a preliminary archaeological assessment (including sampling surveys) be implemented for the area.

Archaeological

To date, no archaeological sites or data have been recorded within the study area. However, few if any, systematic archaeological surveys have been conducted in this region.

Historical

A review of Vol. III of the Annual Preservation Program has indicated that then historic sites and structures have been recorded within the study area at the time that report was prepared. All of these sites are located within the city of Cloquet and include:

1. Dunlap Island
2. Phillips "66" Station
SE Corner, Cloquet Avenue & Hwy 33
Cloquet
3. Cloquet Boom House and Sorting Sheds Site
SW, SE, Sec. 10, T. 49, R. 17
St. Louis River and North End of Posey Island
Cloquet

4. Cloquet Steam Mill Company Site
NW, SW, Sec. 14, T. 49, R. 17
Cloquet
5. Johnson-Wentworth Sawmill Company Site
NW, SW, Sec. 13, T. 49, R. 17
Cloquet
6. Lindholm House
N.E., NE, Sec. 26, T. 49, R. 17
Cloquet
7. Northern Lumber Company
NW, SW, Sec. 14, T. 49, R. 17
Cloquet
8. Northeastern Hotel
N ½, SE, Sec. 14, T. 49, R. 17
Dunlap Island, East of Hwy 33
Cloquet
9. Upper Northern Sawmill Company Site
NW, SW, Sec. 13, T. 49, R. 17
Cloquet
10. Water Power Sawmill Company Site
NW, SW, Sec. 13, T. 49, R. 17
Water Power Island
Cloquet

This indicates a rich history which focusses on the fur trade and logging eras within the vicinity of Cloquet which must be carefully considered in planning for this project. Although no archaeological sites have been recorded within the study area, the proximity of the St. Louis River which surely functioned as a prehistoric transportation route, demands that a thorough survey for archaeological data be conducted as preliminary highway design efforts continue.

Therefore, a preliminary archaeological assessment (including sampling surveys) is recommended for the area as soon as alternate corridors are defined.

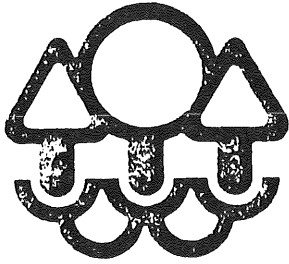
If you have any questions or comments please contact Ms. Susan Queripel, Environmental Assessment Officer, State Historic Preservation Office, James J. Hill House, 240 Summit Avenue, St. Paul 55102, phone (612) 296-0103

Thank you for your participation in this important effort to preserve Minnesota's heritage.

Sincerely,

Don Coldington, Asst SHPO
for
Russell W. Fridley
State Historic Preservation Officer

RWF/csm



Minnesota Pollution Control Agency

October 11, 1983

Mr. Paul LaTour
Minnesota Department of
Transportation, District 1
1123 Mesaba Avenue
Duluth, Minnesota 55811

Dear Mr. LaTour:

The Minnesota Pollution Control Agency has completed its review of the draft Study Outline and scoping document for the proposed construction of a four-lane expressway on existing Trunk Highway 33 between Cloquet and Independence. We have comments to offer in the areas of air quality, noise, water quality, and solid and hazardous waste to be used for determining the scope of the environmental impact statement for the project.

We agree with the conclusion that air quality impacts would not be anticipated and concur that further air quality analysis is not required. An air quality analysis assessing project-related carbon monoxide levels would have to be conducted if over 20,000 AADT were projected for the highway within ten years after construction. For this project, a maximum AADT of 15,000 vehicles per day is predicted for the project in the year 2005.

We further agree that noise impacts are of concern. The impact that highway noise levels will have on adjacent parklands and commercial, industrial or residential receptors should be evaluated in the draft EIS. If the noise assessment identifies violations of the state noise standards, mitigation measures must be described and implemented. From a noise impact standpoint, the east or west corridor in Cloquet, not the corridor through town, appears to be the preferred alternative.

