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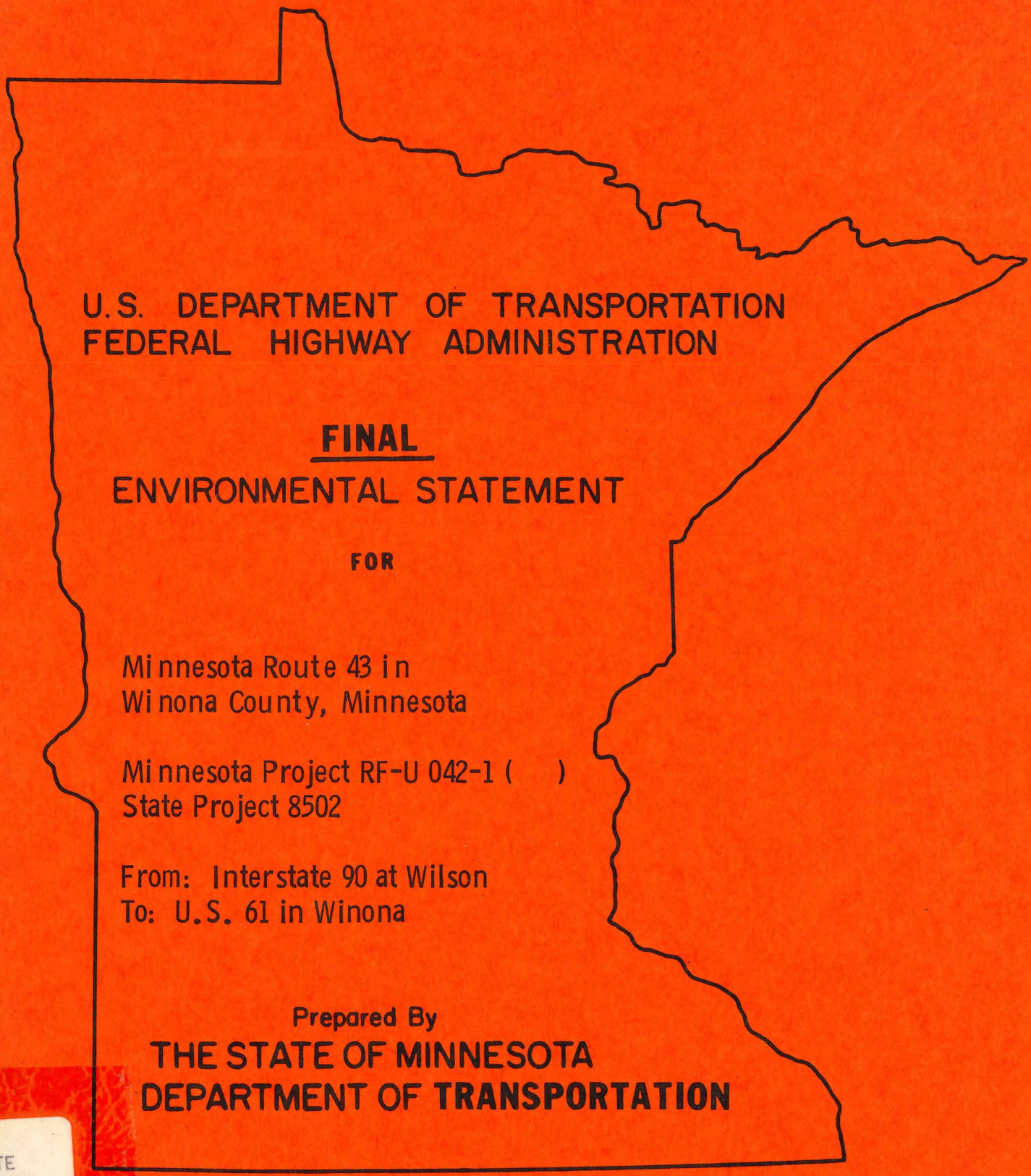

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

FINAL
ENVIRONMENTAL STATEMENT

FOR

Minnesota Route 43 in
Winona County, Minnesota

Minnesota Project RF-U 042-1 ( )
State Project 8502

From: Interstate 90 at Wilson
To: U.S. 61 in Winona

Prepared By
THE STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

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FHWA-MN-EIS 76-2-F
Federal Highway Administration
Region 5

Minnesota Route 43 in Winona County, Minnesota

Minnesota Project F 042-1 (33)
State Project 8502

From: Interstate 90 at Wilson
To: U.S. 61 in Winona

Length: 6.5 Miles

ADMINISTRATIVE ACTION
FINAL

ENVIRONMENTAL IMPACT STATEMENT
U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration

and

STATE OF MINNESOTA
Department of Transportation

Submitted pursuant to 42 U.S.C. 4332 (2) (C)
and 23 U.S.C. 128(a)

May 24, 1977
Date

for Harry A. Reed
Deputy Commissioner
Minnesota Department of Transportation

JUL 26 1977
Date

/s/ W. G. Emrich
Director, Office of Environment And Design
FHWA, Region 5

INDEX OF REVISIONS TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

Page	Revision
Cover	Final, Mn/DOT
1	Final, Mn/DOT
1.01 & 1.02	New - Index of Revisions to DEIS
2	Add - Foreword, Index of DEIS Responses, & Channel Relocations
5.01	New - Foreword Section
6 & 6.01	Final, Mn/DOT, Add Alternate 5, & Revise Channel Change Length New - Selected Alternative Section
7	Add - CEQ Review Date and Identify Agencies Which Replied
8	Update Traffic Volumes
10	Identify Selected Alternate & Minor Dimension Changes
11	Update Time Schedule
16	Update Description of Industrial Parks
17	Identify Land Use Planners and Coordination
18	Update Statewide Accident Rate
19	Update Replacement Housing Survey
20	Revise Air Impact Statement
20.01	New - Expanded Air Impact Statement
20.01 - 20.04	New-Noise Impact Section
21 - 21.11	Expand Water Quality & Stream Modification Sections
21.11	Change Page Number, Page 21a in DEIS
22	Expand Construction Impacts

Env. Impact Statements
News + Pubs.

Page	Revision
22.01	Change Page Number, Page 22a in DEIS & Revise 2-4-5-T Statement
22.02	New - Flood Hazard Evaluation & Secondary Impacts Sections
24	Update Historical Review & Add Mitigation Measures
25	Add Alternate 5 & Identify Selected Alternate
26	Revise Channel Realignment & Wildlife Habitat Sections
32.01 - 32.02	New - Alternate 5 Description
33	Add - Alternate 5 and Annual Tax Loss
33.01	New - Basis for Selecting Alternate 1 Section
34	Add - Alternate 5 Costs
35	Add - Discussion of Environment and Productivity -Expand Short Term Losses
36	Update Historic Sites and Coordination Sections
36.01	List of References
36.02	New - Index of DEIS Comments and Replies
36.03 - 36.38	New - DEIS Comments and Mn/DOT Replies
38	Update Traffic Volumes and Identify Parks
38.01	New - Channel Relocations "A" & "B"
38.02	New - Channel Relocations "C" & "D"

NOTE: All pages with decimal page numbers are new pages which were not contained in the DEIS, with the exception of pages 21.11 and 22.01 which were pages 21a and 22a respectively in the DEIS.

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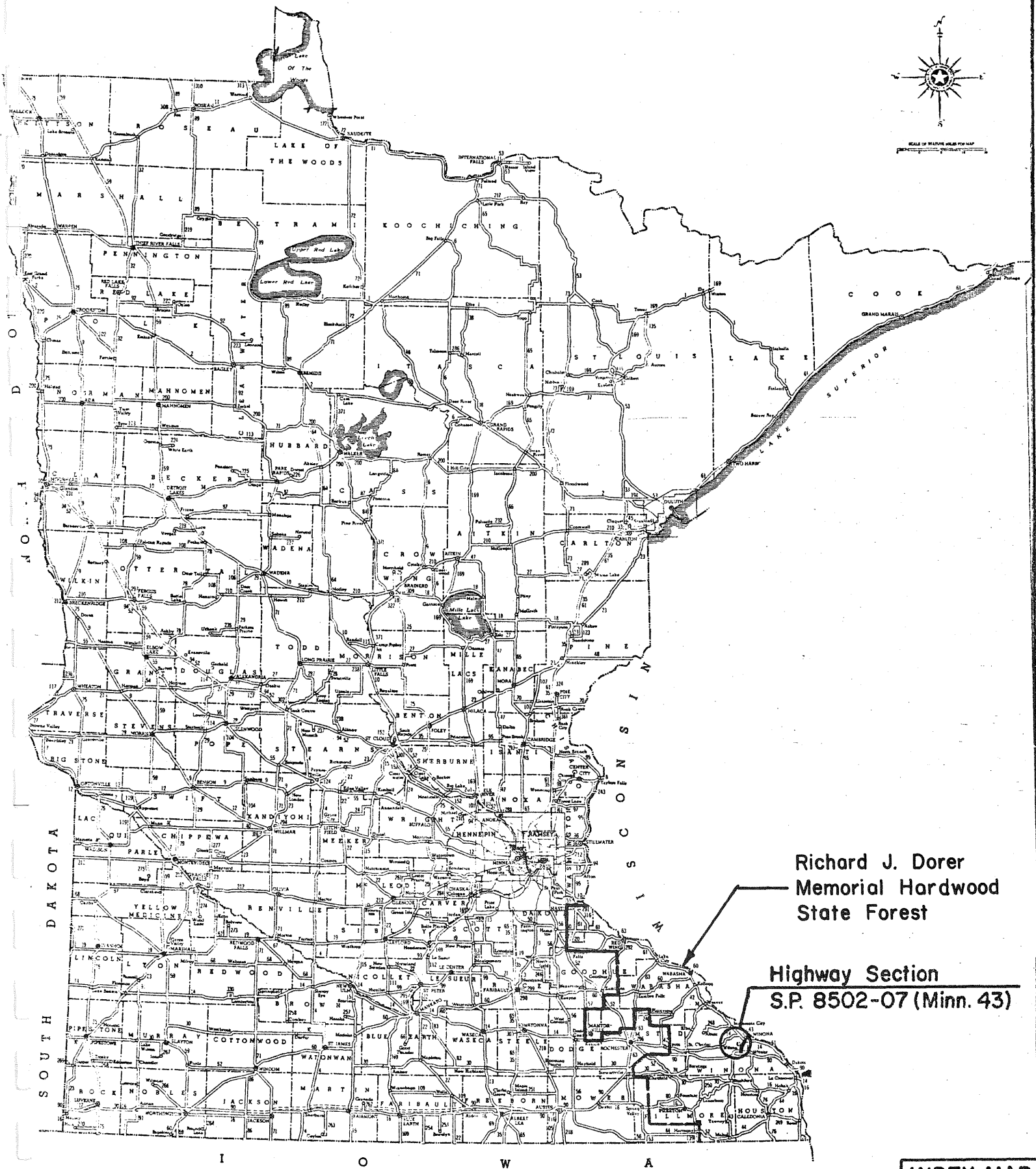
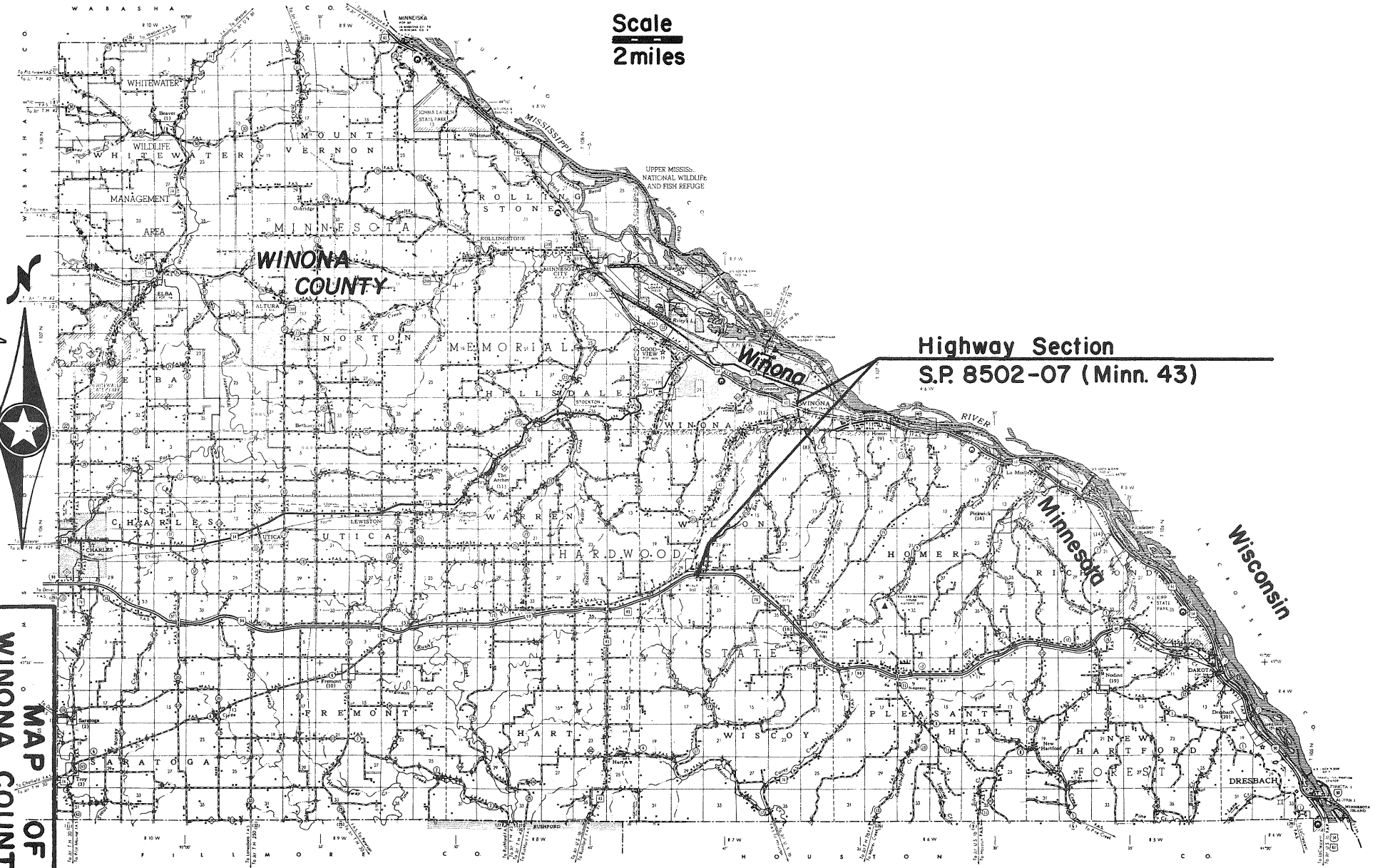
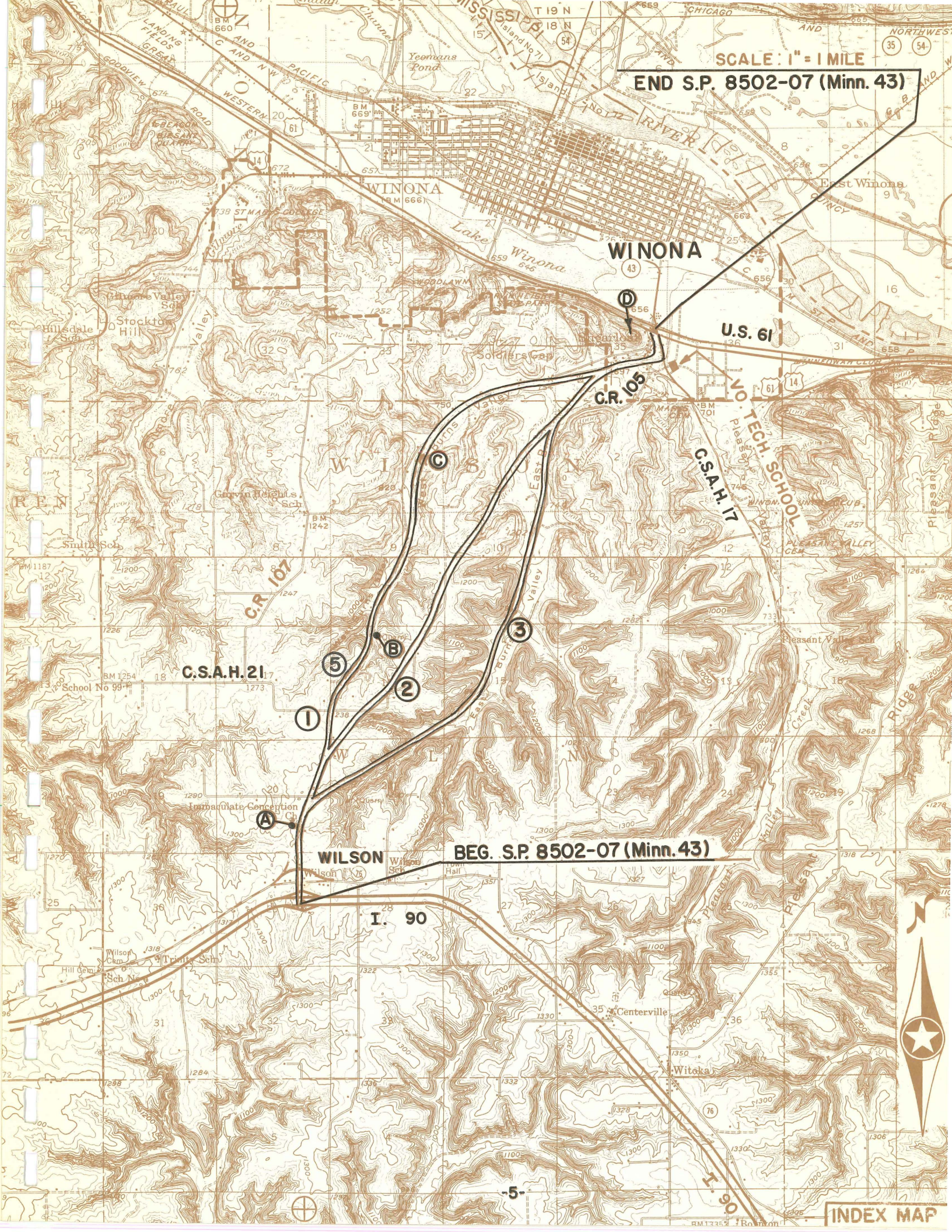
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
WORK MAP



MAP OF WINONA COUNTY




SCALE: 1" = 1 MILE
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WINONA
U.S. 61
C.R. 105
C.S.A.H. 17
VO. TECH. SCHOOL
C.R. 107
C.S.A.H. 21
WILSON
BEG. S.P. 8502-07 (Minn. 43)
I. 90
INDEX MAP
A
B
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D
1
2
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5

FOREWORD

In November, 1976, the Minnesota Highway Department (MHD) became the Highway Division of the Minnesota Department of Transportation (Mn/DOT). As a result, the revised and new sections, primarily Summary and Agency Comments, use the Mn/DOT terminology whereas MHD is retained in the unchanged sections of the report.

The Final Environmental Impact Statement is identical to the Draft Environmental Impact Statement except for the changes indexed on pages 1.01 and 1.02.

Two developments which were initiated as the result of comments received on the DEIS and questions raised at public hearings are listed below:

1. Consideration of an additional alternate, identified as Alternative 5. This alternative provides a two-lane roadway with a truck lane. Alternative 5 has been included in the Alternative Section on pages 25 thru 34.

2. Preparation of a report titled "Water Quality Report, State Project 8502-07 (TH 43=43)" by the MHD Hydraulics Unit. That 128 page report was printed in August, 1976, and provides a detailed analysis of the anticipated water related impacts due to the proposed construction. The Water Quality Report is referred to in the Mn/DOT replies to agency comments. A copy of the Water Quality Report may be obtained from the Mn/DOT at the address listed on page 6.

SUMMARY

Federal Highway Administration

Administrative Action Environmental Statement
( ) Draft (X) Final
( ) Section 4(f) Statement Attached

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

Mn/DOT District Engineer
Box 6177
Rochester, Minnesota 55901
Tel. 507-285-7374

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

Description

This action relates to proposed FHWA approval of use of Federal Aid Funds in the proposed 6.5 mile relocation of Minnesota Highway 43 (Minn. 43) from Interstate 90 (I-90) at Wilson to U.S. 61-14 in Winona. No improvements are anticipated on a short four-lane segment at I-90. This two-lane highway is being proposed for reconstruction as a four-lane expressway with controlled access and having access points at selected sites along the route.

Action required by other Federal Agencies:

Corps of Engineers - 404 Permits

Environmental Impacts

Beneficial environmental effects include improved safety, increased capacity and reduced travel time.

Detrimental impacts include acquisition of 75 acres of agricultural cropland, 55 acres of woodland, nine residences and three businesses. 7150 feet of channel change relocation is also a detrimental environmental impact.

Alternatives

The following five alternates were considered:

Alternate 1 - West Burns Valley Route (Selected Alternate)
Alternate 2 - Middle Route
Alternate 3 - East Burns Valley Route
Alternate 4 - Do-Nothing
Alternate 5 - Two Lane With Truck Lane

Selected Alternative

Alternative 1 was selected as the best means of providing a fast, safe and efficient transportation system between Wilson (Jct. I-90) and Winona after a thorough evaluation of studies, hearings, meetings, comments and discussions. Basis for the selection of Alternative 1 is presented on page 33.01.

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT WERE REQUESTED FROM:

Council Environmental Quality
Department of Transportation

*Department of the Interior

**U.S. Fish and Wildlife Service

*Department of Health, Education & Welfare

*Corps of Engineers

*Department of Agriculture

*Advisory Council on Historic Preservation

*U.S. Coast Guard

FRA (Federal Railroad Administration)

*FAA (Federal Aviation Agency)

Department of Housing & Urban Development

*Environmental Protection Agency

*Minnesota Historical Society

State Planning Agency

*Minnesota Department of Natural Resources

Minnesota Water Resources Board

Winona County Board of Commissioners

*City of Winona

"The draft environmental statement was mailed to the Council on Environmental Quality on April 22, 1976 and a period of 45 days from that date was established for review and comment."

*Agencies replying with written statements.

**U.S. Fish and Wildlife Service comments are included with DOI comments on pages 36.03-36.06.

I. NEED FOR IMPROVEMENT

Studies of State Highway needs in recent years indicate that Minn. 43 should be improved to a modern, high capacity, multi-lane facility. These studies include:

1) "Interim Service Level Classification Study of 1966"
This study designated Minn. 43 as an expressway recognizing its function as a major and direct route of travel.

2) In 1972, the MHD "Backbone Concept Plan" for highway construction planning showed this highway as a first priority.

3) "1990 National Functional Classification Study" classified all of the nations public roads according to their type and character of service they should provide. Minn. 43 was designated as a Principal Arterial. This is the highest classification within the rural system and includes multi-lane freeways and expressways.

Condition Rating Survey

This needs study shows Minn. 43 having the following structural ratings in 1974:

Serviceability Rating	2.6
Structural Rating	2.0
Condition Rating	2.3

A condition rating of 2.8 or less points to a structural deficiency and reflects the need for improvement by taking into account the amount of transverse, longitudinal, and alligator cracking, as well as the rutting, patching, and rideability of the roadway.

Traffic Data

Traffic studies indicate the following average daily traffic two-way volumes:

	Existing (1976)	Future (1998)
Near Wilson	1,850	4,200
Near Jct. U.S. 61 in Winona	6,840	11,500

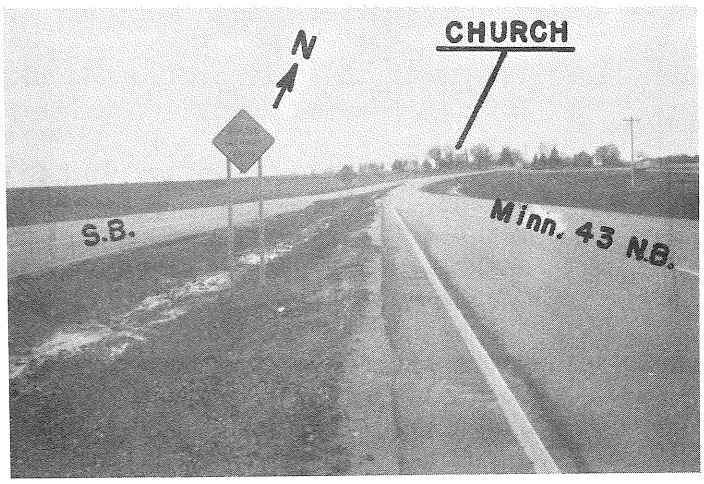
The total truck volumes are estimated at 9% to 11% of these above volumes. See Route Map, on page 38, for additional 1998 traffic volumes.

