

LAX

PROJECT ID: 7925-02-61

WITH: N/A

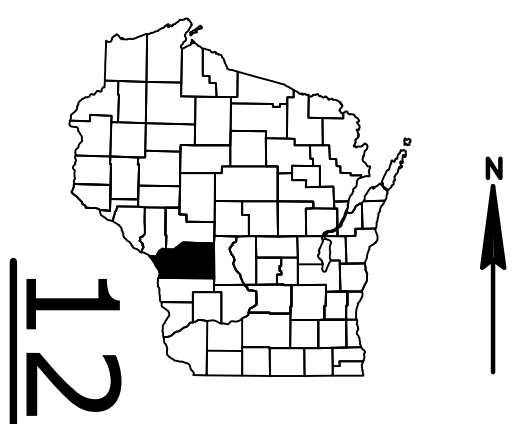
COUNTY: LA CROSSE & MONROE

NOVEMBER 2019

ORDER OF SHEETS

|                        |              |                                    |
|------------------------|--------------|------------------------------------|
| Section No.            | 1            | Title                              |
| Section No.            | 2            | Typical Sections and Details       |
| Section No.            | 3            | Estimate of Quantities             |
| Section No.            | 3            | Miscellaneous Quantities           |
| Section No.            | 4            | Right of Way Plat                  |
| <del>Section No.</del> | <del>5</del> | <del>Plan and Profile</del>        |
| Section No.            | 6            | Standard Detail Drawings           |
| Section No.            | 7            | Sign Plates                        |
| Section No.            | 8            | Structure Plans                    |
| <del>Section No.</del> | <del>9</del> | <del>Computer Earthwork Data</del> |
| Section No.            | 9            | Cross Sections                     |

TOTAL SHEETS = 128



DESIGN DESIGNATION

|              |      |   |         |
|--------------|------|---|---------|
| A.A.D.T.     | 2022 | = | 1800    |
| A.A.D.T.     | 2032 | = | 2000    |
| D.H.V.       |      | = | 222     |
| D.D.         |      | = | 60/40   |
| T.           |      | = | 7.4%    |
| DESIGN SPEED |      | = | 60 MPH  |
| ESALS        |      | = | 270,000 |

CONVENTIONAL SYMBOLS

PLAN

|                                |  |
|--------------------------------|--|
| CORPORATE LIMITS               |  |
| PROPERTY LINE                  |  |
| LOT LINE                       |  |
| LIMITED HIGHWAY EASEMENT       |  |
| EXISTING RIGHT OF WAY          |  |
| PROPOSED OR NEW R/W LINE       |  |
| SLOPE INTERCEPT                |  |
| REFERENCE LINE                 |  |
| EXISTING CULVERT               |  |
| PROPOSED CULVERT (Box or Pipe) |  |
| COMBUSTIBLE FLUIDS             |  |
| MARSH AREA                     |  |
| WOODED OR SHRUB AREA           |  |



BEGIN PROJECT

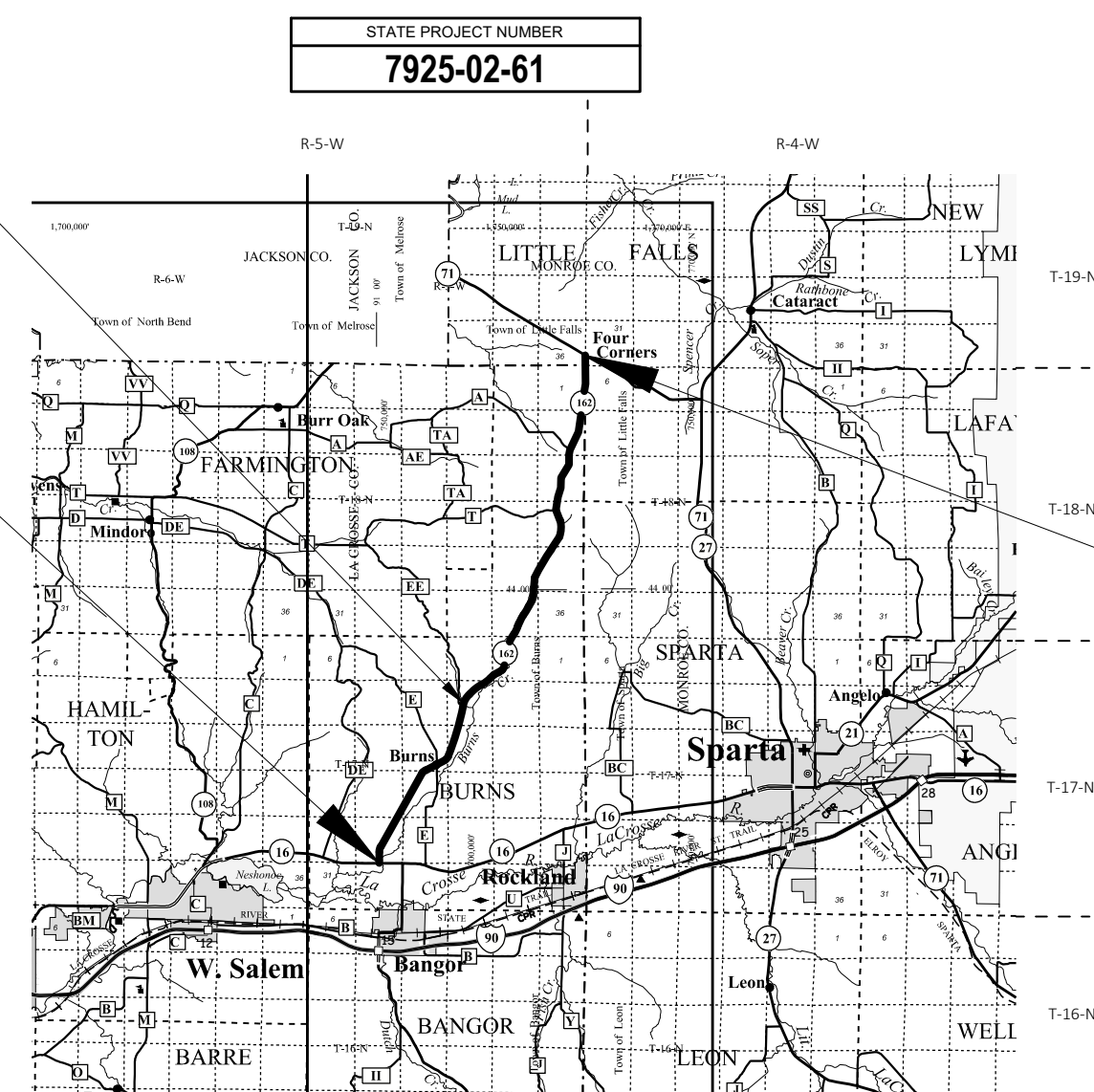
STA 0+24

X = 168816.57

Y = 511301.15

NET EXCEPTION TO CL LENGTH

STA 217+02 - STA 217+28



STATE PROJECT NUMBER

7925-02-61

LAYOUT

SCALE 0 4 MI

TOTAL NET LENGTH OF CENTERLINE = 12.516 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, LA CROSSE COUNTY, NAD83 ( 2011 ), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

BANGOR - FOUR CORNERS

STH 16 TO STH 71

STH 162

LA CROSSE & MONROE COUNTIES

| STATE PROJECT | FEDERAL PROJECT |          |
|---------------|-----------------|----------|
|               | PROJECT         | CONTRACT |
| 7925-02-61    | WISC 2019681    | 1        |
|               |                 |          |
|               |                 |          |

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

|                     |                 |
|---------------------|-----------------|
| Surveyor            | WisDOT          |
| Designer            | CORY MIKSHOWSKY |
| Project Manager     | TODD WALDO      |
| Regional Examiner   | SW REGION       |
| Regional Supervisor | REINY YAHNKE    |

APPROVED FOR THE DEPARTMENT

DATE: 4/25/2019

Todd Waldo

(Signature)

E

GENERAL NOTES

THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

THE ENGINEER SHALL ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH THE EXISTING UTILITY FACILITIES.

PRIOR TO THE PLACEMENT OF MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, BIKE OR PARKING LANE.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

PLACE 3.5" HMA PAVEMENT IN TWO EQUAL LIFTS.

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

ORDER OF SECTION 2 SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- BORINGS
- CONSTRUCTION DETAILS
- EROSION CONTROL
- PERMANENT SIGNING
- TRAFFIC CONTROL
- DETOUR ROUTE
- ALIGNMENT

DESIGN CONTACTS

TODD WALDO  
PROJECT MANAGER  
WISDOT SW REGION  
3550 MORMON COULEE ROAD  
LA CROSSE, WI 54601  
PHONE: 608-785-9462  
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CORY MIKSHOWSKY  
PROJECT DESIGNER  
WISDOT SW REGION  
3550 MORMON COULEE ROAD  
LA CROSSE, WI 54601  
PHONE: 608-397-1230  
EMAIL: Cory.Mikshowsky@dot.wi.gov

ENVIRONMENTAL CONTACT

KAREN KALVELAGE  
ENVIRONMENTAL ANALYSIS & REVIEW SPECIALIS  
WISCONSIN DEPT. OF NATURAL RESOURCES  
SOUTH CENTRAL REGION  
3550 MORMON COULEE RD  
LA CROSSE, WI 54601  
PHONE: 608-785-9115  
Email: karen.Kalvelage@wisconsin.gov

UTILITY CONTACTS

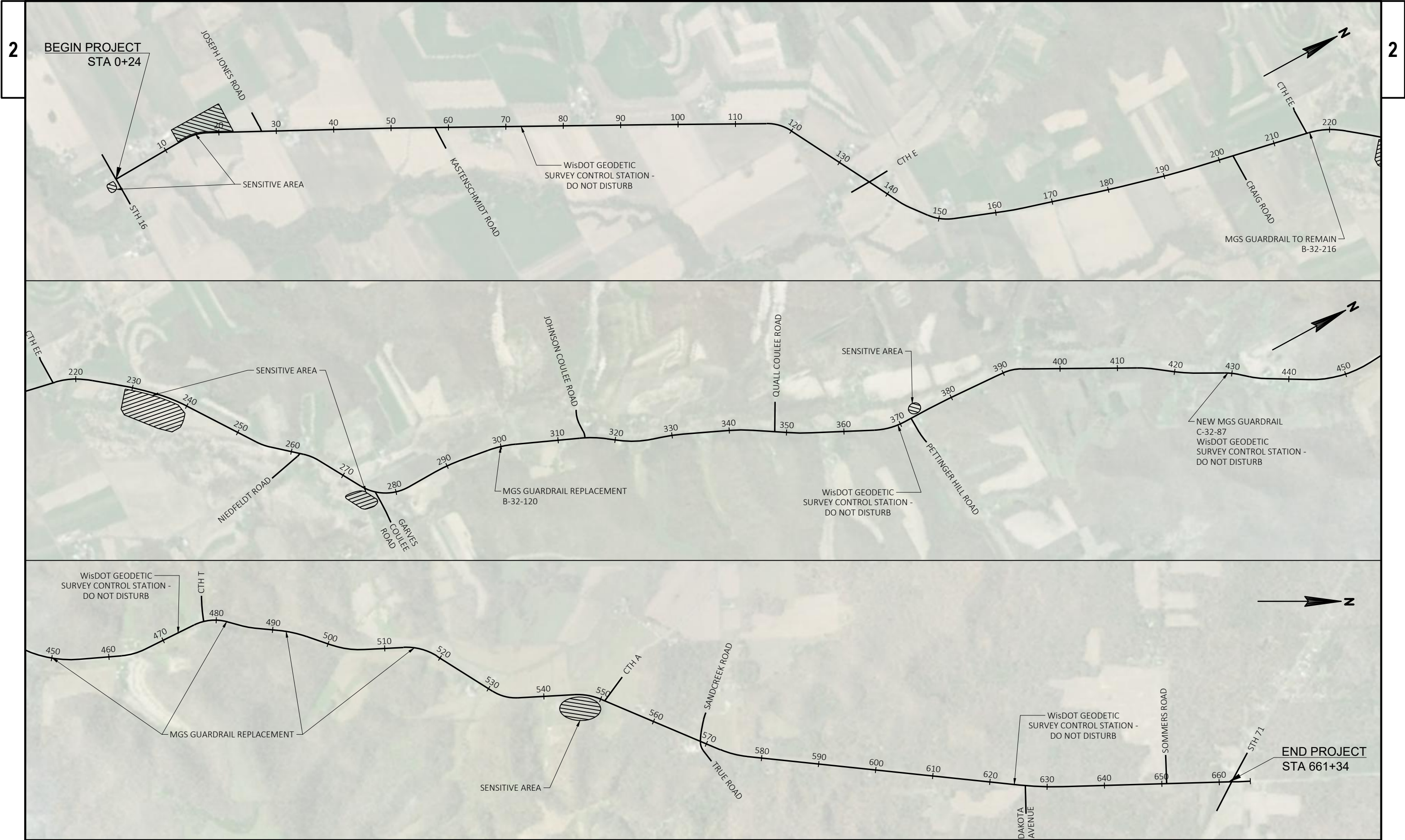
|                                                                                                                                                                                |                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BANGOR MUNICIPAL UTILITY - ELECTRICITY<br>RYAN PELOWSKI<br>106 15TH AVENUE NORTH<br>BANGOR, WI 54614<br>PHONE: (608) 486-2151<br>MOBILE: (608) 317-8618                        | NORTHERN NATURAL GAS COMPANY - GAS/PETROLEUM<br>LENNY KLASS<br>1120 CENTRE POINT DRIVE, SUITE 400<br>MENDOTA HEIGHTS, MN 55120<br>PHONE: (402) 530-2806<br>MOBILE: (608) 778-8514 |
| CENTURY LINK OF CENTRAL WISCONSIN-<br>COMMUNICATION LINE<br>BRIAN STELPUGH<br>333 NORTH FRONT STREET<br>LA CROSSE, WI 54601<br>PHONE: (608) 796-5142<br>MOBILE: (608) 780-1238 | CENTURY LINK OF MONROE COUNTY-<br>COMMUNICATION LINE<br>BRIAN STELPUGH<br>333 NORTH FRONT STREET<br>LA CROSSE, WI 54601<br>PHONE: (608) 796-5142<br>MOBILE: (608) 780-1238        |
| XCEL ENERGY - ELECTRICITY-<br>BRUCE M ZEMKE<br>414 NICOLLET MALL, 5TH FLOOR<br>MINNEAPOLIS, MN, 55401<br>PHONE: (612) 330-7815<br>MOBILE: (651) 214-2620                       |                                                                                                                                                                                   |

DIGGERSHOTLINE

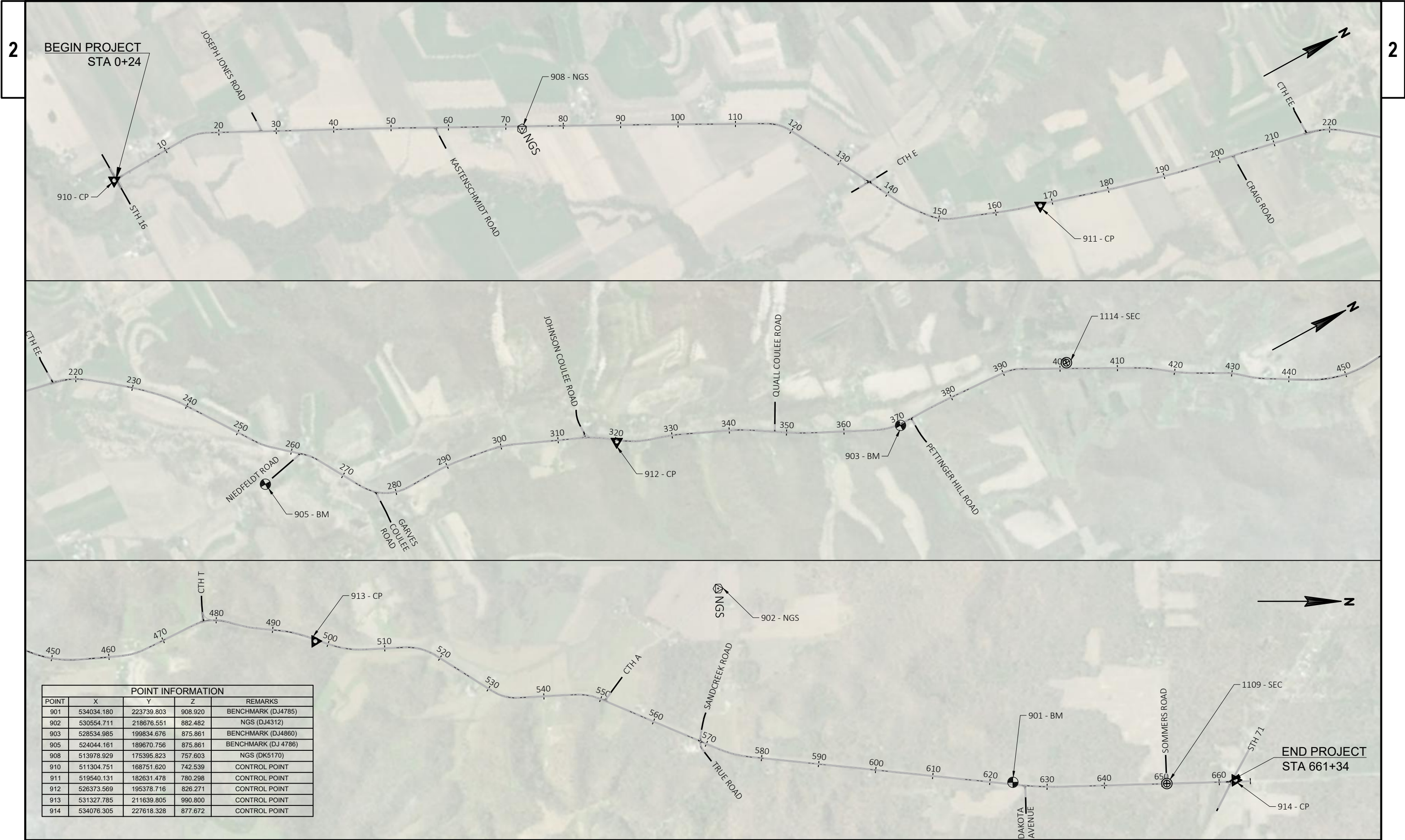
Dial 811 or (800)242-8511

www.DiggersHotline.com

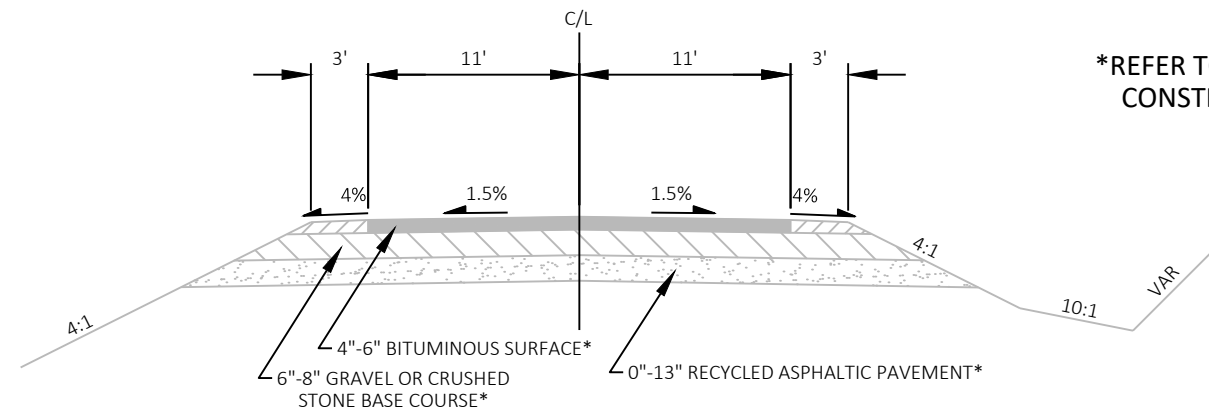








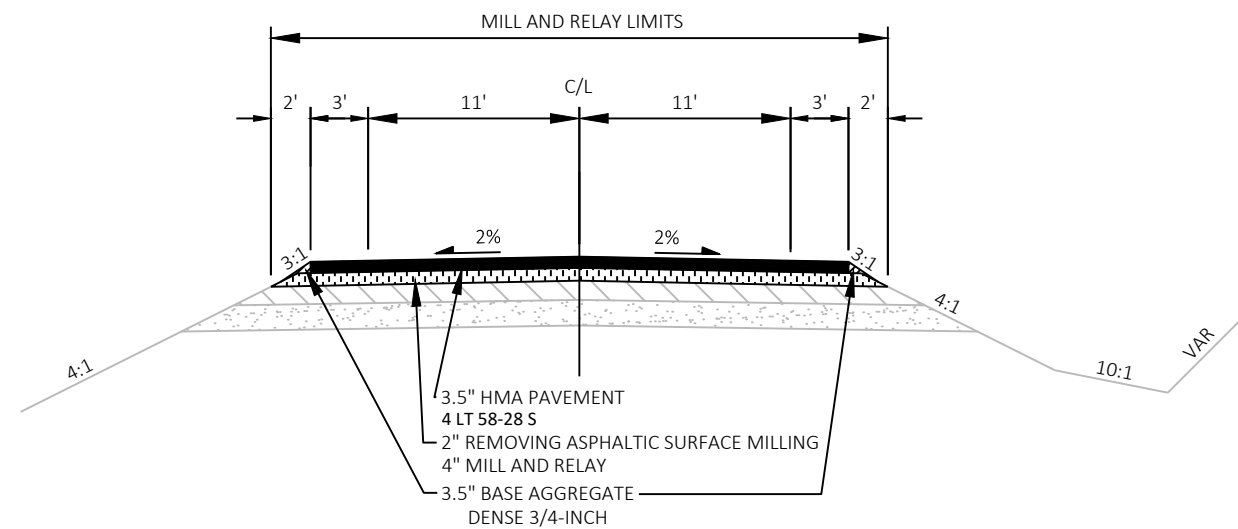
| POINT INFORMATION |            |            |         |                     |
|-------------------|------------|------------|---------|---------------------|
| POINT             | X          | Y          | Z       | REMARKS             |
| 901               | 534034.180 | 223739.803 | 908.920 | BENCHMARK (DJ4785)  |
| 902               | 530554.711 | 218676.551 | 882.482 | NGS (DJ4312)        |
| 903               | 528534.985 | 199834.676 | 875.861 | BENCHMARK (DJ4860)  |
| 905               | 524044.161 | 189670.756 | 875.861 | BENCHMARK (DJ 4786) |
| 908               | 513978.929 | 175395.823 | 757.603 | NGS (DK5170)        |
| 910               | 511304.751 | 168751.620 | 742.539 | CONTROL POINT       |
| 911               | 519540.131 | 182631.478 | 780.298 | CONTROL POINT       |
| 912               | 526373.569 | 195378.716 | 826.271 | CONTROL POINT       |
| 913               | 531327.785 | 211639.805 | 990.800 | CONTROL POINT       |
| 914               | 534076.305 | 227618.328 | 877.672 | CONTROL POINT       |



\*REFER TO BORING TABLE IN  
CONSTRUCTION DETAILS

**TYPICAL EXISTING SECTION STH 162**

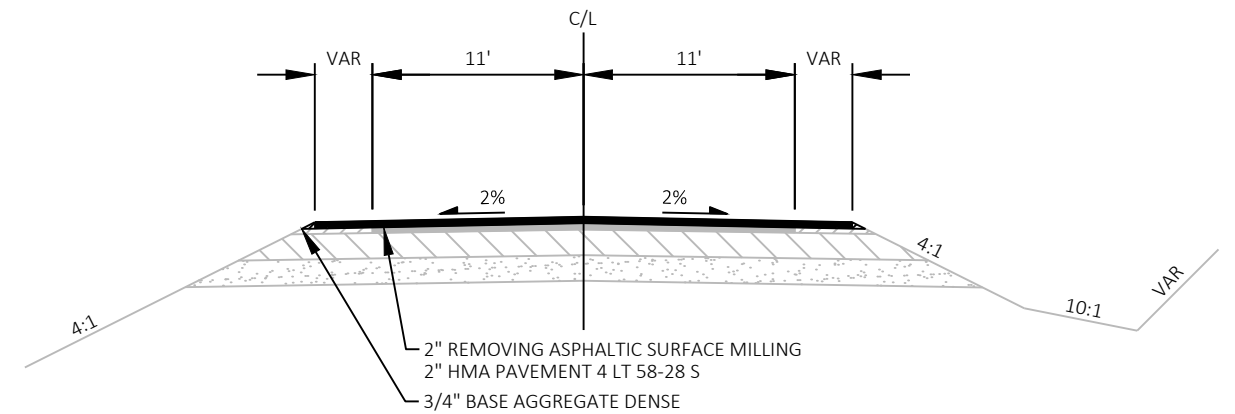
STA 0+24 - STA 215+25  
STA 217+28 - STA 661+34



**TYPICAL PROPOSED SECTION STH 162**

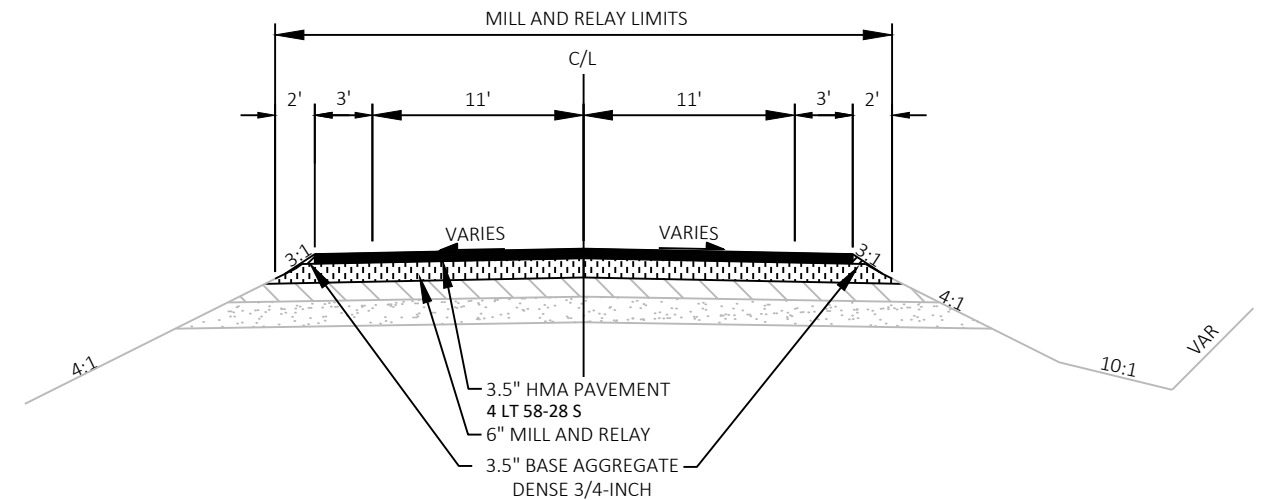
STA 0+24 - STA 215+25  
STA 221+00 - STA 225+00  
STA 240+00 - STA 264+50  
STA 270+00 - STA 276+00  
STA 293+50 - STA 301+50  
STA 319+00 - STA 329+00  
STA 332+50 - STA 339+50  
STA 341+25 - STA 352+00  
STA 355+00 - STA 363+50  
STA 370+50 - STA 388+50  
STA 394+50 - STA 412+00  
STA 425+00 - STA 442+50  
STA 460+00 - STA 464+75  
STA 479+79 - STA 504+00  
STA 507+00 - STA 512+00  
STA 551+50 - STA 571+50  
STA 578+50 - STA 625+00  
STA 655+00 - STA 661+34

NOTE:  
SUPERELEVATION RANGES FROM 2% TO 8%, SEE PLAN DETAILS



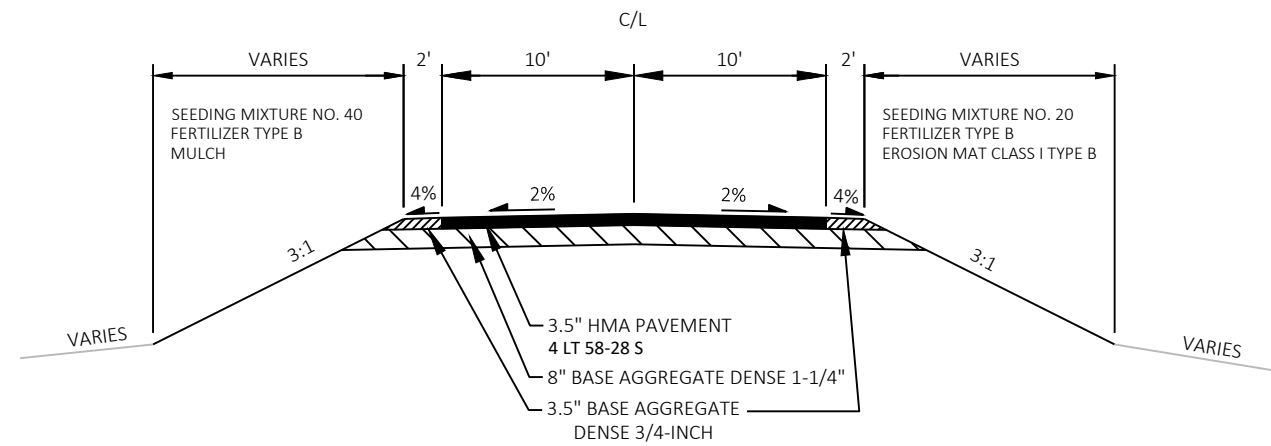
**TYPICAL PROPOSED SECTION STH 162**

STA 215+25 - STA 217+02  
STA 217+28 - STA 218+77



**TYPICAL PROPOSED SECTION STH 162**

STA 218+77 - STA 221+00  
STA 225+00 - STA 240+00  
STA 264+50 - STA 270+00  
STA 276+00 - STA 293+50  
STA 301+50 - STA 319+00  
STA 329+00 - STA 332+50  
STA 339+50 - STA 341+25  
STA 352+00 - STA 355+00  
STA 363+50 - STA 370+50  
STA 388+50 - STA 394+50  
STA 412+00 - STA 425+00  
STA 442+50 - STA 460+00  
STA 464+75 - STA 479+79  
STA 504+00 - STA 507+00  
STA 512+00 - STA 551+50  
STA 571+50 - STA 578+50  
STA 625+00 - STA 655+00



TYPICAL PROPOSED SECTION - JOHNSON COULEE ROAD  
STA 8+50'JC' - STA 10+00'JC'

NOTES:  
DATE BORINGS TAKEN: 4/9/18  
FOR REFERENCE PURPOSES ONLY  
ALL OFFSETS ARE FROM EXISTING CENTERLINE

BORING SUMMARY

| Boring Number | Log Mile | Offset | Existing Asphaltic Surface | Base Aggregate | RAP | Total Pavement Structure | Subgrade  | Comment                     |
|---------------|----------|--------|----------------------------|----------------|-----|--------------------------|-----------|-----------------------------|
|               | 0.00     |        |                            |                |     |                          |           | STH 16/STH 162 Intersection |
| B-1           | 0.06     | 6' RT  | 5"                         | 13"            | -   | 18"                      | Silt      |                             |
| B-2           | 0.38     | 9' RT  | 4"                         | 6.5"           | 6"  | 16.5"                    | Silt      |                             |
| B-3           | 0.74     | 6' LT  | 3"                         | 9"             | 3"  | 20"                      | Silt      | Additional 5" BAD below RAP |
| B-4           | 0.99     | 9' LT  | 3"                         | 12"            | 5"  | 20"                      | Silt      |                             |
|               | 1.09     |        |                            |                |     |                          |           | Kastenschmidt Road          |
| B-5           | 1.32     | 12' LT | 4"                         | 7.5"           | 6"  | 17.5"                    | Silt      |                             |
| B-6           | 1.53     | 4' RT  | 3"                         | 9"             | 7"  | 19"                      | Silt      |                             |
| B-7           | 1.77     | 9' RT  | 5"                         | 7"             | 4"  | 16"                      | Silt      |                             |
| B-8           | 2.20     | 6' LT  | 4"                         | 6"             | 8"  | 18"                      | Silt      |                             |
| B-9           | 2.49     | 5' RT  | 3"                         | 9"             | 7"  | 19"                      | Silt      |                             |
| B-10          | 2.71     | 9' RT  | 4"                         | 8.5"           | 11" | 23.5"                    | Silt      |                             |
| B-11          | 3.02     | 12' RT | 4.5"                       | 9"             | 7"  | 20.5"                    | Silt      |                             |
| B-12          | 3.26     | 7' RT  | 6"                         | 4"             | 13" | 23"                      | Silt      |                             |
| B-13          | 3.55     | 6' LT  | 5"                         | 8"             | 10" | 23"                      | Silt      |                             |
|               | 3.82     |        |                            |                |     |                          |           | Craig Road                  |
| B-14          | 3.96     | 9' LT  | 7"                         | 7"             | 9"  | 23"                      | Silt      |                             |
|               | 4.07     |        |                            |                |     |                          |           | CTH EE                      |
| B-15          | 4.25     | 5' RT  | 5"                         | 8"             | 10" | 23"                      | Silt      |                             |
| B-16          | 4.51     | 12' RT | 5"                         | 7.5"           | 8"  | 20.5"                    | Silt      |                             |
| B-17          | 4.80     | 4' LT  | 6"                         | 12"            | 6"  | 24"                      | Silt      |                             |
| B-18          | 5.10     | 12' LT | 6"                         | 8"             | -   | 14"                      | Sand/Silt |                             |
|               | 5.21     |        |                            |                |     |                          |           | Garves Coulee Road          |
| B-19          | 5.43     | 6' LT  | 6"                         | 8"             | -   | 14"                      | Sand      |                             |
| B-20          | 5.75     | 9' RT  | 4"                         | 8.5"           | -   | 12.5"                    | Sand/Silt | ~8" RAP beneath a sand lift |
|               | 5.94     |        |                            |                |     |                          |           | Johnson Coulee Road         |
| B-21          | 6.00     | 6' RT  | 5.5"                       | 7"             | -   | 12.5"                    | Sand      |                             |
| B-22          | 6.29     | 5' RT  | 11"                        | 2"             | -   | 13"                      | Sand      |                             |
| B-23          | 6.59     | 6' LT  | 9"                         | -              | -   | 9"                       | Sand      |                             |
|               | 6.56     |        |                            |                |     |                          |           | Quall Coulee Road           |



NOTES:  
DATE BORINGS TAKEN: 4/9/18  
FOR REFERENCE PURPOSES ONLY  
ALL OFFSETS ARE FROM EXISTING CENTERLINE

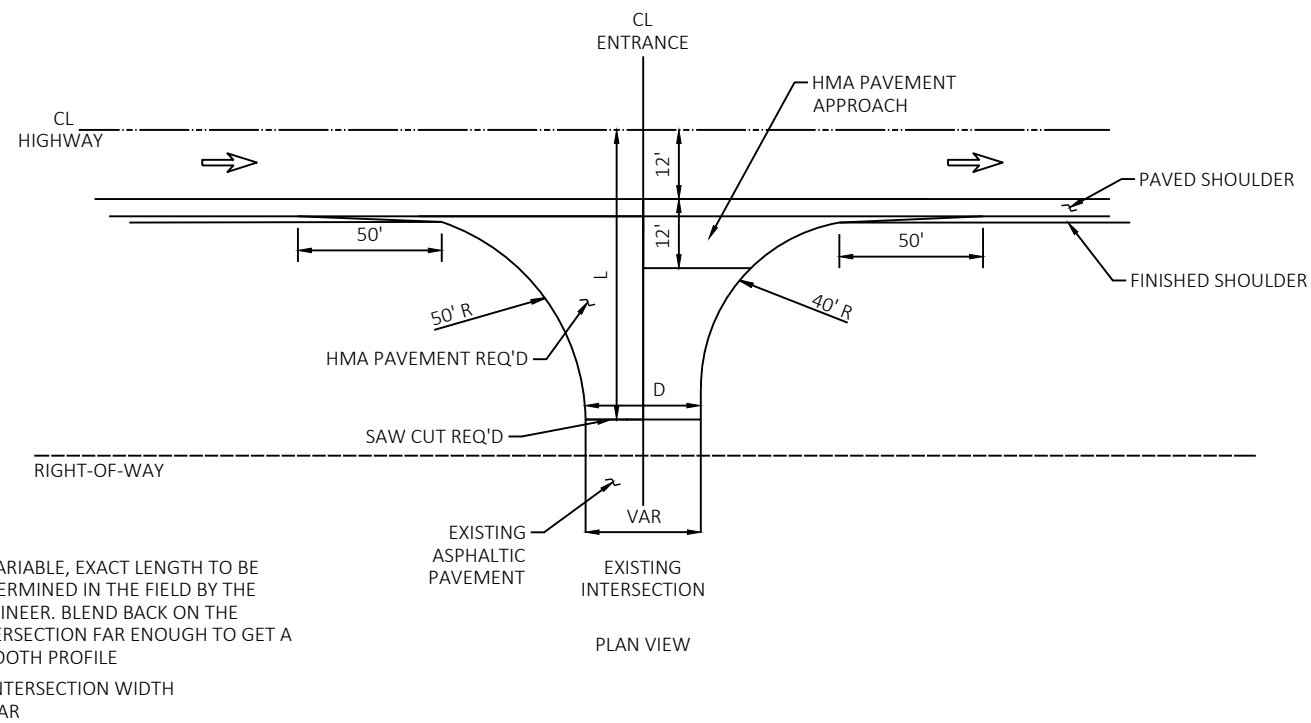
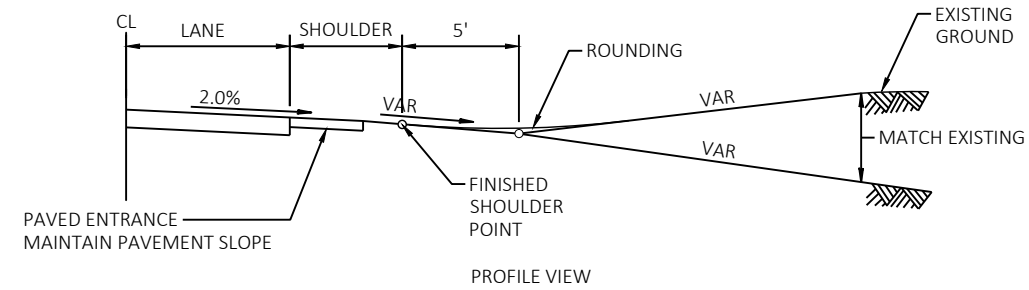
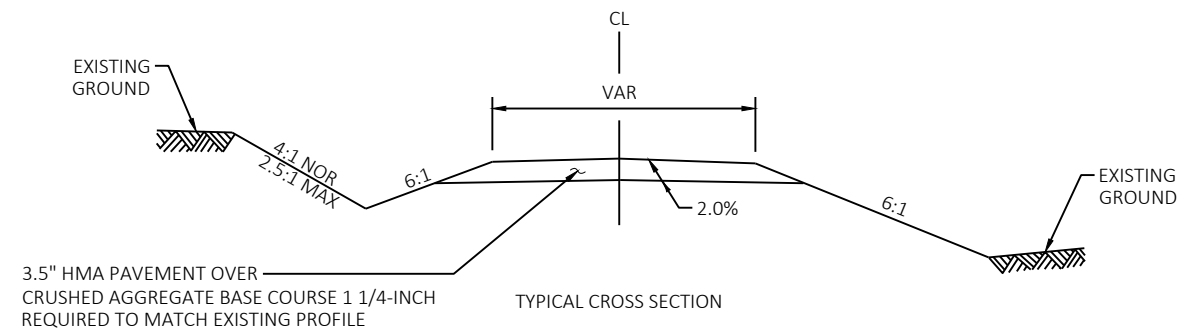
BORING SUMMARY (Cont'd)

| Boring Number | Log Mile | Offset | Existing Asphaltic Surface | Base Aggregate | RAP | Total Pavement Structure | Subgrade  | Comment                     |
|---------------|----------|--------|----------------------------|----------------|-----|--------------------------|-----------|-----------------------------|
| B-24          | 6.83     | 9' LT  | 8"                         | 2"             | -   | 10"                      | Sand      |                             |
|               | 7.01     |        |                            |                |     |                          |           | Pettinger Hill Road         |
| B-25          | 7.10     | 4' LT  | 8"                         | 2"             | -   | 10"                      | Silt/Sand |                             |
| B-26          | 7.49     | 12' RT | 7"                         | -              | -   | 7"                       | Sand      |                             |
| B-27          | 7.82     | 6' RT  | 8"                         | 6"             | -   | 14"                      | Silt      |                             |
| B-28          | 8.05     | 9' RT  | 7.5"                       | -              | -   | 7.5"                     | Silt      |                             |
| B-29          | 8.39     | 14' RT | 3"                         | 15"            | -   | 18"                      | Silt      |                             |
| B-30          | 8.72     | 5' LT  | 4"                         | 6"             | 6"  | 16"                      | Silt      |                             |
|               | 9.02     |        |                            |                |     |                          |           | CTH T                       |
| B-31          | 9.14     | 6' LT  | 7"                         | 9"             | 6"  | 22"                      | Silt      |                             |
| B-32          | 9.37     | 12' LT | 5.5"                       | 7"             | 11" | 23.5"                    | Silt      |                             |
| B-33          | 9.64     | 9' LT  | 5.5"                       | 7"             | 6"  | 18.5"                    | Silt      |                             |
| B-34          | 9.98     | 6' RT  | 9"                         | 12"            | -   | 21"                      | Silt      |                             |
| B-35          | 10.22    | 9' RT  | 5"                         | 14"            | -   | 19"                      | Silt/Sand |                             |
|               | 10.38    |        |                            |                |     |                          |           | CTH A                       |
| B-36          | 10.55    | 4' RT  | 6"                         | 5"             | -   | 11"                      | Sand      |                             |
|               | 10.73    |        |                            |                |     |                          |           | Sand Creek Road/Dallas Ave. |
| B-37          | 10.84    | 6' LT  | 5.5"                       | 4"             | -   | 9.5"                     | Sand      |                             |
| B-38          | 11.16    | 9' LT  | 5"                         | 5"             | -   | 10"                      | Sand      |                             |
| B-39          | 11.42    | 11' RT | 6"                         | 6"             | -   | 12"                      | Sand      |                             |
| B-40          | 11.70    | 5' RT  | 6"                         | 6"             | -   | 12"                      | Sand      |                             |
|               | 11.82    |        |                            |                |     |                          |           | Dakota Avenue               |
| B-41          | 11.92    | 6' RT  | 8"                         | -              | 3"  | 11"                      | Sand      |                             |
| B-42          | 12.09    | 6' LT  | 5"                         | 6"             | -   | 11"                      | Sand      |                             |
| B-43          | 12.33    | 4' LT  | 5"                         | 8"             | -   | 13"                      | Sand      |                             |
|               | 12.49    |        |                            |                |     |                          |           | STH 162/STH 71              |

PWL MIXTURE USE TABLE

| Location                 | Station                            | Mixture Use: | Underlying Surface           | Bid Item                                        | Tons   | Thickness | Quality Management Program to be used for:    |                                                                  |
|--------------------------|------------------------------------|--------------|------------------------------|-------------------------------------------------|--------|-----------|-----------------------------------------------|------------------------------------------------------------------|
|                          |                                    |              |                              |                                                 |        |           | Mixture Acceptance                            | Density Acceptance                                               |
| 11 foot Driving Lane     | 0+24 to 217+02<br>217+28 to 661+34 | Upper Layer  | 4 LT 58-28S                  | 4 LT 58-28S                                     | 15,794 | 1 ¾ "     | PWL Incentive Air Voids HMA Pavement 460.2010 | Incentive Density PWL HMA Pavement 460.2005                      |
| 11 foot Driving Lane     | 0+24 to 217+02<br>217+28 to 661+34 | Lower Layer  | Milled & Relayed HMA Surface | 4 LT 58-28S                                     | 15,794 | 1 ¾ "     | PWL Incentive Air Voids HMA Pavement 460.2010 | Incentive Density PWL HMA Pavement 460.2005                      |
| 3 foot shoulder          | 0+24 to 217+02<br>217+28 to 661+34 | Upper Layer  | 4 LT 58-28S                  | 4 LT 58-28S                                     | 4,317  | 1 ¾ "     | PWL Incentive Air Voids HMA Pavement 460.2010 | Acceptance testing by the department; Not eligible for incentive |
| 3 foot shoulder          | 0+24 to 217+02<br>217+28 to 661+34 | Lower Layer  | Milled & Relayed HMA Surface | 4 LT 58-28S                                     | 4,317  | 1 ¾ "     | PWL Incentive Air Voids HMA Pavement 460.2010 | Acceptance testing by the department; Not eligible for incentive |
| Side Roads               | 0+24 to 661+34                     | Upper Layer  | 4 LT 58-28S                  | 4 LT 58-28S                                     | 558    | 1 ¾ "     | PWL Incentive Air Voids HMA Pavement 460.2010 | Acceptance testing by the department; Not eligible for incentive |
| Side Roads               | 0+24 to 661+34                     | Lower Layer  | Varies                       | 4 LT 58-28S                                     | 558    | 1 ¾ "     | PWL Incentive Air Voids HMA Pavement 460.2010 | Acceptance testing by the department; Not eligible for incentive |
| Driveways/Field Entrance | 0+24 to 661+34                     | Upper Layer  | Varies                       | Asphaltic Surface Driveways and Field Entrances | 50     | 3 ½ "     | QMP as per SS 460.                            | Acceptance by ordinary compaction                                |

# 2



INTERSECTION DETAIL  
(TYPE C MODIFIED)

EXISTING GROUND

CL

D

4:1 NOR  
2.5:1 MAX

6:1

2.0%

6:1

EXISTING GROUND

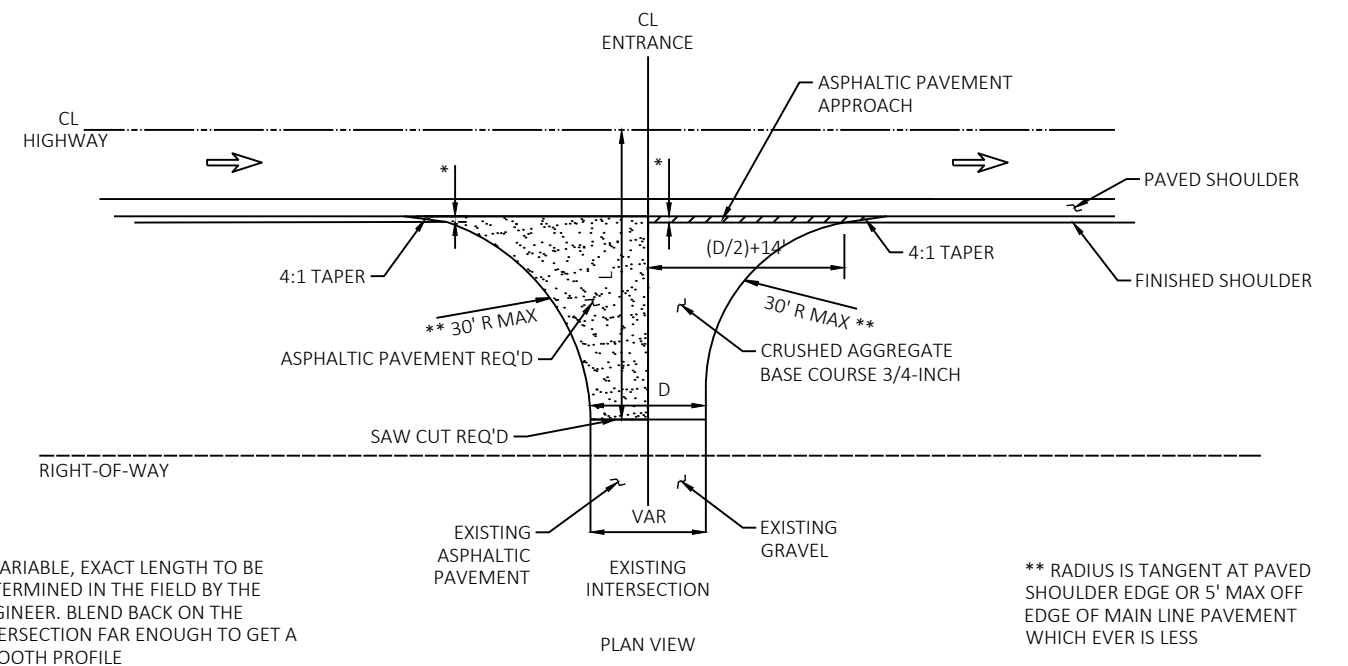
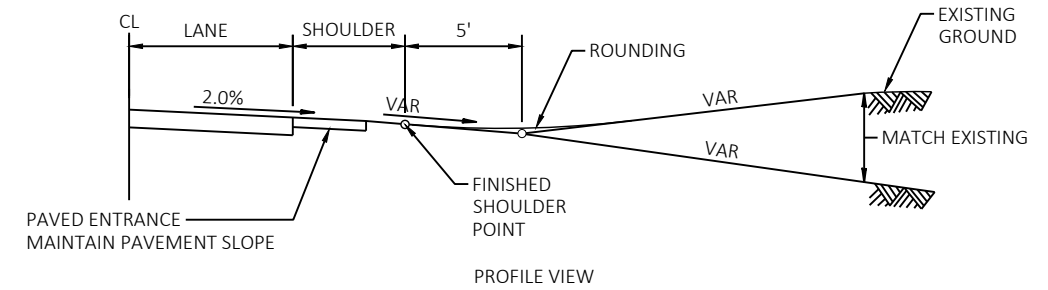
AGGREGATE BASE COURSE 3/4-INCH

ASPHALT SURFACE DRIVEWAYS AND FIELD ENTRANCES

(THICKNESS AS REQUIRED FOR PAVED SHOULDERS)

PAVED AGGREGATE BASE COURSE 1 1/4-INCH

TYPICAL CROSS SECTION



L=VARIABLE, EXACT LENGTH TO BE DETERMINED IN THE FIELD BY THE ENGINEER. BLEND BACK ON THE INTERSECTION FAR ENOUGH TO GET A SMOOTH PROFILE

D=DRIVEWAY WIDTH

D=20' TYP (PE & FE) (16' MIN - 24' MAX)

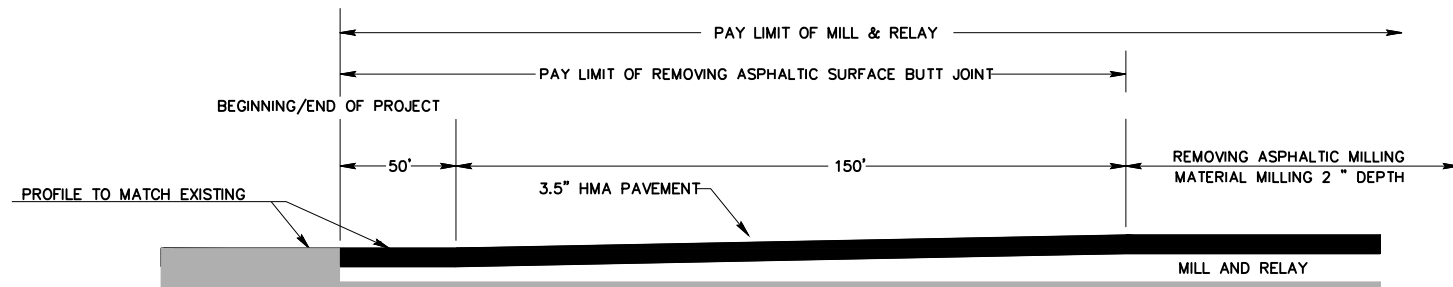
D=28' TYP (CE & FARM ENT) (24' MIN - 35' MAX)

**\*\* RADIUS IS TANGENT AT PAVED  
SHOULDER EDGE OR 5' MAX OFF  
EDGE OF MAIN LINE PAVEMENT  
WHICH EVER IS LESS**

**\* 3' MAX OR TO FINISHED  
SHOULDER WHICH EVER IS  
LESS**

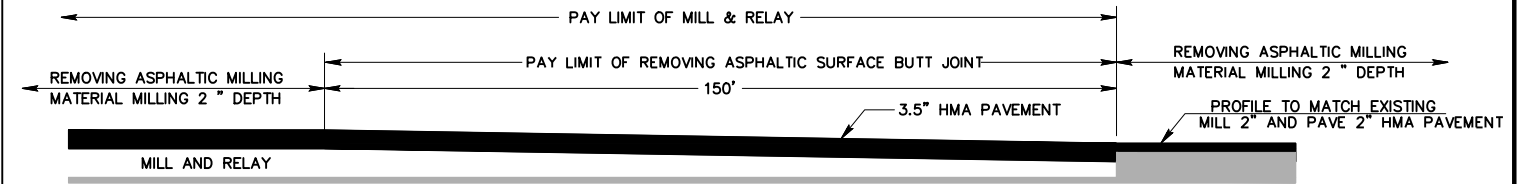
## RURAL DRIVEWAY INTERSECTION DETAIL

(PE's, FE's & CE's)



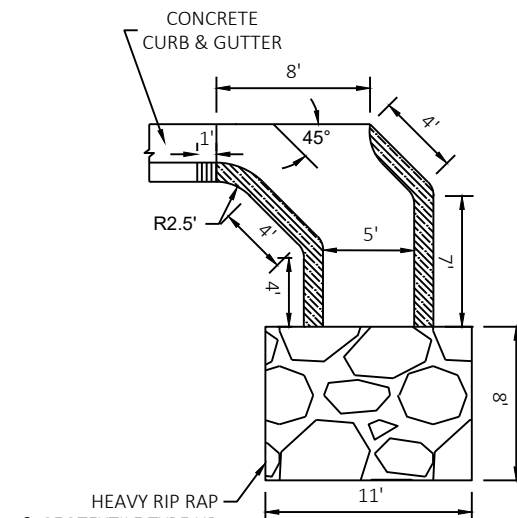
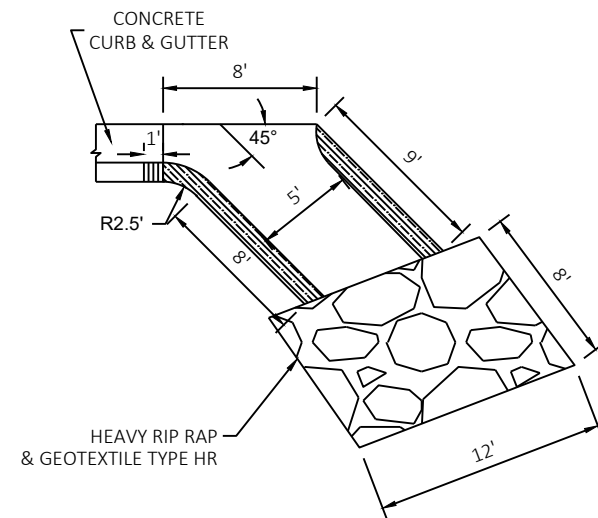
MAINLINE REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

STA 0+24 - STA 2+24  
STA 659+34 - STA 661+34



MAINLINE REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

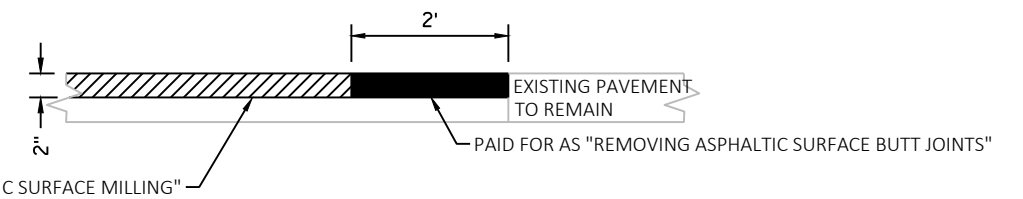
STA 213+75 - STA 215+25  
STA 218+77 - STA 220+27



ASPHALTIC FLUME DETAIL

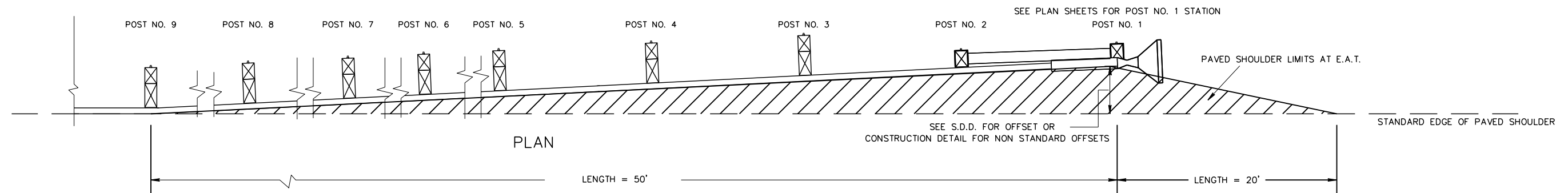
NOTES:  
SEE SDD 8D4: CONCRETE SURFACE  
DRAINS & ASPHALTIC FLUMES FOR  
ADDITIONAL DETAILS

FIELD FIT AS NEEDED

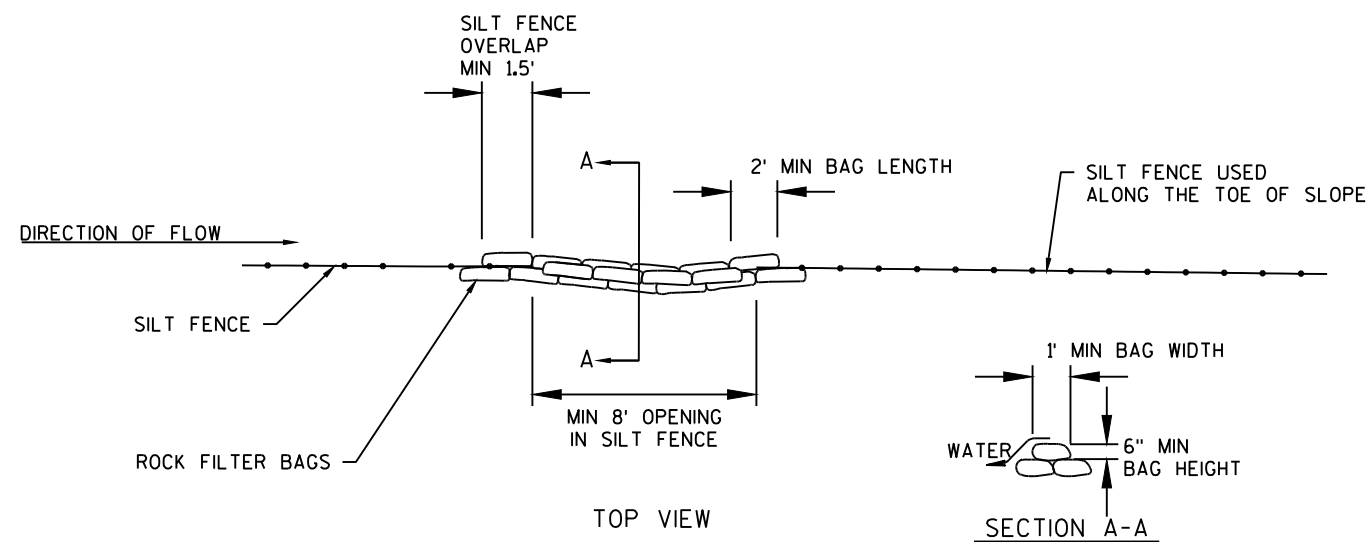


REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

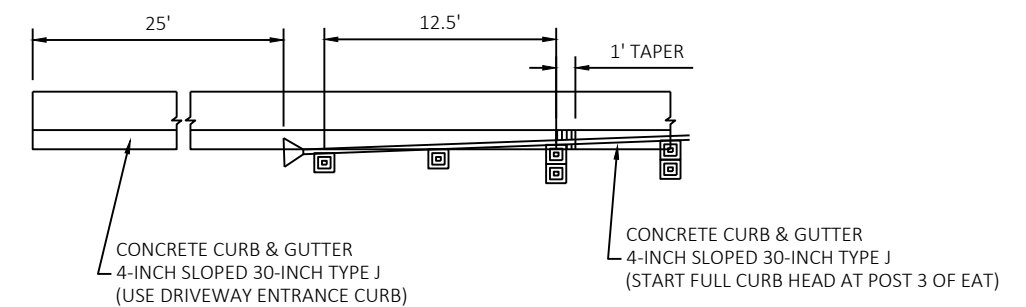
STA 217+00 - STA 217+02  
STA 217+28 - STA 217+30



SHOULDER PAVING DETAIL AT E.A.T.