Finally, we agree that wetland and trout stream impacts could be significant and should be analyzed. In addition to these, however, spill control measures and the potential impacts of spills on surface waters along the route should be evaluated in the draft EIS. Reasonable measures to control spills should be evaluated and incorporated into the project as needed.

Paul LaTour
MN Dept. of Transportation
page 2 - Oct. 11, 1983

In addition to the above, your attention should be drawn to the following dumps located close to the proposed alternative routes:

1. The proposed alignment passes near two closed and covered dump sites, OD-19 and OD-20, in southern St. Louis County. OD-19 is located in the NE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 28, T15N, R17W (Industrial Township), and would appear to be sufficiently distant from the proposed alignment to not bear further mention. OD-20, the Saginaw dump, closed in May of 1980, is located in the NW $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 1, T50N, R17W, Brevator Township. This is quite close to the proposed route ($\frac{1}{4}$ mile).

2. In Carlton County, the west corridor and the through town corridor route appear to be quite close to the Cloquet demolition landfill, an MPCA permitted (SW-160) facility. This facility is located in the N $\frac{1}{4}$ of the SE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 10, Knife Falls Township (T49N, R17W).

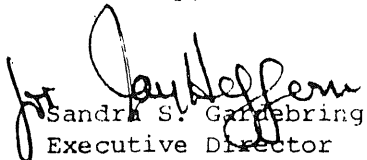
3. Also in Carlton County, the east corridor appears to include the former Scanlon dump (OD-4) closed in April of 1980. This facility is located in the NW $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 30 of T49N, R16W (Thompson Township).

Of the above sites, only the Scanlon dump appears to be directly impacted by any of the proposed alignments. You should be aware of the existence of the remaining sites, should any alignment changes be proposed.

The Scanlon dump site could seriously impact and be impacted by the east corridor alternatives. The unstable nature of the fill could necessitate special construction provisions. More importantly, construction activities could uncover hazardous materials and result in their release to the environment. These factors should be evaluated for the east corridor during the EIS process. Agency staff would be happy to assist by suggesting directions to be taken in that evaluation. Staff can also provide recommended language for inclusion in construction contracts, should the selected alternative include the Scanlon dump site.

Thank you for the opportunity to comment. If you have any questions on these comments, please feel free to contact Deborah Pile, Director of the Office of Planning and Review, at 612/296-7799.

Sincerely,


Sandra S. Gardebring
Executive Director

THE CITY OF CLOQUET, MINNESOTA

508 CLOQUET AVENUE 55720

WILLIAM J. SCHLENOGT
CITY PLANNER

PLANNING DEPARTMENT
PLANNING
ZONING ADMINISTRATION
BUILDING DEPARTMENT

October 11, 1983

Paul J. LaTour, Pre-design Supervisor
Minnesota Department of Transportation
Division of Operations
1123 Mesaba Avenue
Duluth, MN 55811

Dear Mr. LaTour;

This letter is in reference to the Environmental Impact Statement process for the upgrading of T.H. #33 from Interstate 35 from to T.H. #53. It particularly concerns that part of the project which will directly impact the City of Cloquet.

It is both right and necessary that alternatives to upgrading the existing highway corridor through the city be examined. However, I should like to point out that the bypass alternatives proposed in the draft Scoping Document have undergone thorough examination in the past and, for a variety of reasons, have been rejected by officials of the city as well as business and civic leaders. The majority of opinion that has been expressed thus far is a favoring of keeping the present corridor, widening it where necessary to accomodate four traffic lanes, provision of pedestrian crossings at strategic locations, construction of frontage roads where necessary, and the construction of a second bridge across the St. Louis River parallel to the existing one.