II. PROPOSED HIGHWAY ACTION

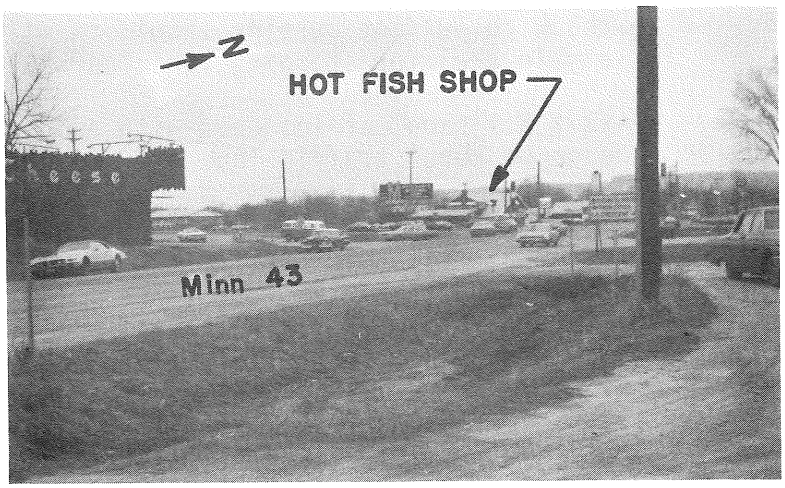
Location and Type of Facility

Minn. 43 traverses in a basic north and south direction bisecting Winona County. The 6.5 mile segment proposed for improvement begins near Interstate 90 near the community of Wilson and continues to U.S. 61-14 in the City of Winona (1970 population 26,438).

Existing Minn. 43 is a four-lane facility for 0.5 mile north of Interstate 90 and then narrows to a two-lane facility for the remainder of the highway section covered by this action. The two-lane facility has 11 foot wide traffic lanes, 6 to 8 foot wide aggregate shoulders with 1½:1 maximum inslopes, and a spring load limit of 6 tons per axle. Minn. 43 was constructed prior to 1924.



Looking northerly from beginning of proposed improvement with church in background. See Location A on Index Map page 5.



Looking northerly towards junction of U.S. 61-14 in Winona where proposed improvement terminates.

Alternate 1, West Burns Valley Route, has been selected as the most desirable route. The proposed action will provide a four-lane divided expressway with partial access control, 2-12 foot wide traffic lanes in each direction with 10 foot wide outside and 4 foot wide inside shoulders with 6:1 inslopes for safety. This facility serves as a western link from Interstate 90 and surrounding area to the City of Winona.

Right of Way

The existing right of way is generally 100 feet wide without access control. Some properties have access points which are no longer needed since operations have changed over the years. The proposed right of way will have a basic width of 284 feet with partial control of access. Turning lanes and cross-overs will provide at-grade intersections at all public roads. Access will also be provided to most existing private property along Minn. 43.

Improved Safety Features

Minn. 43 proposed design features include the following:

---increased capacity by two additional traffic lanes and reducing the "no passing zones" from its present 40% restriction.

---proposed design speeds of 70 m.p.h. on rural segment and 45 m.p.h. on the urban segment. Even though the posted speed limit of 55 m.p.h. on rural segment and 30 to 45 m.p.h. on the urban segment are below the design speeds, the higher design speeds provide an additional margin of safety and a higher level of service. Basically, the higher design speed has longer, flatter horizontal curves of three degree or less and longer vertical curves to provide better sight distance. Existing Minn. 43 has 2850 feet of horizontal curves over three degrees.

---proposed centerline separation varying from 84 feet in the rural area to 46 feet in the urban area near U.S. 61 in Winona.

---the wide 10 foot outside shoulders will be surfaced and provide a safe area for stopping vehicles which may be disabled.

---flat 6:1 shoulder inslopes with a 30 foot "clear zone" between the edge of rural traffic lane and the nearest obstacle.

---guardrail will be provided where appropriate to protect highway users from obstacles which cannot reasonably be removed from the "clear zone".

---full approach roadway width provided across bridges.

Existing Minn. 43 would have the following undesirable items which would lack safety if not reconstructed:

---11 foot wide traffic lanes with a level of service which would continue to decrease with anticipated future traffic volumes.

---40% "no passing zones" with poor horizontal and vertical alignment.

---6 to 8 foot wide shoulders with steep 1½:1 inslopes.

---27 foot wide bridge over West Burns Valley Creek. See Location C on page 5.

---no 6:1 slopes for recovery areas.

Status

Planning for an improved Minn. 43 was initiated based on the various highway needs studies. A location public hearing (April 16, 1969) considered the corridor route locations. The Federal Highway Administration (FHWA) approved the alternate 1 (West Burns Valley Route) recommendation of the location study report. A design public hearing (July 1, 1970) considered design features and social, economic and environmental effects.

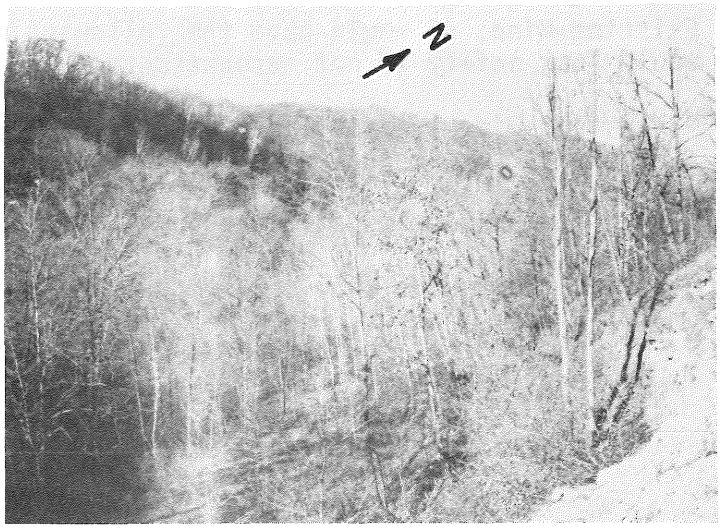
For planning purposes, the following steps will be pursued:

Stage	Tentative Time Schedule
Draft EIS	March 1976
Public Hearing	June 1976
Final EIS	June 1977
Design Study Report	July 1977
Final Plans	January 1978
Right of Way and Relocation Completed	May 1978
Let Contract	May 1978
Completion	1981

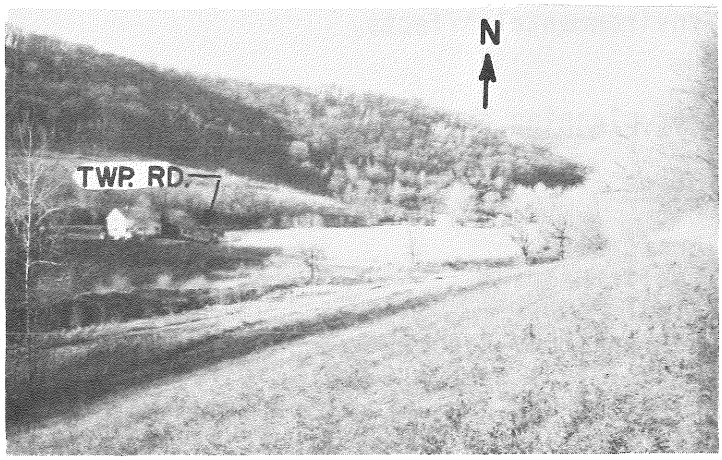
Surrounding Natural Features

The terrain is varied with rolling agricultural land for the southern third, steep sloped rock, and wooded bluffs for the middle third, and relatively flat agricultural, residential, and commercial land for the northern third. The following photos show some of these features.

Upper part of West Burns Valley near the quarry. See Location B on page 5.



Lower part of West Burns Valley near the bridge location. See Location C on page 5.



Winona County lies near the southeastern corner of Minnesota, separated from Wisconsin by the Mississippi River. The major part of the county is a dissected plateau with deep, sharp valleys alternating with narrow, flat-topped ridges. The uplands of the western county lie within the glaciated region of the State, but the surface relief reveals only slight modification through glaciation. These uplands stand about 600 feet above the Mississippi River Valley and about 100 feet above the crests of the limestone bluffs.

Predominant geologic formations of Winona County in the vicinity of the City of Winona are of the Ordovician era. Oneota Dolomite measures approximately 180 feet in thickness, while the Jordan sandstone, which underlies the Oneota formation, measures about 95 feet in thickness. Formations underlying the Jordan sandstone which may be exposed in stream valleys and open cut faces are the Dolomitic St. Lawrence formation (about 55 feet thick), the sandstone Franconia formation (about 150 feet thick) and the sandstone Dresbach formation (about 530 feet thick).

The Richard J. Dorer Memorial Hardwood State Forest boundaries include Winona County, as well as parts of or all of Houston, Fillmore, Olmsted, Dakota, Dodge, Wabasha and Goodhue Counties. See index map on page 3. There are no lands proposed for use in this action that are currently part of the Memorial Hardwood State Forest or are known to be part of a definite plan for acquisition to the Memorial Hardwood State Forest.

Presently, about 25% of Winona County is covered with forests of the hardwood variety. A much larger percentage previously was forest, but expansion of the urban areas and cropland encroachment has significantly reduced this percentage to 25%. Most of the remaining woodlands are on bottom lands or uplands which are not suitable for development.

Common forest species along the Mississippi River region are elm, ash, cottonwood, box-elder, green ash, and silver maple. The moist, rich alluvial lands along the lower reaches of the East Burns Valley and West Burns Valley Creeks contain willow trees.

The limestone slopes and the uplands contain red oak (60%), as well as a variety of hickory and other species. The other species include basswood and box-elder.

The relatively short transition between the bottomlands and uplands is dominated by red oak, green ash, and box elder.

Immediately above the stream bottoms on the driest lands contain birch, white oak, burr oak, and red oak. Red oaks are the most dominate variety (60%).

The ridge tops contain red oak, birch, and shagbark hickory.

Sunny uplands have significant amounts of vegetative cover of sumac and aspen.

Thickets of blackberries are also present, mostly along township roads in the upper East Burns Valley Creek drainage area.

The wildlife found in any given area is determined by the variety and quality of habitat available within the area, and the areas location within the geographic range of a given species. Minnesota possesses a wide variety of wildlife because of the State's position in the transition belt between the forested regions of the east and the prairie complexes to the west.

In general, the Winona County area supports good populations of deer, grey squirrel and grey fox. Red fox, mink, raccoon and muskrat populations also exist at moderate population levels on habitat sites which are suitable for these species. The woodlands also support a fair number of ruffed grouse. Woodcocks and cottontails inhabit the field-forest fringe area. Habitat is poor for pheasant, beaver, jack rabbit and hungarian partridge, but representatives of the species occur in various areas.

Public Facilities and Services

The City of Winona has three four-year colleges (Winona State University, St. Mary's College, and College of St. Teresa). The community also has a Winona Area Vocational-Technical School which is structured around the needs of the area.

Twenty-two parks and playgrounds consisting of 1400 acres are located in Winona. In addition Levee Park adjacent to the Mississippi River for a distance of 1500 feet; Bluffside Park which comprises 1500 landscaped acres of picnic and outing facilities; Lake Park surrounding Lake Winona; Garvin Heights Park which towers 575 feet above the City and affords a ten mile view of the Mississippi River Valley; and Prairie Island on the river offering full camping and park facilities; round out Winona's parks and playgrounds.

Public utilities, police and fire protection and other emergency services will be provided at all times during the construction of the action.

Aesthetic View from Road

The scenic and natural resources of the Minn. 43 corridor are an asset to planning a new facility. The view from Minn. 43 varies from urbanized scenes of home clusters and commercial-industrial complexes to natural somewhat undeveloped valley scenes.

III. LAND USE PLANNING

Land use within the study area falls into three tiers which are definable through a geo-topographic distribution. They are: cash-crop agriculture on the level uplands, small farm-rural usage in the low lands and hillsides, and an urban structure within the City of Winona and its immediate environs. The following is a more detailed description of these tiers:

Rural

In general, the county economy is rural agricultural, somewhat supplemented by forestry and recreation. Communities within the rural sector are comparatively small and are primarily farm service centers. Within the major land portion of the county, agriculture, retail trade, and services are the dominant employers. Recently, a significant number of workers from the rural areas have begun commuting to Winona.

Farm size in this agricultural region varies widely with the majority of units falling within a range of 100 to 205 acres. Very few exceed the 205 acre size. Many of the farm units appear to be below marginal economic size, but cash-crop farming and livestock are still the primary source of farm income.

The land has good inherent fertility, but it is not quite as high as that of land farther west. The major economic activities on the farms of Winona uplands are cattle-raising (primarily dairy) and the raising of cash-crops like corn and soybeans.

Rural Valleys and Rough Land

Most parcels within the valleys still possess the physical characteristics of a farmstead, though farming is not presently being conducted. Small amounts of crops and livestock are raised, but farming is performed on such a small scale in the valleys that it indicates that farming is undertaken as a supplement to other sources of income. The majority of landholders in this area are employed in Winona.

Grazing takes place on the open land, including the stream banks, and within the woodlands where the slope is suitable for such usage. In areas unsuitable for grazing, the major activities are quarrying and logging. The quarrying is profitable business while the extraction of wood products is probably supplemental. Stumpage is or has been used by thirteen county producers; five in production of lumber, five in preparation of sawlogs for resale to lumber producers, while three producers are currently idle. Accurate information is not available concerning the markets for stumpage, but the majority of the stumpage does go to local mills. The primary species sought by the local producers are red oak, white oak, basswood and cottonwood.

City Environs

Winona (1970 population 26,438) is one of three regional centers serving Southeastern Minnesota. These three cities (Winona, LaCrosse and Rochester) provide a full range of retail operations plus services, wholesaling and manufacturing. Winona's top ten employers in 1973 employed 4100 of the City's 4950 manufacturing employees. Total employment within Winona was approximately 12,750 in 1973.

The City of Winona has developed a City Plan, June 1972, extended to 1990; with a projected population level of 35,000. This particular objective carries with it several significant implications regarding the land use and economic structure of Winona:

1) A population increase of approximately 10,000. Most of this increase is expected through in-migration, the two major attractions being the City's three colleges and an expanding industrial base.

2) One hundred seventy additional housing units will be needed annually (assuming a constant increase over the twenty-year planning period). Recent trends indicate that these units will require about 45 acres of land each year. Higher density development, of course, could reduce this figure. This is based on an estimated average of 2.9 persons per dwelling unit.

3) Four thousand new jobs must be created, either through expansion of present firms or the development of new industrial units. Assuming a normal employee/land ratio of 20/1 an additional 200 acres of industrial land will need to be utilized.

As is quite common in land use, one implication leads to another and there are some which may reflect directly upon the area's transportation system. Two major sites planned as industrial parks, Frog Island and River Bend are shown on Route Map page 38. River Bend and Frog Island contain 200 acres and 60 acres respectively. Each is serviceable by rail. Frog Island, however, is located along the Mississippi River and will cater to industries which transfer shipments to other transportation systems. River Bend, on the other hand, is located adjacent to Minn. 43 and U.S. 61 at the north end of the proposed project. River Bend Industrial Park is anticipated to handle firms which would rely on rail and/or highway transportation systems.

The City is also working with a private developer to develop a 130 acre industrial park called MDC Airport Industrial Park. This park is located north of the mainline Milwaukee Railroad tracks beginning 3/4 mile west of Frog Island and extending westerly to the Airport Industrial Park

The City of Winona intends that the population increase strived for in the City Plan will reside within the City limits. This desire cannot be guaranteed. An Economic Analysis Report (1969) indicated that fifteen percent of the people employed in Winona did not reside within the City or the immediate adjoining townships. This is partly a result of surplus labor from the work force in the rural areas, and partly a result of the desire of some people for a rural atmosphere in their residency.

If employment opportunities increase in Winona, the number of commuters should increase. Whether the increase would vary percentage wise from the fifteen percent is uncertain.

Nearby suburban development will also put additional pressure on areas not directly influenced by the City Plan. Land within the City study area most likely to feel this pressure falls under jurisdiction of the County Zoning program. Both branches of Burns Creek are presently zoned R-2, a community residence district. This classification provides for low density housing in unincorporated areas or fringe areas where municipal utilities may become available. The upland area which lies between the two branches, as well as the remaining uplands in the study area is zoned A-2, a general agriculture district. This allows for the retention of general farming activities in suitable areas and regulates the encroachment of non-farm land uses. There are no special restrictions in the A-2 classification, but, while single family dwellings are allowable, subdivisions would not be permitted within the agricultural district.

Land use planning in the study area is performed by the City of Winona Planning Commission and Winona County Planning Commission. The proposed project has been coordinated with these planning commissions and is consistent with their planning. Since the selected alternate utilizes an existing transportation corridor, no major or widespread changes in land use are expected. The project may however, slightly accelerate urban and suburban development as a secondary result of improving the area transportation system. Design of the proposed project is also being coordinated with the Corps of Engineers to insure compatability with their Mississippi River Flood Control Project.

IV. PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

Beneficial Environmental Effects

Beneficial environmental effects are as follow:

A. Improved Safety

The proposed improvement will replace an old two-lane highway and uncontrolled entrances with an expressway utilizing partial control of access. The highway will be constructed to modern expressway standards which are listed in Section II.

The three year average number of accidents per million vehicle miles is 3.3 for the above section of Minn. 43. The 1975 average statewide accident rate is 2.5.

An expressway will reduce head-on and rear-end collisions because opposing lanes are separated and turning lanes allow traffic to decelerate off the through lane. Off the road and fixed object accidents will also be reduced because modern highways have a thirty foot clear zone beginning at the edge of the traffic lanes to any fixed objects (i.e., light and sign posts). The clear zone allows the driver, who strays from the traffic lane, time to regain control of his vehicle. Breakaway fixtures will reduce property damages and personal injuries.

B. Increased Capacity

Improved highway design will increase the capacity of this highway by having two full lanes in each direction, reducing cross-traffic conflicts, and providing turn lanes to allow vehicles to decelerate off the through lane. The existing highway does not have these features.

C. Reduced Travel Time

Travel time will be reduced 18%* for through motorists by avoiding numerous at-grade crossings and turning movements, on this section.

Detrimental impacts are as follows:

A. Loss of Agricultural Land

Acquisition of an estimated 75 acres of agricultural cropland will mean the loss of some farm income and production.

*Based on 8½ minutes at an average speed of 45 m.p.h. on existing Minn. 43 as compared to 7 minutes at an average speed of 55 m.p.h. on the proposed 6½ mile expressway. (1½ ÷ 8½ = 18%) Based on data in "A Policy on Geometric Design of Rural Highways 1965".

B. Severance of Farm Land

Minn. 43 access will be provided to all local public roads. Continual liaison with local and area planning agencies assures compatibility with future area plans. Severed parcels without access frequently have value to adjacent farm operations.

C. Displacement of Occupied Buildings

The proposed action will necessitate relocating the occupants of nine residences, two of which are farm homes, as well as, three businesses. The occupants of three residences have been relocated. The six remaining residences are within three miles of Winona.

Other environmental effects are as follows:

A. Relocation Assistance

The proposed action will necessitate relocating nine families (twelve individuals) and three businesses. Three of the families have relocated. Of the nine, six are owner-occupants and three are tenants. All are white except one indian woman.

Incomes of the owner-occupants are estimated to be middle to upper middle. Only one owner-occupant family consist of more than two people, that being a couple with two school aged children. The others are older with no children living at home.

Incomes of the tenants are estimated to be middle to lower middle. All are couples with no more than one child.

Two owners and one tenant live in the two farm houses to be acquired. Three families live in rural residential neighborhoods. The remainder live in urban residential neighborhoods in the City of Winona. Winona is the primary shopping and social center for all who may be displaced.

A survey of available replacement housing in the Winona market area initially conducted in April, 1975, and continually updated shows an abundance of available homes (over 100) of varying sizes and prices. The economic situation in Winona may in part explain the large number of available homes. From January, 1972 to January, 1975, employment has dropped from 12,619 to 11,790. Replacement housing will be available for those displaced by this proposed action.

A fair market price will be paid for acquired lands and buildings. Displacees will receive assistance in their search for safe, decent and sanitary housing. A displacee may be eligible for relocation payments involving moving costs, replacement housing and incidental expenses on real estate transfers. Negotiations for property acquisition

will commence as early as possible to allow maximum time for the displacees to find suitable housing. Three residences have already been acquired by the Mn/DOT as "hardships" at the request of the property owners.

The businesses to be displaced are a service station-garage and a dairy store. A portion of a quarry, including its office and maintenance building will also be acquired. The service station relies primarily on its repair business for its livelihood with gas sales being a sideline according to the owner. Adequate replacement facilities are expected to be available at the time of acquisition. The dairy store is located at the junction of highways 43 and 61, and is part of a business having more than one outlet. There are no buildings in the immediate area which could house this business, however, there is commercially zoned property within one block which is available and on which a replacement building could be constructed.

The quarry is one of several operated by a Rochester, Minnesota concern. The operation may be able to be reestablished on the remaining property.

There are no known Federal, State of community projects which will cause concurrent displacement with the subject project. Winona does have a downtown urban renewal project with relocation of nine families expected to be completed by February 1976. The reconstruction of Highway 61 through Minnesota City, a small town six miles northeast of Winona, will involve the displacement of twenty-one families with routine acquisition scheduled to begin in 1977. All of these families have relocated.

The normal allowance of 120 days in which to vacate following acquisition should provide ample time to carry out an orderly and humane relocation program. If additional time is needed, present housing could be leased from the State for a short period after the established vacation date.

B. Air Impacts

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 consistent with the approved State Implementation Plan (SIP).

A Memorandum of Understanding with the Minnesota Pollution Control Agency (MPCA) specifies:

1) That prior consultation with MPCA is considered as accomplished for highway sections outside of a Standard Metropolitan Statistical Area (SMSA).

2) An air quality analysis, which demonstrates that the project is considered consistent with the approved State Implementation Plan is considered as accomplished for highway proposals outside of a SMSA where the annual average daily traffic is not expected to exceed 20,000 vehicles per day, including intersecting traffic, within 10 years following construction. This highway proposal meets these criteria.

The EPA Volume 9, Evaluating Indirect Sources, screening procedure was used to estimate the peak carbon monoxide concentration at the nearest critical receptor along this project. The screening procedure assumptions include a one meter per second wind at 10 degrees to the roadway, variable direction at intersections, a Pasquill-Gifford Stability Classification of D, an 8-hour persistence factor of 0.6, a cold start correction factor of 1.0, and 1975 background concentration of 5 ppm and 2 ppm for 1 and 8 hour periods respectively. The predicted CO concentrations and Federal and State standards are listed below:

1980 CARBON MONOXIDE CONCENTRATIONS PPM

	Background	Peak (includes background)	Federal Stds.	Minn. Stds.
1 hour	2.0	5.0	35	30
8 hour	1.0	2.2	9	9

Carbon Monoxide concentrations resulting from the proposed project are well below Federal and Minnesota standards.

C. Noise Impacts

Noise levels were calculated for the existing facility and selected alternate using the method described in NCHRP 117. These calculations indicate that the maximum L_{10}[1] noise level increase resulting from the proposed project and 21 years of traffic growth will be about 5 dBA.[2,3] Also, no receptors will experience a L_{10} noise level greater than 70 dBA in the year 1998.

1 L_{10} - indicates the rate of occurrence of a given noise level. An L_{10} indicates that the given level is exceeded 10 per cent of the time.

2 dB - decibel, a measurement of sound pressure waves on the logarithmic scale. An increase of 10 dB doubles the perceived loudness.

3 A - A scale, the scale on sound measuring meters that is weighted to duplicate the sounds heard by the human ear.

Noise contour maps for the project are contained on pages 20.03 and 20.04. As can be seen on page 20.03 the 1998, L_{10} 70 dBA contour is located within the highway right of way from the southern termini of the project to the junction of CSAH 17. In some locations the proposed project will reduce the L_{10} noise level. Such reductions are primarily the result of shifting the centerline.

Noise contours for the segment of the project which has the greatest traffic volume are shown on page 20.04. As can be seen from that map, the L_{10} 70 dBA contour is located within the highway right of way except near the T.H. 61 junction. No receptors are located within the L_{10} 70 dBA contour, however, one corner of a motel does touch the 70 dBA contour. Tabulated below is a comparison of noise levels at the three most sensitive receptors.