ROCK BAGS USED FOR SILT FENCE RELIEF

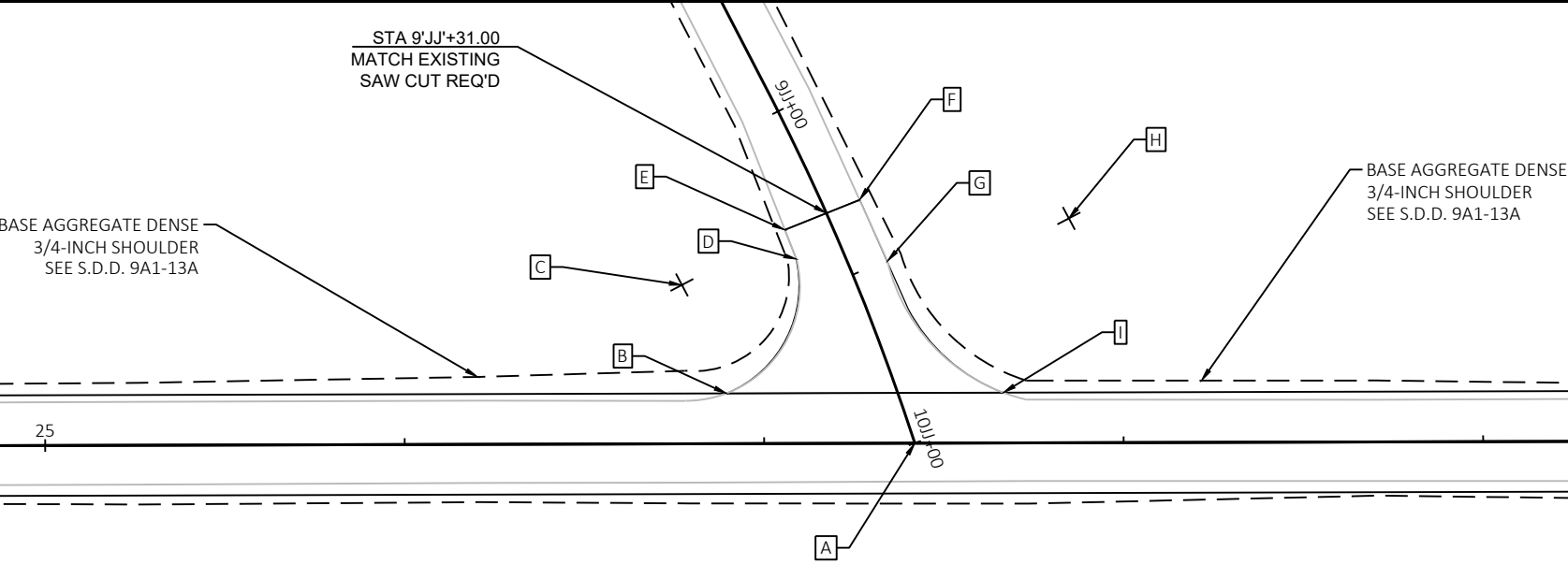


C&G AND EAT DETAIL



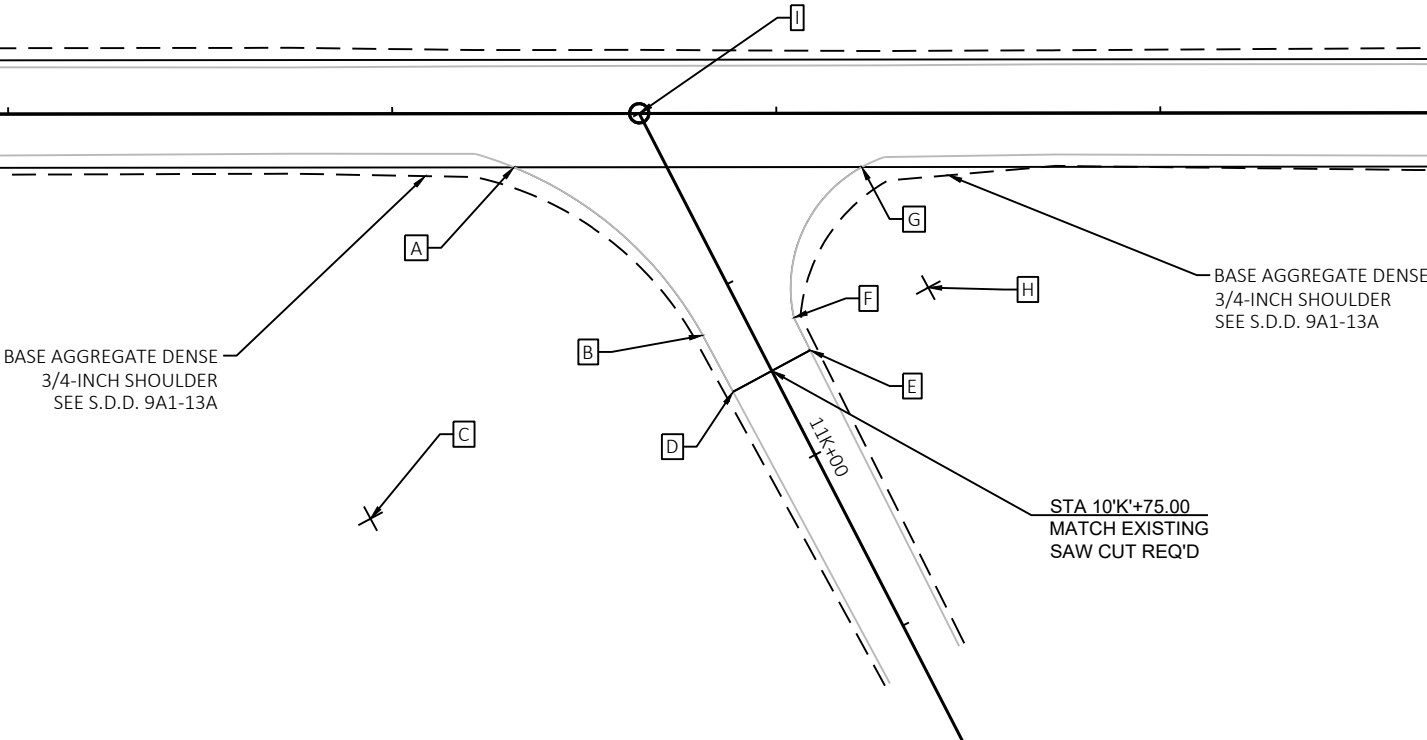
2

**JOSEPH JONES RD & STH 162**



| POINT TABLE |             |          |                              |
|-------------|-------------|----------|------------------------------|
| POINT       | STATION     | OFFSET   | COMMENTS                     |
| A           | 27+41.90    | -        | INTERSECTION TYPE C MODIFIED |
| B           | 26+89.55    | 14.0' LT | -                            |
| C           | 26+77.23    | 44.0' LT | RADIUS: 30'                  |
| D           | 9'JJ'+39.78 | 10.0' RT | -                            |
| E           | 9'JJ'+31.00 | 10.0' RT | -                            |
| F           | 9'JJ'+31.00 | 10.0' LT | -                            |
| G           | 9'JJ'+50.39 | 10.0' LT | -                            |
| H           | 27+84.92    | 62.0' LT | RADIUS: 50'                  |
| I           | 27+66.52    | 14.0' LT | -                            |

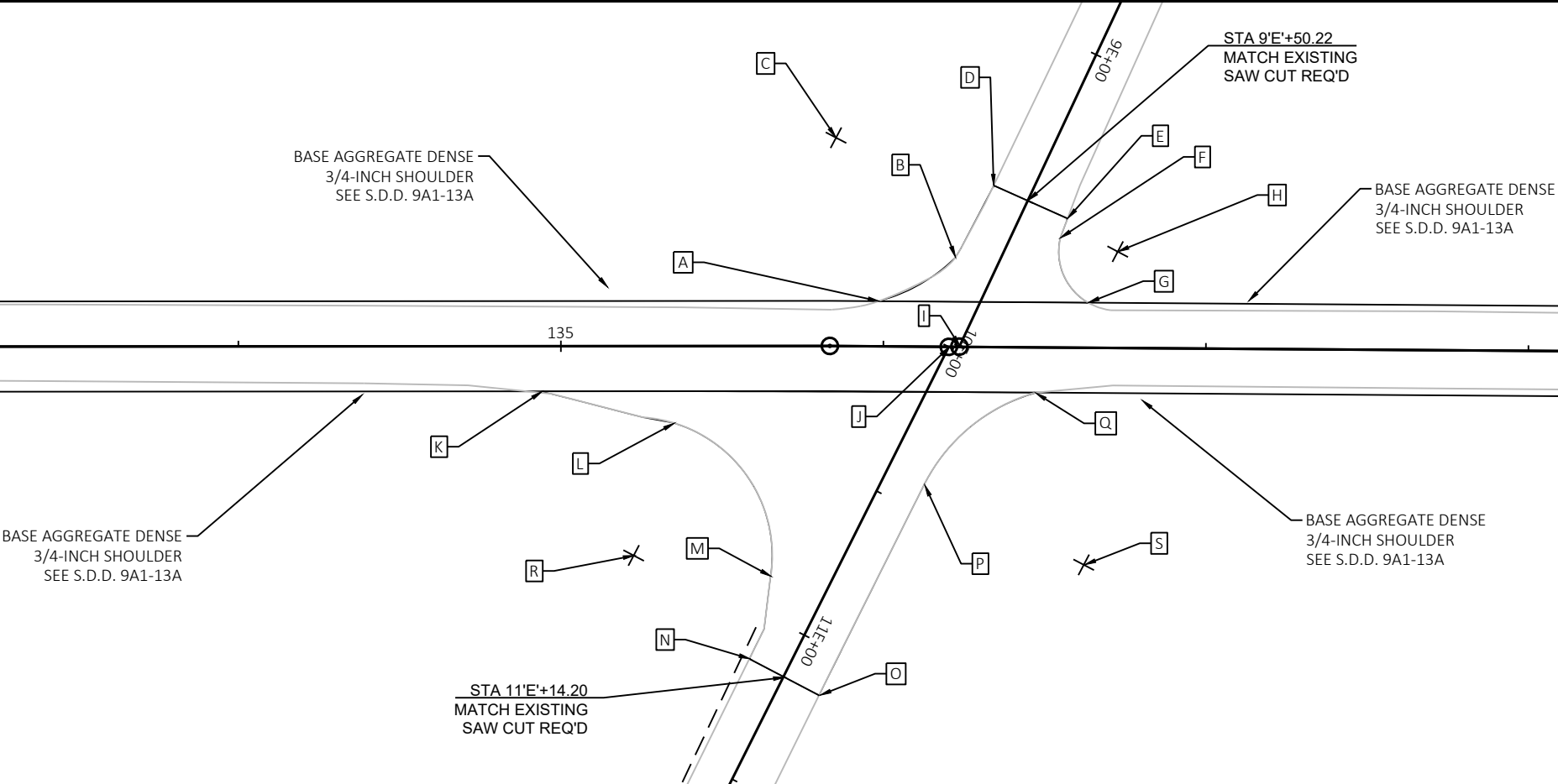
2

**KASTENSCHMIDT RD & STH 162**

| POINT TABLE |            |           |                              |
|-------------|------------|-----------|------------------------------|
| POINT       | STATION    | OFFSET    | COMMENTS                     |
| A           | 57+31.66   | 14.0' RT  | -                            |
| B           | 10'K+58.96 | 11.0' RT  | -                            |
| C           | 56+94.26   | 105.0' RT | RADIUS: 100'                 |
| D           | 10'K+75.00 | 11.0' RT  | -                            |
| E           | 10'K+75.00 | 11.0' LT  | -                            |
| F           | 10'K+65.72 | 11.0 LT   | -                            |
| G           | 58+22.25   | 14.0' RT  | -                            |
| H           | 58+39.55   | 45.0' RT  | RADIUS: 35'                  |
| I           | 57+64.31   | -         | INTERSECTION TYPE C MODIFIED |

2

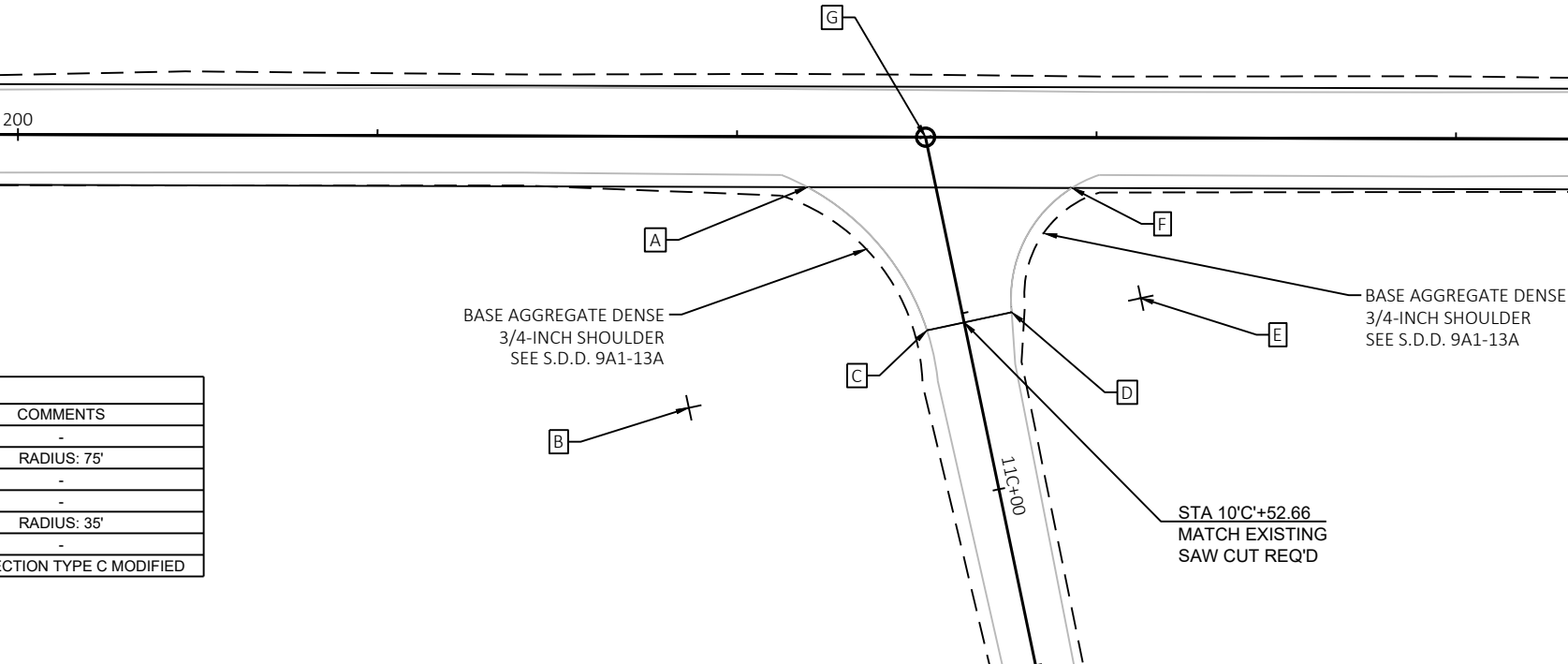
**CTH E & STH 162**



| POINT TABLE |           |          |                              |
|-------------|-----------|----------|------------------------------|
| POINT       | STATION   | OFFSET   | COMMENTS                     |
| A           | 135+98.39 | 14.0' LT | -                            |
| B           | 9'E+75.40 | 12.0' RT | -                            |
| C           | 135+84.86 | 64.0 LT  | RADIUS: 50'                  |
| D           | 9'E+50.22 | 12.0 RT  | -                            |
| E           | 9'E+50.22 | 12.0' LT | -                            |
| F           | 9'E+56.21 | 12.0' LT | -                            |
| G           | 136+63.36 | 14.0' LT | -                            |
| H           | 136+72.45 | 30.0' LT | RADIUS: 20'                  |
| I           | 136+23.55 | -        | INTERSECTION TYPE C MODIFIED |

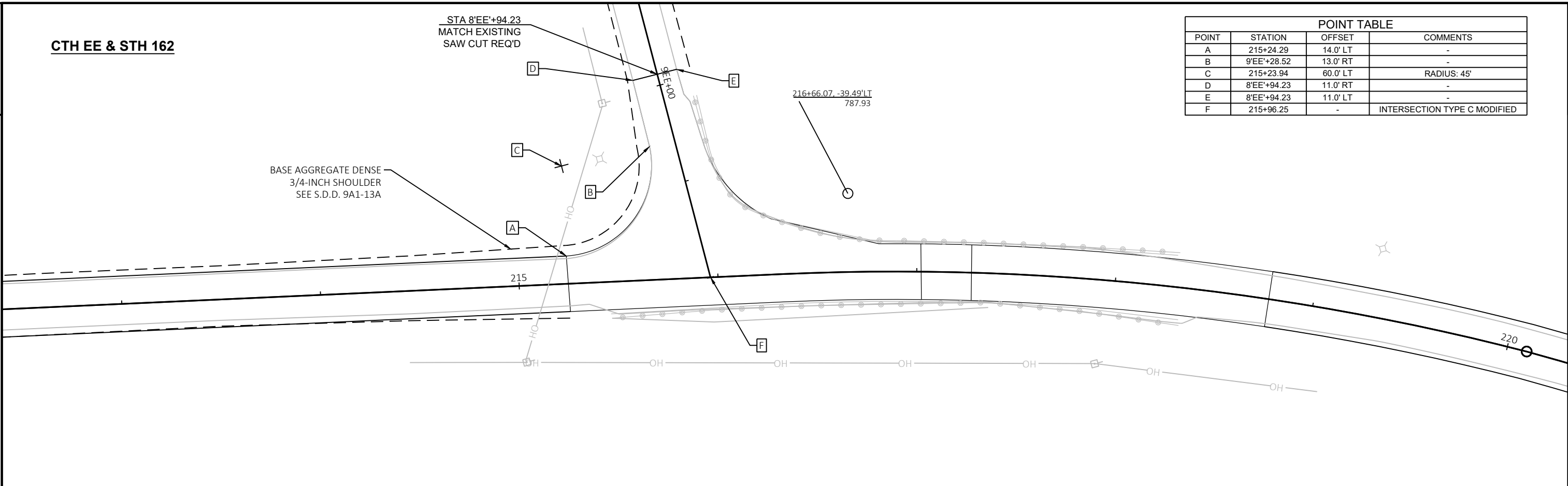
| POINT TABLE |            |          |                              |
|-------------|------------|----------|------------------------------|
| POINT       | STATION    | OFFSET   | COMMENTS                     |
| J           | 136+20.23  | -        | INTERSECTION TYPE C MODIFIED |
| K           | 134+89.57  | 14.0' RT |                              |
| L           | 10'E+59.29 | 66.0' RT | -                            |
| M           | 10'E+88.42 | 18.0' RT | -                            |
| N           | 11'E+14.20 | 12.0' RT | -                            |
| O           | 11'E+14.20 | 12.0' LT | -                            |
| P           | 10'E+41.75 | 12.0' LT | -                            |
| Q           | 136+47.59  | 14.0' RT | -                            |
| R           | 135+22.54  | 65.0' RT | RADIUS: 40'                  |
| S           | 136+62.59  | 67.0' RT | RADIUS: 55'                  |

## CRAIG RD & STH 162



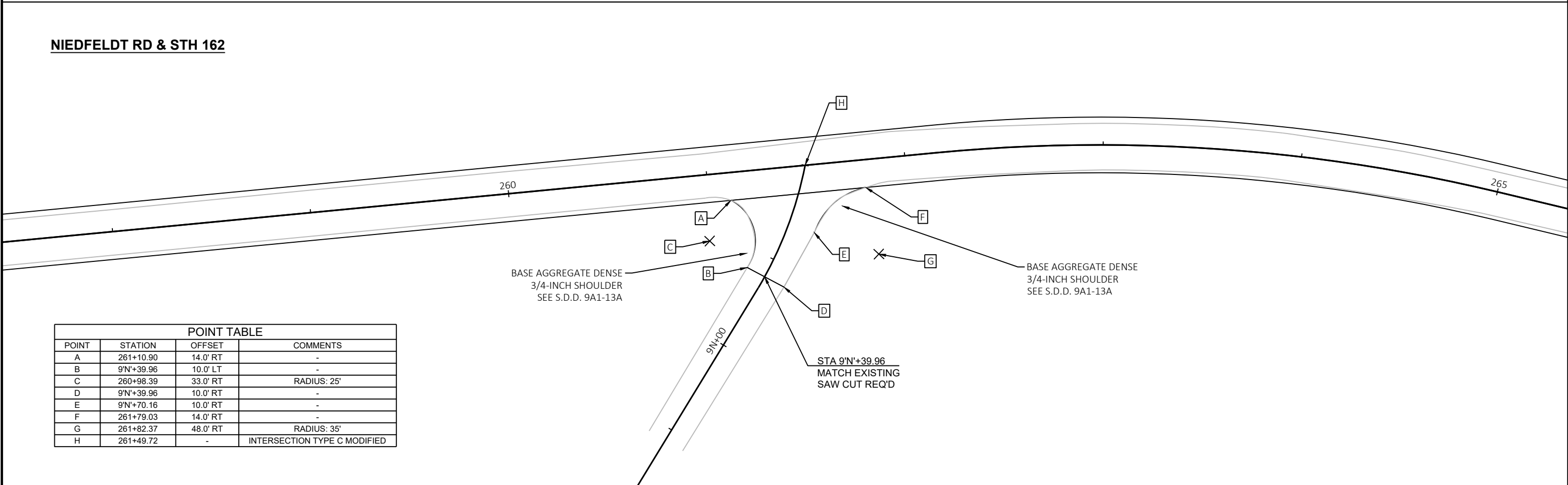
| POINT TABLE |             |          |                              |
|-------------|-------------|----------|------------------------------|
| POINT       | STATION     | OFFSET   | COMMENTS                     |
| A           | 202+19.64   | 14.0' RT | -                            |
| B           | 201+86.81   | 75.0' RT | RADIUS: 75'                  |
| C           | 10'C'+52.66 | 11.0' LT | -                            |
| D           | 10'C'+52.66 | 13.0' LT | -                            |
| E           | 203+12.46   | 44.0' RT | RADIUS: 35'                  |
| F           | 202+93.21   | 14.0' RT | -                            |
| G           | 202+52.48   | -        | INTERSECTION TYPE C MODIFIED |

CTH EE & STH 162



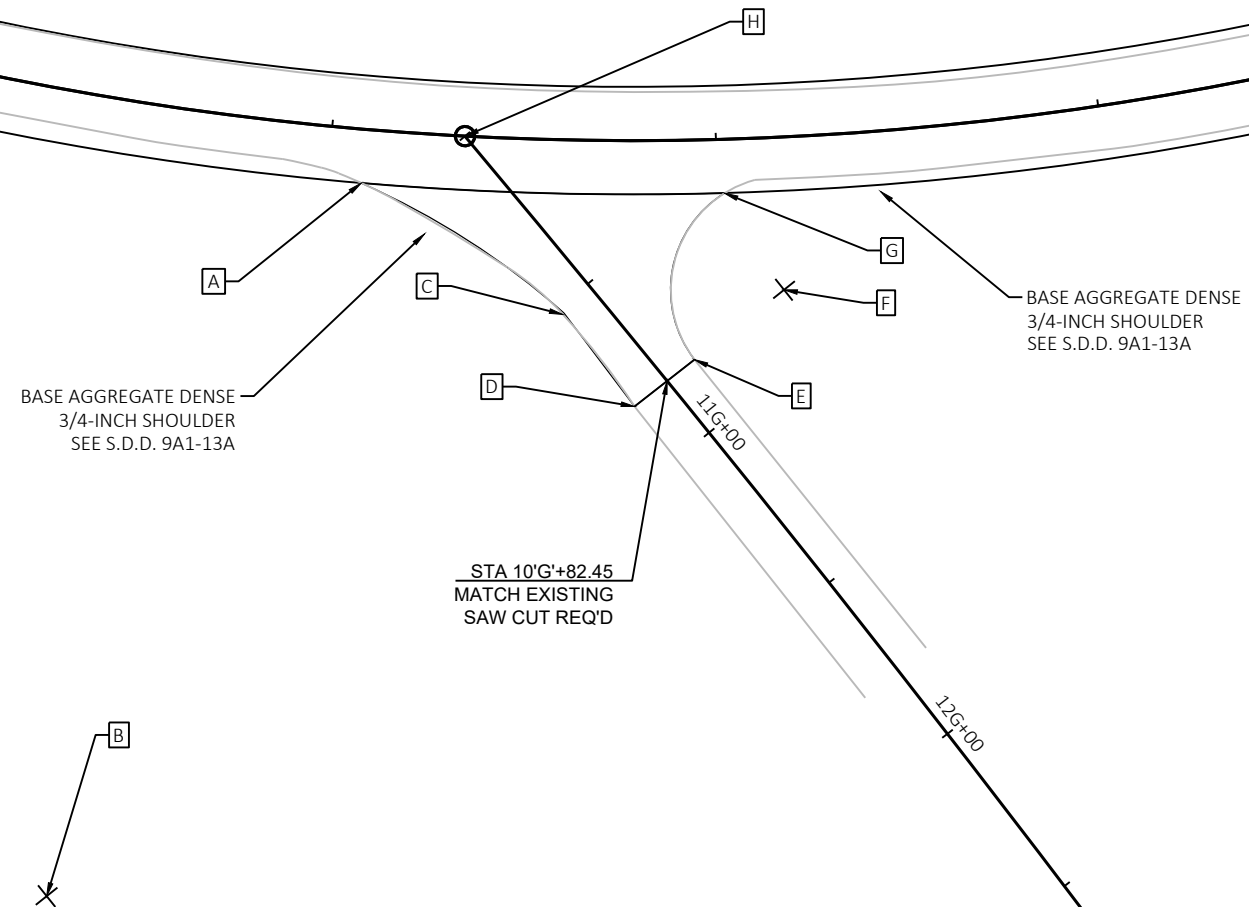
| POINT TABLE |             |          |                              |
|-------------|-------------|----------|------------------------------|
| POINT       | STATION     | OFFSET   | COMMENTS                     |
| A           | 215+24.29   | 14.0' LT | -                            |
| B           | 9'EE'+28.52 | 13.0' RT | -                            |
| C           | 215+23.94   | 60.0' LT | RADIUS: 45'                  |
| D           | 8'EE'+94.23 | 11.0' RT | -                            |
| E           | 8'EE'+94.23 | 11.0' LT | -                            |
| F           | 215+96.25   | -        | INTERSECTION TYPE C MODIFIED |

NIEDFELDT RD & STH 162



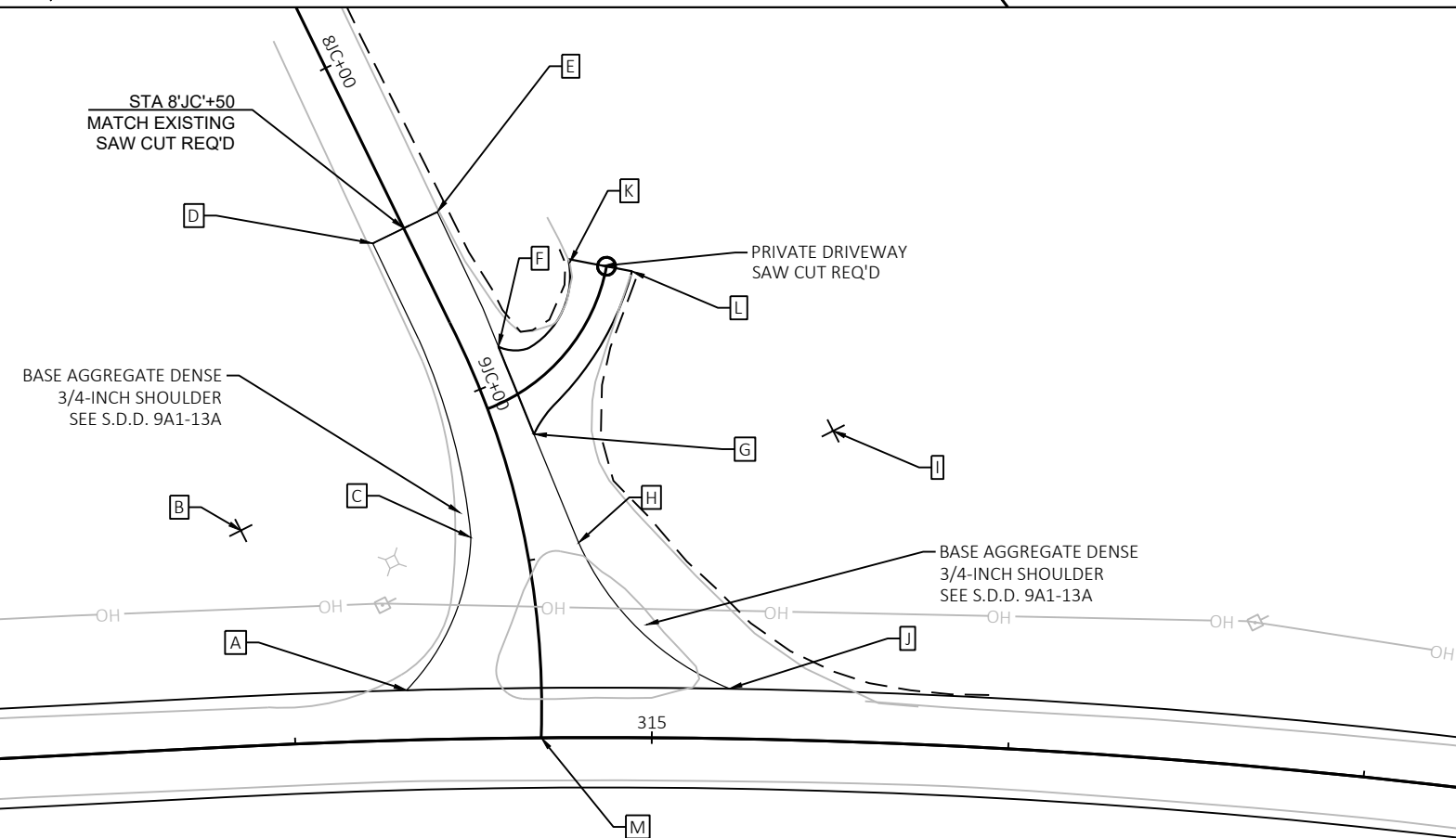
| POINT TABLE |            |          |                              |
|-------------|------------|----------|------------------------------|
| POINT       | STATION    | OFFSET   | COMMENTS                     |
| A           | 261+10.90  | 14.0' RT | -                            |
| B           | 9'N'+39.96 | 10.0' LT | -                            |
| C           | 260+98.39  | 33.0' RT | RADIUS: 25'                  |
| D           | 9'N'+39.96 | 10.0' RT | -                            |
| E           | 9'N'+70.16 | 10.0' RT | -                            |
| F           | 261+79.03  | 14.0' RT | -                            |
| G           | 261+82.37  | 48.0' RT | RADIUS: 35'                  |
| H           | 261+49.72  | -        | INTERSECTION TYPE C MODIFIED |

## GARVES COULEE RD &amp; STH 162



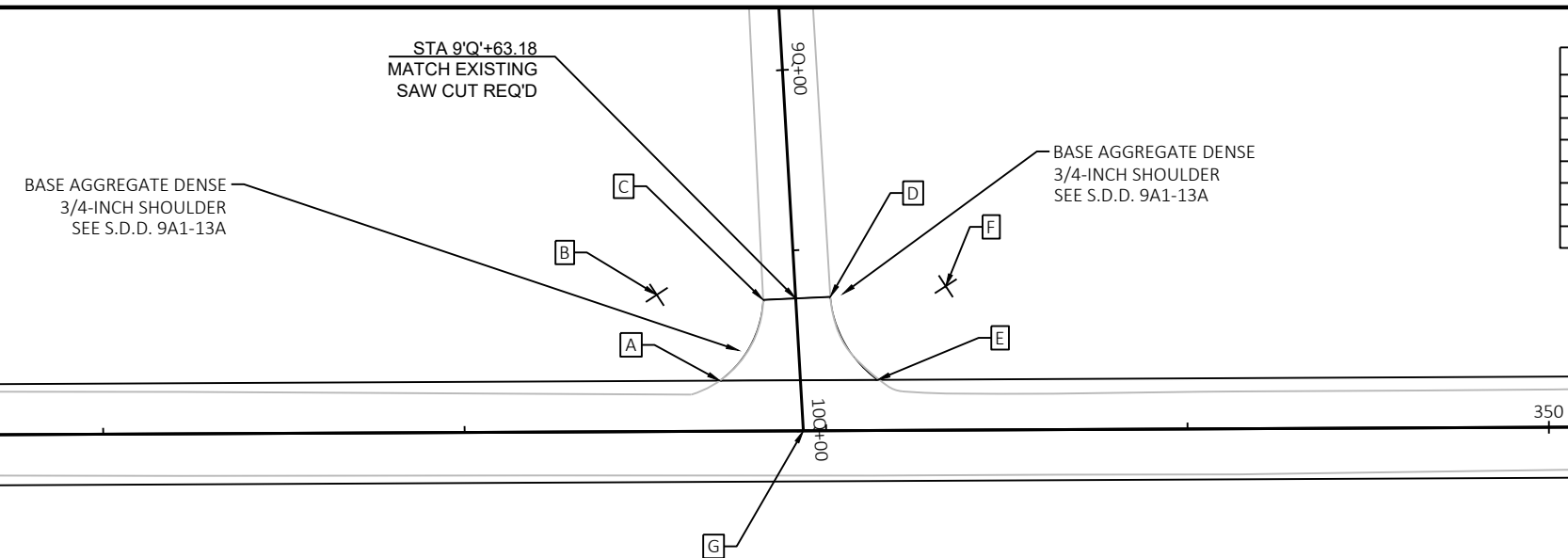
| POINT TABLE |             |           |                              |
|-------------|-------------|-----------|------------------------------|
| POINT       | STATION     | OFFSET    | COMMENTS                     |
| A           | 276+8.72    | 14.0' RT  | -                            |
| B           | 275+56.02   | 208.0' RT | RADIUS: 200'                 |
| C           | 10'G'+52.02 | 10.0' RT  | -                            |
| D           | 10'G'+82.45 | 10.0' RT  | -                            |
| E           | 10'G'+82.45 | 10.0' RT  | -                            |
| F           | 277+15.92   | 40.0' RT  | RADIUS: 30'                  |
| G           | 277+1.85    | 14.0' RT  | -                            |
| H           | 276+34.63   | -         | INTERSECTION TYPE C MODIFIED |

## JOHNSON COULEE RD &amp; STH 162



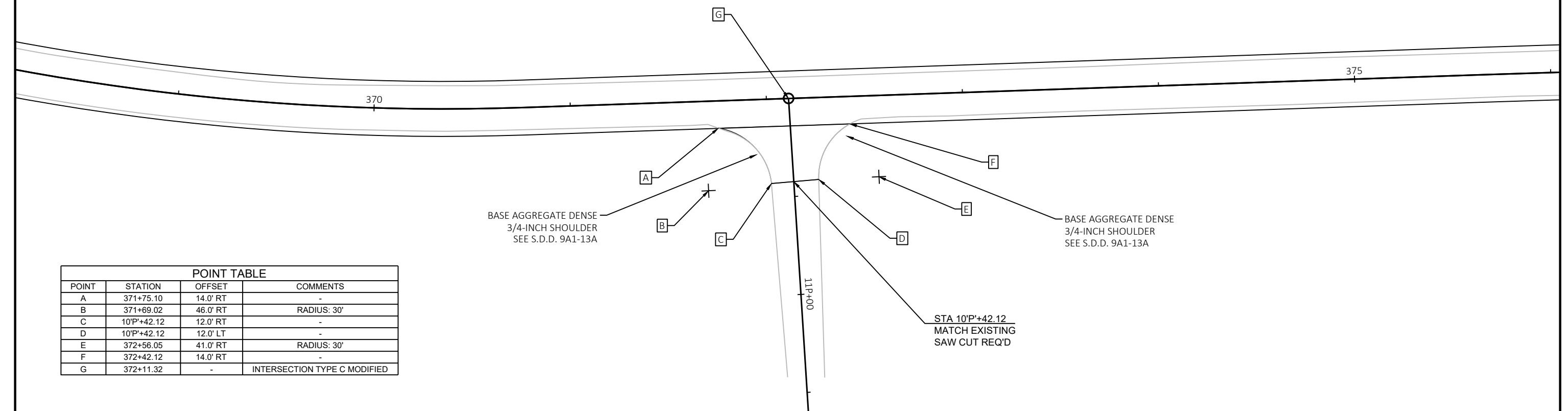
| POINT TABLE |             |          |                              |
|-------------|-------------|----------|------------------------------|
| POINT       | STATION     | OFFSET   | COMMENTS                     |
| A           | 314+31.55   | 14.0' LT | -                            |
| B           | 313+87.60   | 60.0' LT | RADIUS: 65'                  |
| C           | 314+50.23   | 56.0' LT | -                            |
| D           | 8'JC'+50    | 10.0' RT | -                            |
| E           | 8'JC'+50    | 10.0' LT | -                            |
| F           | 8'JC'+91.20 | 10.0' LT | -                            |
| G           | 9'JC'+16.64 | 10.0' LT | -                            |
| H           | 314+79.67   | 55.0' LT | -                            |
| I           | 315+48.25   | 87.0' LT | RADIUS: 80'                  |
| J           | 315+21.55   | 14.0' LT | -                            |
| K           | 8'JC'+78.00 | 38.0' LT | -                            |
| L           | 8'JC'+87.85 | 52.0' LT | -                            |
| M           | 314+68.97   | -        | INTERSECTION TYPE C MODIFIED |

QUALL COULEE RD & STH 162



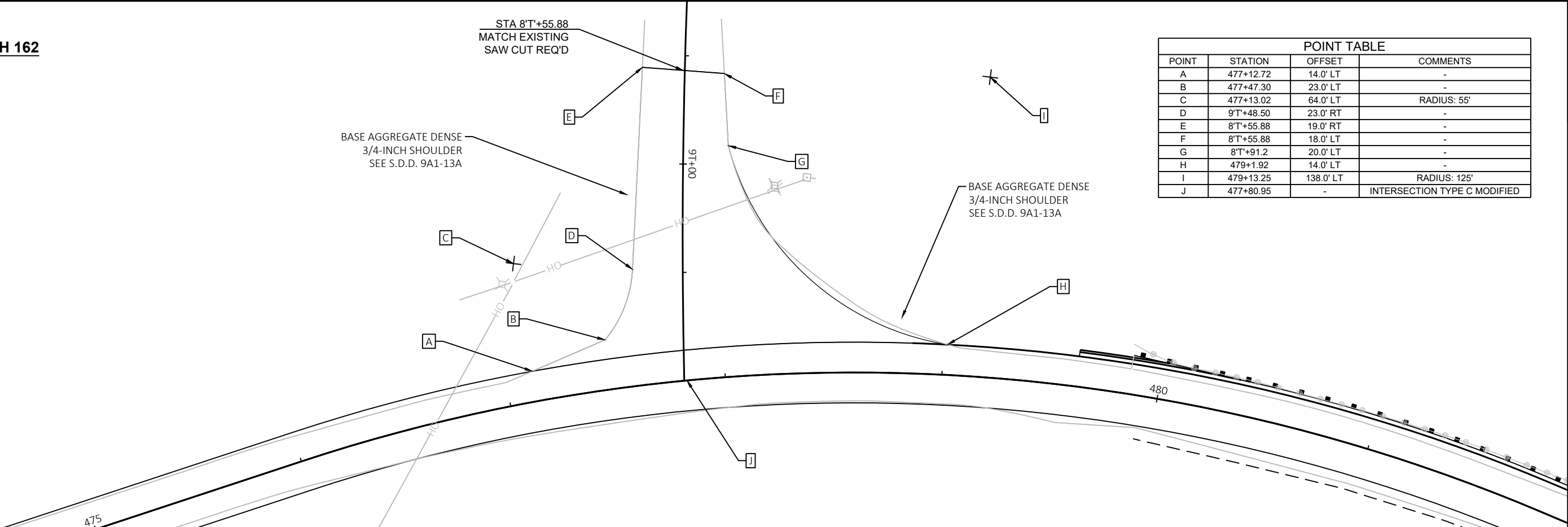
| POINT TABLE |            |          |                              |
|-------------|------------|----------|------------------------------|
| POINT       | STATION    | OFFSET   | COMMENTS                     |
| A           | 347+70.69  | 14.0' LT | -                            |
| B           | 347+53.34  | 38.0' LT | RADIUS: 30'                  |
| C           | 9'Q'+63.18 | 9.0' RT  | -                            |
| D           | 9'Q'+63.18 | 9.0' LT  | -                            |
| E           | 348+14.28  | 14.0' LT | -                            |
| F           | 348+33.32  | 40.0' LT | RADIUS: 30'                  |
| G           | 347+93.72  | -        | INTERSECTION TYPE C MODIFIED |

PETTINGER HILL RD & STH 162



| POINT TABLE |             |          |                              |
|-------------|-------------|----------|------------------------------|
| POINT       | STATION     | OFFSET   | COMMENTS                     |
| A           | 371+75.10   | 14.0' RT | -                            |
| B           | 371+69.02   | 46.0' RT | RADIUS: 30'                  |
| C           | 10'P'+42.12 | 12.0' RT | -                            |
| D           | 10'P'+42.12 | 12.0' LT | -                            |
| E           | 372+56.05   | 41.0' RT | RADIUS: 30'                  |
| F           | 372+42.12   | 14.0' RT | -                            |
| G           | 372+11.32   | -        | INTERSECTION TYPE C MODIFIED |

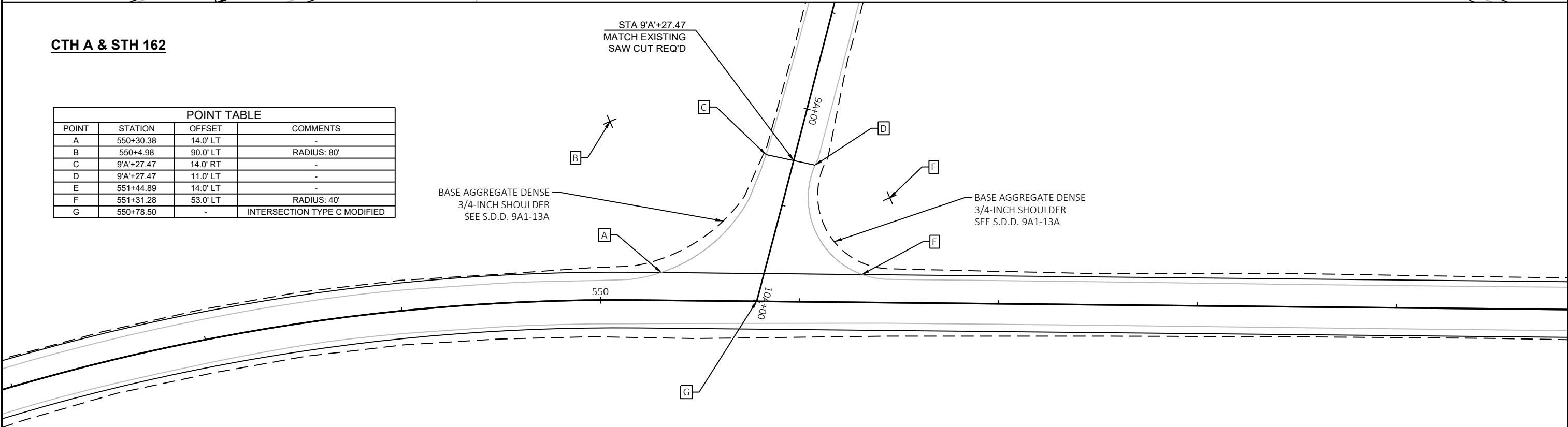
CTH T & STH 162



| POINT TABLE |           |           |                              |
|-------------|-----------|-----------|------------------------------|
| POINT       | STATION   | OFFSET    | COMMENTS                     |
| A           | 477+12.72 | 14.0' LT  | -                            |
| B           | 477+47.30 | 23.0' LT  | -                            |
| C           | 477+13.02 | 64.0' LT  | RADIUS: 55'                  |
| D           | 9'T+48.50 | 23.0' RT  | -                            |
| E           | 8'T+55.88 | 19.0' RT  | -                            |
| F           | 8'T+55.88 | 18.0' LT  | -                            |
| G           | 8'T+91.2  | 20.0' LT  | -                            |
| H           | 479+1.92  | 14.0' LT  | -                            |
| I           | 479+13.25 | 138.0' LT | RADIUS: 125'                 |
| J           | 477+80.95 | -         | INTERSECTION TYPE C MODIFIED |

CTH A & STH 162

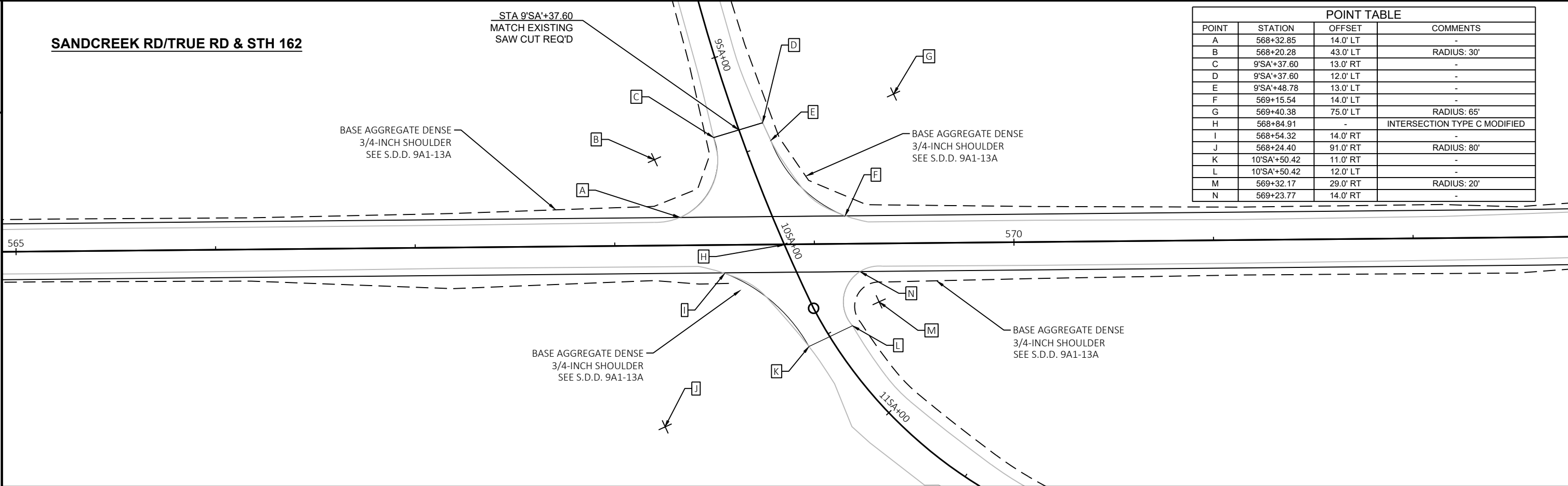
| POINT TABLE |            |          |                              |
|-------------|------------|----------|------------------------------|
| POINT       | STATION    | OFFSET   | COMMENTS                     |
| A           | 550+30.38  | 14.0' LT | -                            |
| B           | 550+4.98   | 90.0' LT | RADIUS: 80'                  |
| C           | 9'A'+27.47 | 14.0' RT | -                            |
| D           | 9'A'+27.47 | 11.0' LT | -                            |
| E           | 551+44.89  | 14.0' LT | -                            |
| F           | 551+31.28  | 53.0' LT | RADIUS: 40'                  |
| G           | 550+78.50  | -        | INTERSECTION TYPE C MODIFIED |





2

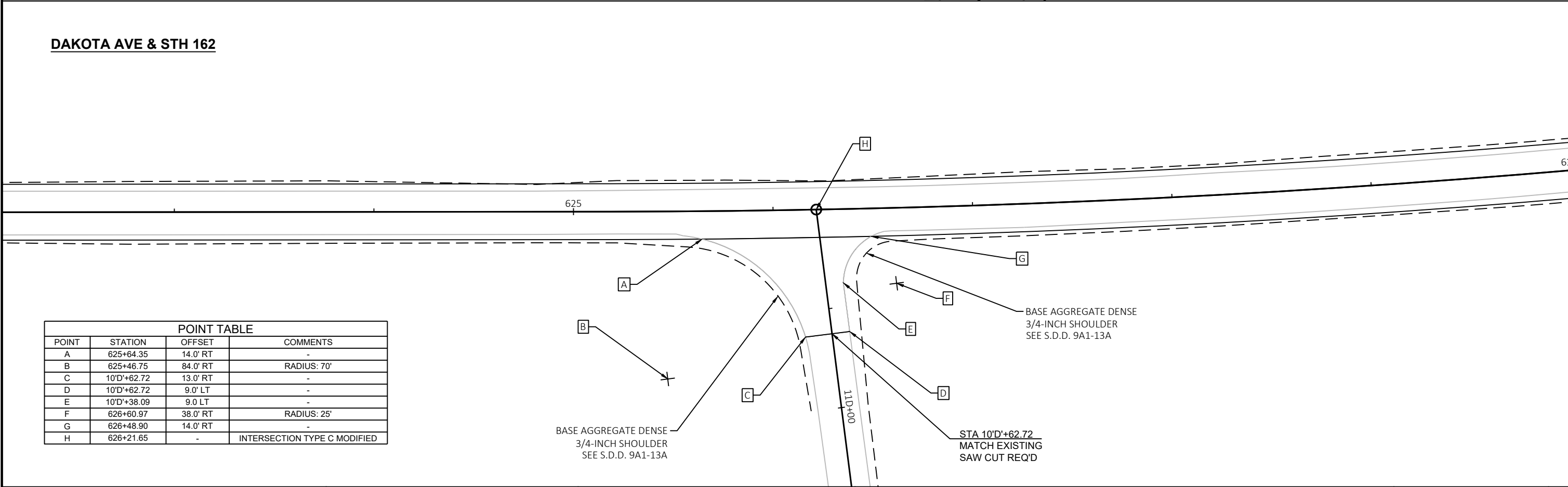
## SANDCREEK RD/TRUE RD & STH 162



| POINT TABLE |              |          |                              |
|-------------|--------------|----------|------------------------------|
| POINT       | STATION      | OFFSET   | COMMENTS                     |
| A           | 568+32.85    | 14.0' LT | -                            |
| B           | 568+20.28    | 43.0' LT | RADIUS: 30'                  |
| C           | 9'SA'+37.60  | 13.0' RT | -                            |
| D           | 9'SA'+37.60  | 12.0' LT | -                            |
| E           | 9'SA'+48.78  | 13.0' LT | -                            |
| F           | 569+15.54    | 14.0' LT | -                            |
| G           | 569+40.38    | 75.0' LT | RADIUS: 65'                  |
| H           | 568+84.91    | -        | INTERSECTION TYPE C MODIFIED |
| I           | 568+54.32    | 14.0' RT | -                            |
| J           | 568+24.40    | 91.0' RT | RADIUS: 80'                  |
| K           | 10'SA'+50.42 | 11.0' RT | -                            |
| L           | 10'SA'+50.42 | 12.0' LT | -                            |
| M           | 569+32.17    | 29.0' RT | RADIUS: 20'                  |
| N           | 569+23.77    | 14.0' RT | -                            |

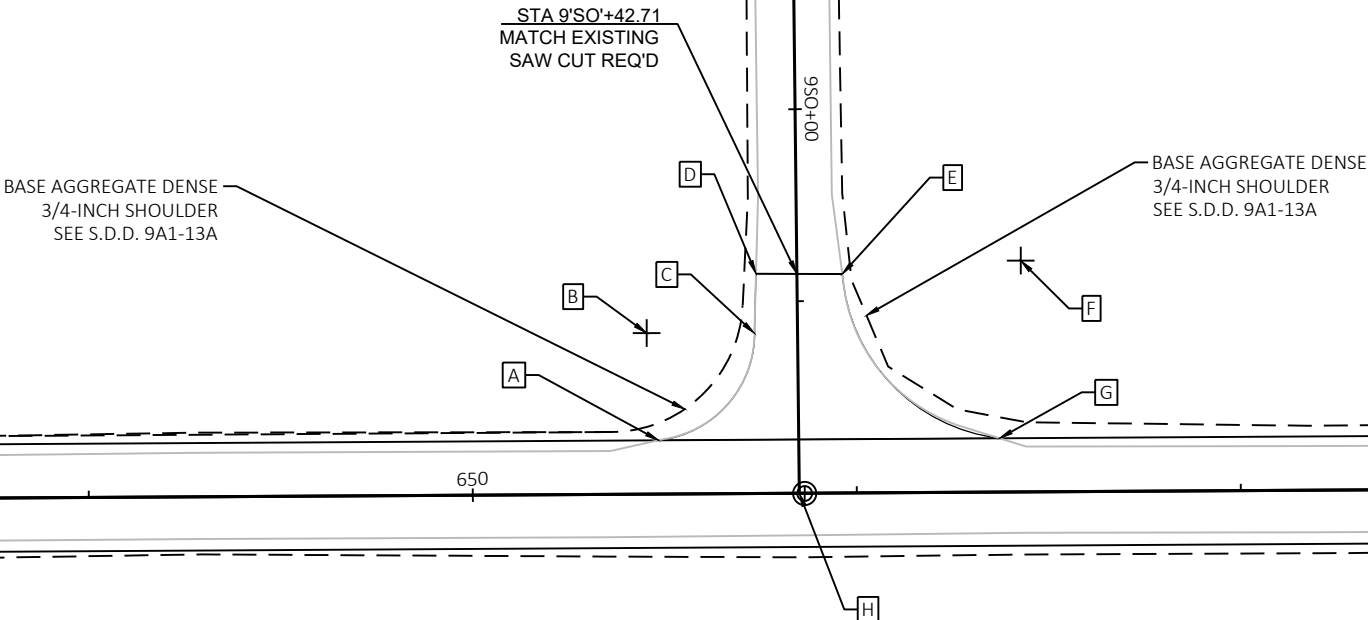
2

## DAKOTA AVE & STH 162



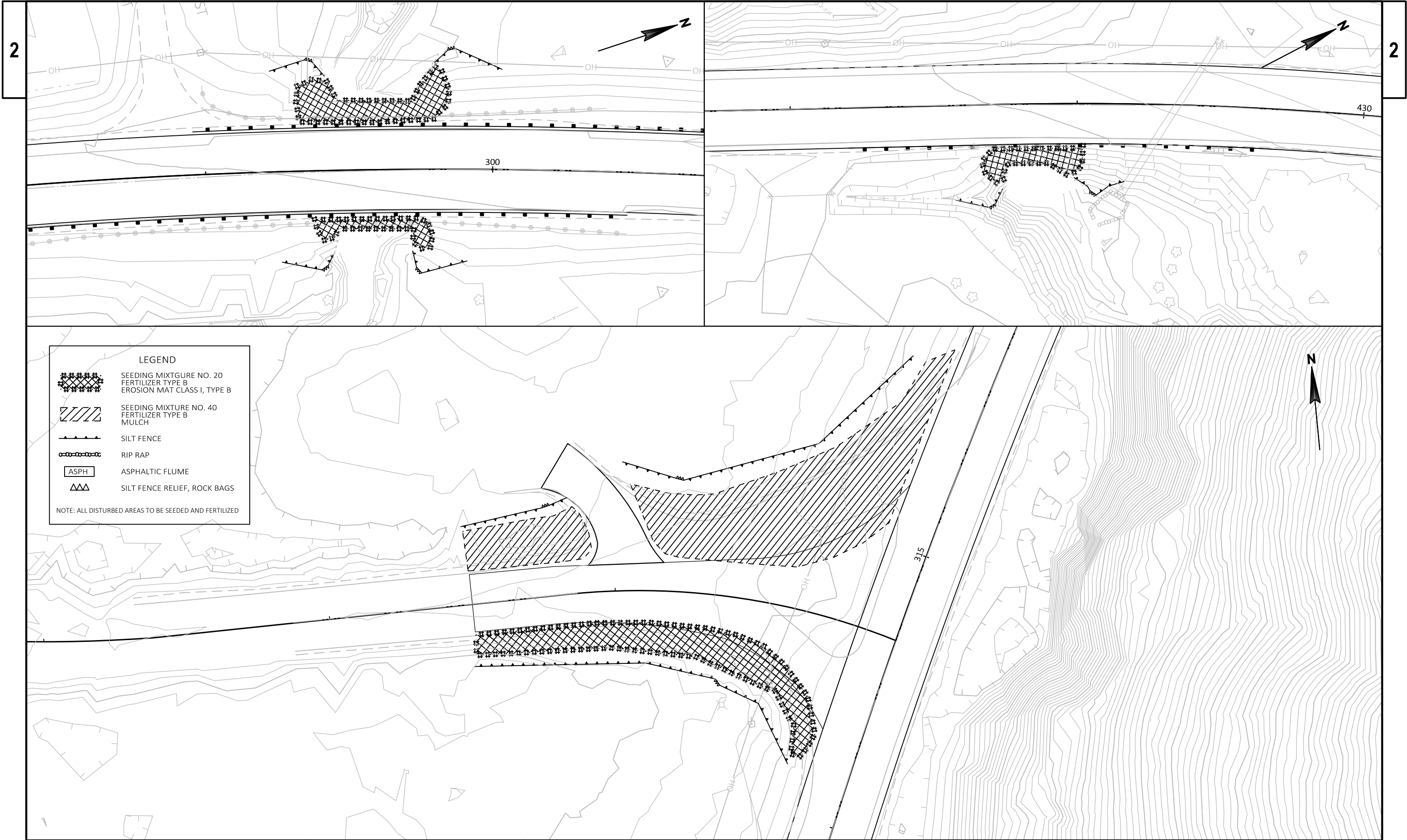
| POINT TABLE |            |          |                              |
|-------------|------------|----------|------------------------------|
| POINT       | STATION    | OFFSET   | COMMENTS                     |
| A           | 625+64.35  | 14.0' RT | -                            |
| B           | 625+46.75  | 84.0' RT | RADIUS: 70'                  |
| C           | 10'D+62.72 | 13.0' RT | -                            |
| D           | 10'D+62.72 | 9.0' LT  | -                            |
| E           | 10'D+38.09 | 9.0 LT   | -                            |
| F           | 626+60.97  | 38.0' RT | RADIUS: 25'                  |
| G           | 626+48.90  | 14.0' RT | -                            |
| H           | 626+21.65  | -        | INTERSECTION TYPE C MODIFIED |

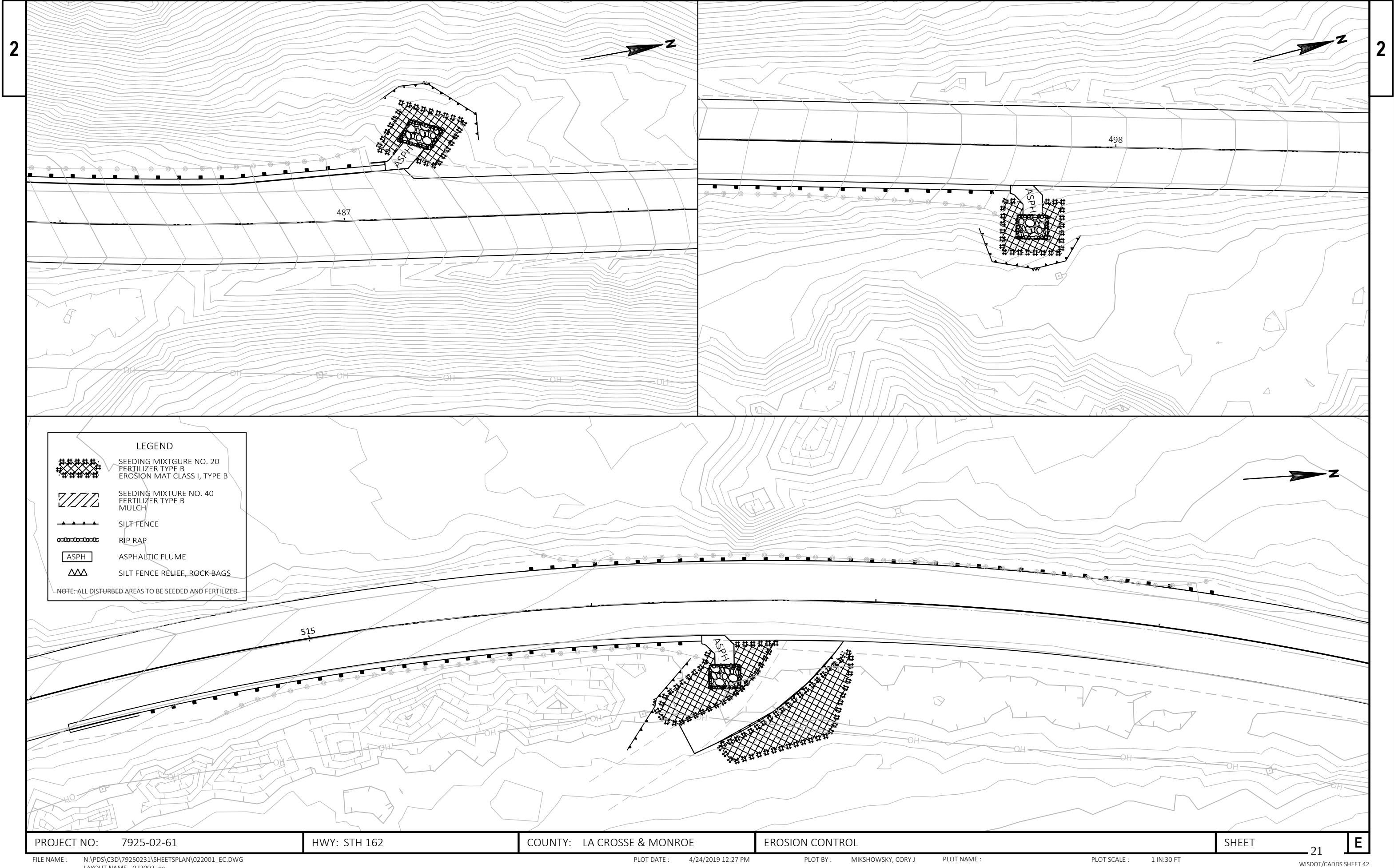
2

**SOMMERS RD & STH 162**

| POINT TABLE |             |          |                              |
|-------------|-------------|----------|------------------------------|
| POINT       | STATION     | OFFSET   | COMMENTS                     |
| A           | 650+48.46   | 14.0' LT | -                            |
| B           | 650+45.52   | 42.0' LT | RADIUS: 30'                  |
| C           | 9'SO'+58.23 | 11.0' RT | -                            |
| D           | 9'SO'+42.71 | 11.0' RT | -                            |
| E           | 9'SO'+42.71 | 11.0' LT | -                            |
| F           | 651+43.04   | 60.0' LT | RADIUS: 45                   |
| G           | 651+37.21   | 14.0' LT | -                            |
| H           | 650+85.01   | -        | INTERSECTION TYPE C MODIFIED |

