



Project Examples

MINNESOTA DEPARTMENT OF TRANSPORTATION

2900 48TH STREET N.W. ROCHESTER MN 55901 Ph. 507.286.7500

City of Excelsior

Trunk Highway 7 from CSAH 19 to Elm Place

Category:
Management

Project Description:
Pedestrian Path



WSB
& Associates, Inc.

December 11, 1998

350 Westwood Lake Office
8441 Wayzata Boulevard
Minneapolis, MN 55426

612-541-4800
FAX 541-1700

B.A. Mittelsteadt, P.E.
Bret A. Weiss, P.E.
Peter R. Willenbring, P.E.
Donald W. Sterna, P.E.
Ronald B. Bray, P.E.

Mr. Bob Brown
Metro State Aid Engineer
Mn/DOT Department of Transportation
1500 West County Road B2
Roseville, MN 55113

Re: FY2000 Cooperative Agreement Submittal
Trunk Highway (TH) 7 from CSAH 19 (Oak Street) to Elm Place
Pedestrian Pathway / Sidewalk Improvements
City of Excelsior
Hennepin County, Minnesota
WSB Project No. 1137.00

Dear Mr. Brown:

This letter requests that the City of Excelsior receive serious consideration for the funding in the FY2000 Cooperative Agreement Program for safety and management improvements to TH 7 from CSAH 19 (Oak Street) to Elm Place in the City of Excelsior. WSB & Associates, Inc. have been retained by the City of Excelsior to prepare the TH 7 Pedestrian Pathway/Sidewalk Improvement submittal. The improvements propose to provide a bituminous pathway/sidewalk along the south side of TH 7 to provide safe public pedestrian access from an isolated peninsula of the City of Excelsior to its downtown area and local elementary school.

The improvements are proposed to substantially improve pedestrian safety along this portion of TH 7. The City of Excelsior recognizes the importance of this improvement and is committed to its residents to provide its pedestrians with safe walking and/or riding pathways. The City is committed to fund its share of the project through the cooperative agreement program.

The information which follows in the cooperative submittal provides further information on the history, characteristics, accident and need for the proposed improvement. A resolution for cooperative agreement is included in this submittal along with a copy of letter of project support by the Excelsior Elementary School.

The City of Excelsior is requesting funding in the FY2000 Municipal Agreement Program from the management/safety category in the amount of \$130,750.

If you have any questions please feel free to contact Don Sterna at 541-4800 or Craig Dawson at 447-5233.

Sincerely,

WSB & Associates, Inc.

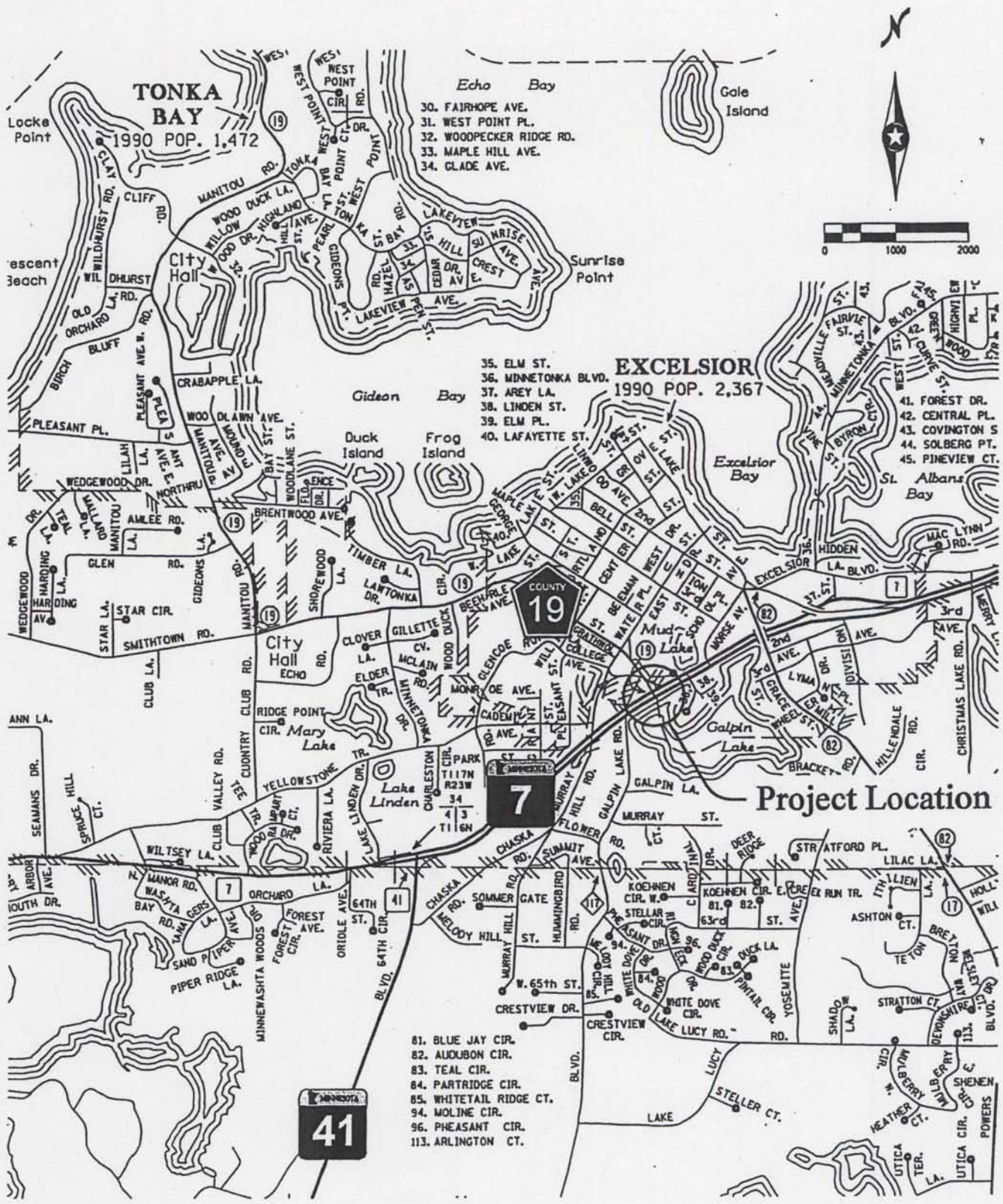
Donald W. Sterna, P.E.
Vice President

sm

Sincerely,

City of Excelsior

Craig Dawson
City Manager



WSB
& Associates, Inc.
INFRASTRUCTURE - ENGINEERS - PLANNERS

350 Westwood Laka Office
8441 Wayzata Boulevard
Minneapolis, MN 55426

812-541-4800
FAX 541-1700

Cooperative Agreement Submittal

FY - 1999 - Trunk Highway 7
City of Excelsior, Minnesota

WSB Project No. 1137.00 Date: November 11, 1998

Project Location Map
Figure 1

Executive Summary

The City of Excelsior, in cooperation with Mn/DOT, has worked to develop a pedestrian traffic separation safety improvement which will satisfy the needs of the City, School District and Mn/DOT along the corridor of Trunk Highway (TH) 7 from CSAH 19 (Oak Street) to Elm Place. A portion of the City of Excelsior on the south side of TH 7 extends out into Galpin Lake, which is isolated from the main section of the City. This area of the City contains approximately 100 residents, or 5% of the City's total population. Pedestrian movement from this area wanting to access the downtown and/or elementary school, now have to walk along the south side of TH 7 before crossing at the signalized intersection at CSAH 19. The City and School District are very concerned about pedestrian safety when walking along TH 7. The proposed improvement will provide a 2.4 m (8-foot) wide bituminous pedestrian pathway from CSAH 19 (Oak Street) to Elm Place approximately 160 meters (525 feet) along the south side of TH 7. The proposed pathway/sidewalk will be separated approximately 3 meters (10 feet) from the roadway and protected from vehicles by a steel plate beam guard rail. In order to support the walk, a modular block retaining wall with a vinyl coated chain-link safety railing will need to be constructed.

This improvement provides for the improved safety for pedestrian and bicyclist for the residents on the peninsula, which has been isolated from the main section of the City by the TH 7 corridor. The preliminary estimate of construction cost for the improvement is approximately \$134,500 and \$15,000 is estimated for engineering services for design and construction. The City is requesting Mn/DOT participation in the amount of \$121,050, or 90% of the construction cost along with \$9,700 in construction engineering costs for a total of \$130,750 in the FY 99 Municipal Agreement Program.

I. History / Project Needs

The City of Excelsior has been working with Mn/DOT on the reconstruction of a major section of TH 7 to improve the vehicular safety and access issues, as well as pedestrian safety within the City of Excelsior. These plans, however, do not include any pedestrian safety accommodations for a portion of the city isolated by TH 7 which is located just east of CSAH 19. The City requested that a pathway/sidewalk be constructed along TH 7 from CSAH 19 to Elm Place in the TH 7 Reconstruction Project, however, Mn/DOT was not able to finance any pathway accommodation into their current plans. The project location map which shows the isolated peninsula as it relates to the proposed safety improvement project proposed is included as Figure 1. The City of Excelsior as well as the Excelsior Elementary School fully supports the proposed project to provide a protected pathway along TH 7 from CSAH 19 (Oak Street) to Elm Place.

The current high speed and the ever increasing traffic volumes are only increasing the probability of pedestrians being involved in traffic accidents, which most likely would result in severe or fatal injuries to the pedestrians. Currently, pedestrians are forced to walk along the TH 7 shoulder and right turn lane from CSAH 19 (Oak Street) to Elm Place which is a dangerous movement. Due to this current pedestrian accommodation, it is more than likely that people will and are crossing the highway at Elm Place, which currently provides no pedestrian accommodations. Therefore, the City of Excelsior is requesting cooperative agreement funding in the category of management/safety for this improvement project to provide a safe pathway from a CSAH 19 (Oak Street) to Elm Place.

II. Characteristics / Accidents

TH 7 is currently classified as a principal arterial. TH 7, through this project area, is a four (4)-lane roadway with left and right turn lane channelization with a signal located at CSAH 19. Accidents were previewed for a period from 1995 through 1997 and a partial year for January through July of 1998. A copy of the analysis and break down of accidents and accident rates is included in the Appendix as Exhibit C. For the period from 1995 through 1998 the average accident rate is 1.63, which is compared to a state-wide average for similar trunk highways of 1.6 accidents per million vehicular miles (MVM). The severity rate for this period, however, is 3.06, which is above the state-wide severity rate of 2.4 MVM. The accidents which occurred during this period have only involved vehicles and no recorded pedestrian accidents were noted.

The lack of a separated pedestrian/bicycle accommodation along the south side of TH 7 combined with the increasing traffic volumes and high rate of speed, has the right combination for serious or fatal pedestrian injuries. As the traffic volumes increase so will the number of accidents as well as a higher probability of pedestrians bein involved in these accidents.

III. Proposed Improvement / Project Costs

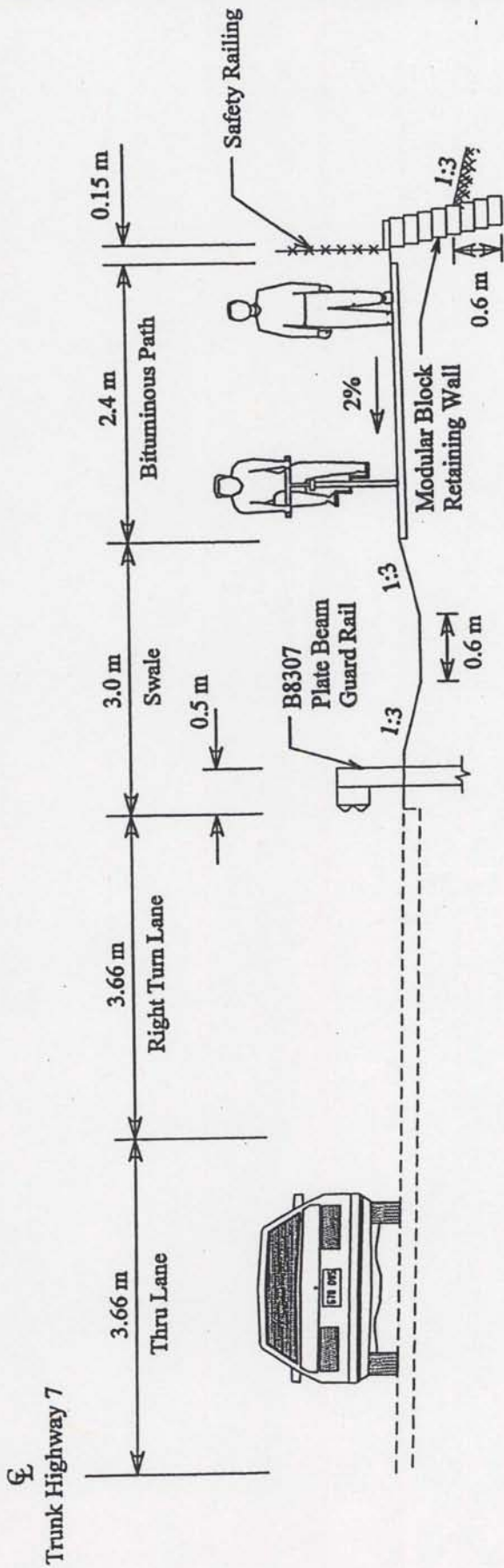
The improvement as proposed along TH 7, from CSAH 19 (Oak Street) to Elm Place, is a result of discussion with Mn/DOT on pedestrian safety accommodation along TH 7 through the City of Excelsior. The improvement proposes to construct a modular block retaining wall along TH 7 located between Galpine Lake and TH 7. The in-place cable guard rail will be replaced with a plate beam guard rail for vehicular and pedestrian safety. Approximately a 3 meter (10 feet) grass swale will be provided between the pathway and TH 7 which will contain several catch basins to collect the surface drainage from both the roadway and pathway. A safety fence meeting bicycle standard height will be constructed between the pathway and retaining wall. Also additional pedestrian safety signs, crosswalk striping, signal timing improvements along with signal additions for the pedestrians will be part of this project.

The improvement, as shown on the layouts, included in the Appendix is estimated to be approximately \$134,500 for construction. The City of Excelsior is requesting that Mn/DOT provide \$121,050 in cooperative which is 90% of the total construction cost. The City of Excelsior is also requesting that Mn/DOT provide \$9,700 in construction engineering which is approximately 8% of the total Mn/DOT construction value. The City of Excelsior will participate at a level of \$13,450 for construction and \$7,600 for engineering design and construction services.

IV. Summary

The City of Excelsior has demonstrated a commitment of providing for the improvement of a pathway/sidewalk along TH 7 for the benefit of Mn/DOT, the City of Excelsior and the local elementary school. There has been a significant investment of effort and human resources in developing this improvement. The partnership with Mn/DOT and the City in this improvement provides a pro-active approach to prevent pedestrian and vehicle accidents which most likely would result in pedestrian fatalities. The City of Excelsior requests that this improvement be funded through the cooperative agreement program for the previously discussed safety and TH 7 management issues.

Hence, the City of Excelsior and Excelsior Elementary School respectively requests that Mn/DOT receives serious consideration in the fiscal year 2000 municipal agreement program for the provided TH 7 pathway/sidewalk improvement. Resolution No. 98-47 along with a letter of support for the project from Excelsior Elementary School, which abuts this area, are included in the Appendix.