L_{10} Noise Levels dBA

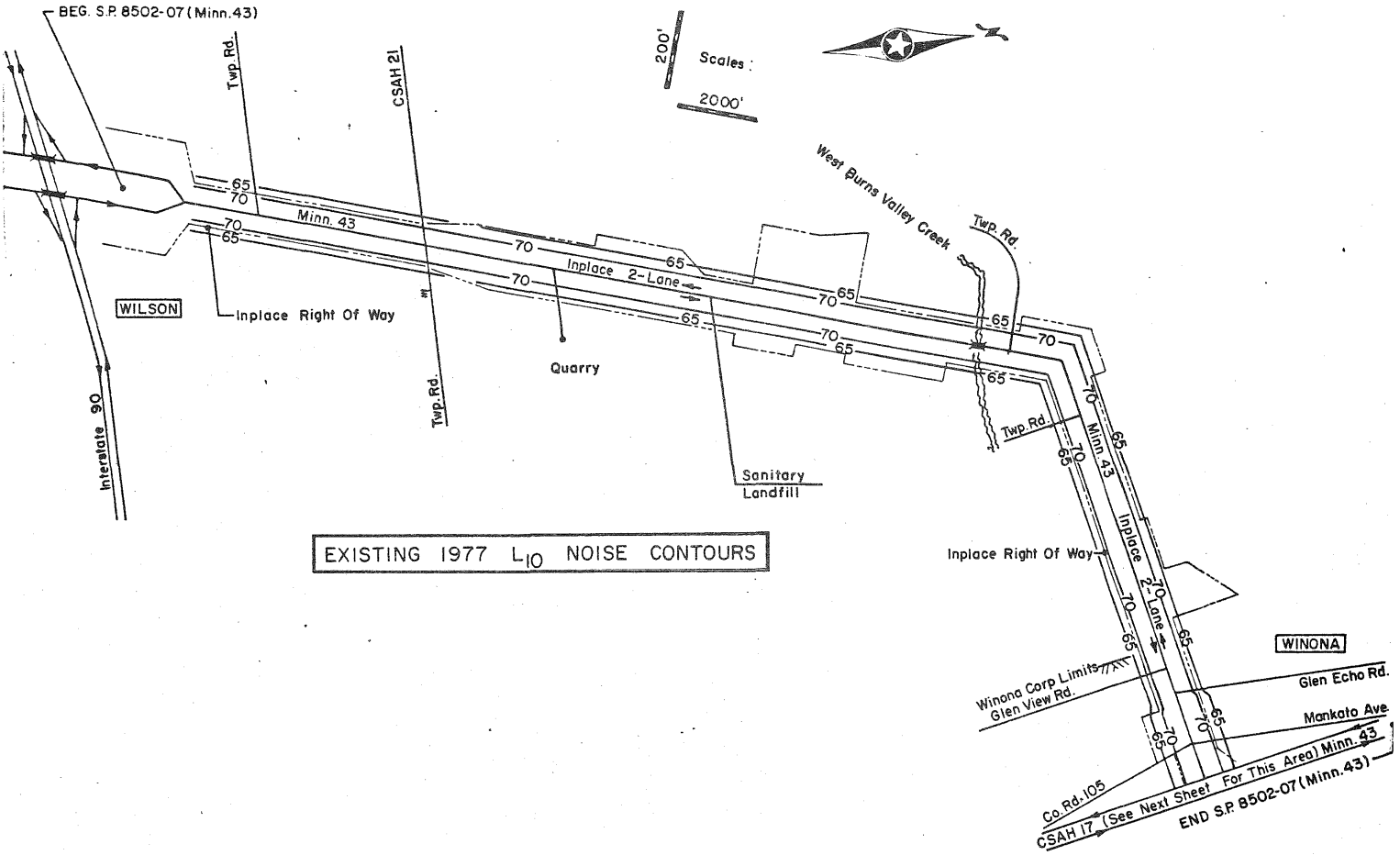
Receptor	Location STA	Existing 1977	No Build 1998	Proposed 1998	Federal* Standards	Minnesota** Standards
Motel	451+80 RT	68	71	70	70	65
Cafe	453+30 RT	67	69	69	75	70
Apartments	448+30 LT	63	67	67	70	65

* FHPM 7-7-3 Figure 3-1
** Minnesota Pollution Control Agency, November 27, 1974, (MPCA)

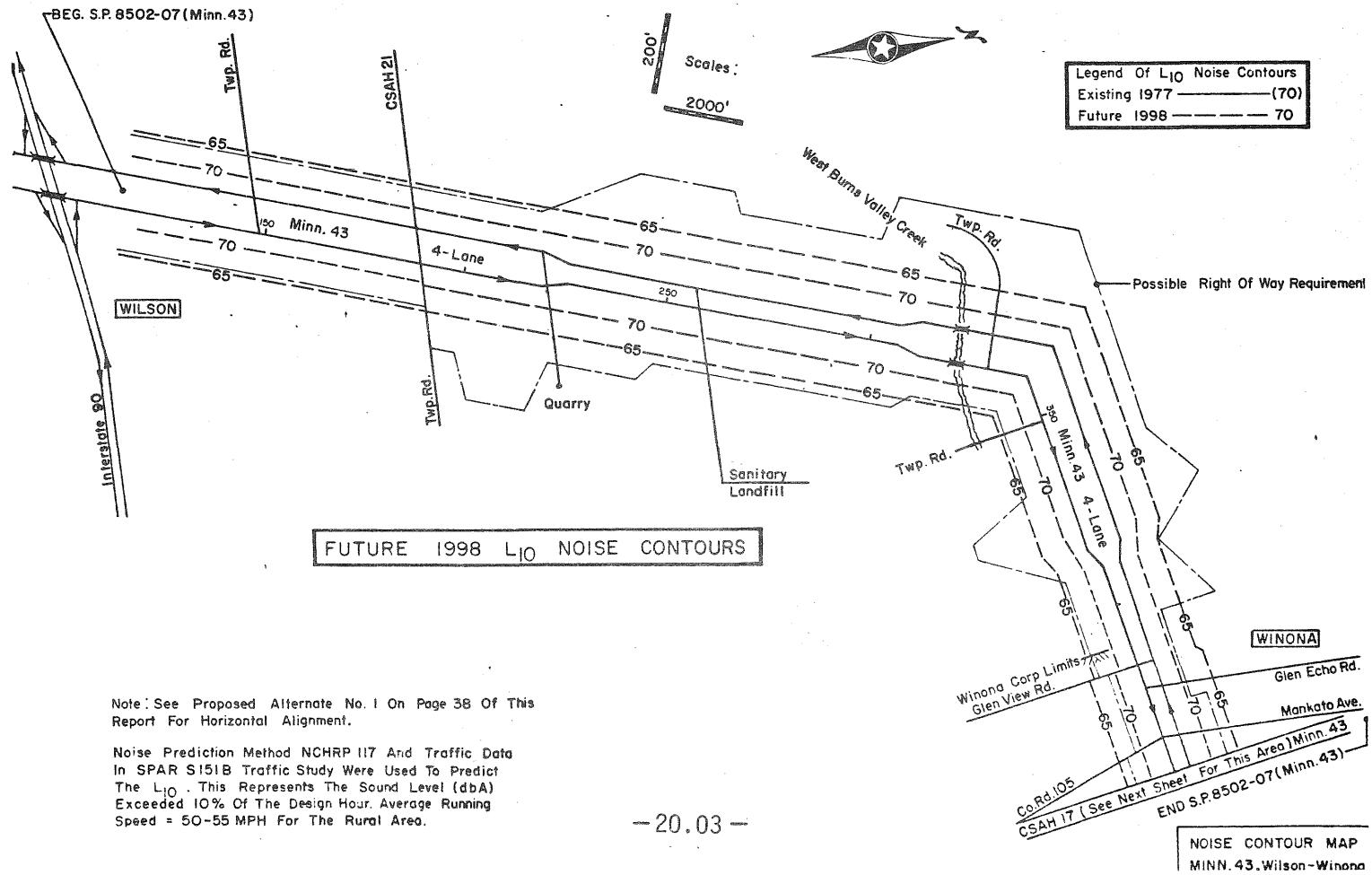
The noise levels resulting from the proposed project will not exceed Federal Standards. The proposed project will result in a lower noise level at the motel than doing nothing. The predicted 1 dBA decrease in 1998 results from shifting the alignment away from the motel. However, the predicted 1998 noise level at the closest end of the motel and nearest corner of the apartment building is 70 dBA and 67 dBA respectively, whereas the MPCA standard is 65 dBA. No noise abatement measures are planned at this time because the predicted noise level meets Federal Standards and the proposed project will result in the same or lower noise level as doing nothing. Also, since State and Federal Regulations require quieter vehicles in the near future, actual noise levels may be less than predicted.

Further analysis of noise impacts will be contained in a Mn/DOT noise study report as required by FHPM 7-7-3. The noise study report will be contained in the Design Study Report.

Construction Noise - "Minnesota Standard Specification for Highway Construction Sec. 7, Subsection 1701, states in part that the Contractor shall comply with all applicable laws, regulations, ordinances, order and decrees in the performance of the construction. This would include any local noise control laws. No unique noise receptors have been identified in the areas that would be impacted by the proposed construction and the construction activity is not expected to generate unusual or excessive noise."



EXISTING 1977 L_{10} NOISE CONTOURS

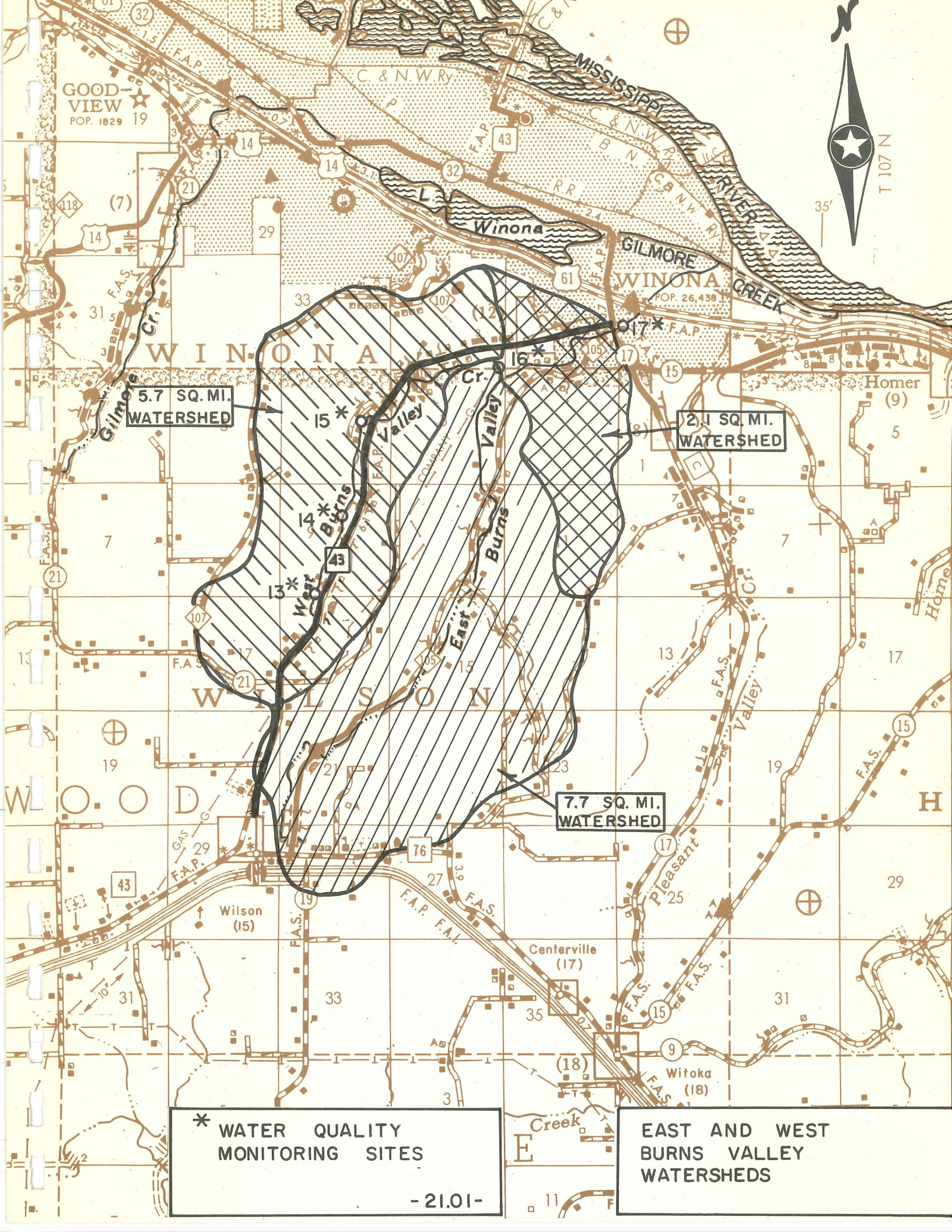


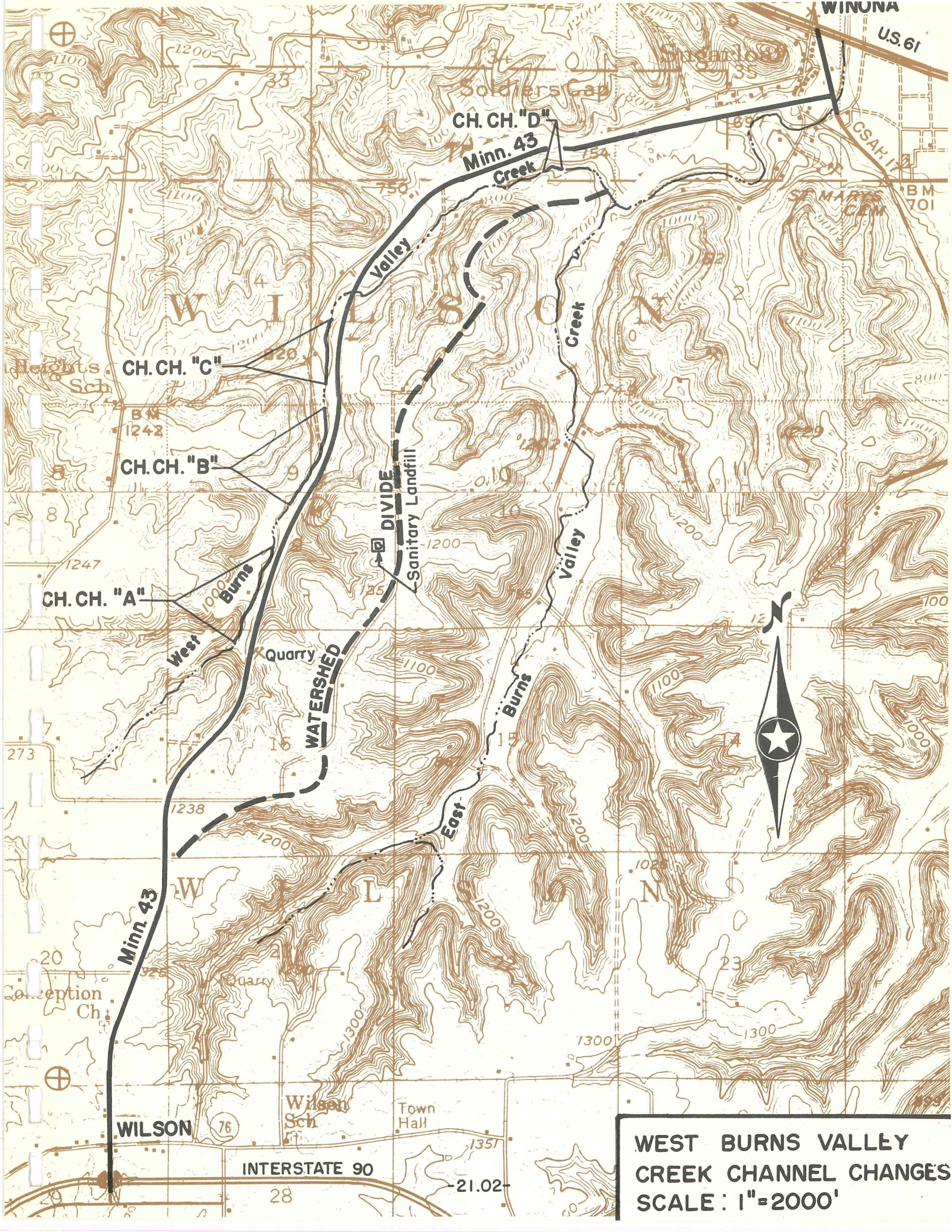
FUTURE 1998 L_{10} NOISE CONTOURS

Note : See Proposed Alternate No. 1 On Page 38 Of This Report For Horizontal Alignment.

Noise Prediction Method NCHRP 117 And Traffic Data In SPAR S151B Traffic Study Were Used To Predict The L_{10} . This Represents The Sound Level (dbA) Exceeded 10% Of The Design Hour. Average Running Speed = 50-55 MPH For The Rural Area.

NOISE CONTOUR MAP
MINN. 43, Wilson-Winona


GOOD-VIEW
POP. 1829
MISSISSIPPI RIVER
Winona
GILMORE CREEK
WINONA
POP. 26,438
Gilmore Cr.
5.7 SQ. MI. WATERSHED
2.1 SQ. MI. WATERSHED
7.7 SQ. MI. WATERSHED
West Burns Valley
East Burns Valley
Homer
(9)
Wilson
(15)
Centerville
(17)
Witoka
(18)
Pleasant Valley Cr.
Creek
T 107 N
C. & N.W. Ry.
F.A.P.
F.A.S.
F.A.I.
13*
14*
15*
16*
17*
* WATER QUALITY MONITORING SITES
-21.01-
EAST AND WEST BURNS VALLEY WATERSHEDS


WINONA
U.S. 61
CH. CH. "D"
Minn. 43
Creek
Valley
Creek
CH. CH. "C"
CH. CH. "B"
DIVIDE
Sanitary Landfill
Valley
CH. CH. "A"
Burns
West
Quarry
WATERSHED
Burns
East
Minn. 43
Quarry
WILSON
Wilson Sch
Town Hall
INTERSTATE 90
21.02
WEST BURNS VALLEY
CREEK CHANNEL CHANGES
SCALE: 1"=2000'

ephemeral during dry periods. Flow below that point is continuous primarily as a result of seepage from springs. Springs provide groundwater recharge. The flow in the area of proposed channel change "A" is quite shallow, 2"-6", over rubble and gravel type bedding. The average gradient of the streambed here is approximately 3.0%. It appears that this steepness of grade is relative to there being a lack of well defined pool - riffle areas in a continuous sequence. Brush and trees provide a fairly high amount of shade for the stream but the lack of water depth and lack of pools prevents this portion of the stream from becoming a habitat for fish life. Near the north end of proposed channel change "A" and approximately one third of the way into proposed channel change "B" there are spring areas which contribute additional flow to the stream. A concrete ford on a private driveway exists near the southern end of the channel change "A" area.

The average gradient in the area of proposed channel change "B" is approximately 1.8%. The streambed in this area follows a step sequence toward the steeper south end of the proposed channel change and is starting to form a pool - riffle sequence at the north end. Again, the flow is normally less than 6" deep and there is a good amount of shade. The flow near the center of proposed channel change "B" was computed to be 0.5 c.f.s. on July 13, 1976. Minnows were observed in the stream, between proposed channel change "B" and "C", in May, 1976.

The average gradient in the area of proposed channel change "C" is approximately 1.3%. A more pronounced pool - riffle sequence has developed in the stream but the sequence is still an irregular pattern. The flow near the north end of proposed channel change "C" was computed to be 1.4 c.f.s. on July 13, 1976. Again, there is good shade and low flow.

The average gradient in the area of proposed channel change "D" is about 1.0%. The streambed in this area consists of approximately 40% sand, 5% clay, 30% gravel, and 25% rubble. The stream is classified as about 10% pools, 50% riffle, and 40% bars.

As the gradient of the streambed flattens, there is a transition from the rubble and gravel type bottom to a sandy bottom with generally deeper and narrower meandering flow. In the areas with a coarse bottom, the creek was found to be biologically productive with invertebrate organisms such as mayfly naiads, caddis fly larvae, gammarus and fly larvae.

Because of the low flows, usage of the stream water would generally be limited to being the source of a small cool water supply and a habitat for fish food organisms. Withdrawal of water for commercial or residential uses was not observed. West Burns Valley Creek is not a designated trout stream.

East Burns Valley Creek is a continuous flow tributary of Gilmore Creek. The total length of EBV Creek is 6.2 miles including 3.8 miles above the junction with WBV Creek. The 3.8 mile segment above the junction with WBV Creek is a designated trout stream. The 2.4 mile segment of

of EBV Creek below the junction with WBV Creek is not a designated trout stream & is lacking in several of the features necessary for trout. The trout stream segment of EBV Creek will not be affected by the proposed action since construction activities above the junction of WBV and EBV Creeks will be almost entirely contained in the WBV Creek watershed.

The segment of East Burns Valley Creek below the junction with West Burns Valley contains moderate gradients, 0.5%-0.3%, with low summer flows of about 5 c.f.s. The average water depth is about ten inches. The streambed averages 15 to 20 feet in width. Bottom soils are shifting sands and/or silts. The segment is also lacking shade and pools. No aquatic vegetation is present. Stream improvement measures would be of little or no benefit to the segment of East Burns Valley Creek unless watershed control and farming practices are improved.

Discharge rates for East and West Burns Valley Creeks are as follows:

Location	Discharge		
	Mean Annual (2.33 Year Storm Freq.)	50 Year (Storm Freq.)	100 Year (Storm Freq.)
-West Burns Valley Creek at TH 43 Crossing	265 cfs	1800 cfs	2160 cfs
-West Burns Valley Creek at junction with EBV Creek	325 cfs	2200 cfs	2640 cfs
-East Burns Valley Creek at CSAH 17 Crossing	605 cfs	4100 cfs	4920 cfs

Fish - West Burns Valley Creek and East Burns Valley Creek below the junction of WBV Creek are classified as minnow streams with following species being present: white sucker, long nose dace, black nose dace, creek chub, brassy minnow, fat head and stone roller. East Burns Valley Creek above the junction of West Burns Valley Creek is managed by the Minnesota Department of Natural Resources as a brown and brook trout stream.

Existing Water Quality - The Minnesota Pollution Control Agency has classified East and West Burns Valley Creeks as follows:

Stream	PCA Classification (Uses)
West Burns Valley Creek	2B (Fisheries & Recreation)
East Burns Valley Creek (above WBV Creek)	1B, 2A, 3B (Domestic, Fisheries & Recreation, Industrial)
East Burns Valley Creek (below WBV Creek)	2B (Fisheries & Recreation)

The proposed action will not cause any stream classification changes.

In an effort to evaluate and minimize water quality impacts, the Water Quality Group of the Mn/DOT Hydraulics Unit is taking water samples at five sites in the project area. See the map on page 21.01 for the location of the sampling sites. Samples will be taken and analyzed before, during, and after construction on a routine basis three or four times per year as well as at times when the water quality appears irregular. Sampling will be discontinued when changes in water quality attributed to highway construction have ceased (about 2 years after construction is completed).

The following data is representative of the water quality at Site 15 on West Burns Valley Creek on June 24, 1976.

Air Temp.	16.5° C
Water Temp.	13.0° C
Dissolved Oxygen	10 PPM
Dissolved Oxygen	97%
Conductivity	540 MHOS
pH	8.1
Chlorides	8 PPM
Suspended Solids	Trace
Total Dissolved Solids	294 PPM
Total Solids	294 PPM
Turbidity	1.8 NTH

Water quality data indicates that West Burns Valley Creek has suitable habitat for aquatic food organisms and has potential for fish production. Samples of invertebrates taken from the channel change areas yielded the following: mayfly naids, (Order Ephemoptera) caddis fly larvae, (Order Trichoptera), gammarus (a fresh water crustacean which is a member of the Order Amphipoda) and fly larvae, (Order Diptera).

Impacts - Impacts on the Burns Valley Creeks will be passed onto Gilmore Creek and eventually the Mississippi River. However, because of the distances involved and greater flows, the impacts on Gilmore Creek and the Mississippi River will be very minor.

Specific channel change impacts are discussed in the Stream Modification section on page 21.09.

Construction operations will increase erosion. By using the Universal Soil Loss Equation, it has been estimated that during construction the erosion potential will be up to 200 times greater than under the existing conditions. Although the erosion potential is great, the incorporation of erosion control features and an awareness of erosion problems during all phases of the project will result in the actual erosion being only a small fraction of the potential erosion.

