Level 1 LAYOUT APPROVAL

Programmed Letting Date September 15, 2012

Prepared By Brad Skow 6/24 2011
District Design or Preliminary Design Engineer

Reviewed By 6/29 2011
District Traffic Engineer

Reviewed By 07/28 2011
State Geometrics Engineer

Approved By 6/30 2011
Transportation District Engineer

Approved By 7/28 2011
State Design Engineer

S.P. 1901-148 (T.H. 13)

I hereby certify that this layout was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Certified By: Lic. No. 48198
Licensed Professional Engineer

Printed Name: Nick Schreurs Date: 6/22/2011

LAYOUT No. 2C COPY No. 1

T.H. 13 VICINITY OF CSAH 5 IN BURNSVILLE

FROM WASHBURN AVE TO I-35W

Prepared July 2011 Scale: Hor. 1 inch = 100 ft.
By B. Skow, N. Schreurs, M. Reker

The alignment and grades shown on this map are tentative and subject to change without notice.	Staff Approval Date: 07-28-2011 🟥	The traffic volumes shown are estimated for year 2030 SEH Traffic Forecast Memorandum (2005) And Dakota County CORSIM Analysis (2011) Prepared (2005) & (2011)

S.P. 1901-148 T.H. 13 A.J. T91148 PPMS Activity 1140
S.A.P. 19-605-028 CSAH 5 A.J. T91148 PPMS Activity 1140
S.P. ________ T.H. ___ A.J. _____ PPMS Activity ____

Copy To: ________________ For: ________________

DESIGN FILE: pw:\Projects\DM ROS\013\1901\148\Predesign\Layouts\Layout2\p1901148_cl2C.dgn
DATE: August 05, 2011

LAYOUT HISTORY

Purpose and Need:
To solve the operational and safety problems that currently exist and will continue to worsen as the traffic volumes increase. The need for this interchange was identified as the top priority out of the T.H. 13 Corridor Study completed in 2000. T.H. 13 serves as an important principal arterial serving the transportation needs south of the Minnesota River, including critical freight movements. Traffic volumes have increased in the project area to the point that the demand is exceeding capacity for an increasing number of hours each day. The signalized at-grade intersection further deteriorates traffic flows in the project area, which in turn results in extended periods of heavy congestion and unacceptable levels of service.

Layout 1 History

2005:

The City of Burnsville takes the lead on identifying the preferred alternative and completing the preliminary design process by hiring SEH.

7 Alternatives are identified and analyzed for the intersection. These 7 alternatives are: Compressed Diamond Interchange; Compressed / Folded Diamond Interchange; Button Hook Interchange; Single Point Urban Interchange; Compressed Diamond /Button Hook Interchange; At Grade Intersection; Continuous Flow Intersection.

Traffic forecast and operational modeling are conducted.

2006:

After the Compressed / Folded Diamond Interchange is selected as the preferred alternative, work begins on the staff approved layout. Analysis shows the C.S.A.H. 5 profile works best over T.H. 13. Mn/DOT metro decides the 76' centerline spacing for TH 13 is preferred for the possible 6 lane section.

Work on Draft EA begins. Noise Analysis is completed. Layout is submitted to Layout Advisory Committee (LAC) and Dakota County for review.

Comments received from LAC and Dakota County. Draft EA is submitted for review.

Layout 1 is submitted for review.

Layout reviewed by Geometric Design Support Unit (GDSU).

Loop geometrics and alignment comments addressed and layout was resubmitted for approval.

2007:

Comments received from the GDSU. Minor revisions made to the layout.

All signatures are obtained. Layout 1 submitted for final distribution.

Layout 2 History

2010:

In an effort to reduce overall project costs and Right-of-Way impacts, Metro Design, C.O. Geometrics, Dakota County, and the City of Burnsville have agreed to layout changes including:

- Reducing the Center Line spacing of TH 13, creating an urban median section to reduce R/W impacts to properties along the adjacent North Frontage Road west of CSAH 5.
- Modifying the NW Loop geometry to include more deceleration length on the ramp prior to the vehicle storage area before the signal at CSAH 5.
- Lowering the Design Speed of CSAH 5 from 45 mph to 40 mph to allow for a narrower CSAH 5 cross section and subsequently reduced bridge structure.
- Adding an auxiliary lane on WB TH 13 from the I-35W entrance ramp to the CSAH 5 exit loop.
  Modifying ramp exit and entrance geometrics to provide for future bus lane expansion throught the TH 13 corridor.

2011:

A value engineering study was done in August to look at possible ways to lower the overall cost of the project.
Layout 2 is submitted for review.

Layout 2A History:

Layout reviewed by Layout Approval Committee (LAC), Geometric Design Support Unit (GDSU), City of Burnsville, and Dakota County.
After further analysis, a decision was made to remove the NE Frontage Road connection to 126th Street and to maintain the current access for the frontage road at CSAH 5 in its current location. This required modifications to the NW Loop and NW Ramp geometrics.
The following turn lane additions were also incorporated:

- Northbound and southbound CSAH 5 turn lanes were created for the new NE Frontage Road Connection.
- A SB CSAH 5 Right-In-Only access was added to the entrance to the SuperAmerica Station.
- A NB CSAH 5 right-turn lane was added at the intersection of CSAH 5 and the SE Frontage Road.

Layout 2A is submitted for review.

Layout 2B History:

After receiving review comments from Layout 2A, the following modifications have been incorporated:

- Williams Drive was realigned to match up better with the section west of Morgan Avenue.
- Adjusted cross section of SE frontage road to better reflect the City of Burnsville's typical for a city street.
- Added a turnaround cul-de-sac east of the Burnsville Motors entrance for maintenance turnaround maneuvers.
- Adjusted the entrance into Charleswood Apartments to allow for a raised median to be built for a buffer for parked vehicles from vehicles entering the parking lot.

Layout 2B is submitted for signatures.

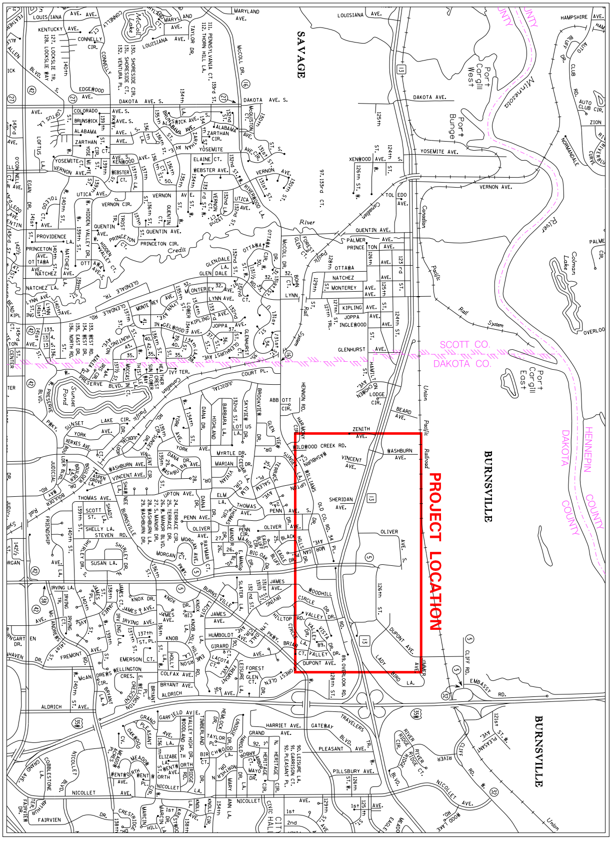
Layout 2C History:

All signatures are obtained for Layout 2B contingent upon the incorporation of minor revisions requested by the GDSU prior to layout distribution.
Revisions include:

- Adjusting the median islands and radius returns along the CSAH 5 corridor to allow for simultaneous opposing protected left-turns, resulting in more adequate separation and increased speeds through the intersection.

The layout number is advanced to Layout 2C for distribution copies.

INDEX MAP


PROJECT LOCATION
BURNSVILLE
SAVAGE
SCOTT CO.
DAKOTA CO.
HENNEPIN COUNTY
DAKOTA COUNTY
Minnesota River
Port Cargill West
Port Bunge
Port Cargill East
Colman Lake
Sunset Pond
McColl Lake

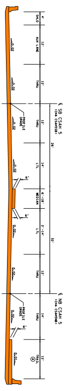
INTERSTATE TRUNK HIGHWAY............ 35
U.S. TRUNK HIGHWAY............ 10
STATE TRUNK HIGHWAY............ 55
COUNTY STATE AID HIGHWAY....... 23
CORPORATE LIMITS...............

1000'
SCALE IN FEET

Dakota COUNTY

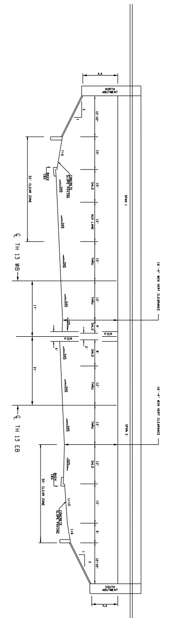
City of BURNSVILLE

BRIDGE TYPICAL SECTION
CSAH 5
BRIDGE 19036


℄ SB CSAH 5
℄ NB CSAH 5
SHLD
AUX LANE
THRU
LTL
MEDIAN
TRAIL
PROFILE GRADE
0.02

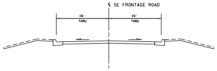
① CONNECTS TO 10' TRAIL OFF STRUCTURE

TYPICAL SECTION UNDER BRIDGE
TH 13
BRIDGE 19036

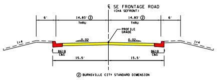

16'-4" MIN VERT CLEARANCE
SPAN 1
SPAN 2
NORTH ABUTMENT
SOUTH ABUTMENT
PIER
SHLD
AUX LANE
THRU
CONCRETE SLOPE PAVING
32' CLEAR ZONE
30' CLEAR ZONE
℄ TH 13 WB
℄ TH 13 EB

FRONTAGE/LOCAL ROADS

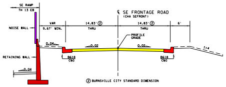
EXISTING TYPICAL SECTION
SOUTHEAST FRONTAGE ROAD


℄ SE FRONTAGE ROAD
16' THRU
16' THRU

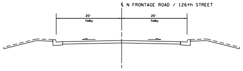
PROPOSED TYPICAL SECTION
SOUTHEAST FRONTAGE ROAD


℄ SE FRONTAGE ROAD
(CHA SEFRONT)
6'
14.83' ② THRU
14.83' ② THRU
6'
PROFILE GRADE
0.02
0.02
1:4
1:4
B618 C&G
B618 C&G
15.5'
15.5'
② BURNSVILLE CITY STANDARD DIMENSION