WSB Project No. 1137.00 Date: November 18, 1998

Typical Section
Exhibit B

Trunk Highway 7 Trail / Sidewalk
CSAH 19 to Elm Place
City of Excelsior, Minnesota

350 Westwood Lake Office
8441 Weyzata Boulevard
Minneapolis, MN 55426
612-541-4800
FAX 641-1700
ENGINEERS • PLANNERS



OPINION OF PROBABLE CONSTRUCTION COSTS

WSB Project: TH 7
Project Location: City of Excelsior
WSB Project No: 1137.00

Design By: TJG
Checked By: DWS
Date: 11-Dec-98

MN/DOT Spec. No.	Description	Unit	TOTAL		
			Estimated Quantity	Estimated Price	Estimated Cost
2021.501	MOBILIZATION	LUMP SUM	1	4,500.00	4,500.00
2101.502	CLEARING	EACH	3	300.00	900.00
2101.507	GRUBBING	EACH	3	300.00	900.00
2104.521	REMOVE CABLE GUARDRAIL	m	165	6.00	990.00
2104.523	SALVAGE SIGN TYPE C	EACH	2	50.00	100.00
2105.515	UNCLASSIFIED EXCAVATION	m3	600	6.00	3,600.00
2105.522	SELECT GRANULAR BORROW (LV)	m3	1000	10.00	10,000.00
2411.602	PRECAST RETAINING WALL	m2	380	150.00	57,000.00
2503.541	300 mm RC PIPE SEWER	m	50	85.00	4,250.00
2503.541	375 mm RC PIPE SEWER	m	45	100.00	4,500.00
2506.502	CONST DRAINAGE STRUCTURE DES F OR G	EACH	2	1,000.00	2,000.00
2506.502	CONSTRUCT DRAINAGE STRUCTURE DES 60-4020	EACH	1	1,800.00	1,800.00
2521.511	60 mm BITUMINOUS WALK	m2	390	20.00	7,800.00
2554.511	INSTALL TRAFFIC BARRIER DESIGN B8307	m	145	35.00	5,075.00
2554.523	END TREATMENT-ECCENTRIC LOADER BCT	EACH	1	1,500.00	1,500.00
2557.501	WIRE FENCE DESIGN 1.5 - 9322V	m	160	50.00	8,000.00
2563.601	TRAFFIC CONTROL	LUMP SUM	1	3,000.00	3,000.00
2564.531	F&I SIGN PANELS TYPE C	m2	1.5	400.00	600.00
2564.601	INSTALL SIGN TYPE C	EACH	2	200.00	400.00
2563.613	ADVANCED WARNING FLASHER	LUMP SUM	1	8,000.00	8,000.00
2573.502	SILT FENCE,HEAVY DUTY	m	160	10.00	1,600.00
2575.555	TURF ESTABLISHMENT	LUMP SUM	1	1,500.00	1,500.00
	SUB TOTAL				\$128,015.00
	5% CONTINGENCY				6,400.75
	TOTAL				\$134,415.75

Used \$130,000
 Mn (90%) 117,000
 Local 13,000

City of Excelsior

Resolution No. 98 - 47

A Resolution Requesting Funding
from MnDOT through the
"Municipal Agreement Program 2000"

WHEREAS, the City of Excelsior wishes to construct a sidewalk/pathway along Highway (TH) 7 from County State Aid Highway (CSAH) 19 (Oak Street) to Elm Place; and

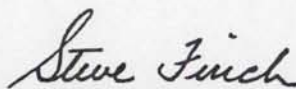
WHEREAS, the City of Excelsior is requesting financial participation in the project from the Minnesota Department of Transportation (MnDOT) through the "Municipal Agreement Program 2000"; and

WHEREAS, the City of Excelsior must commit to providing the local share of the costs if the project is selected as a part of the "Municipal Agreement Program 2000".

NOW THEREFORE, BE IT RESOLVED, by the City Council of the City of Excelsior, Minnesota, that the City of Excelsior is hereby requesting funding from MnDOT through its "Municipal Agreement Program 2000" to construct a sidewalk/pathway along Highway 7 from County State Aid Highway 19 (Oak Street) to Elm Place; and

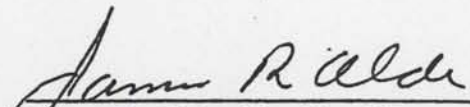
BE IT FURTHER RESOLVED, that the Council hereby commits to provide the local share if awarded a grant for such project under the condition that a sidewalk provision is established which will get pedestrians across Trunk Highway 7 in a safe manner.

Adopted this 7th day of December, 1998.

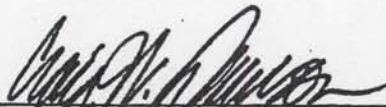


Steve Finch, Mayor

ATTEST:



James R. Olds, City Clerk/Treasurer



Craig W. Dawson, City Manager

STATE OF MINNESOTA)
COUNTY OF HENNEPIN (ss
CITY OF EXCELSIOR)

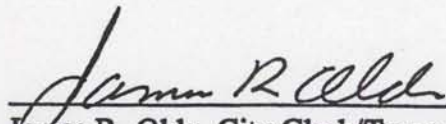
RECEIVED

DEC 9 1998


WSB & ASSOCIATES

I, James R. Olds, being the duly appointed, qualified and acting City Clerk/Treasurer of the City of Excelsior, Hennepin County, Minnesota do hereby certify that the attached document is a true and correct copy of the original kept on file in the City Administrative Offices.

WITNESS my hand and the seal of said City this 9th day of December, 1998.


James R. Olds, City Clerk/Treasurer

(SEAL)

Minnetonka
Public Schools 
Learning Today for Success Tomorrow

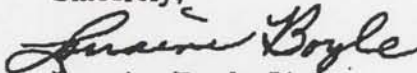
Mr. Craig Dawson.
City of Excelsior
339 Third Street
Excelsior, MN. 55331

December 10, 1998

Dear Mr. Dawson:

As the principal of Excelsior Elementary School, I fully endorse the city's proposal to create a safe means for children to access the school. Our school serves 613 children ages 5-11 and is located at the major intersection of HWY. 7 and County Road . Many of our young children live on the south side of heavily trafficked HWY. 7. The school, fields and playground provide wonderful opportunities for children to enjoy their city's school during non school hours. However, access to the school by children from the south side of HWY. 7 to the north side location of HWY. 7, is fraught with obstacles. I am delighted at the prospect of providing children with a safe trail/path and I encourage the city's pursuit of funding sources.

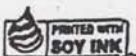
Sincerely,


Lorraine Boyle, Ph.D.
Principal

Excelsior Elementary School
441 Oak Street
Excelsior, Minnesota 55331

Dr. Lorraine Boyle, Principal

(612) 470-7180
FAX (612) 470-7187



**TRUNK HIGHWAY 7: CR 19 TO ELM PLACE
 CRASH INVESTIGATION
 CITY OF EXCELSIOR**

INTERSECTION	1995			1996			1997			*1998		
	PI	F	PD	PI	F	PD	PI	F	PD	PI	F	PD
CR 19	3	0	2	2	0	3	1	0	5	0	0	2
<i>between</i>	2	0	1	0	0	2	2	0	0	0	0	2
Elm Place	0	0	1	0	0	0	0	0	0	0	0	0
TOTAL CRASHES	5	0	4	2	0	5	3	0	5	0	0	4
	9			7			8			4		
CRASH RATE	1.70			1.30			1.46			1.21		
SEVERITY RATE	4.53			2.41			3.09			1.21		

* - Data through 8/04/98

PI = Personnel Injury Crash
 PD = Property Damage Crash
 F=Fatality

Crash Rate State Wide Average = 1.6 per million vehicle miles-
 Severity State Wide Average = 2.4 per million vehicle miles —

City of Mahtomedi

Trunk Highway 120
from Long Lake Rd.
to TH 244

Category:
Management

Project Description:
**Signal installation &
access modification**



Howard R. Green Company

October 24, 2001
File: 814000J

Mr. Mike Kowski
Cooperative Agreements Engineer
Mn/DOT Metro Division
1500 West County Road B2
Roseville, MN 55113

RE: FUNDING REQUEST FOR IMPROVEMENTS TO TH 120
CITY OF MAHTOMEDI, MINNESOTA

Dear Mike:

The City of Mahtomedi appreciates the opportunity to participate in the FY 2002 Municipal Agreement Program. We respectfully submit this request letter and supporting documentation as required to be considered for funding assistance for improvements to TH 120 between Long Lake Road and TH 244.

While we believe that the ultimate roadway section for this segment of TH 120 is a divided four-lane roadway, we realize that the right-of-way, design, and funding are not in place at this time. Therefore, we are proposing a project that addresses some of the deficiencies of the existing roadway and that fit with a future four-lane divided section. The proposed improvements of this project will provide greater safety, better traffic operations, and enhanced access management to this segment of TH 120. More specifically, the project would include the following:

- A new signal at Woodland Drive would be constructed. Century College would realign the north entrance to their West Campus with Woodland Drive and surrender the existing north access. This reduces the number of access points by one, as the new alignment for the College entrance would be at the location of the existing access to the City of White Bear Lake water tower. The access road would be relocated off of the new north entrance to the West Campus.
- A six-foot wide raised concrete median would be extended from the middle Century College entrance (approximately 125 feet) to the south Century College entrance. A "no left turn" sign would be placed within this island to prohibit left-turns from the southbound TH 120 through lane.
- The median openings to the two Cemetery entrances between the middle Century College entrance and Woodland Drive would be closed. Alternative access would be relocated to the East Campus north entrance and/or Woodland Drive.
- Negotiation would be conducted to remove the right-in/right-out access to the strip mall in the southeast quadrant of TH 120 and Long Lake Road intersection.

The expected cost for these improvements, including design and construction engineering, is estimated to be \$446,870. The proposed cost breakdown between the City of Mahtomedi, Century College, Evergreen Memorial Garden Cemetery, and Mn/DOT are presented in tables 1 through 5 and are attached to this letter. The City of Mahtomedi requests \$228,765 from Mn/DOT to help pay for the construction of this project.

Mr. Mike Kowski
October 24, 2001
Page Two

The benefits to TH 120 are improved safety, improved traffic operations, and enhanced access management. A further benefit is preserving right-of-way for major reconstruction of TH 120 in the future. The specific benefits are summarized below:

New Signal at Woodland Drive

First, the new signal and access to Woodland Drive would provide improved traffic operations. For example, the TH 120/Century College middle entrance intersection currently operates at an LOS E during the AM peak hour with the south approach left turn operating at a LOS F and the north approach through movement operating at an LOS E. These two movements represent the worst traffic operations on TH 120 during the AM peak hour. The heavy AM traffic flow on TH 120 is in the southbound direction. However, the heavy AM traffic flow for students and faculty accessing the West Campus is northbound on TH 120. Due to these traffic flow patterns, the movements are in direct conflict with each other. Because of the high volumes of vehicles making the left turn from the south approach and vehicles traveling through the intersection from the north approach, the signal is not able to accommodate both of these movements. A direct result of this conflict is that the left-turning vehicles often extend beyond the left-turn lane storage and into the through lanes, thus negatively impacting northbound TH 120 traffic operations. The existing unsignalized north entrance to the West Campus accommodates a smaller volume. A new intersection and signal at Woodland would provide a new, longer left-turn lane and additional capacity for the large number of left-turning vehicles present on northbound TH 120. We would expect that a portion of the left-turning vehicles would bypass the existing signal to utilize the new signal at the north entrance. The number of left-turning vehicles that would divert to the new signal at Woodland is debatable but the College estimates up to 40% of the left-turns at the existing signal would divert to the new signal. The new access to the West Campus would move to the back corner of the parking area and allow traffic to "backfill" the parking lot, avoiding the congestion at the middle access and conflicts with pedestrians. Whatever the percent that does divert, the additional left-turn lane and capacity should improve traffic operations for both the left-turns into the West Campus and for northbound TH 120. The new signal would be interconnected with the existing signal at the middle entrance to optimize southbound TH 120 traffic operations as that is a heavy commuting volume in the AM peak hour.

Secondly, the new intersection and signal will eliminate some undesirable traffic movements. Currently, Woodland Drive is a right-in/right-out city street. Field observations have found that some TH 120 southbound traffic will make a u-turn around the median from the southbound thru lane to gain access to Woodland drive. Similarly, traffic from Woodland Drive will turn north onto TH 120, pull into the left turn lane for the apartment/townhome entrance and make a u-turn there. This is slightly better in that they are in a protected left-turn lane, but the movement is not protected by a signal. While the U-turn movement can be made; occasionally it requires a backing-up maneuver, which adds to congestion and potential hazards on the roadway. The alternative route for residents in this area is to access Wedgewood Drive and head north to TH 244 and make a left-turn at that location. During the morning and evening peak hours, this turn is somewhat difficult and the extra traffic adds to the citizens' demands for a new signal at this location. Additionally, some of the innovative students have learned methods of making U-turns at various intersections to avoid the delay associated with making left-turns into the West Campus. A full access intersection at this location would help eliminate these types of dangerous traffic maneuvers.

Howard R. Green Company

Thirdly, there will be a reduction in access by moving the north entrance to Century College (West Campus) to align with Woodland Drive. The City of White Bear Lake access road to the water tower would now access off of the new College entrance instead of TH 120.

Lastly, another benefit is the opportunity for preserving right-of-way from the College for future roadway construction. The College is interested in a signal at this location because it gives them an opportunity to reconfigure their parking lot for the West Campus. If the signal is constructed, the next step for the College is to redesign their parking lot into a more efficient parking pattern. The existing parking lot is close to TH 120 through this segment, and future roadway reconstruction would be difficult between the College and the Cemetery. As part of this future redevelopment of their parking lot, the College would be agreeable to preserving right-of-way along TH 120 for future reconstruction as part of their parking lot redevelopment. The College views the signal as the first step toward developing their ultimate campus.

Median Extension, No Left Turn

Another benefit is extending the median from the middle entrance to Century College to the south entrance of Century College. Extending the median would provide an appropriate place for a "no left turn" sign to prohibit left turn movements from the TH 120 southbound through lanes. By eliminating left turns into the south entrance to Century College, a major turning conflict would be eliminated at this location.

Median Access Closures

Another benefit is closing the median access points of the two cemeteries between the middle and north entrances to Century College. The existing median access to Lakeview Cemetery has no left turn lane. Therefore, southbound traffic must turn out of the southbound through lane to access the cemetery. The existing median access to Evergreen Memorial Garden Cemetery does have a left turn lane that it shares with the left turn to the middle entrance to the Century College East Campus. The median access to Evergreen Memorial Garden is located less than 300 feet upstream from the left turn for the College, which can cause confusion between left turning vehicles. Closing these access points would remove a couple of dangerous conflict points along TH 120. The City of Mahtomedi has held preliminary discussions with the owners of the two cemeteries and they are agreeable to relocating their access to the middle entrance to Century College and/or Woodland Drive.

Driveway Removal

The last improvement is relatively minor but does help reduce access to TH 120. The strip mall in the southeast quadrant of TH 120 and Long Lake Road currently has two access points to TH 120. The south entrance is right-in/right-out while the north entrance is full access. These two entrances are within 100 feet of each other. As part of this request, the City of Mahtomedi will negotiate with the property owner to remove the south entrance to reduce access and the potential for conflicting outbound movements from both entrances at the same time.

Mr. Mike Kowski
October 24, 2001
Page Four

Other Right-of-Way Opportunities

Similar to the preservation of right-of-way associated with the Century College reconfiguring their parking for their West Campus, the College is agreeable to preserving a strip of right-of-way along their East Campus. As the College has frontage along approximately one-half the length of TH 120 between Long Lake Road and TH 244, this is a major benefit. Likewise, the City of Mahtomedi has been approached with plans for the redevelopment of the strip mall in the southeast quadrant of TH 120 and Long Lake Road, as well as the four residential homes just to the north of the strip mall. As part of any redevelopment, the City would have the developer(s) dedicate right-of-way as appropriate for future TH 120 reconstruction.