Sediment loading and sediment deposition are directly related to erosion and therefore are expected to increase temporarily during construction. Increased amounts of sediment can have detrimental effects on water quality

and aquatic life. As does erosion, sedimentation has the potential of becoming a significant adverse impact. However, by taking appropriate measures during all phases of the project, sediment related impacts will be minimized.

Fertilizer used to establish vegetation will have a minor effect on water quality. Some fertilizer nutrients will enter streams by surface runoff but the amount will be small and inconsequential when compared to nutrients received from normal rainfall, groundwater and decaying organic matter.

Mn/DOT uses chemicals for snow and ice control and weed and brush control which will affect water quality. These effects are expected to be minimal and are discussed on pages 22 and 22.01.

Additional water quality impacts could result from accidental chemical or oil spills. In the event of an accident that would produce a chemical or oil spill which would affect the area streams, appropriate measures will be taken to contain such spills.

State Law also requires the reporting of such spills. The Mn/DOT procedure is to notify the State Division of Emergency Services which in turn contacts the Minnesota Pollution Control Agency. The appropriate agency will provide expertise and initiate the action necessary to contain the spills.

The West Burns Valley Creek watershed contains a quarry and a sanitary landfill as shown on page 21.02. The proposed action will not affect the sanitary landfill and although some quarry property is being acquired, the quarry operation will not be adversely affected. The proposed action will not cause any additional quarry or landfill effects on water quality.

Mitigation Measures - The channel relocation will be performed prior to any roadway grading in the area of channel relocation. The water will be diverted to short segments of the new channel as they are completed. Excavated material will be used for embankment of the proposed roadways and for filling the existing channel. The type of material excavated will be mostly rock debris with approximately 48,000 yards of excavation being required for the channel excavation. The existing channel which is being relocated will be under highway embankment. See page 21.11 for typical channel relocation. No work will be performed on the existing channel which is not relocated, except for slope protection under the two proposed bridges.

Construction of the proposed channel changes will be with the intention of simulating the composition and gradient of the inplace creek. The ends of the channel changes will be diked until construction of the channel is completed so that a minimum of erosion and excavation sediment will be transported downstream.

Specific mitigation features which will be incorporated in the channel change construction include using bottom and side materials similar to the inplace materials, duplicating the inplace gradient and length, constructing meanders and low flow channels, rip raping the outside bends of meanders, randomly placing 10" to 16" diameter rocks in the channel bottom, recreating riffles and pools, and constructing horizontal drains at springs.

Sedimentation will be controlled by erosion mitigation measures. Erosion measures which will be taken may be divided into three groups: 1) permanent, 2) temporary and 3) administrative.

Permanent measures will include the use of topsoil, seed, sod, fertilizer, mulch, and rip rap. On the steep inslopes next to the channel change a straw or hay mulch with an asphalt tack, a wood excelsior mulch, or a wood fiber blanket mulch will be used. On other areas, a straw mulch with disc anchoring will be utilized.

Temporary erosion control measures will include bale ditch checks, bale diversions, and sediment traps. Properly placed bales are capable of removing 68% of the sediment.

Administrative measures are generally in the form of standards specifications, laws, regulations, licenses, permits, etc. Mn/DOT Standard Specifications for example, require the contractor to prepare and submit an erosion control schedule. No work shall be started until the applicable erosion control schedules and proposed methods of operation have been accepted by the Engineer. These specifications also require that earthwork operations be separated from flowing streams by a dike or other barrier that will keep sediment from entering the flowing water.

Water quality will be monitored before, during, and after construction at five sites on the Burns Valley Creeks. Coordination with the U.S. Fish and Wildlife Service and Minnesota Department of Natural Resources is described on page 21.08 . The proposed action is also being coordinated with the U.S. Corps of Engineers as mentioned on pages 17 and 22.02.

Conclusion - By being aware of detrimental effects, incorporating mitigating features during construction, and being prepared to arrest undesirable conditions before they become uncontrollable, this project will be completed without any long term undesirable water quality impacts.

Information contained in the Water Quality section was summarized from the Water Quality Report referred to in the Foreward on page 5.01. Additional water quality information is contained in the Water Quality Report.

F. Stream Modification

Coordination - The Mn/DOT is coordinating the proposed action with the U.S. Fish and Wildlife Service and the Minnesota Department of Natural Resources (Mn/DNR). The Draft Environmental Impact Statement was submitted to those agencies for review. U.S. Fish and Wildlife comments are included in the U.S. Department of Interior North Central Region comments on pages 36.03 through 36.05. Mn/DNR comments are contained on pages 36.23 through 36.25. Consultation with the Mn/DNR began in 1972 and will continue through project construction. Several of the proposed channel change features were included as a result of coordination with the Mn/DNR. Proposed channel changes have been discussed with the U.S. Fish and Wildlife Service and a copy of the Water Quality Report has been sent to that agency.

Mn/DOT criteria covering roadway construction and drainage systems is that the roadway should not materially change existing drainage and water quality levels. This is, of course, tempered somewhat in reality by the existence of other constraints which may be placed on the design of a highway.

Channel Changes - Roadway fill encroachment will require four channel changes of West Burns Valley Creek. These four channel changes are identified as "A", "B", "C" and "D" on the maps on pages 21.02, 38.01 and 38.02. Approximate lengths of the channel changes "A", "B", "C" and "D" are 2600, 2800, 1400 and 350 feet respectively. A generalized channel relocation plan is shown on page 21.11. Detailed channel relocations are shown on pages 38.01 and 38.02. The total channel change, 7150 feet, is equal to about 45% of the total length of West Burns Valley Creek. Also approximately 5% of the 5.7 square mile West Burns Valley Creek watershed will be affected. West Burns Valley Creek is described on pages 21 through 21.05.

Proposed channel change "A" will be approximately 2600 feet long on the west side of proposed T.H. 43. The upper portion of the channel will be formed between the highway fill slope and the inplace hillside that will act as a backslope. The proposed broken 6:1 and 2.5:1 highway fill slope will fill against the hillside and cause about 400 feet of the channel change to be at a higher elevation than the inplace channel. Constructing the channel change at the elevation of the inplace channel would require a large cut into the inplace hillside which would increase erosion and siltation. A channel with a 12 foot bottom and 2:1 side slopes will be constructed in the raised profile area which ends at approximately Station 241. At that point, a drop structure approximately 9 feet high will be constructed as a transition from the raised profile to the inplace channel elevation. Below the drop structure the channel will continue with a 15 foot bottom, 2:1 side slopes, and be meandered to duplicate the gradient of the inplace channel as close as possible. The channel above the drop structure carries intermittent flows while the channel below the structure is spring fed and has continuous flow. Horizontal drains as required will be placed at the base of the fill so that any springs can filter out to the new channel. The channel lining will be similar to or a little more coarse than the lining of the inplace channel and the outside bends of the meanders will have riprap. In addition large rocks, 10" to 16" diameter, will be randomly placed in the channel bottom at the rate of approximately 15 per 100 feet.

Proposed channel change "B" will be approximately 2800 feet long. A low flow channel with about a 10 foot bottom, 1:1 side slopes and 1.5 feet deep will be constructed with a main channel having approximately 20 foot bottom and 2:1 side slopes. The main channel will be meandered sufficiently to be able to duplicate the gradient of the inplace channel as close as possible. Horizontal drains, channel lining and large rock will be the same as for channel change "A".

Proposed channel change "C" will be approximately 1400 feet long. A low flow channel with about a 10 foot bottom, 1:1 side slopes and 1.5 feet deep will be constructed within a main channel having approximately a 30 foot bottom and 2:1 side slopes. The main channel will be meandered sufficiently to be able to duplicate the gradient of the inplace channel. Meanders of the low flow channel from one side of the main channel to the other will be accomplished in a distance of approximately 100 feet. The low flow channel meander will be sinusoidal. Riffles will be constructed at 100 foot intervals half way between the sinusoidal peaks of the low flow channel. The riffles can be created by end dumping Class "A" riprap into the low flow channel to form a dike approximately 1 foot deep. Horizontal drains, channel lining and large rock will be the same as for channel change "A".

Proposed channel change "D" will be approximately 350 feet long. A low flow channel with about a 10 foot wide bottom will be constructed within a main channel having approximately a 35 foot bottom and 2:1 side slopes. The gradient of the inplace channel will be duplicated. Meanders, riffles, channel lining, rip rap and horizontal drains will be the same as for channel change "C". The proposed channels will contain the flow resulting from a 50 year storm.

The depth of the main channel will be controlled by the elevation of the natural ground as it exists now as the channel bottom elevations of the inplace channel will be duplicated in the new channel. Generally, the elevation of natural ground at the location of the proposed channel is higher than the banks of the inplace channel so the depth of the proposed channel will be greater than that of the inplace channel. In the event of flooding, the flood plain would be virtually the same under proposed or existing conditions.

Impacts - Construction of the 7150 feet of channel change will have a temporary adverse effect on aquatic habitat, aquatic life, and riparian species of wildlife. Even though water will not be diverted into the channel changes until the appropriate mitigation features have been incorporated, some aquatic life in the lengths of abandoned channel will be lost. Food organisms, invertebrates, will be scarce until the channel changes have stabilized. Biological organisms are expected to quickly repopulate the channel changes and the quantity and quality of aquatic life will return to the preconstruction state.

Other impacts including erosion, sedimentation, chemicals, and accidents are discussed on pages 21.05 and 21.06.

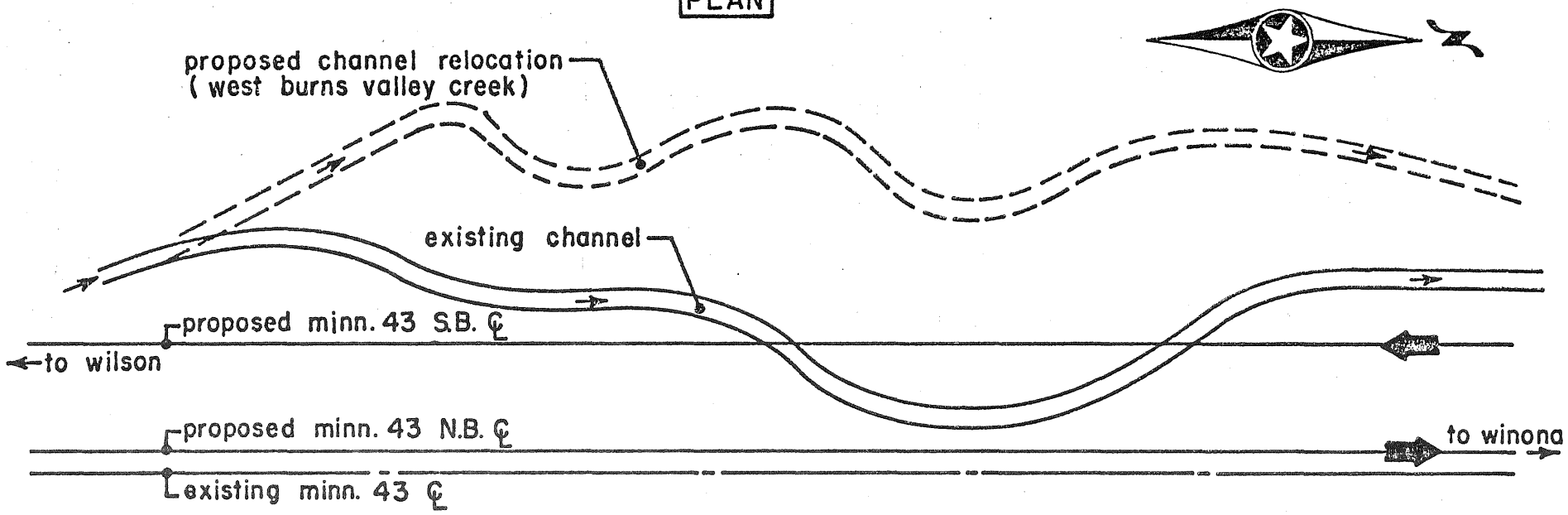
Mitigation Measures - Specific channel change mitigation measures as well as general water related mitigation features are described on pages 21.06 and 21.07.

Additional stream modification information is contained in the Water Quality Report referred to on page 5.01.

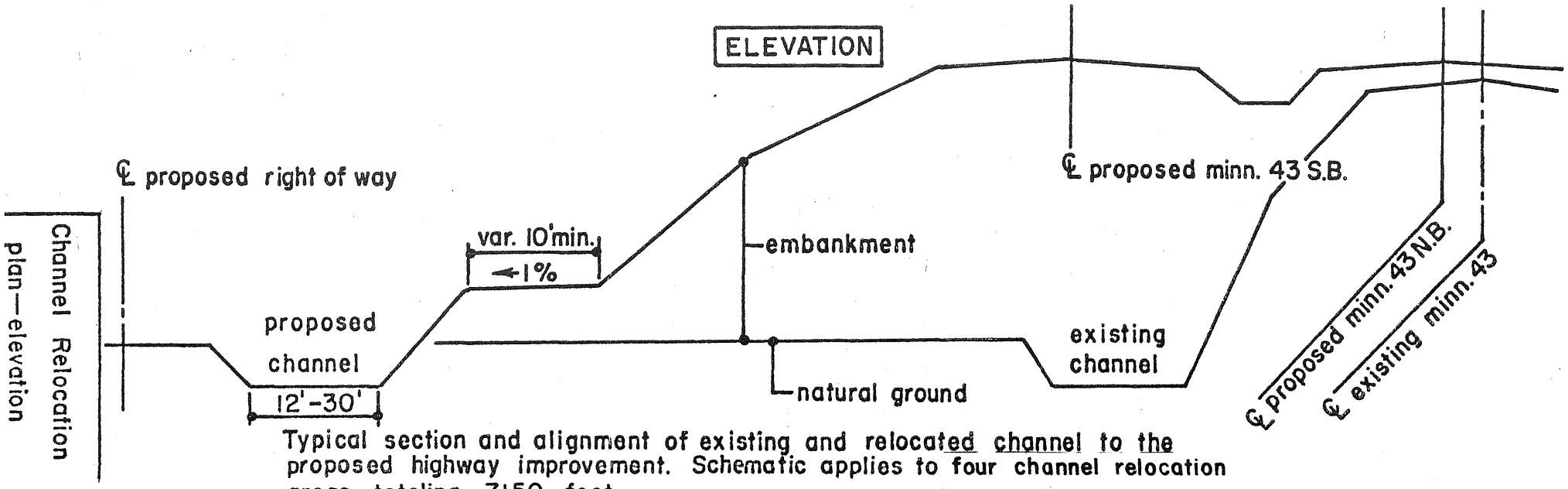
Conclusion - By recognizing the adverse impacts associated with the proposed action, constructing mitigating features, monitoring water quality, and being prepared to arrest undesirable conditions, adverse impacts will be minimized. As a result of these actions, the proposed action will be completed without any long term adverse stream effects.

TYPICAL CHANNEL RELOCATION

PLAN



ELEVATION



Typical section and alignment of existing and relocated channel to the proposed highway improvement. Schematic applies to four channel relocation areas totaling 7150-feet.

G. Construction Impacts

During construction of the action, borrow areas will be needed for embankment material. Borrow sites shall be left in a neat and presentable condition. All borrow areas shall be returned to a condition suitable for previous land use.

As the potential for erosion is greatest during construction, the latest erosion control measures as established by the Mn/DOT will be used. Temporary erosion controls, such as berms, dikes, dams, sediment basins, fiber mats, netting, gravel mulches, grasses and slope drains to effectively prevent erosion shall be employed by the contractor.

Construction of the channel changes will create approximately 7150 feet of new creek channel and fill in about 7150 feet of the existing channel. Even though the new channel will be constructed to duplicate the existing channel, the change will be disruptive to aquatic life and riparian species of wildlife.

An area of approximately 210 acres will be disturbed during construction. About 175 acres of that area can be considered as wildlife habitat. All disturbed earthen areas will be fertilized, seeded, and mulched concurrently with earthwork finishing operations. Disruption of the area will force the resident wildlife to compete for the use of other habitat areas until the revegetation matures sufficiently to provide suitable habitat. The temporary loss of wildlife habitat is not expected to exceed one year at any location.

H. Permits

In addition to local and state permits, the action will require a Corps of Engineers 404 Permit. This permit is required whenever fill material is placed in navigable waters or contiguous wetlands. With the construction of this action, fill material will be placed in West Burns Creek and the existing channel relocated outside the roadway embankment. See page 26 for a description of fish life in West Burns Creek.

I. Wildlife Habitat

There will also be a direct loss of wildlife habitat and a resultant decrease in the area's wildlife resource.

J. Snow and Ice Controls

The proposed project will increase the Minn. 43 lane mileage in the Burns Valley Watershed from 11 lane miles to 22.5 lane miles. Winter maintenance of this additional lane mileage could increase the amount of deicing chemicals entering the waters of Burns Valley Creek, the East and West tributaries to the creek and the Mississippi River.

The Minnesota Department of Transportation uses sodium chloride (rock salt) almost exclusively as the chemical additive to the sand-chemical deicing mixture used in winter road maintenance. The chloride from the sodium chloride appears in the highway runoff and receiving streams and in large concentrations can be detrimental to the water users of the receiving streams.

The winter conditions and deicing application rates of 1974-75 were applied to the Burns Valley Watershed to provide an estimate of the increased chloride concentration in the receiving waters created by the proposed project. The estimated average annual concentration for existing and proposed conditions are as follows:

Location	Estimated Chloride Concentration, mg/l	
	Before Construction	After Construction
West Burns Valley Creek at Jct. of Minn. 43	11	22.5
West Burns Valley Creek at Jct. of East Burns Valley Creek	15	30.4
Burns Valley Creek at Jct. of C.S.A.H. 17	15	30.5

The above values are average values that would occur until May 1, when all of the salt would be dissipated. These average values will be exceeded periodically during actual conditions. Also, these values are based only on the Mn/DOT salt usage and does not reflect other possible salt sources.

The estimated chloride concentrations are well below the reported tolerable chloride concentration limits for fish, fish food organisms, industrial consumption, and human consumption. It is not expected that the periodic increases in chloride concentration in the waters adjacent to the proposed project will have a noticeable effect on the areas water users.

K. Weed and Brush Control

Presently, minimal spraying is performed along highway right of way. Generally only one spot spraying operation is done per year using 2-4-D for annual broad leaf weeds and Tordan for Canada Thistle. Also, 2-4-5-T is used for brush control. The effects of intermittent spraying of spot locations is difficult to quantify however, it is anticipated that this limited spraying will have a minimal effect on the total ecosystem.

L. Flood Hazard Evaluation

East and West Burns Valley Creeks - Flood hazard effects were evaluated by computing 50 and 100 year flood stage elevations at several locations on the subject creeks and comparing the existing and proposed roadway cross sections to those elevations. This evaluation revealed that the 100 year flood will be contained in the channel or its immediate vicinity at most locations, including the channel relocation areas. The proposed roadway will only encroach on the flood plain for a length of about 400 feet. The encroachment is located in Section 34 of Winona Township and is at the outer extremity of the flood plain. The depth of flow at the encroachment is less than 2 feet. The slight encroachment will have an inconsequential effect on flood stage elevations. No increase in flood damage potential will result from the proposed project.

Mississippi River - The Mn/DOT has and will continue to coordinate the proposed project with the U.S. Army Corps of Engineers to insure compatibility with their Mississippi River Flood Control Project at Winona. As a result of this coordination, the roadway elevation at the junction of CSAH 17 will be raised 2.5 feet. A dike will tie into the proposed expressway at the CSAH 17 junction and under flood conditions the proposed roadway will act as a flood control dike. The proposed project will therefore help protect the City of Winona from river flooding.

SECONDARY IMPACTS

As a result of the proposed project using an existing transportation corridor and perpetuating present traffic patterns secondary impacts are expected to be minimal. Current land use planning by the City and County of Winona recognize the proposed project and foresee no major resulting changes.

The project may however induce or slightly accelerate area growth, primarily urban and suburban development. Such acceleration may occur as the result of safer and faster access provided by the proposed project. Impacts from increased development could include loss of agricultural land, woodland and wildlife habitat. Aesthetic and natural terrain features could be altered and natural vegetation reduced. Increased development would also increase the demand for urban services. These secondary impacts will be minimized by city and county land use planning and zoning.

Construction of the proposed project will require the use of energy in the form of fuel for construction materials, operations, and equipment. The proposed expressway will however enable vehicles to be more fuel efficient by allowing travel at steadier speeds than are possible on the existing roadway.

Secondary impacts will also result from Mn/DOT snow and ice control and weed and brush control operations. The effects of these activities are discussed on pages 22 and 22.01.

Additional secondary impacts on water quality are discussed in the "Water Quality Report". These include effects from the use of fertilizers, hazardous spills from traffic accidents, and changes in sediment transport. These impacts are expected to be inconsequential.

V. STEPS TAKEN TO MINIMIZE ADVERSE ENVIRONMENTAL EFFECTS

Planners and designers have taken steps to minimize environmental degradation during project planning and such measures will continue during construction. Recommendations from Federal and State agencies as well as local governmental units have been and will be considered in planning and construction of this improvement. The contractor will be required to secure and comply with all permits and licenses necessary for the construction of this project.

Latest property ownership maps have been reviewed to determine the location of connecting roads and frontage roads to reduce the severance of property and circuitous travel.

The extent of the rock cut on the preferred West Burns route has been minimized by reducing the roadway separation in that area to 47 feet. Stability, erosion control, and establishment of vegetation are major concerns in the rock cuts.

Measures taken to reduce siltation are described in the Standard Specifications for Highway Construction published by the Minnesota Highway Department. These specifications require that whenever earthwork operations are located in or adjacent to flowing streams and rivers, such areas will be separated from the main stream by a dike or other barrier that will keep sediment from entering the flowing water. Care will be taken during construction and removal of such barriers to minimize muddying of the stream.

Noise, air, water and solid waste pollution will conform with Federal and State regulations and standards during and after construction of this proposed improvement. The Highway Department uses a number of methods to dispose of trees and brush. One of the following methods will be used on this project:

---The material obtained from the clearing and grubbing operation will be burned if burning permits can be obtained. State, County and local ordinances will be observed if burning permits can be obtained.
---If this is not possible, then the material will be buried on the project beyond the roadway construction limits.
---If there is insufficient room to bury the material and it cannot be burned, then the material will be hauled to a land fill for disposal.

Most construction debris (concrete, masonry and metals) can be buried in the fill. Lumber and other organic material will have to be disposed of in the same manner as the material obtained from the clearing and grubbing operation.

All new and disturbed earthen areas will be fertilized, seeded, and mulched. Exposed slopes steeper than 3 to 1 will be seeded with a special mixture consisting of legumes, grasses, and sumac which will establish itself in stages. The first stage germinates in fourteen days, in four weeks some growth will be seen, and in two months there should be enough growth to stabilize the slope. The channel slopes will be seeded with a different seed mixture consisting of legumes and grasses. This mixture should germinate and stabilize the channel slopes in approximately the same time as stated above. Seeding operations will be performed as soon as possible after completion of earthwork operations.

Consultation with the Minnesota Historical Society revealed seven archaeological sites all of which have been disturbed to such an extent that they do not warrant further consideration. See the State Historic Preservation Officer's letter on pages 36.35 and 36.36. If objects of archaeological or paleontological nature are discovered within the areas of construction, appropriate officials of the State Historical Society under established procedures will be contacted to preserve the discovered objects or record the desired data.

Where agreeable with adjacent landowners, abandoned sections of old T.H. 43 will be obliterated to a state that is compatible with surrounding land use.

Specific mitigation features which will be incorporated in the channel change construction include using bottom and side materials similar to the inplace materials, duplicating the inplace gradient and length, constructing meanders and low flow channels, riprapping the outside bends of meanders, randomly placing 10" to 16" diameter rocks in the channel bottom, recreating riffles and pools, and constructing horizontal drains at springs.

VI. ALTERNATIVES

Five alternate designs considered for Minn. 43 from Wilson to Winona were:

Alt. 1 West Burns Valley Route (Selected Alternate)
Alt. 2 Middle Route
Alt. 3 East Burns Valley Route
Alt. 4 Do Nothing
Alt. 5 Two Lane with Truck Lane

Alternates 1, 2 and 3 would provide a level of service A in the rural area and a level of service B in the urban area. Alternate 4 would continue to provide a low level of service of C to D. Alternate 5 would provide level of service C in the rural area and level of service B in the urban area. See Route map on page 38 for orientation. After a thorough evaluation of all facts including public hearing testimony, alternate 1 has been selected.