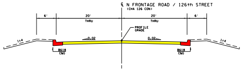
PROPOSED TYPICAL SECTION
SOUTHEAST FRONTAGE ROAD


SE RAMP
TH 13 EB
NOISE WALL
RETAINING WALL
VAR 9.67' MIN.
℄ SE FRONTAGE ROAD
(CHA SEFRONT)
14.83' ② THRU
14.83' ② THRU
6'
PROFILE GRADE
0.04
0.02
0.02
0.04
1:4
B618 C&G
B618 C&G
② BURNSVILLE CITY STANDARD DIMENSION

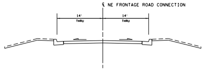
EXISTING TYPICAL SECTION
N. FRONTAGE ROAD /126th STREET


℄ N FRONTAGE ROAD / 126th STREET
20' THRU
20' THRU

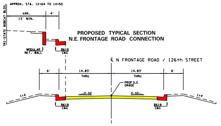
PROPOSED TYPICAL SECTION
N. FRONTAGE ROAD /126th STREET


℄ N FRONTAGE ROAD / 126th STREET
(CHA 126 CON)
6'
20' THRU
20' THRU
6'
PROFILE GRADE
0.02
0.02
1:4
1:4
B618 C&G
B618 C&G

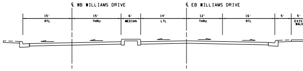
EXISTING TYPICAL SECTION
N.E. FRONTAGE ROAD CONNECTION


℄ NE FRONTAGE ROAD CONNECTION
14' THRU
14' THRU

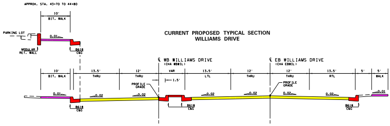
PROPOSED TYPICAL SECTION
N.E. FRONTAGE ROAD CONNECTION


APPROX. STA. 12+64 TO 14+50
TRI-STATE BOBCAT BLDG.
VAR. 13' MIN.
4'
MODULAR RET. WALL
B618 C&G
℄ N FRONTAGE ROAD / 126th STREET
6'
14.83' THRU
14.83' THRU
6'
PROFILE GRADE
0.02
0.02
1:4
1:4
B618 C&G
B618 C&G

EXISTING TYPICAL SECTION
WILLIAMS DRIVE

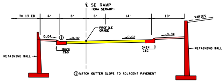

℄ WB WILLIAMS DRIVE
℄ EB WILLIAMS DRIVE
15' RTL
15' THRU
6' MEDIAN
14' LTL
12' THRU
16' RTL
5'
5' EXIST. WALK

CURRENT PROPOSED TYPICAL SECTION
WILLIAMS DRIVE

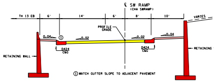

APPROX. STA. 43+70 TO 44+80
10' BIT. WALK
PARKING LOT
0.01
MODULAR RET. WALL
B618 C&G
℄ WB WILLIAMS DRIVE
(CHA WBWIL)
℄ EB WILLIAMS DRIVE
(CHA EBWIL)
10' BIT. WALK
13.5' THRU
12' THRU
VAR
1.5'
13.5' LTL
12' THRU
12' THRU
13.5' RTL
5'
5' WALK
PROFILE GRADE
PROFILE GRADE
0.01
0.02
0.02
0.02
0.02
0.02
0.02
0.01
B618 C&G
B618 C&G
B618 C&G

RAMPS/LOOPS

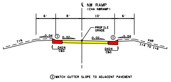
PROPOSED TYPICAL SECTION
SOUTHEAST RAMP


℄ SE RAMP
(CHA SERAMP)
TH 13 EB
6'
8'
6'
14'
10'
VARIES
PROFILE GRADE
0.04
①
0.02
0.02
0.04
D424 C&G
D424 C&G
RETAINING WALL
RETAINING WALL
① MATCH GUTTER SLOPE TO ADJACENT PAVEMENT

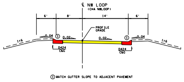
PROPOSED TYPICAL SECTION
SOUTHWEST RAMP


℄ SW RAMP
(CHA SWRAMP)
TH 13 EB
6'
14'
6'
8'
10'
VARIES
PROFILE GRADE
0.04
①
0.02
0.02
0.04
D424 C&G
D424 C&G
RETAINING WALL
RETAINING WALL
① MATCH GUTTER SLOPE TO ADJACENT PAVEMENT

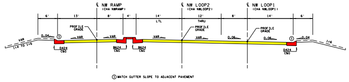
PROPOSED TYPICAL SECTION
NORTHWEST RAMP


℄ NW RAMP
(CHA NWRAMP)
6'
8'
10'
6'
PROFILE GRADE
1:6
0.04
①
0.02
0.02
①
0.04
VAR
1:4 TO 1:6
D424 C&G
D424 C&G
① MATCH GUTTER SLOPE TO ADJACENT PAVEMENT

PROPOSED TYPICAL SECTION
NORTHWEST LOOP

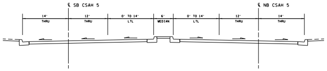

℄ NW LOOP
(CHA NWLOOP)
6'
8'
14'
6'
PROFILE GRADE
1:6
0.04
①
0.02
0.02
①
0.04
1:6
D424 C&G
D424 C&G
① MATCH GUTTER SLOPE TO ADJACENT PAVEMENT

PROPOSED TYPICAL SECTION
NORTHWEST RAMP / LOOP

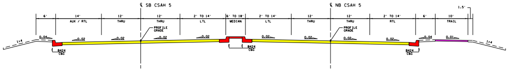

℄ NW RAMP
(CHA NWRAMP)
℄ NW LOOP2
(CHA NWLOOP2)
℄ NW LOOP1
(CHA NWLOOP1)
6'
13'
8'
4'
14' LTL
12' THRU
8'
14'
6'
PROFILE GRADE
PROFILE GRADE
PROFILE GRADE
VAR
1:4 TO 1:6
0.04
①
VAR
VAR
VAR
VAR
0.06
0.06
①
0.04
1:6
D424 C&G
B624 C&G
B624 C&G
D424 C&G
① MATCH GUTTER SLOPE TO ADJACENT PAVEMENT

CSAH 5

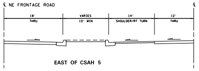
EXISTING TYPICAL SECTION
CSAH 5


℄ SB CSAH 5
℄ NB CSAH 5
14' THRU
12' THRU
0' TO 14' LTL
6' MEDIAN
0' TO 14' LTL
12' THRU
14' THRU

PROPOSED TYPICAL SECTION
CSAH 5

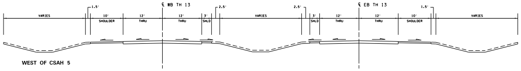

℄ SB CSAH 5
℄ NB CSAH 5
6'
14' AUX / RTL
12' THRU
12' THRU
2' TO 14' LTL
6' TO 18' MEDIAN
2' TO 14' LTL
12' THRU
12' THRU
2' TO 14' RTL
6'
10' TRAIL
1.5'
PROFILE GRADE
PROFILE GRADE
1:4
0.04
0.02
0.02
0.02
0.02
0.02
0.02
0.02
0.02
0.04
0.01
1:4
B424 C&G
B424 C&G
B424 C&G

TRUNK HIGHWAY 13


℄ NE FRONTAGE ROAD
℄ WB TH 13
18' THRU
VARIES 10' MIN
14' SHOULDER/RT TURN
12' THRU

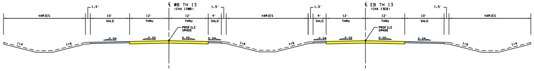
EAST OF CSAH 5

EXISTING TYPICAL SECTION
EB TH 13

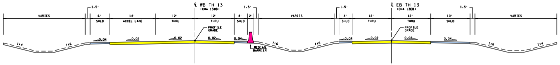

℄ WB TH 13
℄ EB TH 13
VARIES
1.5'
10' SHOULDER
12' THRU
12' THRU
3' SHLD
2.5'
VARIES
2.5'
3' SHLD
12' THRU
12' THRU
10' SHOULDER
1.5'
VARIES

WEST OF CSAH 5

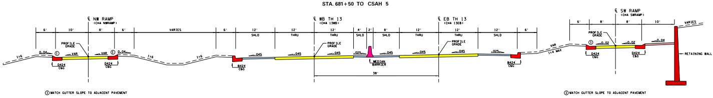
PROPOSED TYPICAL SECTION
EB TH 13
STA. 664+64 TO 674+74


℄ WB TH 13
(CHA 13WB)
℄ EB TH 13
(CHA 13EB)
VARIES
1.5'
10' SHLD
12' THRU
12' THRU
4' SHLD
1.5'
VARIES
1.5'
4' SHLD
12' THRU
12' THRU
10' SHLD
1.5'
VARIES
PROFILE GRADE
PROFILE GRADE
1:4
1:6
0.04
0.02
0.02
0.04
1:6
1:6
0.04
0.02
0.02
0.04
1:6
1:4

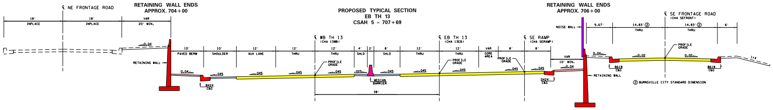
PROPOSED TYPICAL SECTION
EB TH 13
STA. 674+74 TO 681+50


℄ WB TH 13
(CHA 13WB)
℄ EB TH 13
(CHA 13EB)
VARIES
1.5'
6' SHLD
14' ACCEL LANE
12' THRU
12' THRU
4' SHLD
2'
1.5'
VARIES
1.5'
4' SHLD
12' THRU
12' THRU
10' SHLD
1.5'
VARIES
PROFILE GRADE
PROFILE GRADE
1:4
1:6
0.04
0.02
0.02
0.02
0.04
MEDIAN BARRIER
1:6
1:6
0.04
0.02
0.02
0.04
1:6
1:4

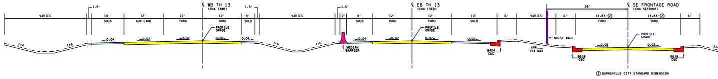
PROPOSED TYPICAL SECTION
EB TH 13
STA. 681+50 TO CSAH 5


℄ NW RAMP
(CHA NWRAMP)
℄ WB TH 13
(CHA 13WB)
℄ EB TH 13
(CHA 13EB)
℄ SW RAMP
(CHA SWRAMP)
6'
10'
8'
6'
VARIES
6'
12' SHLD
12' THRU
12' THRU
4' SHLD
2'
8' SHLD
12' THRU
12' THRU
12' SHLD
6'
6'
8'
8'
10'
VARIES
PROFILE GRADE
PROFILE GRADE
PROFILE GRADE
PROFILE GRADE
1:6
0.04
①
VAR
VAR
①
0.04
1:6
1:6
.045
.045
.045
.025
.045
.045
.045
.025
MEDIAN BARRIER
38'
VAR
1:4 MAX
①
0.02
0.02
0.04
D424 C&G
D424 C&G
B424 C&G
B424 C&G
D424 C&G
D424 C&G
RETAINING WALL
① MATCH GUTTER SLOPE TO ADJACENT PAVEMENT
① MATCH GUTTER SLOPE TO ADJACENT PAVEMENT