Please find attached the following information regarding this funding request for these proposed improvements:

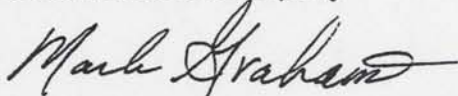
- Detailed cost estimate for this project including Mn/DOT participation.
- Concept layouts for the proposed project.
- City of Mahtomedi Resolution

In addition, we expect to have a signed resolution from the City of White Bear Lake as well as a signed letter of understanding from Century College within the next few weeks showing their support of this proposed project. We will forward these documents on to you as soon as we receive them.

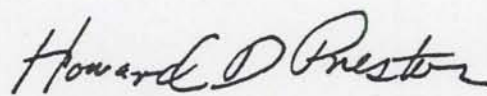
The City of Mahtomedi and Century College are willing partners in this proposed project and the City is prepared to be the lead agency in this endeavor. We appreciate your consideration of this proposal and hope your evaluation agrees with our assessment that these proposed improvements will benefit TH 120. Should you have any questions in regard to this letter or any of the attachments, please feel free to call me or Howard Preston at (651) 644-4389 or email me at mgraham@hrgreen.com.

Sincerely,

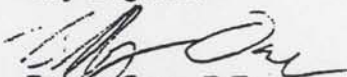
Howard R. Green Company



Mark J. Graham, P.E.
City Engineer



Howard Preston, P.E.
Transportation Team Leader



Bobby Oare, P.E.
Project Engineer

Enclosures: Layout sheets (5 sheets)
 Project Location Map
 Cost estimate and cost breakdown (5 tables)
 City of Mahtomedi Resolution
 Draft Version of TH 120 Corridor Study

Howard R. Green Company

**SUMMARY OF BENEFITS
FISCAL YEAR 2003 MUNICIPAL AGREEMENT CANDIDATE PROJECT
TH 120, FROM LONG LAKE ROAD TO TH 244
CITY OF MAHTOMEDI**

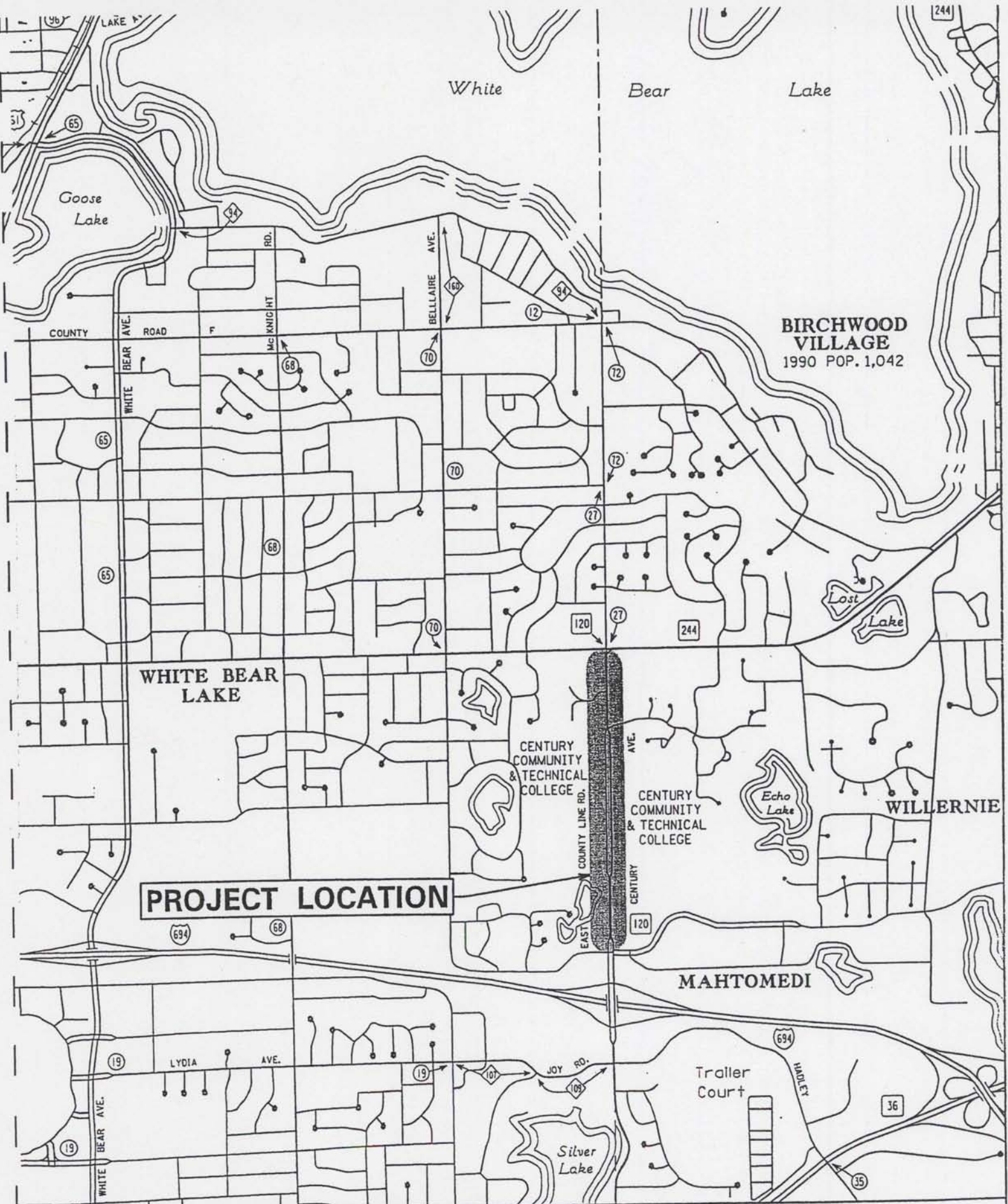
January 8, 2002

The proposed TH 120 project would include:

- New signal at Woodland Drive and newly realigned north Century College intersection.
- Six-foot wide median would be extended from Century College middle entrance to their south entrance.
- Closure of two separate median openings to the Lakeview Cemetery and Evergreen Memorial Garden Cemetery located between Woodland Drive and the middle Century College entrance.
- New access to the Evergreen Memorial Garden Cemetery from the Century College middle entrance.
- Potential elimination of one access to the strip mall in the northeast quadrant of TH 120 and Long Lake Road.

The **benefits** associated with the above-mentioned improvements would be:

- The new signal would improve traffic operations for left turns from northbound TH 120 to the Century College west campus for both the proposed signal and the existing signal at the College's middle entrance.
- The new signal would provide greater storage for left turn vehicles; therefore, left turn queues are less likely to extend into the through lanes and TH 120 mainline traffic operations are improved. Given that TH 120 is a single through lane in each direction, a queue backing out of a left turn lane can stop all traffic in a particular direction.
- The full access intersection (versus the current right-in/right-out intersection) at Woodland would reduce the chance of undesirable u-turn movements at unsignalized median openings.
- The new signal would reduce the number of access points to TH 120 by one. The existing north Century College entrance and the City of White Bear Lake water tower access would be replaced by the new north Century College entrance.
- The new signal and north Century College entrance would allow the College to begin plans for reconfiguring their parking lot. A side benefit to the highway is that the College can designate right-of-way along TH 120 for future TH 120 roadway improvements.
- The median extension from the Century College middle entrance to the south entrance would allow placement of a "no left turn" sign to prohibit left turns into the south Century College entrance. By prohibiting left turns from the through lane, we can promote operations benefits and safety benefits to southbound TH 120.
- The closure of the median access to the Lakeview Cemetery eliminates left turns out of the southbound through lanes and is a safety and operations benefit.
- The closure of the median access to the Evergreen Memorial Garden Cemetery would remove a median opening from the middle of the left turn lane for southbound TH 120 traffic at the middle Century College entrance and is a safety benefit.
- The removal of one additional driveway access at the strip mall in the northeast quadrant of TH 120 and Long Lake Road would reduce the number of access points to TH 120 by one. This has not yet been negotiated with the property owner.
- Potential opportunities for preserving right-of-way along Century College east campus.
- Potential opportunities for preserving right-of-way as properties south of Century College redevelop within the Cities of Mahtomedi and White Bear Lake.



PROJECT LOCATION

1326 ENERGY PARK DRIVE
ST. PAUL, MINNESOTA 55108
(651) 644-4389

CITY OF MAHTOMEDI
T.H. 120 CORRIDOR STUDY
Mahtomedi, Minnesota 2001

PROJECT LOCATION




Howard R. Green Company



IF THIS PLAN REPRESENTS
 A PART OF A PROJECT,
 IT IS A COPY OF THE
 ORIGINAL PLAN OF THE
 PROJECT.

NO.	DATE	BY	REVISION DESCRIPTION

 1206 BERRY PARK DRIVE
 ST. PAUL, MINNESOTA 55108
 (612) 644-4300
Howard R. Green Company

CITY OF MAHTOMEDI
T.H. 120 CORRIDOR STUDY
 Mahtomedi, MN 55055

Alternative 2 - Add Signal at
 Woodland Drive. Minor Access Revisions
 STATION 00+00 TO 14+50

SHEET NO.
1
5



THIS PLAN, SPECIFICATION, AND CONTRACT DOCUMENTS ARE TO BE USED AS A GUIDE ONLY. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND REGULATIONS FROM THE LOCAL AND STATE AUTHORITIES.

REV.	DATE	BY	DESCRIPTION



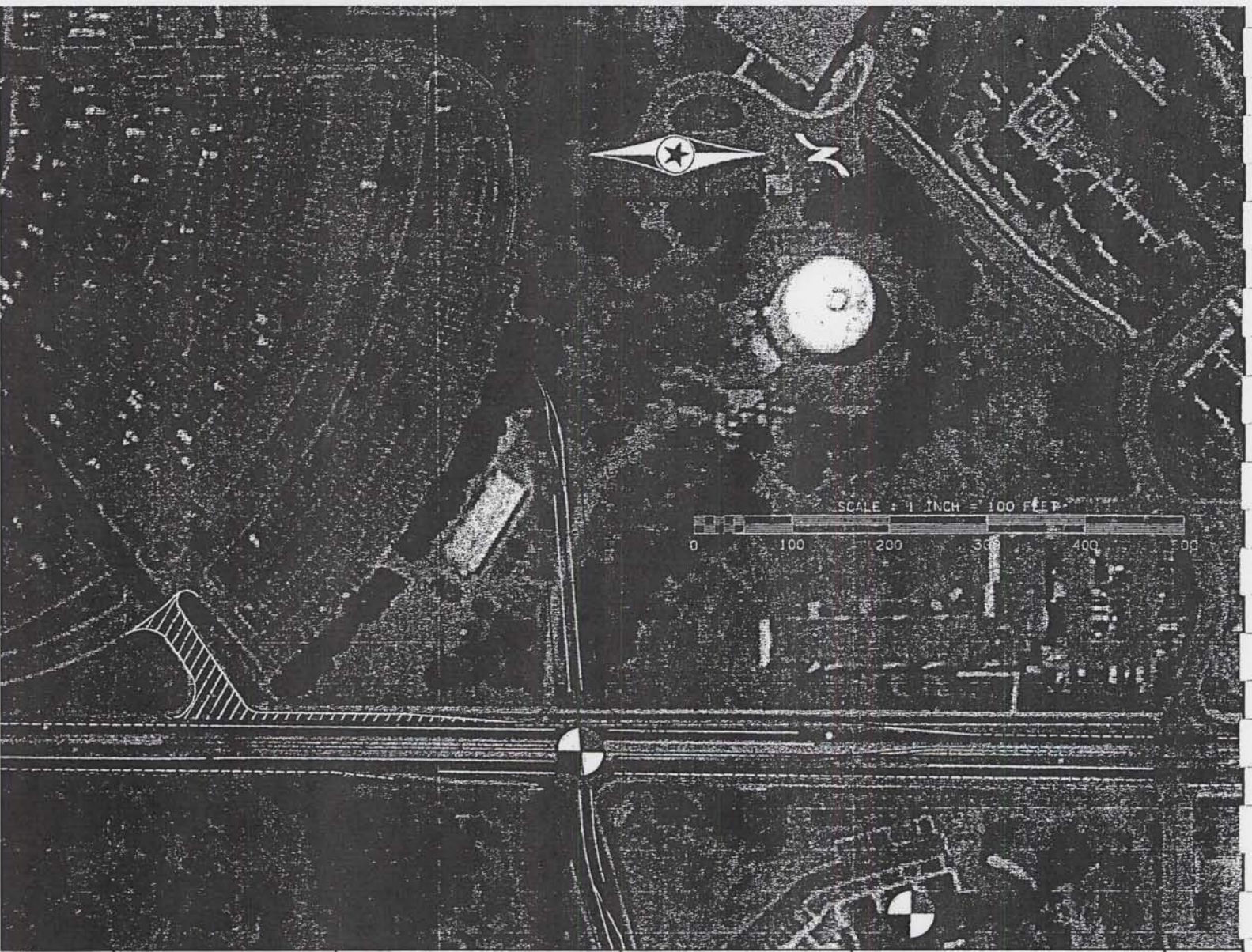
1206 SHEPHERD PARK DRIVE
ST. PAUL, MINNESOTA 55108
(612) 644-4308

Howard R. Green Company

CITY OF MAHTOMEDI
T.H. 120 CORRIDOR STUDY
Mahtomedi, MN 2002


Alternative 2 - Add Signal at
Woodland Drive, Minor Access Revisions
STATION 14+50 TO 30+25

PROJECT NO.
225



SEE THESE PLANS, SPECIFICATIONS,
 AND NOTES FOR A COMPLETE
 DESCRIPTION OF THE PROJECT.
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR
 OBTAINING ALL NECESSARY PERMITS AND
 APPROVALS FROM THE LOCAL, STATE AND
 FEDERAL AUTHORITIES.