A. West Burns Valley Route - Alt. 1 (Selected Alternate)

1. Location: Proposed Minn. 43 follows the existing Minn. 43 alignment for most of its 6.5 miles. Near I-90 at Wilson, the proposed southbound and northbound roadways have a centerline separation of 84 feet for 2 miles. Then, a 47 foot centerline separation with a V-ditch is provided as Minn. 43 descends the West Burns Valley to the West Burns Valley Creek bridge. The centerline separation then widens to 84 feet until near Winona where it is 46 feet wide with a raised median. The undivided proposed four lane north of U.S. 61 on Mankato Avenue in Winona will have a 38 foot wide centerline separation.

2. Right of Way: Basic proposed right of way total width is 284 feet. Total right of way needs include 65 acres of existing Minn. 43 right of way and 135 acres of new right of way.

3. Environmental Impacts: Aspects of the environment along Minn. 43 include:

   a. Farm operations - Construction of Minn. 43 involves acquiring 75 acres of tillable farm land and 55 acres of woodland from 31 farms. Two of the farms, one about ½ mile north of Wilson and one about 1½ miles south of Winona, would have their homes acquired and are eligible for relocation assistance, as explained on pages 19 and 20.

      Of the 75 acres of tillable land involved, 28 acres (37%) is located within 1½ miles of Wilson. The average width of the new right of way is 155 feet in this area. The seven farms in this area vary from 40 acres to 155 acres. Therefore, the average farm of 100 acres would be reduced in size about four acres (4%). This impact in farm size and income is not expected to force changes in ownership or type of operation.

The farm, 1½ miles south of Winona, would have its size reduced from 382 acres to 368 acres (14 acres tillable and all of its farm outbuildings). This also represents a 4% reduction in its size but with 368 acres remaining, it could continue to operate from a new cluster of outbuildings and house if the owner desires.

The 55 acres of woodlands are scattered throughout the project with about 30 acres (55%) near the West Burns Valley Creek where Minn. 43 descends the valley. Oak, ash and birch are the predominant species.

b. land severance - By use of ownership maps during route location, land severance was held to a minimum. Of the 69 acres that would not have access to Minn. 43, 14 acres (20%) would have access by traveling an additional one mile or less on county or township roads. Ownership of the other 55 acres may change.

c. displacement of urban properties - Two businesses, a cheese store and a gas station located south of U.S. 61, would be acquired with the five acres of residential and commercial land in Winona. The other business, an office and shop for the quarry operation, located midway on Minn. 43, is expected to relocate on adjacent properties. Relocation assistance will be provided to these businesses as well as the other individuals as explained on pages 19 and 20.

d. channel realignment - As shown on the Route Map on page 38, 7150 feet of West Burns Valley Creek would be realigned as Minn. 43 descends the valley. The realignment will include meandering the channel and restoring it to its natural appearance and elevation. The upper limits of the existing creek flows at a very low level during some periods, 0.5 cfs. observed July 13, 1976. The high rocky terrain on the east side of Minn. 43 and the close proximity of the existing West Burns Valley Creek on the west side in this area, control the channel realignment areas.

The type of fish life in West Burns Creek are minnows of the following species: white sucker, long noise dace, black nose dace, creek chub, brassy minnow, fat head and stone roller. Water cress is plant life found occasionally in this creek. Insect life in the creek includes fresh water shrimp, may fly and caddis fly. West Burns Creek is not a designated trout stream.

e. wildlife habitat - The main species of wildlife in the area are deer, mink, fox, grouse, and squirrel. No threatened or endangered species are involved. The surrounding Richard J. Dorer Memorial Hardwood Forest as shown on page 3, may provide habitat to some wildlife displaced by the loss of 55 acres of woodland habitat.

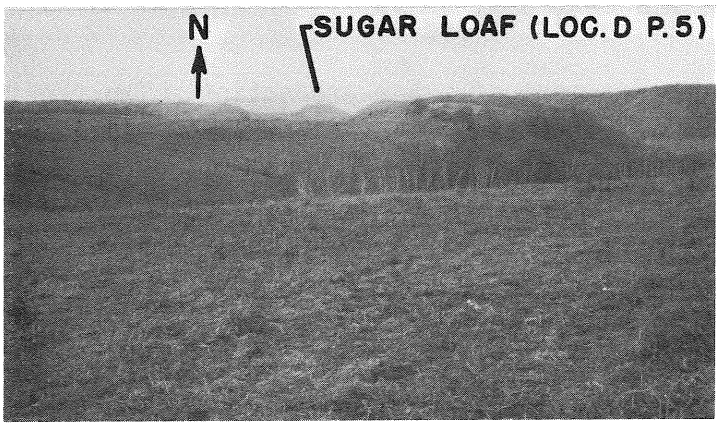
f. community service - Improved Minn. 43 will reduce travel time by 18%* for such community services such as fire, mail, and school bus service, work, social and shopping trips. Two proposed residential developments adjacent to Minn. 43 and Glen View Road near Winona revised their plats to fit proposed Minn. 43, thus avoiding disruption.

g. turnback of existing Minn. 43 - A 0.7 mile segment of existing Minn. 43, located about 3/4 mile south of Winona, will provide access to six houses. This frontage road will be turned back to local units of government upon completion of Minn. 43 construction. This turnback is less than alternate 2 (4.5 miles) and alternate 3 (5.2 miles).

h. land use - See land use map on page 37 for details.

B. Middle Route - Alt. 2

1. Location: This alternate is common with alternate 1 to about 1¼ miles north of Wilson as shown on the Route Map on page 38 It then leaves the existing Minn. 43 and veers northeasterly with a 84 foot centerline separation following the top of the bluff which is between the West and the East Burns Valleys. The route then descends the bluff along a ravine as shown in this picture in Wilson Township.



Looking northeasterly toward Winona on Alternate 2 and viewing the proposed wide median.

* See page 18 for computations.

The maximum centerline separation is 1000 feet in this area and then narrows to 84 feet wide near Glen View Road in Winona where it coincides with the alternate 1 urban alignment.

2. Right of Way: Total right of way width for the rural area varies from 284 feet to 1200 feet and requires 40 acres of existing Minn. 43 right of way and 280 acres of new right of way.

3. Environmental Impacts: Aspects of the environment along this alternate include:

   a. farm operations - Construction on this alignment would require 175 acres of tillable farm land, 100 acres of woodland, and three farmsteads. The 11 farms involved vary in size from 40 acres to 300 acres. Therefore, the average farm of 150 acres would be reduced in size about 25 acres (16%). The alignment traverses diagonally through the Winona Sanitary Landfill and would reduce its size by ten acres. Virtually all of the woodlands are located in the wide 1000 foot centerline separation area as shown on the Route Map on page 38 . Farm income would be reduced more than with alternate 1, since alternate 2 requires 100 (175-75=100) acres more of tillable land.

   b. land severance - Seven farms would experience severance and require additional travel distance to farm their triangular shaped parcels. The usefulness of these parcels would be reduced due to the increased costs of travel and their irregular shapes. Forty acres would also be landlocked with no access.

   c. displacement of urban properties - The cheese store, the gas station, and six residential homes would be relocated.

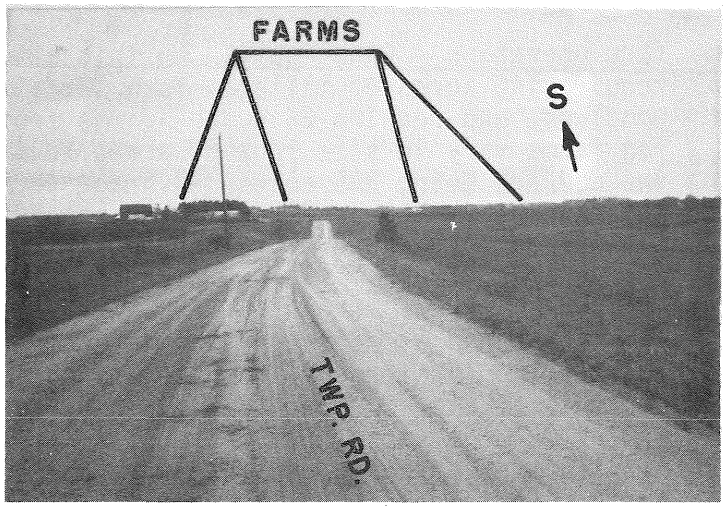
   d. channel realignment - none is required.

   e. wildlife habitat - Same species as alternate 1, but since this alternate requires 145 acres more right of way than alternate 1 (280-135=145); the wildlife habitat would experience a greater impact.

   f. community service - Even though Minn. 43 would be 0.4 mile shorter than alternate 1, the fewer number of cross overs would cause more circuitous travel and inconvenience. Also, sanitary landfill vehicles would have a two mile long five percent gradeline to contend with.

   g. turnback of existing Minn. 43 - A 4.5 mile segment of existing Minn. 43, located about 1½ miles north of Wilson to the Winona Corporate Limits would be turned back to local units of government to provide access to West Burns Valley residences.

h. land use - The existing land use along the southerly three miles is farming as shown in the following photo:



Looking southerly on Alternate 2 from the top of the bluff.

Since about 4½ miles of alternate 2 is on new alignment, changes in land use or ownerships may be accelerated. New developments generally follow the relocated traffic volumes. This would result in the "loss of privacy".

i. comparisions to other alternates - see tabulated summary on page 33 for additional data.

C. East Burns Valley Route - Alt. 3

1. Location: This alternate is common with alternate 1 to about ½ mile north of Wilson as shown on the Route Map on page 38 The route then veers easterly through a scenic wooded ravine with steep slopes for two miles. The centerline separation is a basic 84 foot width for the entire rural segment. For the next three miles, the alignment continues in a northerly direction following a Wilson Township Road and Winona County Road 105 in the East Burns Valley. Near the urban area of Winona, alternates 1, 2 and 3 coincide with existing Minn. 43.

2. Right of Way: Total right of way width is a basic 284 feet except where the exposed rock face (see Route Map on page 38 requires a 500 foot width. Construction of alternate 3 would

require 35 acres of existing Minn. 43 right of way and 205 acres of new right of way.

3. Environmental Impacts: Aspects of the environment along this alternate include:

   a. farm operation - Construction on this alignment would require 145 acres of tillable farm land, 55 acres of woodland, and require 28 outbuildings from six farmsites. Ten farms vary in size from 60 acres to 400 acres with the average being 205 acres. Average farm size for alternate 1 is 100 acres and alternate 2 is 150 acres. On alternate 3, farms would be reduced in size an average of 20 acres (10%).

   b. land severance - Due to the large farm sizes and access to existing local roads, land severance would be a very minimal, if any.

   c. displacement of urban properties - Same number of urban businesses and homes as alternate 1.

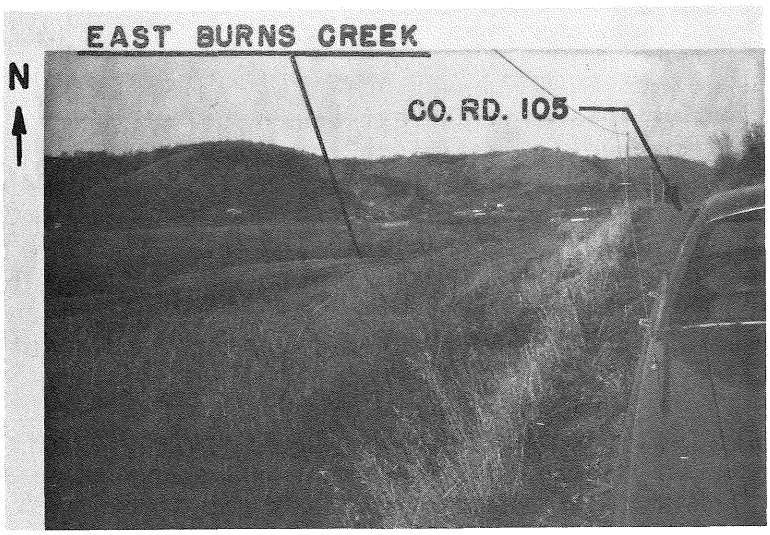
   d. channel realignment - Due to the close proximity of the East Burns Creek, 9500 feet of channel realignment would be undertaken as shown on the Route Map on page 38 Also, four bridges would be required to cross East Burns Creek where as alternates 1 and 2 required only two bridges. East Burns Creek is a designated trout stream.

   e. wildlife habitat - Same as alternate 1 and results in 45 acres less of woodlands required than alternate 2.

   f. community service - Minn. 43 would be 6.2 miles long as compared to 6.5 miles for alternates 1 and 4, and 6.1 miles for alternate 2. Community Services would be improved to residents of the East Burns Valley.

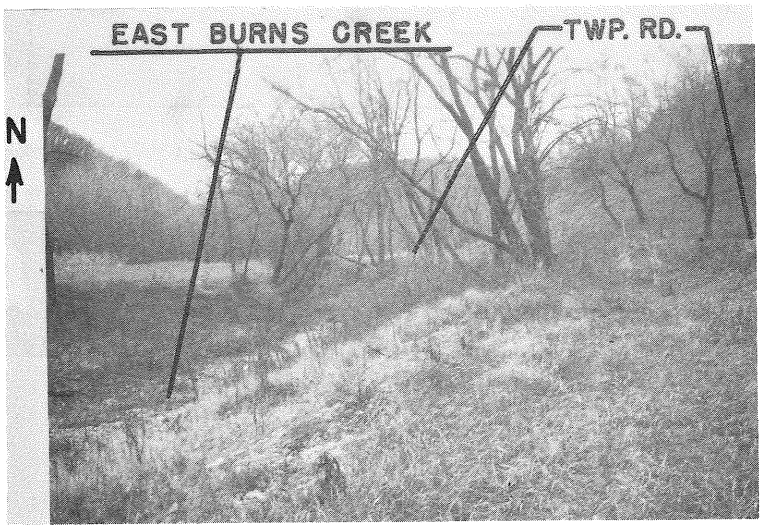
   g. turnback of existing Minn. 43 - A 5.2 mile segment, or 80% (5.2÷6.5 miles), of existing Minn. 43 would be turned back to local units of government. Since 2.9 miles of existing Wilson Township Road and Winona County Road 105 would be obliterated, the net gain in road miles to local authorities would be 2.3 miles. This is 1.6 miles more (2.3-0.7 miles) of turnback than alternate 1.

   h. land use - As shown on the Route Map on page 38 and land use map on page 37 , alternate 3 for its southerly three miles is a wooded ravine with several smaller side ravines. The next three miles is suitable for farming since it is rather level and located in the valley. East Burns Valley is wider than West Burns Valley and is closer to Winona.



Looking towards Winona from Alternate 3.

Several residential homes have been constructed in this scenic and peaceful East Burns Valley. The scenic value includes wooded slopes, farmsites dotting the landscape, and the East Burns Creek. See the following picture.



Typical East Burns Valley scene, at the upper end of the valley.

D. Do-Nothing

This would involve retaining the existing two lane, undivided roadway without any improvement. Some minor improvements such as a resurfacing, truck climbing lane and wider shoulders would be expected at some future date.

This alternate is not considered appropriate because the roadway would be deficient in such things as surface width, shoulders and passing opportunities all of which restrict the capacity and safety of the roadway.

With truck traffic increasing due to the increased capacity of the grain terminals at Winona, the present roadway would be restricted to lower axle loads during the spring. Increased truck traffic would also mean more vehicles attempting to pass other vehicles on a road that has very poor sight distance. The level of service and running speed would continue to decrease with the projected 1998 traffic volumes.

E. Alt. 5 Two Lane Roadway With Truck Lane

1. Location: Alternate 5 has the same alignment as alternate 1 as shown on page 38. That is, it follows the existing Minn. 43 alignment for most of its 6.5 miles. Alternate 5 differs from alternate 1 in that it provides a 4.9 mile segment of two lane roadway from I 90 near Wilson to about the center of Section 34 near Winona. A southbound truck lane is also provided from one mile north of I 90 to 0.3 mile south of the bridge over West Burns Valley Creek, a distance of 2.9 miles. Alternates 1 and 5 are identical (four lanes) from near the center of Section 34 to the junction with U.S. 61.

2. Right of Way: Basic proposed right of way total width is 200 feet. Total right of way needs include 65 acres of existing Minn. 43 right of way and 97 acres of new right of way.

3. Environmental Impacts: Aspects of the environment along Minn. 43 include:

   a. farm operations - Construction of Minn. 43 involves acquiring 47 acres of tillable farm land and 45 acres of woodland from 31 farms. One farmstead which is located about 1½ miles south of Winona would be acquired. That farm would have its size reduced from 382 acres to 374 acres (8 acres tillable and all its farm outbuildings.). This represents a 2% reduction in its size but with 374 acres remaining, it remains an economical size unit.

      Of the 47 acres of tillable land involved, 17 acres (36%) is located within 1½ miles of Wilson. The seven farms in this area vary from 40 acres to 155 acres. Therefore, the average farm of 100 acres would be reduced in size about 2½ acres (2½%).

      The 45 acres of woodlands are scattered throughout the project. Woodland distribution is identical to that of alternate 1, that is, about 55% being near the West Burns Valley Creek.

   b. land severance - Land severance would be similar to that of alternate 1. Four areas totaling 72 acres would be landlocked without access provided to the highway.

   c. displacement of urban properties - Same number of urban businesses and homes as alternate 1.

   d. channel realignment - West Burns Valley Creek would be realigned in the same general areas as required by alternate 1. Alternate 5 however, would require 6200 feet of channel realignment as compared to 7150 feet for alternate 1.

   e. wildlife habitat - Same species as alternate 1, but this alternate requires 38 acres less right of way than alternate 1.

f. community service - Improved Minn. 43 would reduce the travel time from Winona to I 90 because two traffic lanes would be provided for southbound traffic on 4.5 miles of the 6.5 mile route. Northbound travel time would be reduced only a small amount since 4.9 miles would be a single traffic lane. Using the computation method explained in the footnote on page 18 provides southbound and northbound travel time reductions of 13% and 4% respectively.

g. land use - Same land use as alternate 1.

4. Safety

Alternate 5 would be safer than the existing highway or alternate 4, but not as safe as alternates 1, 2 and 3. The desirable safety features (horizontal and vertical curves, flat slopes, desirable widths, and clear zone) associated with the 70 M.P.H. design speed of alternate 5 would be somewhat neutralized by the many roadway section changes. Starting at the south limits of the project and proceeding north the sequence of roadway sections would be: four lane divided, two lane undivided, three lane undivided, two lane undivided, and four lane divided. Such section changes are undesirable from the safety viewpoint, because they are not normal for a rural highway and are therefore unexpected by motorists.

TABULATED SUMMARY

1. West Burns Valley Route (Selected Alternate)
2. Second Alternate (Middle Route)
3. East Burns Valley Route
4. Do Nothing Alternate
5. Two Lane with Truck Lane

	ALTERNATE				
	1	2	3	4	5
Maximum S.B. & N.B. separation (feet)	84	1000	84	--	46
Total acres right of way required	200	320	240	65	162
Existing Minn. 43 right of way (acres)	65	40	35	65	65
Additional right of way (acres)	135	280	205	0	97
Tillable farm land (acres)	75	175	145	0	47
Wooded (acres)	55	100	55	0	45
Average farm size (acres)	100	150	205	100	100
Residential/Commercial land in Winona (acres)	5	5	5	0	5
Residences displaced	9*	6*	9*	0	8*
Farmsites affected**	2	3	6	0	1
Unoccupied outbuildings (garage, sheds, etc.)	17	12	28	0	13
Businesses displaced	3	2	3	0	2
Minn. 43 length (miles)	6.5	6.1	6.2	6.5	6.5
Turnback of existing Minn. 43 (miles)	0.7	4.5	5.2	0	0
Local roads obliterated (miles)	0	0	2.9	0	0
Net gain to local authority (miles)	0.7	4.5	2.3	0	0
Channel realignment (feet)	7150	0	9500	0	6200
Annual tax loss	$11,600	$11,400	$12,500	0	$9,500

* Three residences have been purchased.

** Included in "residences displaced" and "unoccupied outbuildings" tabulations.

Basis For Selecting Alternative 1

Alternative 1 was selected as the best means of providing a fast, safe, and efficient transportation system after a careful evaluation of studies, reports, hearings, meetings, comments and discussions. Reasons for selecting alternate 1 include the following:

1. Utilizes the existing trunk highway corridor and will not change commercial traffic patterns.

2. Requires less land conversion to highway use than alternates 2 or 3.

3. Requires less total and additional right of way than alternates 2 or 3.

4. Requires less tillable farmland than alternates 2 or 3.

5. Requires less woodland than alternate 2.

6. Affects fewer farmsites than alternates 2 or 3.

7. Results in less roadway turnback than alternates 2 or 3.

8. Results in less channel relocation than alternate 3.

9. Results in nearly the same channel relocation as alternate 5.

10. Provides a better level of service than alternates 4 or 5.

11. Provides a safer facility than alternates 4 or 5.

12. Provides a more uniform roadway (consistant number of traffic lanes) than alternate 5.

13. Estimated costs are reasonable, within 6% of alternates 2 or 3.

14. Provides a greater improvement in safety and level of service per dollar of cost than alternate 5.

15. Is consistant with public and agency opinion.

Most of the above statements are evident from the tabulation contained on page 33.

Project Costs

Estimated project costs are tabulated below. Construction costs were estimated on a per mile basis using data developed from contour maps, profiles, cross sections, etc. Right of way costs were estimated on an acreage basis from costs of right of way in similar terrain in southeastern Minnesota.

	ALTERNATE			
	1	2	3	5
Construction Cost	$10,460,000	$9,800,000	$10,700,000	$7,500,000
Right of Way	615,000	605,000	660,000	500,000
Total Initial Cost	$11,075,000	$10,405,000	$11,360,000	$8,000,000

VII. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Adverse environmental effects which cannot be avoided or abated to acceptable levels:

Removal of trees in wooded areas and loss of wildlife habitat.

Effects minimized by corrective measures:

1) Displacement of people
2) Acquisition of buildings
3) Acquisition of farm and developed land
4) Obliteration of a used portion of a quarry
5) Exposure of rock faces
6) Channel relocations
7) Borrow material locations

VIII. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF ENVIRONMENT AND LONG-TERM PRODUCTIVITY

The highway improvement should produce long-term productivity (gains) as follows:

---Provide an improved transportation facility (Minn. 43) from I-90 to Winona consistent with the long range systems planning.

---Reduces existing highway conjestion and lessen the potential future traffic conjestion and accident potential.

---Remove heavy concentration of highway traffic in the urban area with a four-lane facility.

Environmental losses that will be realized as a result of this improvement are:

Short term: Relocating families, of which three have been already relocated.

Disturbance of a 210 acre area resulting in loss of vegetation and increased erosion potential.

Relocation of 7150 feet of creek channel and associated disturbance of aquatic habitat.

Disruption of 175 acres of wildlife habitat.

Long term: Conversion of existing agricultural land to highway right of way.

Short term gains of improved safety and transportation efficiency will not offset the short and long term environment losses. Long term gains in safety, transportation efficiency, and area productivity should however, outweigh environmental and short term productivity losses. Since the project utilizes an existing transportation corridor and the secondary impacts are expected to be minimal, the proposed project will not significantly effect the options of future generations.

IX. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Land that will be converted from existing uses (residential-farm-land-forest) to highway use will be a commitment of a resource. This commitment is potentially irreversible but there does remain the possibility of being retrievable if the highway should ever be abandoned.

Trees lost during construction, wildlife habitat, labor, fuels and materials expended for the construction are irreversible and irretrievable commitments of resources.

The highway will not provide access to currently non-accessible areas and therefore, should not promote extensive development of adjacent lands.

X. IMPACT ON PROPERTIES AND SITES OF HISTORIC AND CULTURAL SIGNIFICANCE

The Minnesota Historical Society has reviewed the project area for effects on archaeological, historical, architectural and cultural features. That review revealed seven archaeological sites, five of which are too thin and thoroughly cultivated to warrant further consideration and two which have been disturbed by erosion, demolition, and cultivation to an extent which precludes their nomination to the National Register of Historic Places.

The State Historic Preservation Officer, by letter dated August 25, 1976 (contained on pages 36.37 and 36.38) stated that there are no sites in the project area which are included in or eligible for inclusion in the National Register of Historic Places and therefore, none which may be affected by the proposed development. The SHPO further stated that the review complies with their obligations under the National Historic Preservation Act and the Regulations of the National Advisory Council on Historic Preservation.