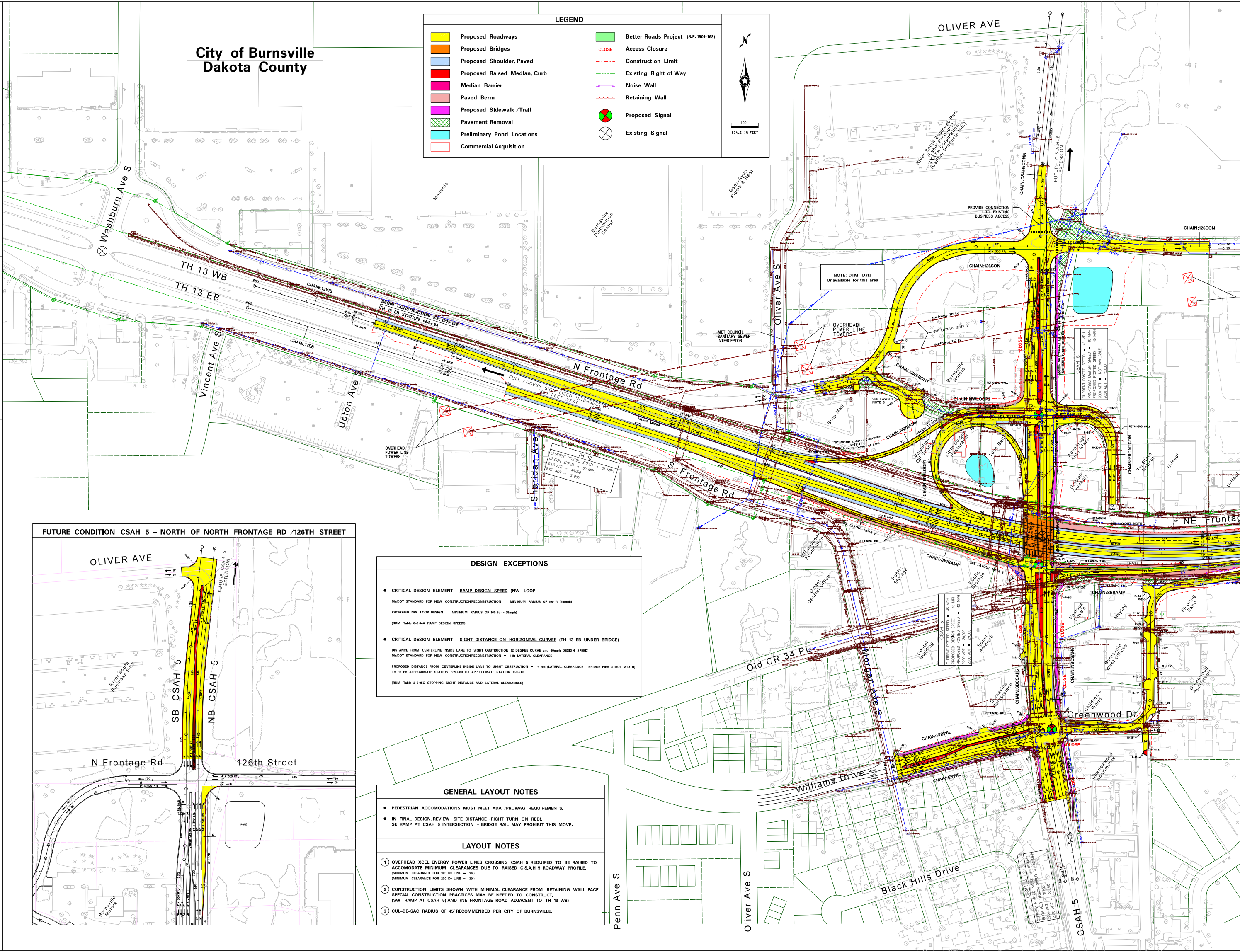
PROPOSED TYPICAL SECTION
EB TH 13
CSAH 5 – 707+69


℄ NE FRONTAGE ROAD
RETAINING WALL ENDS
APPROX. 704+00
18' INPLACE
18' INPLACE
VAR 20' MIN.
0.04
RETAINING WALL
℄ WB TH 13
(CHA 13WB)
℄ EB TH 13
(CHA 13EB)
℄ SE RAMP
(CHA SERAMP)
10' PAVED BERM
10' SHOULDER
12' AUX LANE
12' THRU
12' THRU
4' SHLD
2'
8' SHLD
12' THRU
12' THRU
VAR GORE AREA
8'
8'
PROFILE GRADE
PROFILE GRADE
PROFILE GRADE
0.04
.045
.045
.045
.045
.025
.045
.045
.045
.045
.045
MEDIAN BARRIER
38'
B424 C&G
D424 C&G
RETAINING WALL ENDS
APPROX. 706+00
NOISE WALL
VAR 10' MIN.
0.04
0.04
RETAINING WALL
℄ SE FRONTAGE ROAD
(CHA SEFRONT)
9.67'
14.83' ② THRU
14.83' ② THRU
6'
PROFILE GRADE
0.02
0.02
1:4
B618 C&G
B618 C&G
② BURNSVILLE CITY STANDARD DIMENSION

PROPOSED TYPICAL SECTION
EB TH 13
STA. 707+69 TO 718+50


℄ WB TH 13
(CHA 13WB)
℄ EB TH 13
(CHA 13EB)
℄ SE FRONTAGE ROAD
(CHA SEFRONT)
VARIES
1.5'
10' SHLD
12' AUX LANE
12' THRU
12' THRU
4' SHLD
1.5'
VARIES
1.5'
2'
8' SHLD
12' THRU
12' THRU
10' SHLD
6'
VARIES
26'
6'
14.83' ② THRU
14.83' ② THRU
6'
PROFILE GRADE
PROFILE GRADE
PROFILE GRADE
1:4
1:6
0.04
0.02
0.02
0.02
0.04
1:6
1:6
MEDIAN BARRIER
0.04
0.02
0.02
0.02
B424 C&G
VAR 1:4 MAX
NOISE WALL
0.02
0.02
B618 C&G
B618 C&G
② BURNSVILLE CITY STANDARD DIMENSION

City of Burnsville
Dakota County


OLIVER AVE
Washburn Ave S
TH 13 WB
TH 13 EB
Vincent Ave S
Upton Ave S
Sheridan Ave S
N Frontage Rd
S Frontage Rd
NE Frontage
Oliver Ave S
Morgan Ave S
Old CR 34 Pl
Williams Drive
Black Hills Drive
Greenwood Dr
Penn Ave S
CSAH 5
FUTURE C.S.A.H. 5 EXTENSION
Menards
Burnsville Distribution Center
Genz-Ryan Plumb & Heat
River South Business Park
BEGIN CONSTRUCTION S.P. 1901-148
TH 13 EB STATION 664+64
FULL ACCESS SIGNALIZED INTERSECTION 1500 FEET WEST
NOTE: DTM Data Unavailable for this area
MET COUNCIL SANITARY SEWER INTERCEPTOR
OVERHEAD POWER LINE TOWERS
PROVIDE CONNECTION TO EXISTING BUSINESS ACCESS
CHAIN:13WB
CHAIN:13EB
CHAIN:126CON
CHAIN:NWFRONT
CHAIN:NWLOOP2
CHAIN:NWRAMP
CHAIN:SWRAMP
CHAIN:SERAMP
CHAIN:WBWIL
CHAIN:EBWIL
CHAIN:FRONTCON
CHAIN:CSAHCONN
SEE LAYOUT NOTE 1
SEE LAYOUT NOTE 2
SEE LAYOUT NOTE 3
RETAINING WALL
CLOSE
Burnsville Motors
Strip Mall
Public Storage
Dental Building
Super America
Tri State Bobcat
U-Haul
Famous Dave's
Maytag
Flooring Expo
Burnsville West Offices
Children's World
Greenwood Apartments
Charlestown Apartments
Burnsville Marketplace
Qwest Central Office
MN Jaycees Foundation
TH 13
CURRENT POSTED SPEED = 55 MPH
DESIGN SPEED = 60 MPH
2000 ADT = 46,000
2030 ADT = 60,000
CSAH 5
CURRENT POSTED SPEED = 45 MPH
PROPOSED DESIGN SPEED = 40 MPH
PROPOSED POSTED SPEED = 40 MPH
2000 ADT = NOT AVAILABLE
2030 ADT = 15,000
CSAH 5
CURRENT POSTED SPEED = 45 MPH
PROPOSED DESIGN SPEED = 40 MPH
PROPOSED POSTED SPEED = 40 MPH
2000 ADT = 20,000
2030 ADT = 29,000
FUTURE CONDITION CSAH 5 – NORTH OF NORTH FRONTAGE RD /126TH STREET
OLIVER AVE
SB CSAH 5
NB CSAH 5
N Frontage Rd
126th Street
River South Business Park
Burnsville Motors
POND
100'
SCALE IN FEET

LEGEND

🟨	Proposed Roadways	🟩	Better Roads Project (S.P. 1901–168)
🟧	Proposed Bridges	CLOSE	Access Closure
▭	Proposed Shoulder, Paved	–·–·–	Construction Limit
🟥	Proposed Raised Median, Curb	–··–··–	Existing Right of Way
■	Median Barrier	⎍	Noise Wall
▭	Paved Berm	⊥⊥⊥	Retaining Wall
■	Proposed Sidewalk /Trail	●	Proposed Signal
▨	Pavement Removal	⊗	Existing Signal
■	Preliminary Pond Locations		
▭	Commercial Acquisition		

DESIGN EXCEPTIONS

- CRITICAL DESIGN ELEMENT – RAMP DESIGN SPEED (NW LOOP)

  Mn/DOT STANDARD FOR NEW CONSTRUCTION/RECONSTRUCTION = MINIMUM RADIUS OF 190 ft. (25mph)

  PROPOSED NW LOOP DESIGN = MINIMUM RADIUS OF 160 ft. (< 25mph)

  (RDM Table 6–3,04A RAMP DESIGN SPEEDS)

- CRITICAL DESIGN ELEMENT – SIGHT DISTANCE ON HORIZONTAL CURVES (TH 13 EB UNDER BRIDGE)

  DISTANCE FROM CENTERLINE INSIDE LANE TO SIGHT OBSTRUCTION (2 DEGREE CURVE and 60mph DESIGN SPEED)
  Mn/DOT STANDARD FOR NEW CONSTRUCTION/RECONSTRUCTION = 14ft. LATERAL CLEARANCE

  PROPOSED DISTANCE FROM CENTERLINE INSIDE LANE TO SIGHT OBSTRUCTION = < 14ft. (LATERAL CLEARANCE – BRIDGE PIER STRUT WIDTH)
  TH 13 EB APPROXIMATE STATION 689+80 TO APPROXIMATE STATION 691+00

  (RDM Table 3–2,05C STOPPING SIGHT DISTANCE AND LATERAL CLEARANCES)

GENERAL LAYOUT NOTES

- PEDESTRIAN ACCOMODATIONS MUST MEET ADA /PROWAG REQUIREMENTS.
- IN FINAL DESIGN, REVIEW SITE DISTANCE (RIGHT TURN ON RED).
  SE RAMP AT CSAH 5 INTERSECTION – BRIDGE RAIL MAY PROHIBIT THIS MOVE.