2





PROJECT NO: 7925-02-61

HWY: STH 162

COUNTY: LA CROSSE & MONROE

EROSION CONTROL

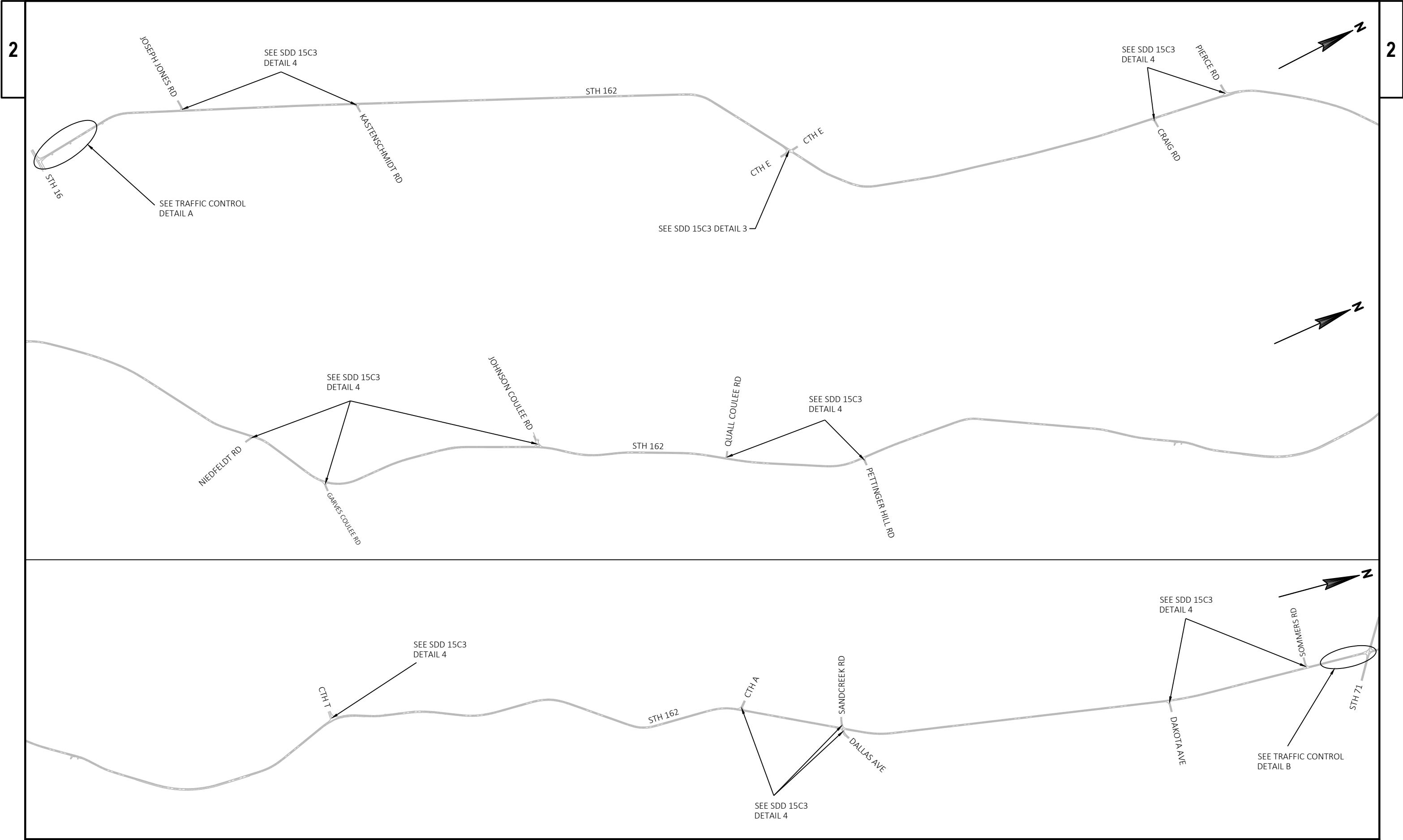
SHEET

21

E







|                        |              |                            |                 |          |   |
|------------------------|--------------|----------------------------|-----------------|----------|---|
| PROJECT NO: 7925-02-61 | HWY: STH 162 | COUNTY: LA CROSSE & MONROE | TRAFFIC CONTROL | SHEET 23 | E |
|------------------------|--------------|----------------------------|-----------------|----------|---|



TRAFFIC CONTROL  
DETAIL A

↑

TYPE III BARRICADE

↑

TYPE III BARRICADE WITH ATTACHED SIGN

●

TRAFFIC CONTROL DRUM

⬆

SIGN ON PERMANENT SUPPORT

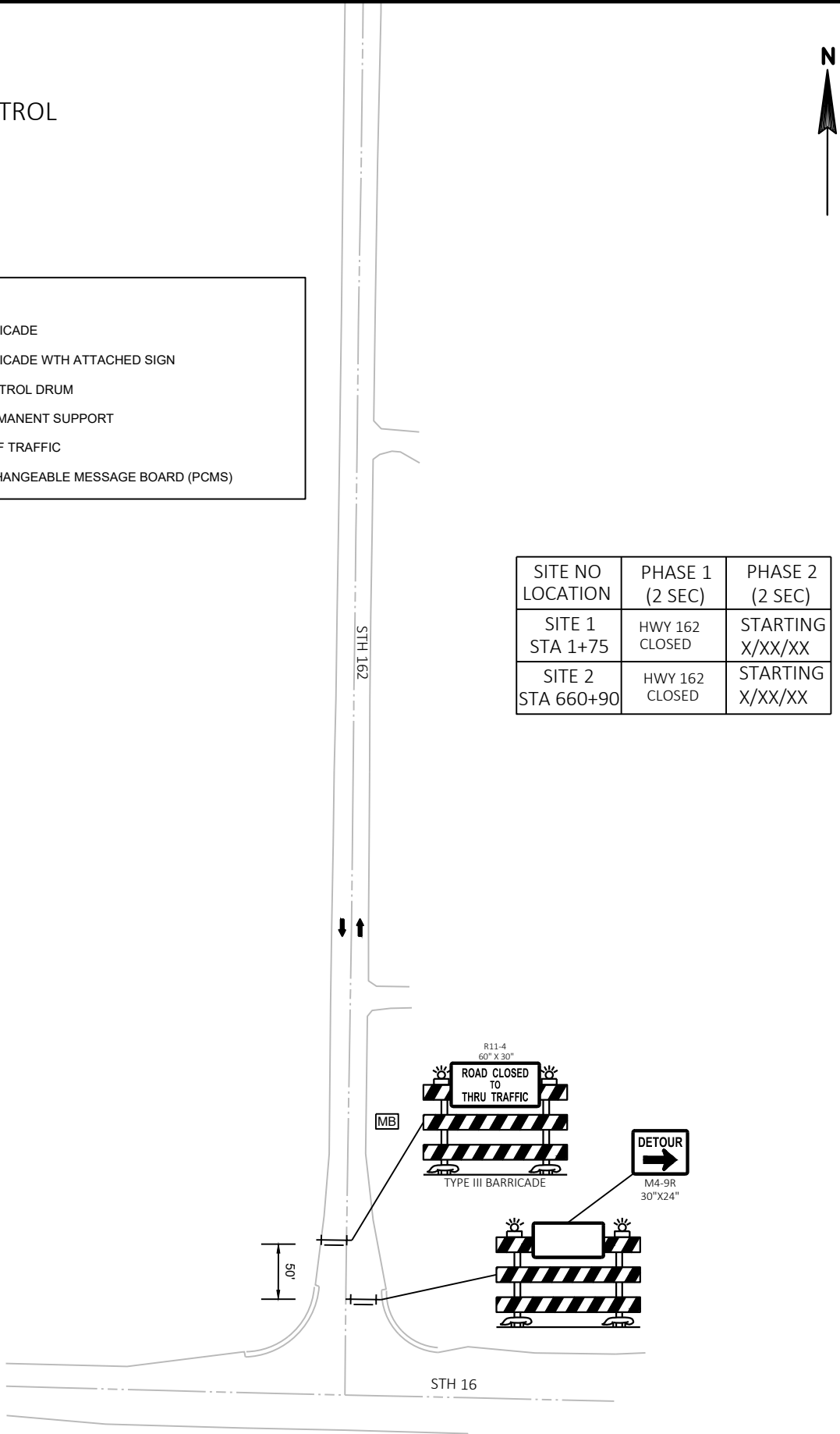
➡

DIRECTION OF TRAFFIC

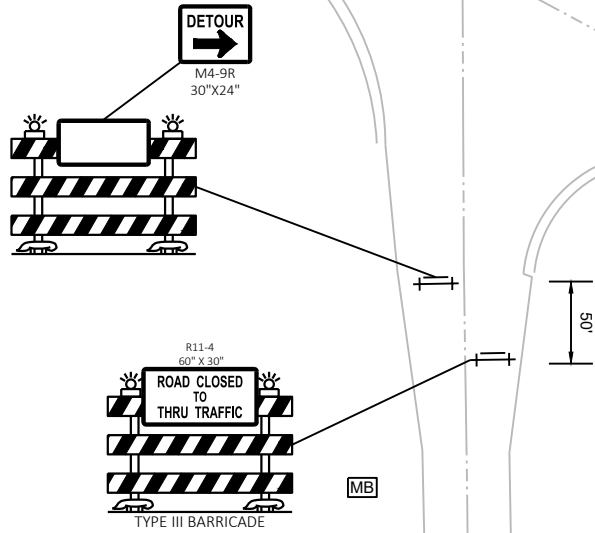
MB

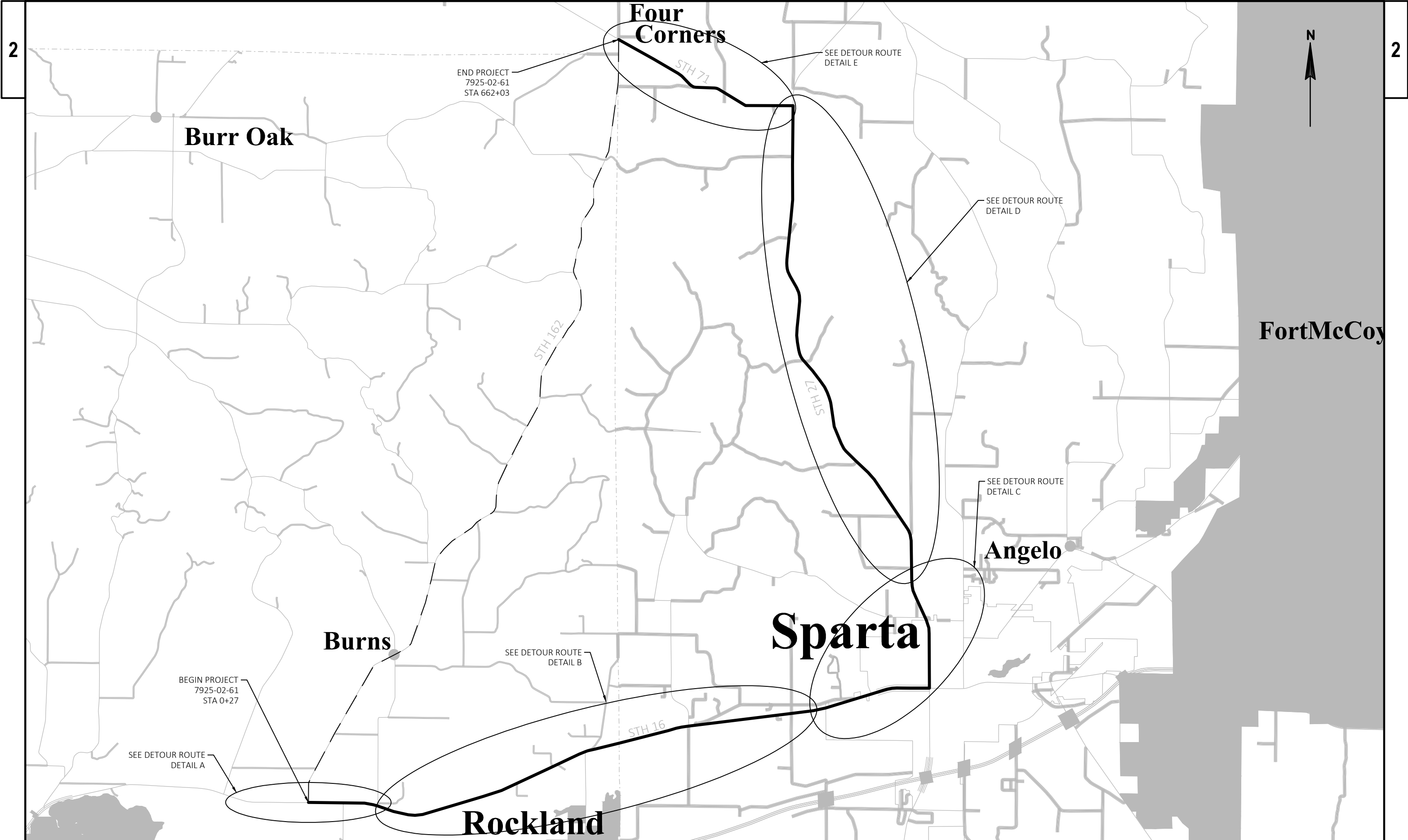
PORTABLE CHANGEABLE MESSAGE BOARD (PCMS)

| SITE NO<br>LOCATION  | PHASE 1<br>(2 SEC) | PHASE 2<br>(2 SEC)  |
|----------------------|--------------------|---------------------|
| SITE 1<br>STA 1+75   | HWY 162<br>CLOSED  | STARTING<br>X/XX/XX |
| SITE 2<br>STA 660+90 | HWY 162<br>CLOSED  | STARTING<br>X/XX/XX |

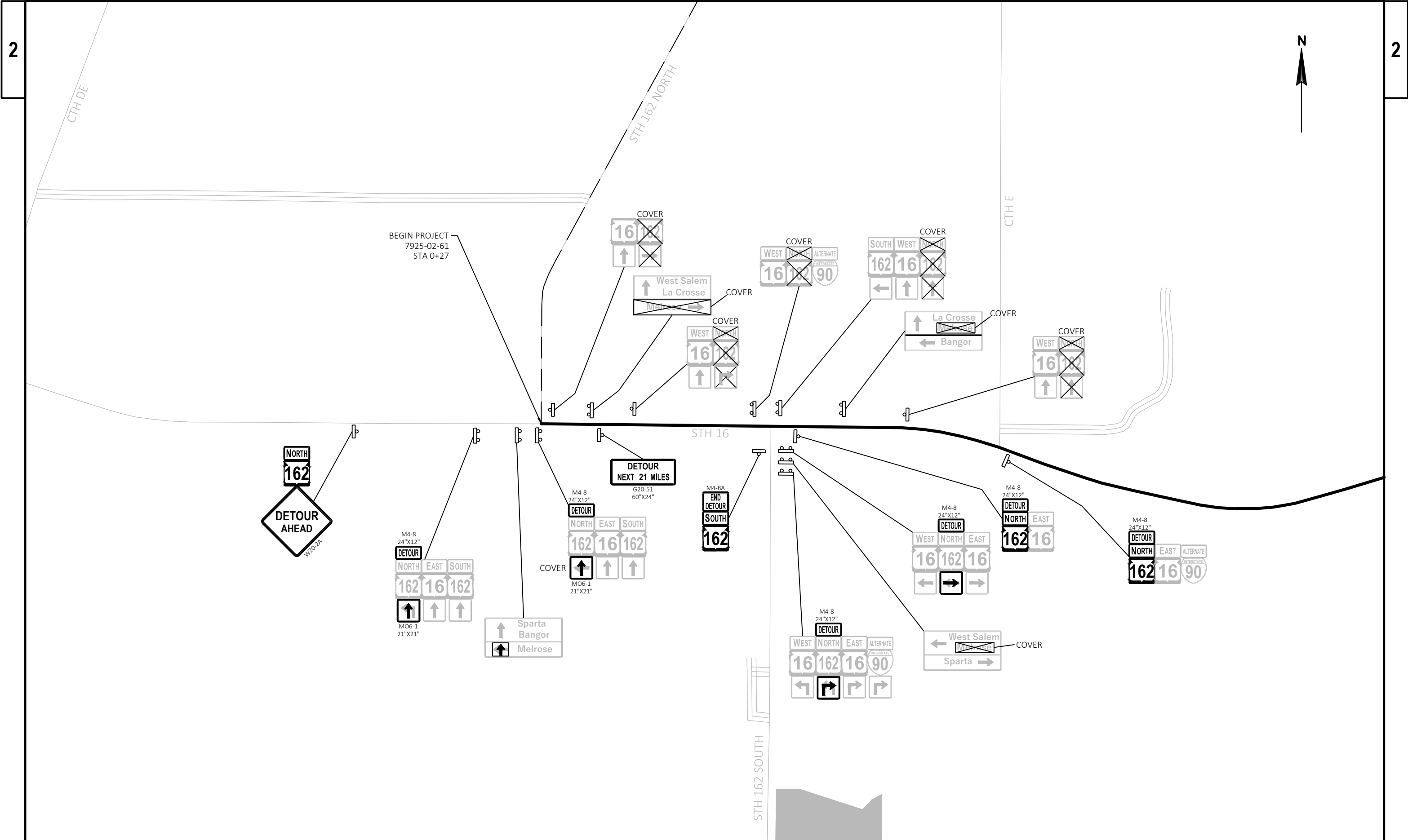


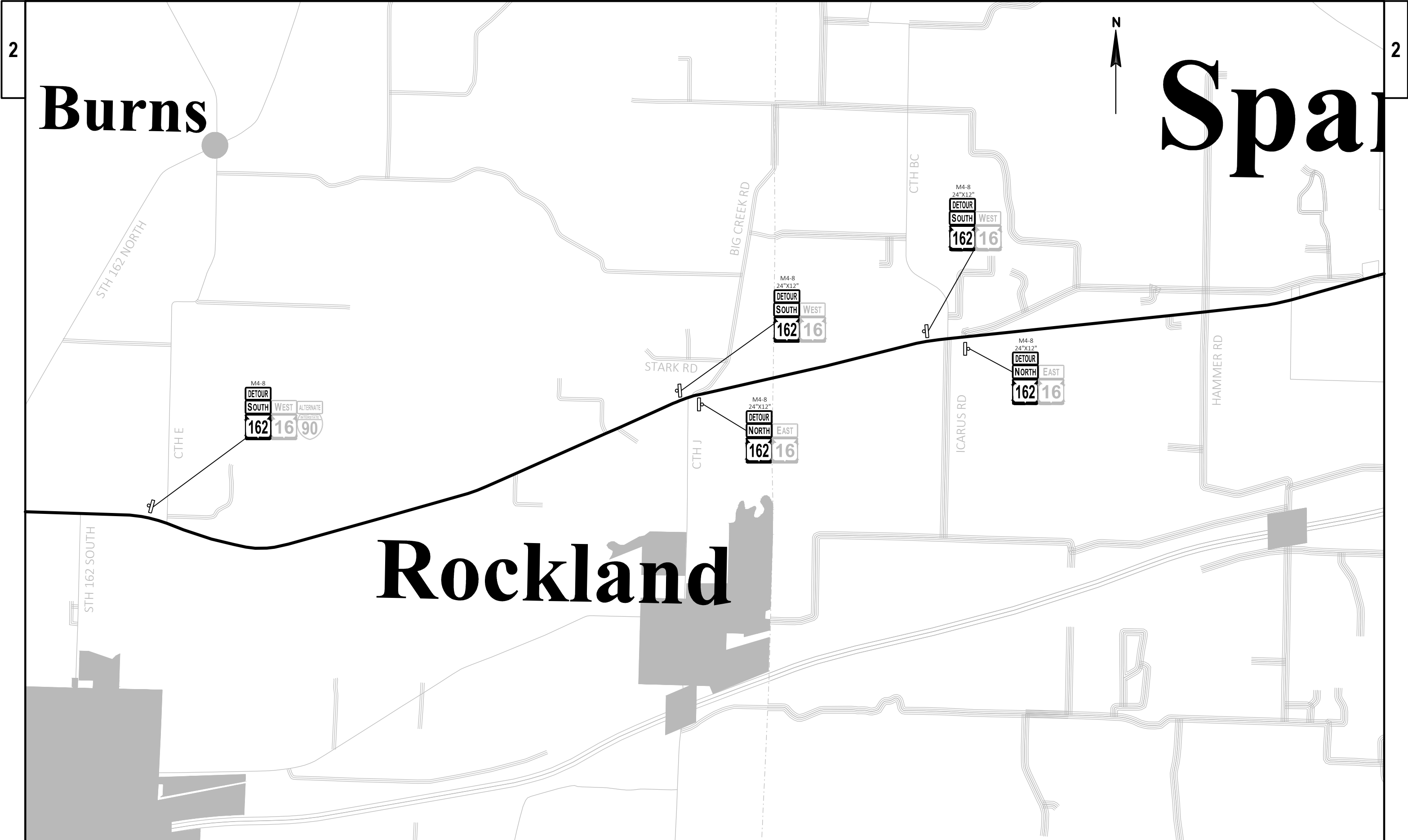
TRAFFIC CONTROL  
DETAIL B

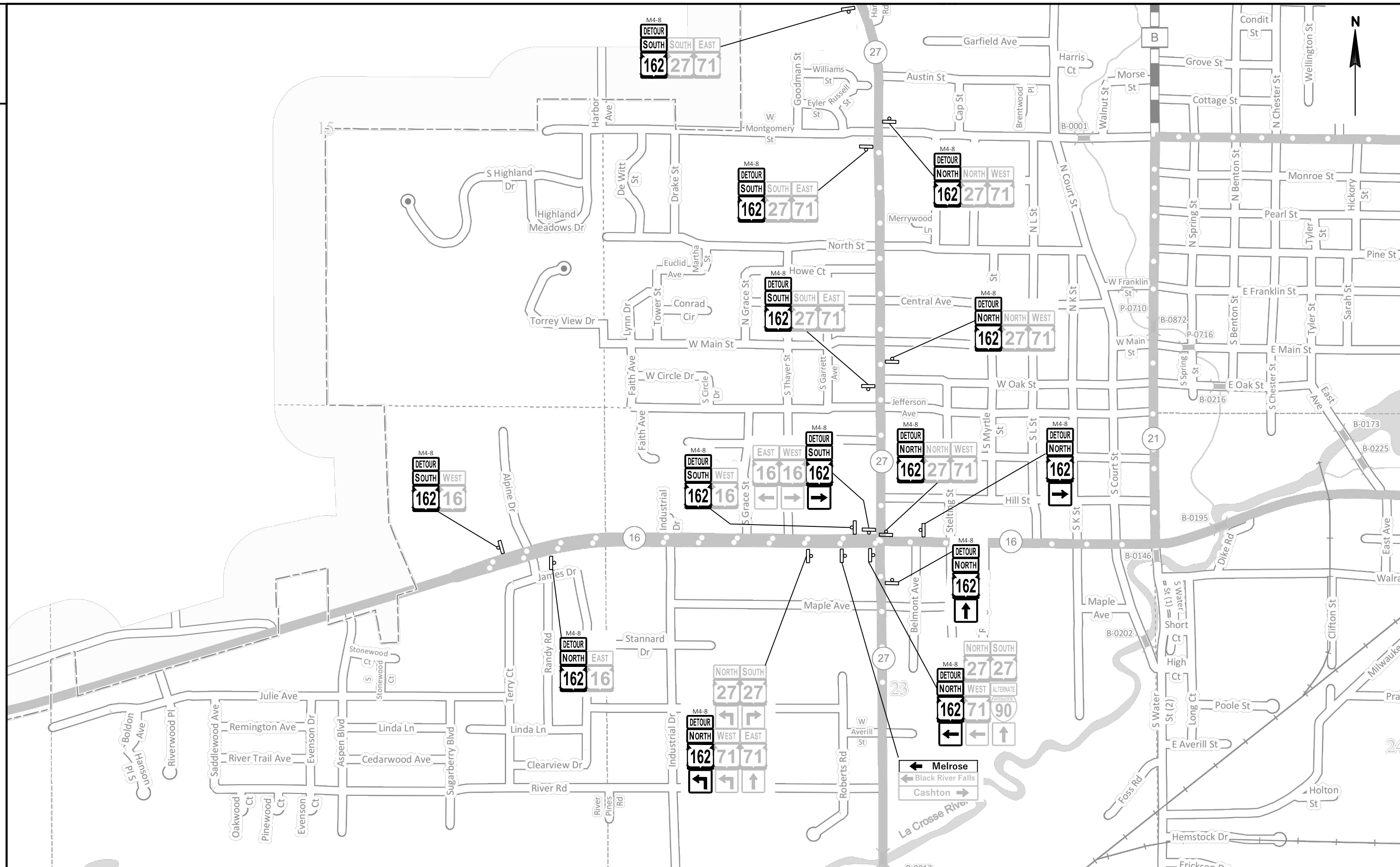














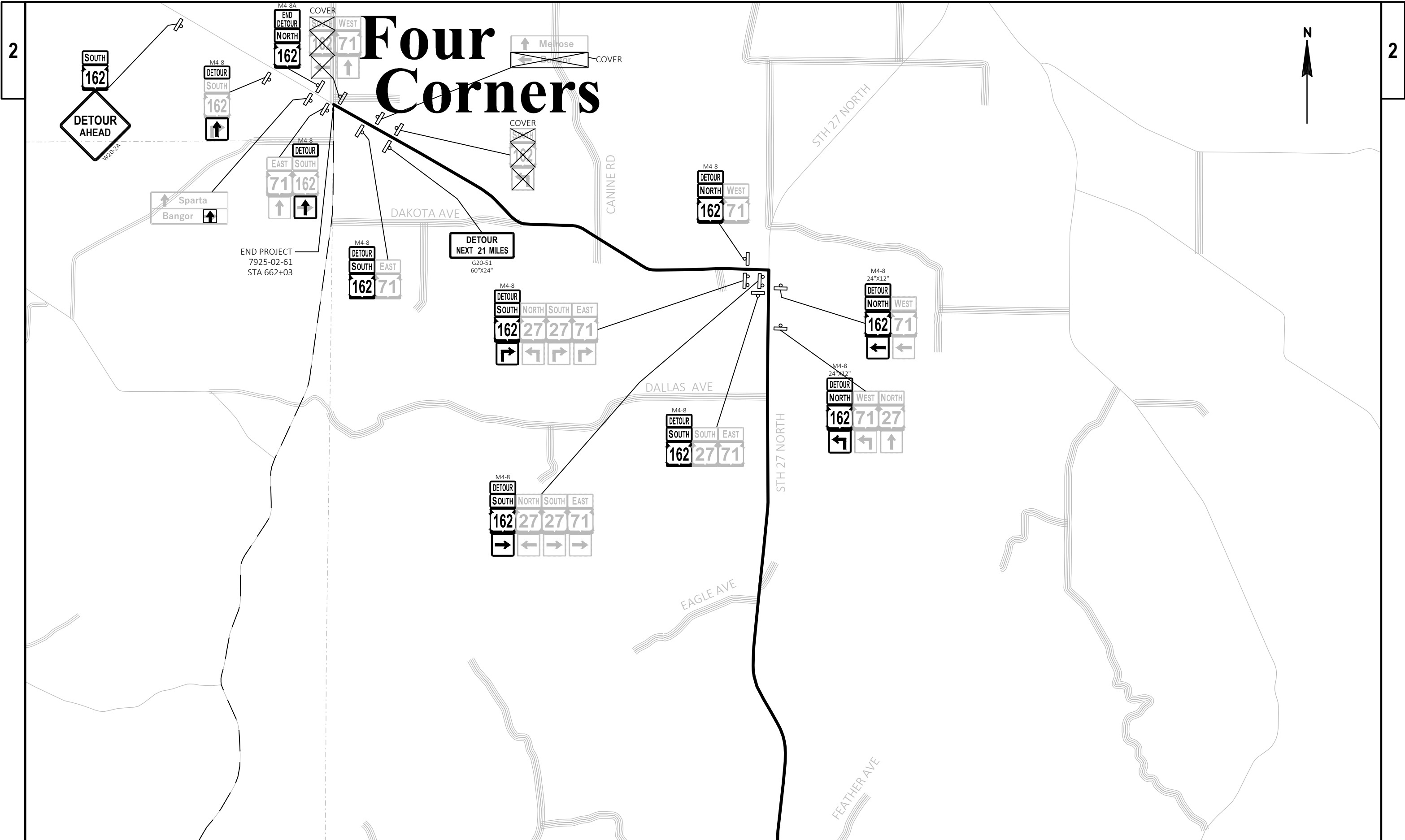
2

2

Sparta

Angelo

|                        |              |                            |                         |          |   |
|------------------------|--------------|----------------------------|-------------------------|----------|---|
| PROJECT NO: 7925-02-61 | HWY: STH 162 | COUNTY: LA CROSSE & MONROE | DETOUR ROUTE - DETAIL D | SHEET 29 | E |
|------------------------|--------------|----------------------------|-------------------------|----------|---|



| Superelevation<br>Region | Station    | Description           | Left Outside<br>Shoulder | Left Outside<br>Lane | Right Outside<br>Shoulder | Right Outside<br>Lane |
|--------------------------|------------|-----------------------|--------------------------|----------------------|---------------------------|-----------------------|
|                          | 0+00.00'   | Begin Alignment       | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
|                          |            |                       |                          |                      |                           |                       |
| 1                        | 11+98.32'  | End Normal Shoulder   | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 1                        | 11+98.32'  | End Normal Crown      | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 1                        | 12+46.32'  | Level Crown           | -2.00%                   | 0.00%                | -2.00%                    | -2.00%                |
| 1                        | 12+94.32'  | Low Shoulder Match    | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 1                        | 12+94.32'  | Reverse Crown         | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 1                        | 14+38.32'  | Begin Full Super      | -2.00%                   | 7.00%                | -7.00%                    | -7.00%                |
| 1                        | 17+40.51'  | End Full Super        | -2.00%                   | 7.00%                | -7.00%                    | -7.00%                |
| 1                        | 18+84.51'  | Low Shoulder Match    | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 1                        | 18+84.51'  | Reverse Crown         | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 1                        | 19+32.51'  | Level Crown           | -2.00%                   | 0.00%                | -2.00%                    | -2.00%                |
| 1                        | 19+80.51'  | Begin Normal Crown    | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 1                        | 19+80.51'  | Begin Normal Shoulder | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
|                          |            |                       |                          |                      |                           |                       |
| 2                        | 113+67.99' | End Normal Shoulder   | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 2                        | 113+67.99' | End Normal Crown      | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 2                        | 114+15.99' | Level Crown           | -2.00%                   | 0.00%                | -2.00%                    | -2.00%                |
| 2                        | 114+63.99' | Low Shoulder Match    | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 2                        | 114+63.99' | Reverse Crown         | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 2                        | 116+07.99' | Begin Full Super      | -2.00%                   | 7.00%                | -7.00%                    | -7.00%                |
| 2                        | 119+30.37' | End Full Super        | -2.00%                   | 7.00%                | -7.00%                    | -7.00%                |
| 2                        | 120+74.37' | Low Shoulder Match    | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 2                        | 120+74.37' | Reverse Crown         | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 2                        | 121+22.37' | Level Crown           | -2.00%                   | 0.00%                | -2.00%                    | -2.00%                |
| 2                        | 121+70.37' | Begin Normal Crown    | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 2                        | 121+70.37' | Begin Normal Shoulder | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
|                          |            |                       |                          |                      |                           |                       |
| 3                        | 140+62.15' | End Normal Shoulder   | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 3                        | 140+62.15' | End Normal Crown      | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 3                        | 141+13.15' | Level Crown           | -2.00%                   | -2.00%               | -2.00%                    | 0.00%                 |
| 3                        | 141+64.15' | Low Shoulder Match    | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 3                        | 141+64.15' | Reverse Crown         | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 3                        | 143+17.15' | Begin Full Super      | -7.00%                   | -7.00%               | -2.00%                    | 7.00%                 |
| 3                        | 143+69.81' | End Full Super        | -7.00%                   | -7.00%               | -2.00%                    | 7.00%                 |
| 3                        | 145+22.81' | Low Shoulder Match    | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 3                        | 145+22.81' | Reverse Crown         | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 3                        | 145+73.81' | Level Crown           | -2.00%                   | -2.00%               | -2.00%                    | 0.00%                 |
| 3                        | 146+24.81' | Begin Normal Crown    | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 3                        | 146+24.81' | Begin Normal Shoulder | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |

| Superelevation<br>Region | Station    | Description           | Left Outside<br>Shoulder | Left Outside<br>Lane | Right Outside<br>Shoulder | Right Outside<br>Lane |
|--------------------------|------------|-----------------------|--------------------------|----------------------|---------------------------|-----------------------|
| 4                        | 146+69.44' | Level Crown           | -2.00%                   | -2.00%               | -2.00%                    | 0.00%                 |
| 4                        | 147+17.44' | Low Shoulder Match    | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 4                        | 147+17.44' | Reverse Crown         | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 4                        | 148+61.44' | Begin Full Super      | -7.00%                   | -7.00%               | -2.00%                    | 7.00%                 |
| 4                        | 151+92.60' | End Full Super        | -7.00%                   | -7.00%               | -2.00%                    | 7.00%                 |
| 4                        | 153+36.60' | Low Shoulder Match    | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 4                        | 153+36.60' | Reverse Crown         | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 4                        | 153+84.60' | Level Crown           | -2.00%                   | -2.00%               | -2.00%                    | 0.00%                 |
| 4                        | 154+32.60' | Begin Normal Crown    | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 4                        | 154+32.60' | Begin Normal Shoulder | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
|                          |            |                       |                          |                      |                           |                       |
| 5                        | 160+16.14' | End Normal Shoulder   | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 5                        | 160+16.14' | End Normal Crown      | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 5                        | 160+69.27' | Level Crown           | -2.00%                   | -2.00%               | -2.00%                    | 0.00%                 |
| 5                        | 161+22.39' | Low Shoulder Match    | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 5                        | 161+22.39' | Reverse Crown         | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 5                        | 161+54.27' | Begin Full Super      | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 5                        | 164+79.18' | End Full Super        | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 5                        | 165+11.05' | Low Shoulder Match    | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 5                        | 165+11.05' | Reverse Crown         | -2.00%                   | -2.00%               | -2.00%                    | 2.00%                 |
| 5                        | 165+64.18' | Level Crown           | -2.00%                   | -2.00%               | -2.00%                    | 0.00%                 |
| 5                        | 166+17.30' | Begin Normal Crown    | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 5                        | 166+17.30' | Begin Normal Shoulder | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
|                          |            |                       |                          |                      |                           |                       |
| 6                        | 214+37.45' | End Normal Shoulder   | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 6                        | 214+37.45' | End Normal Crown      | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 6                        | 214+90.70' | Level Crown           | -2.00%                   | 0.00%                | -2.00%                    | -2.00%                |
| 6                        | 215+43.95' | Low Shoulder Match    | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 6                        | 215+43.95' | Reverse Crown         | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 6                        | 217+03.70' | Begin Full Super      | -2.00%                   | 4.00%                | -4.00%                    | -4.00%                |
| 6                        | 219+38.98' | End Full Super        | -2.00%                   | 4.00%                | -4.00%                    | -4.00%                |
|                          |            |                       |                          |                      |                           |                       |
| 7                        | 220+72.30' | Begin Full Super      | -2.00%                   | 4.00%                | -4.00%                    | -4.00%                |
| 7                        | 222+24.97' | End Full Super        | -2.00%                   | 4.00%                | -4.00%                    | -4.00%                |
| 7                        | 223+58.54' | Low Shoulder Match    | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 7                        | 223+58.54' | Reverse Crown         | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 7                        | 224+11.97' | Level Crown           | -2.00%                   | 0.00%                | -2.00%                    | -2.00%                |
| 7                        | 224+65.40' | Begin Normal Crown    | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 7                        | 224+65.40' | Begin Normal Shoulder | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |



| Superelevation Region | Station    | Description           | Left Outside Shoulder | Left Outside Lane | Right Outside Shoulder | Right Outside Lane |
|-----------------------|------------|-----------------------|-----------------------|-------------------|------------------------|--------------------|
| 8                     | 225+91.14' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 8                     | 225+91.14' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 8                     | 226+44.71' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 8                     | 226+98.28' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 8                     | 226+98.28' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 8                     | 227+19.71' | Begin Full Super      | -2.00%                | 3.00%             | -3.00%                 | -3.00%             |
| 8                     | 234+47.13' | End Full Super        | -2.00%                | 3.00%             | -3.00%                 | -3.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 9                     | 235+19.62' | Begin Full Super      | -2.00%                | 3.00%             | -3.00%                 | -3.00%             |
| 9                     | 239+49.56' | End Full Super        | -2.00%                | 3.00%             | -3.00%                 | -3.00%             |
| 9                     | 240+35.10' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 9                     | 240+35.10' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 9                     | 240+88.56' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 9                     | 241+42.03' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 9                     | 241+42.03' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 10                    | 251+71.04' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 10                    | 251+71.04' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 10                    | 252+22.04' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 10                    | 252+73.04' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 10                    | 252+73.04' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 10                    | 254+26.04' | Begin Full Super      | -7.00%                | -7.00%            | 7.00%                  | -2.00%             |
| 10                    | 255+57.30' | End Full Super        | -7.00%                | -7.00%            | 7.00%                  | -2.00%             |
| 10                    | 257+10.30' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 10                    | 257+10.30' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 10                    | 257+61.30' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 10                    | 258+12.30' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 10                    | 258+12.30' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 11                    | 260+40.12' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 11                    | 260+40.12' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 11                    | 260+88.12' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 11                    | 261+36.12' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 11                    | 261+36.12' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 11                    | 262+80.12' | Begin Full Super      | -2.00%                | 7.00%             | -7.00%                 | -7.00%             |
| 11                    | 264+36.40' | End Full Super        | -2.00%                | 7.00%             | -7.00%                 | -7.00%             |
| 11                    | 265+80.40' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 11                    | 265+80.40' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 11                    | 266+28.40' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 11                    | 266+76.40' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 11                    | 266+76.40' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |

| Superelevation Region | Station    | Description           | Left Outside Shoulder | Left Outside Lane | Right Outside Shoulder | Right Outside Lane |
|-----------------------|------------|-----------------------|-----------------------|-------------------|------------------------|--------------------|
| 12                    | 271+86.95' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 12                    | 271+86.95' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 12                    | 272+34.95' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 12                    | 272+82.95' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 12                    | 272+82.95' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 12                    | 274+26.95' | Begin Full Super      | -7.00%                | -7.00%            | 7.00%                  | -2.00%             |
| 12                    | 281+73.60' | End Full Super        | -7.00%                | -7.00%            | 7.00%                  | -2.00%             |
| 12                    | 283+17.60' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 12                    | 283+17.60' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 12                    | 283+65.60' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 12                    | 284+13.60' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 12                    | 284+13.60' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 13                    | 286+18.17' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 13                    | 286+18.17' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 13                    | 286+71.63' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 13                    | 287+25.10' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 13                    | 287+25.10' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 13                    | 288+10.63' | Begin Full Super      | -2.00%                | 4.00%             | -4.00%                 | -4.00%             |
| 13                    | 291+99.96' | End Full Super        | -2.00%                | 4.00%             | -4.00%                 | -4.00%             |
| 13                    | 292+85.50' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 13                    | 292+85.50' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 13                    | 293+38.96' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 13                    | 293+92.42' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 13                    | 293+92.42' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 14                    | 295+81.01' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 14                    | 295+81.01' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 14                    | 296+41.34' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 14                    | 297+01.67' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 14                    | 297+01.67' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 14                    | 298+22.34' | Begin Full Super      | -2.00%                | 3.00%             | -3.00%                 | -3.00%             |
| 14                    | 301+94.63' | End Full Super        | -2.00%                | 3.00%             | -3.00%                 | -3.00%             |
| 14                    | 303+15.30' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 14                    | 303+15.30' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 14                    | 303+75.63' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 14                    | 304+35.97' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 14                    | 304+35.97' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |

| Superelevation Region | Station    | Description           | Left Outside Shoulder | Left Outside Lane | Right Outside Shoulder | Right Outside Lane |
|-----------------------|------------|-----------------------|-----------------------|-------------------|------------------------|--------------------|
| 15                    | 312+09.91' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 15                    | 312+09.91' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 15                    | 312+63.25' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 15                    | 313+16.58' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 15                    | 313+16.58' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 15                    | 314+39.25' | Begin Full Super      | -2.00%                | 3.00%             | -3.00%                 | -3.00%             |
| 15                    | 317+91.30' | End Full Super        | -2.00%                | 3.00%             | -3.00%                 | -3.00%             |
| 15                    | 319+13.97' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 15                    | 319+13.97' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 16                    | 319+87.73' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 16                    | 319+87.73' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 16                    | 321+31.49' | Begin Full Super      | -6.00%                | -6.00%            | 6.00%                  | -2.00%             |
| 16                    | 325+81.17' | End Full Super        | -6.00%                | -6.00%            | 6.00%                  | -2.00%             |
| 16                    | 327+24.93' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 16                    | 327+24.93' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 17                    | 327+68.87' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 17                    | 327+68.87' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 17                    | 328+48.67' | Begin Full Super      | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 17                    | 331+54.26' | End Full Super        | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 17                    | 332+34.06' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 17                    | 332+34.06' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 17                    | 332+87.26' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 17                    | 333+40.46' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 17                    | 333+40.46' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 18                    | 338+45.10' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 18                    | 338+45.10' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 18                    | 338+98.30' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 18                    | 339+51.50' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 18                    | 339+51.50' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 18                    | 340+31.30' | Begin Full Super      | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 18                    | 343+75.02' | End Full Super        | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 18                    | 344+54.82' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 18                    | 344+54.82' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 18                    | 345+08.02' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 18                    | 345+61.22' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 18                    | 345+61.22' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |

| Superelevation Region | Station    | Description           | Left Outside Shoulder | Left Outside Lane | Right Outside Shoulder | Right Outside Lane |
|-----------------------|------------|-----------------------|-----------------------|-------------------|------------------------|--------------------|
| 19                    | 348+90.99' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 19                    | 348+90.99' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 19                    | 349+44.49' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 19                    | 349+97.99' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 19                    | 349+97.99' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 19                    | 350+51.49' | Begin Full Super      | -3.00%                | -3.00%            | 3.00%                  | -2.00%             |
| 19                    | 354+06.21' | End Full Super        | -3.00%                | -3.00%            | 3.00%                  | -2.00%             |
| 19                    | 354+59.71' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 19                    | 354+59.71' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 19                    | 355+13.21' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 19                    | 355+66.71' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 19                    | 355+66.71' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 20                    | 363+35.69' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 20                    | 363+35.69' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 20                    | 363+88.94' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 20                    | 364+42.19' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 20                    | 364+42.19' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 20                    | 366+01.94' | Begin Full Super      | -8.00%                | -8.00%            | 8.00%                  | -2.00%             |
| 20                    | 370+05.31' | End Full Super        | -8.00%                | -8.00%            | 8.00%                  | -2.00%             |
| 20                    | 371+65.06' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 20                    | 371+65.06' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 20                    | 372+18.31' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 20                    | 372+71.56' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 20                    | 372+71.56' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 21                    | 388+26.25' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 21                    | 388+26.25' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 21                    | 388+74.25' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 21                    | 389+22.25' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 21                    | 389+22.25' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 21                    | 390+66.25' | Begin Full Super      | -2.00%                | 7.00%             | -7.00%                 | -7.00%             |
| 21                    | 392+64.18' | End Full Super        | -2.00%                | 7.00%             | -7.00%                 | -7.00%             |
| 21                    | 394+08.18' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 21                    | 394+08.18' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 21                    | 394+56.18' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 21                    | 395+04.18' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 21                    | 395+04.18' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |

2

| Superelevation Region | Station    | Description           | Left Outside Shoulder | Left Outside Lane | Right Outside Shoulder | Right Outside Lane |
|-----------------------|------------|-----------------------|-----------------------|-------------------|------------------------|--------------------|
| 22                    | 411+76.27' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 22                    | 411+76.27' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 22                    | 412+29.70' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 22                    | 412+83.14' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 22                    | 412+83.14' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 22                    | 414+00.70' | Begin Full Super      | -2.00%                | 4.00%             | -4.00%                 | -4.00%             |
| 22                    | 415+98.36' | End Full Super        | -2.00%                | 4.00%             | -4.00%                 | -4.00%             |
| 22                    | 417+15.92' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 22                    | 417+15.92' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 22                    | 417+69.36' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 22                    | 418+22.80' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 22                    | 418+22.80' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 23                    | 418+22.80' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 23                    | 418+22.80' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 23                    | 418+84.54' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 23                    | 419+46.54' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 23                    | 419+46.54' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 23                    | 420+39.54' | Begin Full Super      | -3.00%                | -3.00%            | 3.00%                  | -2.00%             |
| 23                    | 422+79.95' | End Full Super        | -3.00%                | -3.00%            | 3.00%                  | -2.00%             |
| 23                    | 423+72.95' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 23                    | 423+72.95' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 23                    | 424+34.95' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 23                    | 424+96.95' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 23                    | 424+96.95' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 24                    | 427+13.63' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 24                    | 427+13.63' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 24                    | 427+61.63' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 24                    | 428+09.63' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 24                    | 428+09.63' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 24                    | 429+29.63' | Begin Full Super      | -2.00%                | 5.00%             | -5.00%                 | -5.00%             |
| 24                    | 430+73.34' | End Full Super        | -2.00%                | 5.00%             | -5.00%                 | -5.00%             |
| 24                    | 431+93.34' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 24                    | 431+93.34' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |

PROJECT NO: 7925-02-61

HWY: STH 162

COUNTY: LA CROSSE

ALIGNMENT (SUPERELEVATION TRANSITIONS)

SHEET: 34

E

FILE NAME :

PLOT DATE : 5/1/2018 8:56 AM

PLOT BY :

PLOT NAME :

PLOT SCALE : N/A

2

| Superelevation Region | Station    | Description           | Left Outside Shoulder | Left Outside Lane | Right Outside Shoulder | Right Outside Lane |
|-----------------------|------------|-----------------------|-----------------------|-------------------|------------------------|--------------------|
| 25                    | 432+26.70' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 25                    | 432+26.70' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 25                    | 433+81.37' | Begin Full Super      | -5.00%                | -5.00%            | 5.00%                  | -2.00%             |
| 25                    | 435+18.33' | End Full Super        | -5.00%                | -5.00%            | 5.00%                  | -2.00%             |
| 25                    | 436+73.00' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 25                    | 436+73.00' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 25                    | 437+26.33' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 25                    | 437+79.66' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 25                    | 437+79.66' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 26                    | 441+58.15' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 26                    | 441+58.15' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 26                    | 442+18.49' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 26                    | 442+78.82' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 26                    | 442+78.82' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 26                    | 443+99.49' | Begin Full Super      | -5.00%                | -5.00%            | 5.00%                  | -2.00%             |
| 26                    | 454+23.16' | End Full Super        | -5.00%                | -5.00%            | 5.00%                  | -2.00%             |
| 26                    | 455+43.82' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 26                    | 455+43.82' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 26                    | 456+04.16' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 26                    | 456+64.49' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 26                    | 456+64.49' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 27                    | 460+34.79' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 27                    | 460+34.79' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 27                    | 460+85.79' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 27                    | 461+36.79' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 27                    | 461+36.79' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 27                    | 462+89.79' | Begin Full Super      | -7.00%                | -7.00%            | 7.00%                  | -2.00%             |
| 27                    | 465+75.56' | End Full Super        | -7.00%                | -7.00%            | 7.00%                  | -2.00%             |
| 27                    | 467+28.56' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 27                    | 467+28.56' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 27                    | 467+79.56' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 27                    | 468+30.56' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 27                    | 468+30.56' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |

| Superelevation Region | Station    | Description           | Left Outside Shoulder | Left Outside Lane | Right Outside Shoulder | Right Outside Lane |
|-----------------------|------------|-----------------------|-----------------------|-------------------|------------------------|--------------------|
| 28                    | 474+24.14' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 28                    | 474+24.14' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 28                    | 474+72.14' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 28                    | 475+20.14' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 28                    | 475+20.14' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 28                    | 476+64.14' | Begin Full Super      | -2.00%                | 7.00%             | -7.00%                 | -7.00%             |
| 28                    | 481+20.63' | End Full Super        | -2.00%                | 7.00%             | -7.00%                 | -7.00%             |
| 28                    | 482+64.63' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 28                    | 482+64.63' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 29                    | 483+80.12' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 29                    | 483+80.12' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 29                    | 485+39.87' | Begin Full Super      | -4.00%                | -4.00%            | 4.00%                  | -2.00%             |
| 29                    | 486+13.48' | End Full Super        | -4.00%                | -4.00%            | 4.00%                  | -2.00%             |
| 29                    | 487+73.23' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 29                    | 487+73.23' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 29                    | 488+26.48' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 29                    | 488+79.73' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 29                    | 488+79.73' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 30                    | 489+34.29' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 30                    | 489+34.29' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 30                    | 489+87.73' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 30                    | 490+41.16' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 30                    | 490+41.16' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 30                    | 491+58.73' | Begin Full Super      | -2.00%                | 4.00%             | -4.00%                 | -4.00%             |
| 30                    | 495+45.44' | End Full Super        | -2.00%                | 4.00%             | -4.00%                 | -4.00%             |
| 30                    | 496+63.00' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 30                    | 496+63.00' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 30                    | 497+16.44' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 30                    | 497+69.87' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 30                    | 497+69.87' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |

| Superelevation Region | Station    | Description           | Left Outside Shoulder | Left Outside Lane | Right Outside Shoulder | Right Outside Lane |
|-----------------------|------------|-----------------------|-----------------------|-------------------|------------------------|--------------------|
| 31                    | 498+52.85' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 31                    | 498+52.85' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 31                    | 499+04.90' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 31                    | 499+56.95' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 31                    | 499+56.95' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 31                    | 501+07.90' | Begin Full Super      | -5.00%                | -5.00%            | 5.00%                  | -2.00%             |
| 31                    | 505+76.11' | End Full Super        | -5.00%                | -5.00%            | 5.00%                  | -2.00%             |
| 31                    | 507+27.06' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 31                    | 507+27.06' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 31                    | 507+79.11' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 31                    | 508+31.16' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 31                    | 508+31.16' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 32                    | 511+37.45' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 32                    | 511+37.45' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 32                    | 511+88.45' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 32                    | 512+39.45' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 32                    | 512+39.45' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 32                    | 513+92.45' | Begin Full Super      | -2.00%                | 6.00%             | -6.00%                 | -6.00%             |
| 32                    | 518+70.98' | End Full Super        | -2.00%                | 6.00%             | -6.00%                 | -6.00%             |
| 32                    | 520+23.98' | Low Shoulder Match    | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 32                    | 520+23.98' | Reverse Crown         | -2.00%                | 2.00%             | -2.00%                 | -2.00%             |
| 32                    | 520+74.98' | Level Crown           | -2.00%                | 0.00%             | -2.00%                 | -2.00%             |
| 32                    | 521+25.98' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 32                    | 521+25.98' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
|                       |            |                       |                       |                   |                        |                    |
| 33                    | 529+28.64' | End Normal Shoulder   | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 33                    | 529+28.64' | End Normal Crown      | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 33                    | 529+73.00' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 33                    | 530+17.36' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 33                    | 530+17.36' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 33                    | 531+46.00' | Begin Full Super      | -8.00%                | -8.00%            | 8.00%                  | -2.00%             |
| 33                    | 534+86.19' | End Full Super        | -8.00%                | -8.00%            | 8.00%                  | -2.00%             |
| 33                    | 536+14.83' | Low Shoulder Match    | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 33                    | 536+14.83' | Reverse Crown         | -2.00%                | -2.00%            | 2.00%                  | -2.00%             |
| 33                    | 536+59.19' | Level Crown           | -2.00%                | -2.00%            | 0.00%                  | -2.00%             |
| 33                    | 537+03.55' | Begin Normal Crown    | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |
| 33                    | 537+03.55' | Begin Normal Shoulder | -2.00%                | -2.00%            | -2.00%                 | -2.00%             |

| Superelevation<br>Region | Station    | Description           | Left Outside<br>Shoulder | Left Outside<br>Lane | Right Outside<br>Shoulder | Right Outside<br>Lane |
|--------------------------|------------|-----------------------|--------------------------|----------------------|---------------------------|-----------------------|
| 34                       | 543+40.69' | End Normal Shoulder   | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 34                       | 543+40.69' | End Normal Crown      | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 34                       | 543+91.69' | Level Crown           | -2.00%                   | 0.00%                | -2.00%                    | -2.00%                |
| 34                       | 544+42.69' | Low Shoulder Match    | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 34                       | 544+42.69' | Reverse Crown         | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 34                       | 545+95.69' | Begin Full Super      | -2.00%                   | 5.00%                | -5.00%                    | -5.00%                |
| 34                       | 549+51.01' | End Full Super        | -2.00%                   | 5.00%                | -5.00%                    | -5.00%                |
| 34                       | 551+04.01' | Low Shoulder Match    | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 34                       | 551+04.01' | Reverse Crown         | -2.00%                   | 2.00%                | -2.00%                    | -2.00%                |
| 34                       | 551+55.01' | Level Crown           | -2.00%                   | 0.00%                | -2.00%                    | -2.00%                |
| 34                       | 552+06.01' | Begin Normal Crown    | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 34                       | 552+06.01' | Begin Normal Shoulder | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
|                          |            |                       |                          |                      |                           |                       |
| 35                       | 570+75.51' | End Normal Shoulder   | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 35                       | 570+75.51' | End Normal Crown      | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 35                       | 571+27.57' | Level Crown           | -2.00%                   | -2.00%               | 0.00%                     | -2.00%                |
| 35                       | 571+79.62' | Low Shoulder Match    | -2.00%                   | -2.00%               | 2.00%                     | -2.00%                |
| 35                       | 571+79.62' | Reverse Crown         | -2.00%                   | -2.00%               | 2.00%                     | -2.00%                |
| 35                       | 573+30.57' | Begin Full Super      | -7.00%                   | -7.00%               | 7.00%                     | -2.00%                |
| 35                       | 576+76.76' | End Full Super        | -7.00%                   | -7.00%               | 7.00%                     | -2.00%                |
| 35                       | 578+27.71' | Low Shoulder Match    | -2.00%                   | -2.00%               | 2.00%                     | -2.00%                |
| 35                       | 578+27.71' | Reverse Crown         | -2.00%                   | -2.00%               | 2.00%                     | -2.00%                |
| 35                       | 578+79.76' | Level Crown           | -2.00%                   | -2.00%               | 0.00%                     | -2.00%                |
| 35                       | 579+31.81' | Begin Normal Crown    | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 35                       | 579+31.81' | Begin Normal Shoulder | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
|                          |            |                       |                          |                      |                           |                       |
| 36                       | 624+11.67' | End Normal Shoulder   | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 36                       | 624+11.67' | End Normal Crown      | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 36                       | 624+65.01' | Level Crown           | -2.00%                   | -2.00%               | 0.00%                     | -2.00%                |
| 36                       | 625+18.34' | Low Shoulder Match    | -2.00%                   | -2.00%               | 2.00%                     | -2.00%                |
| 36                       | 625+18.34' | Reverse Crown         | -2.00%                   | -2.00%               | 2.00%                     | -2.00%                |
| 36                       | 625+45.01' | Begin Full Super      | -3.00%                   | -3.00%               | 3.00%                     | -2.00%                |
| 36                       | 632+52.71' | End Full Super        | -3.00%                   | -3.00%               | 3.00%                     | -2.00%                |
| 36                       | 632+79.38' | Low Shoulder Match    | -2.00%                   | -2.00%               | 2.00%                     | -2.00%                |
| 36                       | 632+79.38' | Reverse Crown         | -2.00%                   | -2.00%               | 2.00%                     | -2.00%                |
| 36                       | 633+32.71' | Level Crown           | -2.00%                   | -2.00%               | 0.00%                     | -2.00%                |
| 36                       | 633+86.05' | Begin Normal Crown    | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
| 36                       | 633+86.05' | Begin Normal Shoulder | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |
|                          |            |                       |                          |                      |                           |                       |
|                          | 665+42.64' | End Alignment         | -2.00%                   | -2.00%               | -2.00%                    | -2.00%                |

Estimate Of Quantities

| 7925-02-61 |            |                                                                   |      |             |             |
|------------|------------|-------------------------------------------------------------------|------|-------------|-------------|
| Line       | Item       | Item Description                                                  | Unit | Total       | Qty         |
| 0002       | 203.0225.S | Debris Containment (structure) 01. B-32-0120                      | LS   | 1.000       | 1.000       |
| 0004       | 204.0110   | Removing Asphaltic Surface                                        | SY   | 3,943.000   | 3,943.000   |
| 0006       | 204.0115   | Removing Asphaltic Surface Butt Joints                            | SY   | 1,722.000   | 1,722.000   |
| 0008       | 204.0120   | Removing Asphaltic Surface Milling                                | SY   | 110,014.000 | 110,014.000 |
| 0010       | 204.0165   | Removing Guardrail                                                | LF   | 4,451.000   | 4,451.000   |
| 0012       | 205.0100   | Excavation Common                                                 | CY   | 54.000      | 54.000      |
| 0014       | 205.9010.S | Grading and Shaping Intersection (location) 01. Johnson Coulee Rd | LS   | 1.000       | 1.000       |
| 0016       | 206.1000   | Excavation for Structures Bridges (structure) 01. B-32-0120       | LS   | 1.000       | 1.000       |
| 0018       | 206.2000   | Excavation for Structures Culverts (structure) 01. C-32-0087      | LS   | 1.000       | 1.000       |
| 0020       | 210.2500   | Backfill Structure Type B                                         | TON  | 155.000     | 155.000     |
| 0022       | 213.0100   | Finishing Roadway (project) 01. 7925-02-61                        | EACH | 1.000       | 1.000       |
| 0024       | 305.0110   | Base Aggregate Dense 3/4-Inch                                     | TON  | 7,164.000   | 7,164.000   |
| 0026       | 305.0120   | Base Aggregate Dense 1 1/4-Inch                                   | TON  | 156.000     | 156.000     |
| 0028       | 305.0500   | Shaping Shoulders                                                 | STA  | 639.000     | 639.000     |
| 0030       | 330.0100   | Mill and Relay                                                    | SY   | 220,365.000 | 220,365.000 |
| 0032       | 374.1010.S | QMP Mill and Relay Compaction                                     | SY   | 220,365.000 | 220,365.000 |
| 0034       | 455.0605   | Tack Coat                                                         | GAL  | 14,795.000  | 14,795.000  |
| 0036       | 460.0105.S | HMA Percent Within Limits (PWL) Test Strip Volumetrics            | EACH | 2.000       | 2.000       |
| 0038       | 460.0110.S | HMA Percent Within Limits (PWL) Test Strip Density                | EACH | 2.000       | 2.000       |
| 0040       | 460.2005   | Incentive Density PWL HMA Pavement                                | DOL  | 31,680.000  | 31,680.000  |
| 0042       | 460.2010   | Incentive Air Voids HMA Pavement                                  | DOL  | 41,340.000  | 41,340.000  |
| 0044       | 460.4110.S | Reheating HMA Pavement Longitudinal Joints                        | LF   | 66,110.000  | 66,110.000  |
| 0046       | 460.5224   | HMA Pavement 4 LT 58-28 S                                         | TON  | 41,334.000  | 41,334.000  |
| 0048       | 465.0120   | Asphaltic Surface Driveways and Field Entrances                   | TON  | 56.000      | 56.000      |
| 0050       | 465.0315   | Asphaltic Flumes                                                  | SY   | 26.000      | 26.000      |
| 0052       | 601.0576   | Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type J               | LF   | 1,753.000   | 1,753.000   |
| 0054       | 606.0300   | Riprap Heavy                                                      | CY   | 21.000      | 21.000      |
| 0056       | 614.2300   | MGS Guardrail 3                                                   | LF   | 1,271.000   | 1,271.000   |
| 0058       | 614.2330   | MGS Guardrail 3 K                                                 | LF   | 2,634.000   | 2,634.000   |
| 0060       | 614.2610   | MGS Guardrail Terminal EAT                                        | EACH | 18.000      | 18.000      |
| 0062       | 614.8010   | Anchor Post Assembly Top Mount                                    | EACH | 22.000      | 22.000      |
| 0064       | 618.0100   | Maintenance And Repair of Haul Roads (project) 01. 7925-02-61     | EACH | 1.000       | 1.000       |
| 0066       | 619.1000   | Mobilization                                                      | EACH | 1.000       | 1.000       |
| 0068       | 624.0100   | Water                                                             | MGAL | 1,193.000   | 1,193.000   |
| 0070       | 625.0100   | Topsoil                                                           | SY   | 581.000     | 581.000     |
| 0072       | 627.0200   | Mulching                                                          | SY   | 550.000     | 550.000     |
| 0074       | 628.1504   | Silt Fence                                                        | LF   | 822.000     | 822.000     |