REV. NO.	DATE	BY	DESCRIPTION



1206 ENERGY PARK DRIVE
 ST. PAUL, MINNESOTA 55108
 (612) 844-0300

Howard R. Green Company

CITY OF MAHTOMEDI
T.H. 120 CORRIDOR STUDY
 Mahtomedi, MN 55055


**Alternative 2 - Add Signal at
 Woodland Drive. Minor Access Revisions
 STATION 30+25 TO 46+00**

SHEET NO.
3
of
5



NOT TO BE PLACED IN THE PUBLIC DOMAIN
 OR TO BE REPRODUCED OR TRANSMITTED
 IN ANY FORM OR BY ANY MEANS
 WITHOUT THE WRITTEN PERMISSION OF THE
 CITY OF MAHTOMEDI

NO.	DATE	BY	REVISION DESCRIPTION

 1305 ENERGY PARK DRIVE
 ST. PAUL, MINNESOTA 55108
 (612) 644-0300
Howard R. Green Company

CITY OF MAHTOMEDI
T.H. 120 CORRIDOR STUDY
 Mahtomedi, MN 2008

Alternative 2 - Add Signal at
 Woodland Drive, Minor Access Revisions
 STATION 46+00 TO 51+50

PROJECT NO.
4
5

TABLE 1

TH 120 CORRIDOR IMPROVEMENTS
 LONG LAKE ROAD TO TH 244
 OVERALL COST ESTIMATE

Prepared By: Howard R. Green Company
 10/24/01

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	CITY OF MAHTOMEDI	CENTURY COLLEGE	Mn/DOT	EVERGREEN MEMORIAL GARDEN	EXTENDED COST
2021.501	MOBILIZATION	LUMP SUM	\$32,500	1	0.25	0.25	0.5	0	\$32,500
2104.501	REMOVE CONCRETE CURB	LF	\$2.00	2440	573	550	1293	24	\$4,880
2104.503	REMOVE CONCRETE SIDEWALK	SF	\$1.25	11600	2900	2900	5800	0	\$14,500
2104.505	REMOVE BITUMIONOUS PAVEMENT	SY	\$1.50	317	0	0	317	0	\$476
2104.513	SAW BIT PAVEMENT (FULL DEPTH)	LF	\$2.50	2950	573	550	1803	24	\$7,375
2105.501	COMMON EXCAVATION	CY	\$2.25	1912	488	377	936	111	\$4,302
2211.503	AGGREGATE BASE (CV) CLASS 5	CY	\$14.00	848	226	170	396	56	\$11,872
2350.609	TYPE HV 3 WEARING COURSE MIXTURE	TON	\$38.00	187	51	36	86	15	\$7,106
2350.609	TYPE HV 3 NON WEARING COURSE MIXTURE	TON	\$38.00	374	101	71	172	30	\$14,212
2357.502	BITUMIONOUS MATERIAL FOR TACK COAT	GAL	\$1.00	164	44	31	75	14	\$164
2521.501	4" CONCRETE WALK	SF	\$2.50	4230	630	630	2970	0	\$10,575
2531.501	CONCRETE CURB & GUTTER DESIGN B624	LF	\$10.00	2591	528	528	1535	0	\$25,910
2563.601	TRAFFIC CONTROL	LUMP SUM	\$7,927	1	0.25	0.25	0.50	0	\$7,927
2564.531	F&I SIGN PANELS TYPE C	SF	\$30.00	29	5	5	19	0	\$870
2564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH	\$100.00	4	1	1	2	0	\$400
2564.602	PAVEMENT MESSAGE (RIGHT ARROW) EPOXY	EACH	\$100.00	2	0.5	0.5	1	0	\$200
2564.602	PAVEMENT MESSAGE (ONLY) EPOXY	EACH	\$100.00	3	0.75	0.75	1.5	0	\$300
2564.603	4" SOLID LINE WHITE-PAINT	LF	\$0.10	1400	350	350	700	0	\$140
2564.603	4" SOLID LINE YELLOW-PAINT	LF	\$0.10	2040	510	510	1020	0	\$204
2564.603	24" SOLID LINE WHITE-PAINT	LF	\$4.00	96	24	24	48	0	\$384
2564.604	ZEBRA CROSSWALK WHITE-EPOXY	SF	\$5.00	240	60	60	120	0	\$1,200
2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM	SIGSYS	\$200,000.00	1	0.25	0.25	0.5	0	\$200,000
2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	\$10,000.00	1	0.25	0.25	0.5	0	\$10,000
2575.505	SODDING TYPE LAWN	SY	\$2.00	1000	175	175	350	300	\$2,000
CONSTRUCTION SUBTOTAL									
ENGINEERING - FINAL DESIGN									
ENGINEERING - CONSTRUCTION									
GRAND TOTAL									
									\$357,496
									\$53,624
									\$35,750
									\$446,870

TABLE 2

TH 120 CORRIDOR IMPROVEMENTS
LONG LAKE ROAD TO TH 244
MAHTOMEDI PORTION
Prepared By: Howard R. Green Company
10/24/01

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	CITY OF MAHTOMEDI COST
2021.501	MOBILIZATION	LUMP SUM	\$32,500	0.25	\$8,125
2104.501	REMOVE CONCRETE CURB	LF	\$2.00	573	\$1,146
2104.503	REMOVE CONCRETE SIDEWALK	SF	\$1.25	2900	\$3,625
2104.505	REMOVE BITUMIONOUS PAVEMENT	SY	\$1.50	0	\$0
2104.513	SAW BIT PAVEMENT (FULL DEPTH)	LF	\$2.50	573	\$1,433
2105.501	COMMON EXCAVATION	CY	\$2.25	487.75	\$1,097
2211.503	AGGREGATE BASE (CV) CLASS 5	CY	\$14.00	226.25	\$3,168
2350.609	TYPE HV 3 WEARING COURSE MIXTURE	TON	\$38.00	50.5	\$1,919
2350.609	TYPE HV 3 NON WEARING COURSE MIXTURE	TON	\$38.00	101	\$3,838
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	\$1.00	44	\$44
2521.501	4" CONCRETE WALK	SF	\$2.50	630	\$1,575
2531.501	CONCRETE CURB & GUTTER DESIGN B624	LF	\$10.00	527.5	\$5,275
2563.601	TRAFFIC CONTROL	LUMP SUM	\$7,927	0.25	\$1,982
2564.531	F&I SIGN PANELS TYPE C	SF	\$30.00	5	\$150
2564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH	\$100.00	1	\$100
2564.602	PAVEMENT MESSAGE (RIGHT ARROW) EPOXY	EACH	\$100.00	0.5	\$50
2564.602	PAVEMENT MESSAGE (ONLY) EPOXY	EACH	\$100.00	0.75	\$75
2564.603	4" SOLID LINE WHITE-PAINT	LF	\$0.10	350	\$35
2564.603	4" SOLID LINE YELLOW-PAINT	LF	\$0.10	510	\$51
2564.603	24" SOLID LINE WHITE-PAINT	LF	\$4.00	24	\$96
2564.604	ZEBRA CROSSWALK WHITE-EPOXY	SF	\$5.00	60	\$300
2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM	SIGSYS	\$200,000.00	0.25	\$50,000
2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	\$10,000.00	0.25	\$2,500
2575.505	SODDING TYPE LAWN	SY	\$2.00	175	\$350
	CONSTRUCTION SUBTOTAL				\$86,933
	ENGINEERING - FINAL DESIGN				\$13,040
	ENGINEERING - CONSTRUCTION				\$8,693
	GRAND TOTAL				\$108,666

TABLE 3

TH 120 CORRIDOR IMPROVEMENTS
 LONG LAKE ROAD TO TH 244
 CENTURY COLLEGE PORTION
 Prepared By: Howard R. Green Company
 10/24/01

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	CENTURY COLLEGE COST
2021.501	MOBILIZATION	LUMP SUM	\$32,500	0.25	\$8,125
2104.501	REMOVE CONCRETE CURB	LF	\$2.00	550	\$1,100
2104.503	REMOVE CONCRETE SIDEWALK	SF	\$1.25	2900	\$3,625
2104.505	REMOVE BITUMIONOUS PAVEMENT	SY	\$1.50	0	\$0
2104.513	SAW BIT PAVEMENT (FULL DEPTH)	LF	\$2.50	550	\$1,375
2105.501	COMMON EXCAVATION	CY	\$2.25	376.75	\$848
2211.503	AGGREGATE BASE (CV) CLASS 5	CY	\$14.00	170.25	\$2,384
2350.609	TYPE HV 3 WEARING COURSE MIXTURE	TON	\$38.00	35.5	\$1,349
2350.609	TYPE HV 3 NON WEARING COURSE MIXTURE	TON	\$38.00	71	\$2,698
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	\$1.00	31	\$31
2521.501	4" CONCRETE WALK	SF	\$2.50	630	\$1,575
2531.501	CONCRETE CURB & GUTTER DESIGN B624	LF	\$10.00	527.5	\$5,275
2563.601	TRAFFIC CONTROL	LUMP SUM	\$7,927	0.25	\$1,982
2564.531	F&I SIGN PANELS TYPE C	SF	\$30.00	5	\$150
2564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH	\$100.00	1	\$100
2564.602	PAVEMENT MESSAGE (RIGHT ARROW) EPOXY	EACH	\$100.00	0.5	\$50
2564.602	PAVEMENT MESSAGE (ONLY) EPOXY	EACH	\$100.00	0.75	\$75
2564.603	4" SOLID LINE WHITE-PAINT	LF	\$0.10	350	\$35
2564.603	4" SOLID LINE YELLOW-PAINT	LF	\$0.10	510	\$51
2564.603	24" SOLID LINE WHITE-PAINT	LF	\$4.00	24	\$96
2564.604	ZEBRA CROSSWALK WHITE-EPOXY	SF	\$5.00	60	\$300
2565.511	FULL TACT CONTROL SIGNAL SYSTEM	SIGSYS	\$200,000.00	0.25	\$50,000
2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	\$10,000.00	0.25	\$2,500
2575.505	SODDING TYPE LAWN	SY	\$2.00	175	\$350
	CONSTRUCTION SUBTOTAL				\$84,073
	ENGINEERING - FINAL DESIGN				\$12,611
	ENGINEERING - CONSTRUCTION				\$8,407
	GRAND TOTAL				\$105,091

TABLE 4

TH 120 CORRIDOR IMPROVEMENTS
LONG LAKE ROAD TO TH 244
Mn/DOT PORTION

Prepared By: Howard R. Green Company
10/24/01

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	Mn/DOT COST
2021.501	MOBILIZATION	LUMP SUM	\$32,500	0.5	\$16,250
2104.501	REMOVE CONCRETE CURB	LF	\$2.00	1293	\$2,586
2104.503	REMOVE CONCRETE SIDEWALK	SF	\$1.25	5800	\$7,250
2104.505	REMOVE BITUMIONOUS PAVEMENT	SY	\$1.50	317	\$476
2104.513	SAW BIT PAVEMENT (FULL DEPTH)	LF	\$2.50	1803	\$4,508
2105.501	COMMON EXCAVATION	CY	\$2.25	935.5	\$2,105
2211.503	AGGREGATE BASE (CV) CLASS 5	CY	\$14.00	395.5	\$5,537
2350.609	TYPE HV 3 WEARING COURSE MIXTURE	TON	\$38.00	86	\$3,268
2350.609	TYPE HV 3 NON WEARING COURSE MIXTURE	TON	\$38.00	172	\$6,536
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	\$1.00	75	\$75
2521.501	4" CONCRETE WALK	SF	\$2.50	2970	\$7,425
2531.501	CONCRETE CURB & GUTTER DESIGN B624	LF	\$10.00	1535	\$15,350
2563.601	TRAFFIC CONTROL	LUMP SUM	\$7,927	0.5	\$3,963
2564.531	F&I SIGN PANELS TYPE C	SF	\$30.00	19	\$570
2564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH	\$100.00	2	\$200
2564.602	PAVEMENT MESSAGE (RIGHT ARROW) EPOXY	EACH	\$100.00	1	\$100
2564.602	PAVEMENT MESSAGE (ONLY) EPOXY	EACH	\$100.00	1.5	\$150
2564.603	4" SOLID LINE WHITE-PAINT	LF	\$0.10	700	\$70
2564.603	4" SOLID LINE YELLOW-PAINT	LF	\$0.10	1020	\$102
2564.603	24" SOLID LINE WHITE-PAINT	LF	\$4.00	48	\$192
2564.604	ZEBRA CROSSWALK WHITE-EPOXY	SF	\$5.00	120	\$600
2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM	SIGSYS	\$200,000.00	0.5	\$100,000
2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	\$10,000.00	0.5	\$5,000
2575.505	SODDING TYPE LAWN	SY	\$2.00	350	\$700
	CONSTRUCTION SUBTOTAL				\$183,012
	ENGINEERING - FINAL DESIGN				\$27,468
	ENGINEERING - CONSTRUCTION				\$18,301
	GRAND TOTAL				\$228,781

TABLE 5

TH 120 CORRIDOR IMPROVEMENTS
LONG LAKE ROAD TO TH 244
EVERGREEN MEMORIAL GARDEN PORTION
Prepared By: Howard R. Green Company
10/24/01

ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY	EVERGREEN MEMORIAL GARDEN COST
2021.501	MOBILIZATION	LUMP SUM	\$32,500	0	\$0
2104.501	REMOVE CONCRETE CURB	LF	\$2.00	24	\$48
2104.503	REMOVE CONCRETE SIDEWALK	SF	\$1.25	0	\$0
2104.505	REMOVE BITUMIONOUS PAVEMENT	SY	\$1.50	0	\$0
2104.513	SAW BIT PAVEMENT (FULL DEPTH)	LF	\$2.50	24	\$60
2105.501	COMMON EXCAVATION	CY	\$2.25	111	\$250
2211.503	AGGREGATE BASE (CV) CLASS 5	CY	\$14.00	56	\$784
2350.609	TYPE HV 3 WEARING COURSE MIXTURE	TON	\$38.00	15	\$570
2350.609	TYPE HV 3 NON WEARING COURSE MIXTURE	TON	\$38.00	30	\$1,140
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	\$1.00	14	\$14
2521.501	4" CONCRETE WALK	SF	\$2.50	0	\$0
2531.501	CONCRETE CURB & GUTTER DESIGN B624	LF	\$10.00	0	\$0
2563.601	TRAFFIC CONTROL	LUMP SUM	\$7,927	0	\$0
2564.531	F&I SIGN PANELS TYPE C	SF	\$30.00	0	\$0
2564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH	\$100.00	0	\$0
2564.602	PAVEMENT MESSAGE (RIGHT ARROW) EPOXY	EACH	\$100.00	0	\$0
2564.602	PAVEMENT MESSAGE (ONLY) EPOXY	EACH	\$100.00	0	\$0
2564.603	4" SOLID LINE WHITE-PAINT	LF	\$0.10	0	\$0
2564.603	4" SOLID LINE YELLOW-PAINT	LF	\$0.10	0	\$0
2564.603	24" SOLID LINE WHITE-PAINT	LF	\$4.00	0	\$0
2564.604	ZEBRA CROSSWALK WHITE-EPOXY	SF	\$5.00	0	\$0
2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM	SIGSYS	\$200,000.00	0	\$0
2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	\$10,000.00	0	\$0
2575.505	SODDING TYPE LAWN	SY	\$2.00	300	\$600
	CONSTRUCTION SUBTOTAL				\$3,466
	ENGINEERING - FINAL DESIGN				\$520
	ENGINEERING - CONSTRUCTION				\$347
	GRAND TOTAL				\$4,332

RESOLUTION 9085

RESOLUTION OF SUPPORT FOR
SUBMITTAL OF APPLICATION TO
MINNESOTA DEPARTMENT OF TRANSPORTATION
FOR FISCAL YEAR 2002
MUNICIPAL AGREEMENT PROGRAM

WHEREAS, the City of Mahtomedi and Century College have long sought the installation of a traffic signal at the intersection of Trunk Highway 120 and Woodland Drive, and;

WHEREAS, the City of White Bear Lake has worked in cooperation with Century College and the City of Mahtomedi to consider modifications to said intersection, and;

WHEREAS, Century College and the City of Mahtomedi have agreed to evenly split the costs associated with the submittal of an application to the Minnesota Department of Transportation for improvements at said intersection;

WHEREAS, the City desires to document its concern over site specific design issues including extreme slope, location of existing utilities and preservation of trees.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of White Bear Lake:

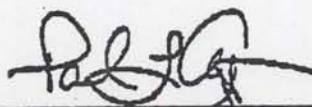
1. The City supports efforts to install the traffic signal at the intersection of Trunk Highway 120 and Woodland Drive at the earliest practical time; and
2. The City will cooperate with Century College to facilitate the location of a new north entrance at the City's Century Avenue water tower site; and
3. The City requests that Mahtomedi and Century College design the proposed roadway alignment in a manner which will minimize loss of trees, replace those trees lost to the improvement, protect or relocate the City's watermain within the right-of-way and address winter safety issues related to the final slope.

Copy - Mark
Graham
Copy - Bobby
Owens

RESOLUTION 9085

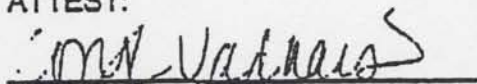
The foregoing resolution, offered by COUNCIL MEMBER BRIGGS
and supported by COUNCIL MEMBER LEMIRE, was declared carried on the
following vote:

Ayes: BRIGGS, DEVORE, JOHNSTONE, LEMIRE
Nays: NONE
Passed: November 27, 2001



Paul Auger, Mayor

ATTEST:



Cory L. Vadnais, City Clerk



A Community and Technical College

October 24, 2001

Mr. John Hohenstein
City Administrator
City of Mahtomedi
600 Stillwater Road
Mahtomedi, MN 55115

Dear Mr. Hohenstein:

On behalf of Century College, I am writing to pledge our support behind the City of Mahtomedi efforts to seek grant funds from the Minnesota Department of Transportation for a signal light and intersection changes at the intersection of Woodland Drive and Century College.