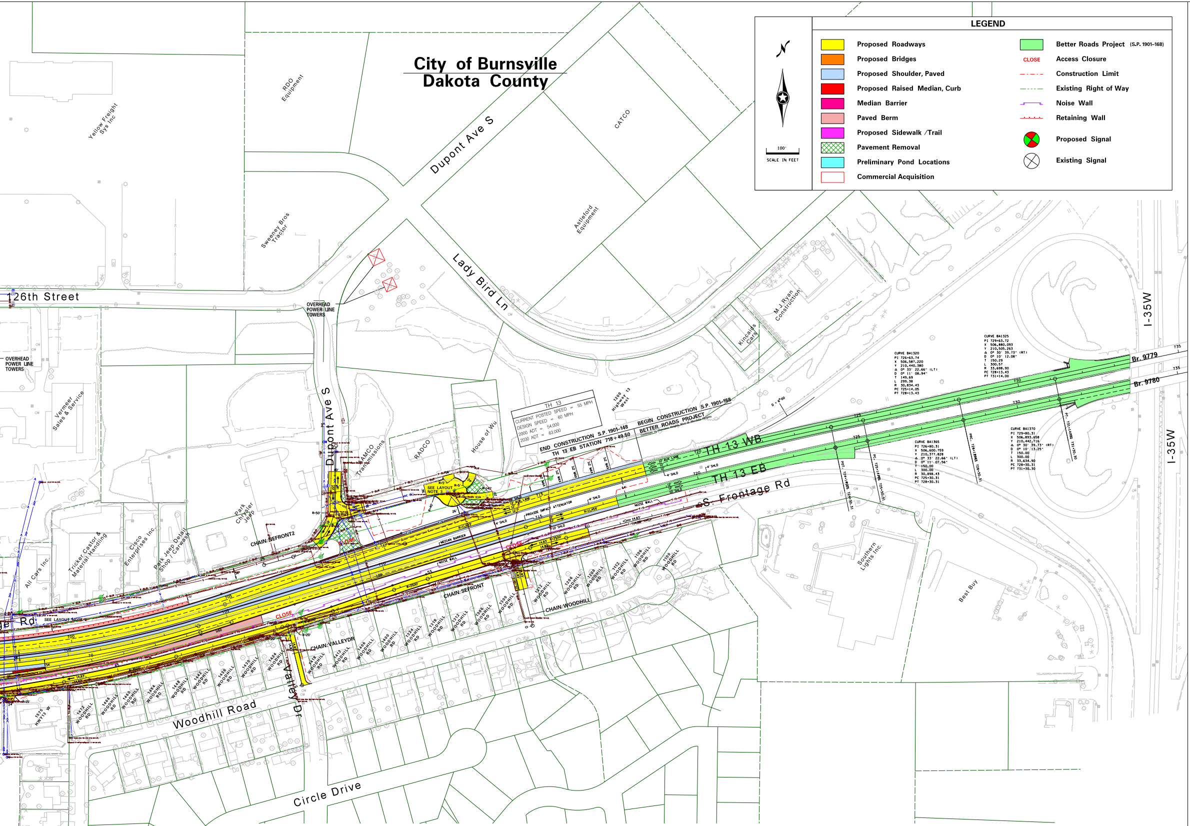
LAYOUT NOTES

① OVERHEAD XCEL ENERGY POWER LINES CROSSING CSAH 5 REQUIRED TO BE RAISED TO ACCOMODATE MINIMUM CLEARANCES DUE TO RAISED C.S.A.H. 5 ROADWAY PROFILE.
(MINIMUM CLEARANCE FOR 345 Kv LINE = 34')
(MINIMUM CLEARANCE FOR 230 Kv LINE = 30')

② CONSTRUCTION LIMITS SHOWN WITH MINIMAL CLEARANCE FROM RETAINING WALL FACE. SPECIAL CONSTRUCTION PRACTICES MAY BE NEEDED TO CONSTRUCT.
(SW RAMP AT CSAH 5) AND (NE FRONTAGE ROAD ADJACENT TO TH 13 WB)

③ CUL–DE–SAC RADIUS OF 45' RECOMMENDED PER CITY OF BURNSVILLE.

City of Burnsville
Dakota County


126th Street
Dupont Ave S
Lady Bird Ln
Yellow Freight Sys Inc
RDO Equipment
CATCO
Sweeney Bros Tractor
Astleford Equipment
OVERHEAD POWER LINE TOWERS
M.J. Ryan Construction
Kincaids Cars
I-35W
Br. 9779
Br. 9780
Vermeer Sales & Service
AAMCO Transmissions
RADCO
House of Wu
1200 Highway 13 West
Park Chrysler Jeep
Cisco Enterprises Inc.
Park Jeep Detail Shop / Carwash
Tricket Castor & Material Handling
All Cars Inc.
CHAIN: BEFRONT2
CHAIN: SEFRONT
CHAIN: WOODHILL
CHAIN: VALLEYDR
SEE LAYOUT NOTE 1
SEE LAYOUT NOTE 2
TH 13
CURRENT POSTED SPEED = 55 MPH
DESIGN SPEED = 60 MPH
2000 ADT = 54,000
2030 ADT = 63,000
END CONSTRUCTION S.P. 1901-148
TH 13 EB STATION 718+49.50
BEGIN CONSTRUCTION S.P. 1901-168
BETTER ROADS PROJECT
TH 13 WB
TH 13 EB
S. Frontage Rd
12' AUX LANE
4' SHLD
10' SHLD
PROVIDE IMPACT ATTENUATOR
NOISE WALL
MEDIAN BARRIER
CLOSE
R=11,459'
CURVE BA1320
PI 726+63.74
X 506,587.220
Y 210,440.380
Δ 0° 33' 22.66" (LT)
D 0° 11' 08.94"
T 149.69
L 299.38
R 30,834.43
PC 725+14.05
PT 728+13.43
CURVE BA1325
PI 729+63.72
X 506,880.093
Y 210,505.263
Δ 0° 30' 39.73" (RT)
D 0° 10' 12.08"
T 150.29
L 300.57
R 33,698.90
PC 728+13.43
PT 731+14.00
CURVE BA1365
PI 726+80.31
X 506,600.759
Y 210,377.828
Δ 0° 33' 22.66" (LT)
D 0° 11' 07.56"
T 150.00
L 300.00
R 30,898.43
PC 725+30.31
PT 728+30.31
CURVE BA1370
PI 729+80.31
X 506,893.658
Y 210,442.716
Δ 0° 30' 39.73" (RT)
D 0° 10' 13.25"
T 150.00
L 300.00
R 33,634.90
PC 728+30.31
PT 731+30.30
Southern Lights Inc.
Best Buy
Woodhill Road
Valley Dr
Circle Drive

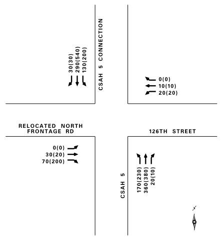
LEGEND

🟨	Proposed Roadways
🟧	Proposed Bridges
🟦	Proposed Shoulder, Paved
🟥	Proposed Raised Median, Curb
🟪	Median Barrier
▭	Paved Berm
🟪	Proposed Sidewalk /Trail
▨	Pavement Removal
🟦	Preliminary Pond Locations
☐	Commercial Acquisition
🟩	Better Roads Project (S.P. 1901-168)
CLOSE	Access Closure
–·–	Construction Limit
–··–	Existing Right of Way
⌐¬	Noise Wall
┴┴┴	Retaining Wall
⊗	Proposed Signal
⊗	Existing Signal

100'
SCALE IN FEET

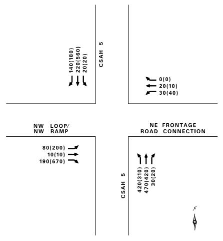
INTERSECTION VOLUMES
C.S.A.H. 5 /NORTH FRONTAGE RD /126TH STREET

FORECAST 2030 PEAK HOUR TRAFFIC VOLUMES
XX(XX) = AM(PM) PEAK


30(30)
290(540)
130(200)
CSAH 5 CONNECTION
0(0)
10(10)
20(20)
RELOCATED NORTH FRONTAGE RD
0(0)
30(20)
70(200)
126TH STREET
CSAH 5
170(230)
360(380)
20(10)

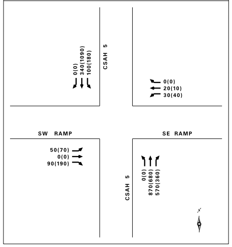
INTERSECTION VOLUMES
C.S.A.H. 5 /N.W. RAMP /N.W. LOOP

FORECAST 2030 PEAK HOUR TRAFFIC VOLUMES
XX(XX) = AM(PM) PEAK


140(180)
220(560)
20(20)
CSAH 5
0(0)
20(10)
30(40)
NW LOOP/ NW RAMP
80(200)
10(10)
190(670)
NE FRONTAGE ROAD CONNECTION
CSAH 5
420(310)
470(420)
30(20)

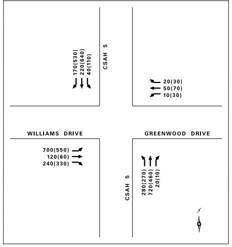
INTERSECTION VOLUMES
C.S.A.H. 5 /S.W. RAMP /S.E. RAMP

FORECAST 2030 PEAK HOUR TRAFFIC VOLUMES
XX(XX) = AM(PM) PEAK

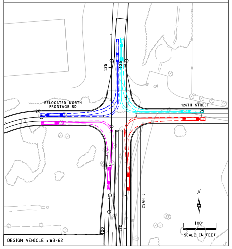

0(0)
340(1090)
100(180)
CSAH 5
0(0)
20(10)
30(40)
SW RAMP
50(70)
0(0)
90(190)
SE RAMP
CSAH 5
0(0)
870(680)
570(360)

INTERSECTION VOLUMES
C.S.A.H. 5 /WILLIAMS DRIVE /GREENWOOD DRIVE

FORECAST 2030 PEAK HOUR TRAFFIC VOLUMES
XX(XX) = AM(PM) PEAK

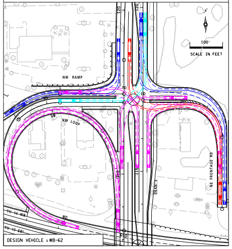

170(530)
220(640)
40(110)
CSAH 5
20(30)
50(70)
10(30)
WILLIAMS DRIVE
700(550)
120(60)
240(330)
GREENWOOD DRIVE
CSAH 5
280(270)
720(460)
20(10)