Estimate Of Quantities

7925-02-61

| Line | Item     | Item Description                                                   | Unit | Total       | Qty         |
|------|----------|--------------------------------------------------------------------|------|-------------|-------------|
| 0076 | 628.1520 | Silt Fence Maintenance                                             | LF   | 822.000     | 822.000     |
| 0078 | 628.1905 | Mobilizations Erosion Control                                      | EACH | 2.000       | 2.000       |
| 0080 | 628.1910 | Mobilizations Emergency Erosion Control                            | EACH | 1.000       | 1.000       |
| 0082 | 628.2004 | Erosion Mat Class I Type B                                         | SY   | 782.000     | 782.000     |
| 0084 | 628.7570 | Rock Bags                                                          | EACH | 255.000     | 255.000     |
| 0086 | 629.0210 | Fertilizer Type B                                                  | CWT  | 1.800       | 1.800       |
| 0088 | 630.0120 | Seeding Mixture No. 20                                             | LB   | 22.000      | 22.000      |
| 0090 | 630.0140 | Seeding Mixture No. 40                                             | LB   | 12.000      | 12.000      |
| 0092 | 630.0200 | Seeding Temporary                                                  | LB   | 40.000      | 40.000      |
| 0094 | 633.5200 | Markers Culvert End                                                | EACH | 13.000      | 13.000      |
| 0096 | 634.0614 | Posts Wood 4x6-Inch X 14-FT                                        | EACH | 8.000       | 8.000       |
| 0098 | 634.0616 | Posts Wood 4x6-Inch X 16-FT                                        | EACH | 1.000       | 1.000       |
| 0100 | 637.2230 | Signs Type II Reflective F                                         | SF   | 9.000       | 9.000       |
| 0102 | 638.2602 | Removing Signs Type II                                             | EACH | 2.000       | 2.000       |
| 0104 | 638.3000 | Removing Small Sign Supports                                       | EACH | 1.000       | 1.000       |
| 0106 | 642.5001 | Field Office Type B                                                | EACH | 1.000       | 1.000       |
| 0108 | 643.0300 | Traffic Control Drums                                              | DAY  | 4,435.000   | 4,435.000   |
| 0110 | 643.0420 | Traffic Control Barricades Type III                                | DAY  | 2,316.000   | 2,316.000   |
| 0112 | 643.0705 | Traffic Control Warning Lights Type A                              | DAY  | 2,880.000   | 2,880.000   |
| 0114 | 643.0900 | Traffic Control Signs                                              | DAY  | 11,795.000  | 11,795.000  |
| 0116 | 643.0910 | Traffic Control Covering Signs Type I                              | EACH | 4.000       | 4.000       |
| 0118 | 643.0920 | Traffic Control Covering Signs Type II                             | EACH | 8.000       | 8.000       |
| 0120 | 643.1050 | Traffic Control Signs PCMS                                         | DAY  | 14.000      | 14.000      |
| 0122 | 643.5000 | Traffic Control 01. 7925-02-61                                     | EACH | 1.000       | 1.000       |
| 0124 | 645.0120 | Geotextile Type HR                                                 | SY   | 31.000      | 31.000      |
| 0126 | 646.1020 | Marking Line Epoxy 4-Inch                                          | LF   | 96,715.000  | 96,715.000  |
| 0128 | 646.1040 | Marking Line Grooved Wet Ref Epoxy 4-Inch                          | LF   | 128,390.000 | 128,390.000 |
| 0130 | 646.6020 | Marking Stop Line Epoxy 12-Inch                                    | LF   | 52.000      | 52.000      |
| 0132 | 648.0100 | Locating No-Passing Zones                                          | MI   | 12.520      | 12.520      |
| 0134 | 649.0770 | Temporary Marking Raised Pavement Marker Type II                   | EACH | 1,323.000   | 1,323.000   |
| 0136 | 650.5000 | Construction Staking Base                                          | LF   | 139.000     | 139.000     |
| 0138 | 650.5500 | Construction Staking Curb Gutter and Curb & Gutter                 | LF   | 1,753.000   | 1,753.000   |
| 0140 | 650.8000 | Construction Staking Resurfacing Reference                         | LF   | 66,120.000  | 66,120.000  |
| 0142 | 650.9910 | Construction Staking Supplemental Control (project) 01. 7925-02-61 | LS   | 1.000       | 1.000       |
| 0144 | 650.9920 | Construction Staking Slope Stakes                                  | LF   | 139.000     | 139.000     |
| 0146 | 690.0150 | Sawing Asphalt                                                     | LF   | 542.000     | 542.000     |
| 0148 | 740.0440 | Incentive IRI Ride                                                 | DOL  | 50,084.000  | 50,084.000  |
| 0150 | ASP.1T0A | On-the-Job Training Apprentice at \$5.00/HR                        | HRS  | 600.000     | 600.000     |
| 0152 | ASP.1T0G | On-the-Job Training Graduate at \$5.00/HR                          | HRS  | 400.000     | 400.000     |



Estimate Of Quantities

|            |          |                                                  |     |         |         |
|------------|----------|--------------------------------------------------|-----|---------|---------|
| 7925-02-61 |          |                                                  |     |         |         |
| 0154       | SPV.0070 | Special 01. Sprayed Asphaltic Shoulder Treatment | GAL | 300.000 | 300.000 |

| HMA PAVEMENT REMOVAL |    |                            |                                        |                                    |                   |                |                               |        |        |                             |
|----------------------|----|----------------------------|----------------------------------------|------------------------------------|-------------------|----------------|-------------------------------|--------|--------|-----------------------------|
|                      |    | 204.0110                   | 204.0115                               | 204.0120                           | 305.0500          | 330.0100       | 374.1010.S                    |        |        |                             |
|                      |    | REMOVING ASPHALTIC SURFACE | REMOVING ASPHALTIC SURFACE BUTT JOINTS | REMOVING ASPHALTIC SURFACE MILLING | SHAPING SHOULDERS | MILL AND RELAY | QMP MILL AND RELAY COMPACTION |        |        |                             |
| STATION              | TO | STATION                    | LENGTH                                 | SY                                 | SY                | SY             | STA                           | SY     | SY     | REMARKS                     |
| 00+24                | -  | 26+90                      | 2666                                   | -                                  | 489               | 6,028          | 27                            | 8,887  | 8,887  | STH 162                     |
| 26+90                | -  | 27+66                      | 76                                     | 199                                | -                 | 186            | 1                             | 253    | 253    | STH 162 & JOSEPH JONES RD   |
| 27+66                | -  | 57+32                      | 2966                                   | -                                  | -                 | 7,250          | 30                            | 9,887  | 9,887  | STH 162                     |
| 57+32                | -  | 58+22                      | 90                                     | 212                                | -                 | 220            | 1                             | 300    | 300    | STH 162 & KASTENSCHMIDT RD  |
| 58+22                | -  | 134+94                     | 7672                                   | -                                  | -                 | 18,754         | 77                            | 25,573 | 25,573 | STH 162                     |
| 134+94               | -  | 136+64                     | 170                                    | 564                                | -                 | 416            | 2                             | 567    | 567    | STH 162 & CTH E             |
| 136+64               | -  | 202+20                     | 6556                                   | -                                  | -                 | 16,026         | 66                            | 21,853 | 21,853 | STH 162                     |
| 202+20               | -  | 202+93                     | 73                                     | 135                                | -                 | 178            | 1                             | 243    | 243    | STH 162 & CRAIG RD          |
| 202+93               | -  | 215+25                     | 1232                                   | -                                  | 367               | 2,645          | 12                            | 4,107  | 4,107  | STH 162                     |
| 215+25               | -  | 218+77                     | 352                                    | -                                  | 10                | 850            | 4                             | 1,173  | 1,173  | STH 162 & CTH EE            |
| 218+77               | -  | 261+11                     | 4234                                   | -                                  | 367               | 5,771          | 42                            | 14,113 | 14,113 | STH 162                     |
| 261+11               | -  | 261+79                     | 68                                     | 146                                | -                 | 166            | 1                             | 227    | 227    | STH 162 & NIEDFELDT RD      |
| 261+79               | -  | 276+09                     | 1430                                   | -                                  | -                 | 2,151          | 14                            | 4,767  | 4,767  | STH 162                     |
| 276+09               | -  | 277+02                     | 93                                     | 238                                | -                 | 2              | 1                             | 310    | 310    | STH 162 & GARVES COULEE RD  |
| 277+02               | -  | 314+32                     | 3730                                   | -                                  | -                 | 1,958          | 37                            | 12,433 | 12,433 | STH 162                     |
| 314+32               | -  | 315+06                     | 74                                     | 567                                | -                 | -              | 1                             | 247    | 247    | STH 162 & JOHNSON COULEE RD |
| 315+06               | -  | 347+71                     | 3265                                   | -                                  | -                 | 5,735          | 33                            | 10,883 | 10,883 | STH 162                     |
| 347+71               | -  | 348+14                     | 43                                     | 67                                 | -                 | 105            | 1                             | 143    | 143    | STH 162 & QUALL COULEE RD   |
| 348+14               | -  | 371+75                     | 2361                                   | -                                  | -                 | 3,327          | 24                            | 7,870  | 7,870  | STH 162                     |
| 371+75               | -  | 372+42                     | 67                                     | 129                                | -                 | 164            | 1                             | 223    | 223    | STH 162 & PETTINGER HILL RD |
| 372+42               | -  | 477+13                     | 10471                                  | -                                  | -                 | 13,579         | 105                           | 34,903 | 34,903 | STH 162                     |
| 477+13               | -  | 479+02                     | 189                                    | 786                                | -                 | -              | 2                             | 630    | 630    | STH 162 & CTH T             |
| 479+02               | -  | 550+30                     | 7128                                   | -                                  | -                 | 7,216          | 71                            | 23,760 | 23,760 | STH 162                     |
| 550+30               | -  | 551+31                     | 101                                    | 254                                | -                 | -              | 1                             | 337    | 337    | STH 162 & CTH A             |
| 551+31               | -  | 568+33                     | 1702                                   | -                                  | -                 | 4,112          | 17                            | 5,673  | 5,673  | STH 162                     |
| 568+33               | -  | 569+23                     | 90                                     | 296                                | -                 | 220            | 1                             | 300    | 300    | STH 162 & SANDCREEK RD      |
| 569+23               | -  | 625+64                     | 5641                                   | -                                  | -                 | 11,892         | 56                            | 18,803 | 18,803 | STH 162                     |
| 625+64               | -  | 626+49                     | 85                                     | 175                                | -                 | -              | -                             | 283    | 283    | STH 162 & DAKOTA AVE        |
| 626+49               | -  | 650+48                     | 2399                                   | -                                  | -                 | -              | -                             | 7,997  | 7,997  | STH 162                     |
| 650+48               | -  | 651+37                     | 89                                     | 175                                | -                 | -              | -                             | 297    | 297    | STH 162 & SOMMERS RD        |
| 651+37               | -  | 661+34                     | 997                                    | -                                  | 489               | 1,063          | 10                            | 3,323  | 3,323  | STH 162                     |
| TOTAL                |    |                            |                                        | 3943                               | 1722              | 110014         | 639                           | 220365 | 220365 |                             |

| EARTHWORK     |    |          |            |                                  |          |                                             |
|---------------|----|----------|------------|----------------------------------|----------|---------------------------------------------|
|               |    |          | 205.0100   | 205.9010.S                       | 625.0100 |                                             |
|               |    |          | EXCAVATION | GRADING AND SHAPING INTERSECTION | TOPSOIL  |                                             |
|               |    |          | COMMON     | (JOHNSON COULEE RD)              |          |                                             |
| STATION       | TO | STATION  | CY         | LS                               | SY       | REMARKS                                     |
| 516+30        | -  | 516+89   | 34         | -                                | 79       | PRIVATE FE                                  |
| 8'JC'+50      | -  | 9'JC'+86 | -          | 1                                | 502      | ESTIMATED FILL ~ 210 CY, FOR REFERENCE ONLY |
| UNDISTRIBUTED |    |          | 20         | -                                | -        | -                                           |
| TOTAL         |    |          | 54         | 1                                | 581      |                                             |

| BASE COURSE   |    |           |                |                      |     |                      |
|---------------|----|-----------|----------------|----------------------|-----|----------------------|
|               |    |           | 305.0110       | 305.0120             |     |                      |
|               |    |           | BASE AGGREGATE | BASE AGGREGATE DENSE |     |                      |
|               |    |           | DENSE 3/4-INCH | 1 1/4-INCH           |     |                      |
| STATION       | TO | STATION   | LOCATION       | TON                  | TON | REMARKS              |
| 00+24         | -  | 57+42     | RIGHT SHOULDER | 259                  | -   | -                    |
| 58+19         | -  | 135+29    | RIGHT SHOULDER | 350                  | -   | -                    |
| 136+61        | -  | 202+30    | RIGHT SHOULDER | 298                  | -   | -                    |
| 202+91        | -  | 261+08    | RIGHT SHOULDER | 264                  | -   | -                    |
| 261+78        | -  | 275+99    | RIGHT SHOULDER | 64                   | -   | -                    |
| 277+03        | -  | 371+84    | RIGHT SHOULDER | 452                  | -   | -                    |
| 372+42        | -  | 568+33    | RIGHT SHOULDER | 1173                 | -   | -                    |
| 569+21        | -  | 625+76    | RIGHT SHOULDER | 257                  | -   | -                    |
| 626+46        | -  | 662+03    | RIGHT SHOULDER | 161                  | -   | -                    |
| 00+24         | -  | 26+93     | LEFT SHOULDER  | 121                  | -   | -                    |
| 27+64         | -  | 136+03    | LEFT SHOULDER  | 492                  | -   | -                    |
| 136+61        | -  | 215+25    | LEFT SHOULDER  | 357                  | -   | -                    |
| 218+77        | -  | 314+32    | LEFT SHOULDER  | 454                  | -   | -                    |
| 315+06        | -  | 347+68    | LEFT SHOULDER  | 148                  | -   | -                    |
| 348+14        | -  | 477+41    | LEFT SHOULDER  | 587                  | -   | -                    |
| 478+84        | -  | 550+35    | LEFT SHOULDER  | 438                  | -   | -                    |
| 551+30        | -  | 568+33    | LEFT SHOULDER  | 77                   | -   | -                    |
| 569+21        | -  | 650+53    | LEFT SHOULDER  | 369                  | -   | -                    |
| 651+38        | -  | 662+03    | LEFT SHOULDER  | 48                   | -   | -                    |
| 9'JJ'+35      | -  | 9'JJ'+86  | SHOULDERS      | 5                    | -   | JOSEPH JONES RD      |
| 10'K'+14      | -  | 10'K'+78  | SHOULDERS      | 6                    | -   | KASTENSCHMIDT RD     |
| 8'E'+89       | -  | 10'E'+52  | SHOULDERS      | 12                   | -   | CTH E                |
| 10'C'+14      | -  | 10'C'+54  | SHOULDERS      | 4                    | -   | CRAIG RD             |
| 8'EE'+96      | -  | 9'EE'+86  | SHOULDERS      | 8                    | -   | CTH EE               |
| 9'N'+42       | -  | 10'N'+14  | SHOULDERS      | 4                    | -   | NIEDFELDT RD         |
| 10'G'+14      | -  | 10'G'+83  | SHOULDERS      | 6                    | -   | GARVES COULEE RD     |
| 8'JC'+50      | -  | 9'JC'+86  | SHOULDERS      | 12                   | 141 | JOHNSON COULEE RD    |
| 9'Q'+65       | -  | 9'Q'+86   | SHOULDERS      | 1                    | -   | QUALL COULEE RD      |
| 10'P'+14      | -  | 10'P'+50  | SHOULDERS      | 3                    | -   | PETTINGER HILL RD    |
| 8'T'+56       | -  | 9'T'+86   | SHOULDERS      | 12                   | -   | CTH T                |
| 9'A'+26       | -  | 9'A'+86   | SHOULDERS      | 5                    | -   | CTH A                |
| 9'SA'+39      | -  | 10'SA'+49 | SHOULDERS      | 7                    | -   | SANDCREEK RD/TRUE RD |
| 10'D'+14      | -  | 10'D'+63  | SHOULDERS      | 4                    | -   | DAKOTA AVE           |
| 9'SO'+43      | -  | 9'SO'+86  | SHOULDERS      | 4                    | -   | SOMMERS RD           |
| 9'JC'+00      | -  | -         | PE LEFT        | 20                   | -   | -                    |
| 516+77        | -  | -         | PE RIGHT       | 32                   | -   | -                    |
| UNDISTRIBUTED |    |           |                | 650                  | 15  | -                    |
| TOTAL         |    |           |                | 7164                 | 156 |                      |

| HMA PAVEMENT                                         |    |         |        |       |        |       |     |                             |
|------------------------------------------------------|----|---------|--------|-------|--------|-------|-----|-----------------------------|
| 455.0605      460.4110.S      460.5224      465.0120 |    |         |        |       |        |       |     |                             |
| TACK      REHEATING      HMA      ASPHALTIC          |    |         |        |       |        |       |     |                             |
| COAT      HMA PAVEMENT      PAVEMENT 4      SURFACE  |    |         |        |       |        |       |     |                             |
| LONGITUDINAL      LT 58-28 S      DRIVEWAYS AND      |    |         |        |       |        |       |     |                             |
| JOINTS      FIELD ENTRANCES                          |    |         |        |       |        |       |     |                             |
| STATION                                              | TO | STATION | LENGTH | GAL   | LF     | TON   | TON | REMARKS                     |
| 00+24                                                | -  | 26+90   | 2666   | 581   | 2,666  | 1,626 | 5   | STH 162                     |
| 26+90                                                | -  | 27+66   | 76     | 31    | 76     | 85    | -   | STH 162 & JOSEPH JONES RD   |
| 27+66                                                | -  | 57+32   | 2966   | 646   | 2,966  | 1,809 | -   | STH 162                     |
| 57+32                                                | -  | 58+22   | 90     | 37    | 90     | 104   | -   | STH 162 & KASTENSCHMIDT RD  |
| 58+22                                                | -  | 134+94  | 7672   | 1,671 | 7,672  | 4,678 | 2   | STH 162                     |
| 134+94                                               | -  | 136+64  | 170    | 82    | 170    | 229   | -   | STH 162 & CTH E             |
| 136+64                                               | -  | 202+20  | 6556   | 1,428 | 6,556  | 3,998 | -   | STH 162                     |
| 202+20                                               | -  | 202+93  | 73     | 28    | 73     | 78    | -   | STH 162 & CRAIG RD          |
| 202+93                                               | -  | 215+25  | 1232   | 268   | 1,232  | 751   | -   | STH 162                     |
| 215+25                                               | -  | 218+77  | 352    | 176   | 352    | 401   | -   | STH 162 & CTH EE            |
| 218+77                                               | -  | 261+11  | 4234   | 922   | 4,234  | 2,582 | -   | STH 162                     |
| 261+11                                               | -  | 261+79  | 68     | 25    | 68     | 71    | -   | STH 162 & NIEDFELDT RD      |
| 261+79                                               | -  | 276+09  | 1430   | 311   | 1,430  | 872   | -   | STH 162                     |
| 276+09                                               | -  | 277+02  | 93     | 37    | 93     | 103   | -   | STH 162 & GARVES COULEE RD  |
| 277+02                                               | -  | 314+32  | 3730   | 812   | 3,730  | 2,274 | -   | STH 162                     |
| 314+32                                               | -  | 315+06  | 74     | 49    | 74     | 136   | 16  | STH 162 & JOHNSON COULEE RD |
| 315+06                                               | -  | 347+71  | 3265   | 711   | 3,265  | 1,991 | 1   | STH 162                     |
| 347+71                                               | -  | 348+14  | 43     | 14    | 43     | 39    | -   | STH 162 & QUALL COULEE RD   |
| 348+14                                               | -  | 371+75  | 2361   | 514   | 2,361  | 1,440 | -   | STH 162                     |
| 371+75                                               | -  | 372+42  | 67     | 23    | 67     | 63    | -   | STH 162 & PETTINGER HILL RD |
| 372+42                                               | -  | 477+13  | 10471  | 2,280 | 10,471 | 6,385 | 2   | STH 162                     |
| 477+13                                               | -  | 479+02  | 189    | 108   | 189    | 303   | -   | STH 162 & CTH T             |
| 479+02                                               | -  | 550+30  | 7128   | 1,552 | 7,128  | 4,346 | -   | STH 162                     |
| 550+30                                               | -  | 551+31  | 101    | 42    | 101    | 117   | -   | STH 162 & CTH A             |
| 551+31                                               | -  | 568+33  | 1702   | 371   | 1,702  | 1,038 | 2   | STH 162                     |
| 568+33                                               | -  | 569+23  | 90     | 44    | 90     | 122   | -   | STH 162 & SANDCREEK RD      |
| 569+23                                               | -  | 625+64  | 5641   | 1,228 | 5,641  | 3,440 | 1   | STH 162                     |
| 625+64                                               | -  | 626+49  | 85     | 33    | 85     | 93    | -   | STH 162 & DAKOTA AVE        |
| 626+49                                               | -  | 650+48  | 2399   | 522   | 2,399  | 1,463 | -   | STH 162                     |
| 650+48                                               | -  | 651+37  | 89     | 32    | 89     | 89    | -   | STH 162 & SOMMERS RD        |
| 651+37                                               | -  | 661+34  | 997    | 217   | 997    | 608   | -   | STH 162                     |
| UNDISTRIBUTED                                        |    |         | -      | -     | -      | -     | 27  |                             |
| TOTAL                                                |    |         |        | 14795 | 66110  | 41334 | 56  |                             |

3

ASPHALTIC FLUMES

465.0315  
ASPHALTIC  
FLUMES

| STATION | LOCATION | SY   | REMARKS |
|---------|----------|------|---------|
| 487+10  | LT       | 7.89 | -       |
| 497+66  | RT       | 8.88 | -       |
| 516+38  | RT       | 8.88 | -       |
| TOTAL   |          | 26   |         |

RIPRAP AND GEOTEXTILE

606.0300  
RIPRAP  
HEAVY

645.0120  
GEOTEXTILE  
TYPE HR

| STATION   | CY | L(FT) | W(FT) | D(FT) | SY | REMARKS |
|-----------|----|-------|-------|-------|----|---------|
| 487+10 LT | 7  | 8     | 12    | 2     | 11 | FLUME   |
| 497+66 RT | 7  | 8     | 11    | 2     | 10 | FLUME   |
| 516+38 RT | 7  | 8     | 11    | 2     | 10 | FLUME   |
| TOTAL     |    | 21    |       |       | 31 |         |

3

CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J

601.0576

CONCRETE CURB &  
GUTTER 4-INCH SLOPED  
30-INCH TYPE J

| STATION | TO | STATION | LOCATION | LF   | REMARKS |
|---------|----|---------|----------|------|---------|
| 479+62  | -  | 487+10  | LT       | 748  | -       |
| 489+89  | -  | 497+66  | RT       | 777  | -       |
| 514+10  | -  | 516+38  | RT       | 228  | -       |
| TOTAL   |    |         |          | 1753 |         |

MGS GUARDRAIL

204.0165

614.2300

614.2330

614.2610

614.8010

SPV.0070.01

REMOVING  
GUARDRAIL

MGS  
GUARDRAIL  
3

MGS  
GUARDRAIL  
3K

MGS  
GUARDRAIL  
TERMINAL EAT

ANCHOR POST  
ASSEMBLY TOP  
MOUNT

SPRAYED  
ASPHALTIC  
SHOULDER  
TREATMENT

| STATION | TO | STATION | LOCATION | LF   | LF   | LF    | EACH | EACH | GAL | REMARKS     |
|---------|----|---------|----------|------|------|-------|------|------|-----|-------------|
| 298+05  | -  | 300+48  | 15' RT   | -    | -    | 135   | 2    | 8    | -   | STEEL POSTS |
| 298+95  | -  | 301+13  | 15' LT   | -    | -    | 110   | 2    | 8    | -   | STEEL POSTS |
| 428+20  | -  | 429+76  | 14' RT   | -    | -    | 48    | 2    | 6    | -   | STEEL POSTS |
| 440+00  | -  | 460+31  | 16' RT   | -    | -    | 1,923 | 2    | -    | 257 | -           |
| 479+79  | -  | 487+10  | 18' LT   | -    | 623  | -     | 2    | -    | -   | -           |
| 489+50  | -  | 492+31  | 16' LT   | -    | -    | 173   | 2    | -    | 23  | -           |
| 490+10  | -  | 497+66  | 16' RT   | -    | 648  | -     | 2    | -    | -   | -           |
| 514+32  | -  | 516+38  | 14' RT   | -    | -    | 98    | 2    | -    | -   | -           |
| 515+75  | -  | 518+30  | 14' LT   | -    | -    | 147   | 2    | -    | 20  | -           |
| 298+05  | -  | 300+48  | RT       | 137  | -    | -     | -    | -    | -   | -           |
| 298+95  | -  | 301+13  | LT       | 112  | -    | -     | -    | -    | -   | -           |
| 439+95  | -  | 460+30  | RT       | 2039 | -    | -     | -    | -    | -   | -           |
| 479+85  | -  | 487+10  | LT       | 725  | -    | -     | -    | -    | -   | -           |
| 489+55  | -  | 492+30  | LT       | 278  | -    | -     | -    | -    | -   | -           |
| 490+15  | -  | 497+50  | RT       | 740  | -    | -     | -    | -    | -   | -           |
| 514+40  | -  | 516+35  | RT       | 178  | -    | -     | -    | -    | -   | -           |
| 515+85  | -  | 518+25  | LT       | 242  | -    | -     | -    | -    | -   | -           |
| TOTAL   |    |         |          | 4451 | 1271 | 2634  | 18   | 22   | 300 |             |

| WATER         |    |         |          |      |                         |
|---------------|----|---------|----------|------|-------------------------|
| 624.0100      |    |         |          |      |                         |
| WATER         |    |         |          |      |                         |
| STATION       | TO | STATION | LOCATION | MGAL | REMARKS                 |
| 0+24          | -  | 661+34  | STH 162  | 662  | MILL & RELAY COMPACTION |
| 0+24          | -  | 661+34  | STH 162  | 331  | DUST CONTROL            |
| UNDISTRIBUTED |    |         | -        | 200  | -                       |
| TOTAL         |    |         |          | 1193 |                         |

| EROSION CONTROL |            |          |            |                        |                               |                                         |                            |           |                   |                        |                        |                   |    |                   |
|-----------------|------------|----------|------------|------------------------|-------------------------------|-----------------------------------------|----------------------------|-----------|-------------------|------------------------|------------------------|-------------------|----|-------------------|
|                 |            | 627.0200 | 628.1504   | 628.1520               | 628.1905                      | 628.1910                                | 628.2004                   | 628.7570  | 629.0210          | 630.0120               | 630.0140               | 630.0200          |    |                   |
|                 |            | MULCHING | SILT FENCE | SILT FENCE MAINTENANCE | MOBILIZATIONS EROSION CONTROL | MOBILIZATIONS EMERGENCY EROSION CONTROL | EROSION MAT CLASS I TYPE B | ROCK BAGS | FERTILIZER TYPE B | SEEDING MIXTURE NO. 20 | SEEDING MIXTURE NO. 40 | SEEDING TEMPORARY |    |                   |
| STATION TO      | STATION    | LOCATION | SY         | LF                     | LF                            | EACH                                    | EACH                       | SY        | EACH              | CWT                    | LB                     | LB                | LB | REMARKS           |
| 299+12          | - 300+00   | RT       | -          | 58                     | 58                            | -                                       | -                          | 21        | 34                | 0.1                    | 1                      | -                 | 1  | B-32-120          |
| 299+15          | - 300+10   | LT       | -          | 59                     | 59                            | -                                       | -                          | 60        | 34                | 0.1                    | 1                      | -                 | 2  | B-32-120          |
| 428+51          | - 429+35   | RT       | -          | 61                     | 61                            | -                                       | -                          | 27        | 34                | 0.1                    | 1                      | -                 | 1  | C-32-087          |
| 487+12          | - 487+44   | LT       | -          | 42                     | 42                            | -                                       | -                          | 30        | 17                | 0.1                    | 1                      | -                 | 1  | ASPHALTIC FLUME   |
| 497+61          | - 497+82   | RT       | -          | 43                     | 43                            | -                                       | -                          | 28        | 17                | 0.1                    | 1                      | -                 | 1  | ASPHALTIC FLUME   |
| 516+09          | 516+64     | RT       | -          | 36                     | 36                            | -                                       | -                          | 46        | 17                | 0.1                    | 1                      | -                 | 1  | ASPHALTIC FLUME   |
| 516+43          | 516+92     | RT       | -          | 57                     | 57                            | -                                       | -                          | 68        | -                 | 0.1                    | 1                      | -                 | 2  | STH 162           |
| 8'JC'+50        | - 9'JC'+75 | RT       | -          | 124                    | 124                           | -                                       | -                          | 342       | 17                | 0.3                    | 9                      | -                 | 9  | JOHNSON COULEE RD |
| 8'JC'+50        | - 8'JC'+86 | LT       | 75         | 36                     | 36                            | -                                       | -                          | -         | 17                | 0.1                    | -                      | 2                 | 3  | JOHNSON COULEE RD |
| 9'JC'+03        | - 9'JC'+77 | LT       | 345        | 122                    | 122                           | -                                       | -                          | -         | 17                | 0.3                    | -                      | 7                 | 11 | JOHNSON COULEE RD |
| PROJECT         |            | -        | -          | -                      | -                             | 2                                       | 1                          | -         | -                 | -                      | -                      | -                 | -  | -                 |
| UNDISTRIBUTED   |            |          | 130        | 184                    | 184                           | -                                       | -                          | 160       | 51                | 0.4                    | 6                      | 3                 | 8  |                   |
| TOTAL           |            |          | 550        | 822                    | 822                           | 2                                       | 1                          | 782       | 255               | 1.8                    | 22                     | 12                | 40 |                   |

| MARKERS CULVERT END |    |         |          |      |         |
|---------------------|----|---------|----------|------|---------|
| 633.5200            |    |         |          |      |         |
| MARKERS CULVERT END |    |         |          |      |         |
| STATION             | TO | STATION | LOCATION | EACH | REMARKS |
| 23+50               |    | -       | LT       | 1    | -       |
| 199+25              |    | -       | RT       | 1    | -       |
| 262+25              |    | -       | LT       | 1    | -       |
| 273+50              |    | -       | RT       | 1    | -       |
| 369+75              |    | -       | LT       | 1    | -       |
| 383+25              |    | -       | LT       | 1    | -       |
| 435+75              |    | -       | LT       | 1    | -       |
| 473+25              |    | -       | RT       | 1    | -       |
| 482+00              |    | -       | RT       | 1    | -       |
| 509+25              |    | -       | LT       | 1    | -       |
| 540+50              |    | -       | RT       | 1    | -       |
| 655+00              |    | -       | RT & LT  | 2    | -       |
| TOTAL               |    |         |          | 13   |         |



SIGNING

|               |         |          |       |         |                      |         |      |      |      |      |      |                  | 634.0614         | 634.0616         | 637.2230      | 638.2602      | 638.3000   |  |  |
|---------------|---------|----------|-------|---------|----------------------|---------|------|------|------|------|------|------------------|------------------|------------------|---------------|---------------|------------|--|--|
|               |         |          |       |         |                      |         |      |      |      |      |      |                  | POSTS WOOD       | POSTS WOOD       | SIGNS TYPE II | REMOVING      | REMOVING   |  |  |
|               |         |          |       |         |                      |         |      |      |      |      |      |                  | 4X6-INCH X 14-FT | 4X6-INCH X 16-FT | REFLECTIVE F  | SIGNS TYPE II | SMALL SIGN |  |  |
|               |         |          |       |         |                      |         |      |      |      |      |      |                  |                  |                  |               |               | SUPPORTS   |  |  |
| SIGN          | STATION | LOCATION | SIGN  | SIZE    | DESCRIPTION          | MESSAGE | EACH | EACH | SF   | EACH | EACH | REMARKS          |                  |                  |               |               |            |  |  |
| NUMBER        |         |          | CODE  |         |                      |         |      |      |      |      |      |                  |                  |                  |               |               |            |  |  |
| 1-1R          | 140+00  | RT       | W1-2L | 30 X 30 | LEFT CURVE           | -       | -    | -    | -    | 1    | 1    | -                |                  |                  |               |               |            |  |  |
| -             | -       | -        | W13-1 | 18 X 18 | ADVISORY SPEED PLATE | 50      | -    | -    | -    | 1    | -    | -                |                  |                  |               |               |            |  |  |
| 1-2           | 145+75  | RT       | W1-2L | 30 X 30 | LEFT CURVE           | -       | -    | 1    | 6.25 | -    | -    | -                |                  |                  |               |               |            |  |  |
| -             | -       | -        | W13-1 | 18 X 18 | ADVISORY SPEED PLATE | 50      | -    | -    | 2.25 | -    | -    | -                |                  |                  |               |               |            |  |  |
| 1-3           | 147+75  | RT       | W1-8  | 18 X 24 | CHEVRON              | -       | 1    | -    | 3.00 | -    | -    | -                |                  |                  |               |               |            |  |  |
| 1-4           | 147+75  | RT       | W1-8  | 18 X 24 | CHEVRON              | -       | 1    | -    | 3.00 | -    | -    | SAME POST AS 1-3 |                  |                  |               |               |            |  |  |
| 1-5           | 149+35  | RT       | W1-8  | 18 X 24 | CHEVRON              | -       | 1    | -    | 3.00 | -    | -    | -                |                  |                  |               |               |            |  |  |
| 1-6           | 149+35  | RT       | W1-8  | 18 X 24 | CHEVRON              | -       | 1    | -    | 3.00 | -    | -    | SAME POST AS 1-5 |                  |                  |               |               |            |  |  |
| 1-7           | 150+95  | RT       | W1-8  | 18 X 24 | CHEVRON              | -       | 1    | -    | 3.00 | -    | -    | -                |                  |                  |               |               |            |  |  |
| 1-8           | 150+95  | RT       | W1-8  | 18 X 24 | CHEVRON              | -       | 1    | -    | 3.00 | -    | -    | SAME POST AS 1-7 |                  |                  |               |               |            |  |  |
| 1-9           | 152+55  | RT       | W1-8  | 18 X 24 | CHEVRON              | -       | 1    | -    | 3.00 | -    | -    | -                |                  |                  |               |               |            |  |  |
| 1-10          | 152+55  | RT       | W1-8  | 18 X 24 | CHEVRON              | -       | 1    | -    | 3.00 | -    | -    | SAME POST AS 1-9 |                  |                  |               |               |            |  |  |
| PROJECT TOTAL |         |          |       |         |                      |         | 8    | 1    | 9    | 2    | 1    |                  |                  |                  |               |               |            |  |  |

TRAFFIC CONTROL

|                           |            |         |          |     |      |      |      |       |      |      |      |      |        |      |        |     |      |  | 643.0300 | 643.0420   | 643.0705 | 643.0900 | 643.0910 | 643.0920 | 643.1050 |
|---------------------------|------------|---------|----------|-----|------|------|------|-------|------|------|------|------|--------|------|--------|-----|------|--|----------|------------|----------|----------|----------|----------|----------|
|                           |            |         |          |     |      |      |      |       |      |      |      |      |        |      |        |     |      |  | TRAFFIC  | TRAFFIC    | TRAFFIC  | TRAFFIC  | TRAFFIC  | TRAFFIC  | TRAFFIC  |
|                           |            |         |          |     |      |      |      |       |      |      |      |      |        |      |        |     |      |  | CONTROL  | CONTROL    | CONTROL  | CONTROL  | CONTROL  | CONTROL  | CONTROL  |
|                           |            |         |          |     |      |      |      |       |      |      |      |      |        |      |        |     |      |  | DRUMS    | BARRICADES | WARNING  | SIGNS    | COVERING | COVERING | SIGNS    |
|                           |            |         |          |     |      |      |      |       |      |      |      |      |        |      |        |     |      |  | TYPE III | LIGHTS     | TYPE A   | TYPE I   | TYPE II  | TYPE II  | PCMS     |
| PURPOSE                   | STATION TO | STATION | LOCATION | DAY | EACH | DAY  | EACH | DAY   | EACH | DAY  | EACH | EACH | Cycles | EACH | Cycles | DAY | EACH |  |          |            |          |          |          |          |          |
| DETOUR                    | -          | -       | -        | -   | -    | 252  | 4    | -     | -    | 5733 | 91   | 4    | 1      | 8    | 1      | 14  | 2    |  |          |            |          |          |          |          |          |
| GUARDRAIL REMOVAL         | 292+35     | -       | 302+48   | RT  | 392  | 14   | -    | -     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| GUARDRAIL REMOVAL         | 296+95     | -       | 306+83   | LT  | 392  | 14   | -    | -     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| GUARDRAIL REMOVAL         | 434+25     | -       | 462+30   | RT  | 924  | 33   | -    | -     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| GUARDRAIL REMOVAL         | 477+85     | -       | 492+80   | LT  | 560  | 20   | -    | -     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| GUARDRAIL REMOVAL         | 487+55     | -       | 498+00   | LT  | 420  | 15   | -    | -     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| GUARDRAIL REMOVAL         | 484+45     | -       | 499+50   | RT  | 560  | 20   | -    | -     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| GUARDRAIL REMOVAL         | 508+70     | -       | 518+35   | RT  | 392  | 14   | -    | -     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| GUARDRAIL REMOVAL         | 513+85     | -       | 523+95   | LT  | 420  | 15   | -    | -     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| SHOULDER CLOSURE          | -          | -       | -        | -   | -    | -    | -    | -     | -    | 672  | 24   | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| ADVANCE NOTIFICATION      | -          | -       | -        | -   | -    | -    | -    | -     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| ADVANCE WARNING           | -          | -       | -        | -   | -    | -    | -    | -     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| FLAGGING CREW 1           | -          | -       | -        | -   | -    | -    | -    | -     | -    | 270  | 6    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| FLAGGING CREW 2           | -          | -       | -        | -   | -    | -    | -    | -     | -    | 270  | 6    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| STH 162 SIDEROAD CLOSURES | -          | -       | -        | -   | -    | 2016 | 32   | 2880  | 64   | 4800 | 96   | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| B-32-120                  | 299+00     | -       | 300+20   | -   | 105  | 15   | 14   | 2     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| C-32-87                   | 428+20     | -       | 429+76   | -   | 70   | 10   | 14   | 2     | -    | -    | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| UNDISTRIBUTED             | -          | -       | -        | -   | 200  | 20   | -    | -     | -    | 50   | -    | -    | -      | -    | -      | -   | -    |  |          |            |          |          |          |          |          |
| TOTAL                     |            |         |          |     | 4435 | 2316 | 2880 | 11795 | 4    | 8    | 14   |      |        |      |        |     |      |  |          |            |          |          |          |          |          |

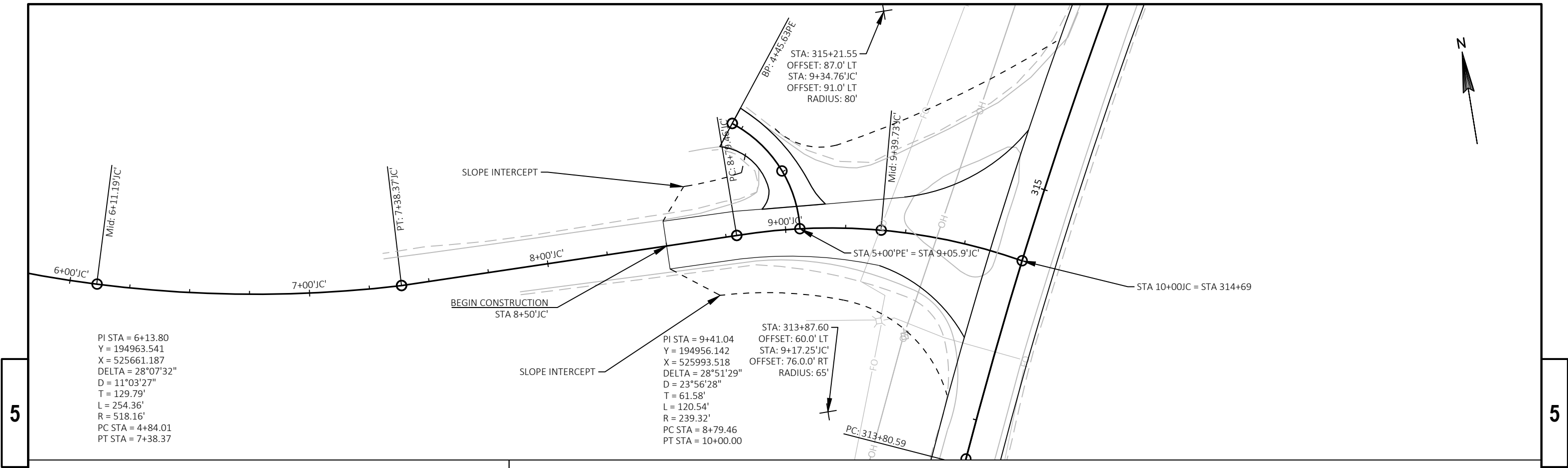


| PAVEMENT MARKING                         |    |         |             |                                                                 |      |                                                   |                                                                    |      |         |
|------------------------------------------|----|---------|-------------|-----------------------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------|------|---------|
| 646.1020<br>MARKING LINE<br>EPOXY 4-INCH |    |         |             | 646.1040<br>MARKING LINE GROOVED WET<br>REFLECTIVE EPOXY 4-INCH |      | 646.6020<br>MARKING STOP<br>LINE EPOXY<br>12-INCH | 649.0770<br>TEMPORARY MARKING<br>RAISED PAVEMENT MARKER<br>TYPE II |      |         |
|                                          |    | YELLOW  |             | YELLOW<br>12.5'                                                 |      | WHITE                                             |                                                                    |      |         |
| STATION                                  | TO | STATION | LENGTH (FT) | LF                                                              | LF   | LF                                                | LF                                                                 | EACH | REMARKS |
| 0+24                                     | -  | 17+00   | 1676        | 3352                                                            | -    | 3352                                              | -                                                                  | 34   | -       |
| 17+00                                    | -  | 27+50   | 1050        | 1050                                                            | 263  | 2050                                              | -                                                                  | 21   | -       |
| 27+50                                    | -  | 77+70   | 5020        | -                                                               | 1255 | 9990                                              | -                                                                  | 100  | -       |
| 77+70                                    | -  | 85+60   | 790         | 790                                                             | 198  | 1580                                              | -                                                                  | 16   | -       |
| 85+60                                    | -  | 104+50  | 1890        | -                                                               | 473  | 3780                                              | -                                                                  | 38   | -       |
| 104+50                                   | -  | 143+80  | 3930        | 3930                                                            | 983  | 4130                                              | -                                                                  | 79   | -       |
| 143+80                                   | -  | 150+00  | 620         | 1240                                                            | -    | 1240                                              | -                                                                  | 12   | -       |
| 150+00                                   | -  | 161+20  | 1120        | 1120                                                            | 280  | 2240                                              | -                                                                  | 22   | -       |
| 161+20                                   | -  | 186+10  | 2490        | -                                                               | 623  | 4980                                              | -                                                                  | 50   | -       |
| 186+10                                   | -  | 196+20  | 1010        | 1010                                                            | 253  | 2020                                              | -                                                                  | 20   | -       |
| 196+20                                   | -  | 240+10  | 4390        | 8780                                                            | -    | 8780                                              | -                                                                  | 88   | -       |
| 240+10                                   | -  | 246+25  | 615         | 615                                                             | 154  | 1230                                              | -                                                                  | 12   | -       |
| 246+25                                   | -  | 248+20  | 195         | 390                                                             | -    | 390                                               | -                                                                  | 4    | -       |
| 248+20                                   | -  | 256+10  | 790         | 790                                                             | 198  | 1580                                              | -                                                                  | 16   | -       |
| 256+10                                   | -  | 278+00  | 2190        | 4380                                                            | -    | 4380                                              | -                                                                  | 44   | -       |
| 278+00                                   | -  | 289+20  | 1120        | 1120                                                            | 280  | 2240                                              | -                                                                  | 22   | -       |
| 289+20                                   | -  | 292+10  | 290         | -                                                               | 73   | 580                                               | -                                                                  | 6    | -       |
| 292+10                                   | -  | 300+60  | 850         | 850                                                             | 213  | 1700                                              | -                                                                  | 17   | -       |
| 300+60                                   | -  | 392+50  | 9190        | 18380                                                           | -    | 18380                                             | -                                                                  | 184  | -       |
| 392+50                                   | -  | 415+10  | 2260        | 2260                                                            | 565  | 4520                                              | -                                                                  | 45   | -       |
| 415+10                                   | -  | 592+10  | 17700       | 35400                                                           | -    | 35400                                             | -                                                                  | 354  | -       |
| 592+10                                   | -  | 603+00  | 1090        | 1090                                                            | 273  | 2180                                              | -                                                                  | 22   | -       |
| 603+00                                   | -  | 629+10  | 2610        | -                                                               | 653  | 5220                                              | -                                                                  | 52   | -       |
| 629+10                                   | -  | 650+00  | 2090        | 2090                                                            | 523  | 4180                                              | -                                                                  | 42   | -       |
| 650+00                                   | -  | 656+00  | 600         | -                                                               | 150  | 1200                                              | -                                                                  | 12   | -       |
| 656+00                                   | -  | 661+34  | 534         | 534                                                             | 134  | 1068                                              | -                                                                  | 11   | -       |
| 0+42                                     | -  | -       | -           | -                                                               | -    | -                                                 | 28                                                                 | -    | -       |
| 661+51                                   | -  | -       | -           | -                                                               | -    | -                                                 | 24                                                                 | -    | -       |
| TOTAL                                    |    |         |             | 96715                                                           |      | 128390                                            | 52                                                                 | 1323 |         |

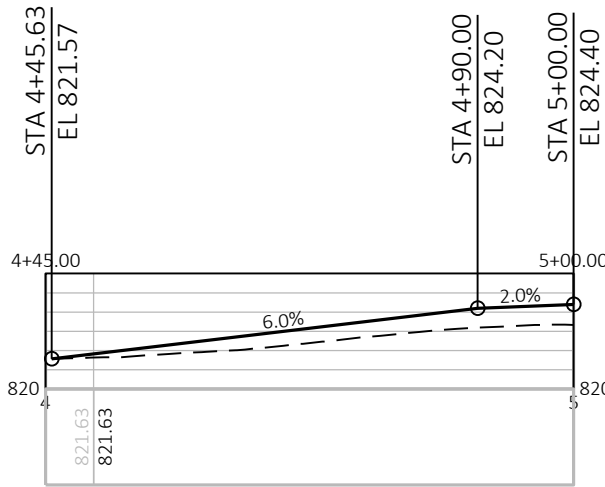
| LOCATING NO-PASSING ZONES                |    |          |       |                                                |
|------------------------------------------|----|----------|-------|------------------------------------------------|
| 648.0100<br>LOCATING NO-PASSING<br>ZONES |    |          |       |                                                |
| STATION                                  | TO | LOCATION | MI    | REMARKS                                        |
| 0+24                                     | -  | 661+34   | 12.52 | SPOTTING SIGHT DISTANCE 0.21 MILES (1108 FEET) |
| TOTAL                                    |    |          | 12.52 |                                                |

| CONSTRUCTION STAKING |    |                              |                                                             |                                                     |                                                              |                                         |     |
|----------------------|----|------------------------------|-------------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------|-----------------------------------------|-----|
|                      |    | 650.5000                     | 650.5500                                                    | 650.8000                                            | 650.9910                                                     | 650.9920                                |     |
|                      |    | CONSTRUCTION<br>STAKING BASE | CONSTRUCTION<br>STAKING CURB<br>GUTTER AND<br>CURB & GUTTER | CONSTRUCTION<br>STAKING<br>RESURFACING<br>REFERENCE | CONSTRUCTION STAKING<br>SUPPLEMENTAL CONTROL<br>(7925-02-61) | CONSTRUCTION<br>STAKING SLOPE<br>STAKES |     |
| STATION              | TO | STATION                      | LF                                                          | LF                                                  | LF                                                           | LS                                      | LF  |
| 0+24                 | -  | 661+34                       | -                                                           | 1753                                                | 66120                                                        | 1                                       | -   |
| 8'JC'+50             | -  | 9'JC'+89                     | 139                                                         | -                                                   | -                                                            | -                                       | 139 |
| TOTAL                |    |                              | 139                                                         | 1753                                                | 66120                                                        | 1                                       | 139 |
| REMARKS              |    |                              |                                                             |                                                     |                                                              |                                         |     |
| PROJECT              |    |                              |                                                             |                                                     |                                                              |                                         |     |
| JOHNSON COULEE RD    |    |                              |                                                             |                                                     |                                                              |                                         |     |

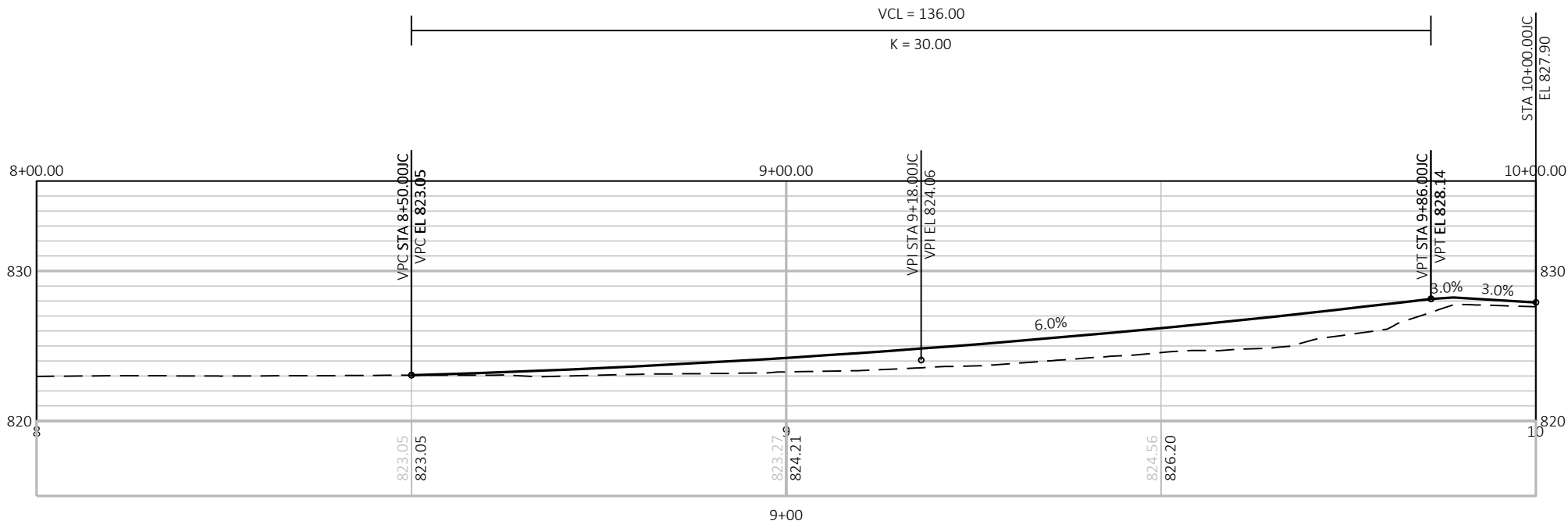
| SAWING ASPHALT |    |         |     |                     |
|----------------|----|---------|-----|---------------------|
| 690.0150       |    |         |     |                     |
| SAWING ASPHALT |    |         |     |                     |
| STATION        | TO | STATION | LF  | REMARKS             |
| 0+24           | -  | -       | 139 | STH 162             |
| 9'JJ'+35       | -  | -       | 20  | JOSEPH JONES ROAD   |
| 10'K'+78       | -  | -       | 20  | KASTENSCHMIDT ROAD  |
| 8'E'+89        | -  | -       | 22  | CTH E               |
| 10'E'+52       | -  | -       | 22  | CTH E               |
| 10'C'+54       | -  | -       | 20  | CRAIG ROAD          |
| 8'EE'+96       | -  | -       | 22  | CTH EE              |
| 9'N'+42        | -  | -       | 20  | NIEDFELDT ROAD      |
| 10'G'+83       | -  | -       | 20  | GARVES COULEE ROAD  |
| 8'JC'+50       | -  | -       | 20  | JOHNSON COULEE ROAD |
| 9'JC'+00       | -  | -       | 12  | PRIVATE DRIVEWAY    |
| 9'Q'+65        | -  | -       | 20  | QUALL COULEE ROAD   |
| 10'P'+50       | -  | -       | 20  | PETTINGER HILL ROAD |
| 8'T'+56        | -  | -       | 30  | CTH T               |
| 9'A'+26        | -  | -       | 22  | CTH A               |
| 9'SO'+39       | -  | -       | 20  | SANDCREEK ROAD      |
| 10'SO'+49      | -  | -       | 20  | TRUE ROAD           |
| 10'D'+63       | -  | -       | 20  | DAKOTA AVE          |
| 9'SO'+43       | -  | -       | 20  | SOMMERS ROAD        |
| 661+34         | -  | -       | 33  | STH 162             |
| TOTAL          |    |         | 542 |                     |



PROFILE - PRIVATE DRIVEWAY



PROFILE - JOHNSON COULEE RD

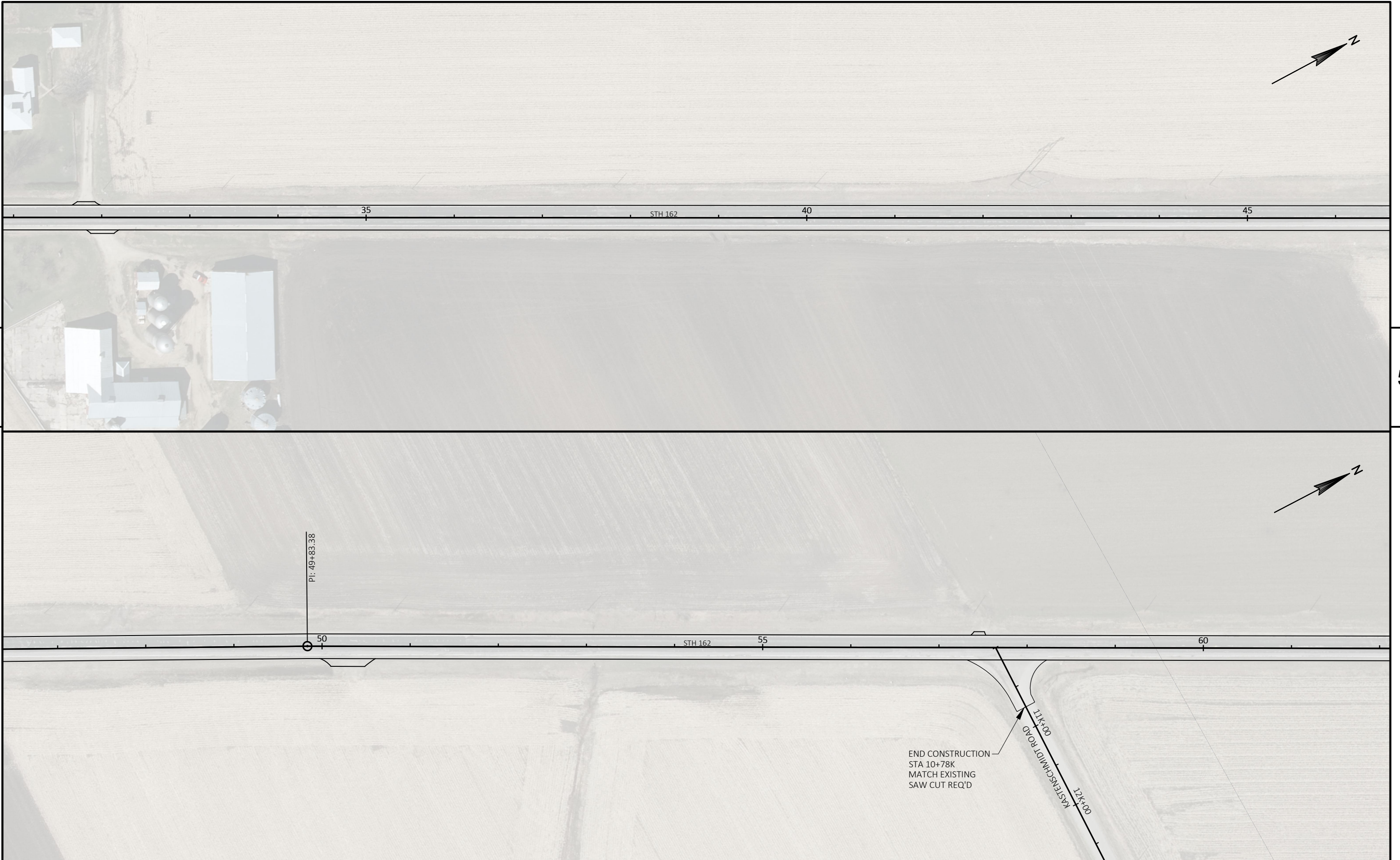






|                        |              |                            |             |          |   |
|------------------------|--------------|----------------------------|-------------|----------|---|
| PROJECT NO: 7925-02-61 | HWY: STH 162 | COUNTY: LA CROSSE & MONROE | PLAN SHEETS | SHEET 49 | E |
|------------------------|--------------|----------------------------|-------------|----------|---|





|                        |              |                            |             |          |   |
|------------------------|--------------|----------------------------|-------------|----------|---|
| PROJECT NO: 7925-02-61 | HWY: STH 162 | COUNTY: LA CROSSE & MONROE | PLAN SHEETS | SHEET 50 | E |
|------------------------|--------------|----------------------------|-------------|----------|---|

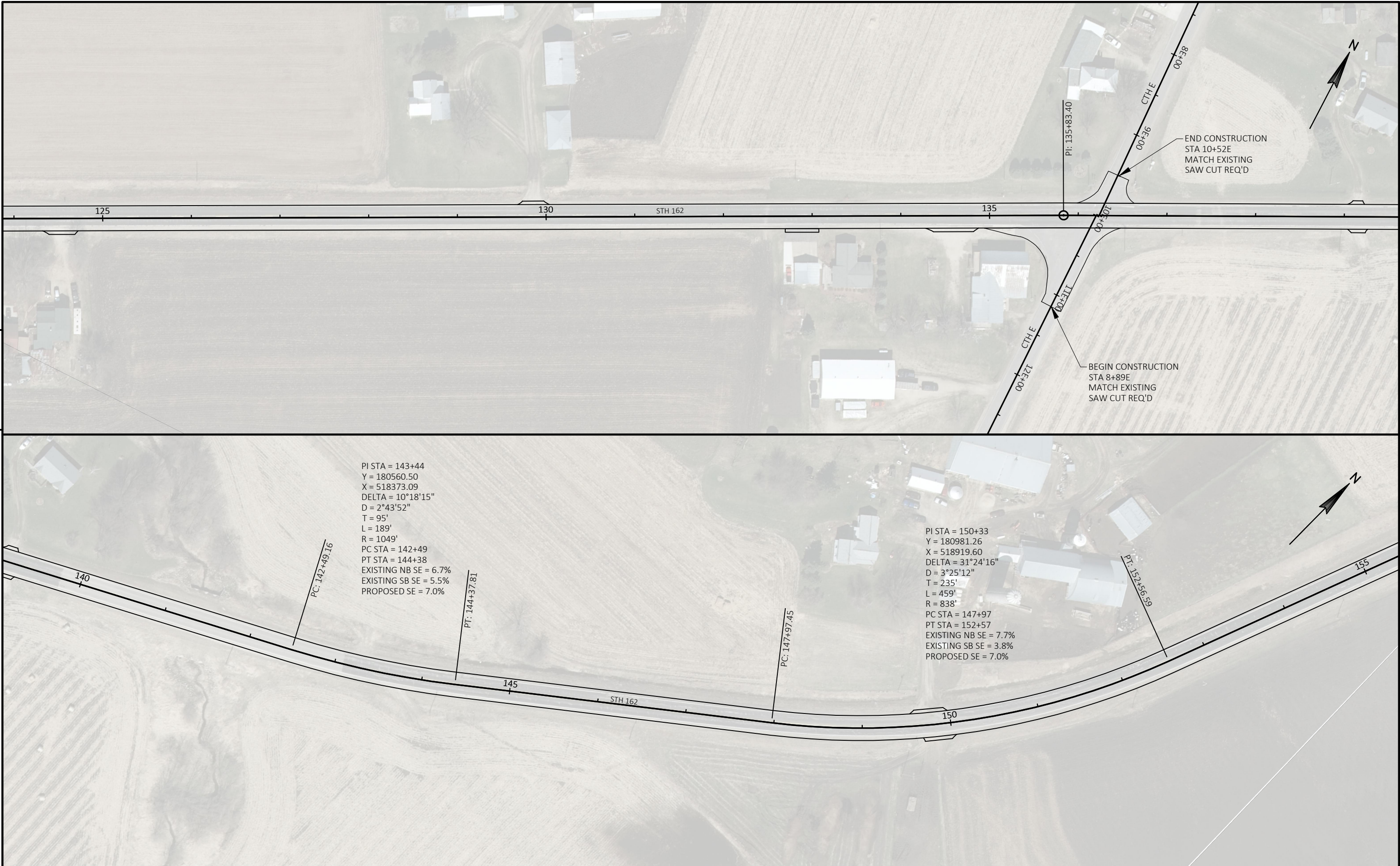




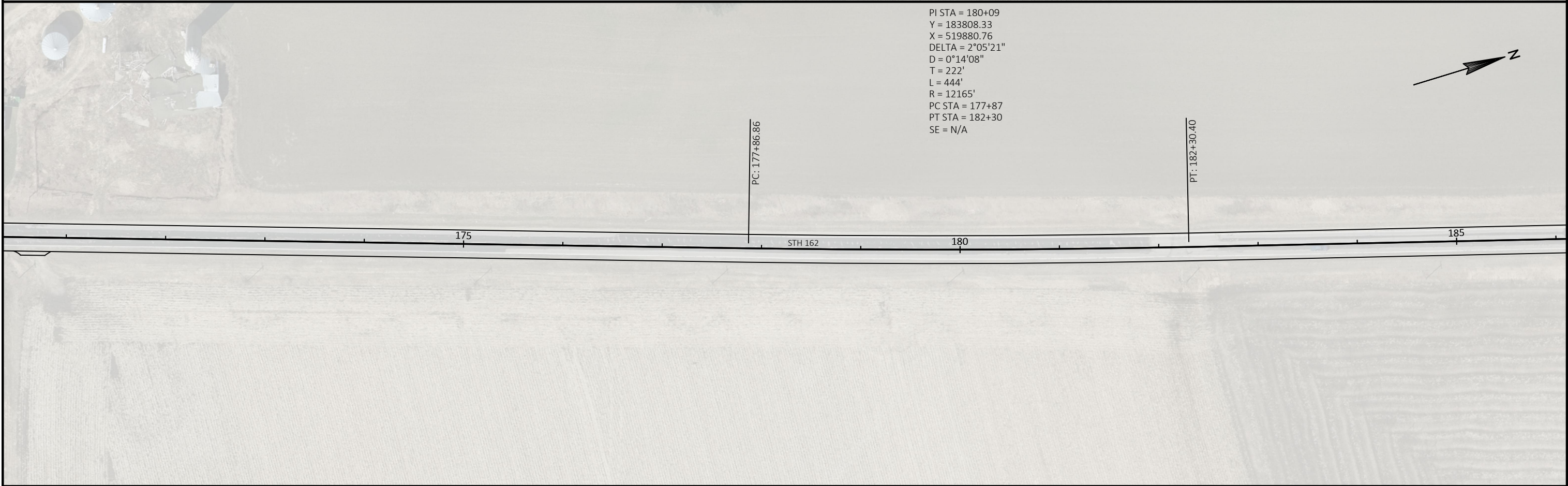
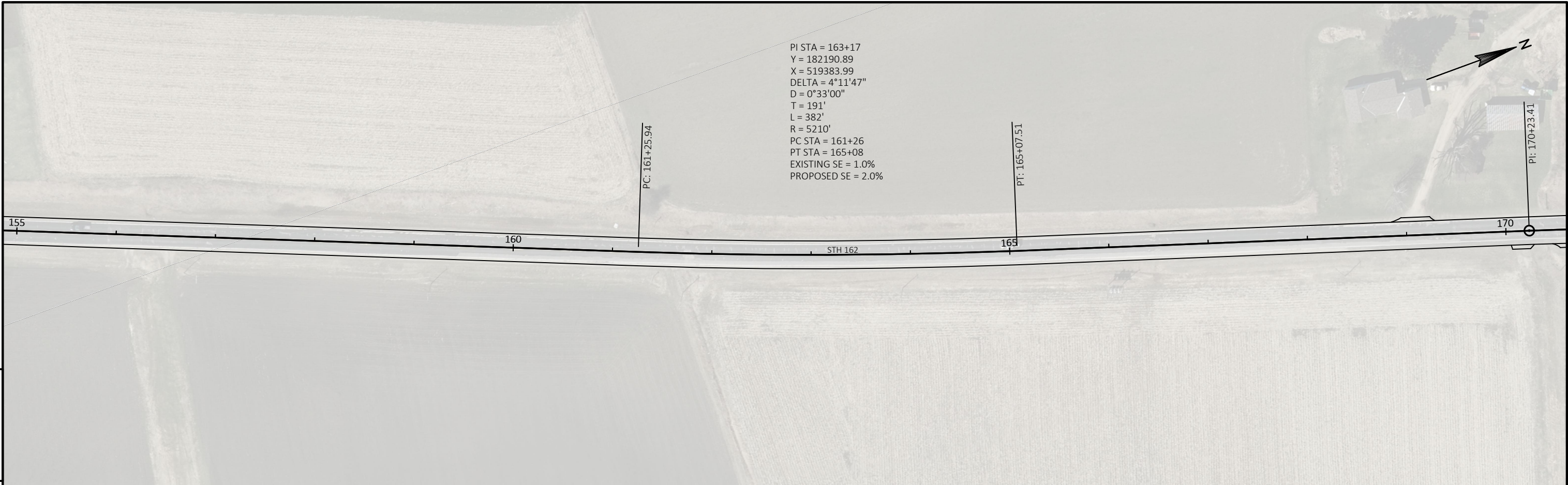