Sincerely,

Scott Erickson
V.P. of Finance

copy: Larry Litecky, College President

NATURE BAYER™ FAX MEMO 01618		Date	10.24.01	# of pages	1
To	John Hohenstein		From	Scott Erickson	
Co./Dept.			Co.		
Phone #			Phone #	779-3279	
Fax #	426-1786		Fax #	779-3417	

Washington County

CSAH 13 @ Hudson
Blvd./4th St. North

Category:

Preservation/Management

Project Description:

Signal installation,
turn lanes and
jurisdictional transfer



WASHINGTON COUNTY
DEPARTMENT OF TRANSPORTATION
& PHYSICAL DEVELOPMENT

11660 MYERON ROAD NORTH · STILLWATER, MINNESOTA 55082-9573
651-430-4300 Facsimile Machine 651-430-4350

Donald C. Wisniewski, P.E.
Director/County Engineer

Douglas W. Fischer, P.E.
Deputy Director, Transportation Division

James D. Luger, RLA
Parks Director

Larry S. Nybeck, PLS-County Surveyor
Deputy Director, Land Management/
Land Survey Division

Marvin Erickson
Facilities Manager

October 20, 2000

Kevin Hoglund
Cooperative Agreement Engineer
Mn/DOT Metro Division
Waters Edge
1500 West County Road B2
Roseville, MN 55113

RE: Municipal Agreement Program
County State Aid Highway (CSAH) 13 at Hudson Boulevard North / 4th Street North

Dear Mr. Hoglund:

As per your discussion with Doug Fischer on Monday, we are submitting this Municipal Agreement Program packet to request the installation of a traffic signal system at the CSAH 13 and Hudson Boulevard North / 4th Street North intersection be considered for funding.

Background Information

Currently, Hudson Boulevard North / 4th Street North is a Mn/DOT owned roadway and serves as the frontage road for Interstate 94. Hudson Boulevard North is a two-lane two-way road to the east of CSAH 13 and serves mostly Commercial properties including a Medical Center. 4th Street North is a two-lane two-way road to the west and serves both commercial and residential properties including the Guardian Angels Church. CSAH 13 is a four-lane divided arterial highway with turn-lanes that connects Lake Elmo and Oakdale to I-94 and Woodbury.

Project Purpose / Need

Every year, Washington County performs a Traffic Signal Ranking System (TSRS) to determine the locations best suited for signal installation. The intersection of CSAH 13/Hudson-4th St was the highest ranked intersection in the 1999 TSRS that was not already programmed to receive a signal in the next two years. Therefore, it was identified to receive a signal in 2001. The intersection just south of this one, CSAH 13 & I-94 North Ramps, is scheduled to receive a signal in 2001 under the Municipal Agreement Program. Signalization of both intersections makes sense when considering traffic progression in the area. Currently, the signals located on CSAH 13 south of I-94 in Woodbury work as an interconnected system. Both of the new signals, one located on CSAH 13 at the I-94 North Ramps, and the one at CSAH 13 & Hudson Blvd. N/4th St N will be added to this interconnected system allowing coordination for the entire corridor.

Table 1 presents a summary of the Signal Warrant Analysis completed for this intersection.

Recently, Mn/DOT reviewed and approved a plat that necessitated permitting an access onto Hudson Boulevard located approximately 500 feet east of the CSAH 13 intersection. This access was permitted because the outlot did not have an easement across the adjacent property for access farther away from the intersection. If left at current geometry, this access could cause a substantial traffic problem when constructed. Thus, a concrete median is proposed that in effect makes this a right in/right out access and provides better channelization and traffic flow in the area.

Mn/DOT has shown interest in turning back 4th Street and Hudson Boulevard to Oakdale and Lake Elmo, respectively. Completion of these improvements may make it easier for the cities involved to accept this turnback.

Coordination with Other Agencies and Schedules

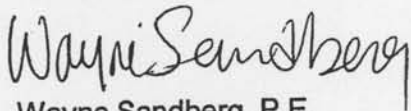
Washington County will administer and manage the project. The agencies involved will be Mn/DOT, Washington County, Oakdale and Lake Elmo. Initial coordination on the project has already begun and the project could start construction in July of 2001. See the attached schedule for more detailed information.

Estimated Cost

At a minimum, we request \$141,000 for Mn/DOT's participation in the traffic signal, EVP and interconnect. We also feel it is reasonable to request full funding of the improvements on Hudson Boulevard, an additional \$270,000 (or the amount of improvements deemed necessary as further project development occurs – nothing more expected, but it may be something less). Full funding for roads and approaches currently under Mn/DOT jurisdiction is estimated at \$626,400. See the attached cost estimate for cost information.

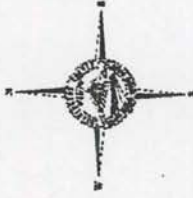
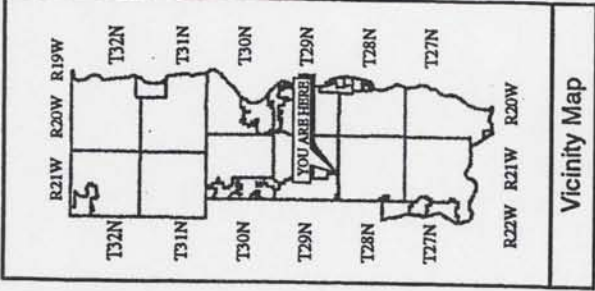
Thank you for the opportunity to submit this project for consideration under the Municipal Agreement Program. The County looks forward to the possibility of working with Mn/DOT on this and other projects in the future. If you have any other questions, please feel free to contact me at 651-430-4339.

Sincerely,



Wayne Sandberg, P.E.
Traffic Engineer

C: Sandra Cullen, Transportation Manager
Doug Fischer, Deputy Director
Brian Bachmeier, City of Oakdale
Chuck Dillerud, City of Lake Elmo
Tom Prew, TKDA (Lake Elmo Engineer)

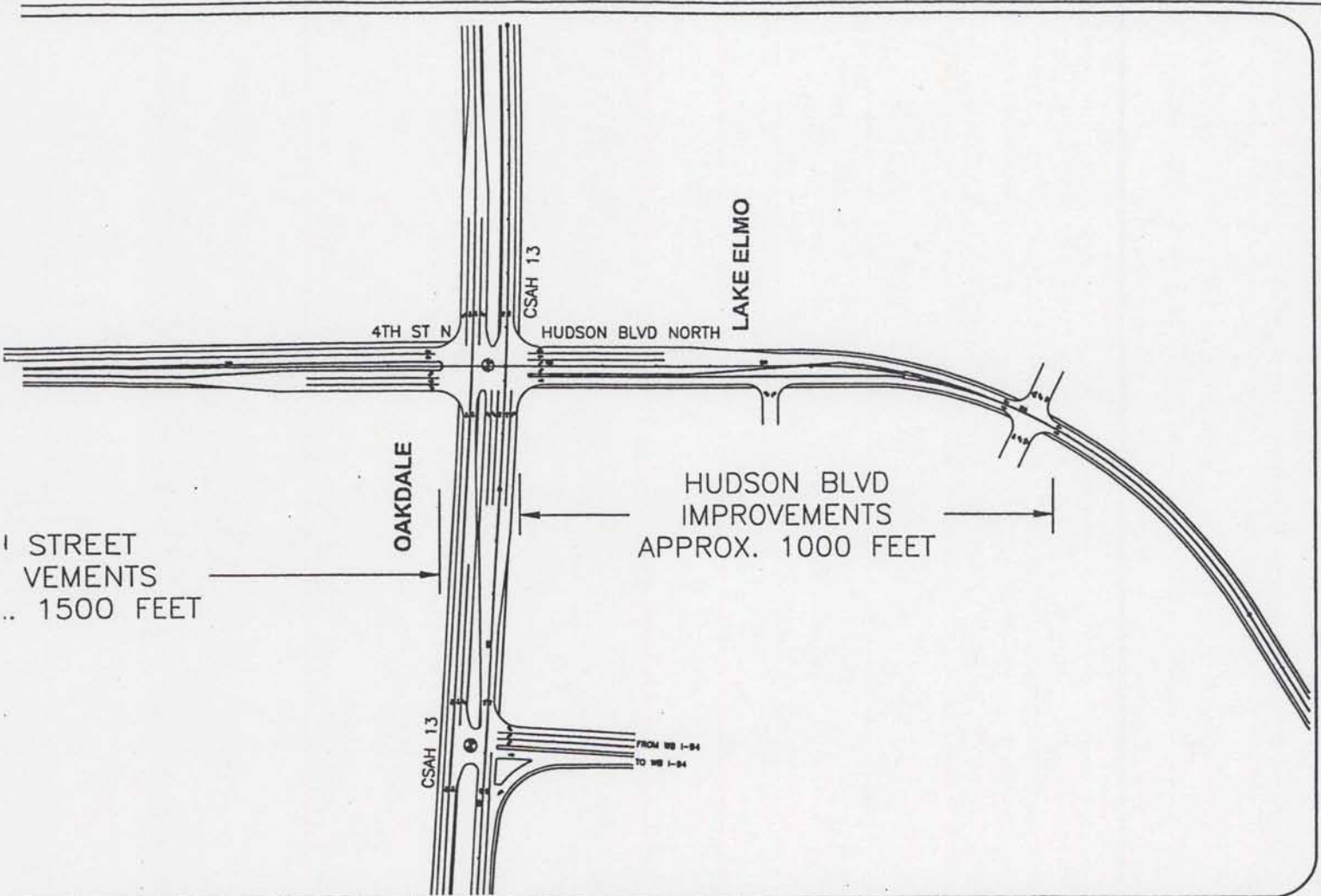


The drawing is the result of a compilation and reproduction of land records as they appear in the County office. The drawing should be used for informational purposes only. Washington County is not responsible for any inaccuracies.

Source: Washington County Surveyor's Office.
 Printer: (617) 490-0875
 Parcel data based on AS400 information current through August 31, 2000
 Map printed: October 18, 2000



Location Map



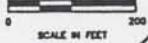
**WASHINGTON COUNTY
DEPARTMENT OF TRANSPORTATION**

**CSAH 13 & 4TH ST / HUDSON ROAD
OAKDALE & LAKE ELMO
MINNESOTA**

Traffic Proj. No.:
Date: 10-20-00

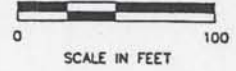
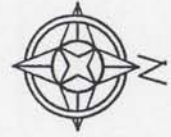


**PROPOSED
OVERALL LAYOUT**

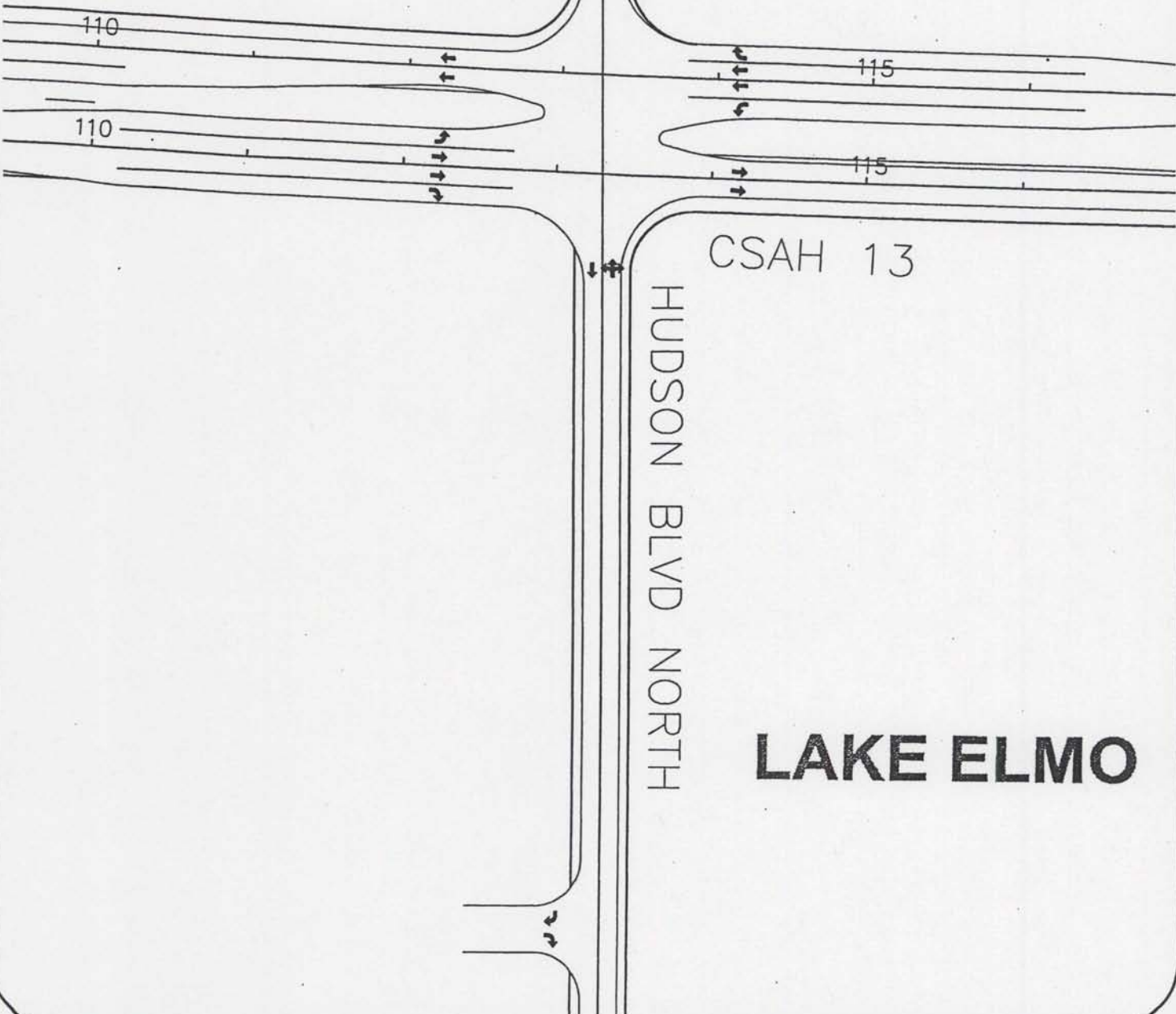


OAKDALE

4TH ST N



SCALE IN FEET



CSAH 13

HUDSON BLVD NORTH

LAKE ELMO



WASHINGTON COUNTY
DEPARTMENT OF TRANSPORTATION
& PHYSICAL DEVELOPMENT
11800 Highway Road North
Stillwater, Minnesota 55082
851-438-4300 FAX 851-438-4350