VEHICLE PATHS
C.S.A.H. 5 /WILLIAMS DRIVE /GREENWOOD DRIVE


RELOCATED NORTH FRONTAGE RD
126TH STREET
CSAH 5
100'
SCALE IN FEET

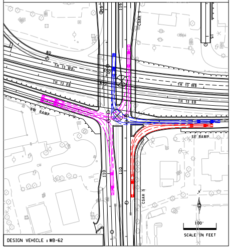
DESIGN VEHICLE : WB-62

VEHICLE PATHS
C.S.A.H. 5 /N.W. RAMP /N.W. LOOP


NW RAMP
NW LOOP
TH 13 WB
TH 13 EB
CSAH 5
NE FRONTAGE RD
100'
SCALE IN FEET

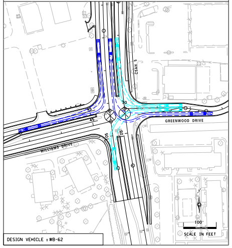
DESIGN VEHICLE : WB-62

VEHICLE PATHS
C.S.A.H. 5 /S.W. RAMP /S.E. RAMP


TH 13 WB
TH 13 EB
SW RAMP
SE RAMP
CSAH 5
100'
SCALE IN FEET

DESIGN VEHICLE : WB-62

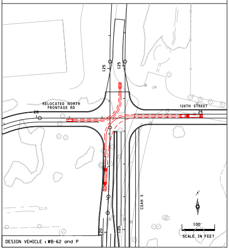
VEHICLE PATHS
C.S.A.H. 5 /WILLIAMS DRIVE /GREENWOOD DRIVE


CSAH 5
GREENWOOD DRIVE
WILLIAMS DRIVE
100'
SCALE IN FEET

DESIGN VEHICLE : WB-62

VEHICLE PATHS

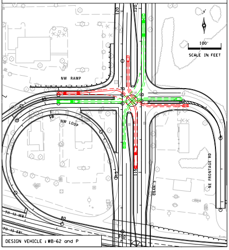
C.S.A.H. 5 /WILLIAMS DRIVE /GREENWOOD DRIVE


125
125
RELOCATED NORTH FRONTAGE RD
126TH STREET
20
25
CSAH 5
100'
SCALE IN FEET
120
120

DESIGN VEHICLE : WB-62 and P

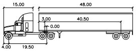
VEHICLE PATHS

C.S.A.H. 5 /N.W. RAMP /N.W. LOOP


120
120
100'
SCALE IN FEET
NW RAMP
70
10
85
56
NW LOOP
115
115
CSAH 5
NE FRONTAGE RD
80
TH 13 WB
TH 13 EBL
530

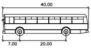
DESIGN VEHICLE : WB-62 and P

DESIGN VEHICLES


15.00
48.00
3.00
40.50
0.00
4.00
19.50

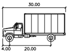
WB-62 feet

Tractor Width : 8.00
Trailer Width : 8.50
Tractor Track : 8.00
Trailer Track : 8.50
Lock to Lock Time : 6.0
Steering Angle : 28.4
Articulating Angle : 70.0


40.00
7.00
20.00

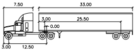
S-BUS-40
feet

Width : 8.00
Track : 8.00
Lock to Lock Time : 6.0
Steering Angle : 34.4


30.00
4.00
20.00

SU feet

Width : 8.00
Track : 8.00
Lock to Lock Time : 6.0
Steering Angle : 31.8


7.50
33.00
3.00
25.50
0.00
3.00
12.50

WB-40 feet

Tractor Width : 8.00
Trailer Width : 8.00
Tractor Track : 8.00
Trailer Track : 8.00
Lock to Lock Time : 6.0
Steering Angle : 20.3
Articulating Angle : 70.0

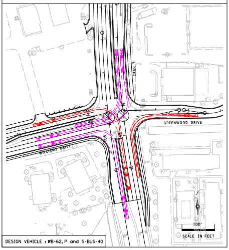
19.00
3.00
11.00

P feet

Width : 7.00
Track : 6.00
Lock to Lock Time : 6.0
Steering Angle : 31.6

VEHICLE PATHS

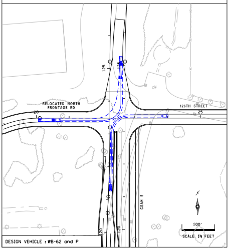
C.S.A.H. 5 /WILLIAMS DRIVE /GREENWOOD DRIVE


CSAH 5
45
30
GREENWOOD DRIVE
WILLIAMS DRIVE
105
100'
SCALE IN FEET

DESIGN VEHICLE : WB-62, P and S-BUS-40

VEHICLE PATHS

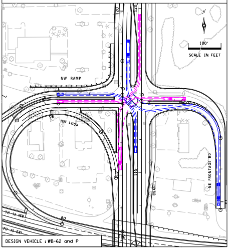
C.S.A.H. 5 /WILLIAMS DRIVE /GREENWOOD DRIVE


125
125
RELOCATED NORTH FRONTAGE RD
126TH STREET
20
25
CSAH 5
100'
SCALE IN FEET
120
120

DESIGN VEHICLE : WB-62 and P

VEHICLE PATHS

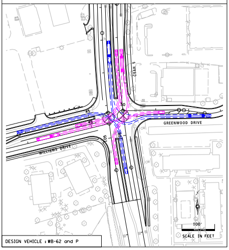
C.S.A.H. 5 /N.W. RAMP /N.W. LOOP


120
120
100'
SCALE IN FEET
NW RAMP
70
10
85
56
NW LOOP
115
115
CSAH 5
NE FRONTAGE RD
80
TH 13 WB
TH 13 EBL
530

DESIGN VEHICLE : WB-62 and P

VEHICLE PATHS

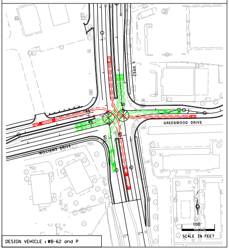
C.S.A.H. 5 /WILLIAMS DRIVE /GREENWOOD DRIVE


CSAH 5
45
30
GREENWOOD DRIVE
WILLIAMS DRIVE
105
100'
SCALE IN FEET

DESIGN VEHICLE : WB-62 and P

VEHICLE PATHS

C.S.A.H. 5 /WILLIAMS DRIVE /GREENWOOD DRIVE

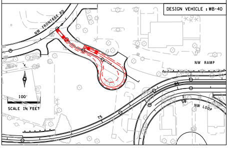

CSAH 5
45
30
GREENWOOD DRIVE
WILLIAMS DRIVE
105
100'
SCALE IN FEET

DESIGN VEHICLE : WB-62 and P

VEHICLE PATHS

NW FRONTAGE ROAD CUL-DE-SAC

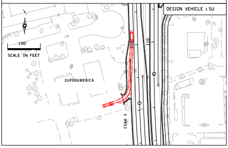
DESIGN VEHICLE : WB-40


NW FRONTAGE RD
100'
SCALE IN FEET
NW RAMP
85
NW LOOP
56
75

VEHICLE PATHS

SUPERAMERICA ENTRANCE (RIGHT-IN ONLY)

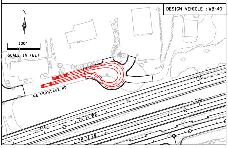
DESIGN VEHICLE : SU


100'
SCALE IN FEET
SUPERAMERICA
110
110
CSAH 5

VEHICLE PATHS

NE FRONTAGE ROAD CUL-DE-SAC

DESIGN VEHICLE : WB-40


100'
SCALE IN FEET
NE FRONTAGE RD
715
715
710
TH 13 WB
TH 13 EB

PROFILE No. 2C COPY No. 1

T.H. 13 VICINITY OF CSAH 5 IN BURNSVILLE

FROM WASHBURN AVE TO I-35W

Prepared July 2011 Scale: Hor. 1 inch = 100 ft.
By B. Skow, N. Schreurs, M. Reker

The alignment and grades shown on this map are tentative and subject to change without notice.	Staff Approval Date: 07-28-2011	The traffic volumes shown are estimated for year SEH Traffic Forecast Memorandum Prepared Dec. 13 2005

S.P. 1901-148 T.H. 13 A.J. T91148 PPMS Activity 1140
S.A.P. 19-605-028 CSAH 5 A.J. T91148 PPMS Activity 1140
S.P. ______ T.H. ______ A.J. ______ PPMS Activity ______
Copy To: ______ For: ______