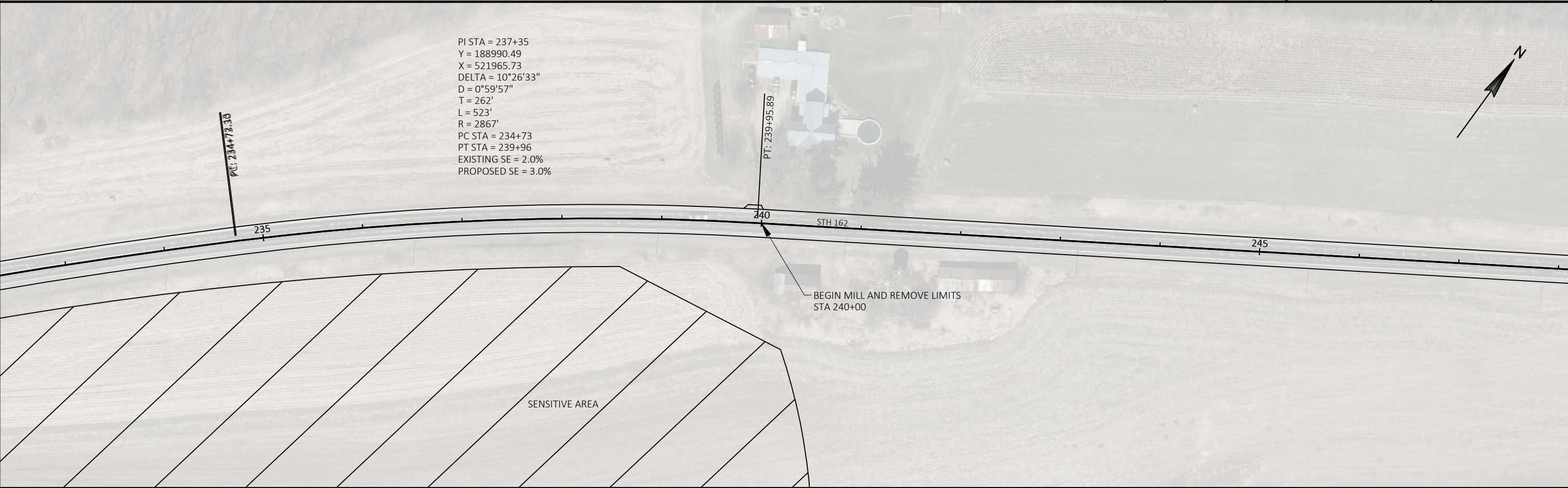
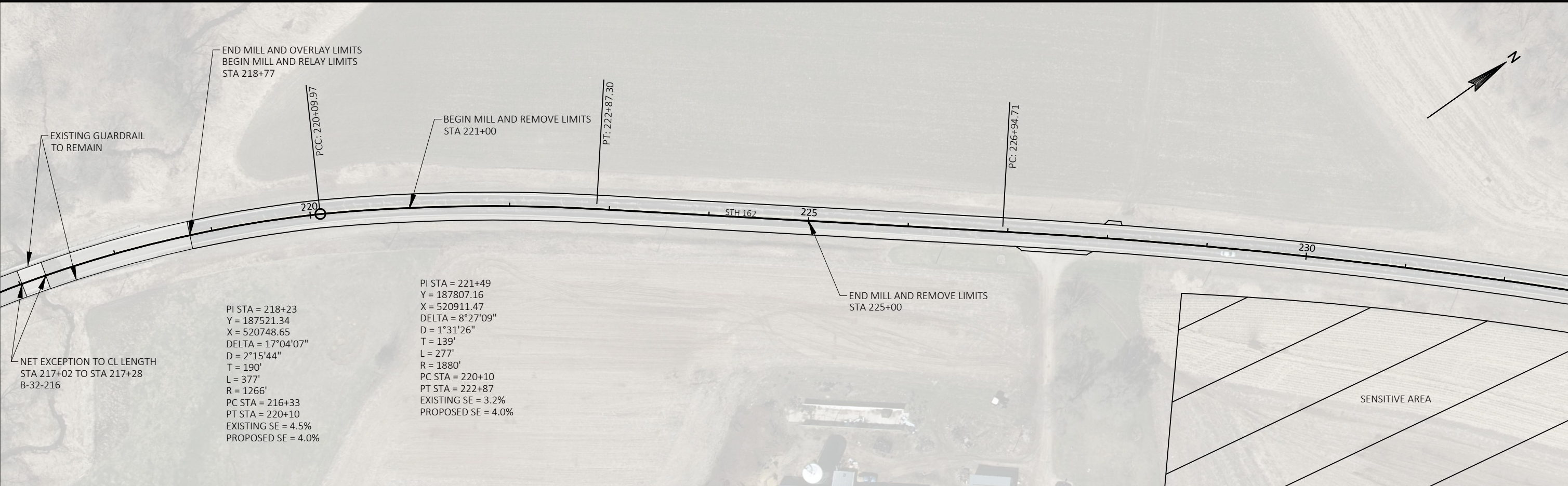




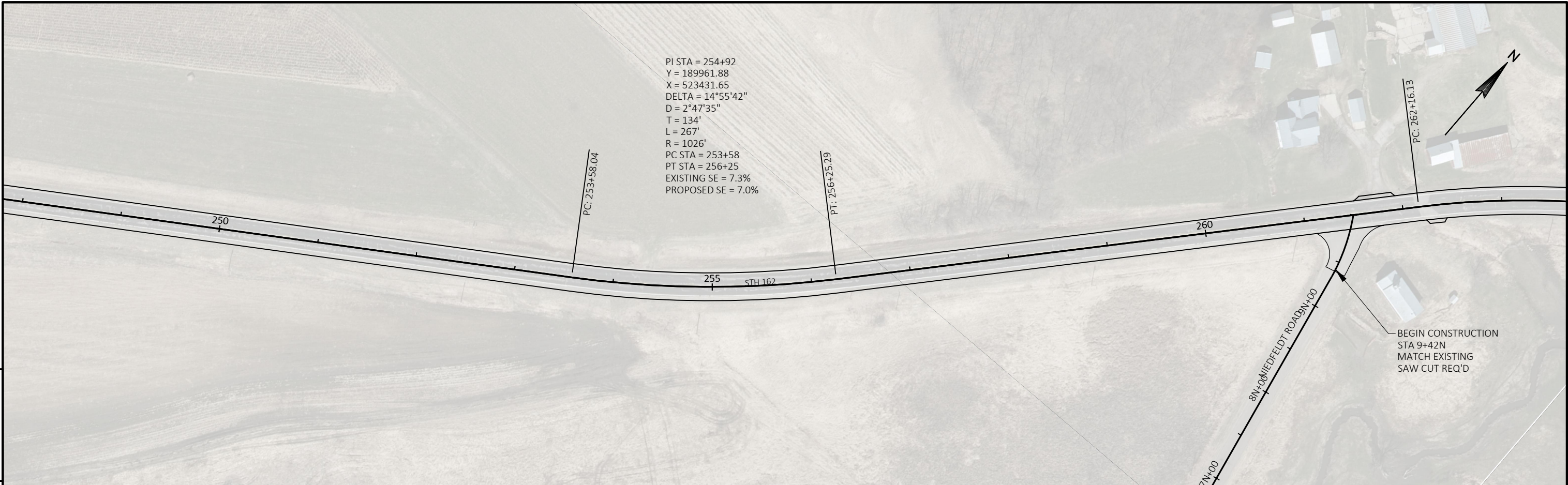


|                        |              |                            |             |          |   |
|------------------------|--------------|----------------------------|-------------|----------|---|
| PROJECT NO: 7925-02-61 | HWY: STH 162 | COUNTY: LA CROSSE & MONROE | PLAN SHEETS | SHEET 55 | E |
|------------------------|--------------|----------------------------|-------------|----------|---|

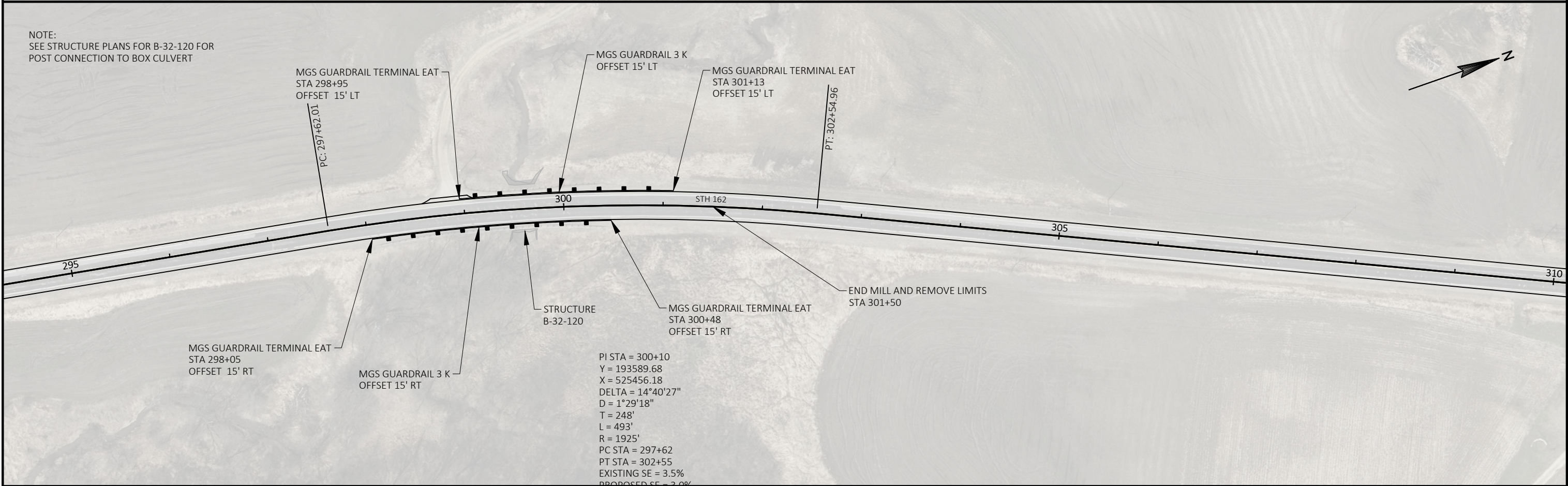




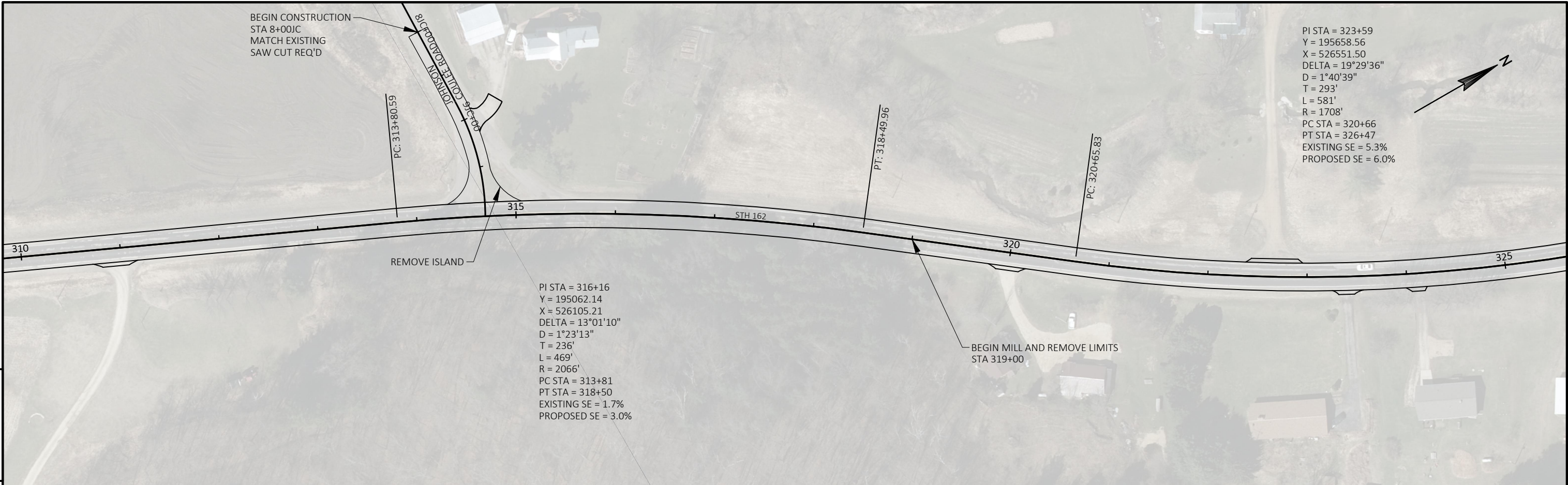




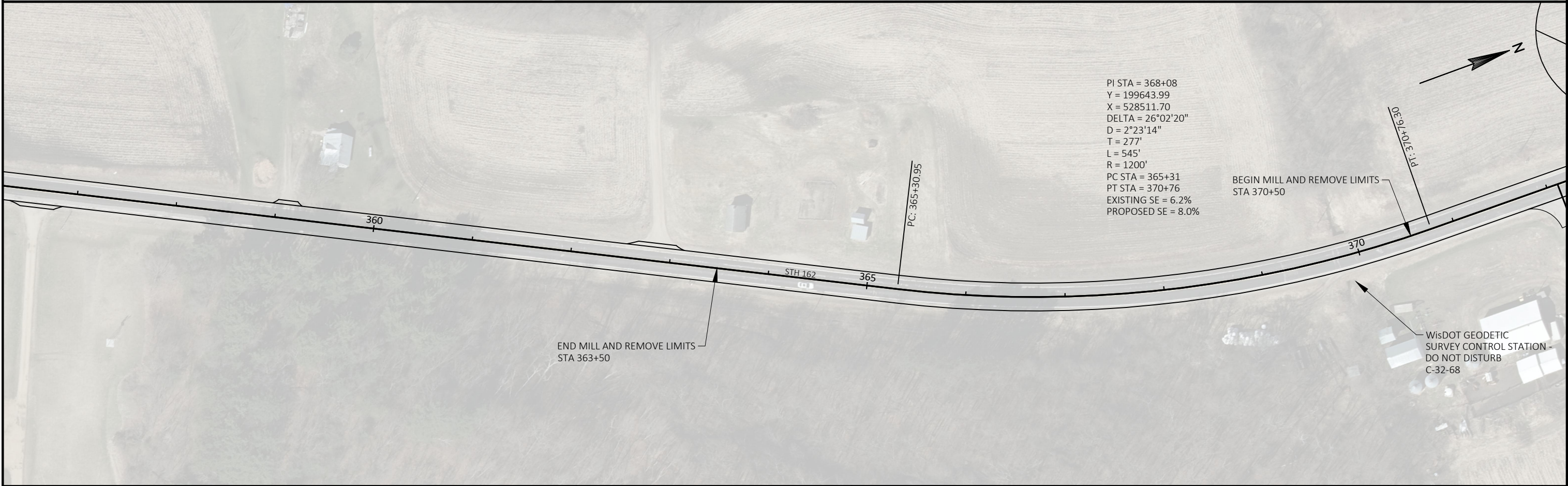
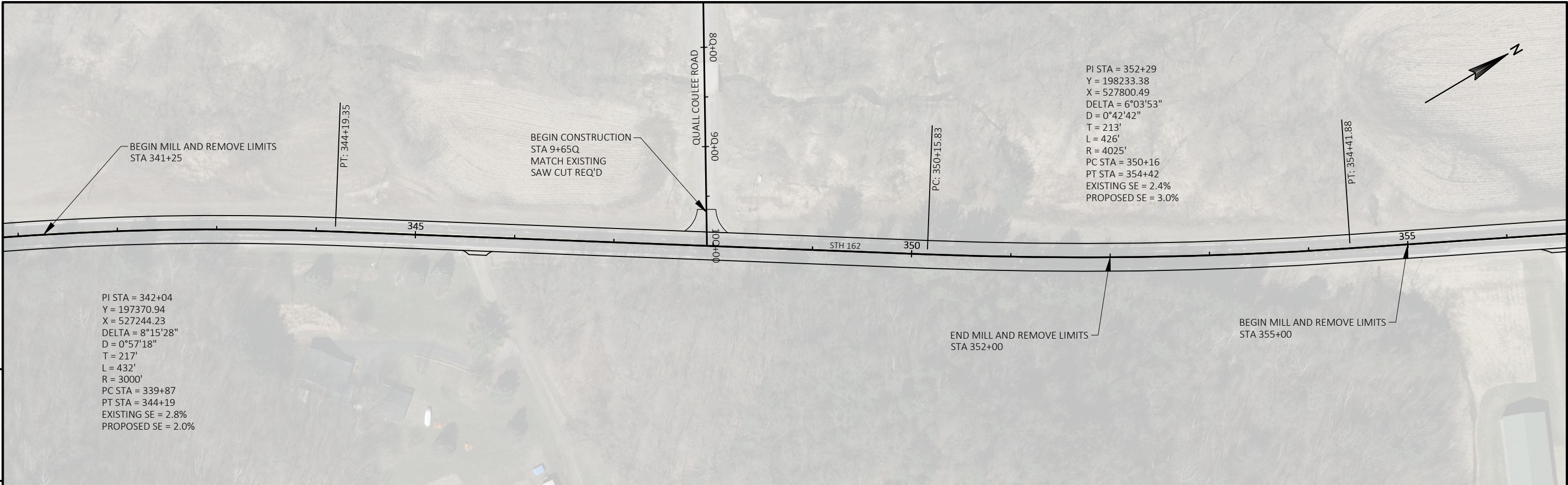




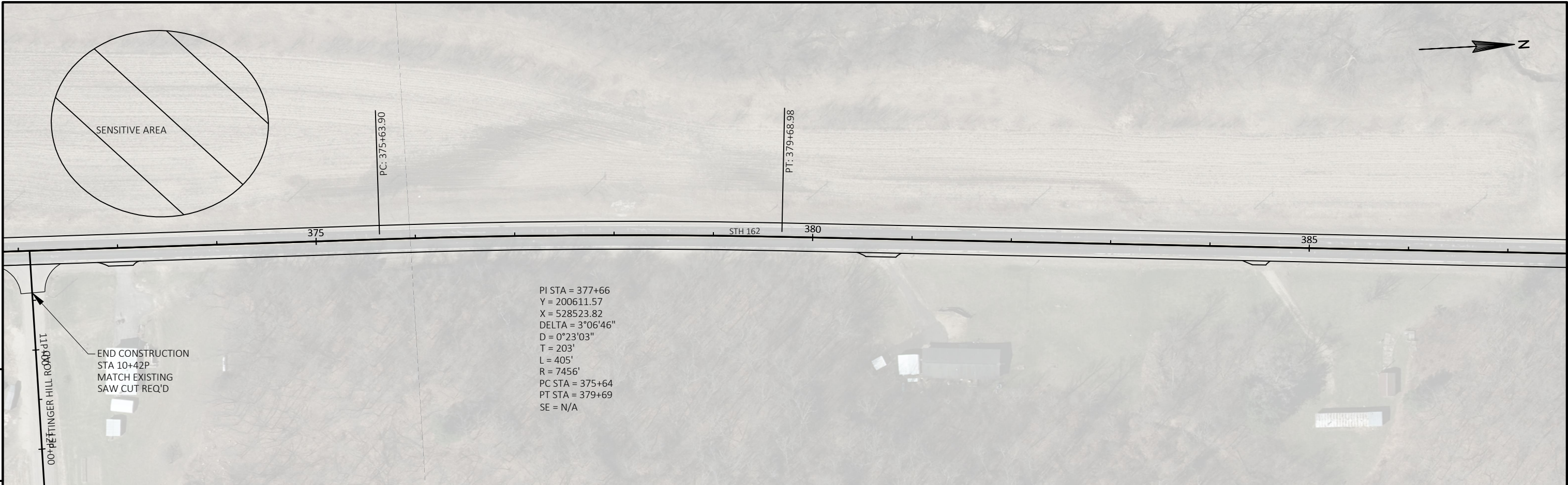




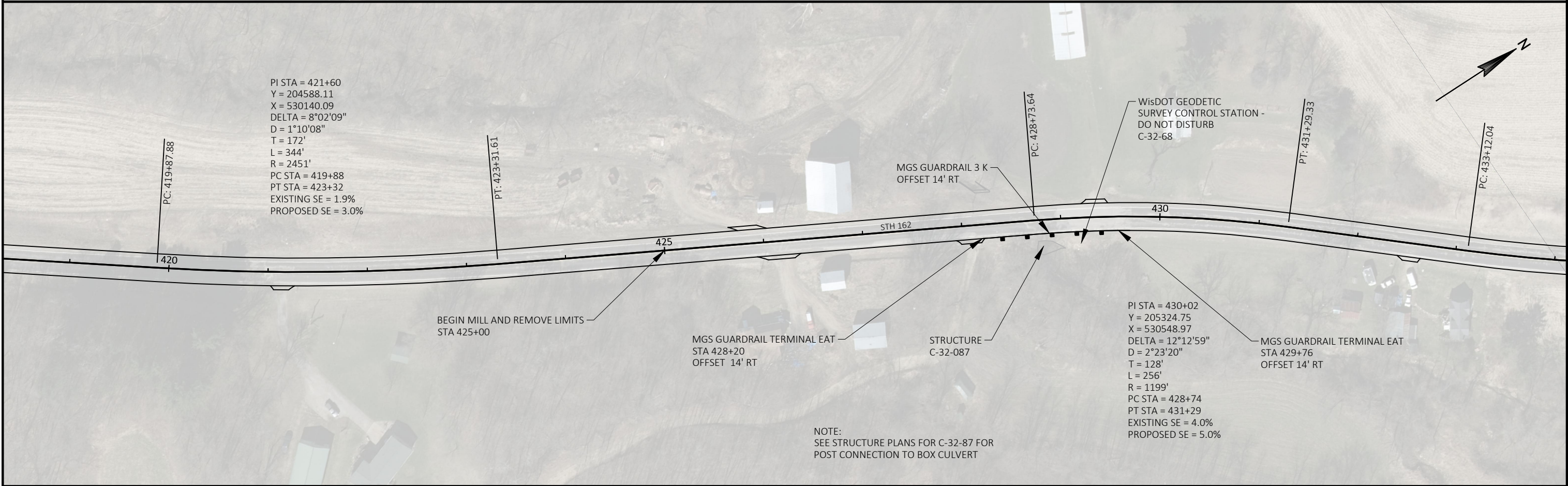
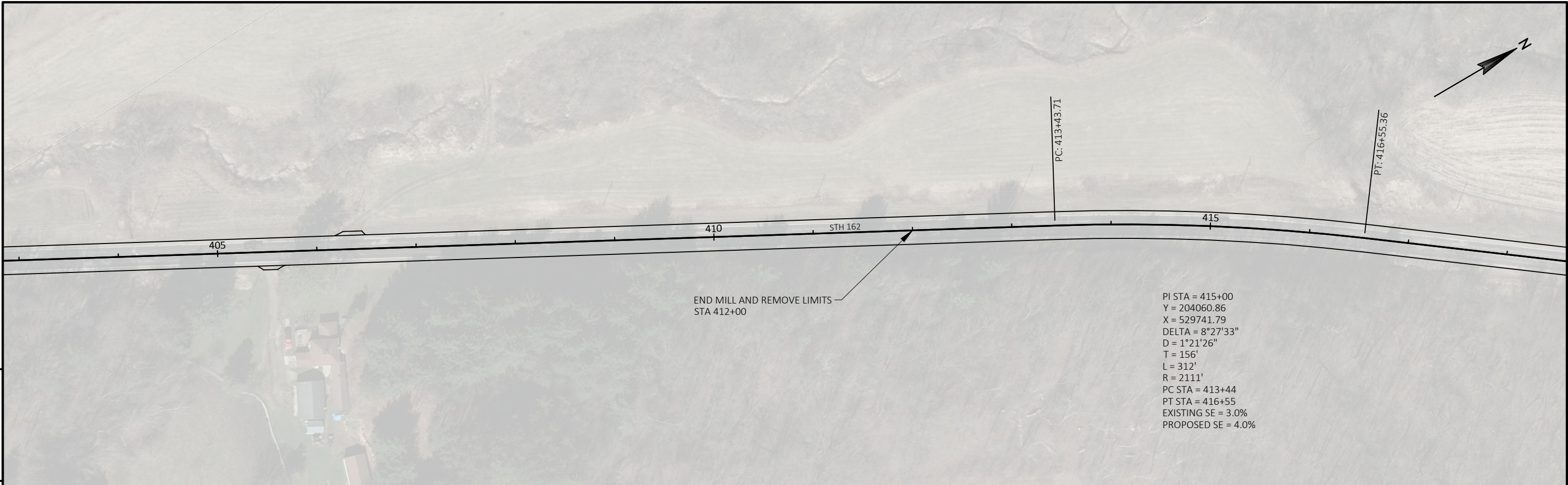




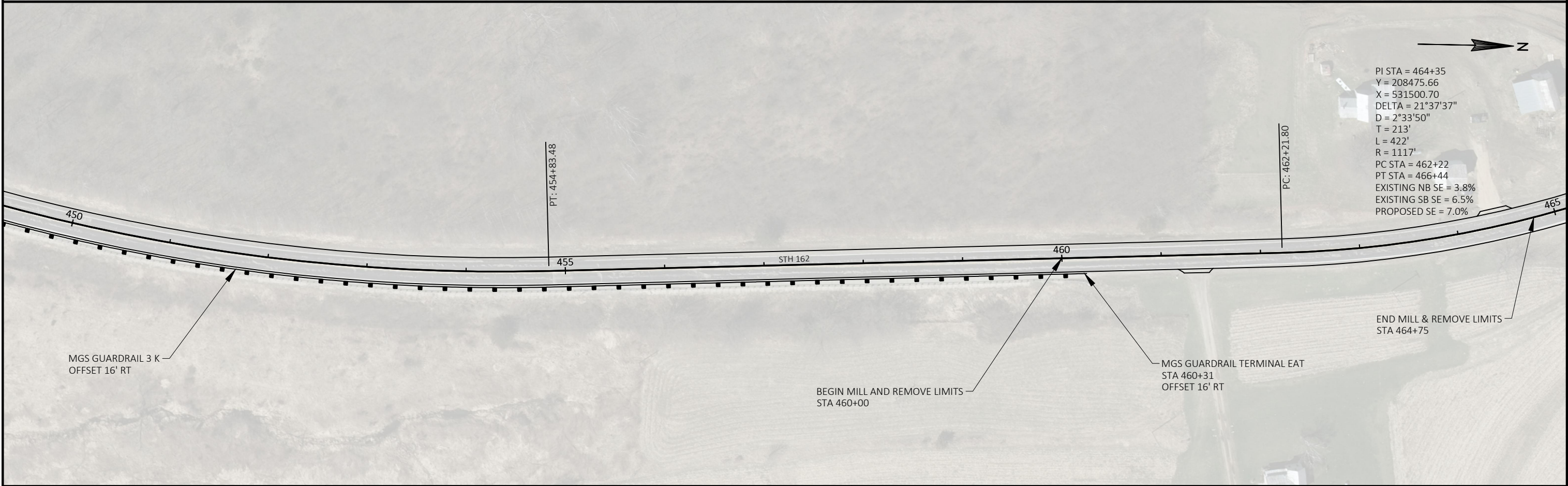
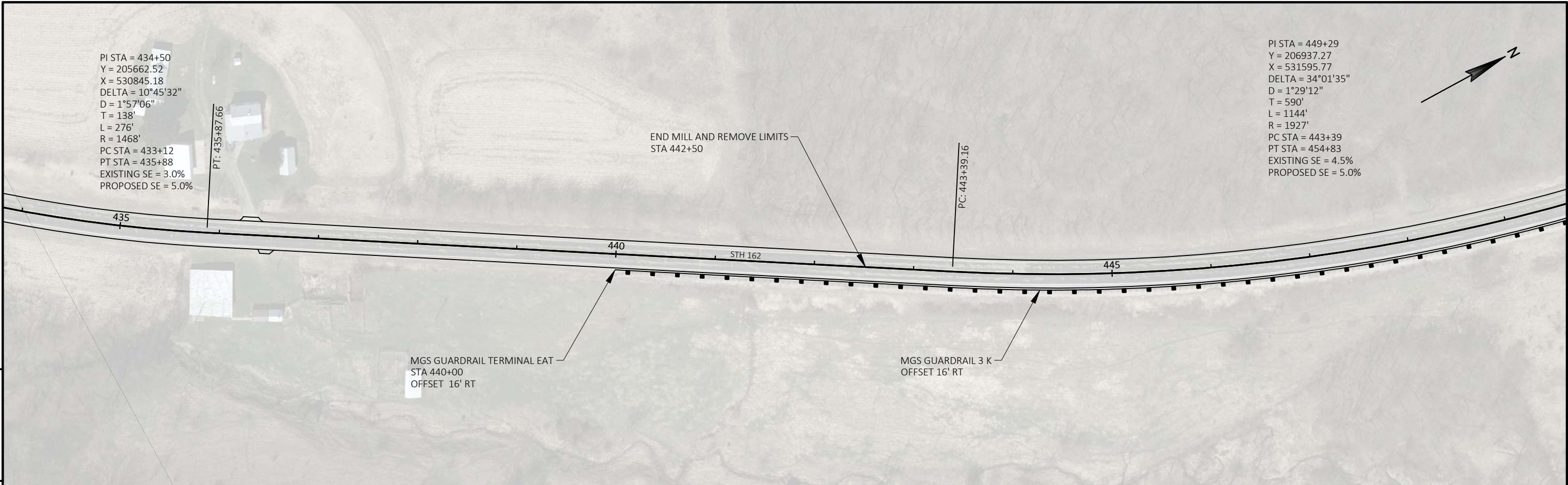




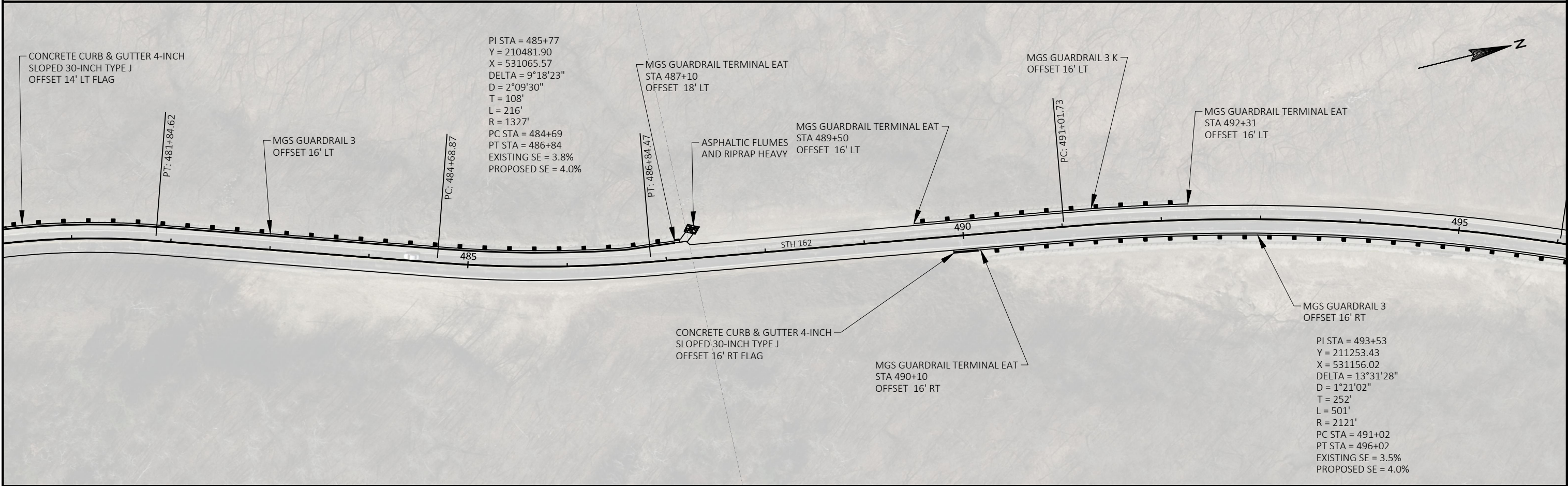
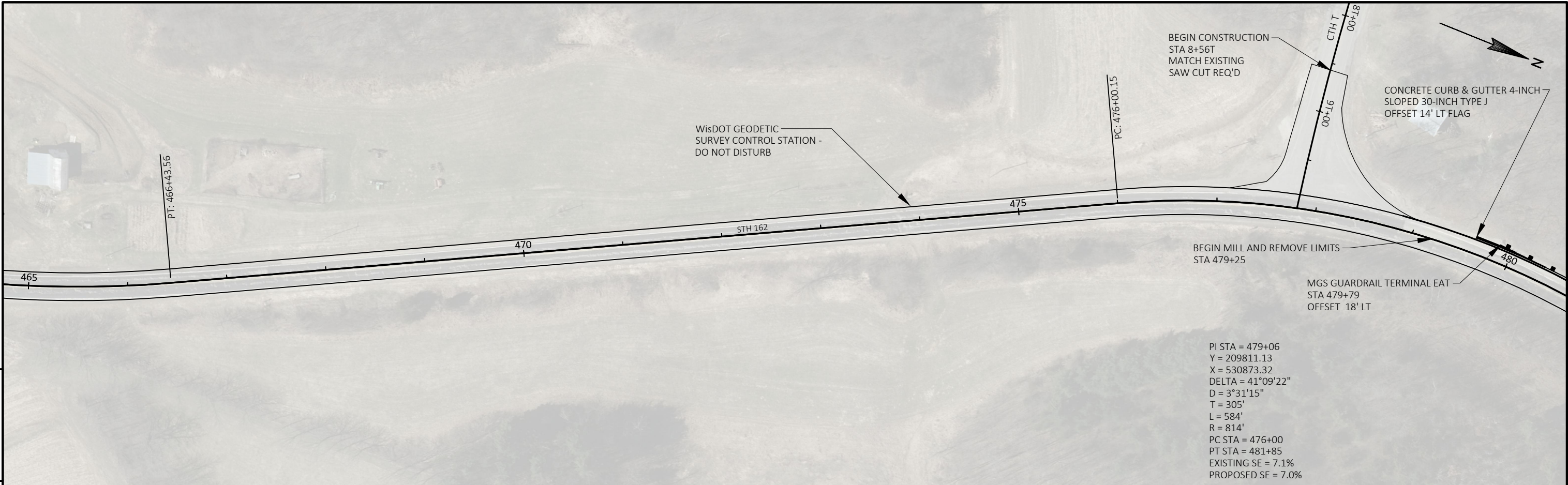






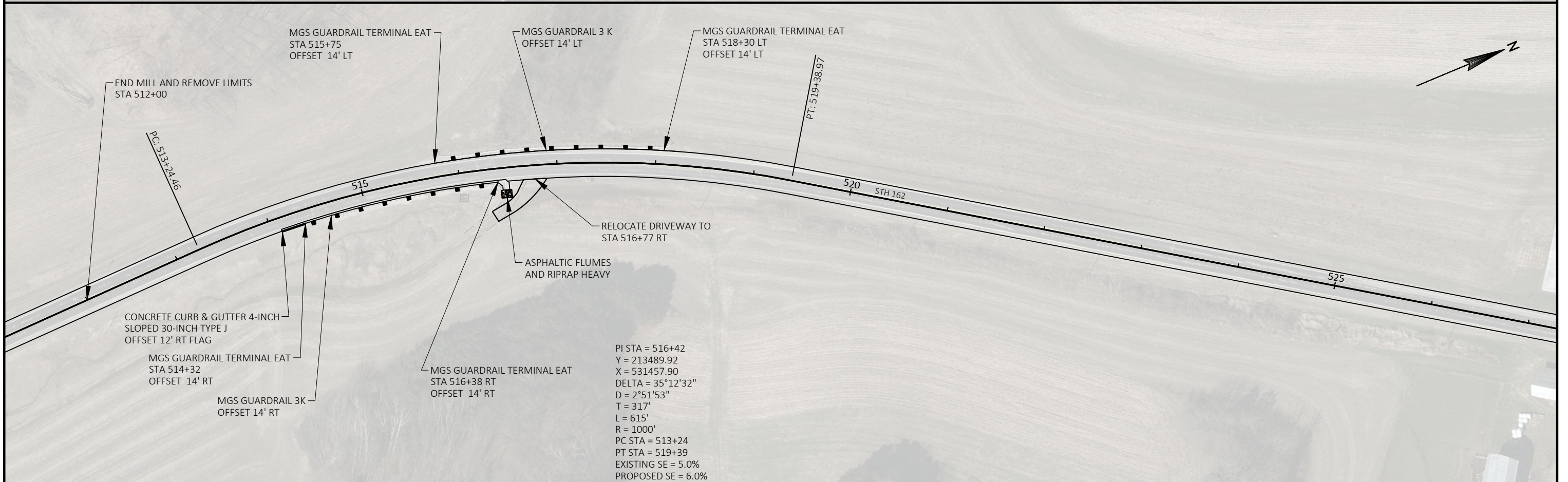
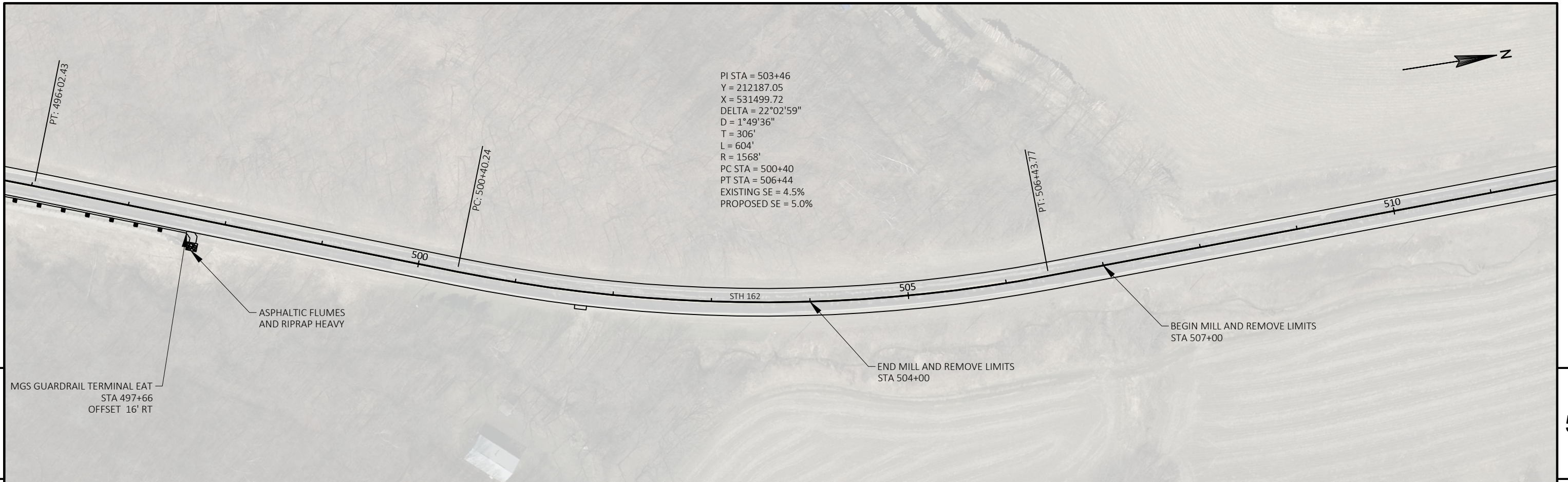




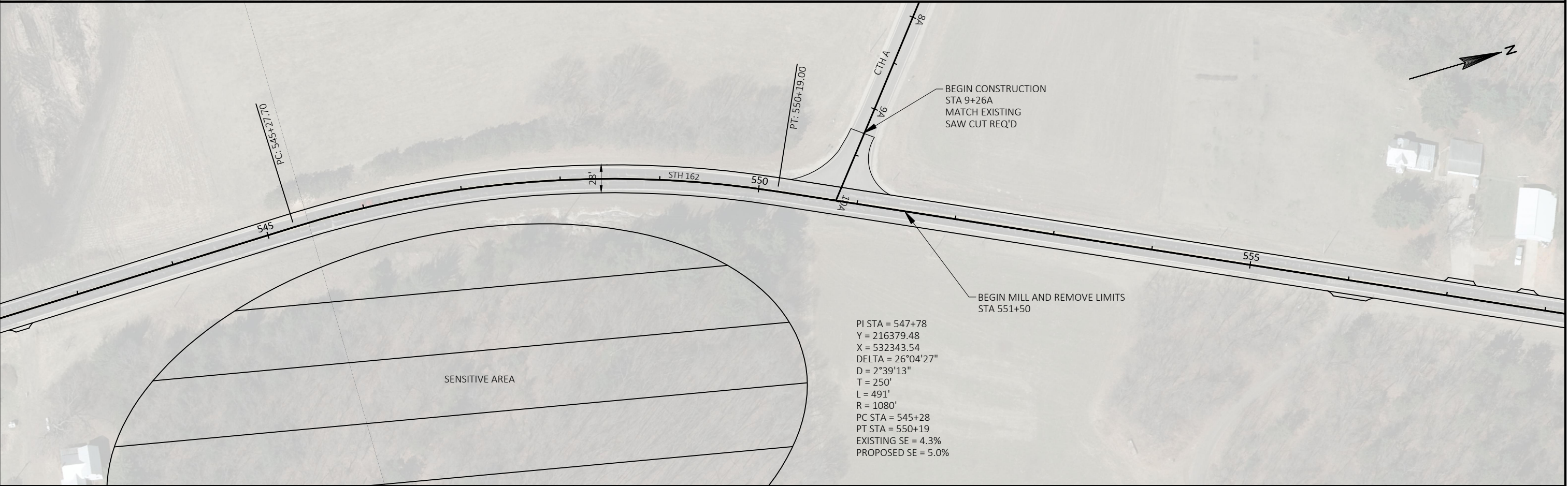
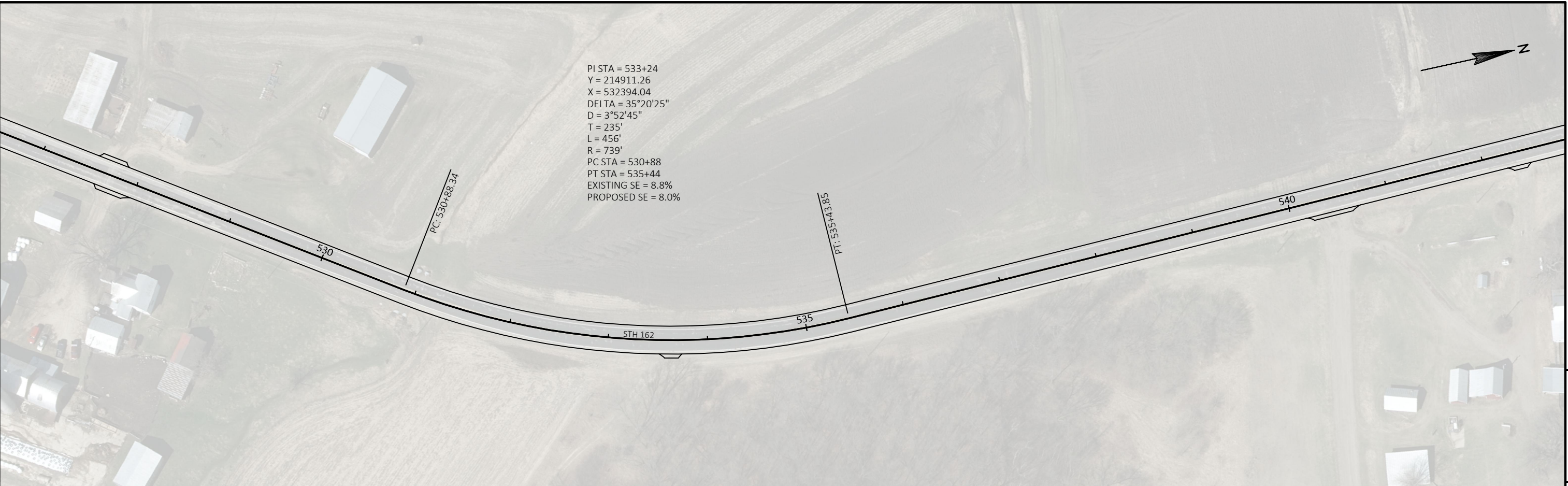


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|------------------------|--------------|----------------------------|-------------|----------|---|
| PROJECT NO: 7925-02-61 | HWY: STH 162 | COUNTY: LA CROSSE & MONROE | PLAN SHEETS | SHEET 64 | E |
|------------------------|--------------|----------------------------|-------------|----------|---|

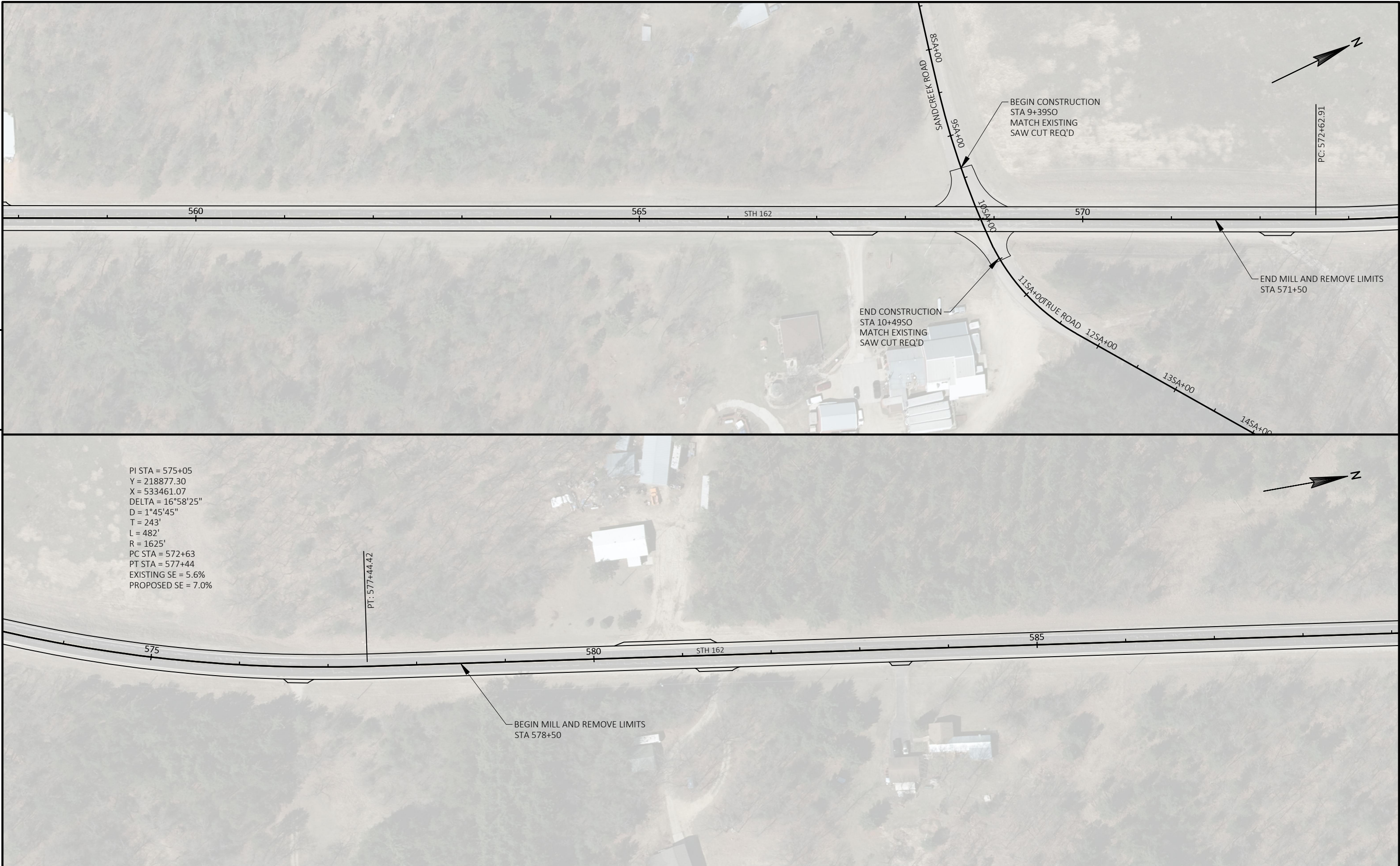










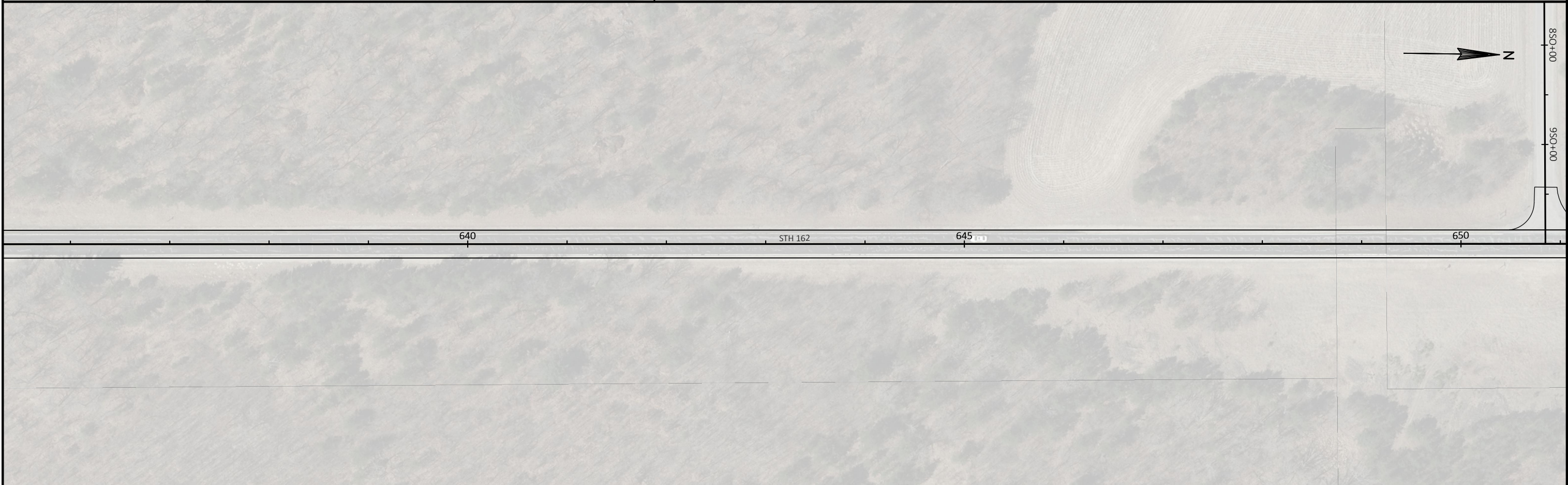
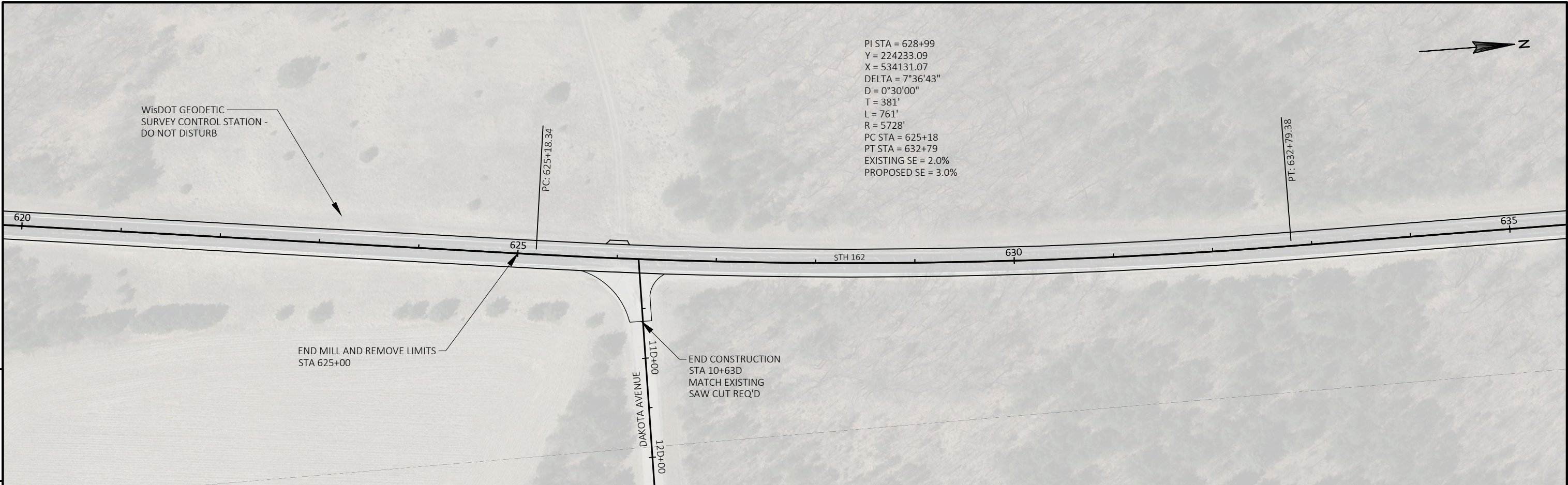




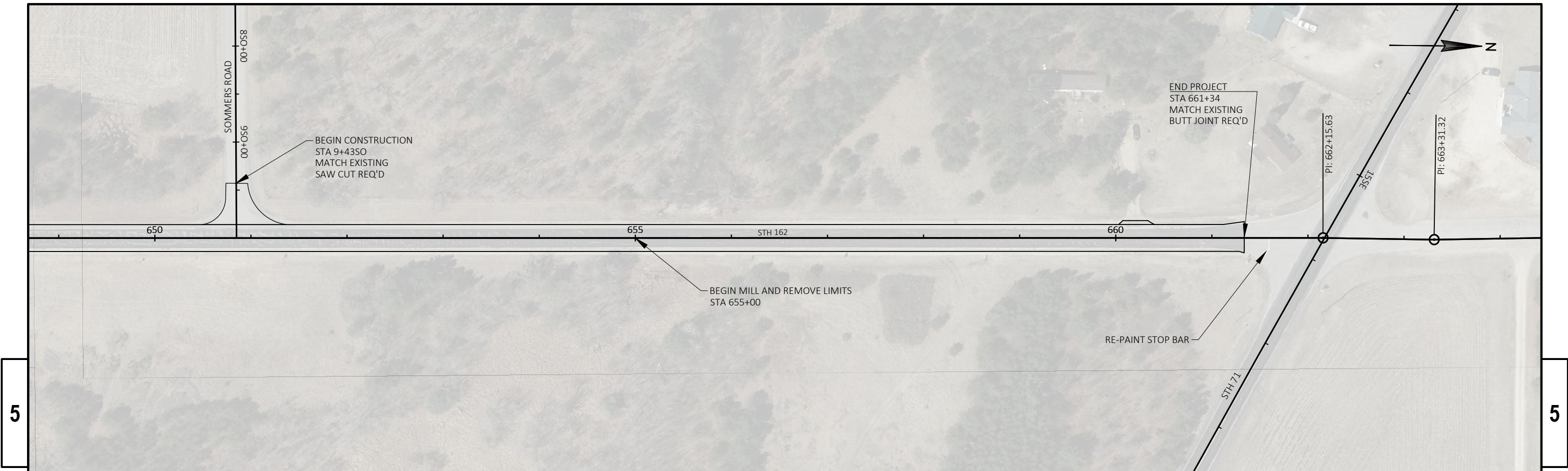


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|------------------------|--------------|----------------------------|-------------|----------|---|
| PROJECT NO: 7925-02-61 | HWY: STH 162 | COUNTY: LA CROSSE & MONROE | PLAN SHEETS | SHEET 68 | E |
|------------------------|--------------|----------------------------|-------------|----------|---|





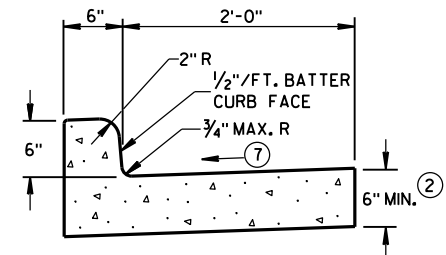




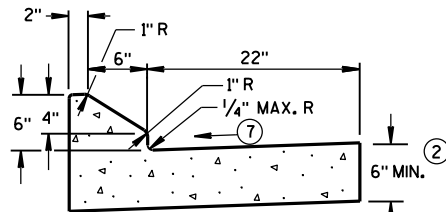
Standard Detail Drawing List

|           |                                                                                               |
|-----------|-----------------------------------------------------------------------------------------------|
| 08D01-20A | CONCRETE CURB & GUTTER                                                                        |
| 08D04-05  | CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES                                                    |
| 08D21-01  | DRIVEWAYS WITHOUT CURB & GUTTER                                                               |
| 08D22-01  | DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL                                    |
| 08E08-03  | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS                               |
| 08E09-06  | SILT FENCE                                                                                    |
| 09A01-13A | AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE |
| 14B29-01  | SAFETY EDGE                                                                                   |
| 14B42-06A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                                      |
| 14B42-06B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                                      |
| 14B42-06C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                                      |
| 14B42-06D | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                                      |
| 14B44-04A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)                                      |
| 14B44-04B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)                                      |
| 14B44-04C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)                                      |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END                                                          |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END                                                          |
| 15C02-07A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES                                                    |
| 15C02-07B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES                                                     |
| 15C02-07C | DETOUR SIGNING FOR MAINLINE CLOSURES                                                          |
| 15C03-05  | BARRICADES AND SIGNS FOR SIDEROAD CLOSURES                                                    |
| 15C08-19A | LONGITUDINAL MARKING (MAINLINE)                                                               |
| 15C12-06  | TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION                                      |
| 15C33-03  | STOP LINE AND CROSSWALK PAVEMENT MARKING                                                      |
| 15C34-03  | STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2                             |
| 15C35-03A | PAVEMENT MARKING (INTERSECTIONS)                                                              |
| 15D38-02A | TEMPORARY TRAFFIC CONTROL SIGN MOUNTING                                                       |
| 15D38-02B | ATTACHMENT OF SIGNS TO POSTS                                                                  |
| 15D39-02  | TRAFFIC CONTROL, DROP-OFF SIGNING                                                             |

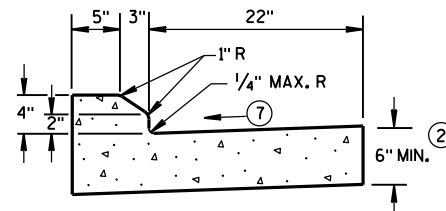




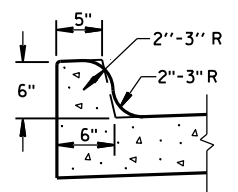
TYPES A<sup>①</sup> & D



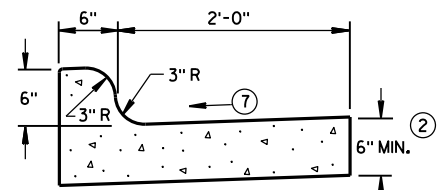
6" SLOPED CURB TYPES G<sup>①</sup> & J



4" SLOPED CURB TYPES G<sup>①</sup> & J

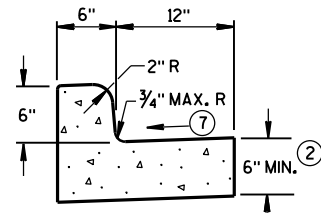


TYPES K<sup>①</sup> & L  
(OPTIONAL CURB SHAPE)