XI. COMMENTS AND COORDINATION

During the corridor and design studies, a number of comments or objections to the Minn. 43 improvement were called to the attention of the Minnesota Highway Department. Individuals and governmental bodies split their support between all the alternate routes with Alternates 1 and 3 receiving more support than Alternate 2. The City of Winona favored Alternate 1 while the County of Winona, Wilson Township and Winona Township favored Alternate 3.

Post Draft EIS comments included a proposal from the Winona Highway 43 Committee which recommended a two lane rural section, a four lane undivided urban section, an interchange at the U.S. 61 junction, and traffic signals at the CSAH 17 and Minn. 43 intersection.

At the Location/Design Public Hearing held on June 1, 1976, individuals questioned four lane needs, traffic counts, and several design features as median widths, intersection designs, grades, design speed, and access. Individual preferences were divided between Alternate 1 and a two lane alternate. The City of Winona reconfirmed its support of Alternate 1. The Winona Area Chamber of Commerce also reemphasized its support of a four lane alternate.

The proposal and questions mentioned above and comments from other agencies led to the inclusion of a two lane alternate (Alternate 5) in the Final EIS.

List of References

1) "City of Winona, Land Use Plan", City Planning Office, June, 1972.

2) "City of Winona, Transportation Plan", City Planning Office, 1972.

3) "Economic Base and Population Study for Winona County", Nason, Wehrman, Knight and Chapman, Inc., July, 1968.

4) "Winona County Atlas", Title Atlas Company, Inc., Minneapolis, Minnesota, 1973.

5) "Winona County Zoning Ordinance", Nason, Wehrman, Knight and Chapman, Inc., Undated.

INDEX OF DRAFT ENVIRONMENTAL IMPACT STATEMENT RESPONSES

AGENCY	AGENCY COMMENTS	Mn/DOT REPLY
U.S. Department of the Interior		
Office of the Secretary	p. 36.03	p. 36.06
National Park Service	p. 36.08	p. 36.10
Department of the Army Corps of Engineers	p. 36.11	p. 36.13
U.S. Department of Agriculture		
Forest Service	p. 36.14	p. 36.15
Advisory Council On Historic Preservation	p. 36.16	p. 36.18
U.S. Environmental Protection Agency	p. 36.19	p. 36.22
Minnesota Department of Natural Resources	p. 36.24	p. 36.27
City of Winona	p. 36.30	p. 36.32
Department of Health, Education & Welfare	p. 36.33	NONE
Department of Transportation		
U.S. Coast Guard	p. 36.34	NONE
Federal Aviation Adm. - Great Lakes	p. 36.35	NONE
Federal Aviation Adm. - Minneapolis	p. 36.36	NONE
Minnesota Historical Society	p. 36.37	NONE

United States Department of the Interior

OFFICE OF THE SECRETARY
NORTH CENTRAL REGION
230 S. DEARBORN STREET, 32nd FLOOR
CHICAGO, ILLINOIS 60604

ER 76/433 June 15, 1976

Mr. E. Dean Carlson
Division Administrator
Federal Highway Administration
Metro Square Building
Seventh and Roberts Streets
St. Paul, Minnesota 55101

Dear Mr. Carlson:

This responds to the Minnesota Department of Highways' request for Department of the Interior comments on the draft Environmental Impact Statement for Minnesota Route 43, Winona County, Minnesota.

GENERAL COMMENTS

1. The environmental statement does not sufficiently consider all alternatives nor describe the effects of the alternatives on the existing natural environment, specifically the impacts upon fish and wildlife habitat. Although there has been consultation with the Minnesota Department of Natural Resources, there is a need for continuing consultation with that agency in determining potential environmental impacts and mitigation measures prior to determination of final road design for Minnesota Route 43.

SPECIFIC COMMENTS

II. Proposed Highway Action

2. Page 10, Improved Safety Features - Although the posted speed of reconstructed Minnesota 43 will be 55 m.p.h., the flatter horizontal and longer vertical curves of the 70 m.p.h. design may increase the amount of acreage needed for right-of-way. Designing for speeds of 55 m.p.h. possibly could lessen the impact of highway construction on wildlife and wildlife habitat along the chosen corridor. We ask that such a design alternative be evaluated.

IV. PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

3. Page 21-Natural, Ecological or Scenic Resources - This discussion indicates that approximately 55 acres of woodland would be lost to highway construction.

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

In addition to the economic loss of the 55 acres of woodland, project construction would destroy 55 acres of wooded wildlife habitat in the area.

4. Page 21, Stream Modification - The discussion of stream modification should indicate that the 6,800 feet of channel realignment proposed in the preferred alternate will constitute a loss of habitat for fish and riparian specis of wildlife. Instream improvements such as low-flow channel threads, meanders, rocks in the stream, riprap on the bends, and natural pool-riffle arrangements should be included in the final channel design to enhance the quality of the realigned channel.

5. Page 22, Water Quality - This section indicates that both branches of Burns Creek are intermittent. Minnesota Department of Natural Resources personnel working in the area refute this statement. They have indicated that West Burns Creek is a highly rated trout stream. In view of the above, considerations of water quality preservation while construction is occurring, should be more extensive.

6. Page 22, Construction Impacts - Construction of this highway section involves substantial quantities of borrow procurement and spoil disposition. The final statement should describe the probable locations and acreages involved.

VI. ALTERNATIVES

7. Page 26, West Burns Valley Route - The discussion of wildlife habitat in the preferred West Burns Valley Route indicates that the surrounding Minnesota Memorial Hardwood Forest will provide habitat to any wildlife that may be affected by proposed highway relocation. It should be indicated that the overall effect would be a loss of 55 acres of wooded wildlife habitat. All areas of the Minnesota Memorial Hardwood Forest presently provide habitat for various wildlife species and this project will decrease the habitat base of the surrounding forest area by 55 acres.

8. Pages 27 and 28, Middle Route - The discussion indicates a variation of centerline separation from 84 to 1,000 feet. The need for this 1,000-foot separation should be explained since it necessitates exposure of rock face and disturbance to many additional acres of woodland. An investigation should be made of the feasibility of a Middle Route alignment in which approximately 8,000 feet of the southbound lane is shifted closer to the northbound land in Sections 3 and 4 of Winona Township. This alignment may negate the necessity for exposure of rock face and the 1,000-foot centerline separation. The Middle Route is less costly and does not require creek realignment with resulting fishery habitat destruction; therefore, thorough consideration of all variations of a Middle Route alignment as a possible alternative should be made.

9. Page 29, Land Use - The discussion of land use indicates that since approximately 4 1/2 miles of Alternate 2 (the Middle Route) would be on new alignment, changes in land use or ownership may be accelerated. This change would not

be unique to Alternate 2 since acceleration of land use changes would follow the reconstruction of nearly any two-lane highway to four-lane expressway status.

Section X. Impact on Properties and Sites of Historic and Cultural Significance

10. Page 36 - It is noted elsewhere in the statement (page 24) that six archeological sites are known to exist in the vicinity of the project and that a further study for additional data will be conducted. This further study should include a professional archeological survey of all areas which would be disturbed during project development.

Any archeological or historic sites which would be affected in any way by the proposed project should be evaluated for inclusion on the National Register of Historic Places in accordance with the Procedures for the Protection of Historic and Cultural Properties set forth in 36 CFR Part 800.

Sincerely yours,

for David F. Jones

Madonna F. McGrath
Acting Special Assistant
to the Secretary

cc: Minnesota Dept. of Highways

REPLY TO: United States Department of the Interior - Office of the Secretary

1. Alternate 5 (two lane with truck lane) has been added, see pp. 32.01 and 32.02. Additional impacts on fish and wildlife are described in the expanded Water Quality, Stream Modification, and Construction Impacts sections, see pp. 21.05, 21.06, 21.09, and 22. Coordination with the Mn/DNR began in 1972 and will continue through project construction, see p. 21.08.

2. Current Mn/DOT and AASHTO standards require a 70 mph design speed. Design speed is the maximum safe vehicle operating speed based on the physical features of the highway. However, other factors such as driver's condition, weather, surface conditions, traffic and vehicle condition may often reduce the safe vehicle operating speed. From a safety viewpoint, it is therefore desirable to have a higher design speed than speed limit. Recent statistics on highway accidents show a substantial reduction in fatalities when posted speeds are below design speeds.

   If a 55 mph design speed were used, horizontal curves could be sharper and vertical curves could be shorter. The changes in construction limits would however, be so minor that the same amount of right of way would be required as for the 70 mph design speed.

3. Statement revised to include the loss of wildlife habitat, see p. 21.

4. Stream modification section has been expanded, see pp. 21.08-21.11. The proposed channel realignment will constitute a disruption of habitat rather than a net loss of habitat because the new channel will be constructed before the existing channel is filled in. The instream improvements suggested will be included and are described on pp. 21.08 and 21.09.

5. The description of East and West Burns Valley Creeks has been expanded, see pp. 21-21.05. West Burns Valley Creek is a low flow spring fed tributary of East Burns Valley Creek which is a perennial stream. West Burns Valley Creek is not a trout stream. East Burns Valley Creek is a trout stream only above its junction with West Burns Valley Creek. An expanded discussion of water quality preservation measures is contained on pp. 21.06 and 21.07.

6. Possible borrow sites include two areas located southerly of the proposed project in Sections 34 and 35 of Winona Township. The combined acreage of the two sites is about 40 acres. The land use is in transition from unused agriculture to urban. No spoil disposition areas should be needed.

7. Statement revised as suggested, see p. 26.

8. The 1,000 foot roadway separation was used to minimize earthwork and distrubance of the terrain. Grade and topography constraints

dictate that the roadway be placed on the hillside or on large amounts of fill. Because the subject segment is located on new alignment, a notch in the hillside does not exist upon which the roadway could be placed. Because of the grades and sidehill slopes, placing both roadways together on one side of the valley would increase the amount of earthwork required. Excavation and embankment quantities would increase substantially resulting in increased cost and additional adverse effects on the surrounding environment.

9. Acceleration of land use changes may result from alternate 1, 2, 3, or 5. However, since alternate 2 has the greatest length of new alignment, it would cause the largest amount of immediate land use change.

10. The State Historical Preservation Officer has surveyed the project area and determined that no archeological sites exist which warrant further consideration. Section X has been updated. The State Historic Preservation Officer's review concludes that no sites in or eligible for inclusion in the National Register will be effected. See pp. 36 and 36.37.

United States Department of the Interior

NATIONAL PARK SERVICE
MIDWEST REGION
1709 JACKSON STREET
OMAHA, NEBRASKA 68102

IN REPLY REFER TO:

L7621 MWR CL

MAY 20 1976

Road Design Engineer
Department of Highways
State of Minnesota
St. Paul, Minnesota 55155

Dear Sir:

Thank you for your notice concerning the following proposed project: S. P. 2736-18(T.H. 101), Minn. Proj. M 5400, proposed culvert replacement 1.3 miles north of Chanhassen on T. H. 101 over Purgatory Creek, Hennepin County; S. P. 8502-07 (T.H. 43), Minn. Proj. RF-U-042-1, from Interstate 90 at Wilson to U. S. 61 in Winona, Winona County.

No established or studied Units of the National Park System would be affected by this proposed project. No eligible sites for registration as National Historic, Natural or Environmental Educational Landmarks are involved. Accordingly, we have no objections to the performance of this work as related to this area.

1. However, we do suggest that you consult the State Historic Preservation Officer appointed by the Governor of Minnesota for the National Register of Historic Places, for information concerning this program of the Historic Preservation Act of 1966 (P.L. 89-665) as it may be influenced by the proposed construction.

The State Historic Preservation Officer for Minnesota is Mr. Russell W. Fridley, Director, Minnesota Historical Society, 690 Cedar Street, St. Paul, Minnesota 55101.

2. As one of the concerns of the National Park Service is archeological studies, we feel that some thought should be given to archeological resources in project planning. As the proposal develops we will be concerned that action is

JOHNNY HORIZON 76

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taken or proposed to determine whether archeological resources are present in the construction area. If feasibility evolves and detailed project studies are undertaken, recommendations and proposed actions resulting from a professional archeological survey should be included in considerations of impacts upon the cultural environmental values.

Sincerely yours,

Merrill D. Beal

Merrill D. Beal
Regional Director

J.S. Kutz - A Pint

REPLY TO: United States Department of the Interior - Natural Park Service

1. The State Historic Preservation Officer has reviewed the project area and determined that no sites in or eligible for the National Register will be effected. See page 36.37.

2. The State Historic Preservation Officer has surveyed the project area and determined that no archeological sites exist which warrant further consideration. See pp. 36 and 36.37.

   If additional archeological objects or sites are encountered during construction, appropriate action will be taken as discussed in the "Steps taken to Minimize Adverse Environmental Effects" section on page 24.

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

IN REPLY REFER TO

NCSED-ER

19 May 1976

Mr. Paul G. Velz
Road Design Engineer
State of Minnesota
Department of Highways
St. Paul, Mn. 55155

Dear Mr. Velz:

This letter responses to your 22 April 1976 letter concerning the following environmental impact statement (EIS):

330
FHWA-MN-EIS-76-02-D
Draft Environmental Impact Statement for
Minnesota Route 43 in Winona County
Minnesota Project RF-U 042-1( )
State Project 8502
From: Interstate 90 at Wilson
To: U.S. 61 in Winona

The attached comments relate to the referenced draft EIS. We appreciate the opportunity to review the document and request that you send us a copy of the final EIS when it becomes available.

Sincerely,

DEPUTY

FORREST T. GAY, III
Colonel, Corps of Engineers
District Engineer

1 Incl
as

CF:
Ms. Katherine Penn
Council on Environmental Quality
Executive Office of the President
722 Jackson Place, N.W.
Washington, D.C. 20506

RJ Larson
FJ Schloegel
A. Huthine

1. 1. Page 10, Paragraph 3: Since the national speed limit is 55 mph, the reasons for designing the highway for a 70 mph speed limit should be explained. How would the design of the project differ if a 55 mph criteria was used?

2. 2. Page 26, Paragraph e: This paragraph appears to imply that displaced individuals of certain species of wildlife will emigrate from the project area into the surrounding habitat. It should be recognized that intra and interspecific competition between these individuals and those already inhabiting the Minnesota Hardwood Forest would result in the eventual loss of the organisms displaced from the project area assuming the surrounding habitat is at or near its carrying capacity.

3. 3. The impacts associated with the use of deicing materials, particularily potential affects on water quality and vegetation, should be discussed in more detail.

Incl 1

REPLY TO: Department of the Army - Corps of Engineers

1. See reply number 2 on page 36.06.

2. The wildlife habitat section on p. 26 has been revised to indicate that the surrounding forest may provide habitat to some wildlife displaced by the loss of 55 acres of woodland habitat.

3. The use of deicing materials will not have a significant effect on water quality or vegetation, see p. 22.01. For additional discussion of deicing materials see the "Water Quality Report" pp. 64-67.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
NORTHEASTERN AREA, STATE AND PRIVATE FORESTRY
6816 MARKET STREET, UPPER DARBY, PA. 19082
(215) 596-1671

8400
June 8, 1976

Mr. Paul G. Velz
Road Design Engineer
State of Minnesota
Department of Highways
St. Paul, Minnesota 55155

Refer to: 330, FHWA-MN-EIS-76-02-D, Draft Environmental Statement, MN, Route 43, Winona County

Dear Mr. Velz:

Some aspects of the description of environmental impact of the above project are not completely clear to us. The final statement should contain more information on these conditions:

1. Amount of cut and fill for roadbed, and consequent effects on vegetation.
2. Mitigation of construction effects, including revegetation of slopes not steeper than 3 to 1 (p. 24).
3. Coordination with the Minnesota Department of Natural Resources including input on the effect of the alternatives on basic stream qualities such as sediment yield and fishery habitat.

Alternate 1 appears to have the least effect on woodland as it uses an existing right-of-way.

4. Portions of construction debris, particularly metals, should be recycled if it is economically possible. Removal of topsoil before construction, and replacement on the fill, would make it easier for trees to grow on it.

Thank you for the opportunity to review this Draft Statement.

Sincerely,

DALE O. VANDENBURG
Staff Director
Environmental Quality Evaluation

RJ Larson
FJ Schlageter
WH Huffman

REPLY TO: United States Department of Agriculture - Forest Service

1. Total estimated amounts of cut and fill including borrow are 1,000,000 cy. and 1,600,000 cy. respectively. About 210 acres of existing vegetation, including 40 acres of borrow area, will be disturbed.

2. Additional discussions of mitigation techniques are contained in the "Water Quality Report" referred to in Foreward page 5.01. Included are temporary erosion control items (bale ditch checks, bale diversions and sediment basins), permanent erosion control (topsoil, fertilizer, seed, sod and mulch), administrative control, revegetation and natural streambed material and pool-riffle sequences.

   Slopes not steeper than 3:1 will be seeded, fertilized and mulched. The straw type mulch will be disc anchored.

3. Minnesota Department of Natural Resources (Mn/DNR) comments on the Draft EIS are contained on 36.23 thru 36.25. The Mn/DNR was relied upon heavily in the preparation of the "Water Quality Report". Copies of Mn/DNR stream survey reports are included in Appendix B of the "Water Quality Report". Coordination with the Mn/DNR began in 1972 and will continue through construction, see p. 21.08.

4. Mn/DOT contract specifications allow recycling of construction debris but do not require it. The contractor will be encouraged to recycle debris and materials when possible. The specifications however, allow the contractor several choices of disposition.

   Mn/DOT contract specifications require the contractor to remove and stockpile topsoil and then to use it for topsoil covering to depths shown in the plans. Topsoil depths of 4 inches and 6 inches for rural and urban areas respectively will be specified for the proposed project.

Advisory Council
On Historic Preservation
1522 K Street N.W.
Washington, D.C. 20005

July 9, 1976

Mr. Paul G. Velz
Road Design Engineer
Department of Highways
State of Minnesota
St. Paul, Minnesota 55155

Dear Mr. Velz:

Thank you for your request of April 22, 1976 for comments on the environmental statement for Minnesota Route 43, Winona County, Minnesota, (FHWA-MN-ES-76-02-D).

Pursuant to our responsibilities under Section 102(2)(C) of the National Environmental Policy Act of 1969 and the Council's "Procedures for the Protection of Historic and Cultural Properties" (36 C.F.R. Part 800), we have determined that your draft environmental statement mentions properties of cultural and/or historical significance; however, we need more information in order to evaluate the effects of the undertaking on these resources. Please furnish additional data indicating:

1. (a) Compliance with Executive Order 11593 of May 13, 1971 (16 U.S.C. 470). The environmental statement must demonstrate that either of the following conditions exists:

   1. A property eligible for inclusion in the National Register of Historic Places is not located within the area of environmental impact, and the undertaking will not affect any such property. In making this determination, the Council requires evidence of consultation with the appropriate State Historic Preservation Officer and evidence of an effort to ensure the identification of such properties. The Council recommends that comments of the State Historic Preservation Officer be included in the final environmental statement.

   2. A property eligible for inclusion in the National Register is located within the area of environmental impact, and the undertaking will or will not affect any such property. In cases where there will be an effect, the final environmental statement should contain evidence of compliance with the Executive Order through the Council's "Procedures for the Protection of Historic and Cultural Properties" (36 .C.FR. Part 800).

The Council is an independent unit of the Executive Branch of the Federal Government charged by the Act of October 15, 1966 to advise the President and Congress in the field of Historic Preservation.

2. (b) To ensure a comprehensive review of cultural and historical resources, the Advisory Council recommends that the environmental statement contain evidence of contact with the appropriate State Historic Preservation Officer. A copy of his comments concerning the effects of the undertaking upon these resources should be included in the environmental statement.

Should you have any questions on these comments or require any additional assistance, please contact Charles Spilker of the Advisory Council staff (202-254-3380).

Sincerely yours,

Myra F. Harrison

Myra F. Harrison
Acting Director, Office of Review
and Compliance

REPLY TO: Advisory Council on Historic Preservation

1. The "Impact on Properties and Sites of Historic and Cultural Significance" section page 36 has been updated and includes the results of the Minnesota Historical Society's review. The State Historic Preservation Officer has determined that no sites in or eligible for nomination to the National Register will be affected by the proposed project.

2. A copy of the State Historic Preservation Officer's comments are contained on pages 36.35 and 36.36.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

RE: 76-039-424
D-FHW-F40063-MN

JUN 25 1976

Mr. Paul G. Velz
Road Design Engineer
State of Minnesota
Department of Highways
St. Paul, Minnesota 55155

Dear Mr. Velz:

We have completed our review of the Draft Environmental Impact Statement (EIS) for Minnesota Route 43 in Winona County, which was transmitted to us with your letter of April 22, 1976. We have environmental
1. reservations about the adverse impacts associated with the stream realignment that is part of the project and believe the Final EIS should specify mitigation measures that will be employed to reduce these impacts. We offer the following comments for your use in developing the Final environmental document.

Water Quality

2. Our reservations with the proposed project focus on the potential stream modification impacts. East Burns Creek is classified by the State as a "Designated Trout Stream". Considering the availability of other feasible alternatives, we concur with the Minnesota Department of Natural Resources (DNR) that Alternate 3, which would involve 9500 feet of channelization along East Burns Creek, is unacceptable.

3. Alternate 1 would involve stream modification of 6800 of West Burns Valley Creek. We understand from the State DNR that with proper management, West Burns Valley Creek has potential as a trout stream. Therefore, mitigation measures that will enhance the quality of the realigned channel and safeguard against adverse impacts associated with highway runoff are appropriate and should be detailed in the Final EIS.

4. Coordination with the U. S. Fish and Wildlife Service and Minnesota DNR should be evident in the Final EIS to ensure incorporation of the proper mitigating measures into project design. The State DNR has indicated

5. to us that construction of a desiltation basin below the rock quarry adjacent to Alternate 1 would reduce both impacts of highway runoff and quarry fines on the stream. We believe this suggestion has considerable merit and is a suitable counterbalance to the adverse impacts associated with stream modification.

Air Quality

6. The EIS states that the air quality impact of the proposed improvement has been analyzed and that it is not expected to be significant. Evidence of this determination should be presented in the Final EIS. In this case, the detail of air quality analysis need only compare with the complexity of the project. Considering the rural character of Minnesota Route 43, roadway carbon monoxide (CO) emissions should be estimated for one receptor located near the segment of highway which will experience highest traffic volumes. This concentration should then be added to background CO levels and the subsequent total figure compared to National Ambient Air Quality Standards. EPA's "Guidelines for Air Quality Maintenance Planning and Analysis Volume 9: Evaluating Indirect Sources" may be helpful in conducting the air quality analysis.

7. The Minnesota Pollution Control Agency/Minnesota Highway Department Memorandum of Understanding referred to on page 20 should be explained. The conditions of the Memorandum and criteria used to determine if a highway is covered by the agreement should be specified.

Noise

8. The EIS indicated that presently there are no noise sensitive areas where predicted 1997 noise levels will exceed the applicable design noise standards. The Final EIS should include information on the methodology and parameters (light vehicle and truck traffic) used in the noise analysis for the proposed highway as well as an illustrated map of the 70 dBA contour. An increase in noise levels greater than 10 dBA can present a
9. significant impact even though applicable standards may not be exceeded. Therefore, existing ambient noise levels along the proposed corridor
10. should be determined and compared to predicted levels. The project's compliance with State noise standards should also be addressed. Finally,
11. local zoning officials should be provided with both recommended standards for noise sensitive land uses and noise contours for the proposed roadway to ensure future compatible land use along the corridor.

Alternatives

Considering the beneficial aspects of using the existing alignment and avoiding the potential significant erosion associated with Alternate 2, Alternate 1 appears to be the more environmentally favorable choice. This determination is made with the assumption that proper mitigating measures will be incorporated into the project to reduce channelization impacts.

JUN 25 1976

In accordance with EPA procedures, we have classified the proposed highway as ER, environmental reservations, and rated the Draft EIS as Category 2, insufficient information. The date and classification of our comments will be published in the Federal Register. If you have any questions regarding our comments, please contact Mr. Gary A. Williams of my staff at 312-353-2307.

We appreciate the opportunity to review the subject document; please send us two copies of the Final EIS when it is filed with the Council on Environmental Quality.

Sincerely yours,

for George R. Alexander, Jr.
Regional Administrator

RJ Larson
EJ Schlaeger
RH Hulfish
T. Halvorsen

REPLY TO: United States Environmental Protection Agency

1. Specific mitigation measures which will be incorporated to minimize channel change and water quality impacts have been included on pages 21.06 through 21.07.