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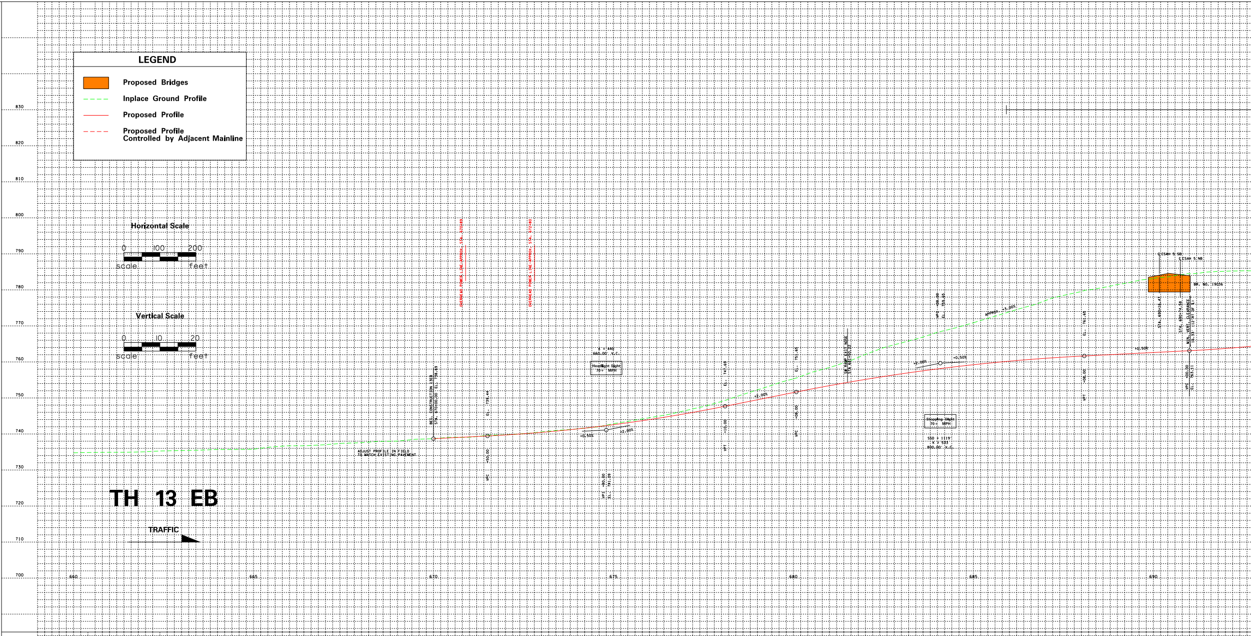
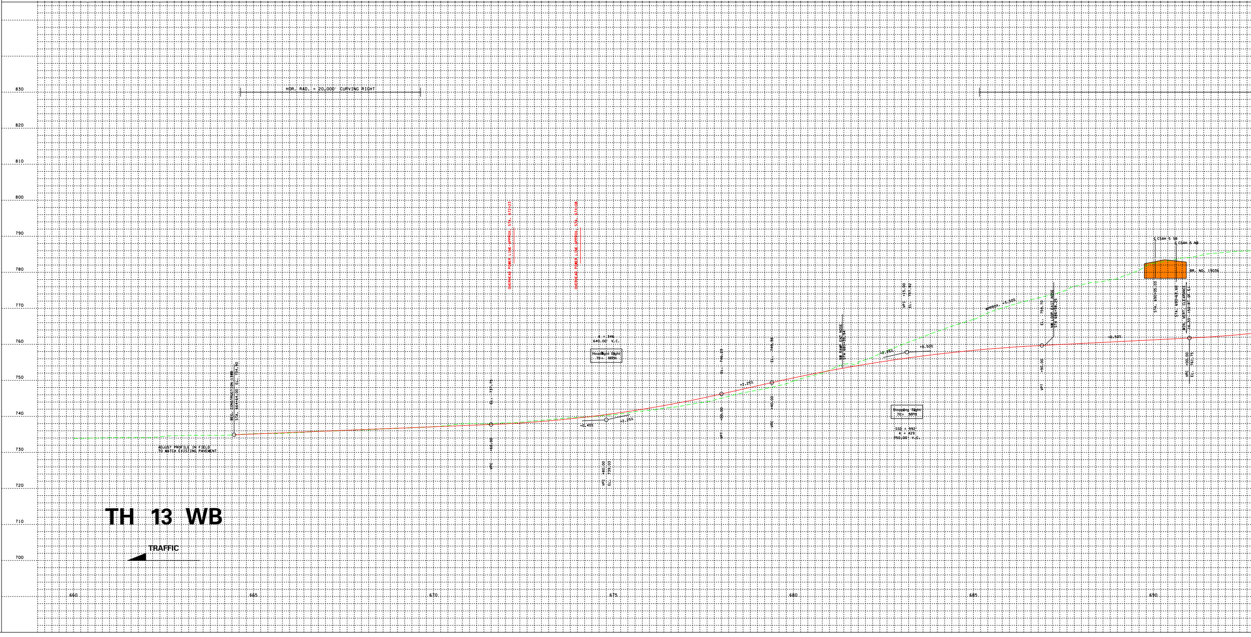
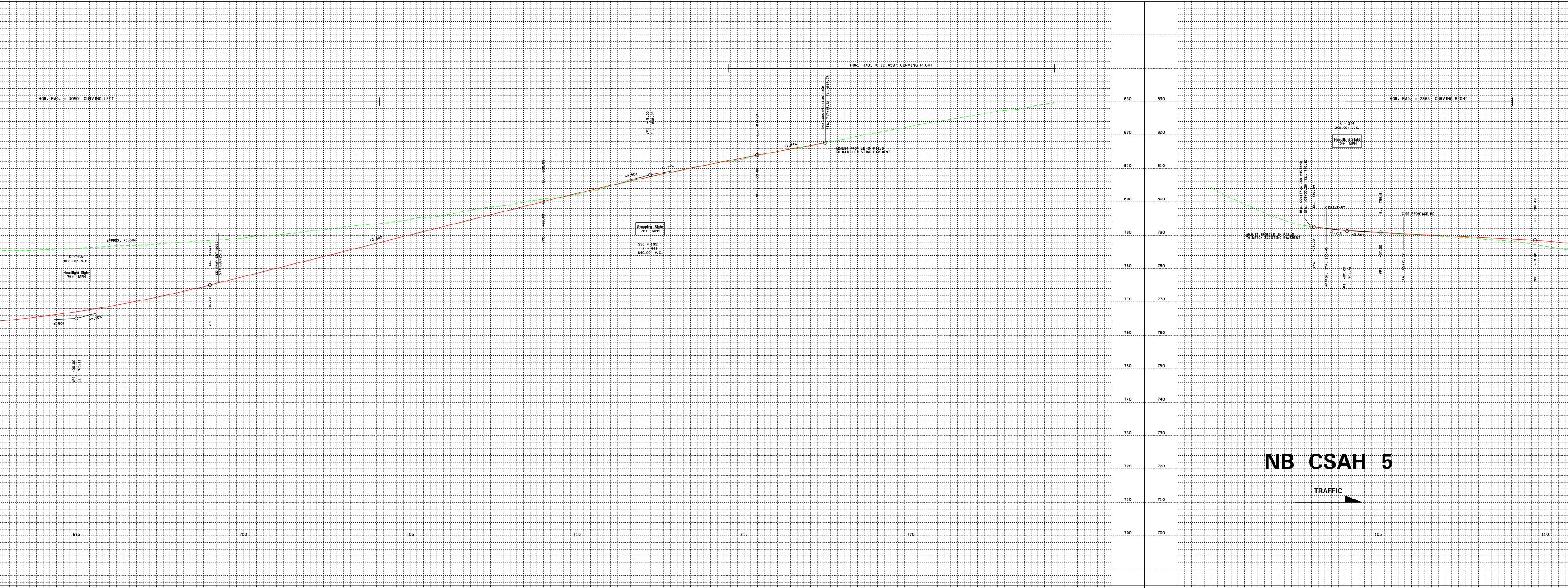
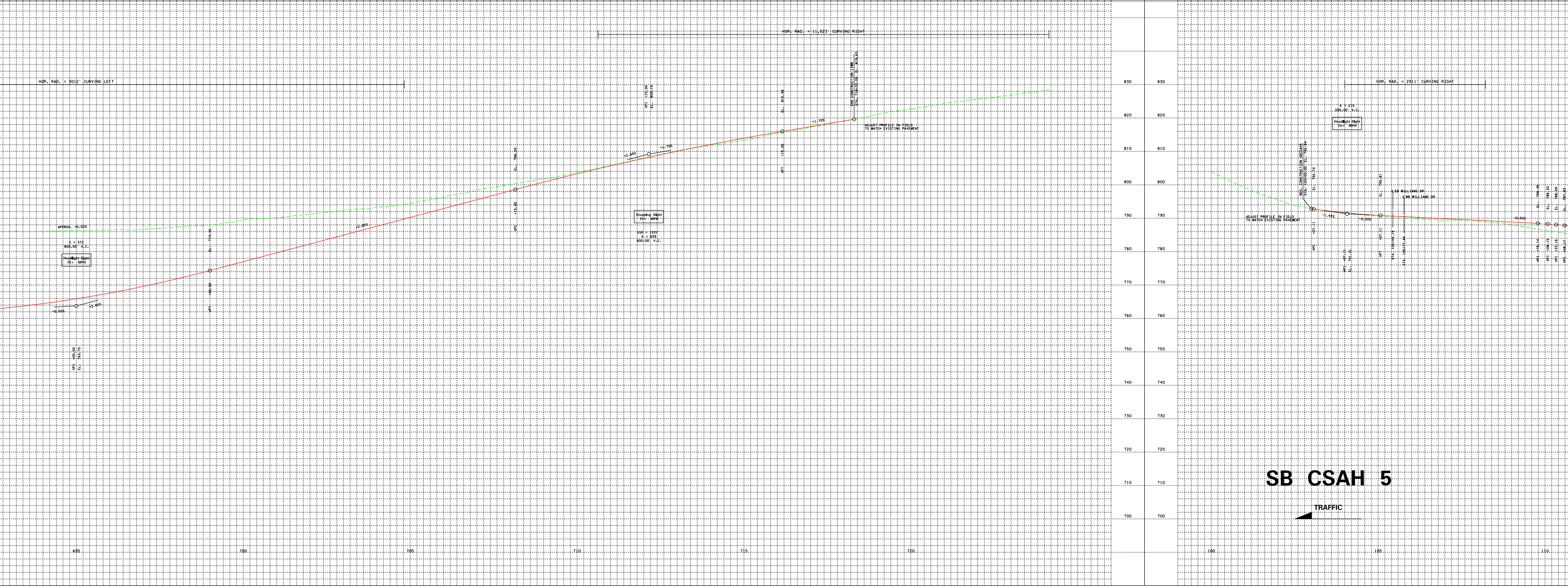
DATE: August 05, 2011


LEGEND
🟧 Proposed Bridges
Inplace Ground Profile
Proposed Profile
Proposed Profile Controlled by Adjacent Mainline
Horizontal Scale
0 100 200
scale feet
Vertical Scale
0 10 20
scale feet
TH 13 EB
TRAFFIC
830
820
810
800
790
780
770
760
750
740
730
720
710
700
660
665
670
675
680
685
690
ADJUST PROFILE IN FIELD TO MATCH EXISTING PAVEMENT
BEG. CONSTRUCTION 13EB STA. 670+00.00 EL. 738.69
VPC +50.00 EL. 739.44
OVERHEAD POWER LINE-APPROX. STA. 670+89
OVERHEAD POWER LINE-APPROX. STA. 672+80
K = 440
660.00' V.C.
Headlight Sight 70+ MPH
+0.50%
+2.00%
VPI +80.00 EL. 741.09
VPT +10.00 EL. 747.69
VPC +08.00 EL. 751.65
+2.00%
SB RAMP EXIT NOSE STA 681+50.22
+2.00%
+0.50%
VPI +08.00 EL. 759.65
APPROX. +3.00%
Stopping Sight 70+ MPH
SSD = 1119'
K = 533
800.00' V.C.
VPT +08.00 EL. 761.65
+0.50%
VPC +00.00 EL. 763.11
MIN. VERT. CLEARANCE 16.33' (12' RT OF ℄)
℄ CSAH 5 SB
℄ CSAH 5 NB
STA. 690+16.47
STA. 690+74.58
BR. NO. 19036


TH 13 WB
TRAFFIC
HOR. RAD. = 20,000' CURVING RIGHT
830
820
810
800
790
780
770
760
750
740
730
720
710
700
660
665
670
675
680
685
690
ADJUST PROFILE IN FIELD TO MATCH EXISTING PAVEMENT
BEG. CONSTRUCTION 13WB STA. 664+64.00 EL. 734.90
VPC +60.00 EL. 737.75
OVERHEAD POWER LINE-APPROX. STA. 672+23
OVERHEAD POWER LINE-APPROX. STA. 674+08
K = 346
640.00' V.C.
Headlight Sight 70+ MPH
+0.40%
+2.25%
VPI +80.00 EL. 739.03
VPT +00.00 EL. 746.23
+2.25%
VPC +40.00 EL. 748.38
SB RAMP ENT NOSE STA 683+39.94
+2.25%
+0.50%
VPI +15.00 EL. 757.82
APPROX. +3.50%
Stopping Sight 70+ MPH
SSD = 992'
K = 429
750.00' V.C.
VPT +90.00 EL. 759.70
NB LOOP EXIT NOSE STA 686+98.25
+0.50%
VPC +00.00 EL. 761.75
MIN. VERT. CLEARANCE 16.33' 50' RT OF ℄
℄ CSAH 5 SB
℄ CSAH 5 NB
STA. 690+05.03
STA. 690+63.60
BR. NO. 19036