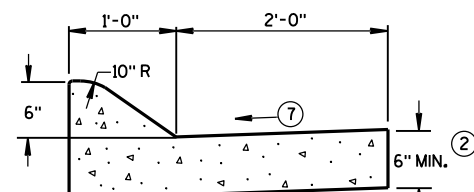
TYPES K<sup>①</sup> & L

CONCRETE CURB & GUTTER 30"

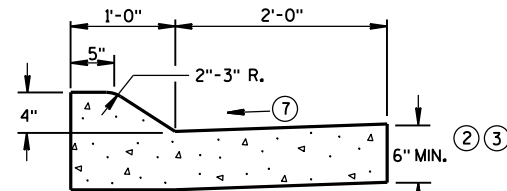


TYPES A<sup>①</sup> & D

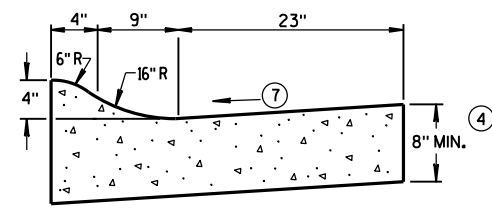
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A<sup>①</sup> & D

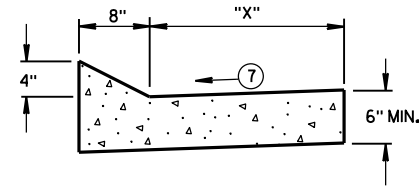


4" SLOPED CURB TYPES A<sup>①</sup> & D



4" SLOPED CURB TYPES R<sup>①</sup> & T<sup>⑤</sup>

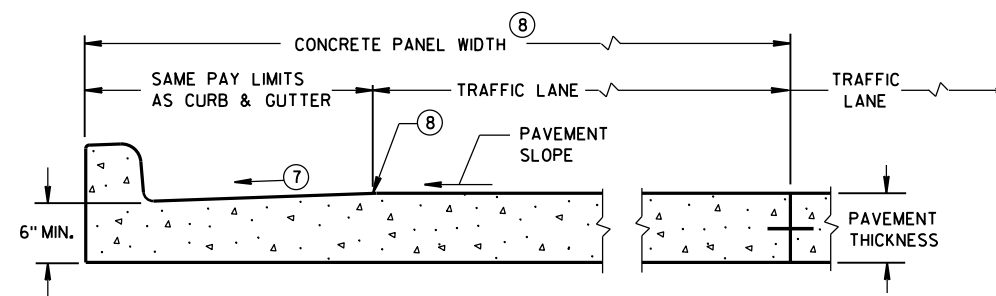
CONCRETE CURB & GUTTER 36"



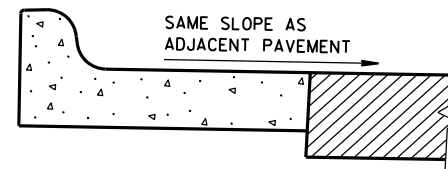
TYPES TBT & TBTT<sup>①</sup>

CONCRETE CURB & GUTTER

| TBT & TBTT | "X" |
|------------|-----|
| 30"        | 22" |
| 36"        | 28" |



PARTIAL SECTION OF PAVEMENT  
WITH INTEGRAL CURB & GUTTER



REVERSE SLOPE GUTTER<sup>⑥</sup>  
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

PAVEMENT THICKNESS  
AND MAXIMUM CONCRETE  
PANEL WIDTH TABLE

| PAVEMENT THICKNESS | MAXIMUM PANEL WIDTH |
|--------------------|---------------------|
| LESS THAN 10"      | 12'                 |
| 10" & ABOVE        | 15'                 |

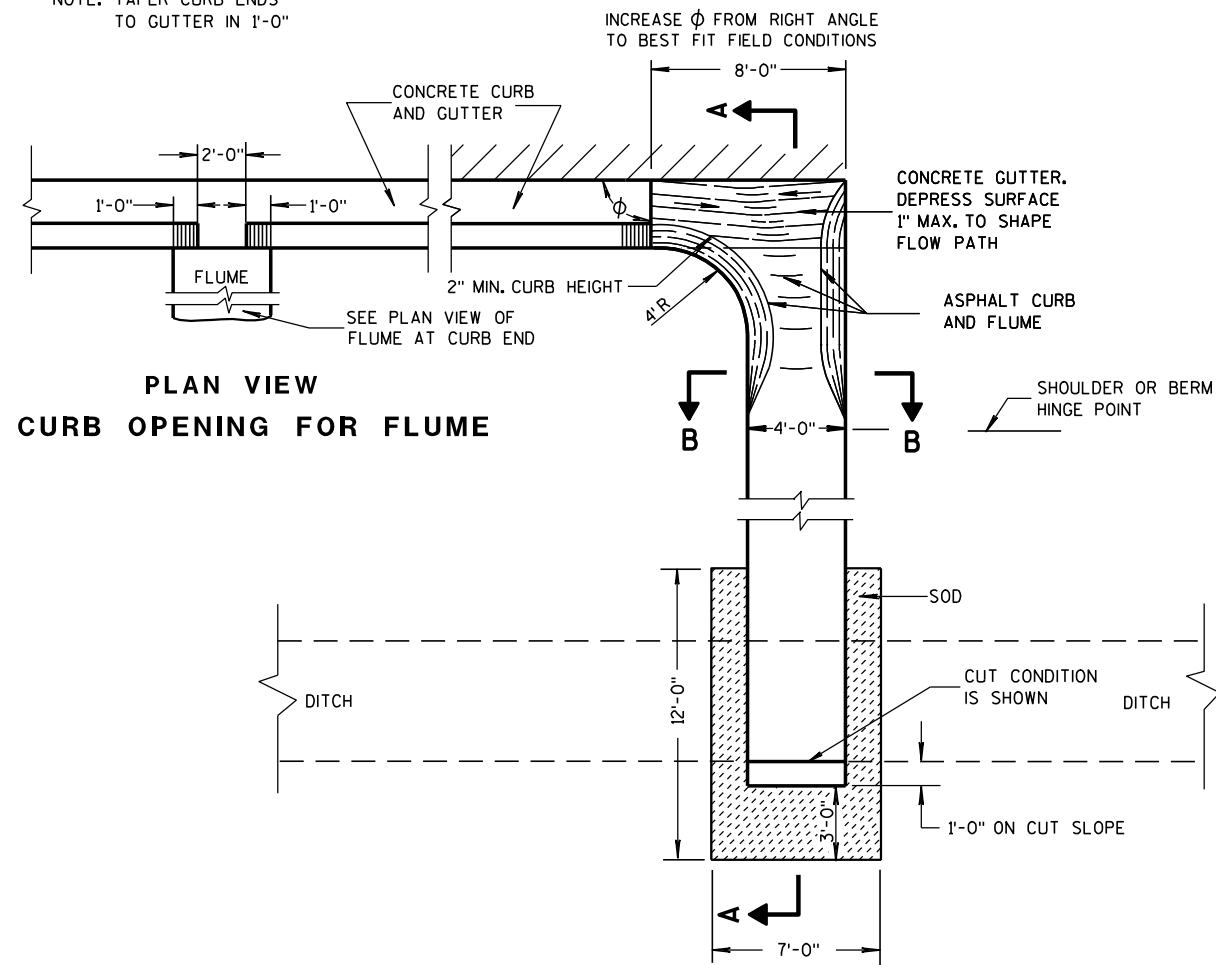
\* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

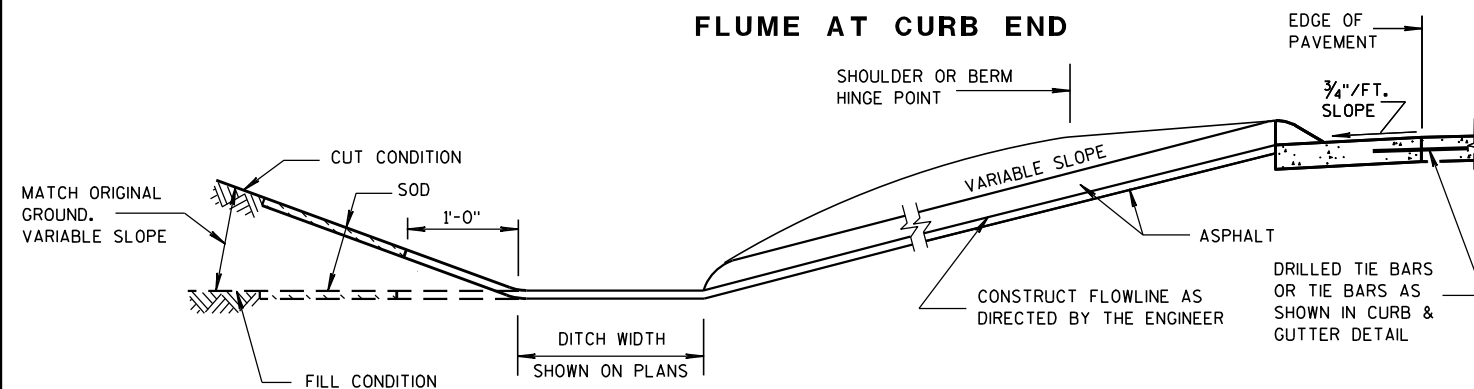
## ASPHALTIC FLUME

NOTE: TAPER CURB ENDS  
TO GUTTER IN 1'-0"

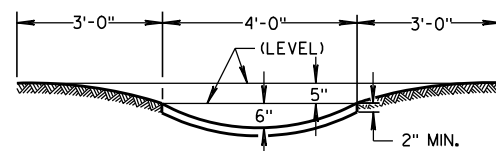


PLAN VIEW  
CURB OPENING FOR FLUME

PLAN VIEW  
FLUME AT CURB END



SECTION A-A



SECTION B-B

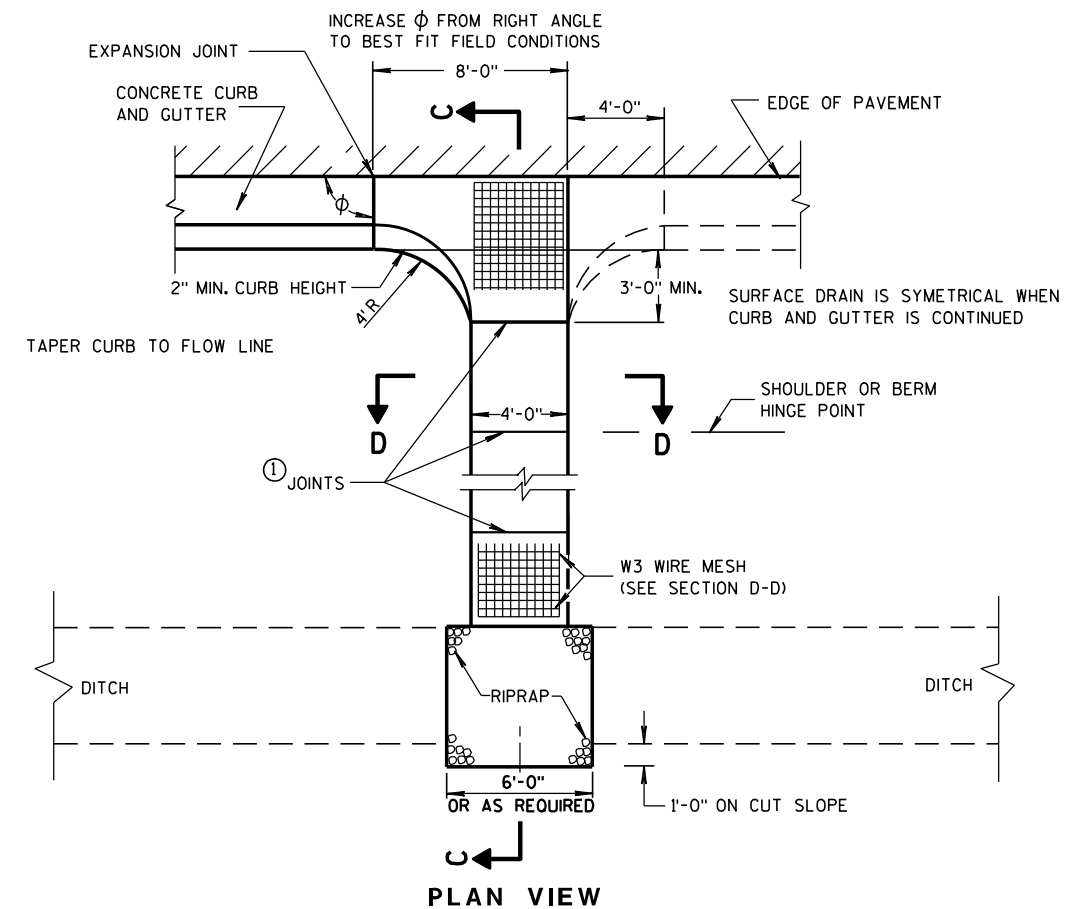
## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

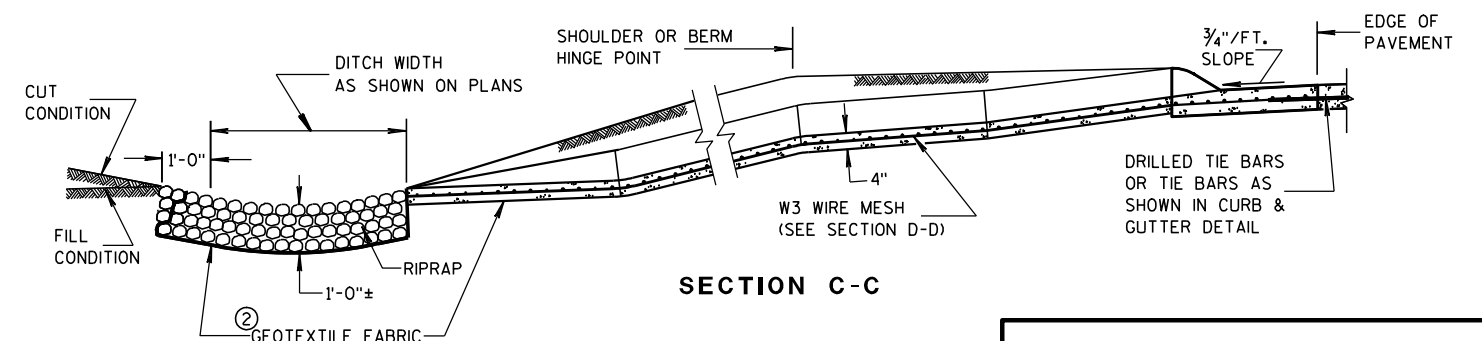
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE 1/8" TO 1/4" INCH WIDE BY 1 1/2" INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

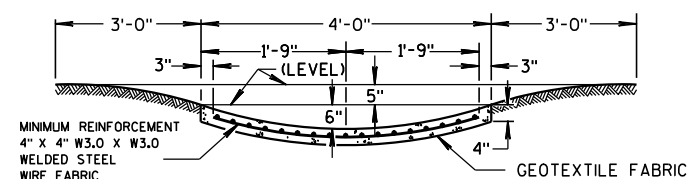
## ③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

## CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

9-4-08

DATE

/S/ Jerry H. Zapp

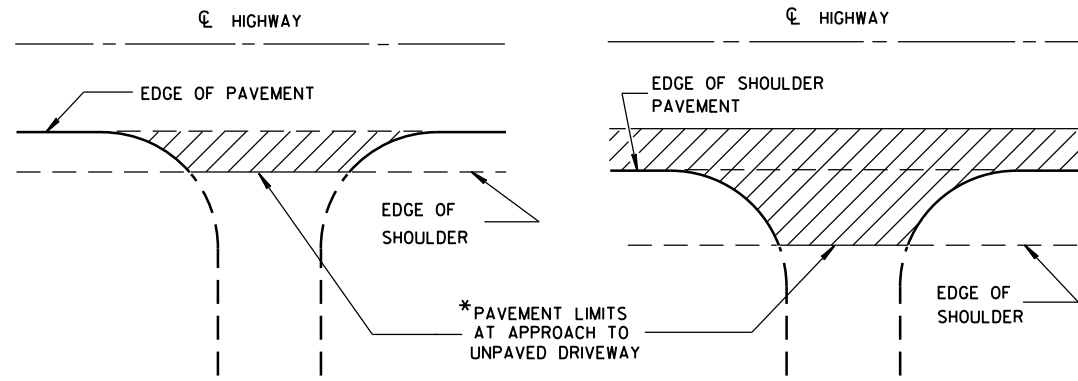
ROADWAY STANDARDS 73

FHWA

ENGINEER

MENT



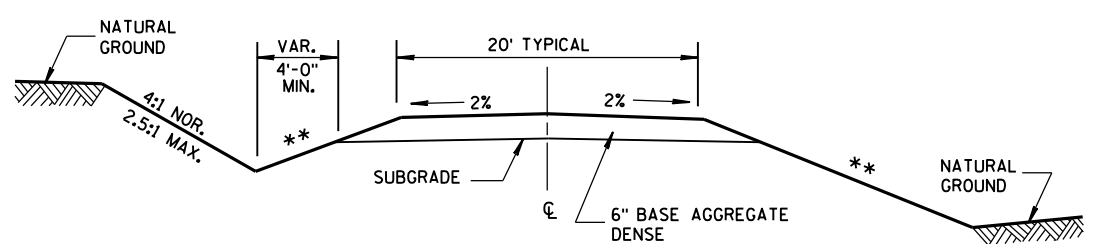


\*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

**PLAN VIEW**  
(UNPAVED SHOULDER ON HIGHWAY)

**PLAN VIEW**  
(PAVED SHOULDER ON HIGHWAY)

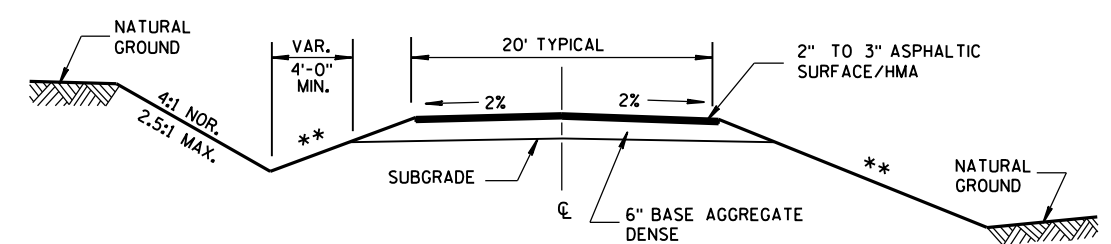
**RURAL DRIVEWAY INTERSECTION DETAIL**  
(NO CURB & GUTTER OR SIDEWALK)



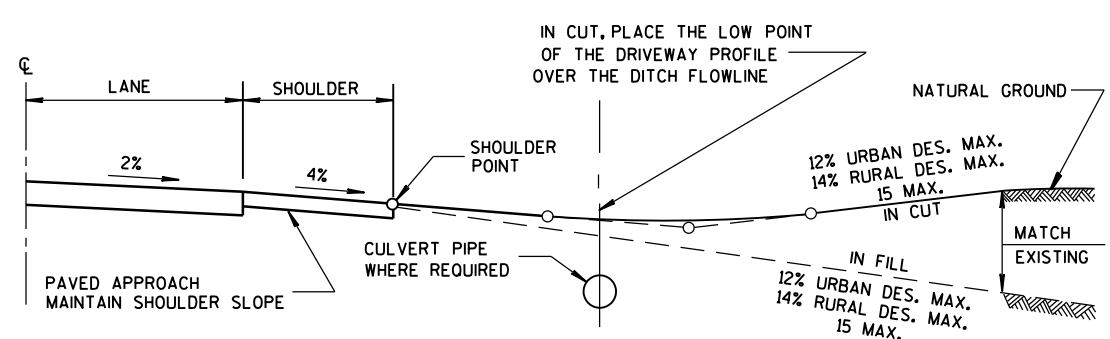
**TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE**  
**AGGREGATE SURFACE**

\*\* SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

| POSTED SPEED<br>MPH | MAX. SLOPE |
|---------------------|------------|
| <35                 | 4:1        |
| ≥35 TO <60          | 6:1        |
| ≥60                 | 10:1       |

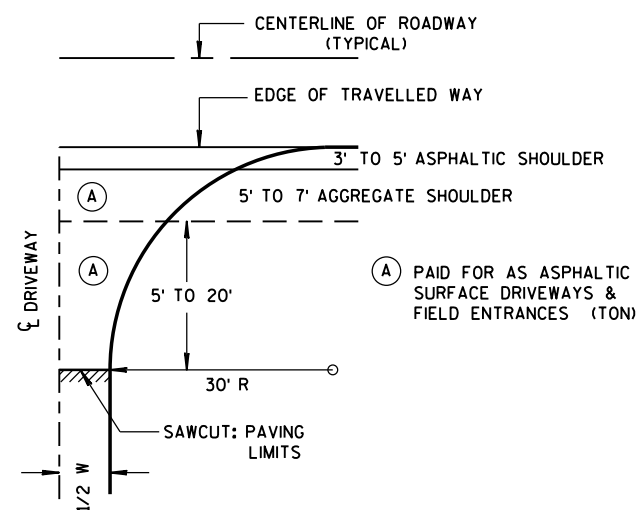


**TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE**  
**ASPHALTIC SURFACE**



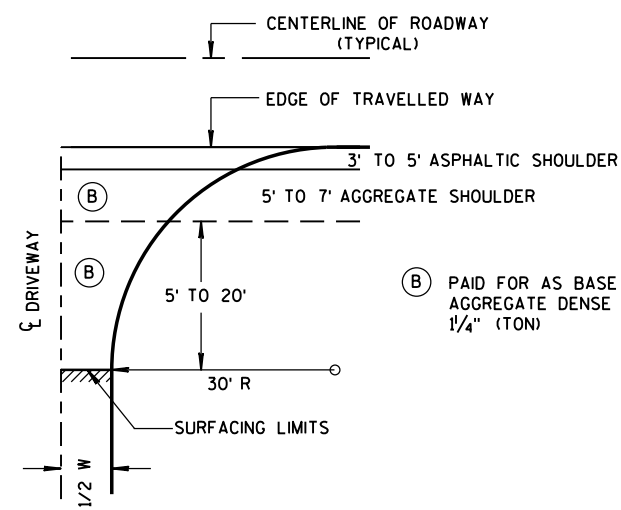
**TYPICAL DRIVEWAY PROFILES**

|                                                    |                   |    |     |
|----------------------------------------------------|-------------------|----|-----|
| <b>DRIVEWAYS WITHOUT CURB &amp; GUTTER</b>         |                   |    |     |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                   |    |     |
| APPROVED<br>December, 2016                         | /S/ Rodney Taylor |    |     |
| DATE                                               | ROADWAY STANDARDS | 74 | ENT |
| FHWA                                               | UNIT SUPERV       |    |     |

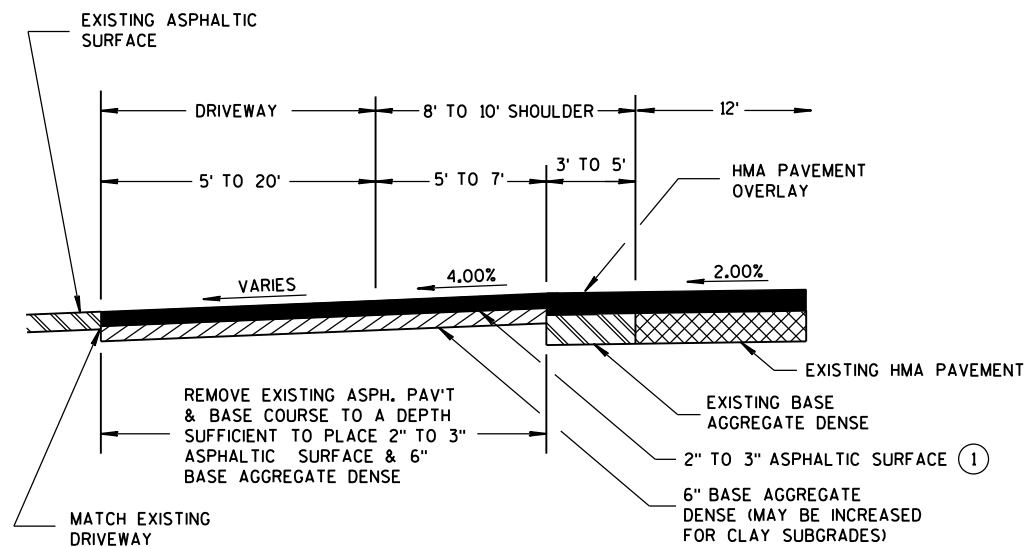


PLAN VIEW  
HALF SECTION

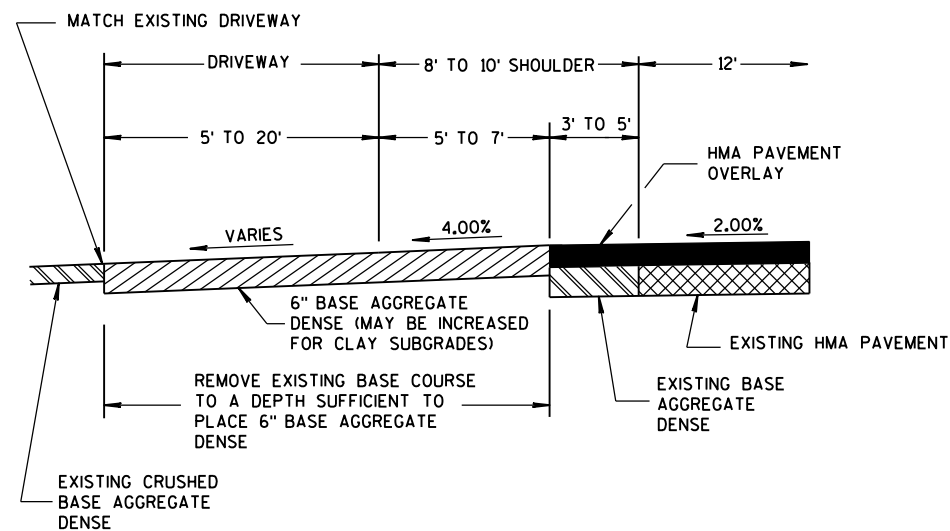
W MIN. = 16'  
W MAX. = 24'



PLAN VIEW  
HALF SECTION



PROFILE VIEW  
RURAL ENTRANCE  
WITH ASPHALTIC SURFACE  
RESURFACING PROJECTS



PROFILE VIEW  
RURAL ENTRANCE  
WITH AGGREGATE SURFACE  
6" BASE AGGREGATE DENSE  
RESURFACING PROJECTS

## GENERAL NOTES

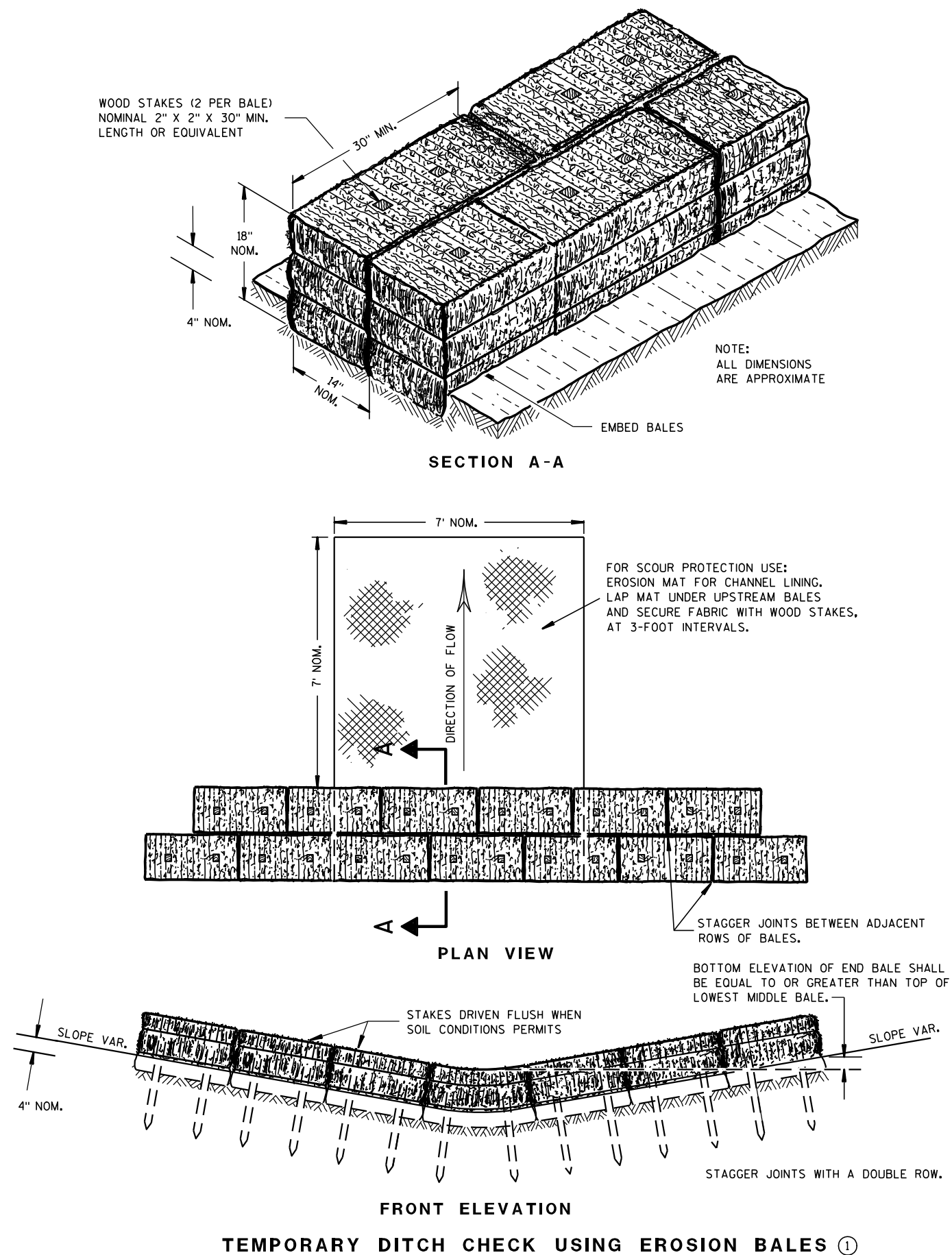
- ① DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.

DRIVEWAYS WITHOUT  
CURB & GUTTER  
RESURFACING PROJECTS RURAL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
December, 2016 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS 75 ENT  
FHWA UNIT SUPERV

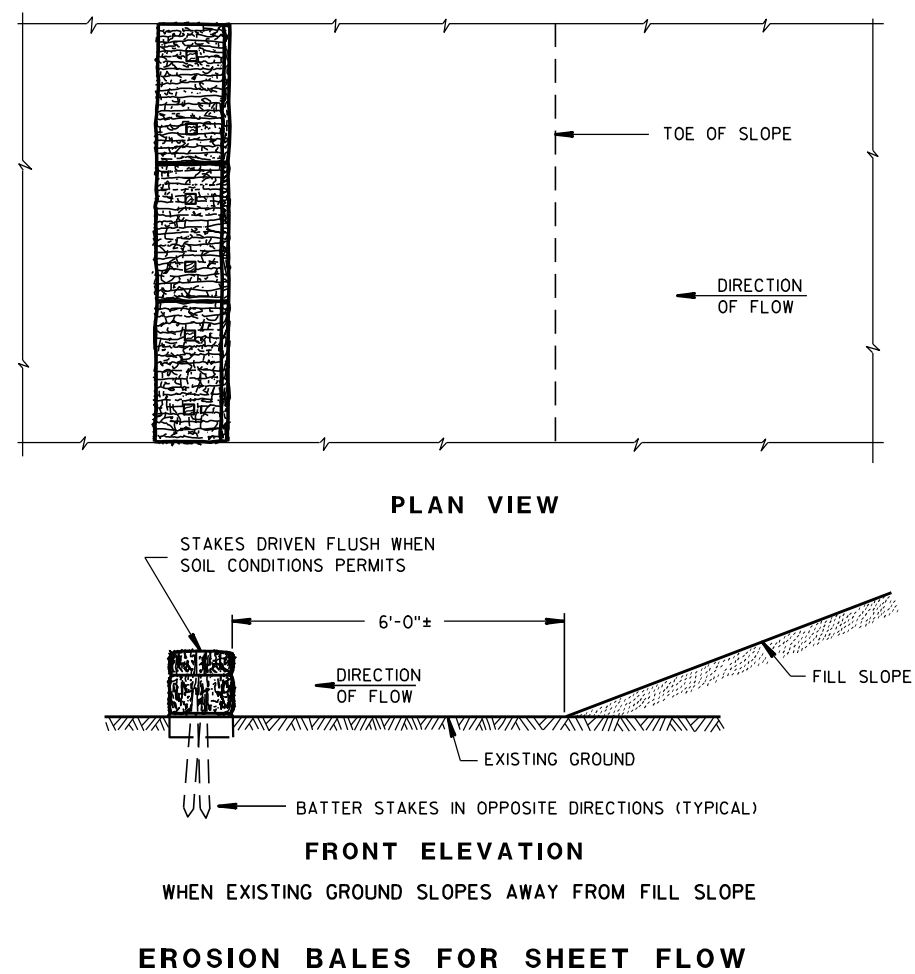
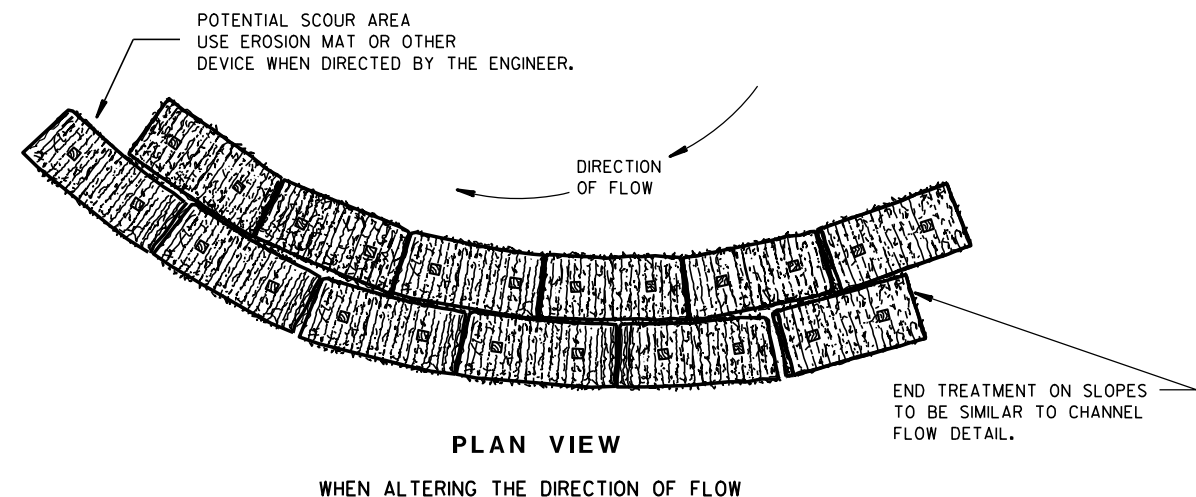




## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

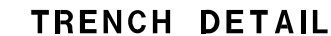
APPROVED

6/04/02  
DATE/S/ Beth Conn-----  
CHIEF ROADWAY DEVELOPER 76 ENGINEER

FHWA



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



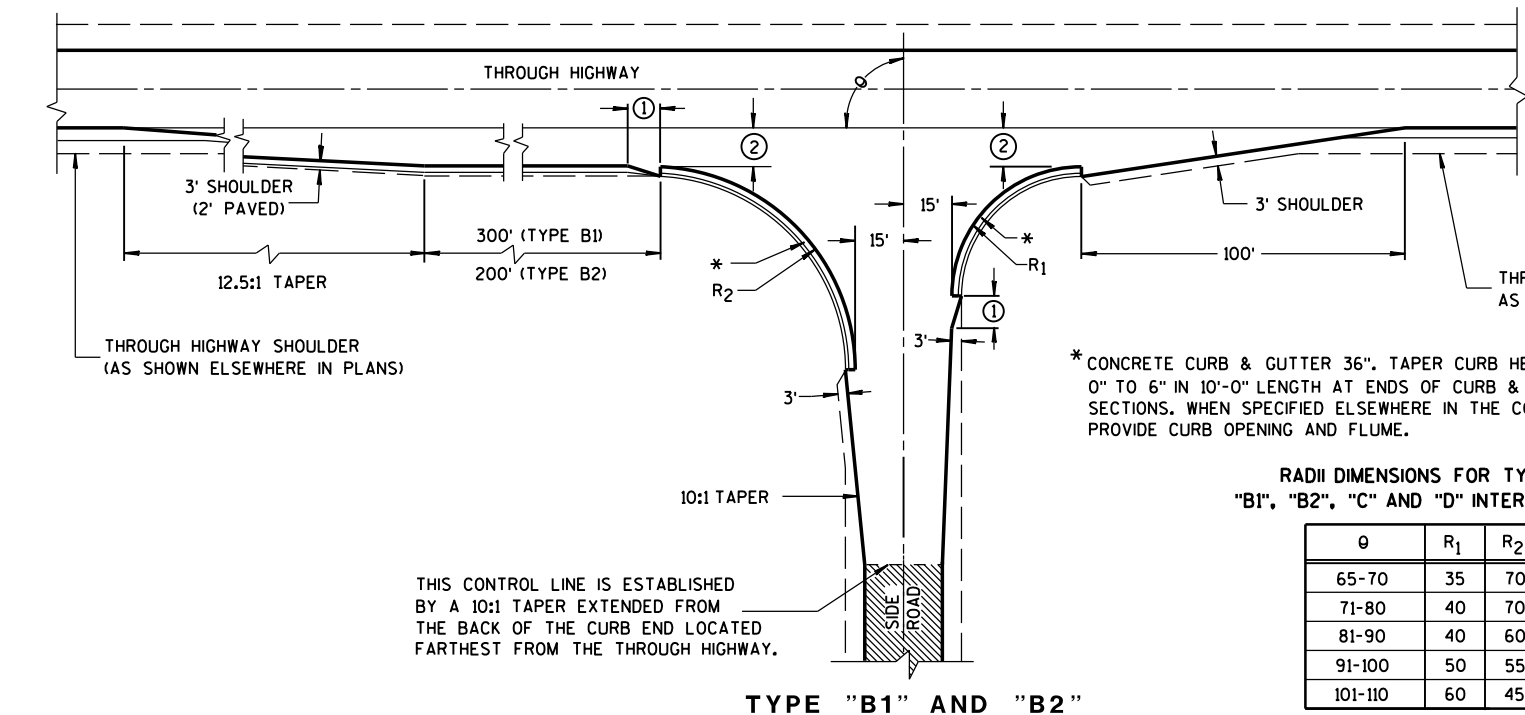
SILT FENCE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
4-29-05 /S/ Beth Connolly  
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA





### GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

#### SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

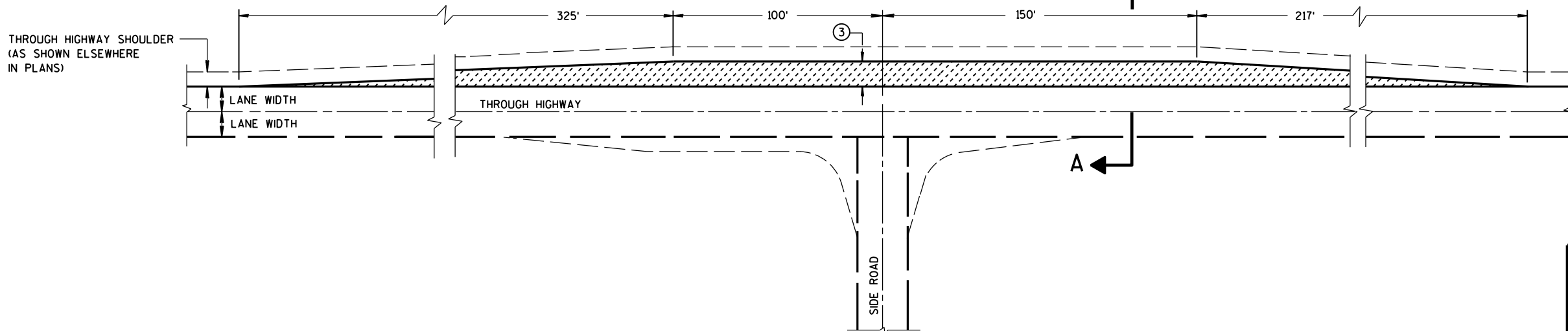
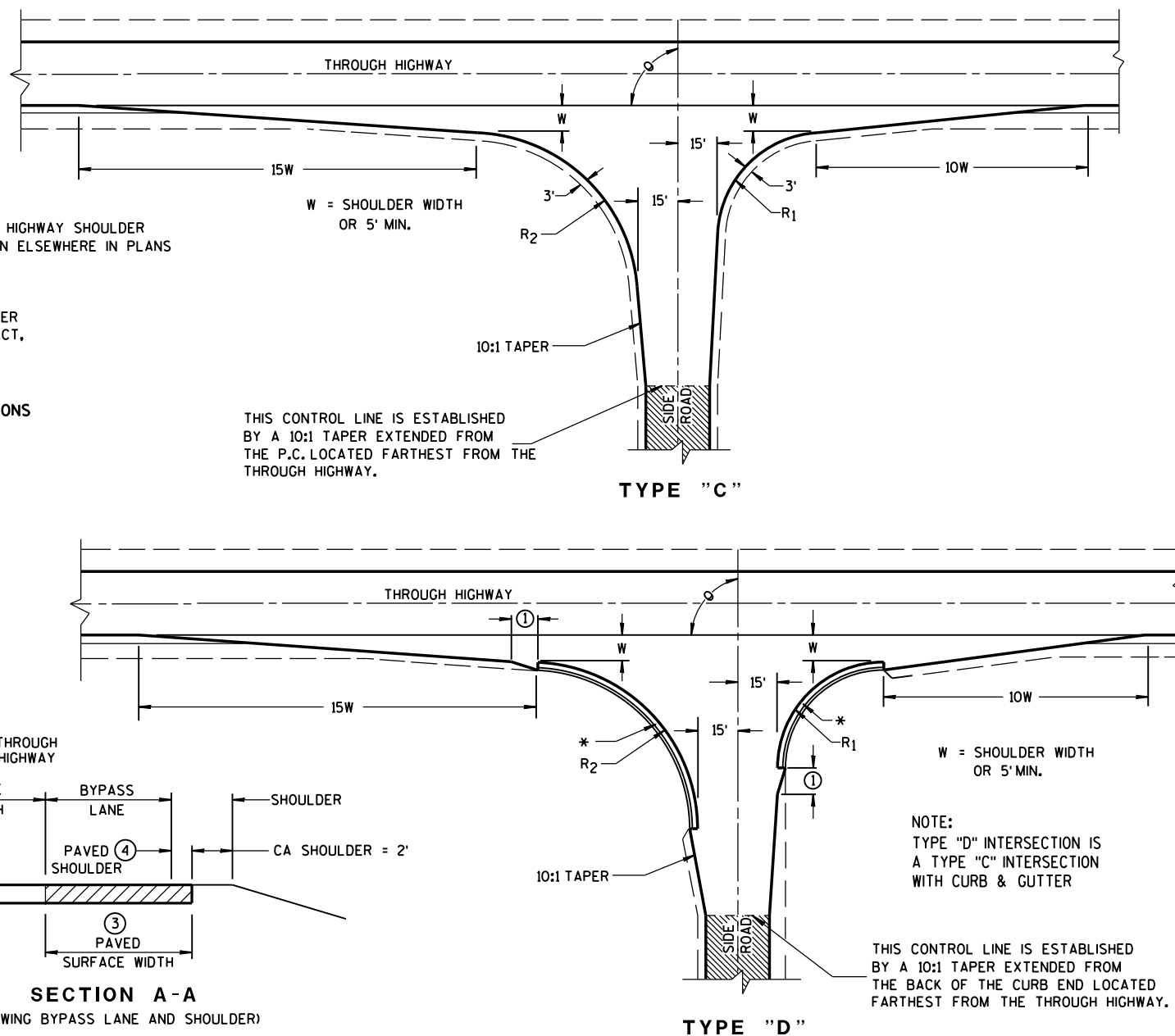
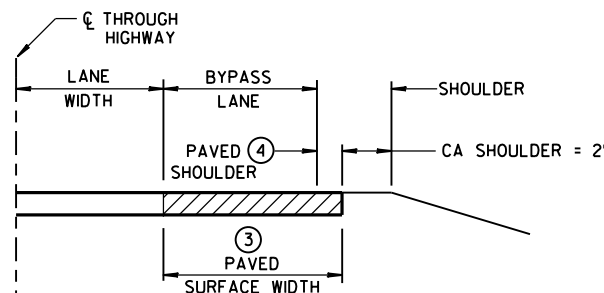
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

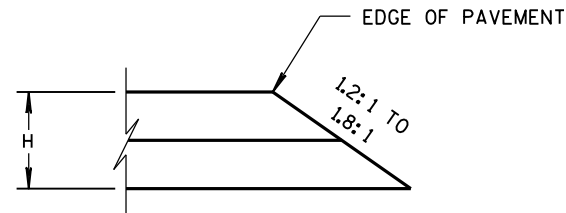
BYPASS LANE

- ① 10-FT TYPICAL.
- ② 12-FT\*\* PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.  
  
\*\*10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE  
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.  
-PC CONCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.

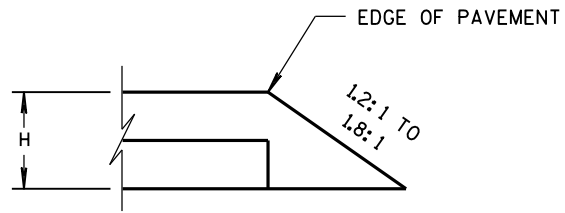


AT-GRADE SIDE ROAD  
INTERSECTION, TYPES "B1", "B2",  
"C" AND "D" AND TEE  
INTERSECTION BYPASS LANE

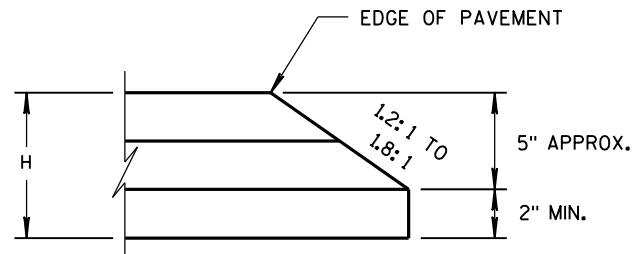
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



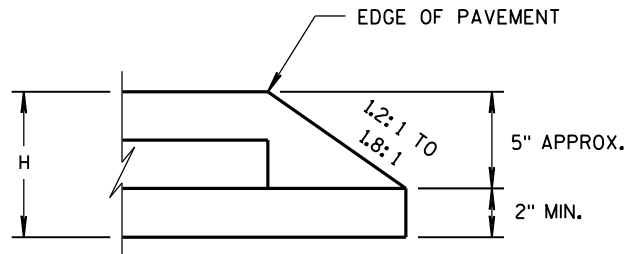
CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER  
FOR H 5" OR LESS

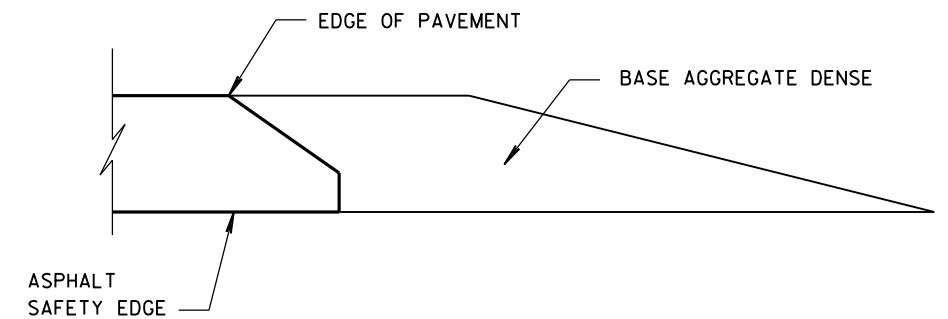


CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER  
FOR H GREATER THAN 5"

## HMA PAVEMENT AND HMA OVERLAYS



## FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE<sub>SM</sub>

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012  
DATE

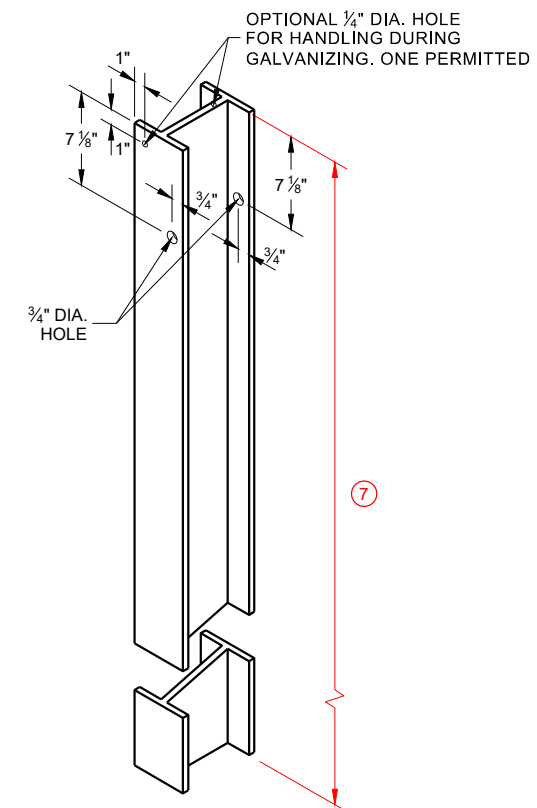
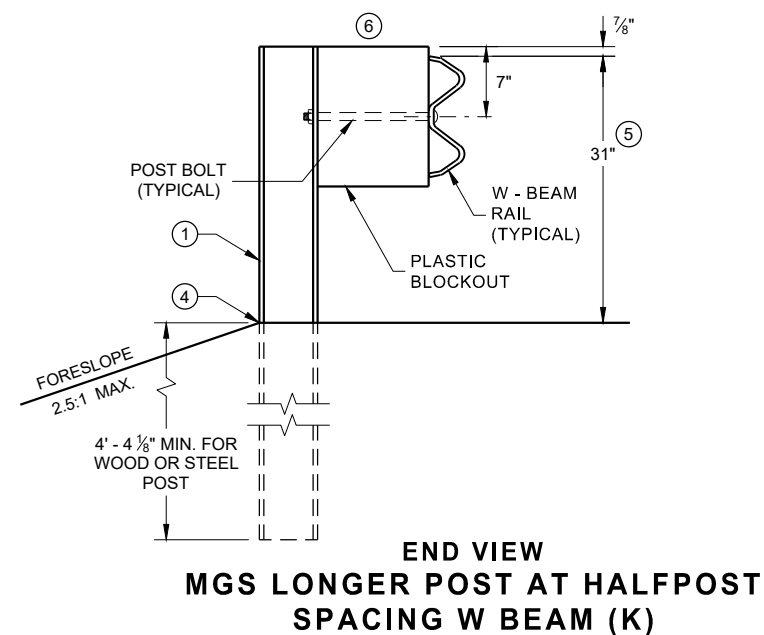
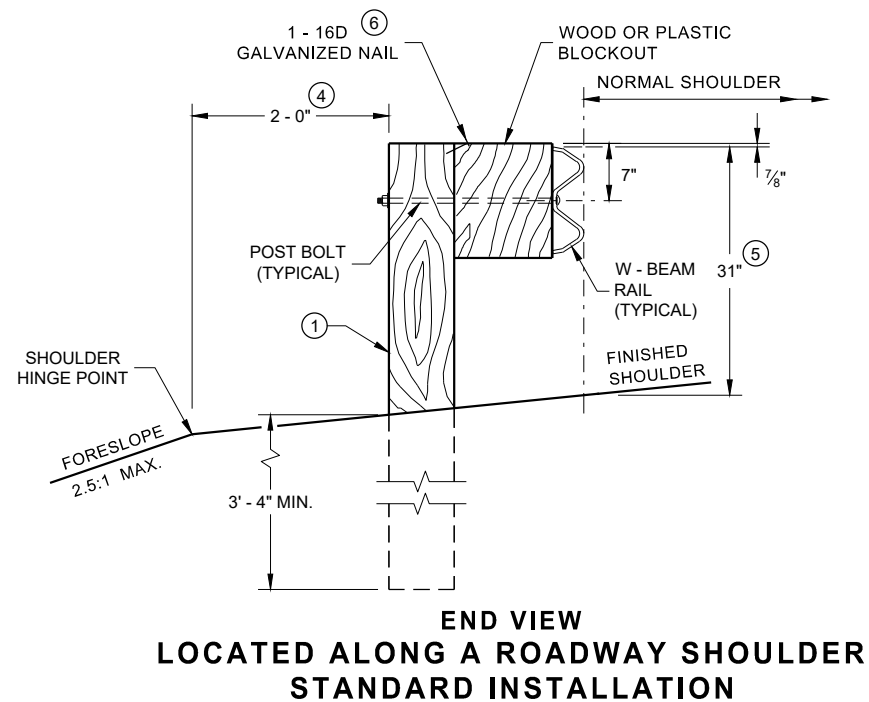
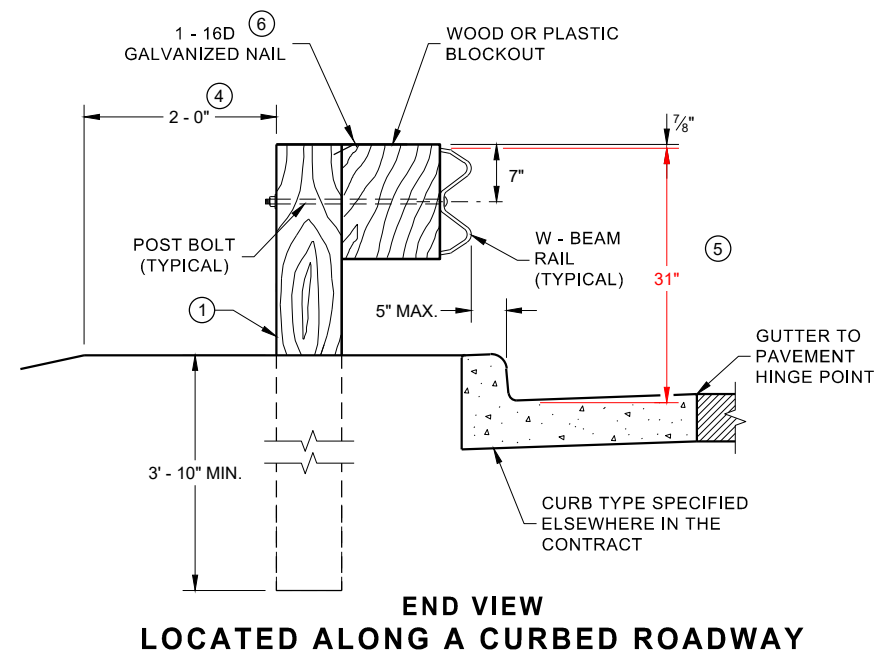
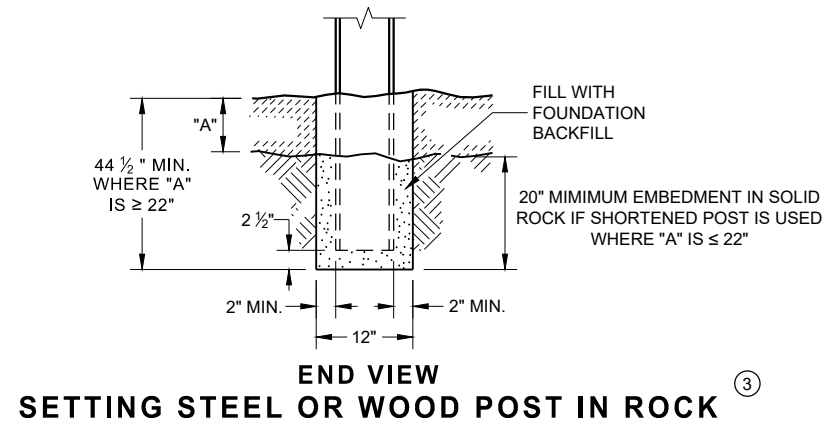
FHWA

/s/ Jerry H. Zogg  
ROADWAY STANDARDS  
ENGINEER

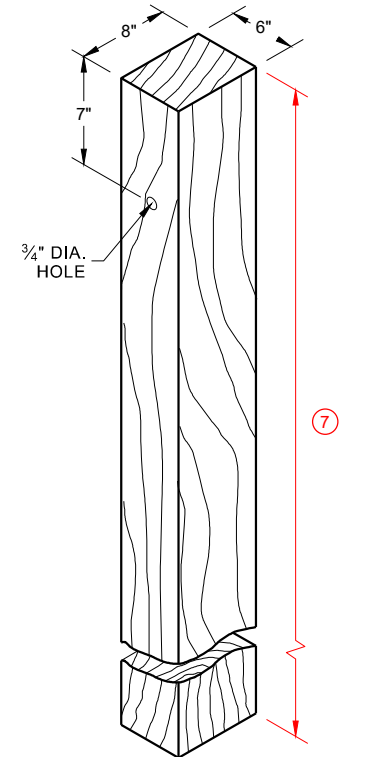
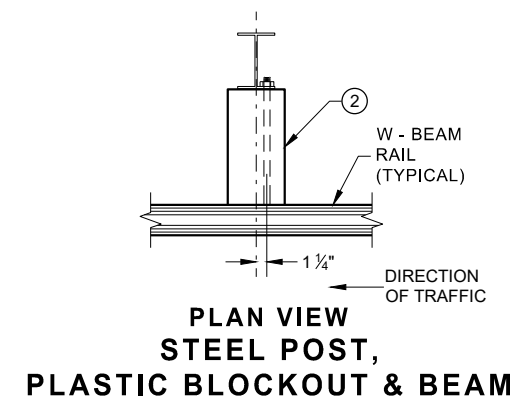
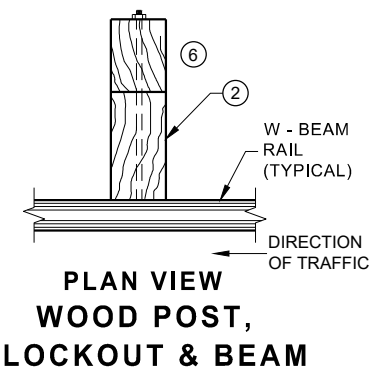
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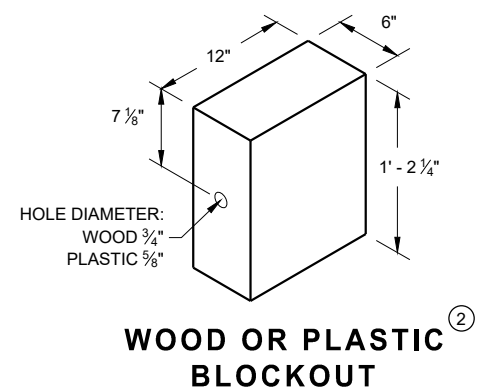
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS  $\pm 1"$ . FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN  $27 \frac{3}{4}"$  TO  $32"$ .
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0".  
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



**STEEL POST & HOLE  
PUNCHING DETAIL  
(W 6 X 9) ①**

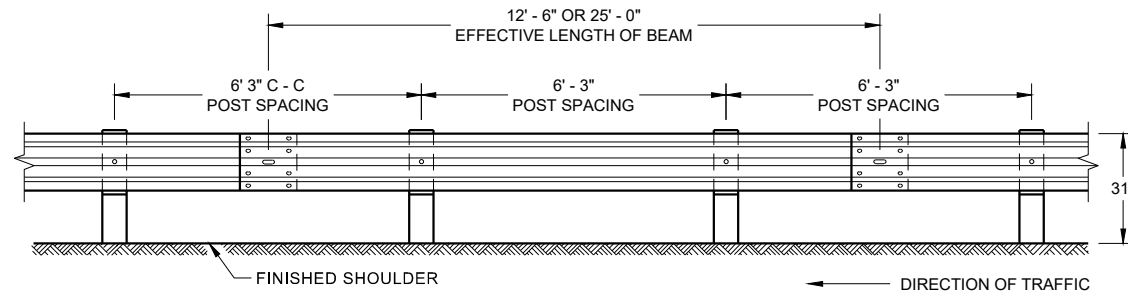


**WOOD POST (6" X 8") NOMINAL** <sup>(1)</sup>

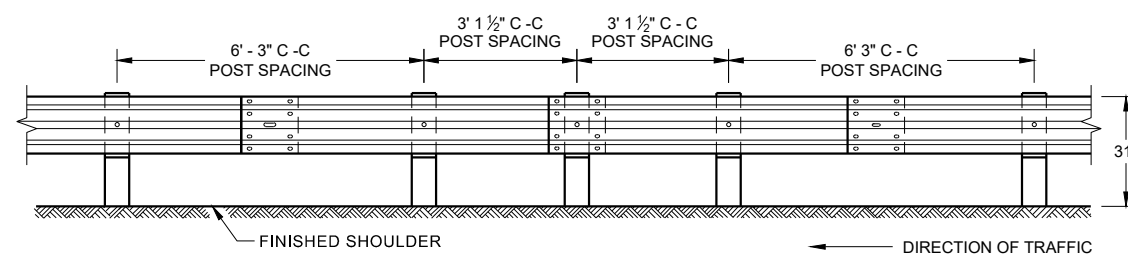


## MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

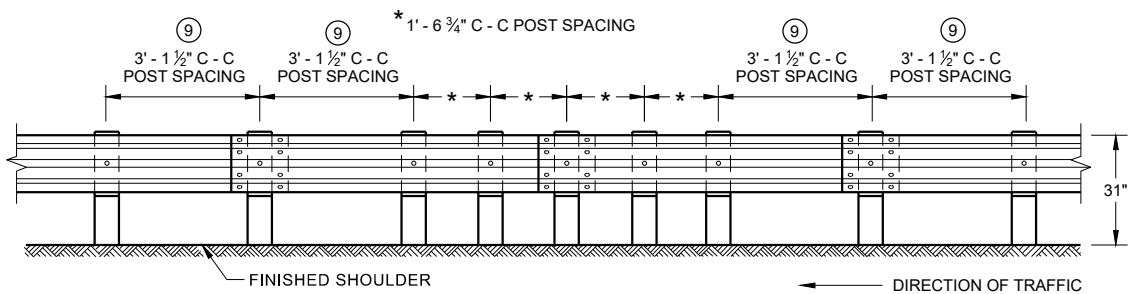
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 80