2. Alternate 1 has been selected.

3. Mitigation measures that will be incorporated to enhance the realigned channel and safeguard against highway runoff impacts include: low flow channels, meanders, pools, riffles, duplicating existing streambed materials and gradients, rip rap, bale ditch checks, bale diversions, sediment traps, etc. These features are described in the expanded Water Quality and Stream Modification sections on pages 21 through 21.11.

4. Coordination with the Minnesota Department of Natural Resources (Mn/DNR) began in 1972. The Mn/DNR was also consulted during the preparation of the "Water Quality Report". Mn/DNR comments on the DEIS are contained on pages 36.24 thru 36.26. Coordination with the U.S. Fish and Wildlife Service was initiated by submitting a copy of the Draft EIS to them for review. Comments from the U.S. Fish and Wildlife Service, St. Paul Office are included in the DOI comments on pages 36.03 thru 36.05 as verified by telephone contact with a regional representative of the U.S. Fish and Wildlife Service.

5. As explained in the "Water Quality" section P. 21.07, bale ditch checks and bale diversions will be used. Such installations have been proven to be able to remove 68 percent of the sediment. Sediment basins will also be used where necessary.

   The proposed action will not affect the discharge of quarry fines. Therefore, the Mn/DOT does not intend to construct a sediment basin to control quarry fines. The quarry is a private business on private property whose discharge is not under the authority of the Mn/DOT. A water quality monitoring site (#13 on page 21.01) has been established near the quarry to aid in the evaluation of quarry discharge.

6. The "Air Impact" section on page 20.01 has been expanded as suggested. The peak CO concentrations have been calculated using the EPA Volume 9 screening procedure. The predicted CO concentrations are well below National and State Standards.

7. The Minnesota Pollution Control Agency/Minnesota Highway Department Memorandum of Understanding has been explained in greater detail on page 20.01.

8. The "Noise Impacts" section has been expanded.
   Noise levels were calculated using the method described in NCHRP 117. Parameters used in calculating noise levels include the following:

	DHV	TRUCKS (Semis, trailers, buses)	GRADE
1977:	230-848	4% - 6%	0% - 5%
1998:	520-1426	3% - 5.5%	0% - 5%

Noise contour maps have been included on pages 20.03 and 20.04.

9. Analysis reveals that the maximum L 10 noise level increase will be about 5 dBA.

10. Compliance with state standards is discussed on page 20.02.

11. Coordination with local officials is explained on page 21.

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

DNR INFORMATION
(612) 296-6157

June 9, 1976

Paul G. Velz
Road Design Engineer
Department of Highways
John Ireland Boulevard
St. Paul, Minnesota 55155

Re: 330 FHWA-MN-EIS-76-02-D,
Draft Environmental Impact
Statement (DEIS) for
Minnesota Route 43 in
Winona County

Dear Mr. Velz:

The Department of Natural Resources (DNR) has reviewed the subject statement and offers the following comments for consideration.

1. Alternative #3, the East Burns Valley Creek route, is unacceptable. Any type of highway improvement through this valley would have negative effects on the trout resource of this designated trout stream.

2. What consideration has been given to the alternative of upgrading and improving the capacity and safety of Minnesota Route 43 (M43) without building a four-lane expressway? Could there be intermediary design standards for something between the current M43 and a new expressway?

3. The 1974 condition rating survey for M43 points to structural deficiency and the need for improvement. Are these ratings based on a 70 mile per hour (mph) design speed? What would the rating for the present M43 be based on a 55 mph design speed?

4. The DEIS states that the new road is to be designed for a 70 mph design speed. If the road were designed for the legal 55 mph design speed, would there be less right-of-way requirement, thus less encroachment in the West Burns Creek channel?

5. What other modifications of the proposed road design, such as sidehill cutting, could be employed to reduce encroachment on the specific one and a quarter mile stretch over the creek channel.

6. The DEIS should have provided specific information on topographical, hydrological, and soil differences between the various alternatives to aid in the evaluation process. In addition, answers to such questions as the following should have been provided in the DEIS:

AN EQUAL OPPORTUNITY EMPLOYER

a) What percentage of the West Burns Creek Watershed will be impacted upon? What is the relative source of streamflow in the watershed? Is the streamflow intermittent, ephemeral, or perennial? West Burns Creek is described in the DEIS as a "dry run". Under what conditions does it go dry? Is there any groundwater recharge to the stream; where is it from?

b) What percentage of the total length of stream channel would be impacted or require relocation? What is the stream channel gradient, especially for the reach proposed to be relocated? What is the nature of the channel bed material; what size is it? What is the annual sediment yield, peak discharge, stability of banks, etc? What types of soils are in the watershed, depth to bedrock, erodibility, drainage, etc?

c) The diagram of the proposed channel relocation (page 22) shows road fill material placed to the stream bank. What assurances are there that re-vegetation alone will prevent erosion of this unconsolidated material and prevent increased sedimentation of the stream? How would the channel walls be stabilized, especially for periods of high flow? What type of material is proposed for the new stream bed? What are the design flows for the new creek section? Will there be any road surface drainage into the streams?

If "water will be diverted to short segments of the new channel as they are completed", how will it be diverted? If by open ditch, how will erosion be controlled?

7. The DEIS states that the upper limits of West Burns Creek is considered a dry run because it flows at very low levels during some periods. West Burns Creek should not be considered dry if it provides low flow from spring seepage. West Burns Creek, in fact, has potential for trout management. In addition, page 22 indicates that East Burns Creek is intermittent. This is not true; East Burns Creek is <u>not</u> intermittent and is a <u>highly rated</u> designated trout stream. In addition, watercress is only occasional, <u>not</u> common in West Burns Creek as noted on page 26.

8. The DEIS proposes a channel width of 12-30 feet for the realigned portion of West Burns Creek. This would appear to be much too wide for the normal flow of a potential trout stream. The existing stretch of stream below the proposed realignment has an average width of 8 feet and a maximum width of 25 feet. In addition, channel modification should provide for the natural pool ripple exchange, rip-rap on stream bends, and retention of natural meanders or building in meanders wherever possible.

9. The DEIS on page 35 discusses several short-term and long-term environmental losses. However, stream changes were not addressed. This topic should be addressed in the final EIS.

In addition, page 22A discusses chloride concentration changes. The average chloride concentration estimates do not appear harmful; however, the peak chloride concentration estimate should be noted. This section should note that the effects, from chlorides, on the lower food chain and water quality are unknown. In addition, rust inhibitors added to salt deicing mixtures could provide serious detrimental effects to fish and many aquatic organisms since many of these inhibitors are toxic in low quantities.

10. The DEIS notes that trees and brush are to be disposed of through burying or burning. Some of the material could possibly be utilized as forest products.

11. The DEIS lists improved safety as a beneficial environmental effect. However, the average number of accidents for M43, 3.3 per million vehicle miles (pmm) is only 10 percent greater than that for the state average. In addition, a time savings of 90 seconds does not appear to be a very significant beneficial effect.

12. The data on page 8 indicate that through traffic will increase from approximately 16 percent to 45+ percent by 1997. Supporting data should be presented since the DEIS notes that approximately 15 percent of persons employed in Winona do not reside in the city and that the number of commuters, in the future, should increase. From the traffic data presented on page 8, it appears that traffic is essentially city/commuter oriented. In addition, the existence of a four-lane expressway would encourage residential development outside of the city limits of Winona at a rate faster than presently occurs, thus removing more land from agricultural production.

13. Department of Natural Resources and Minnesota Highway personnel toured the project area in August of 1972. As noted in DNR's letter of November 20, 1972 to Paul G. Velz, "....MHD District Design personnel assured DNR representatives that the major portion of the channel relocation of West Burns Creek could be eliminated by a minor shift of alignment." It does not appear that the concept presented at that time has been embodied into the preferred alternative.

14. Conclusions

Of the three alternatives presented, Alternative #1 appears to be the most feasible and acceptable. However, the Department of Natural Resources would require that the following mitigation measures be implemented to offset the losses incurred from realignment of 6800 feet of potential trout stream, as outlined in Alternative #1.

1. All channel modifications must provide for the natural pool/ripple exchange.
2. Natural meanders be retained or built into the realignment project wherever possible.
3. Rip-rap be utilized on bends.
4. Channel widths be reduced from those noted in the DEIS.
5. A desiltation basin be constructed immediately below the rock quarry.
6. All of the above mitigation measures be located, constructed and conform to specifications as determined by DNR, Region V, personnel in Rochester.

The Department of Natural Resources is ready and willing to provide the technical information necessary to insure that the required mitigation proposals are properly implemented. If you have any questions on this matter, please contact us.

Sincerely,

Jerome H. Kuehn
Planning Administrator

JHK:al
cc: Robert Herbst
Clarence Buckman
Dick Myshak
Bob Story
PERT Members

R J Larson
C P Rockemeyer
F E Schlogel
W H Mathias

REPLY TO: Minnesota Department of Natural Resources

1. Alternative 1 has been selected.

2. Alternative 5, a two lane roadway with a truck lane has been added to the report, see pages 25 thru 34.

3. Condition ratings are independent of design speed. Therefore, lowering the design speed to 55 mph would not change the condition rating.

4. Reducing the design speed to 55 mph would not reduce the amount of right of way and channel change required. The resulting changes in construction limits would be very small. Also see reply number 2 on page 36.06.

5. Encroachment on the creek channel could be reduced by cutting into the sidehills and shifting the roadway away from the creek or by constructing a retaining wall between the roadway and the creek to contain the inslopes. Cutting into the hillsides would expose an unstable rock formation, the Oneota Dolemite-Jordan Sandstone contact. (A similar situation exists on I-90 in Dakota Valley.) As a result, massive retaining walls or 3:1 backslopes would be required, either of which would be extremely expensive.

   Construction of a retaining wall between the roadway and the creek is estimated to cost 2.5 million dollars.

6. A general insight to the topographical and hydrological differences between the various alternatives is contained in the "Alternatives" section pages 25 through 33. Soil differences between the alternatives are slight, since all five alternatives are closely spaced.

   Subjects questioned in comments 6 a, b, and c are discussed in the expanded "Water Quality" and "Stream Modification" sections on pages 21 through 21.11, except for sediment yield which is discussed below:

   Although sediment yield has not been determined, potential soil losses for three areas of the project were calculated in the "Water Quality Report" pages 30-46 and are listed below.

PROJECT AREA	CROP-MANAGEMENT	SOIL-TYPE	SOIL LOSS TONS/ACRE/YEAR
Southern	Hay Land, Meadow, Pasture	Tama	0.7
	Bare Ground	Tama	169.3
Center	Woodland	Fayette	3.1
	Hay Land, Meadow, Pasture	Fayette	1.5
	Bare Ground	Fayette	384.7
Lower Valley	Hay Land, Meadow, Pasture	Dubuque	0.7
	Bare Ground	Dubuque	169.3

These soil loss rates can be used to estimate sediment yield increases resulting from construction activities. Selecting a location on East Burns Valley Creek where it crosses C.S.A.H. 17 results in a total watershed area of 15.5 square miles, 200 acres of which will be disturbed by construction. Mitigation measures will prevent about 90% of the potential soil loss quantities from entering the streams and the increased potential for soil loss will exist for one year. This analysis indicates that the potential increase in sediment yield could be as much as 27% for a period of one year. The soil loss potential and associated sediment yield will subside as construction is completed and permanent erosion control features become more effective. Within one year after construction, the sediment yield will be about the same as the preconstruction amount because the erosion potential and hydraulic characteristics of the new channels will be similar to those of the existing channels.

7. Incorrect or misleading statements on pages 22 and 26 have been revised.

8. Low flow channels will be 10 feet wide and 1.5 feet deep. Mitigation and enhancement features including pools, riffles, rip-rap, meanders, and low flow channels will be constructed in the channel changes. These features are described on pages 21.08 through 21.11.

9. Relocation of 7150 feet of creek channel has been included as a short term environmental loss on page 35.

   Chloride concentration changes are discussed in greater detail in the "Water Quality Report". Peak chloride concentrations have not been estimated because of the unpredictable variables involved (type of storm, duration, road conditions, temperature, melting rates and stream flows). Because of the low average chloride concentrations, peak concentrations are not expected to cause any significant adverse impacts. Currently, rust inhibitors are not being used with deicing chemicals by the Mn/DOT.

10. Mn/DOT specifications allow disposal of materials off the right of way as approved by the Engineer. The contractor will be encouraged to utilize or recycle materials and debris where possible.

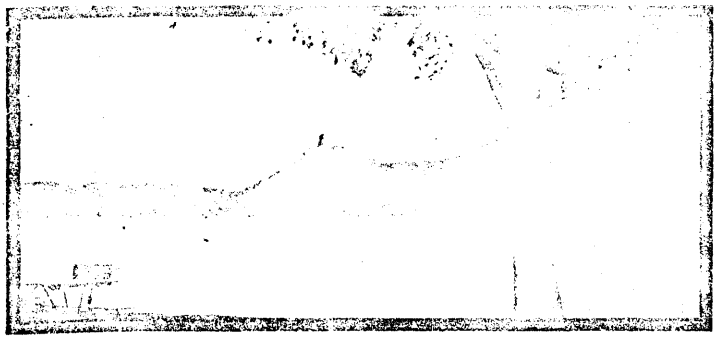
11. The design features of the proposed roadway will make it considerably safer than the average state highway. Therefore, an accident reduction greater than 10 percent is expected.

    The 90 seconds represents an 18 percent reduction in travel time. The time savings for southbound traffic could be considerably greater if the effects of heavy commercial traffic on the existing long grades are considered.

12. Since the circulation of the DEIS, a new traffic analysis, SPAR S-151 B, has been prepared. The traffic volumes on page 8 have been updated. Through traffic percentages cannot be determined directly by dividing the rural volume by the urban volume. Traffic analysis do however, indicate that the volume growth rate in the rural area will be slightly greater than that in the urban area.

13. The 1972 commitment referred to the channel below West Burns Valley Creek bridge. An earlier layout showed an additional channel change downstream from the bridge. As a result of the 1972 meeting, the roadway alignment was changed (requiring the acquisition of one additional residence) and the channel change in that area was eliminated.

14. Mn/DOT agrees to all mitigation measures listed except number 5. The proposed action will not affect the quarry discharge. Therefore, the Mn/DOT does not plan to construct a desiltation basin immediately below the rock quarry. Discharge from the rock quarry is not under the jurisdiction of the Mn/DOT. However, in an effort to further evaluate discharge from the quarry, a water quality monitoring site (#13 page 21.01) has been established near the quarry. Monitoring will be performed before, during and after construction of T.H. 43. If runoff from the proposed action causes a significant increase in siltation, a desiltation basin will be provided.



CITY OF WINONA

CITY HALL · FOURTH & LAFAYETTE
WINONA, MINNESOTA · 55987
TELEPHONE (507) · 452-3550
452-4582 LIBRARY
452-2881 POLICE
452-4612 FIRE

April 29, 1976

Mr. Paul G. Velz
Road Design Engineer
Minnesota Department of Highways
St. Paul, MN 55155

Dear Mr. Velz:

RE: 330 FHWA-MN-EIS-76-02-D, DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR MINNESOTA ROUTE 43 IN WINONA COUNTY, MINNESOTA PROJECT RF-U 042-1, STATE PROJECT 8502 FROM INTERSTATE 90 AT WILSON TO U.S. 61 IN WINONA

The City of Winona herein submits the following comments to the above referenced Draft EIS.

1. On page 16 the Draft EIS refers to two industrial parks being planned by the city. The comments on Riverbend are correct, but the plans on Frog Island are not correct due to the following:

    1. During 1973 Kaiser Engineers did a study for the Winona Port Authority that stated in part that need for the full development of Frog Island Industrial Park did not exist. Therefore, the Winona Port Authority scaled down the planned project to include approximately 60 acres of land located between the permanent dike and the Crooked Slough Channel.

       The city is working with a private developer, Mississippi Development Consortium, to develop a 130 acre industrial park called MDC Airport Industrial Park located north of the mainline Milwaukee Railroad tracks beginning 3/4 mile west of Frog Island and extending westerly to the Airport Industrial Park.

The City of Winona still supports alternate #1, West Burns Valley Route, as best meeting the needs of the City of Winona. The City of Winona's designated sanitary landfill site is located on the ridge top between East Burns Valley and West Burns Valley; T.H. 43 provides the access to this sanitary landfill. T.H. 43 is presently posted each spring for a five ton load limit which creates a real handicapp for the rubbish haulers.

The present surfacing of T.H. 43 is rapidly deteriorating. In the near future the present surfacing of T.H. 43 will not support rubbish trucks which will create a serious problem for the City of Winona. Sanitary landfill sites are very difficult to find in the Winona area; therefore, the city is most anxious to maintain the present site.

The City of Winona is rapidly developing as a major grain exporting port with the area grain being transported to Winona by rail and truck (major percentage is truck) and then shipped by barge down the Mississippi River from Winona.

The City of Winona wholeheartedly supports the construction of T.H. 43 improvements from T.H. 61-14 to I-90 at Wilson due to the need for access to the City's Sanitary Landfill, truck access to Winona from I-90, and a good access from the City of Winona to I-90.

Respectfully submitted,

David R. Sollenberger
City Manager

mk
cc City Engineer

R.J. Larson
R. Klobucher
F. J. Schlorgel
A.H. Hultine

REPLY TO: City of Winona.

1. Description of industrial parks on page 16 has been revised to reflect the existing situation.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGION V
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606

OFFICE OF
THE REGIONAL DIRECTOR

June 2, 1976

Mr. Paul G. Vetz
Road Design Engineer
State of Minnesota
Department of Highways
St.Paul, Minnesota 55155

Dear Mr. Vetz:

Re: Draft Environmental Impactment Statement, Minnesota Route 43 in Winona County, Minnesota, Project RF-U-042-1, State Project 8502

We have reviewed the Draft Environmental Impact Statement for the above project. To our knowledge and based on the information provided, this project will not impact to any significant degree on the health, education or welfare of the population.

Thank you for providing us the statement and the opportunity of reviewing it.

Sincerely,

Robert A. Ford
Regional Environmental
Officer, HEW, Region V

cc: Charles Custard OEA
Warren Muir CEQ
R.J. Larson
F.J. Schlorgel

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

ADDRESS REPLY TO:
COMMANDER (mep)
SECOND COAST GUARD DISTRICT
FEDERAL BLDG.
1520 MARKET ST.
ST. LOUIS, MO. 63103

5922/EIS
20 MAY 1976

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

Dear Mr. Carlson:

We have reviewed the draft environmental impact statement for the Minnesota Route 43 in Winona County, Minnesota, Minnesota Project RF-U 042-1 State Project 8502. We have no comment to offer on this document.

Thank you for the opportunity to review this environmental impact statement.

Sincerely,

J. W. LEADBETTER
Captain, U. S. Coast Guard
Chief, Marine Safety Division
By direction of the District Commander

Copy to:
COMDT (G-WEP-2/73)
DOT SECREP Region V
DOT (tes) Office of Environmental Affairs
CEQ (5)

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

GREAT LAKES REGION
2300 EAST DEVON AVENUE
DES PLAINES, ILLINOIS 60018

APR 26 1976

Mr. Paul G. Velz
Road Design Engineer
State of Minnesota
Department of Highways
St. Paul, Minnesota 55155

Dear Mr. Velz:

We have reviewed the Draft Environmental Impact Statement for Minnesota Route 43 in Winona County, FHWA-MN-EIS-76-02-D, and have no aviation-related comments to offer. We do not require a copy of the Final Environmental Impact Statement.

Sincerely,

KENNETH A. KRAUS
Environmental Officer, AGL-4.5

cc F.J. Schloegel

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Airports District Office
6301 34th Avenue South
Minneapolis, MN 55450

AUG 5 1976

Mr. Paul G. Velz
Road Design Engineer
Department of Highways
St. Paul, MN 55155

FHWA-MN-EIS-76-02-D
DEIS for Minnesota Route 43 in
Winona County,,Minnesota Project RF-U 042-1
State Project 8502

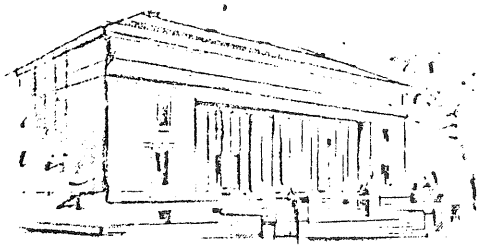
Dear Mr. Velz:

The project listed above has been reviewed by our planning section as per your request of April 22, 1976. It is the finding of this review that the proposed project will not encroach on existing and future airport sites and facilities.

Sincerely,

OREN R. BURCKHARDT
Chief, Planning Section

R.J. Larson
F J Schlogel



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

25 August 1976

Mr. C.P. Kachelmyer
Preliminary Design Engineer
Room 612E
Highway Building
St. Paul, Minnesota 55155

Dear Mr. Kachelmyer:

RE: Final Statement
MHD S.P. 8502-07 & 8503-24 (T.H. 43)
From I-90 near Wilson
To T.H. 61 in Winona

I have received the draft environmental review statement for the project described above. As you are by now keenly aware we have subjected the project to close and careful scrutiny in order to comply with our obligations under the National Historic Preservation Act and the Regulations of the National Advisory Council on Historic Preservation.

More particularly we have surveyed Alternate #1 (layouts 2 and 3). We have determined that there are no historical, architectural, or cultural sites in the project area. It follows, therefore, that there are no such sites in the area eligible for the National Register.

We have also determined that of the seven archaeological sites in the Alternate #1 project area five are too thin and thoroughly cultuvated to warrant further consideration. Although the remaining two sites were at one time potentially eligible for the Register each has been disturbed by erosion, demolition, and cultivation to an extent which procludes their nomination to the Register. Therefore there are no archaeological sites in Alternate #1 project area which are on or are eligible for the National Register.

In sum, there are no sites on or eligible for nomination to the National Register in the area marked Alternate #1 and therefore none which may be affected by the proposed development.

Alternate #2 and #3 of the Draft Environmental Review Statement have not been reviewed by this office. It is our understanding that Alternate #1 is the likely site for highway development. Since this is the case, and since there are no cultural resources in that alighment in which we have an interest, we believe that a review of alternates #2 and #3 to be unnecessary.

Founded 1849 • The oldest institution in the state

We appreciate your long and careful attention to the cultural resource study for this project. We feel absolutely certain that the consequence of building in Alternate #1 will not be the destruction of historic, architectural, archaeological, or cultural sites.

Sincerely,

Russell W. Fridley

Russell W. Fridley
State Historic Preservation Officer

RWF/fr

EIS #610

BEGIN S.P. 8502 (Minn. 43)

Minn. 43

CSAH 21

TWP. RD.

TWP. RD.