WASHINGTON COUNTY
DEPARTMENT OF TRANSPORTATION

CSAH 13 & 4TH ST N / HUDSON BLVD N
OAKDALE & LAKE ELMO
MINNESOTA

Traffic Proj. No.:
Date: 10-20-00

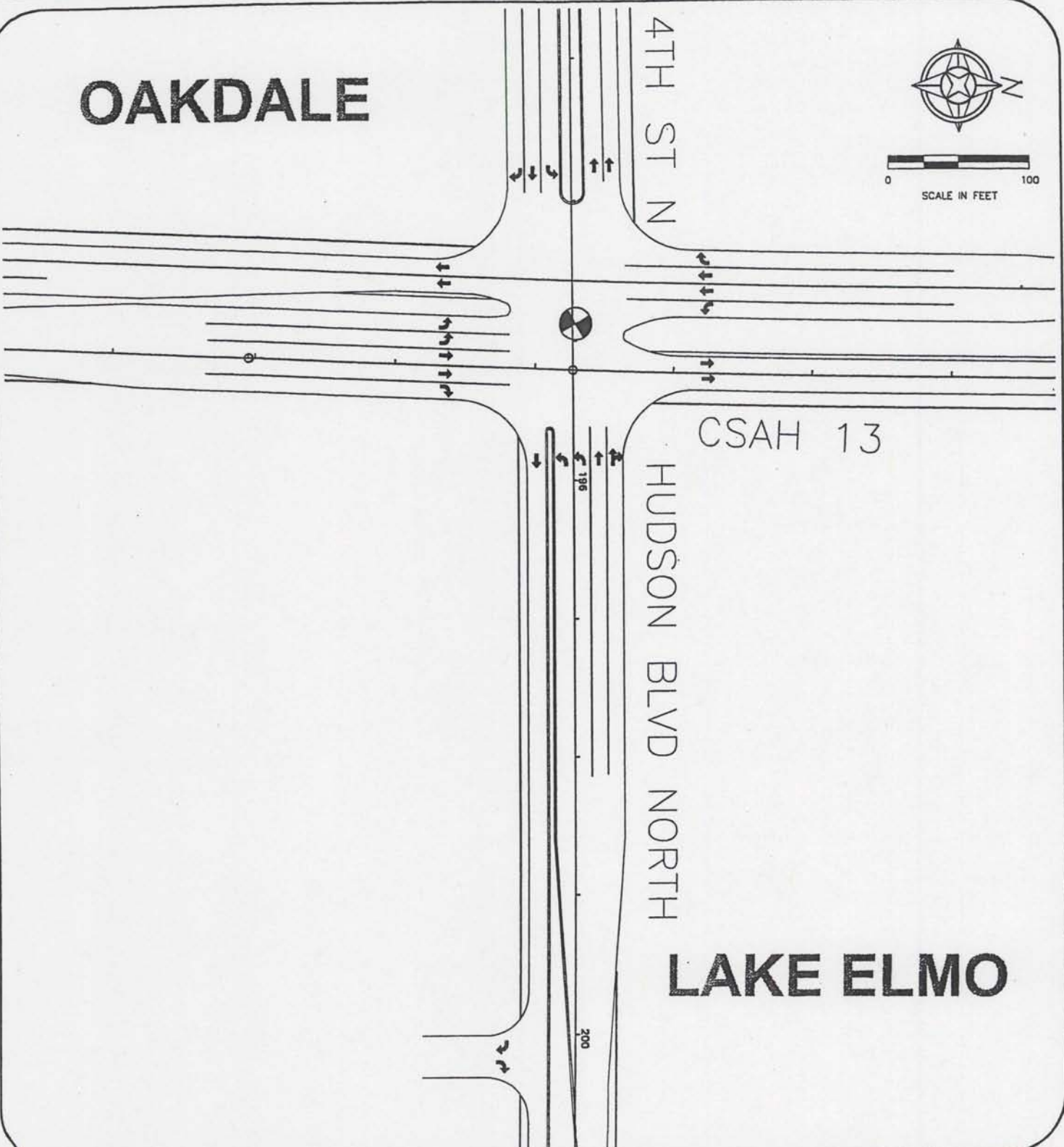
EXISTING

OAKDALE

4TH ST N



0 100
SCALE IN FEET



CSAH 13

HUDSON BLVD NORTH

LAKE ELMO

200



WASHINGTON COUNTY
DEPARTMENT OF TRANSPORTATION
& PHYSICAL DEVELOPMENT
11000 Myron Road North
Sutherland, Minnesota 55062
651-436-4308 FAX 651-436-4308

WASHINGTON COUNTY
DEPARTMENT OF TRANSPORTATION

CSAH 13 & 4TH ST N / HUDSON BLVD N
OAKDALE & LAKE ELMO
MINNESOTA

Traffic Proj. No.:
Date: 10-20-00

PROPOSED

**COST ESTIMATE
LAKE ELMO / OAKDALE
WASHINGTON COUNTY**

CSAH 13 (Inwood Avenue) at Hudson Blvd North / 4th Street North
Traffic Signal, Interconnect, EVP, Geometric Improvements

Item No	Item	Unit	Total Est. Quantity	Local Quantity	State Quantity	Estimated Unit Cost	Estimated Total Cost	Local Cost	State Cost
2565.511	Full Traffic Actuated Traffic Control Signal System	Sig. Sys.	1	50%	50%	\$225,000	\$225,000	\$112,500	\$112,500
2565.601	Emergency Vehicle Preemption System	Lump Sum	1	50%	50%	\$5,000	\$5,000	\$2,500	\$2,500
2565.601	Traffic Control Interconnection	Lump Sum	1	50%	50%	\$30,000	\$30,000	\$15,000	\$15,000
							subtotal	\$130,000	\$130,000
	4th Street North Geometric Improvements which includes: Widening to allow for right, through and left approach lanes A concrete median Two receiving lanes to receive northbound CSAH 13 dual left turn lanes			0%	100%		\$200,000	\$0	\$200,000
	Hudson Road North Geometric Improvements Widening to allow for dual left, through, and a right turn-through lane A concrete median One receiving lane			0%	100%		\$250,000	\$0	\$250,000
	CSAH 13 Geometric Improvements Additional northbound left turn lane to westbound 4 th Street.			100%	0%		\$20,000	\$20,000	\$0
							subtotal	\$20,000	\$450,000
							Estimated Construction Cost	\$150,000	\$580,000
	Preliminary Engineering and Design						Ten percent of construction costs	\$73,000	\$0
	Construction Administration						Eight percent of construction costs	\$12,000	\$46,400
							TOTAL ESTIMATED PROJECT COST BREAKDOWN	\$235,000	\$626,400
							TOTAL ESTIMATED PROJECT COST		\$861,400

DATE November 7, 2000 DEPARTMENT Transportation & Physical Development

MOTION BY COMMISSIONER Peterson SECONDED BY COMMISSIONER Hegberg

**Resolution to Request Funding from the Minnesota Department of
Transportation through the Municipal Agreement Program for the
County State Aid Highway (CSAH) 13 Traffic Signal System Project
At Hudson Boulevard/4th Street North**

WHEREAS, Washington County wishes to install a traffic signal system on County State Highway (CSAH) 13 at the intersection with Hudson Blvd./4th Street; and

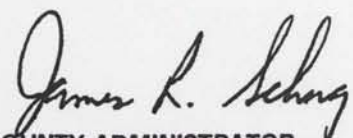

WHEREAS, the project will be of mutual benefit to both the Minnesota Department of Transportation and Washington County; and

WHEREAS, Washington County is requesting financial participation in the project from the Minnesota Department of Transportation through the Municipal Agreement program; and

WHEREAS, Washington County is committed to providing the local share of the costs if the project is selected as part of the FY 2002 Municipal Agreement Program; and

WHEREAS, Washington County is committed to completing the project if selected and funding is provided as part of the FY 2002 Municipal Agreement Program.

NOW, THEREFORE, BE IT RESOLVED, that Washington County is requesting funding from the Minnesota Department of Transportation for the installation of a traffic signal system on County State Aid Highway (CSAH) 13 at the intersection with Hudson Blvd/4th Street N and is committed to completing such project and providing the local share of funding.

ATTEST: 
COUNTY ADMINISTRATOR

CHAIRMAN, COUNTY BOARD

	YES	NO
ABRAHAMSON	<u>X</u>	<u> </u>
HEGBERG	<u>X</u>	<u> </u>
PETERSON	<u>X</u>	<u> </u>
PULKRABEK	<u>X</u>	<u> </u>
STAFFORD	<u>X</u>	<u> </u>

TABLE 1

MMUTCD Warrant	Hours Met	Hours Required to be Met	Warrant Met
Warrant 1 Minimum Vehicular Volume	12	8	Yes
Warrant 2 Interruption of Continuous Traffic	10	8	Yes
Warrant 8 Combination of Warrants	14	8	Yes
Warrant 9 Four Hour Volumes	11	4	Yes
Warrant 11 Peak Hour Volume	6	1	Yes

Furthermore, a review of the accidents in the area shows a jump in 1999 in the number of crashes that would be susceptible to correction with a signal installation. *Table 2* shows a summary of recent crash data. I have included the 2000 crash data that is current through June of 2000.

TABLE 2

1996		1997		1998		1999		2000	
Total	Correctable	Total	Correctable	Total	Correctable	Total	Correctable	Total	Correctable
1	1	2	2	1	1	9	5	3	3

Description / Benefits to Mn/DOT

This project will consist of the installation of a fully actuated traffic signal system that will be interconnected to the south to the intersection of CSAH 13 & I-94 North Ramps. Roadway improvements being made as part of this project will include:

CSAH 13

- Additional northbound left turn lane to westbound 4th Street.

4th Street

- Widening to allow for right, through and left approach lanes
- A concrete median
- Two receiving lanes to accommodate the northbound CSAH 13 dual left turn lanes

Hudson Boulevard

- Widening to allow for dual left, through, and a right turn-through lane
- A concrete median
- One receiving lane

See the attached layouts for roadway improvement information.

Both Lake Elmo and Oakdale have plans for significant development in this area. Two different consulting firms have studied the impact of the developments on traffic and both studies agree that these improvements are necessary to accommodate the future traffic. As already shown, the intersection currently meets warrants for a signal, therefore it makes sense to construct the geometric improvements that will be necessary concurrent with the signal installation.

**Signal Warrant Analysis
Warrants # 1 & # 2**

Date 4/10/00
 Location CSAH 13 & 4th Street
 Oakdale/Lake Elmo
 Existing - Weekday
 Population Less than 10,000:
 Seventy Percent Factor Used: Yes

Speed	Approach	Lanes
55	Major Approach 1 - SB CSAH 13	4
55	Major Approach 3 - NB CSAH 13	4
30	Minor Approach 2 - EB 4th Street	1
30	Minor Approach 4 - WB 4th Street	1

Warrants Met	Major	Minor
Warrant 1	420	105
Warrant 2	630	52

Time	Major Street:					Minor Street:					Totals	
	Approach 1	Approach 3	Total Approach	Warrant 1 Met	Warrant 2 Met	Approach 2	Approach 4	Greater Approach	Warrant 1 Met	Warrant 2 Met	Warrant 1 Met	Warrant 2 Met
	SB CSAH 13	NB CSAH 13	1 + 3	420	630	EB 4th Street	WB 4th Street		105	52		
0:00-1:00	12	38	50			2	2	2				
1:00-2:00	9	15	24			11	2	11				
2:00-3:00	8	13	21			22	1	22				
3:00-4:00	5	15	20			12	0	12				
4:00-5:00	23	14	37			24	2	24				
5:00-6:00	74	58	132			50	3	50				
6:00-7:00	250	307	557	Y		94	25	94		Y		
7:00-8:00	394	647	1041	Y	Y	103	45	103		Y		Y
8:00-9:00	320	420	740	Y	Y	116	48	116	Y	Y	Y	Y
9:00-10:00	270	318	588	Y		119	70	119	Y	Y	Y	
10:00-11:00	273	336	609	Y		198	87	198	Y	Y	Y	
11:00-12:00	338	406	744	Y	Y	191	92	191	Y	Y	Y	Y
12:00-13:00	342	551	893	Y	Y	114	93	114	Y	Y	Y	Y
13:00-14:00	318	449	765	Y	Y	184	79	184	Y	Y	Y	Y
14:00-15:00	309	449	758	Y	Y	197	85	197	Y	Y	Y	Y
15:00-16:00	387	531	918	Y	Y	277	96	277	Y	Y	Y	Y
16:00-17:00	496	614	1110	Y	Y	221	97	221	Y	Y	Y	Y
17:00-18:00	504	550	1054	Y	Y	177	63	177	Y	Y	Y	Y
18:00-19:00	364	504	868	Y	Y	126	30	126	Y	Y	Y	Y
19:00-20:00	241	354	595	Y		112	12	112	Y	Y	Y	
20:00-21:00	161	287	448	Y		59	12	59		Y		
21:00-22:00	113	199	312			21	7	21				
22:00-23:00	59	109	168			12	4	12				
23:00-24:00	29	73	102			9	2	9				
Total	5298	7257	12555	15	10	2451	955	2451	12	15	12	10

Warrant #1 WAS MET 12 Hours Satisfied Requirements

Warrant #2 WAS MET 10 Hours Satisfied Requirements

22 Total Hours Satisfied (for TSRS)



Washington County
 Department of Transportation & Physical Development
 Traffic Engineering

**CSAH 13 & 4th Street
 Warrants 1 & 2**

Signal Warrant Analysis
Warrant # 8 - Combination of Warrants

Date 04/10/00
 Location CSAH 13 & 4th Street
 Oakdale/Lake Elmo

Speed	Approach	Lanes
55	Major Approach 1 - SB CSAH 13	4
55	Major Approach 3 - NB CSAH 13	4
30	Minor Approach 2 - EB 4th Street	1
30	Minor Approach 4 - WB 4th Street	1

Population Less than 10,000: 0
 Seventy Percent Factor Used: Yes

Warrants Met	Major	Minor
Warrant 1	420	105
Warrant 2	630	52

Time	Major Street:						Minor Street:				Totals	
	Approach 1	Approach 3	Total Approach	Warrant 1 80%	Warrant 2 80%	Approach 2	Approach 4	Greater Approach	Warrant 1 80%	Warrant 2 80%	Warrant 1 80%	Warrant 2 80%
	SB CSAH 13	NB CSAH 13	1 + 3	336	504	EB 4th Street	WB 4th Street		84	41.6		
0:00-1:00	12	38	50			2	2	2				
1:00-2:00	9	15	24			11	2	11				
2:00-3:00	8	13	21			22	1	22				
3:00-4:00	5	15	20			12	0	12				
4:00-5:00	23	14	37			24	2	24				
5:00-6:00	74	58	132			50	3	50		Y		
6:00-7:00	250	307	557	Y	Y	94	25	94	Y	Y	Y	Y
7:00-8:00	394	647	1041	Y	Y	103	45	103	Y	Y	Y	Y
8:00-9:00	320	420	740	Y	Y	116	46	116	Y	Y	Y	Y
9:00-10:00	270	318	588	Y	Y	119	70	119	Y	Y	Y	Y
10:00-11:00	273	336	609	Y	Y	198	87	198	Y	Y	Y	Y
11:00-12:00	338	406	744	Y	Y	191	92	191	Y	Y	Y	Y
12:00-13:00	342	551	893	Y	Y	114	93	114	Y	Y	Y	Y
13:00-14:00	316	449	765	Y	Y	184	79	184	Y	Y	Y	Y
14:00-15:00	309	449	758	Y	Y	197	85	197	Y	Y	Y	Y
15:00-16:00	387	531	918	Y	Y	277	96	277	Y	Y	Y	Y
16:00-17:00	496	614	1110	Y	Y	221	97	221	Y	Y	Y	Y
17:00-18:00	504	550	1054	Y	Y	177	63	177	Y	Y	Y	Y
18:00-19:00	364	504	868	Y	Y	126	30	126	Y	Y	Y	Y
19:00-20:00	241	354	595	Y	Y	112	12	112	Y	Y	Y	Y
20:00-21:00	161	287	448	Y		59	12	59		Y		
21:00-22:00	113	199	312			21	7	21				
22:00-23:00	59	109	168			12	4	12				
23:00-24:00	29	73	102			9	2	9				
Total	5298	7257	12555	15	14	2451	955	2451	14	16	14	14

Warrant #1 80% WAS MET 14 Hours Satisfied Requirements
 Warrant #2 80% WAS MET 14 Hours Satisfied Requirements