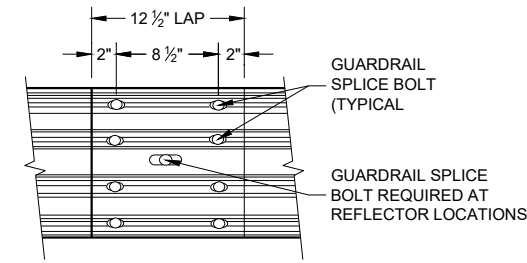
**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



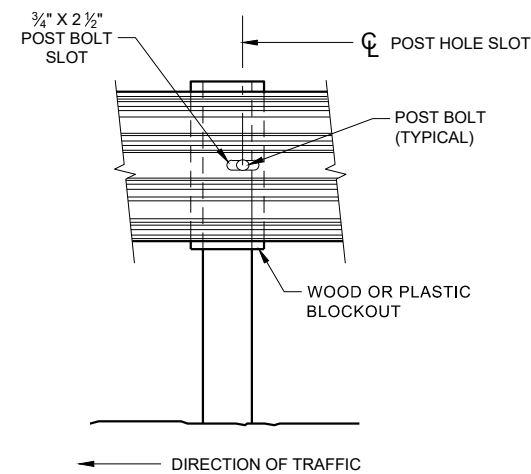
**FRONT VIEW  
HALF POST SPACING (HS) AND  
HALF POST SPACING WITH LONGER POSTS (K)**



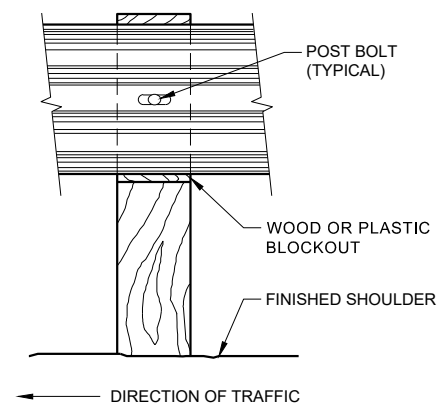
**FRONT VIEW  
QUARTER POST SPACING (QS)**



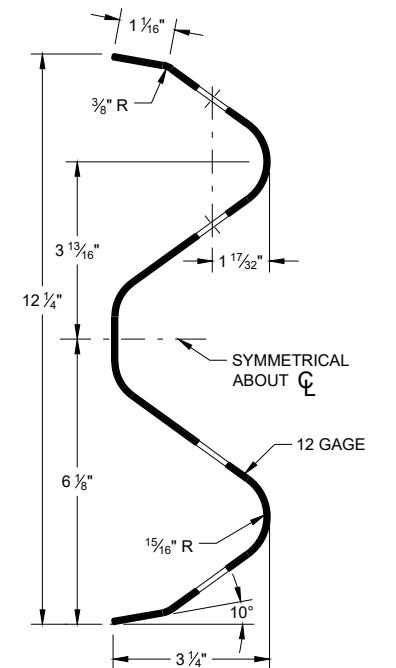
**FRONT VIEW  
MID-SPAN BEAM SPLICE**



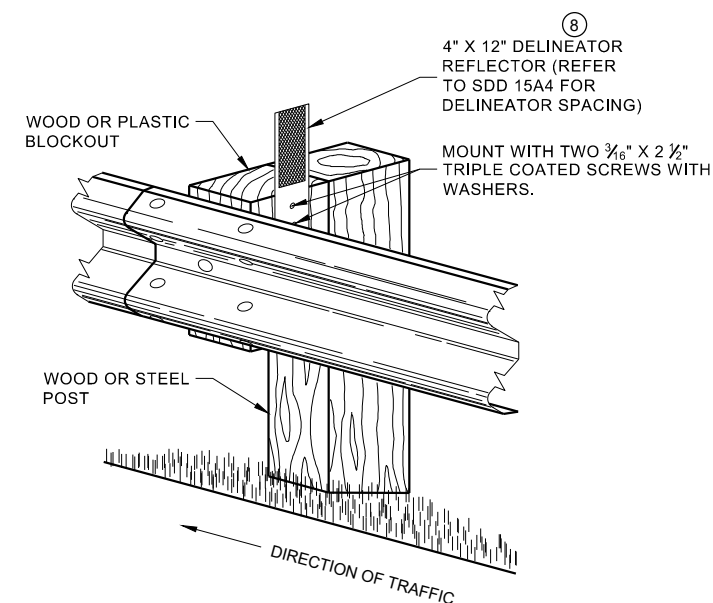
**FRONT VIEW AT STEEL POST**



**FRONT VIEW AT WOOD POST**



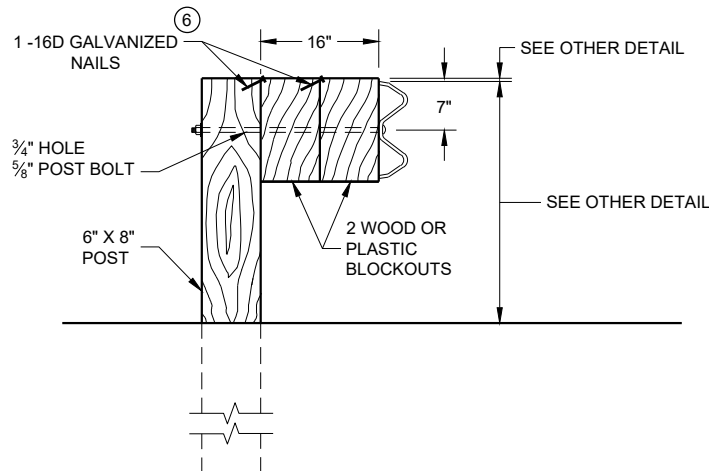
**SECTION THRU W-BEAM RAIL**



**ONE SIDED REFLECTOR DETAIL  
AND TYPICAL INSTALLATION**

## GENERAL NOTES

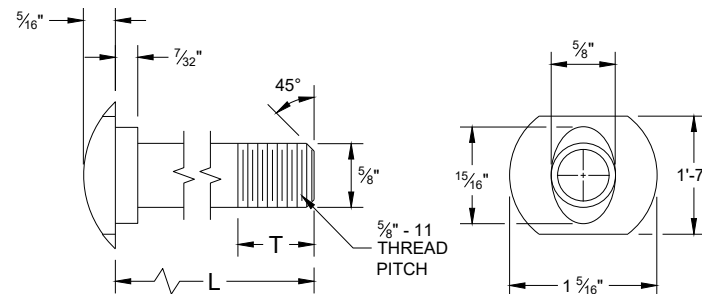
- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
  - 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/4" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



DETAIL FOR 16" BLOCKOUT DEPTH

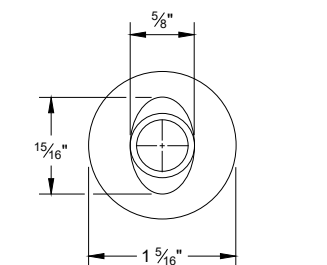
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

- NOTE:
1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF  $\frac{3}{16}$ ".
  2. IF THE BOLT EXTENDS MORE THAN  $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

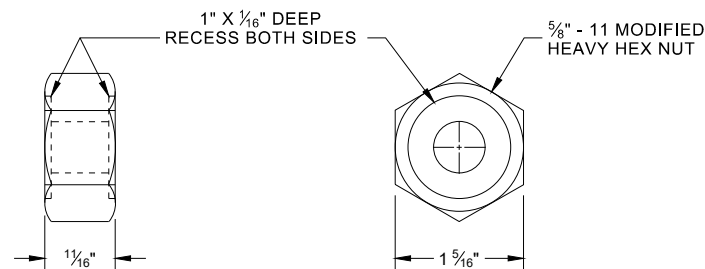


POST BOLT TABLE

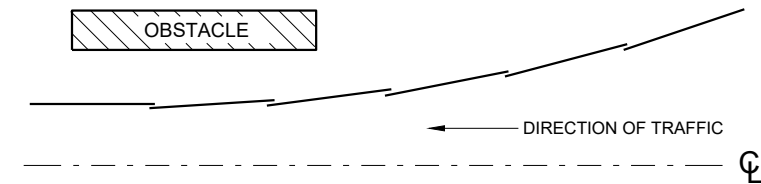
| L                 | T (MIN.)           |
|-------------------|--------------------|
| 1 $\frac{1}{4}$ " | 1 $\frac{1}{8}$ "  |
| 2"                | 1 $\frac{3}{4}$ "  |
| 10"               | 4"                 |
| 14"               | 4 $\frac{1}{16}$ " |
| 18"               | 4"                 |
| 21"               | 4 $\frac{1}{16}$ " |
| 25"               | 4"                 |



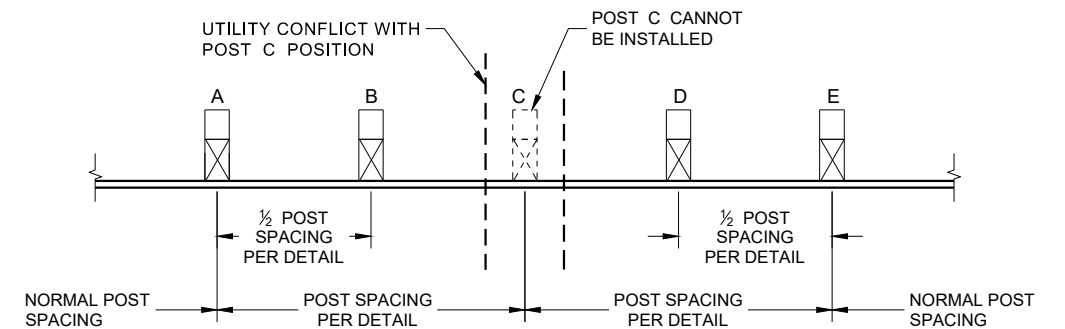
ALTERNATE BOLT HEAD



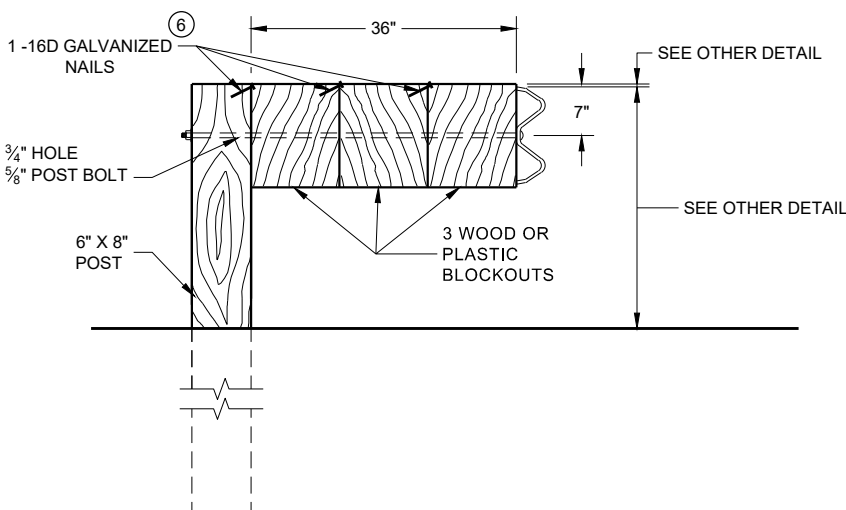
POST BOLT, SPLICE BOLT AND RECESS NUT



PLAN VIEW  
BEAM LAPPING DETAIL

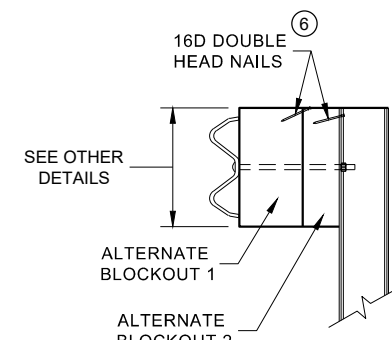


POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION

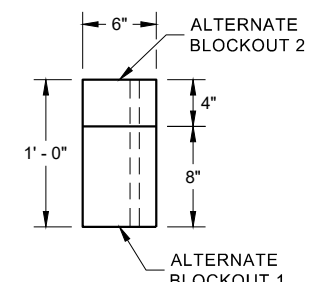


DETAIL FOR 36" BLOCKOUT DEPTH

- NOTES:
- UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
  - DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



SIDE VIEW



PLAN VIEW

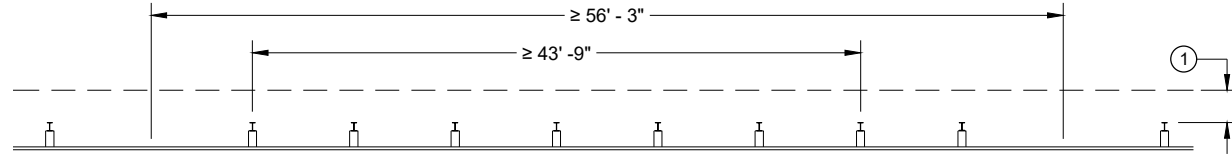
ALTERNATE WOOD  
BLOCKOUT DETAIL

- ⑥ WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

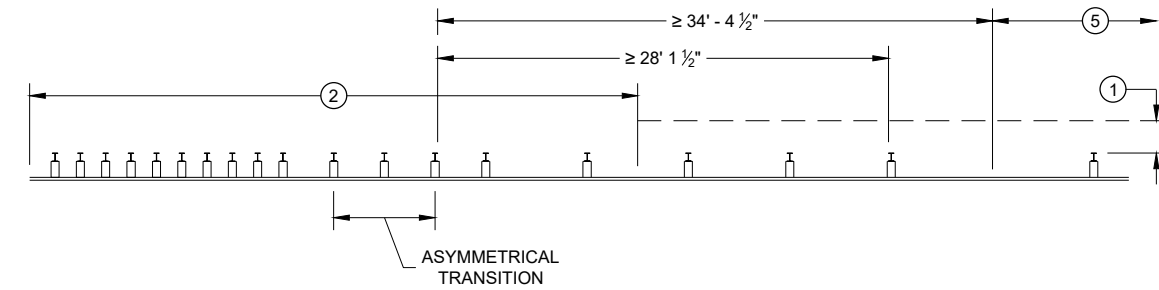
MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

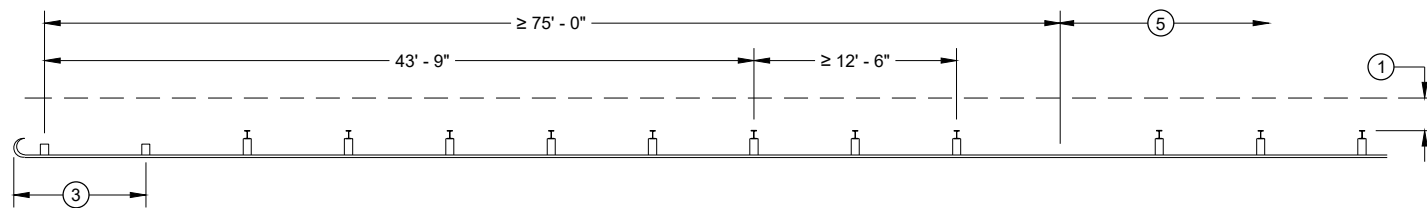




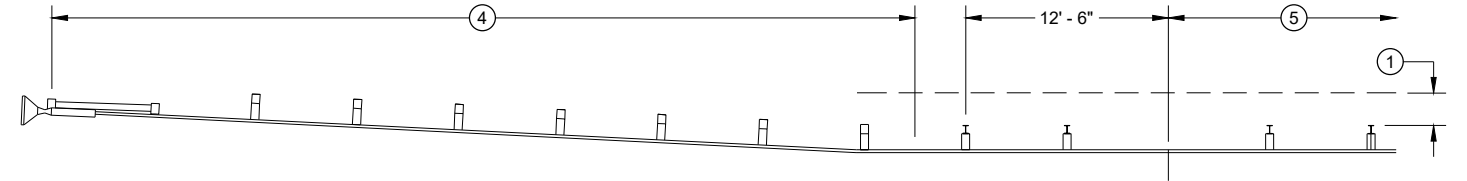
MISSING POST IN NORMAL BEAM GUARD RUN



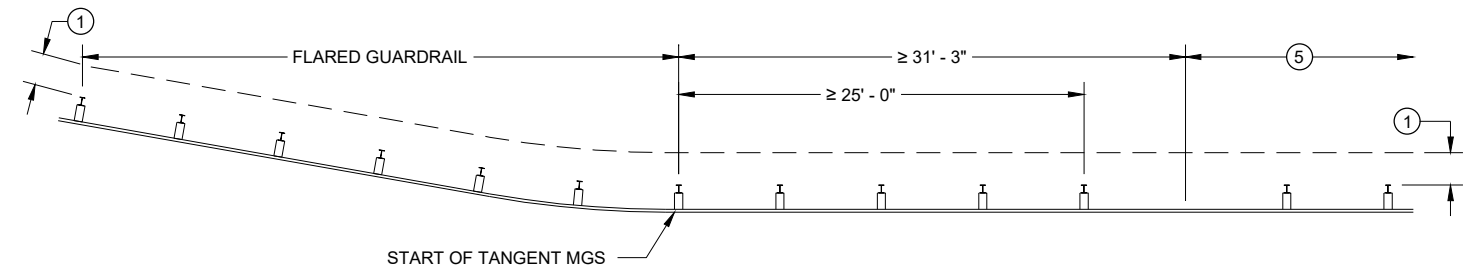
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



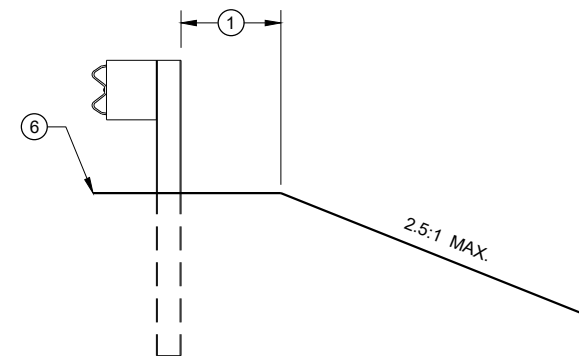
MISSING POST IN NORMAL BEAM GUARD RUN  
NEAR TYPE 2 TERMINAL



MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



MISSING POST IN NORMAL BEAM GUARD RUN  
NEAR FLARED BEAM GUARD



CROSS SECTION VIEW

- (1) MINIMUM OF 2 FEET OF GRADING BEHIND POST.
- (2) SEE SDD 14B45 FOR MORE DETAILS.
- (3) SEE SDD 14B47 FOR MORE DETAILS.
- (4) SEE SDD 14B44 FOR MORE DETAILS.
- (5) SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
- (6) SEE PLAN FOR SHOULDER DESIGN.

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

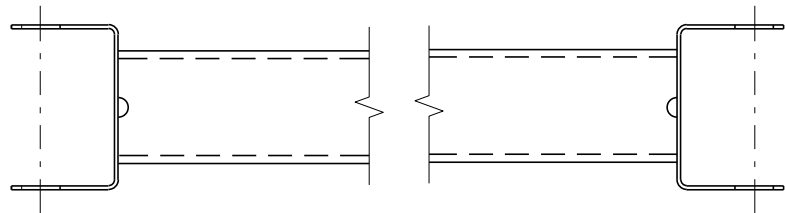
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7/2018  
DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
83  
FHWA

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
- (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
- (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

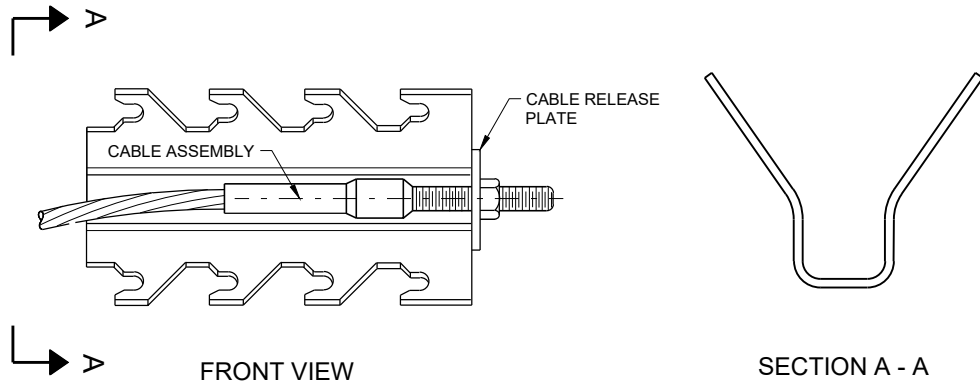
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 84

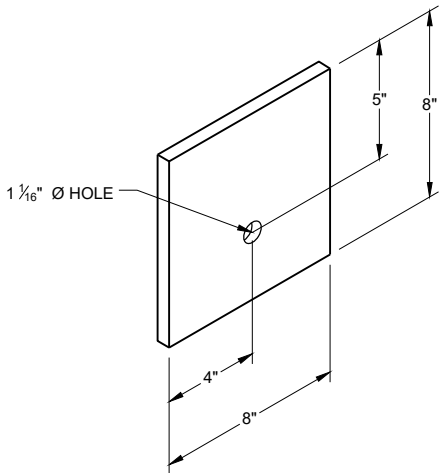


GENERIC GROUND STRUT<sup>9</sup> <sup>E</sup>

| BILL OF MATERIALS |                                                                                                                |
|-------------------|----------------------------------------------------------------------------------------------------------------|
| PART NO.          | DESCRIPTION<br>MATERIALS PROVIDED BY MGS EAT MANUFACTURER.<br>SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION. |
| ①                 | UPPER POST NO. 1 6" X 6" TUBE                                                                                  |
| ②                 | LOWER POST NO. 1                                                                                               |
| ③                 | WOOD CRT                                                                                                       |
| ④                 | WOOD BLOCKOUT                                                                                                  |
| ⑤                 | PIPE SLEEVE                                                                                                    |
| ⑥                 | BEARING PLATE                                                                                                  |
| ⑦                 | BCT CABLE ASSEMBLY                                                                                             |
| ⑧                 | ANCHOR CABLE BOX                                                                                               |
| ⑨                 | GROUND STRUT                                                                                                   |
| ⑩                 | PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.                                                                 |
| ⑪                 | STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED.<br>SECTIONS VARY IN LENGTH.                                  |
| ⑫                 | IMPACT HEAD                                                                                                    |
| ⑬                 | EAT MARKER POST - YELLOW<br>(SEE APPROVED PRODUCTS LIST)                                                       |
| ⑭                 | SOIL PLATE                                                                                                     |
| ⑮                 | UPPER POST NO. 2                                                                                               |
| ⑯                 | LOWER POST NO. 2                                                                                               |



GENERIC ANCHOR CABLE BOX<sup>9</sup> <sup>E</sup>

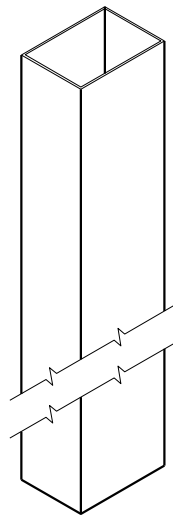


BEARING PLATE<sup>6</sup> <sup>E</sup>

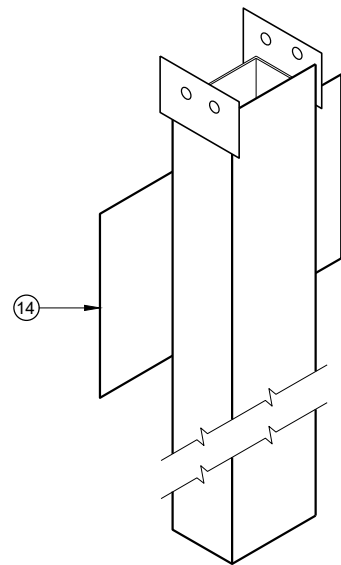
MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

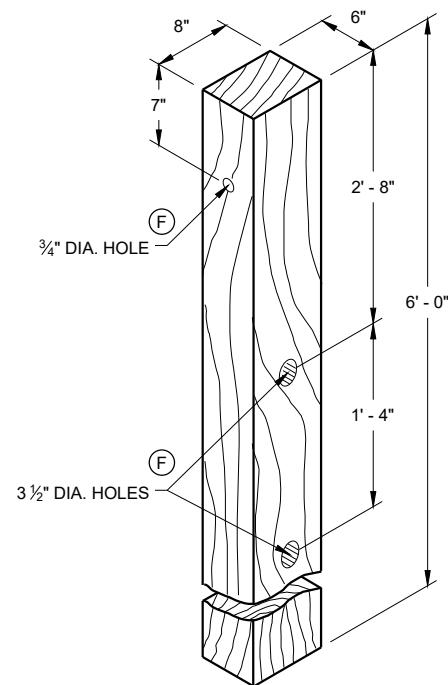




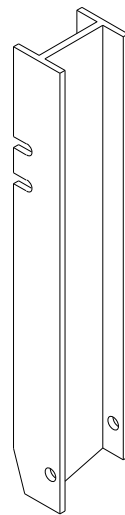
UPPER POST NO. 1 <sup>(1)</sup> (E)



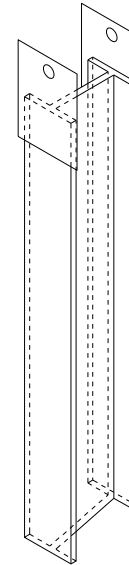
LOWER POST NO. 1 <sup>(2)</sup> (E)



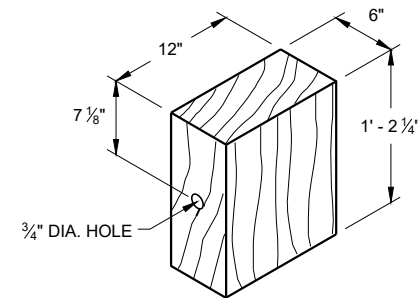
WOOD CRT POST <sup>(3)</sup> (E)  
POSTS NUMBER 3-9



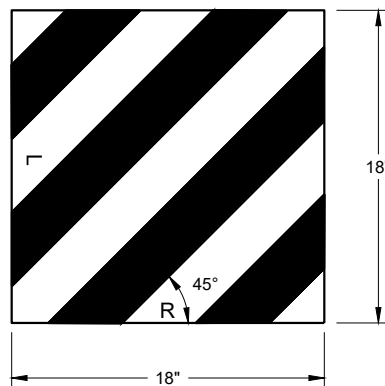
UPPER POST NO. 2 <sup>(15)</sup> (E)



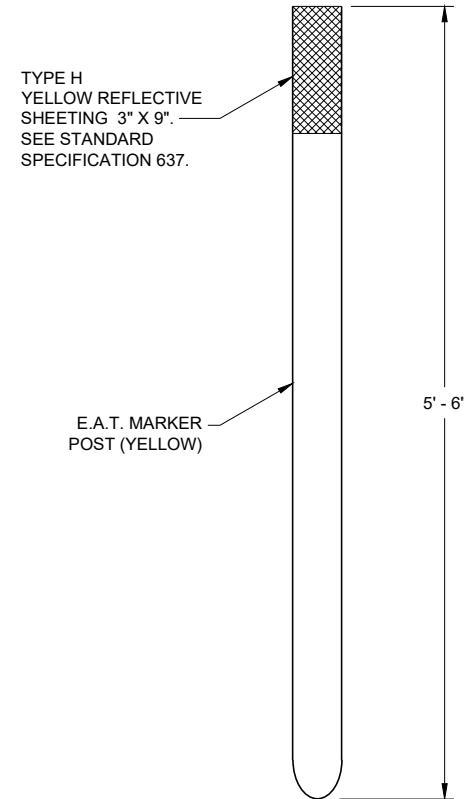
LOWER POST NO. 2 <sup>(16)</sup> (E)



WOOD BLOCKOUT <sup>(4)</sup>  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



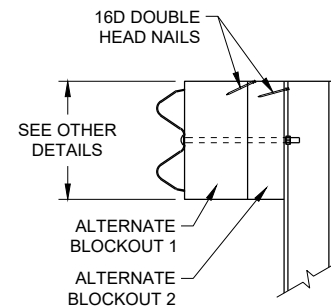
REFLECTIVE SHEETING DETAIL <sup>(E)</sup>



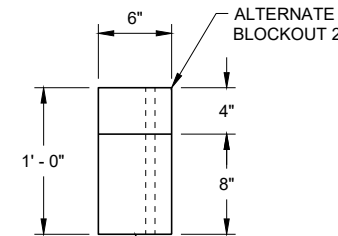
FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST <sup>(13)</sup>



SIDE VIEW



TOP VIEW

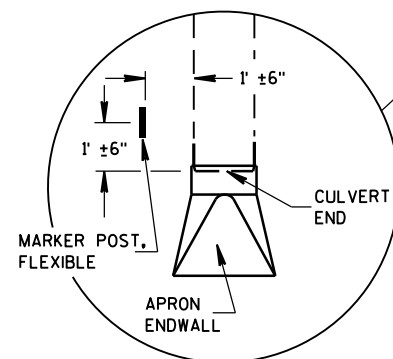
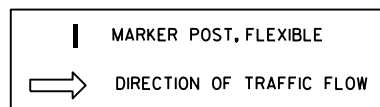
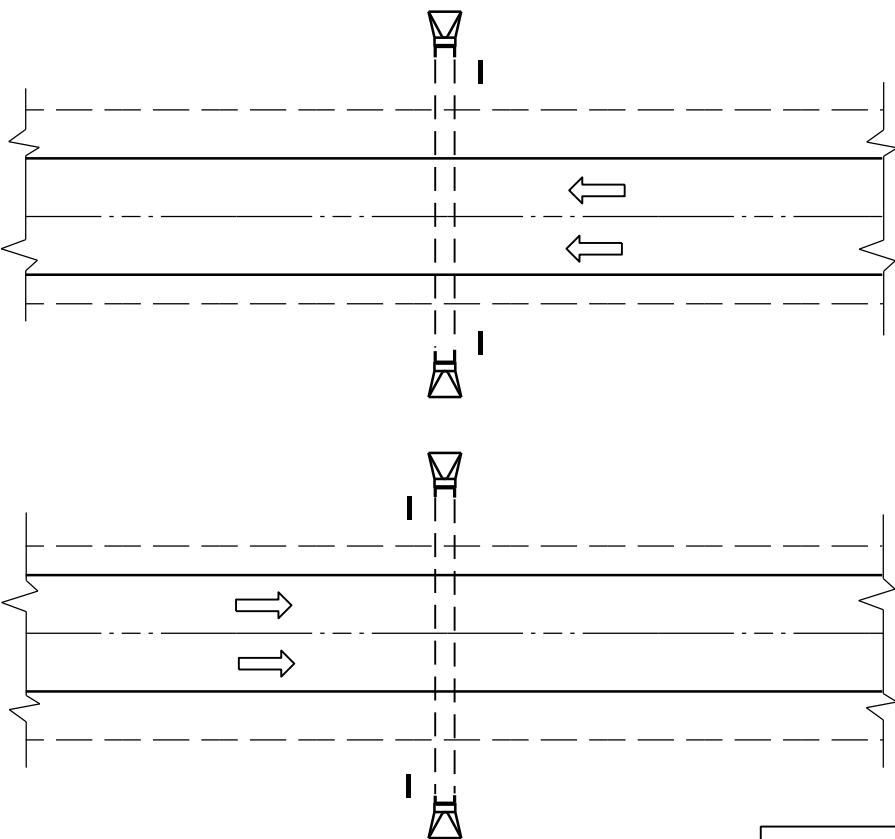
ALTERNATE WOOD  
BLOCKOUT DETAIL

**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

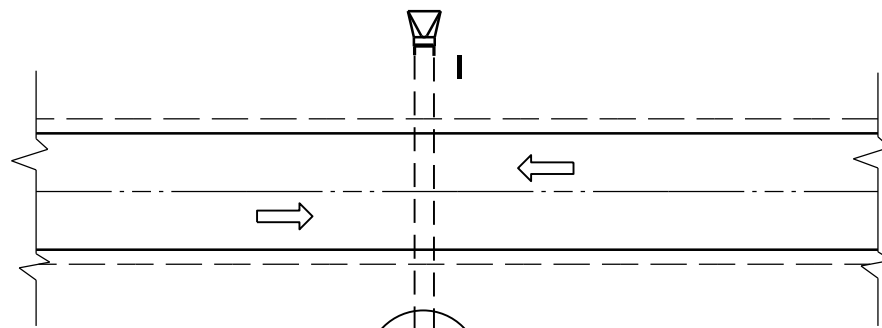
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7/2018 DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR  
FHWA 86

PLAN VIEW  
DIVIDED HIGHWAY



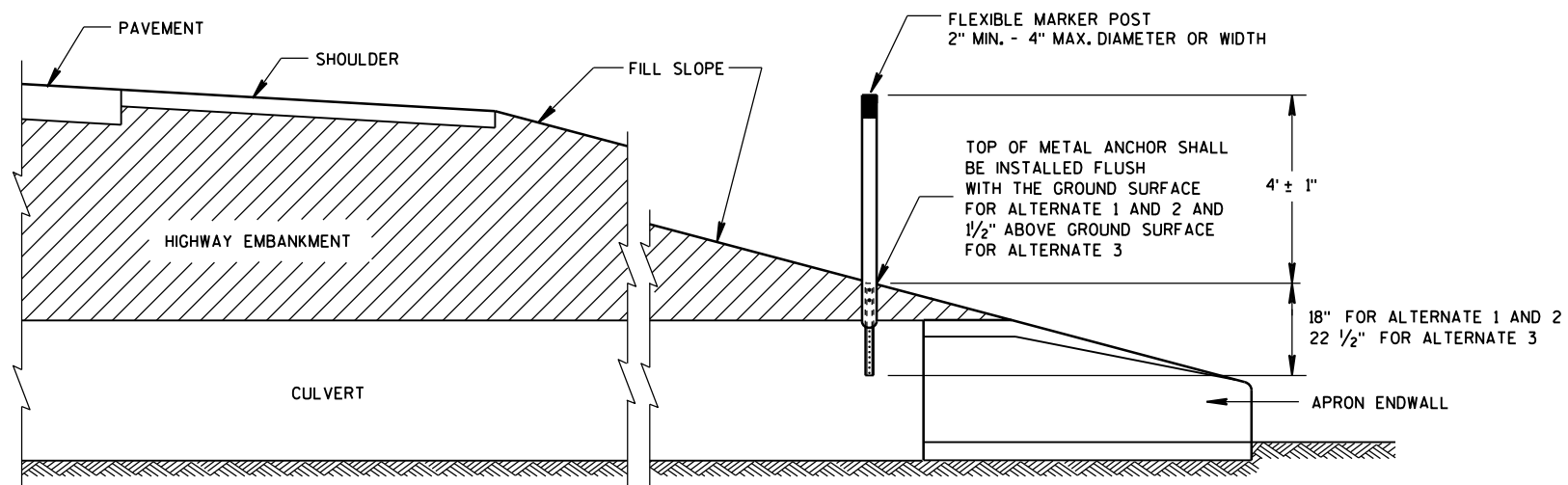
DETAIL A  
(TYPICAL)

PLAN VIEW  
UNDIVIDED HIGHWAY



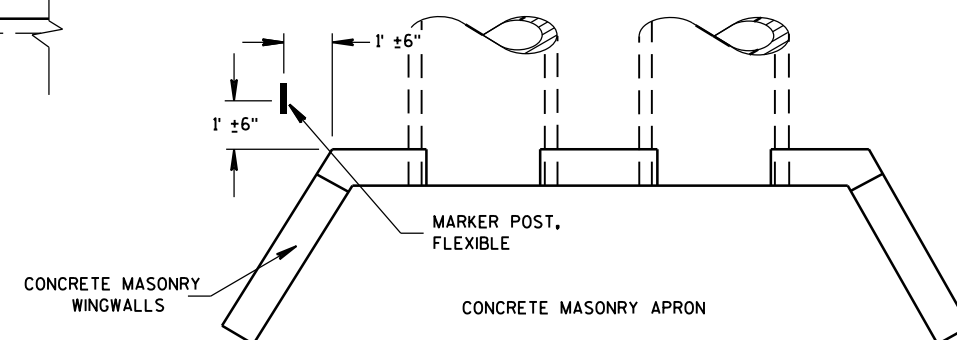
## FLEXIBLE MARKER POST LOCATION

CROSS SECTION  
FLEXIBLE MARKER POST



## GENERAL NOTES

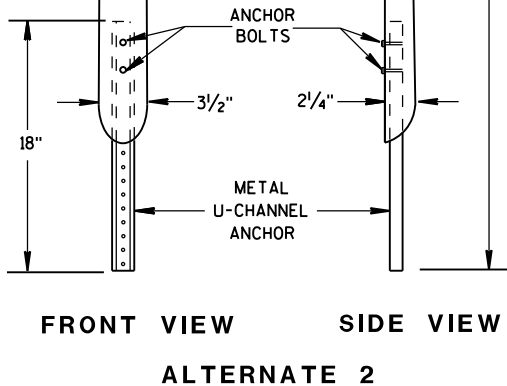
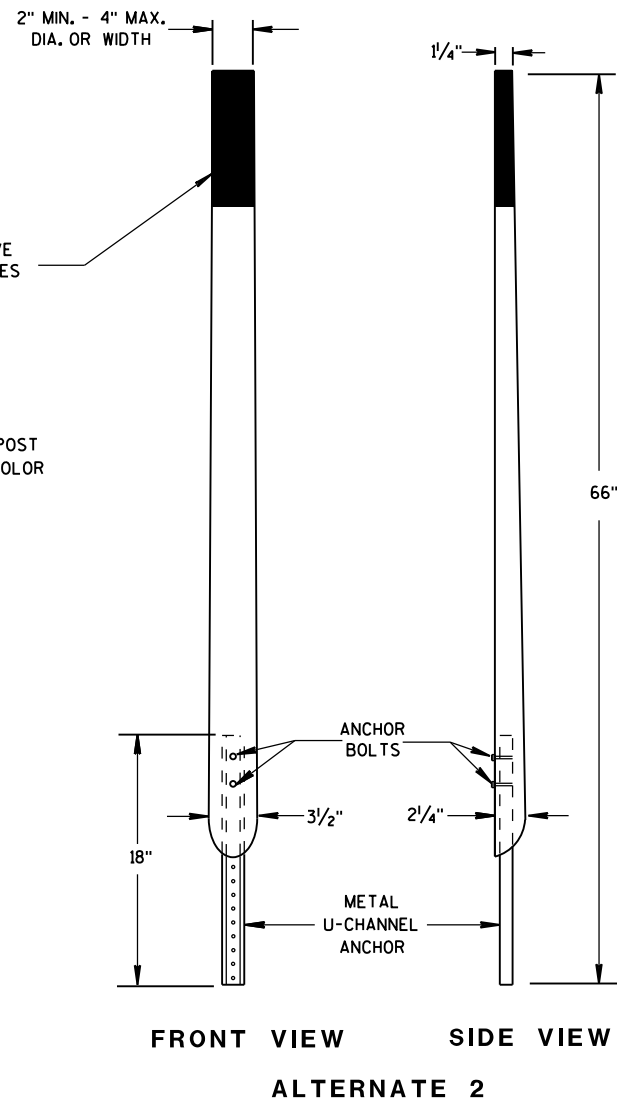
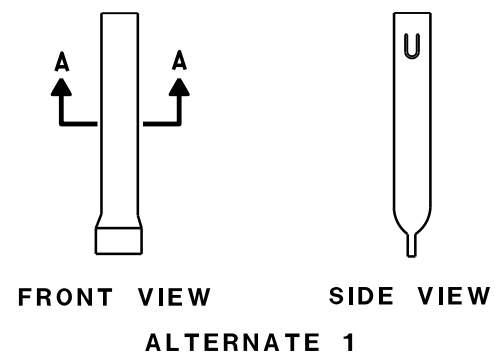
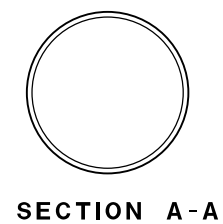
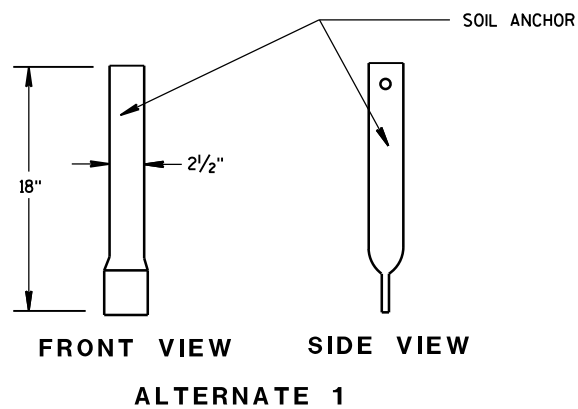
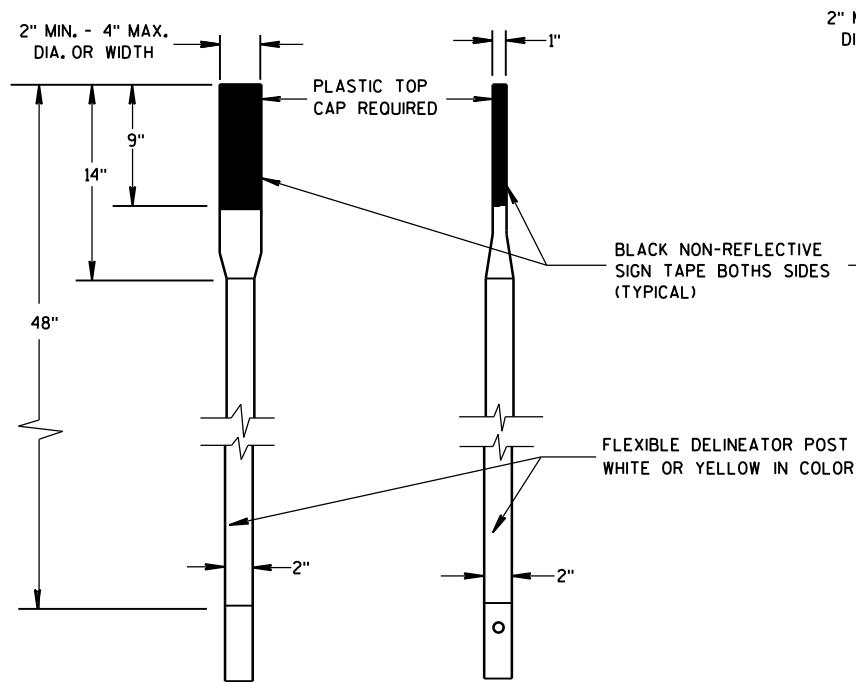
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



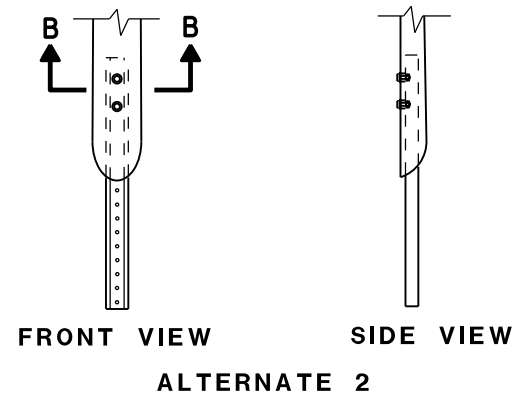
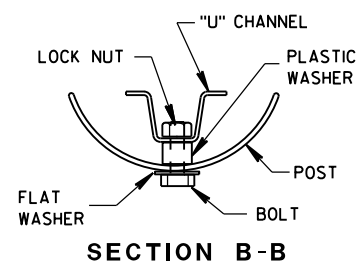
PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST  
FOR CULVERT END

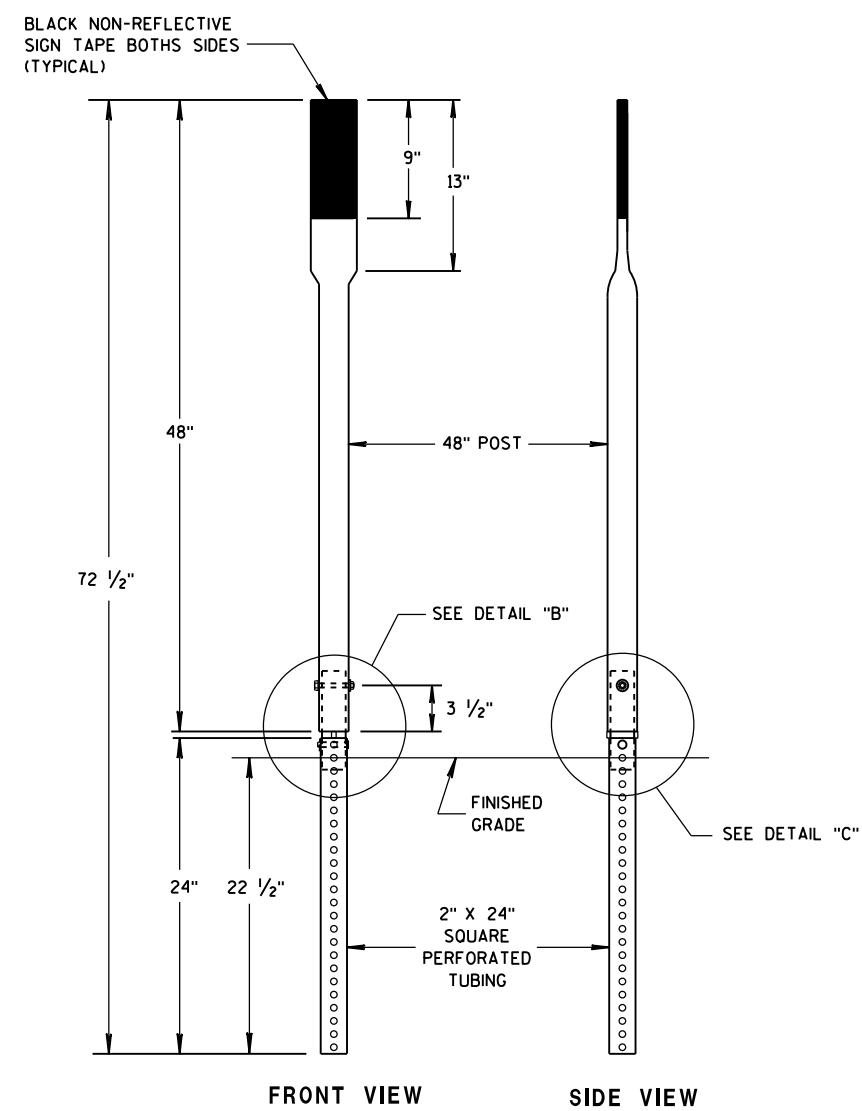
STATE OF WISCONSIN  
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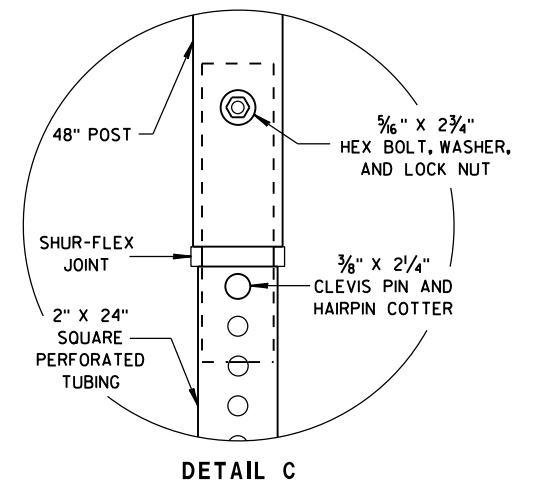
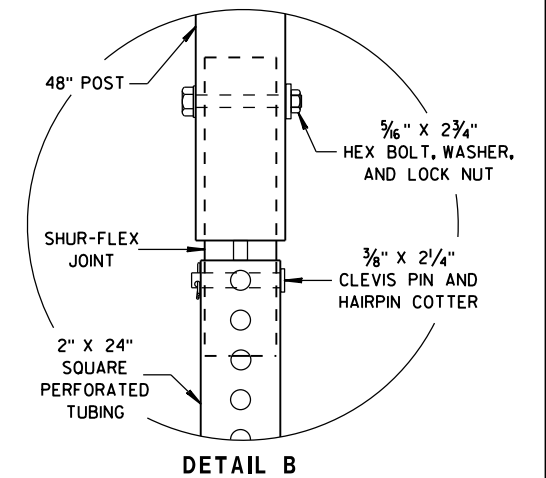
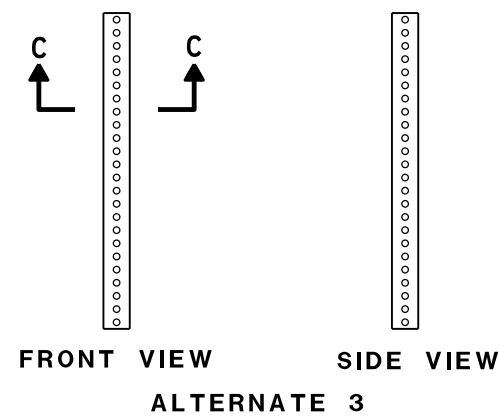
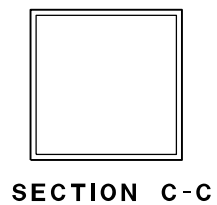
### FLEXIBLE MARKER POSTS



### FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW  
ALTERNATE 3



### FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

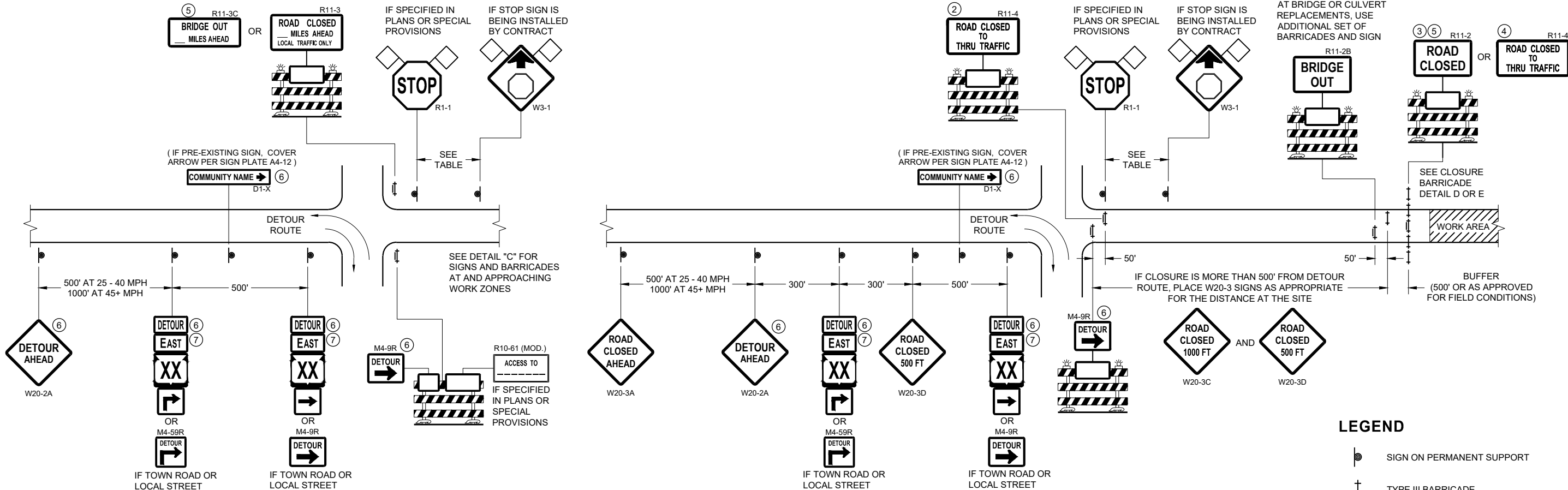
10/1/2012  
DATE

FHWA

/S/ Travis Feltes  
STATE TRAFFIC ENGINEER 88

IGN





**LEGEND**

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

| SPEED LIMIT (MPH) | "STOP AHEAD" ADVANCE WARNING DISTANCE (FT) |
|-------------------|--------------------------------------------|
| 25                | 200                                        |
| 30                | 200                                        |
| 35                | 350                                        |
| 40                | 350                                        |
| 45                | 500                                        |
| 50                | 550                                        |
| 55                | 750                                        |

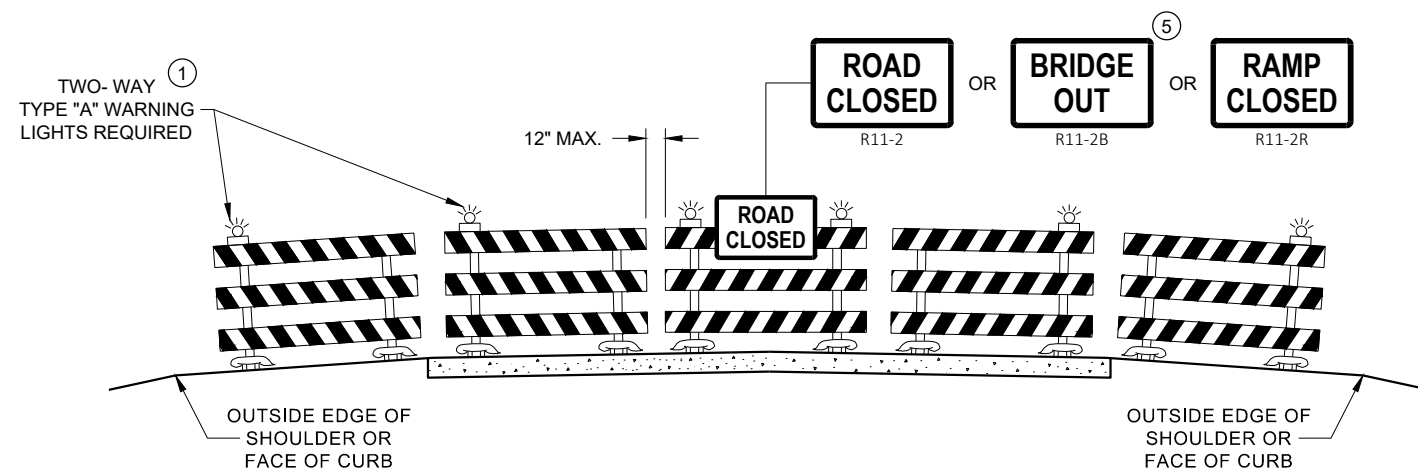
SEE SDD 15C2-SHEET "b" FOR GENERAL NOTES AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

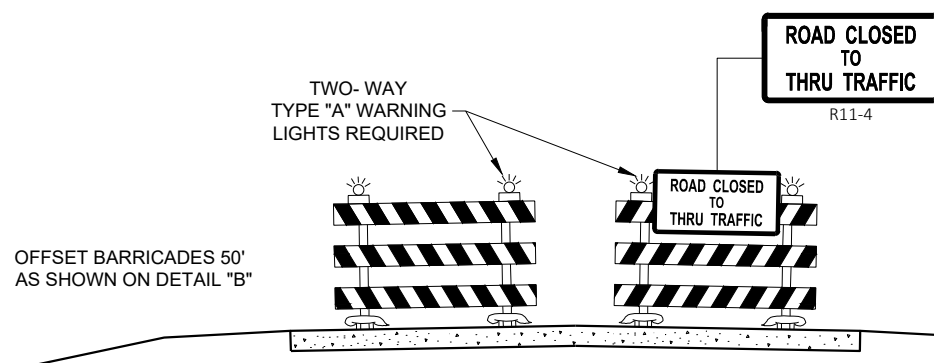
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER 89

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**DETAIL D**  
**ROAD CLOSURE BARRICADE DETAIL**  
**APPROACH VIEW**



**DETAIL E**  
**LANE CLOSURE BARRICADE DETAIL**  
**APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

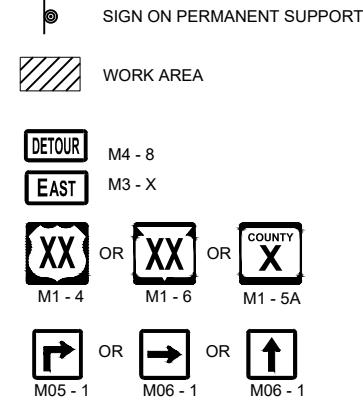
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

## BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER 90  
FHWA



WORK AREA

**DETOUR** M4 - 8

**EAST** M3 - X



XX

COUNTY  
**X**



M05 -

 M06 -

R  M06 -

## GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)

M4-8 SHALL BE 24" X 12" (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS)

M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)

M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)

M4-9 AND M4-59 SHALL BE 30" X 24"

M4-8a SHALL BE 24" X 18"

G20-51 SHALL BE 60" X 24"

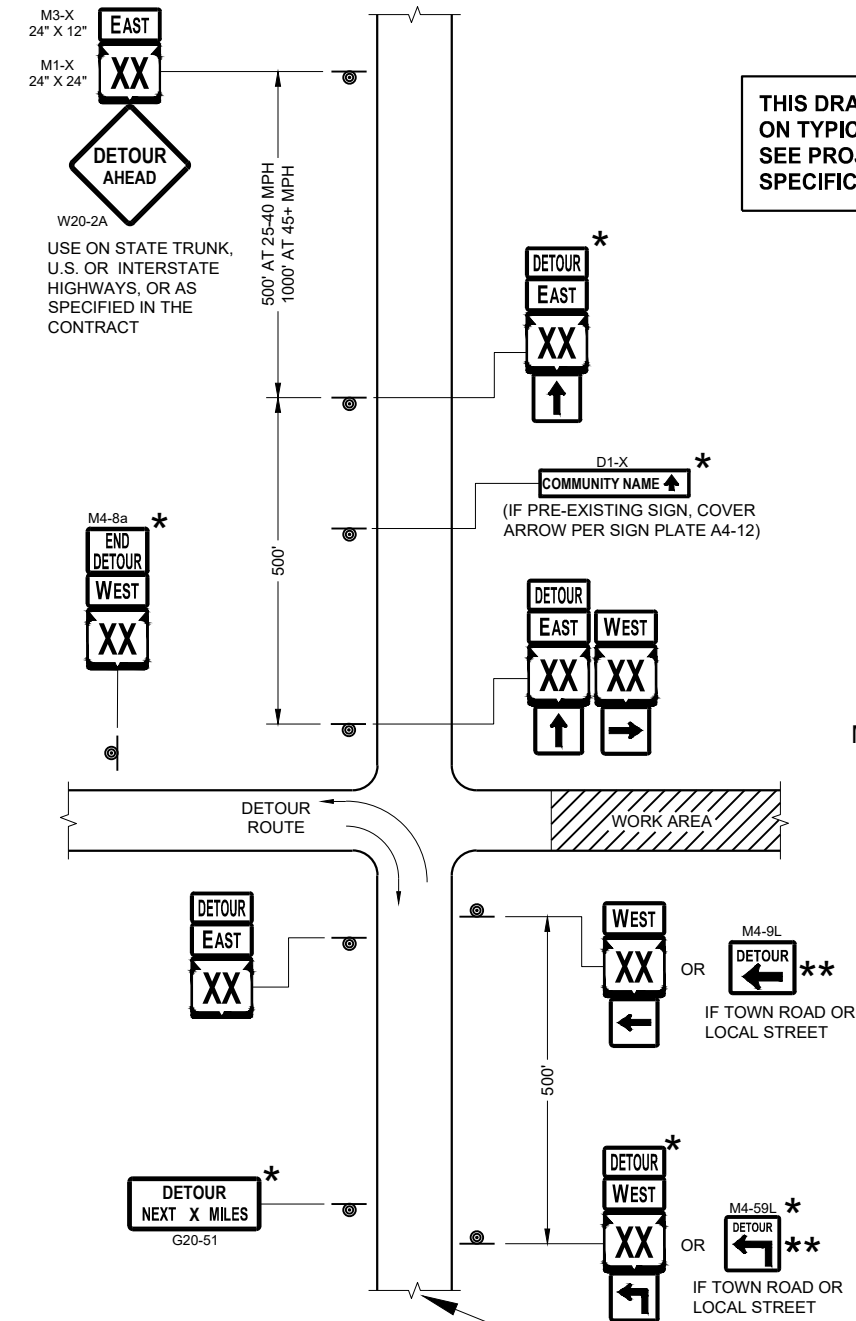
W20-2 SHALL BE 48" X 48"

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

\* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

**\*\* FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M-49 SIGN AS SPECIFIED IN THE CONTRACT.**

**THIS DRAWING PROVIDES GENERAL GUIDANCE  
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.  
SEE PROJECT DETOUR SIGNING SHEETS FOR  
SPECIFIC DETAILS FOR EACH PROJECT.**



MATCH POINT

### DETAIL F DETOUR SIGNING

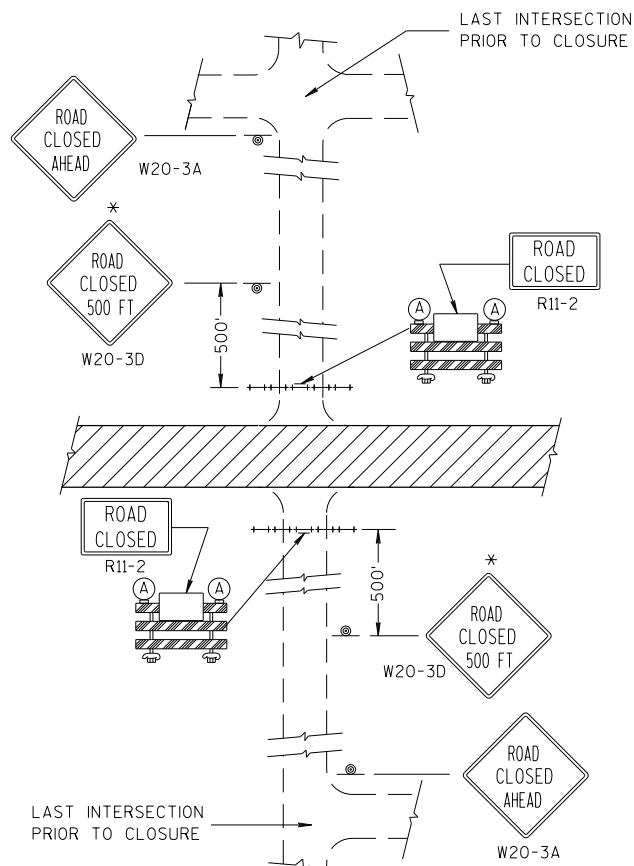
SEE SPECIFIC PROJECT DETOUR  
SIGNING DETAIL SHEETS AND  
DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