Quarry

Sanitary Landfill

ALT. 1-5

ALT. 2

ALT. 3

END S.P. 8502 (Minn. 43)

Minn. 43

Vo.Tech School

US. 61

CSAH 17

INTERSTATE 90

Wilson

Centerville

Town Hall

Valley

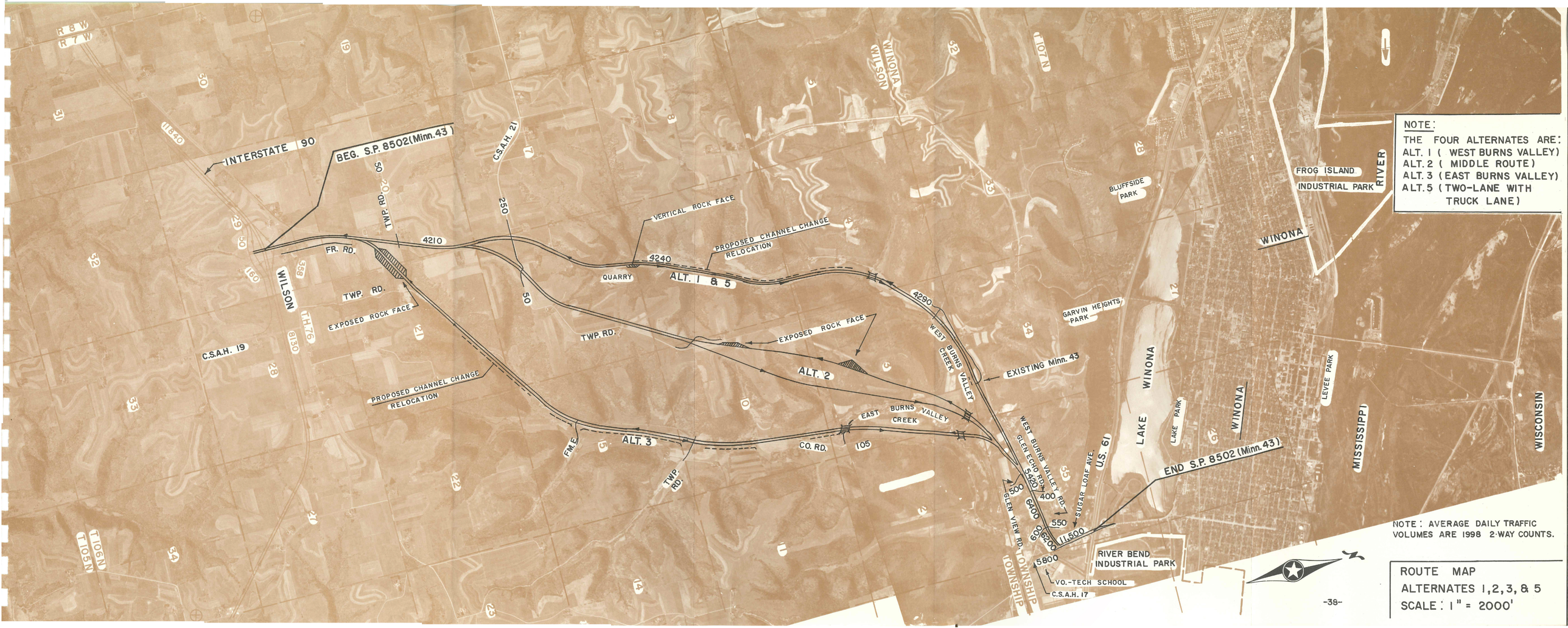
Lake Winona

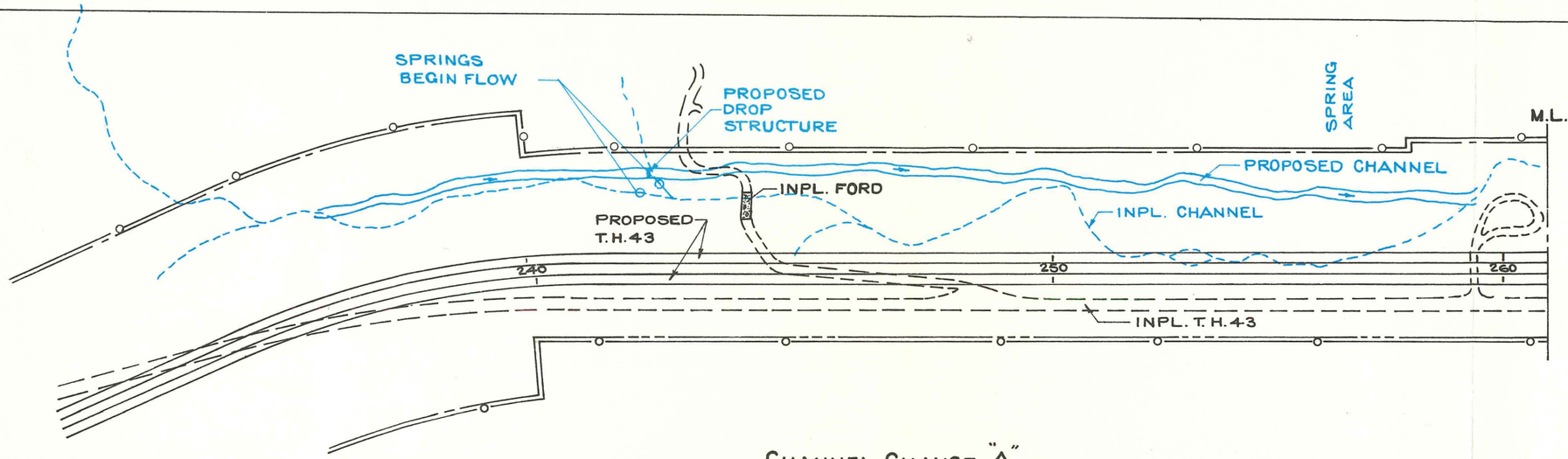
WINONA

LEGEND :

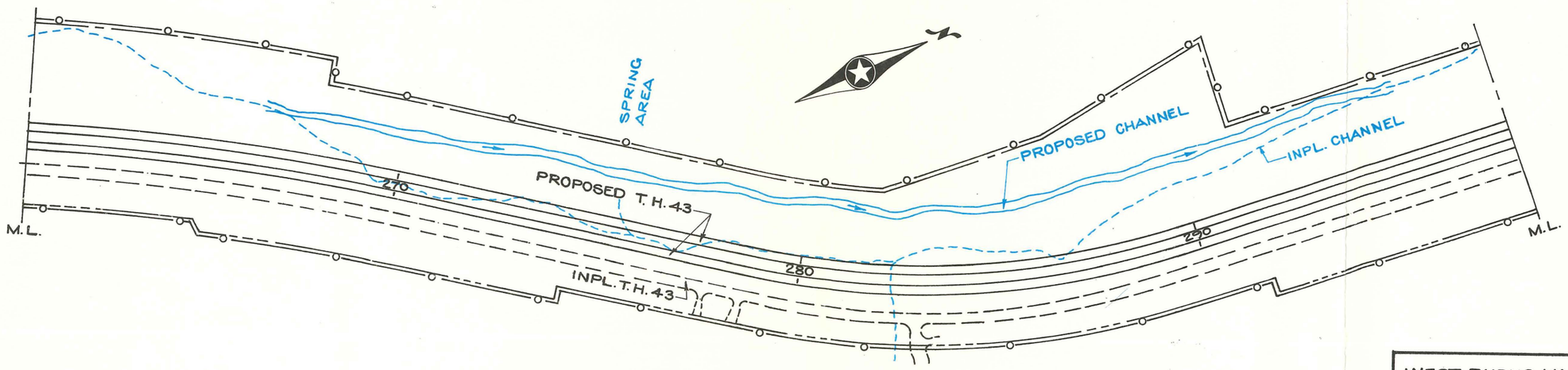
- AGRICULTURAL
- PUBLIC OR INSTITUTIONAL
- COMMERCIAL OR INDUSTRIAL
- RESIDENTIAL
- OPEN OR WOODED

EXISTING LAND USE
ALTERNATES 1,2,3,5
SCALE : 2"= 1 MILE


R 8 W
R 7 W
INTERSTATE 90
BEG. S.P. 8502(Minn. 43)
C.S.A.H. 21
T.W.P. RD.
FR. RD.
4210
VERTICAL ROCK FACE
PROPOSED CHANNEL CHANGE
RELOCATION
4240
QUARRY
ALT. 1 & 5
4290
WILSON
TWP. RD.
EXPOSED ROCK FACE
C.S.A.H. 19
ALT. 2
WEST BURNS VALLEY CREEK
EXISTING Minn. 43
PROPOSED CHANNEL CHANGE
RELOCATION
EAST BURNS VALLEY CREEK
ALT. 3
CO. RD. 105
TWP. RD.
WEST BURNS VALLEY RD.
GLEN ECHO RD. (5420)
GLEN VIEW RD. TOWNSHIP
500
400
6400
550
11,500
6200
5800
SUGAR LOAF AVE.
U.S. 61
LAKE
WINONA
LAKE PARK
WINONA
END S.P. 8502 (Minn. 43)
RIVER BEND INDUSTRIAL PARK
VO.-TECH SCHOOL
C.S.A.H. 17
GARVIN HEIGHTS PARK
BLUFFSIDE PARK
WINONA
FROG ISLAND INDUSTRIAL PARK
RIVER
LEVEE PARK
MISSISSIPPI
WISCONSIN
T 107 N
T 106 N
T 105 N
NOTE:
THE FOUR ALTERNATES ARE:
ALT. 1 (WEST BURNS VALLEY)
ALT. 2 (MIDDLE ROUTE)
ALT. 3 (EAST BURNS VALLEY)
ALT. 5 (TWO-LANE WITH TRUCK LANE)
NOTE: AVERAGE DAILY TRAFFIC VOLUMES ARE 1998 2-WAY COUNTS.
ROUTE MAP
ALTERNATES 1,2,3, & 5
SCALE: 1" = 2000'



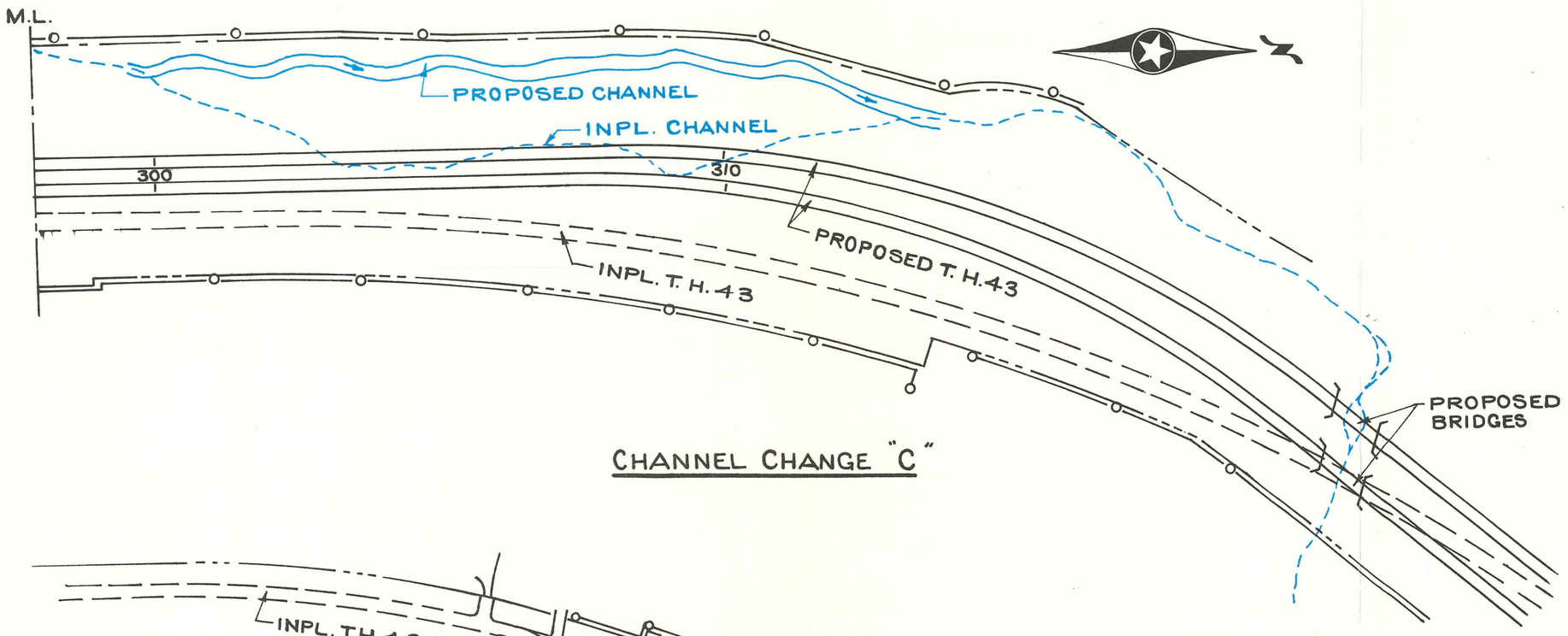
CHANNEL CHANGE "A"



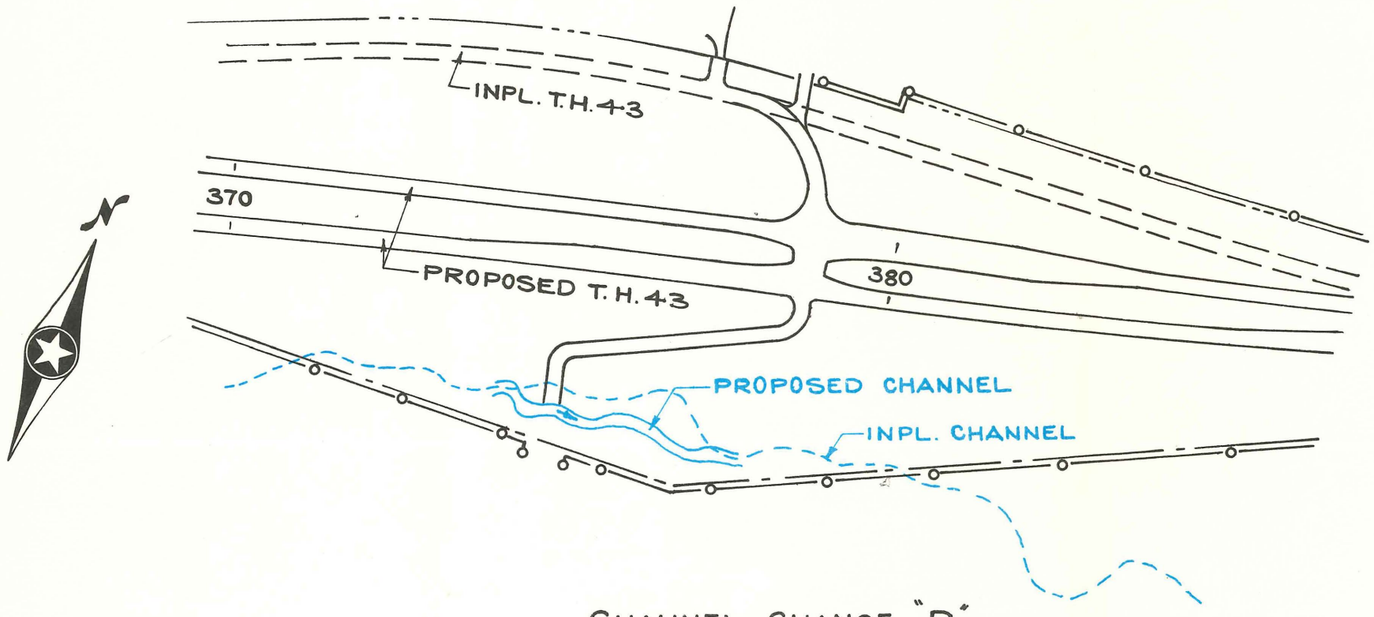
CHANNEL CHANGE "B"

38.01

WEST BURNS VALLEY
CREEK CHANNEL
CHANGES A&B



CHANNEL CHANGE "C"



CHANNEL CHANGE "D"

-38.02-

WEST BURNS VALLEY
CREEK CHANNEL
CHANGES C & D

legend — Proposed Land Use - Development Guide

County Zoning*

A-1: Limited Agriculture - Forest Conservation District

A-2: General Agriculture District

R-1: Residential - Recreational District

R-2: Community Residence District

Winona City Plan

- Commercial

- Industrial

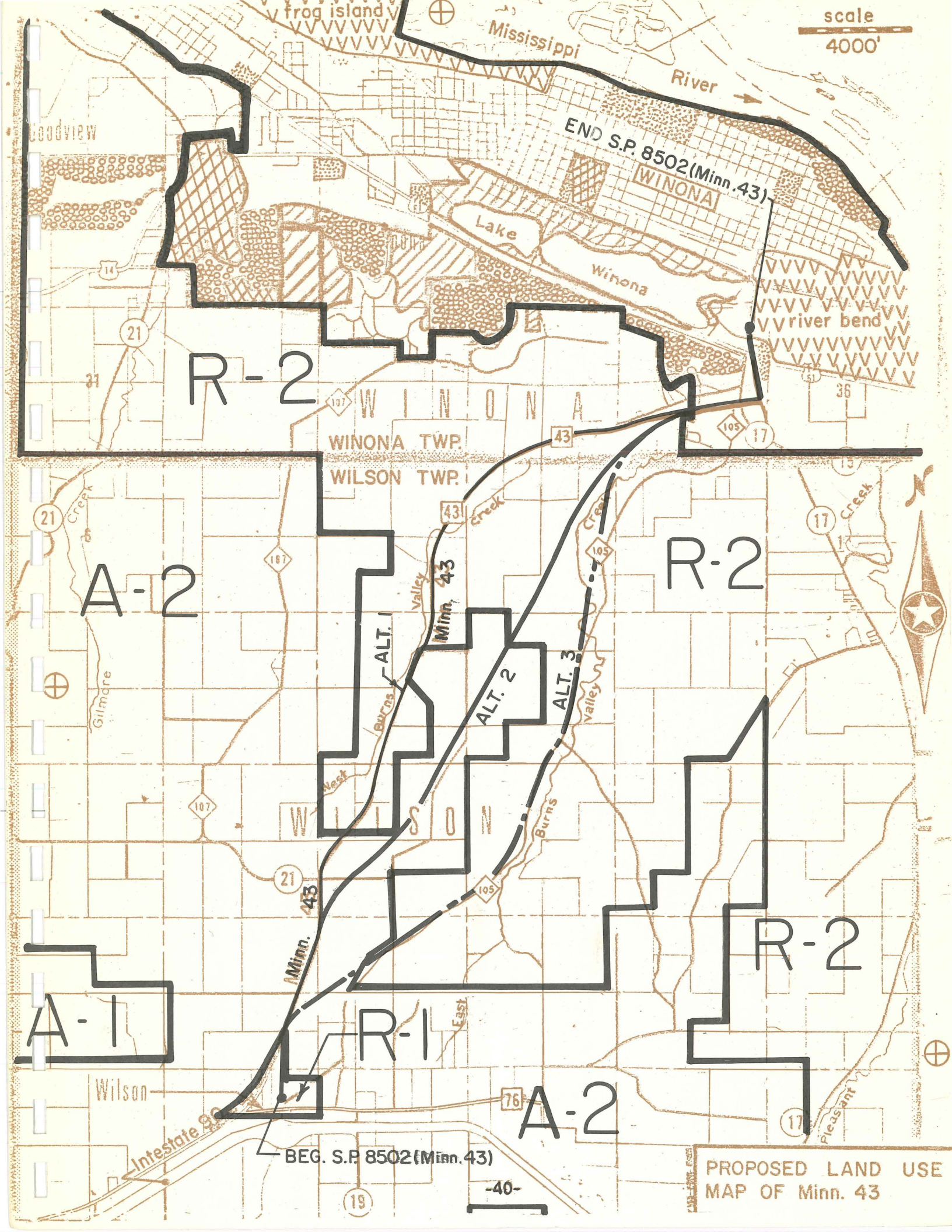
- Educational

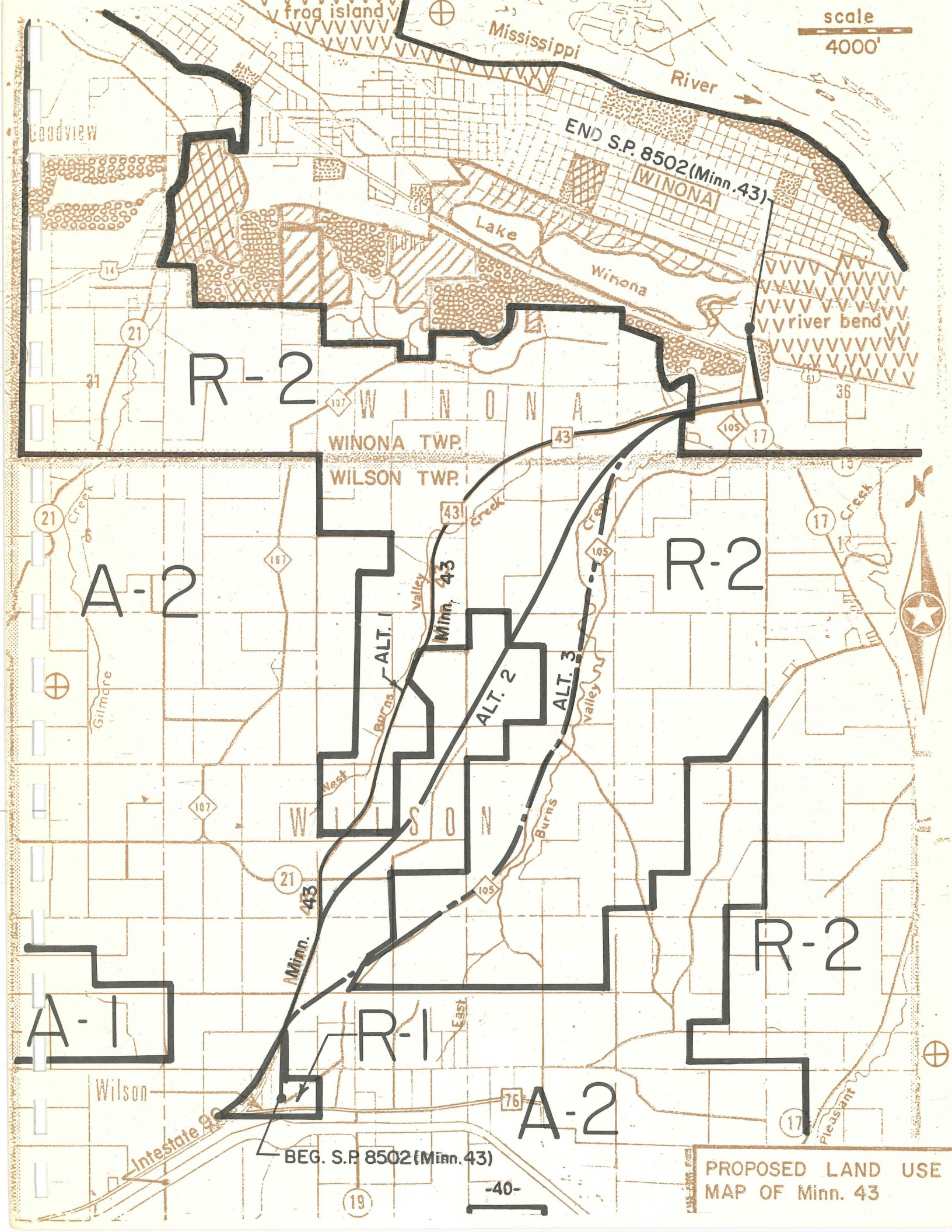
- Open Space - Public Recreational

- Protected Lands

- Residential (All densities)

* Appendix includes definition of purpose for county zoning classifications.


scale
4000'
frog island
Mississippi
River
END S.P. 8502 (Minn. 43)
WINONA
Lake
Winona
river bend
Goodview
R-2
WINONA
WINONA TWP.
WILSON TWP.
A-2
R-2
ALT. 1
ALT. 2
ALT. 3
Minn. 43
Valley
Burns
West
Creek
Gilmore
WILSON
A-1
R-1
East
R-2
A-2
Wilson
Interstate 90
Pleasant
BEG. S.P. 8502 (Minn. 43)
-40-
PROPOSED LAND USE
MAP OF Minn. 43


scale
4000'
frog island
Mississippi
River
Goodview
END S.P. 8502 (Minn. 43)
WINONA
Lake
Winona
river bend
R-2
WINONA
WINONA TWP.
WILSON TWP.
A-2
R-2
ALT. 1
ALT. 2
ALT. 3
Minn. 43
Creek
Valley
Burns
West
Gilmore
WILSON
A-1
R-1
East
R-2
A-2
Wilson
Interstate 90
BEG. S.P. 8502 (Minn. 43)
Pleasant
-40-
PROPOSED LAND USE
MAP OF Minn. 43

APPENDIX

A. Definition of Purpose: County Zoning Program

A-1: Limited Agriculture - Forest Conservation District.

This classification is intended to allow agricultural activities in relation to topographic and physiographic characteristics in suitable areas, while retaining the substantial stands of natural forest reserves throughout Winona County which form unique scenic attractions for residents and tourists. It is the purpose of this District to: (1) encourage a productive use of land as well as ensure the proper cycling and protect the natural features of existing forest reserves from uncoordinated and poorly planned development of any nature, (2) prevent scattered non-farm growth, and (3) secure economy in governmental expenditures for public services, utilities and schools.

A-2: General Agriculture District.

This classification provides for a district allowing suitable areas of Winona County to be retained for general farming activities including cash crop products and animal husbandry; to regulate the encroachment on agricultural land by non-farm land uses; and to secure economy in governmental expenditures for public services, utilities and schools.

R-1: Residential Recreational District.

This classification is intended to provide suitable areas for the orderly and aesthetic development of residences along the shores of streams and rivers, and in natural environment areas, which will retain the physical features of the shoreland and natural areas, and which will prevent the encroachment of incompatible agricultural, commercial or industrial land uses.

R-2: Community Residence District.

The Community Residence District is intended to recognize and encourage low density residential development in unincorporated communities and in areas adjacent to urban development where municipal utilities are, or may become, available, and where such development relates substantially to the development pattern set forth in the Comprehensive Plan for Winona County.