Both the Cloquet Planning Commission and City Council have gone on record as supporting the upgrading of the existing corridor of T.H. #33 as it passes through Cloquet. The enclosed resolution dated October 6, 1981 will attest to that fact. While we understand the need for MN/DOT to examine alternatives to upgrading the existing corridor as part of the Environmental Impact Statement process, we feel a concentration of effort should be upon the existing corridor. This opinion can be backed up by past studies (an examination of files dating back to the 1960's should yield appropriate information), by existing needs of the community, and by potential impacts which a bypass would generate.

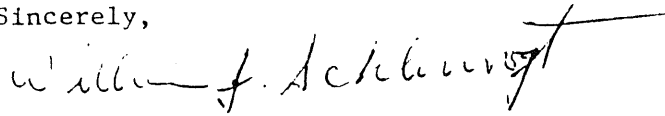
CLOQUET . . . *the City of* WOOD INDUSTRIES

AN EQUAL OPPORTUNITY EMPLOYER

Paul J. LaTour, Pre-design Supervisor
October 11, 1983
Page 2.

Please include this information with testimony received regarding the Scoping Document for the Environmental Impact Statement process. If you should need additional information or testimony, please do not hesitate to contact me.

Sincerely,



William J. Schlenvogl
City Planner

WJS/lmj

Enclosure

cc: John Pawlak - District Engineer, MN/DOT
Jim Prusak - Cloquet City Engineer
Lawrence Gustafson - Cloquet City Clerk/Treasurer
Mayor and City Council - City of Cloquet
Planning Commission - City of Cloquet



CLOQUET AREA CHAMBER OF COMMERCE

P. O. Box 426, 704 South Highway 33

Cloquet, Minnesota 55720

"The Organization that Makes Things Happen"

October 12, 1983

Mr. John Pawlak
District Engineer
MnDot
1123 Mesaba Avenue
Duluth, MN. 55801

Dear Mr. Pawlak:

We of the Cloquet Area Chamber of Commerce are writing to express our thoughts on the MnDot proposal concerning Highway 33.

Should plans go forward to make Highway 33 a four lane highway, we urge you strongly to follow the existing right-of-way as much as possible. We feel that by using the existing route, much expense can be spared during construction.

Of even more importance is the negative impact that any shift would have on the existing businesses in the highway 33 corridor. Millions of dollars have been invested by these businesses and they depend upon the highway traffic to a great degree in order to survive. We believe that a move to either of your proposed "by-pass" routes would have a unnecessary and unjustifiably negative impact on these businesses.

Thank you for your consideration and please feel free to contact us if you wish any further information.

Sincerely,

Gary Heskin
President

CLOQUET AREA CHAMBER OF COMMERCE

GH/fls

CLOQUET . . . the Area of WOOD INDUSTRIES

Potlatch

WED



Diamond
International



CLOQUET DEVELOPMENT & INDUSTRIAL CORPORATION, INC.

P.O. Box 231
Cloquet, Minnesota 55720

October 12, 1983

Mr. John Pawlak
District Engineer
MnDot
1123 Mesaba Avenue
Duluth, MN. 55801

Dear Mr. Pawlak:

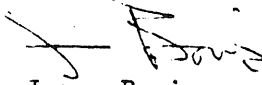
We of the Cloquet Development and Industrial Corporation are writing to express our thoughts on the MnDot proposal concerning Highway 33.

Should plans go forward to make Highway 33 a four lane highway, we urge you strongly to follow the existing right-of-way as much as possible. We feel that by using the existing route, much expense can be spared during construction.

Of even more importance is the negative impact that any shift would have on the existing businesses in the highway 33 corridor. Millions of dollars have been invested by these businesses and they depend upon the highway traffic to a great degree in order to survive. We believe that a move to either of your proposed "by-pass" routes would have a unnecessary and unjustifiably negative impact on these businesses.

Thank you for your consideration and please feel free to contact us if you wish any further information.

Sincerely,


James Bovis
President

CLOQUET DEVELOPMENT & INDUSTRIAL CORPORATION, INC.