Warrant #3 WAS MET

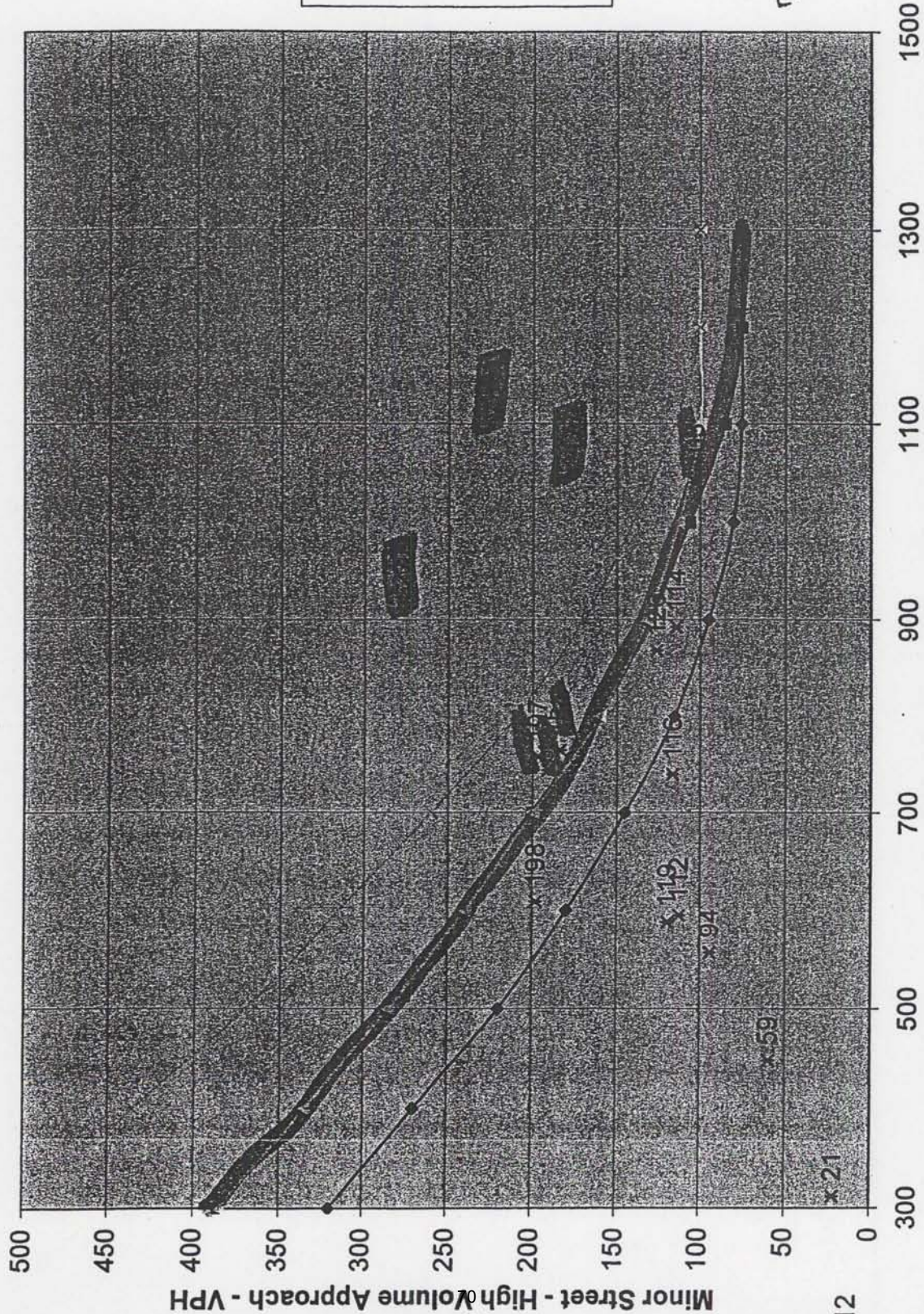
28 Total Hours Satisfied (for TSRS)



Washington County
 Department of Transportation & Physical Development
 Traffic Engineering

CSAH 13 & 4th Street
 Warrant 8

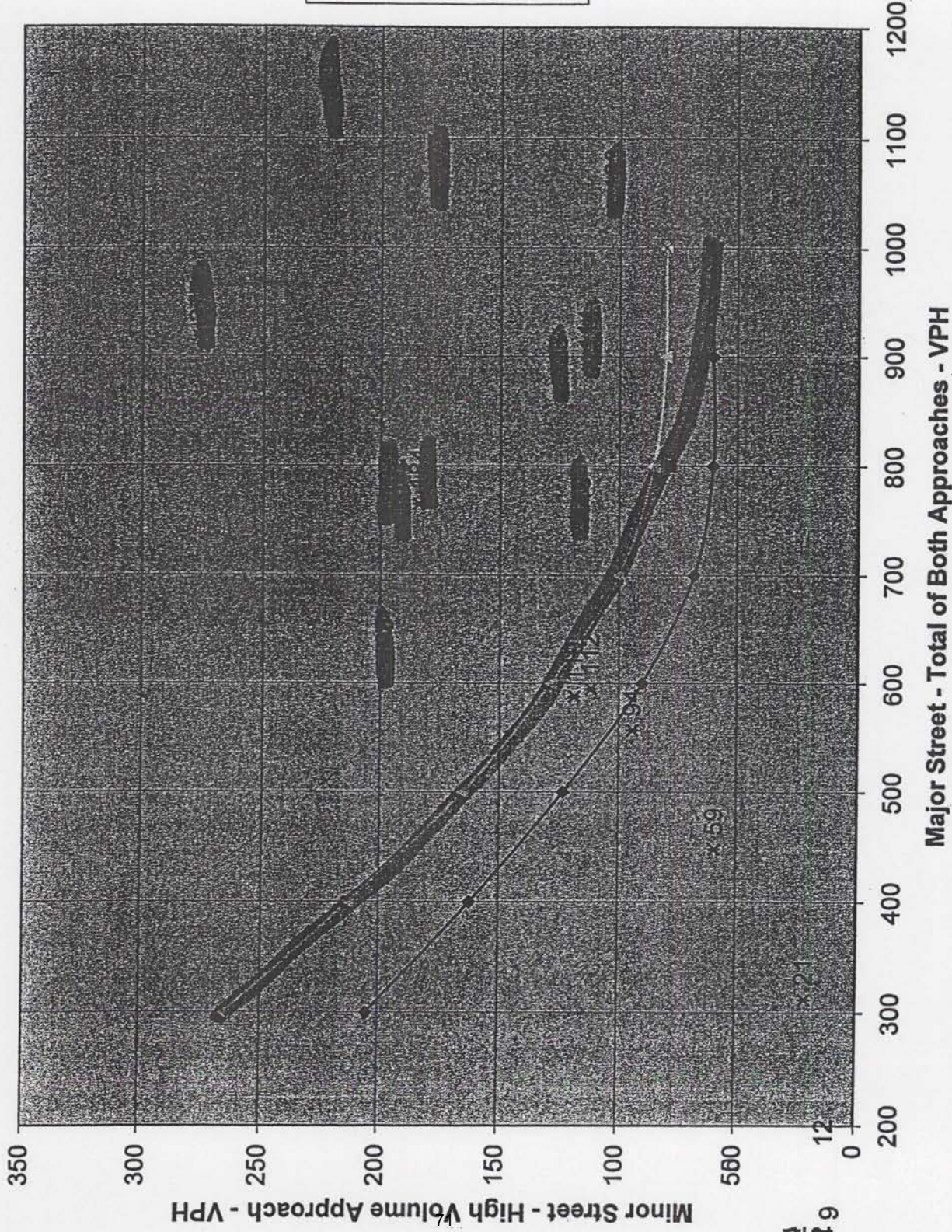
70% FACTOR PEAK HOUR VOLUME WARRANT (4-2)



7 Hours MET

50
24
9412
2

70% FACTOR FOUR HOUR VOLUME WARRANT (4-4)



11 Hours MET

24
129
2

Multiway Stop Analysis

Date 4/10/00

Location CSAH 13 & 4th Street Multiway Stop Warrants

Oakdale/Lake Elmo 1. Where signal is required

Speed Limit= — 2. 5 correctable accidents in a 12 month period

70% Factor Used YES 3. Traffic Volumes

a) total vehicular volume from all approaches averages at least 350 vehicles per hour for any 8 hour period

b) Combined vehicular/pedestrian volume from minor street must average 140 units per hour for the same 8 hours, and minimum 30 second average delay per vehicle during the peak hour.

3. Traffic Volumes

Time	Major Street		Minor Street		Totals	Warrant 3a Met? 350	Warrant 3b Met ? 140
	Approach 1	Approach 3	Approach 2	Approach 4			
	B CSAH 1	B CSAH 1	B 4th Street	B 4th Street			
0:00-1:00	12.20	38.00	2.00	2.00	54.20		
1:00-2:00	9.40	15.00	11.00	2.20	37.60		
2:00-3:00	7.80	13.00	22.00	1.00	43.80		
3:00-4:00	5.20	15.00	12.00	0.00	32.20		
4:00-5:00	23.00	14.00	24.00	2.00	63.00		
5:00-6:00	74.40	58.00	50.00	3.00	185.40		
6:00-7:00	250.00	307.00	94.00	25.00	676.00	Y	
7:00-8:00	394.00	647.00	103.00	45.00	1189.00	Y	Y
8:00-9:00	319.80	420.00	116.00	46.00	901.80	Y	Y
9:00-10:00	270.00	318.00	119.00	70.00	777.00	Y	Y
10:00-11:00	273.00	336.00	198.00	87.00	894.00	Y	Y
11:00-12:00	338.00	406.00	191.00	92.00	1027.00	Y	Y
12:00-13:00	342.00	551.00	114.00	93.00	1100.00	Y	Y
13:00-14:00	316.00	449.00	184.00	79.00	1028.00	Y	Y
14:00-15:00	309.00	449.00	197.00	85.00	1040.00	Y	Y
15:00-16:00	387.00	531.00	277.00	96.00	1291.00	Y	Y
16:00-17:00	496.00	614.00	221.00	97.00	1428.00	Y	Y
17:00-18:00	504.00	550.00	177.00	63.00	1294.00	Y	Y
18:00-19:00	364.00	504.00	126.00	30.00	1024.00	Y	Y
19:00-20:00	241.00	354.00	112.00	12.00	719.00	Y	
20:00-21:00	161.00	287.00	59.00	12.20	519.20	Y	
21:00-22:00	113.00	199.00	21.00	6.80	339.80		
22:00-23:00	59.00	109.00	12.00	4.00	184.00		
23:00-24:00	29.00	73.00	9.00	1.60	112.60		

15 12

Warrant 3a	WAS MET	15 hours satisfied requirements
Warrant 3b	WAS MET - CHECK I	12 hours satisfied requirements

2. Accident Summary

	Number of Accidents	Number of Correctable Accidents	Correctable Property Damage	Correctable Injury	Correctable Fatal	Warrant 2 Met 5
1995	0	0	0	0	0	0
1996	1	1	0	1	0	0
1997	2	2	0	2	0	0
1998	1	1	0	1	0	0
1999	9	5	3	2	0	0
			3	6	0	0

Warrant 2	WAS NOT MET	0 years satisfied requirements
-----------	-------------	--------------------------------



Washington County

Department of Transportation & Physical Development
Traffic Engineering

CSAH 13 & 4th Street
All Way Stop Analysis

**Traffic Signal Ranking System
Accidents**

Date 04/10/00
Location CSAH 13 & 4th Street
Oakdale/Lake Elmo

Population Less than 10,000: 0
Seventy Percent Factor Used: Yes

Speed	Approach	Lanes
55	Major Approach 1 - SB CSAH 13	4
55	Major Approach 3 - NB CSAH 13	4
30	Minor Approach 2 - EB 4th Street	1
30	Minor Approach 4 - WB 4th Street	1

Accident Summary

	Number of Accidents	Number of Correctable Accidents	Correctable Property Damage	Correctable Injury	Correctable Fatal
1995					
1996	1	1		1	
1997	2	2		2	
1998	1	1		1	
1999	9	5	3	2	
			3	6	0

TSRS Ranking

Total Property Damage	Total Injury	Weighted Injury (2X)	Total Fatal	Weighted Fatal (5X)	Number of Years in Study	TSRS RANKING
3	6	12	0	0	4	4

Average Number of Correctable Accidents

Total Correctable	Number of Years in Study	Avg Number Correctable per Year
9	4	2



Washington County
Department of Transportation & Physical Development
Traffic Engineering

CSAH 13 & 4th Street
Accidents

Collision Diagram

Minnesota Department of Transportation

Location: 13 (Radio Dr.) + 4th St.

Time Period: 2000 -

Prepared by: C Hanson

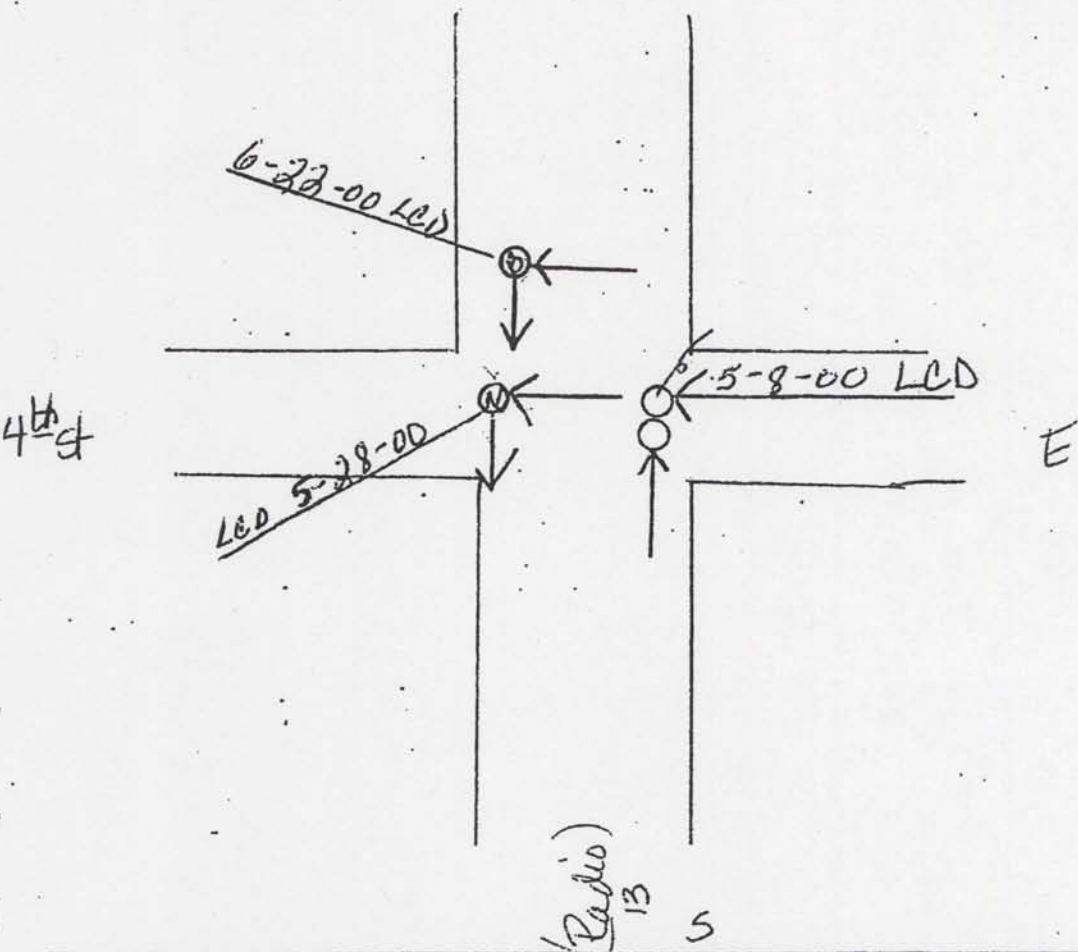
Date: _____

No. of Accidents

Fatal =
A Injury =
B Injury =
C Injury =
Injury Total =
Property Damage =
Total Acc. =



Indicate North



- Motor Vehicle Moving Ahead
- ⇐ Motor Vehicle Backing Up
- ↘ Motor Vehicle Out of Control
- Pedestrian
- Bicycle/Moped
- Motorcycle
- Fixed Object
- Fatal Acc.
- ⊙ A Injury Acc.
- ⊙ B Injury Acc.