NB CSAH 5
HOR. RAD. = 3050' CURVING LEFT
HOR. RAD. = 11,459' CURVING RIGHT
HOR. RAD. = 2865' CURVING RIGHT
APPROX. +0.50%
K = 400
800.00' V.C.
Headlight Sight
70+ MPH
+0.50%
+2.50%
VPI 100.00
EL. 765.11
VPT +00.00
EL. 775.11
SE RAMP EXIT NOSE
STA 699+25.31
+2.50%
VPC +90.00
EL. 800.00
Stopping Sight
70+ MPH
SSD = 1951'
K = 968
640.00' V.C.
+2.50%
+1.84%
VPI +19.00
EL. 808.09
VPT +39.00
EL. 813.97
+1.84%
END CONSTRUCTION 136B
STA. 717+45.64 EL. 817.73
ADJUST PROFILE IN FIELD
TO MATCH EXISTING PAVEMENT
K = 274
200.00' V.C.
Headlight Sight
70+ MPH
BEG. CONSTRUCTION NBCSAH5
STA. 103+00.00 EL. 792.62
VPC +07.00
EL. 792.54
ADJUST PROFILE IN FIELD
TO MATCH EXISTING PAVEMENT
℄ DRIVE-RT
APPROX. STA. 103+45
-1.23%
-0.50%
VPI +07.00
EL. 791.31
VPT +07.00
EL. 790.81
℄ SE FRONTAGE RD.
STA. 105+75.52
VPC +70.00
EL. 788.49
TRAFFIC
830
820
810
800
790
780
770
760
750
740
730
720
710
700
695
700
705
710
715
720
105
110


SB CSAH 5
HOR. RAD. = 3012' CURVING LEFT
HOR. RAD. = 11,523' CURVING RIGHT
HOR. RAD. = 2911' CURVING RIGHT
APPROX. +0.50%
K = 372
800.00' V.C.
Headlight Sight
70+ MPH
+0.50%
+2.65%
VPI 100.00
EL. 763.75
VPT +00.00
EL. 774.35
+2.65%
VPC +15.00
EL. 798.59
Stopping Sight
70+ MPH
SSD = 1537'
K = 839
800.00' V.C.
+2.65%
+1.70%
VPI +15.00
EL. 809.19
VPT +15.00
EL. 815.98
+1.70%
END CONSTRUCTION 13WB
STA. 718+30.00 EL. 819.63
ADJUST PROFILE IN FIELD
TO MATCH EXISTING PAVEMENT
K = 215
200.00' V.C.
Headlight Sight
70+ MPH
BEG. CONSTRUCTION SBCSAH5
STA. 103+00.00 EL. 792.84
VPC +07.11
EL. 792.74
ADJUST PROFILE IN FIELD
TO MATCH EXISTING PAVEMENT
-1.43%
-0.50%
VPI +07.11
EL. 791.31
VPT +07.11
EL. 790.81
℄ EB WILLIAMS DR
STA. 105+44.19
℄ WB WILLIAMS DR
STA. 105+77.44
-0.50%
VPI +78.14
EL. 788.45
VPI +08.15
EL. 788.30
VPI +35.16
EL. 788.09
EL. 787.83
TRAFFIC
830
820
810
800
790
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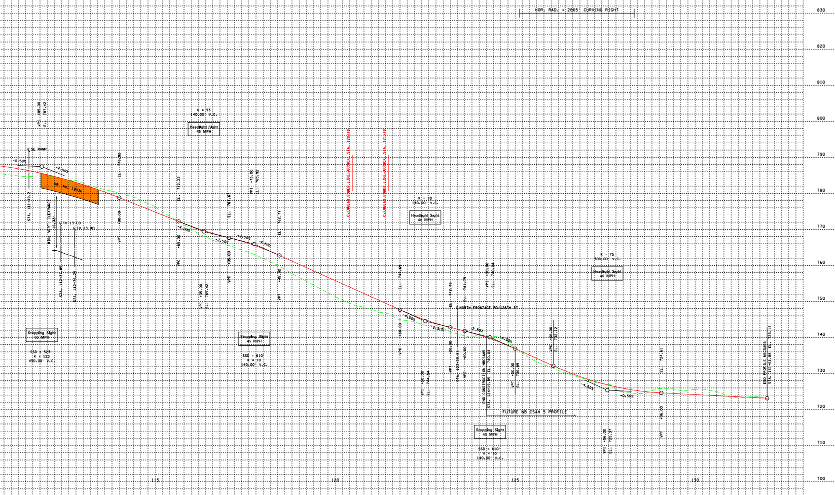
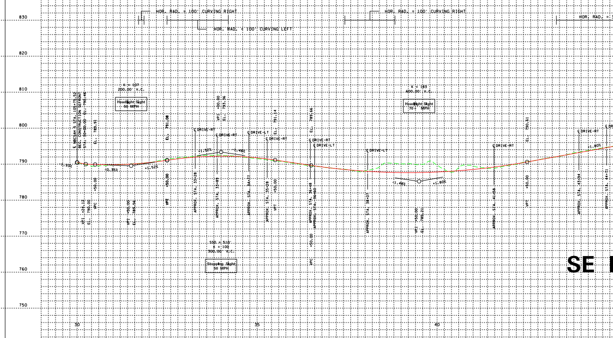
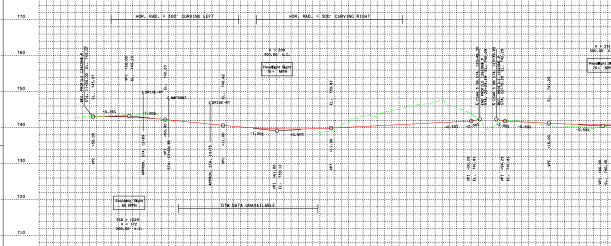
760
750
740
730
720
710
700
695
700
705
710
715
720
100
105
110


HOR. RAD. = 2865' CURVING RIGHT
K = 93
140.00' V.C.
Headlight Sight
45 MPH
C SE RAMP
-0.50%
-4.00%
BR. NO. 19036
MIN. VERT. CLEARANCE
C TH 13 EB
C TH 13 NB
STA. 112+37.85
STA. 112+76.25
OVERHEAD POWER LINE-APPROX. STA. 120+48
OVERHEAD POWER LINE-APPROX. STA. 121+48
K = 70
140.00' V.C.
Headlight Sight
40 MPH
K = 75
300.00' V.C.
Headlight Sight
40 MPH
C NORTH FRONTAGE RD/126TH ST
END CONSTRUCTION NBCSAH5
STA. 124+19.85 EL. 740.04
FUTURE NB CSAH 5 PROFILE
END PROFILE NBCSAH5
STA. 131+61.88 EL. 723.13
Stopping Sight
55 MPH
SSD = 523'
K = 123
430.00' V.C.
Stopping Sight
45 MPH
SSD = 610'
K = 70
140.00' V.C.
Stopping Sight
45 MPH
SSD = 610'
K = 70
140.00' V.C.
115
120
125
130
830
820
810
800
790
780
770
760
750
740
730
720
710
700

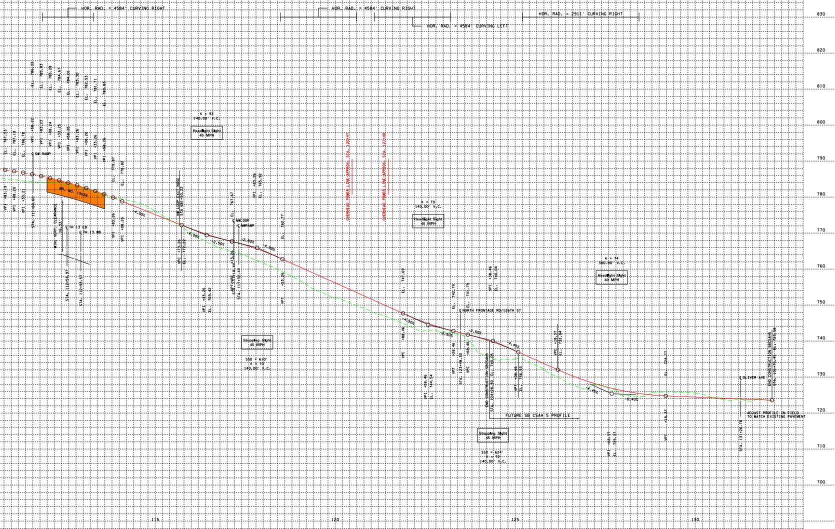

HOR. RAD. = 100' CURVING RIGHT
HOR. RAD. = 100' CURVING LEFT
HOR. RAD. = 100' CURVING RIGHT
K = 107
200.00' V.C.
Headlight Sight
50 MPH
K = 193
600.00' V.C.
Headlight Sight
70+ MPH
C NBCSAH 5 STA. 105+79.52
BEG. CONSTRUCTION SEFRONT
STA. 50+00.00 EL. 790.46
C DRIVE-RT
C DRIVE-LT
SSD = 510'
K = 100
300.00' V.C.
Stopping Sight
50 MPH
30
35
40

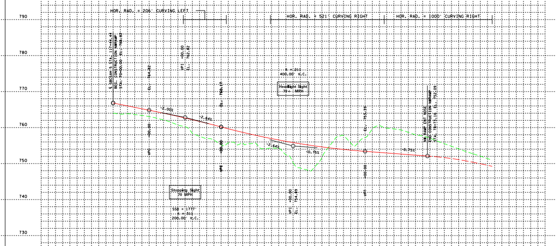
SE


HOR. RAD. = 300' CURVING LEFT
HOR. RAD. = 300' CURVING RIGHT
K = 200
300.00' V.C.
Headlight Sight
70+ MPH
BEG. PROFILE 126CONN P
STA. 11+50.00 EL. 743.07
C DRIVE-RT
C NWFRONT
C CSAH 5 SB STA. 123+48.30
END PROFILE 126CONN P
C CSAH 5 NB STA. 123+39.85
BEG. PROFILE 126CONE P
Stopping Sight
60 MPH
SSD = 1029'
K = 172
200.00' V.C.
DTM DATA UNAVAILABLE