JB/rls

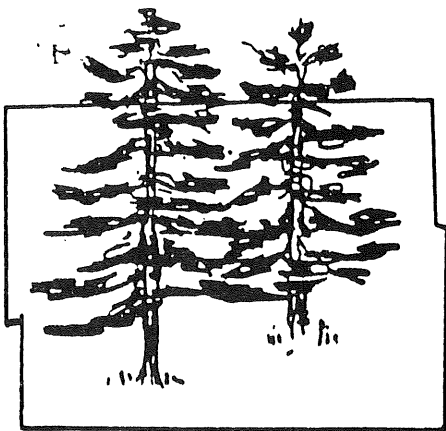
R.F. Anderson

Lawrence R. Fustich
City Clerk, City of Cloquet, Minnesota

Alderman _____
it was declared adopted on the fo

Passed: OCT 6 1981

Attest: L. R. Gustafson
City Clerk



Carlton County Historical Society
Garfield Community Center
14th Street . Cloquet, Minnesota 55720

November 9, 1983

J.T. Pawlak
Minnesota Department of Transportation
1123 Mesaba Avenue
Duluth, MN 55811

Dear Mr. Pawlak:

In response to the "Draft Study Outline and Scoping Document-Trunk Highway 33 Cloquet to Independence," we would like to record a statement. We are pleased you are aware of the nine historic sites which development of this highway could have an impact on. These sites all emphasize the rich history of this area which dates from the fur trade and logging era of our history.

We would like to call your attention to several additional sites at this time.

1. Knife Portage
SW1/4, Sec. 13, T.49, R. 17
NE, NE, Sec. 24, T. 49, R. 17
Cloquet
2. Womans' Portage
from Maple Island to Fortress Island
west side of the St, Louis River
Sec. 13, T. 49, R. 17
Cloquet
3. Womans' Portage
from Maple Island to Fortress Island
east side of the St. Louis River
Sec. 13, T. 49, R. 17

These sites were all part of the Grand Portage of the St. Louis River system. Two are within the corporate limits of Cloquet, while the third is immediately outside the limits on the east side of the St. Louis River. Please add these sites to the list of designated sites which development of the various routes of the highway could have an impact on.

If you have any questions or comments, please do not hesitate to contact the Carlton County Historical Society, Garfield Community Center, 14th Street and Carlton Avenue, Cloquet, MN. (218) 879-1938.

Sincerely yours,

Harriette Niemi

Harriette Niemi, President
Carlton County Historical Society

Barbara Sommer

Barbara Sommer
Museum and Program Director
Carlton County Historical Society

AGENCIES, ORGANIZATIONS AND PERSONS RECEIVING COPIES OF THE
DEIS FOR REVIEW AND COMMENT

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 Health, Education and Welfare
U.S. Department of Interior
 Fish and Wildlife Service
 National Park Service
 Bureau of Land Management
U.S. Department of Transportation
 Second Coast Guard District
 Federal Railroad Administration
 Federal Aviation Administration
 Urban Mass Transportation Administration
Advisory County of Historic Preservation
Defense Civil Preparedness Agency
Bureau of Indian Affairs
Environmental Protection Agency
Federal Energy Administration
Federal Power Commission
Minnesota Department of Energy, Planning and Development
Minnesota Department of Agriculture
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 Department of Health
Minnesota Department of Veterans Affairs
Minnesota Legislative Reference Library
Arrowhead Regional Development Commission
Fond du Lac Reservation
Carlton County
St. Louis County
City of Cloquet
City of Scanlon
Cloquet Public Library
Duluth Public Library
Environmental Conservation Library
Carlton County Historical Society
Cloquet Area Chamber of Commerce
Superintendent Albrook High School
Burlington Northern Railroad
Carlton County Co-op Power Association
Duluth-Mesabi Iron Range Railroad Company
Duluth and Northeastern Railroad Company
Minnesota Power Company
Northwestern Bell
United Power Association