- Property Damage Acc.
- ⊗ Rear End Property Damage
- ⊙ Right Angle

Light:
 L = Daylight (1)
 DN = Dawn (2)
 Du = Dusk (3)
 D = Dark (4, 5 or 6)
 X = Unknown

Weather:
 C = Clear or Cloudy (1 or 2)
 R = Rain (3)
 S = Snow or Sleet (4 or 5)
 X = Other or Unknown

Surface:
 D = Dry (1)
 W = Wet (2)
 S = Snow or Ice (3 or 4)
 X = Other or Unknown

Example of Bicycle/Motor Vehicle Accident:

Injury Type

← 6-4-78

Du-C-D

Date = Time Light - Weather - Surface

Collision Diagram

Minnesota Department of Transportation

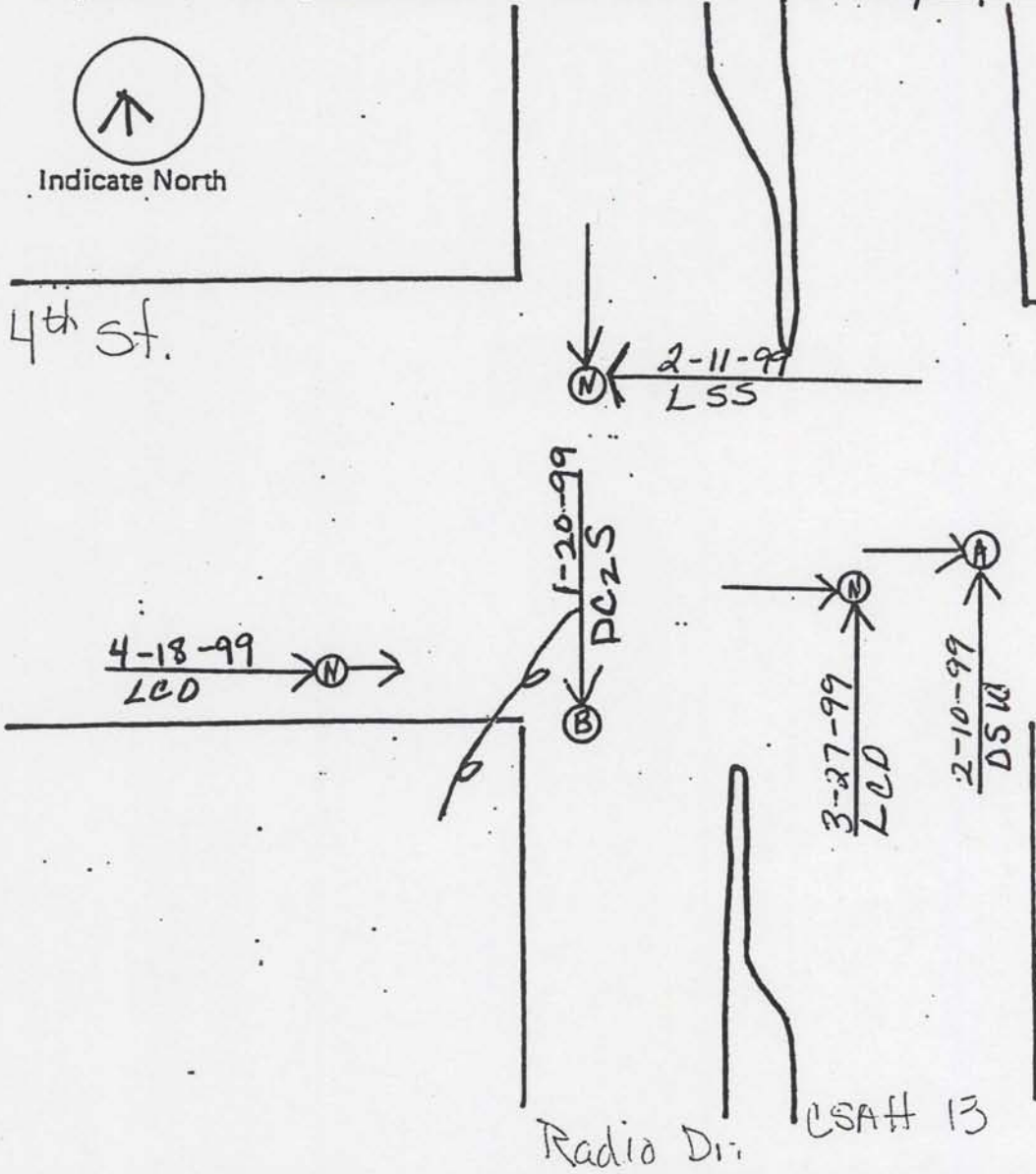
Location: CSAH 13 (Radio Dr.)
 Time Period: 1999 1 of 2
 Prepared by: C. Hanson

Date: 10/20/00

No. of Accidents
Fatal =
A Injury =
B Injury =
C Injury =
Injury Total =
Property Damage =
Total Acc. =



Indicate North

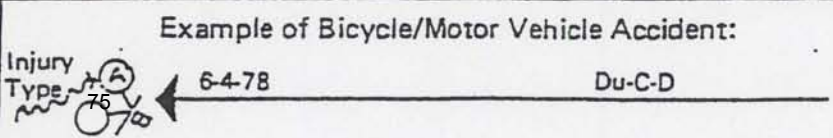


- Motor Vehicle Moving Ahead
- ⇐ Motor Vehicle Backing Up
- ⇨ Motor Vehicle Out of Control
- ⊙ Pedestrian
- ⊙ Bicycle/Moped
- ⊙ Motorcycle
- Fixed Object
- Fatal Acc.
- ⊙ A Injury Acc.
- ⊙ B Injury Acc.
- ⊙ C Injury Acc.
- Property Damage Acc.
- ⊗ Rear End Property Damage

Light:
 L = Daylight (1)
 DN = Dawn (2)
 Du = Dusk (3)
 D = Dark (4, 5 or 6)
 X = Unknown

Weather:
 C = Clear or Cloudy (1 or 2)
 R = Rain (3)
 S = Snow or Sleet (4 or 5)
 X = Other or Unknown

Surface:
 D = Dry (1)
 W = Wet (2)
 S = Snow or Ice (3 or 4)
 X = Other or Unknown



Date = Time

Light - Weather - Surface

Collision Diagram

Minnesota Department of Transportation

Location: CSAH 13 (Radio Dr)

Time Period: 1999 2 of 2

Prepared by: C. Hansen

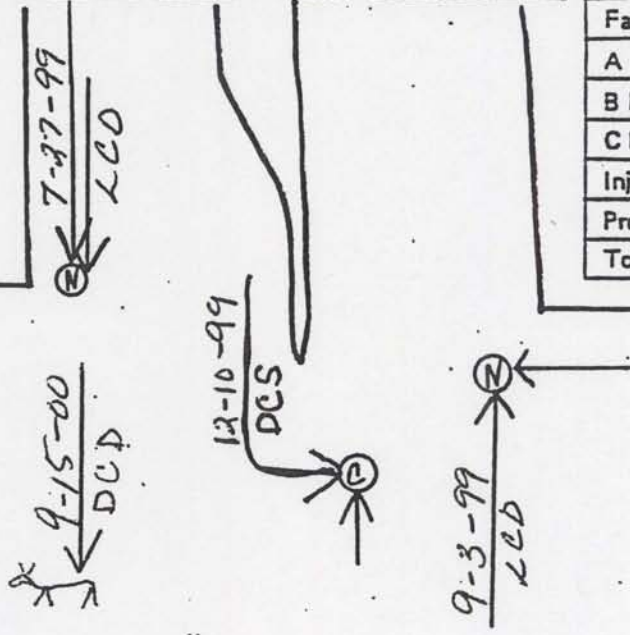
Date: 10-20-00

No. of Accidents	
Fatal =	
A Injury =	
B Injury =	
C Injury =	
Injury Total =	
Property Damage =	
Total Acc. =	



Indicate North

4th St.



Radio Dr. CSAH 13

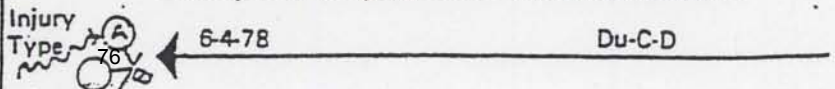
- Motor Vehicle Moving Ahead
- ← Motor Vehicle Backing Up
- ↔ Motor Vehicle Out of Control
- ⊙ Pedestrian
- ⊙ Bicycle/Moped
- ⊙ Motorcycle
- Fixed Object
- Fatal Acc.
- ⊙ A Injury Acc.
- Property Damage Acc.
- ⊙ Rear End Property Damage

- Light:**
- L = Daylight (1)
 - DN = Dawn (2)
 - Du = Dusk (3)
 - D = Dark (4, 5 or 6)
 - X = Unknown

- Weather:**
- C = Clear or Cloudy (1 or 2)
 - R = Rain (3)
 - S = Snow or Sleet (4 or 5)
 - X = Other or Unknown

- Surface:**
- D = Dry (1)
 - W = Wet (2)
 - S = Snow or Ice (3 or 4)
 - X = Other or Unknown

Example of Bicycle/Motor Vehicle Accident:



Collision Diagram

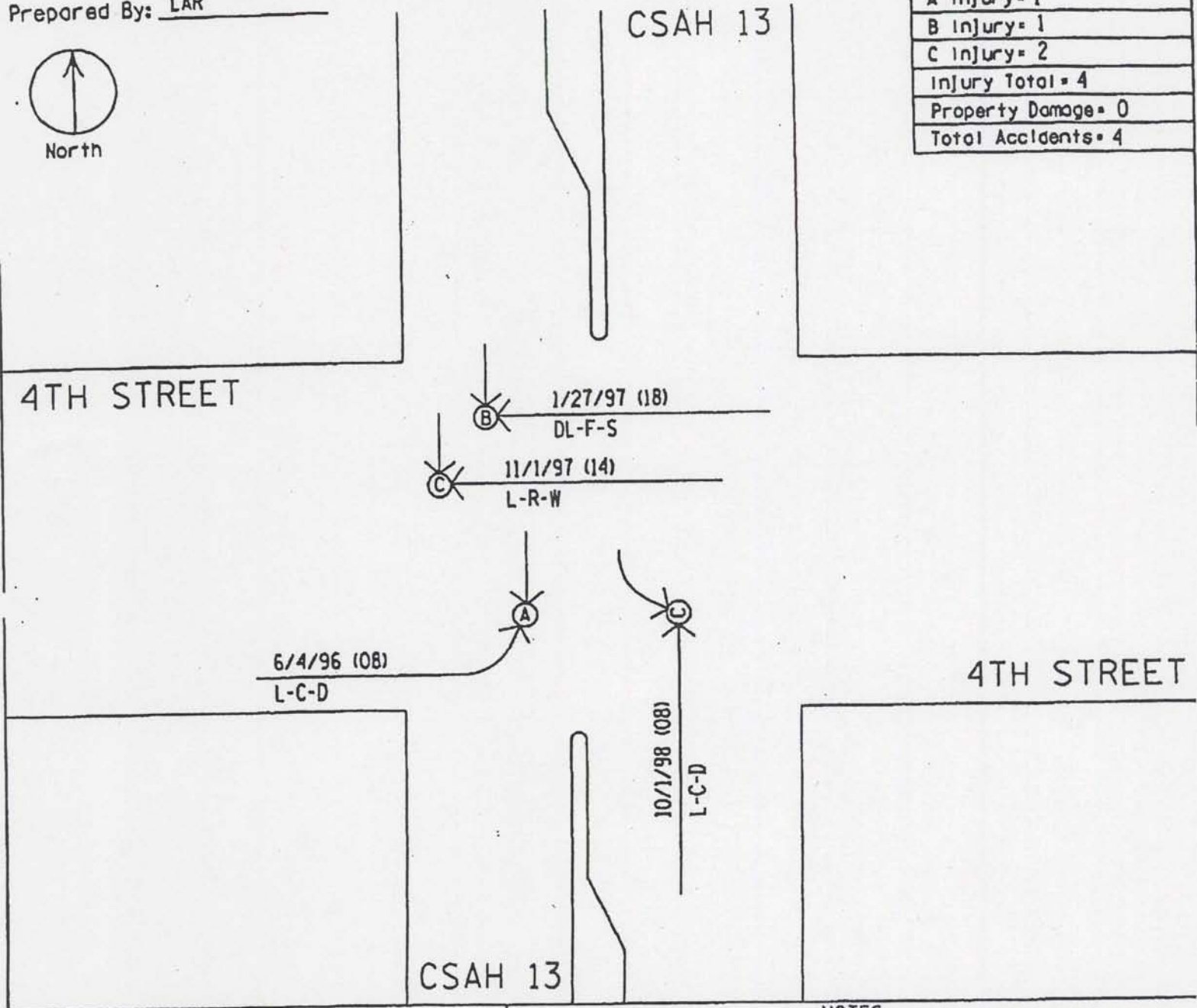
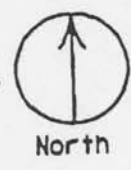
Minnesota Department of Transportation

Location: CSAH 13 AT 4TH ST N OF I-94 LAKE ELMO RP 5+00.789

Time Period: 1/1/96-12/31/98 Date: 5/18/99

Prepared By: LAR

No. of Accidents	
Fatal =	0
A Injury =	1
B Injury =	1
C Injury =	2
Injury Total =	4
Property Damage =	0
Total Accidents =	4



KEY	
<p>←→ Motor Vehicle Backing Up</p> <p>↪ Motor Vehicle Out of Control</p> <p>→ Motor Vehicle Ahead</p> <p>□ Fixed Object</p> <p>☠ Fatal Acc.</p> <p>Ⓐ A Injury Acc.</p> <p>Ⓑ B Injury Acc.</p> <p>Ⓒ C Injury Acc.</p> <p>○ Property Damage Acc.</p>	<p>Ⓐ Pedestrian</p> <p>Ⓑ Bicycle/Moped</p> <p>Ⓒ Motorcycle</p> <p>↔ Rear End Property Damage</p> <p>⊗ Right Angle B Injury</p> <p>• Details Unclear</p>

NOTES		
<p>[1] _____</p> <p>[2] _____</p> <p>[3] _____</p>		
<p>Lights</p> <p>L = Daylight (1)</p> <p>DN = Down (2)</p> <p>Du = Dusk (3)</p> <p>DL = Dark, Lighted (4)</p> <p>DO = Dark, Lights Off (5)</p> <p>D = Dark, Unlighted (6)</p> <p>X = Unknown (99)</p>	<p>Weather</p> <p>C = Clear or Cloudy (1 or 2)</p> <p>R = Rain (3)</p> <p>S = Snow or Sleet (4 or 5)</p> <p>F = Fog, Smog, Smoke (6)</p> <p>B = Blowing Sand/Dust (7)</p> <p>W = Severe Crosswinds (8)</p> <p>X = Other or Unknown (99)</p>	<p>Surfaces</p> <p>D = Dry (1)</p> <p>W = Wet (2)</p> <p>S = Snow or Ice (3 or 4)</p> <p>M = Muddy (5)</p> <p>DB = Debris (6)</p> <p>O = Oily (7)</p> <p>X = Other or Unknown (99)</p>
<p>Other Vehicle (Injury Type) [Date]-[Time (hrs)]-[Light-Weather-Surface]</p>		