N FRONTAGE RD /126th ST

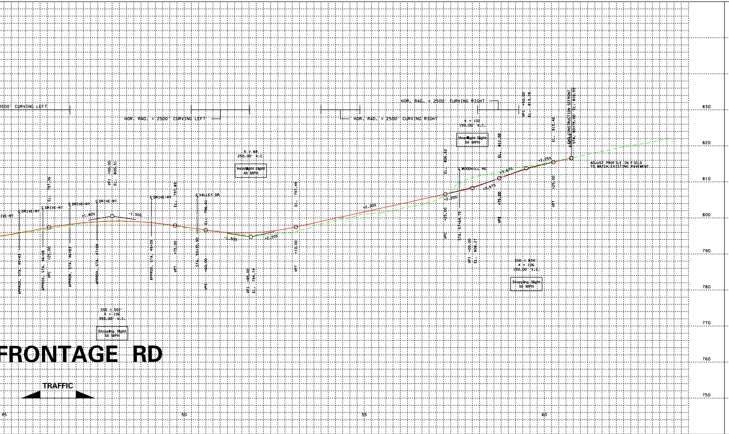
TRAFFIC


HOR. RAD. = 4584' CURVING RIGHT
HOR. RAD. = 4584' CURVING RIGHT
HOR. RAD. = 4584' CURVING LEFT
HOR. RAD. = 2911' CURVING RIGHT
K = 93
140.00' V.C.
Headlight Sight
45 MPH
C SW RAMP
BR. NO. 19036
MIN. VERT. CLEARANCE
C TH 13 EB
C TH 13 WB
NW LOOP EXIT NOSE
C NWLOOP
C NWRAMP
OVERHEAD POWER LINE-APPROX. STA. 120+47
OVERHEAD POWER LINE-APPROX. STA. 121+48
K = 70
140.00' V.C.
Headlight Sight
40 MPH
K = 74
300.00' V.C.
Headlight Sight
40 MPH
C NORTH FRONTAGE RD/126TH ST
END CONSTRUCTION SBCSAH5
FUTURE SB CSAH 5 PROFILE
C OLIVER AVE
END CONSTRUCTION SBCSAH5
ADJUST PROFILE IN FIELD TO MATCH EXISTING PAVEMENT
Stopping Sight
45 MPH
SSD = 610'
K = 70
140.00' V.C.
Stopping Sight
45 MPH
SSD = 624'
K = 72
140.00' V.C.
115
120
125
130

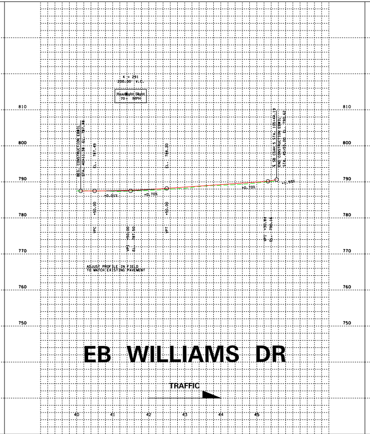

HOR. RAD. = 206' CURVING LEFT
HOR. RAD. = 521' CURVING RIGHT
HOR. RAD. = 1000' CURVING RIGHT
C SBCSAH 5 STA. 117+44.44
BEG. CONSTRUCTION NWRAMP
STA. 70+00.00 EL. 768.82
K = 311
400.00' V.C.
Headlight Sight
70+ MPH
-2.00%
-2.64%
-0.75%
NW RAMP EXIT NOSE
END CONSTRUCTION NWRAMP
Stopping Sight
70 MPH
SSD = 1777'
K = 311
200.00' V.C.

NW RAMP

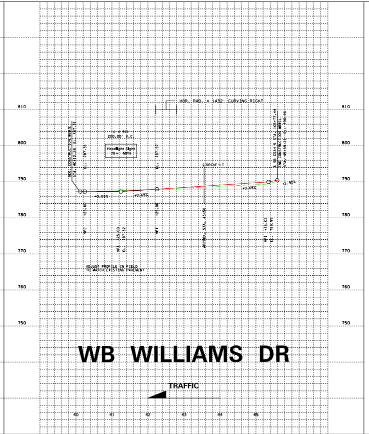
TRAFFIC



FRONTAGE RD



EB WILLIAMS DR



WB WILLIAMS DR

LEGEND

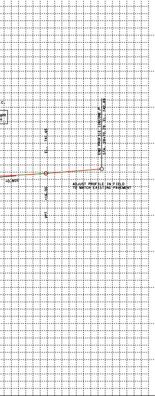
🟧	Proposed Bridges
- - -	Inplace Ground Profile
—	Proposed Profile
- - -	Proposed Profile Controlled by Adjacent Mainline

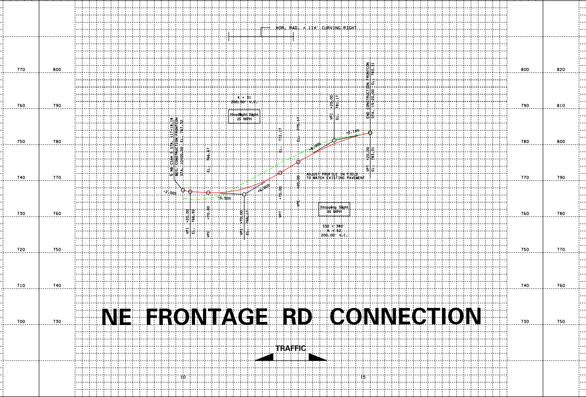
Horizontal Scale

0 100 200
scale feet

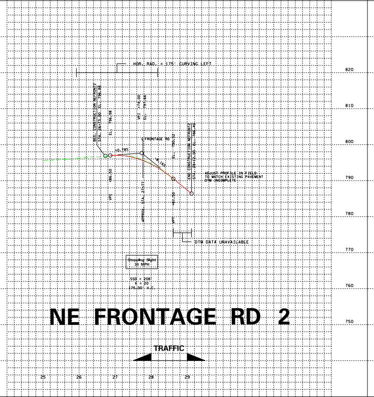
Vertical Scale

0 10 20
scale feet

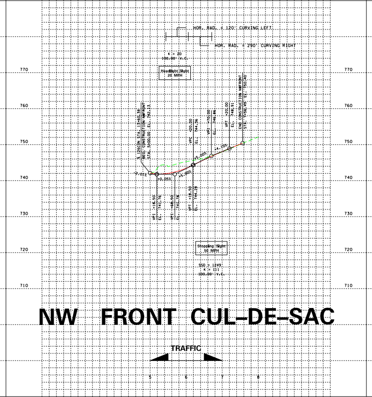




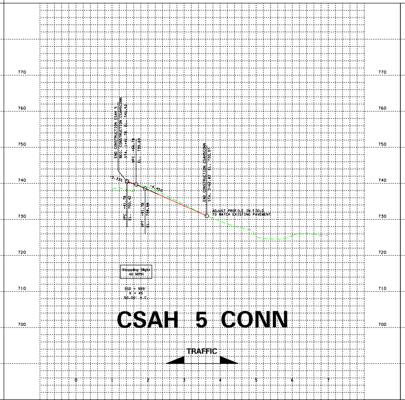
NE FRONTAGE RD CONNECTION



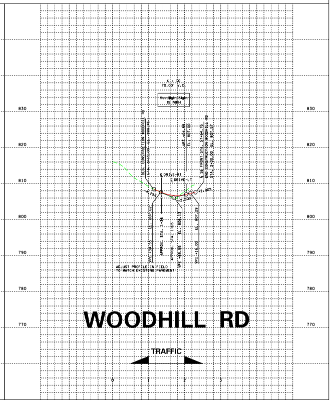
NE FRONTAGE RD 2



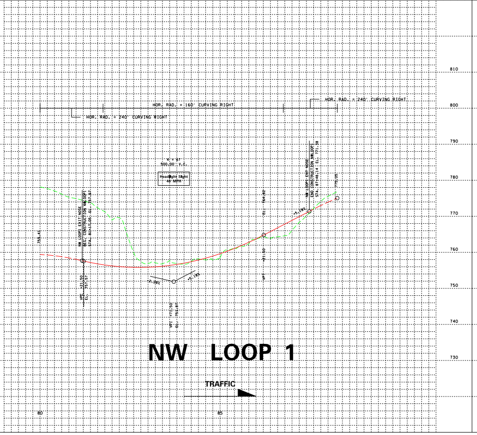
NW FRONT CUL–DE–SAC



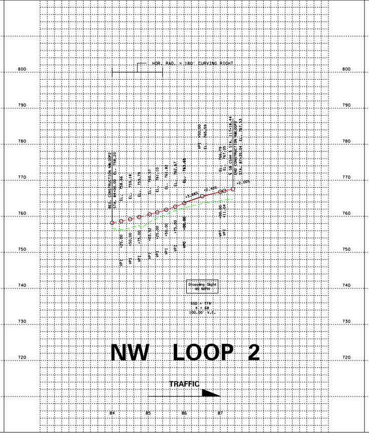
CSAH 5 CONN



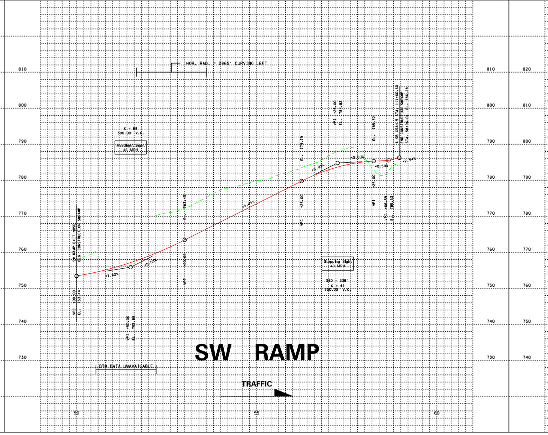
WOODHILL RD



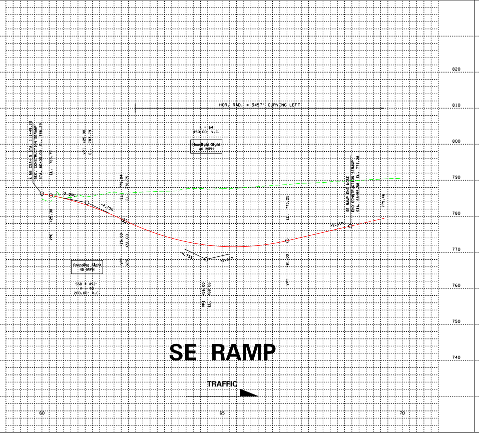
NW LOOP 1



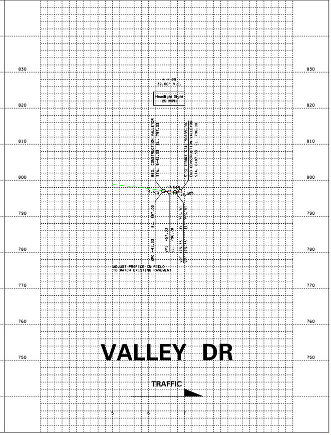
NW LOOP 2



SW RAMP



SE RAMP



VALLEY DR