## DETOUR SIGNING FOR MAINLINE CLOSURES

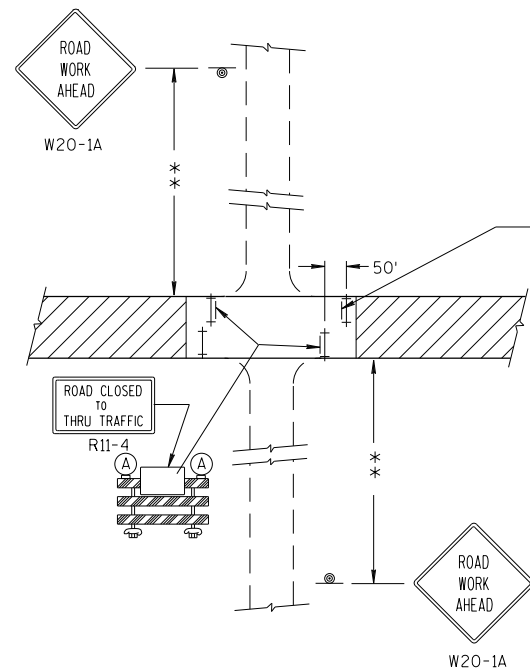
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2018 \_\_\_\_\_ /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER 91

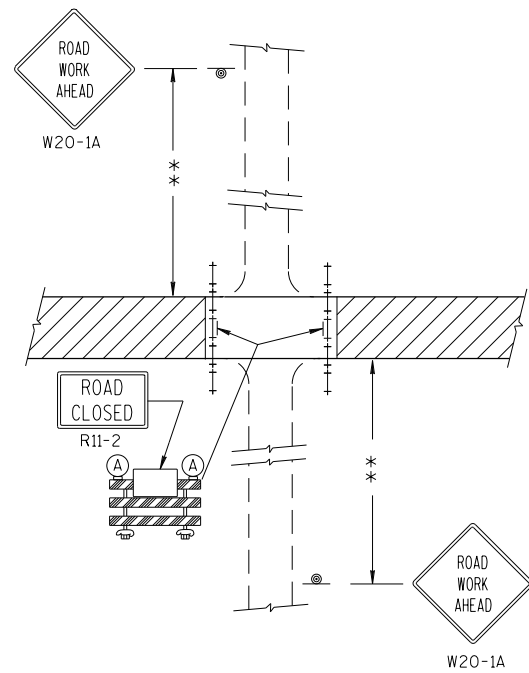




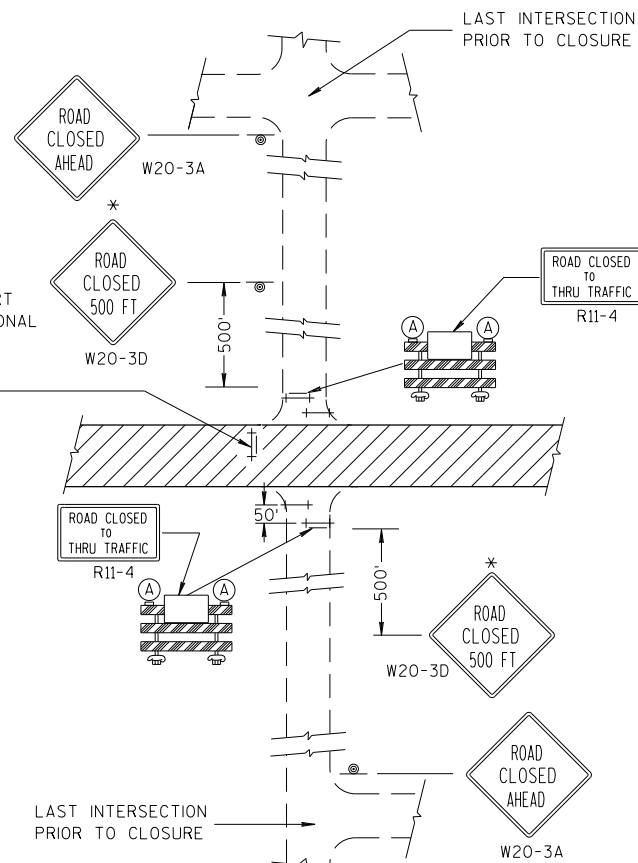
**DETAIL 1**  
(NO ACCESS TO PROJECT)



**DETAIL 3**  
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



**DETAIL 2**  
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).



**DETAIL 4**  
(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

\*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

\*\*500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

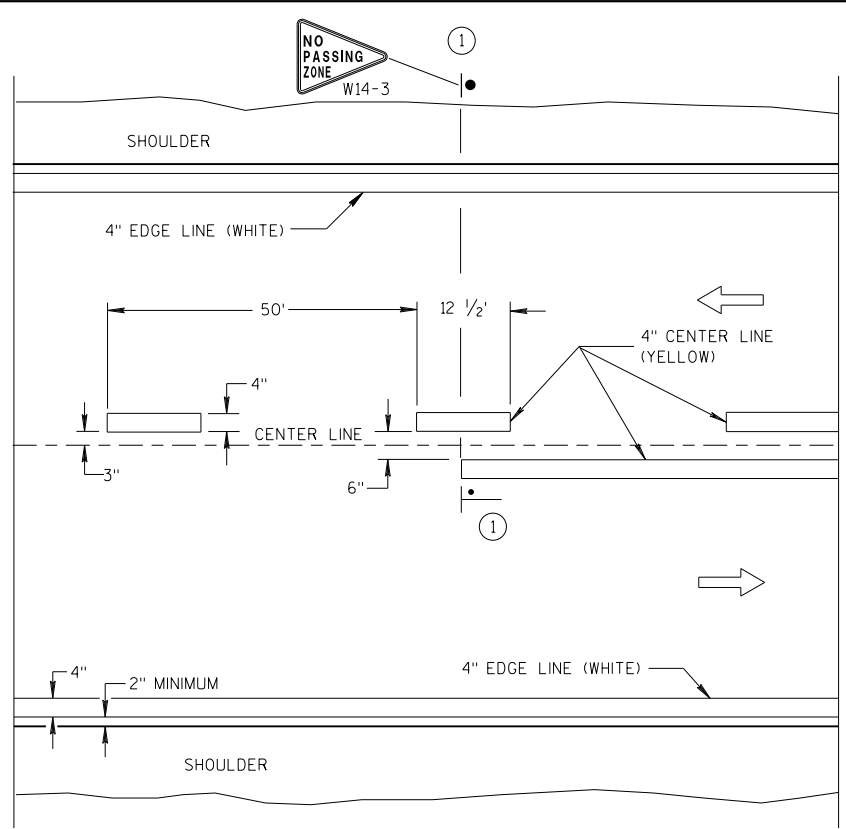
## LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

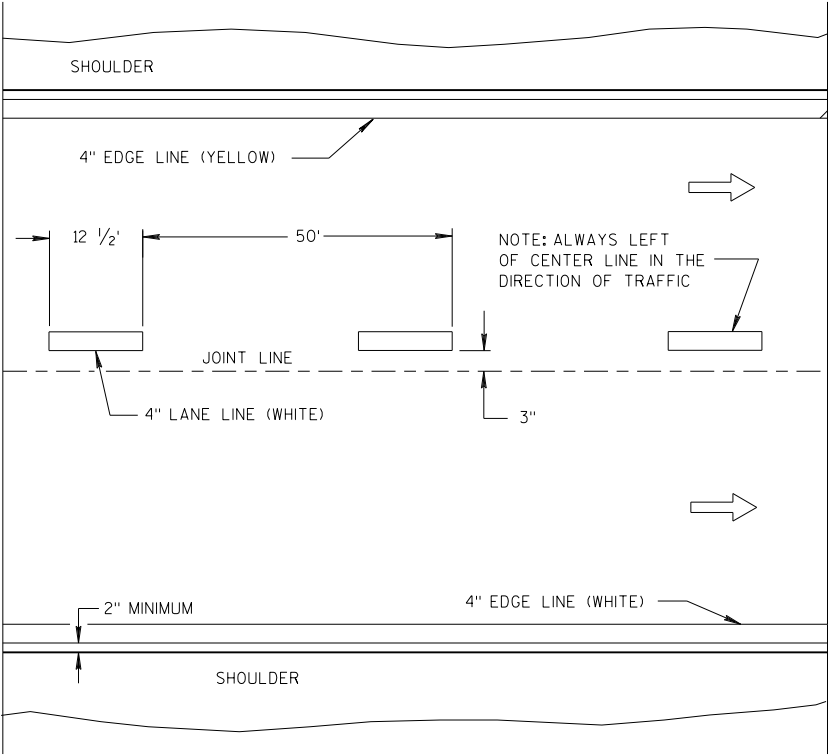
## BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGI 92  
FHWA

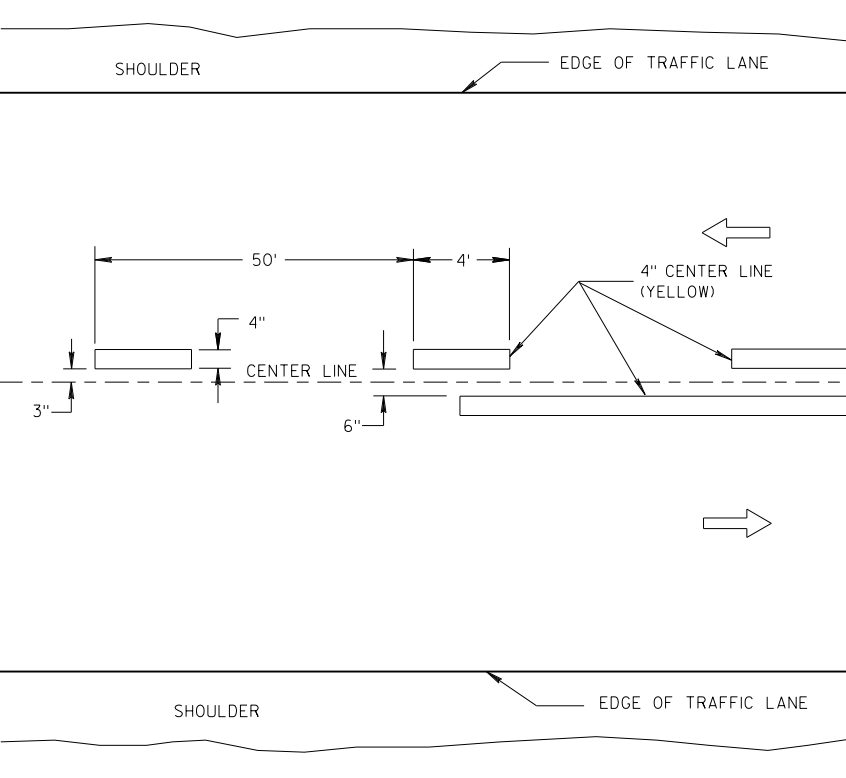


TWO WAY TRAFFIC

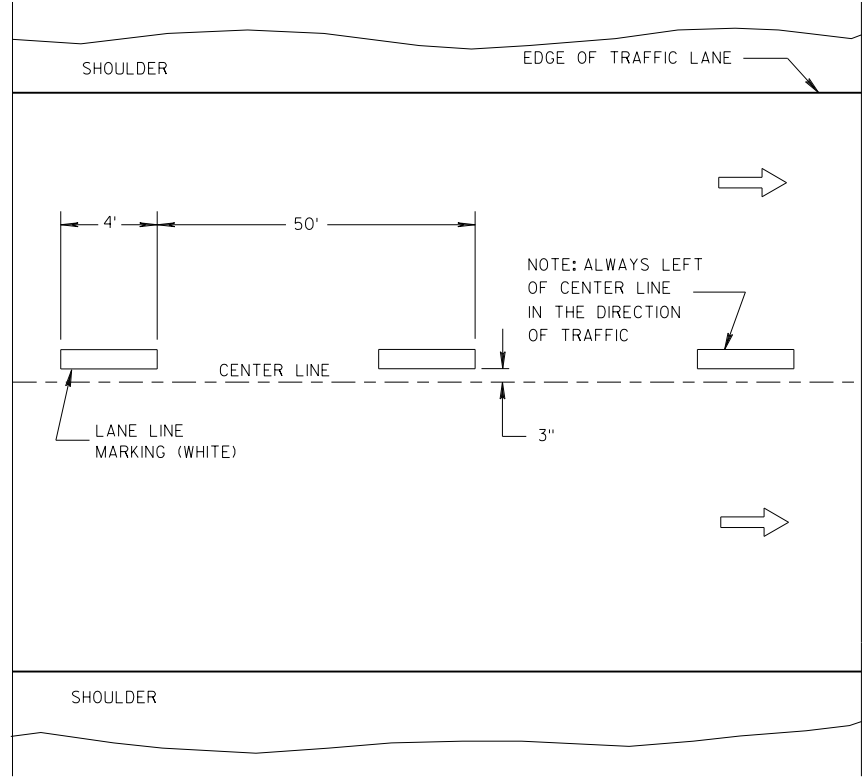


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

1 LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018 /S/ Matthew R. Rauch  
DATE STATE SIGNING AND MAR 93 INEER  
FHWA

LEGEND

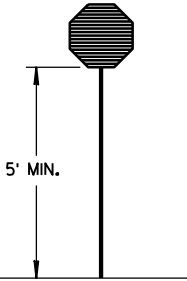
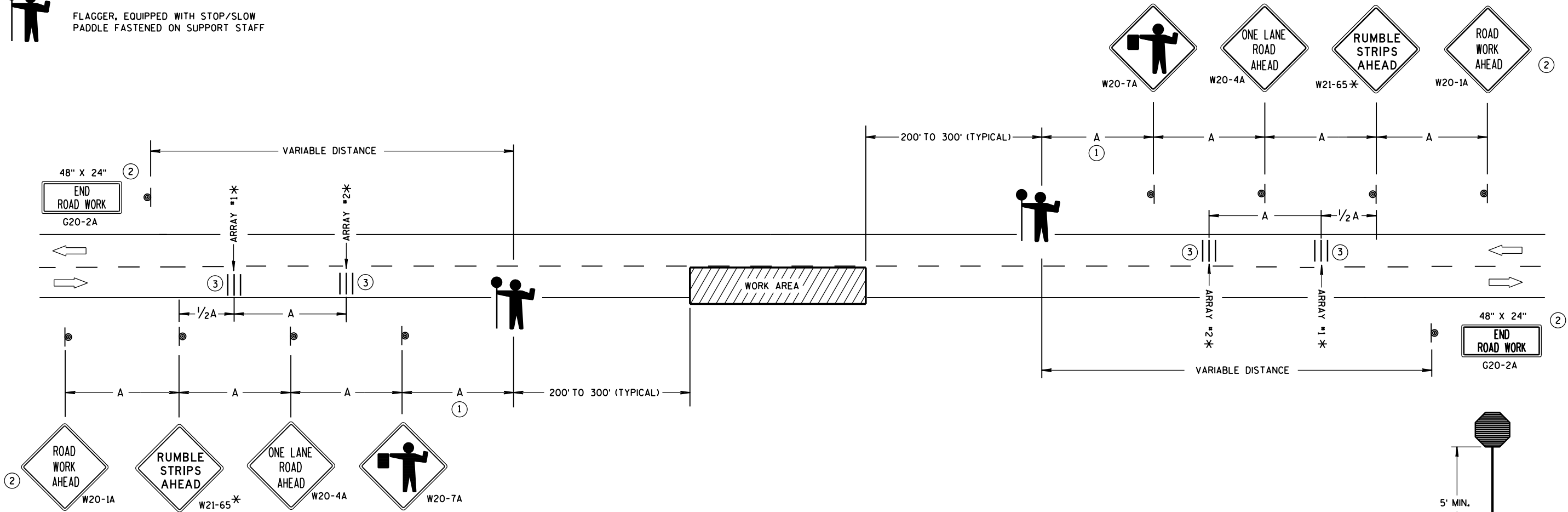
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

| SPEED LIMIT | SPACING A |
|-------------|-----------|
| 25-35 MPH   | 200'      |
| 35-40 MPH   | 350'      |
| 45-55 MPH   | 500'      |



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.



STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE LOCATION OF ALL FLAGGERS) SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS. PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

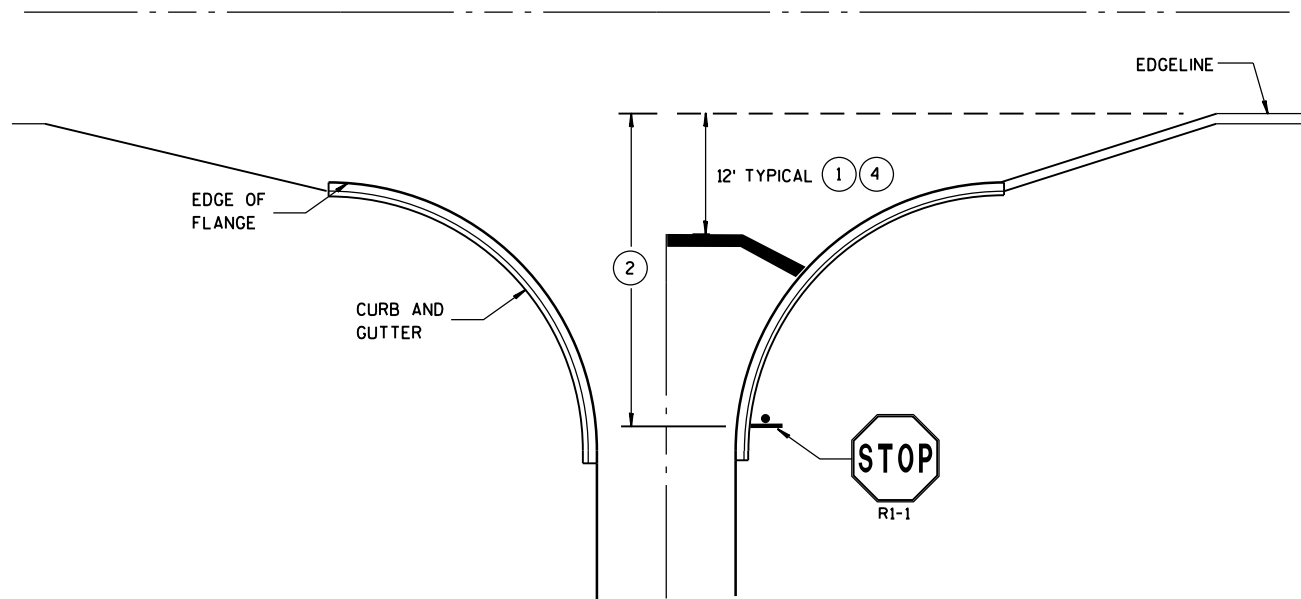
- \* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.
- ① FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- ③ EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

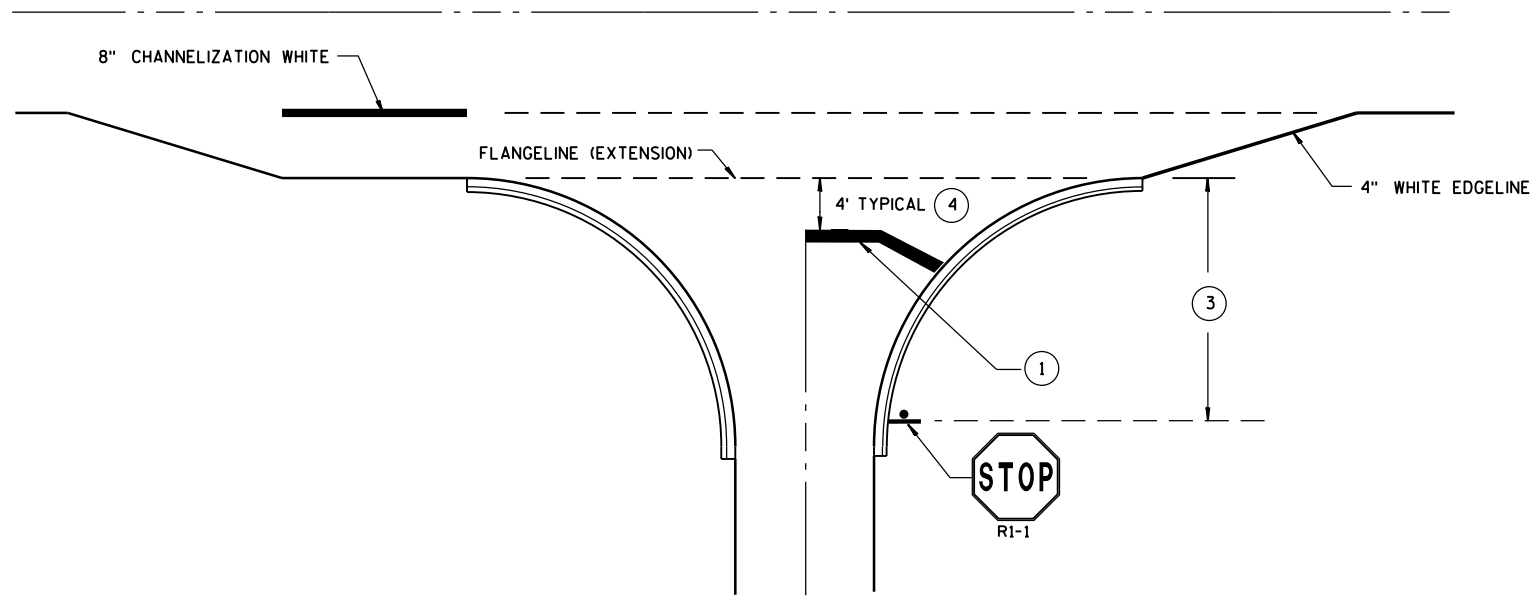
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
June 2017 /S/ Andrew Heldtke  
DATE WORK ZONE ENC 94  
FHWA





TYPICAL STOP LINE PAVEMENT MARKING  
WITH CURB AND GUTTER

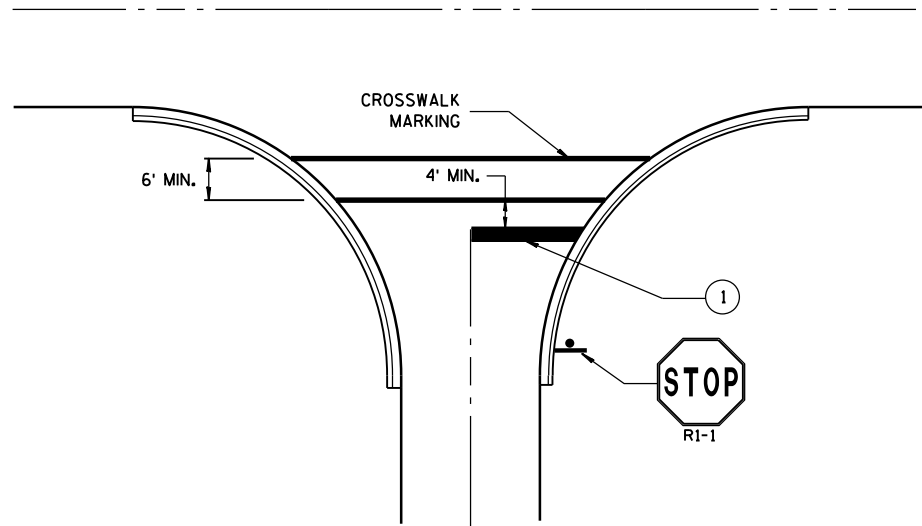


TYPICAL STOP LINE PAVEMENT MARKING  
FOR SIDEROADS WITH RIGHT TURN LANE

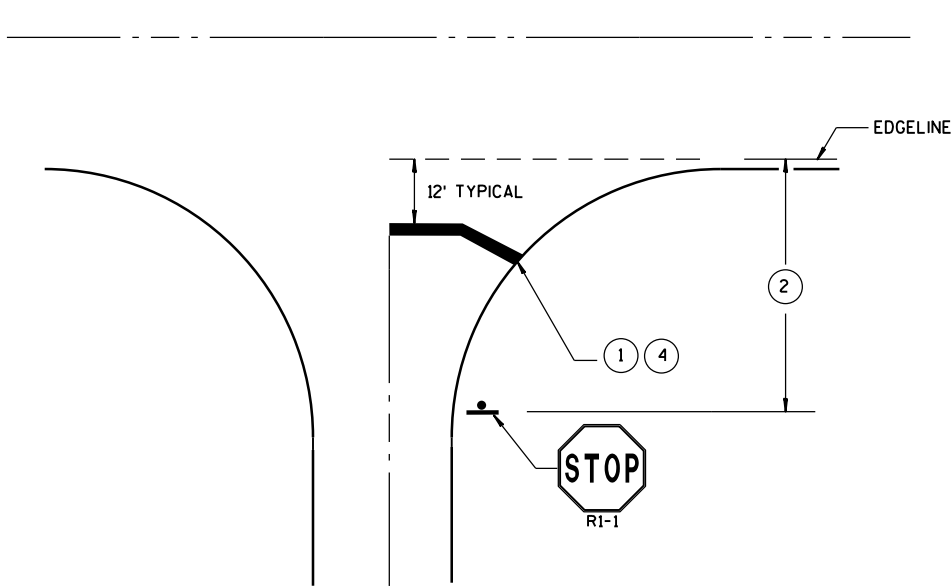
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGE LINE LOCATION.

- 1 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- 2 IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- 3 IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- 4 MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

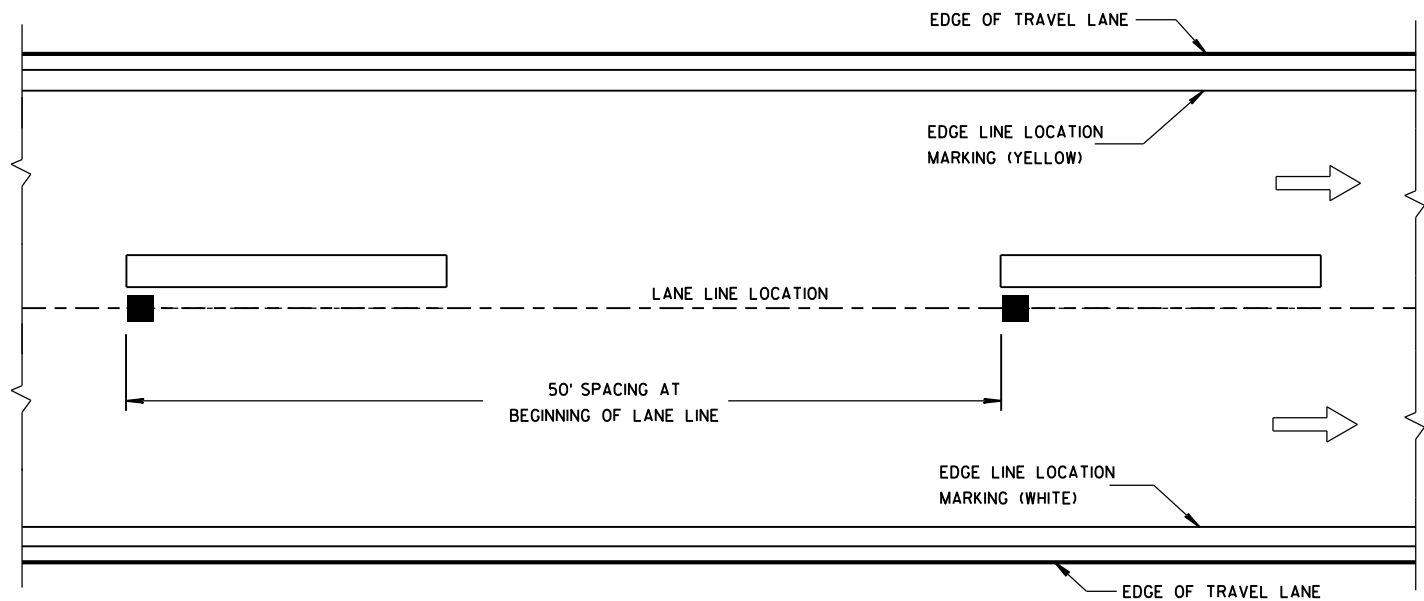


TYPICAL STOP LINE PAVEMENT MARKING  
FOR SIDEROADS WITH CROSSWALK MARKING

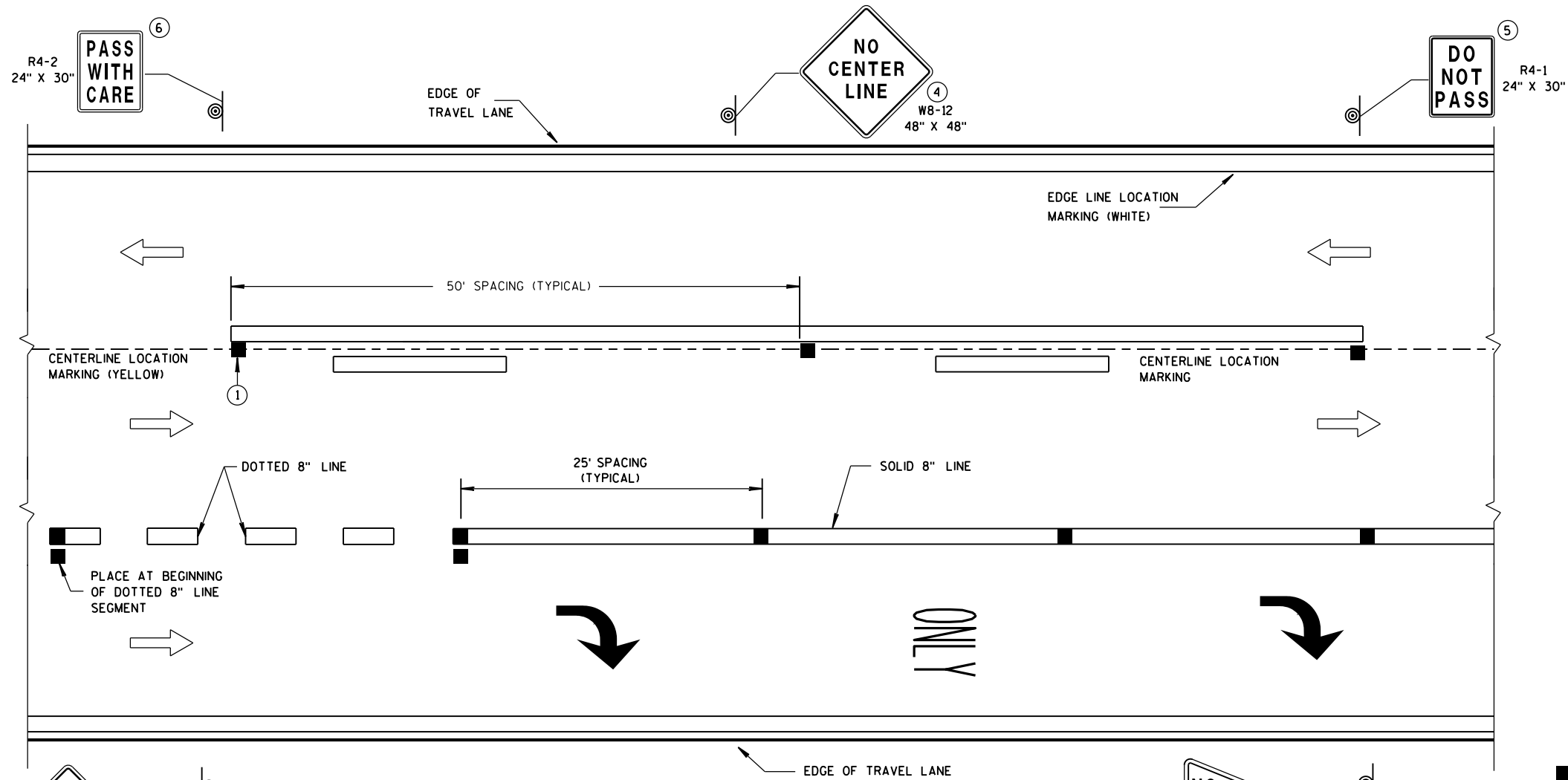


TYPICAL STOP LINE PAVEMENT MARKING  
WITHOUT CURB AND GUTTER

| STOP LINE AND CROSSWALK<br>PAVEMENT MARKING        |                          |                      |      |
|----------------------------------------------------|--------------------------|----------------------|------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                          |                      |      |
| APPROVED                                           |                          |                      |      |
| DATE                                               | Sept., 2017              | /S/ Matthew R. Rauch | VEER |
| FHWA                                               | STATE SIGNING AND MAR 95 |                      |      |



LONGITUDINAL PLACEMENT 4-INCH LANE LINE



LONGITUDINAL PLACEMENT 4-INCH CENTERLINE AND 8-INCH CHANNEL LINE

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

COLOR OF TEMPORARY RAISED PAVEMENT MARKERS, TYPE II SHALL MATCH THE COLOR OF THE MARKING THEY SUPPLEMENT.

PLACEMENT OF TEMPORARY RAISED PAVEMENT MARKERS ON EDGE LINES ARE OPTIONAL. IF PLACED ON EDGE LINES, MAXIMUM SPACING SHALL BE 50 FEET.

PROVIDE SINGLE OR MULTI-COVER TEMPORARY RAISED PAVEMENT MARKERS AS SHOWN ON PLAN.

MARK T's ON PAVEMENT FOR RE-ESTABLISHING NO PASSING ZONES.

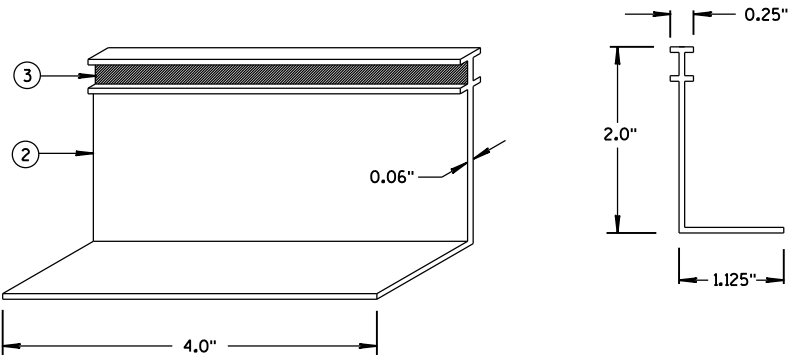
SAME DAY TEMPORARY PAVEMENT MARKING MAY BE USED IN LIEU OF TEMPORARY RAISED PAVEMENT MARKERS, TYPE II.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF TEMPORARY SAME DAY PAVEMENT MARKING IS USED, ENSURE PROPOSED PAVEMENT MARKINGS ARE PLACED IN THE EXACT LOCATIONS AS THE EXISTING MARKINGS, USING A MINIMAL AMOUNT OF TEMPORARY RAISED PAVEMENT MARKERS, TYPE II OR OTHER METHODS AS APPROVED BY THE ENGINEER.

IF ROADWAY IS DETOURED DURING CONSTRUCTION, THE DO NOT PASS, PASS WITH CARE AND NO CENTERLINE SIGNS MAY BE OMITTED, PROVIDED A LIQUID MARKING IS INSTALLED BEFORE THE ROADWAY IS REOPENED TO TRAFFIC.

- 1 FOR DOUBLE SOLID YELLOW, PLACE THE MARKERS BETWEEN THE LINES.
- 2 MARKERS SHALL BE OF POLYURETHANE MATERIAL.
- 3 MARKERS SHALL HAVE A MINIMUM SIZE REFLECTIVE SURFACE OF 4 INCH WIDTH X 0.25 INCH HEIGHT.
- 4 NO CENTER LINE SIGNS SHALL BE PLACED AT THE BEGINNING OF PROJECT, AT TWO-MILE INTERVALS AND AFTER STATE AND COUNTY HIGHWAY INTERSECTIONS.
- 5 DO NOT PASS SIGNS SHALL BE INSTALLED AT THE BEGINNING OF NO PASSING ZONES. ADDITIONAL DO NOT PASS SIGNS SHALL BE INSTALLED AT ONE MILE INTERVALS AND AFTER STATE AND COUNTY HIGHWAY INTERSECTIONS WITHIN THE NO PASSING ZONE.
- 6 PASS WITH CARE SIGNS SHALL BE PLACED AT THE DOWNSTREAM END OF NO PASSING ZONES.



ISOMETRIC VIEW SIDE VIEW

TEMPORARY RAISED PAVEMENT MARKER, TYPE II

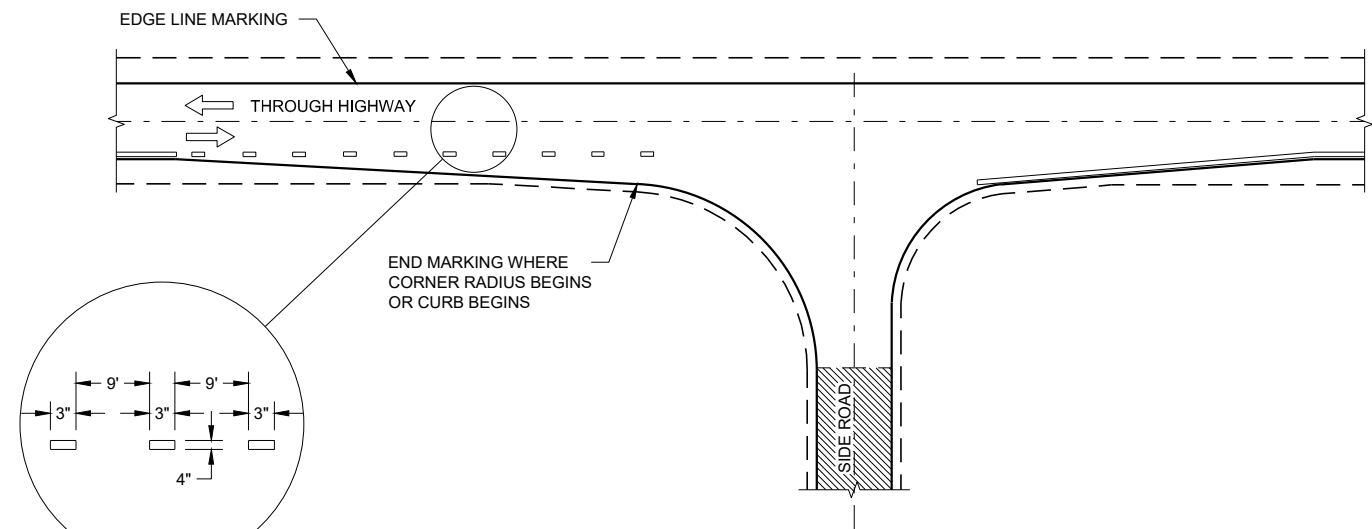
LEGEND

- TEMPORARY RAISED PAVEMENT MARKER, TYPE II
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAVEL

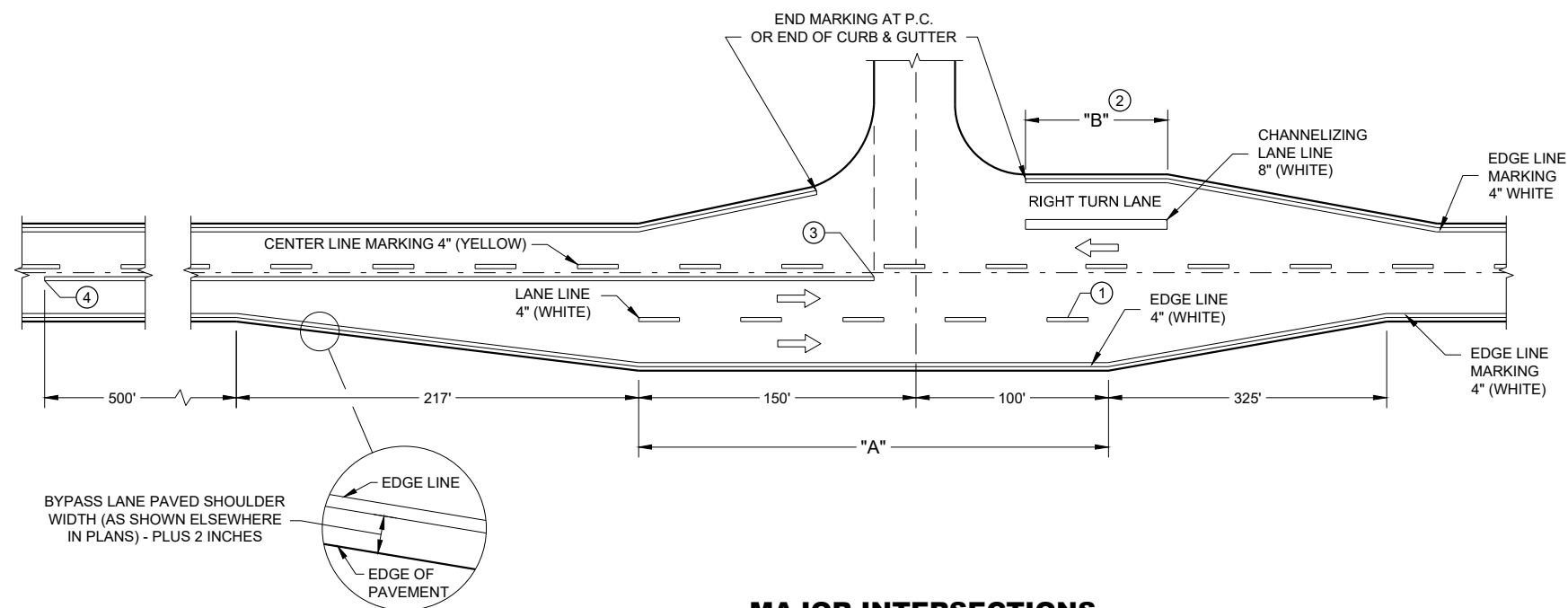
STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKERS, TYPE II

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED 6-2017 /S/ Matthew R. Rauch DATE STATE SIGNING AND MAP 96 INEER FHWA



MINOR INTERSECTION



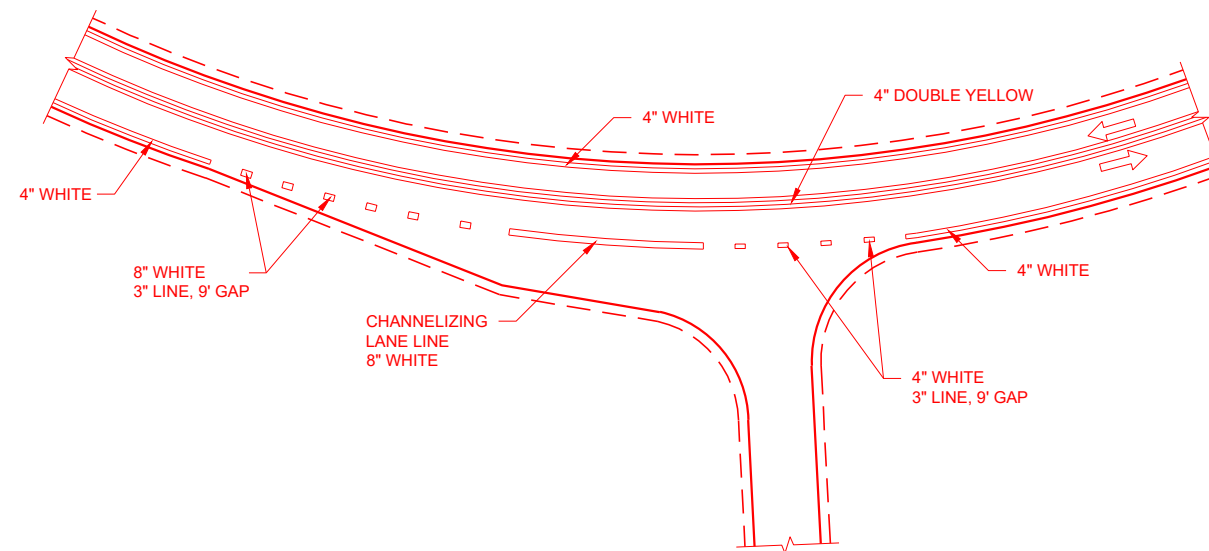
MAJOR INTERSECTIONS  
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER

ARROW SYMBOL ( ➞ ) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING  
(INTERSECTIONS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION





| AREA OF SIGN<br>INSTALLATION<br>(SQ. FT.)      | NUMBER OF<br>REQUIRED TUBULAR<br>STEEL POSTS |
|------------------------------------------------|----------------------------------------------|
| 9 OR LESS                                      | 1                                            |
| GREATER THAN 9<br>LESS THAN OR EQUAL<br>TO 18  | 2                                            |
| GREATER THAN 18<br>LESS THAN OR EQUAL<br>TO 27 | 3                                            |

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.



## POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

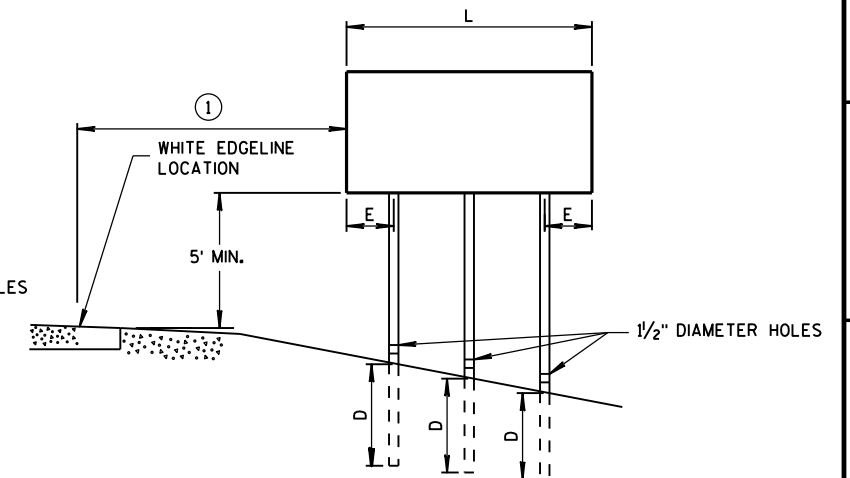
|                                           |            |
|-------------------------------------------|------------|
| AREA OF SIGN<br>INSTALLATION<br>(SQ. FT.) | D<br>(MIN) |
| 20 OR LESS                                | 4'         |
| GREATER THAN 20                           | 5'         |



| POST SPACING REQUIREMENTS               |     | NUMBER OF<br>WOOD POSTS<br>REQUIRED |
|-----------------------------------------|-----|-------------------------------------|
| L                                       | E   |                                     |
| 48" OR LESS AND<br>LESS THAN 20 SQ. FT. | -   | 1                                   |
| LESS THAN 60"                           | 12" | 2                                   |
| 60" TO 120"                             | L/5 | 2                                   |
| GREATER THAN 120"<br>LESS THAN 168"     | 12" | 3                                   |
| 168" AND GREATER                        | 12" | 4                                   |

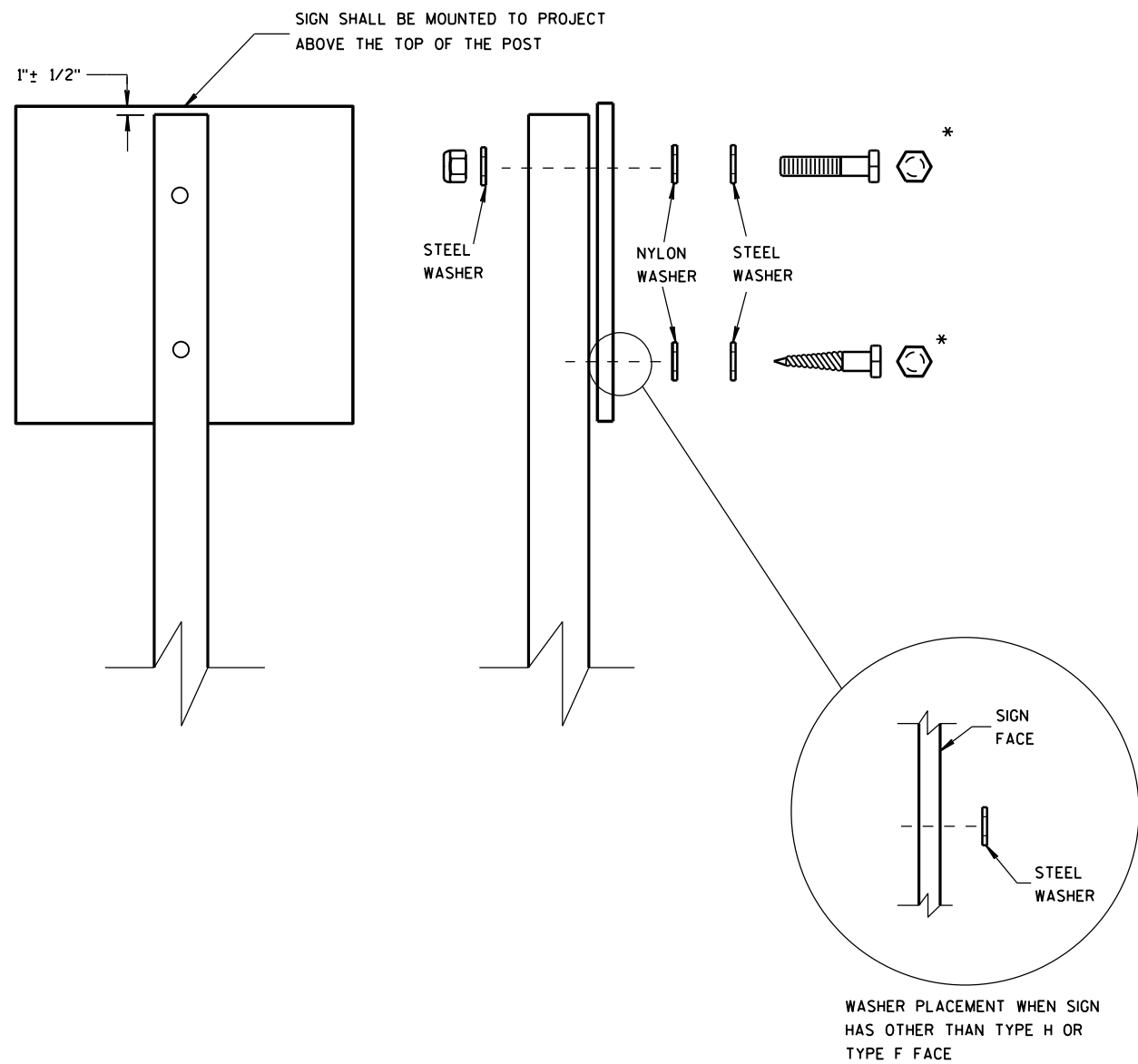
SEE NOTE (3)

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB, IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



## TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION<sup>98</sup>



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

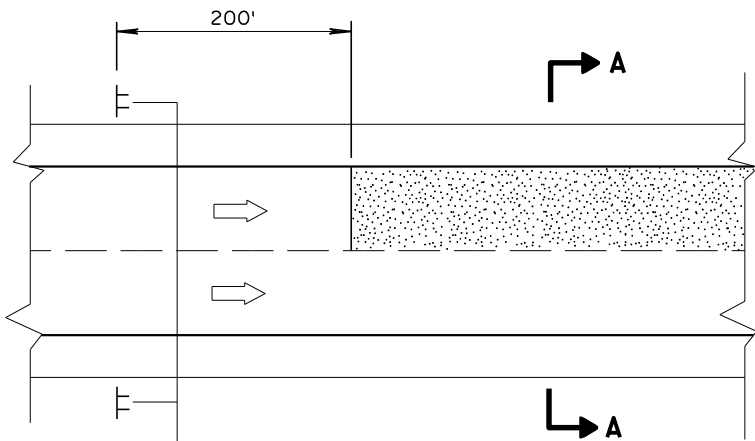
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
  - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
  - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- WASHERS (ALL POSTS) -
- 1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
  - 1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

\* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

|                                                    |                                        |
|----------------------------------------------------|----------------------------------------|
| ATTACHMENT OF SIGNS<br>TO POSTS                    |                                        |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                        |
| APPROVED<br>June 2017<br>DATE                      | /S/ Andrew Heidtke<br>WORK ZONE ENC 99 |
| FHWA                                               |                                        |

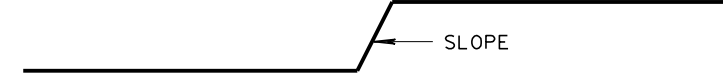


MULTI-LANE

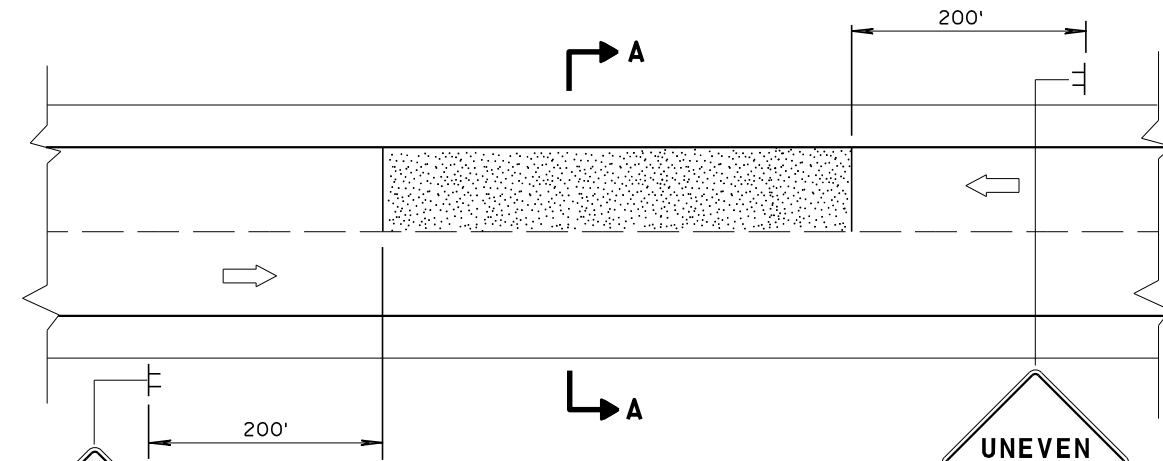


SECTION A-A

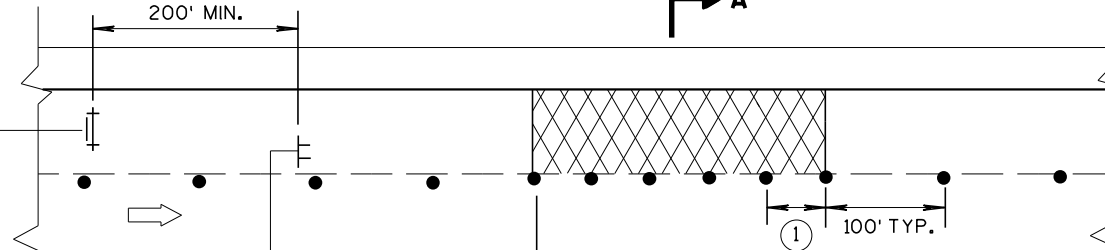
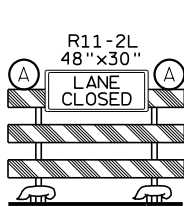
OR



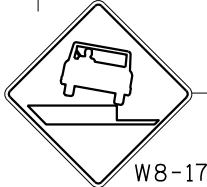
SECTION A-A



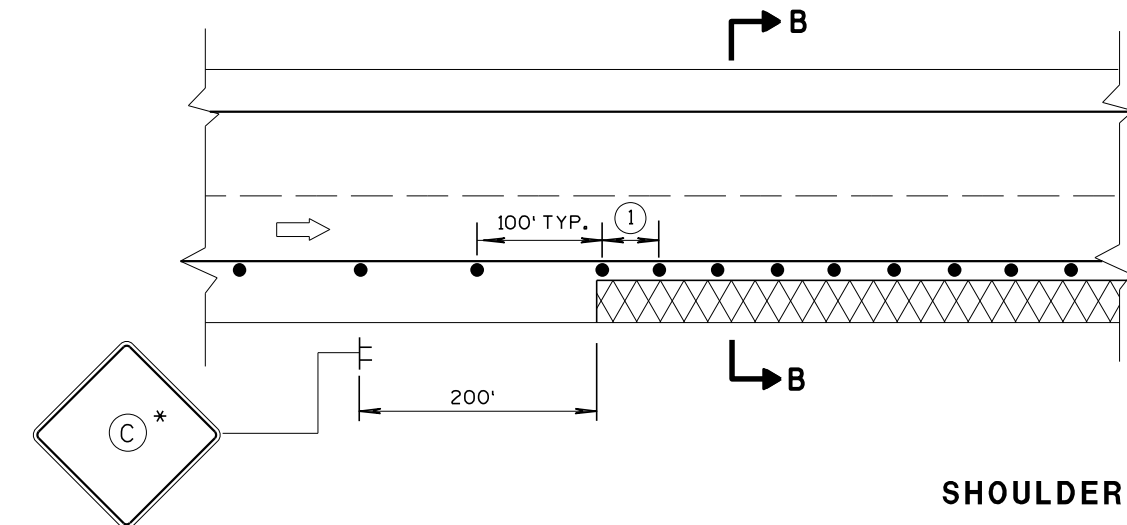
TWO-WAY TWO LANE



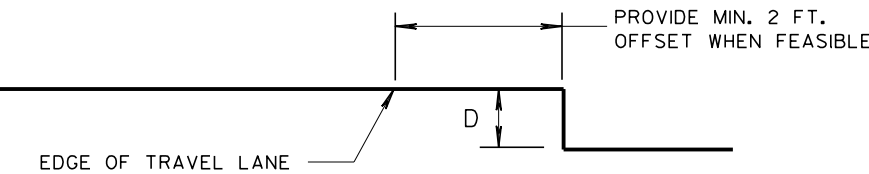
MULTI-LANE BASE PATCHING



ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B-B

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

\* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EACH ENTRANCE RAMP.

① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

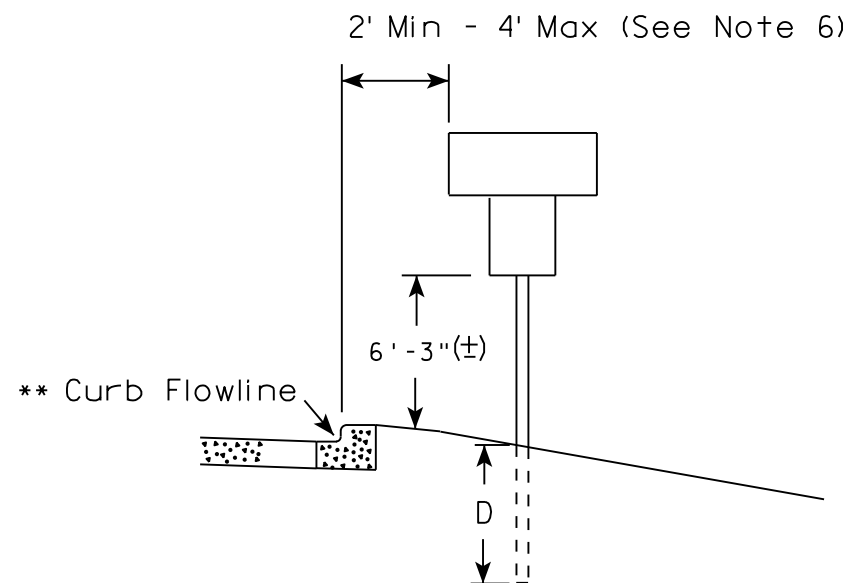
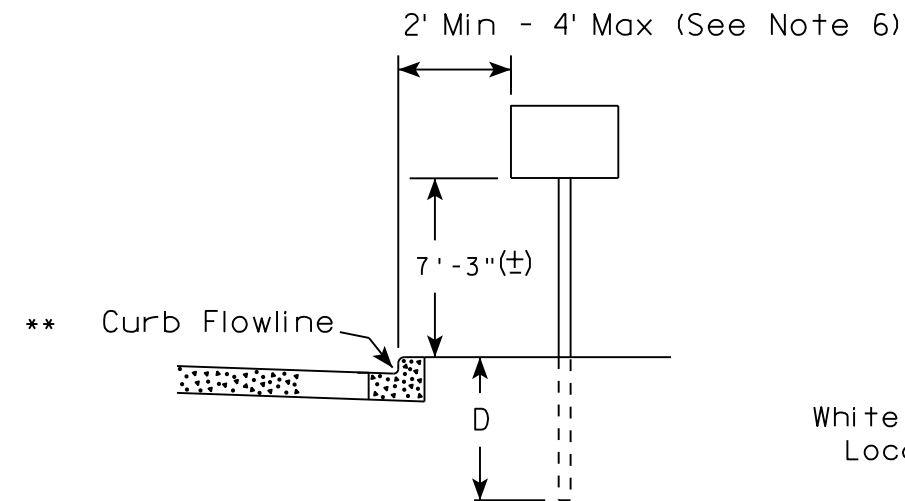
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

| D                                     | SIGN (C)                                                                         |
|---------------------------------------|----------------------------------------------------------------------------------|
| < 2" WITH A SLOPE STEEPER THAN 3:1    | <br>W08-9                                                                        |
| 2" < 6" WITH A SLOPE STEEPER THAN 3:1 | <br>W8-9A<br>PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT |

|                                                    |                                  |
|----------------------------------------------------|----------------------------------|
| TRAFFIC CONTROL,<br>DROP-OFF SIGNING               |                                  |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                  |
| APPROVED<br>March 2018<br>DATE                     | /S/ Andrew H<br>WORK ZONE EN 100 |
| FHWA                                               |                                  |

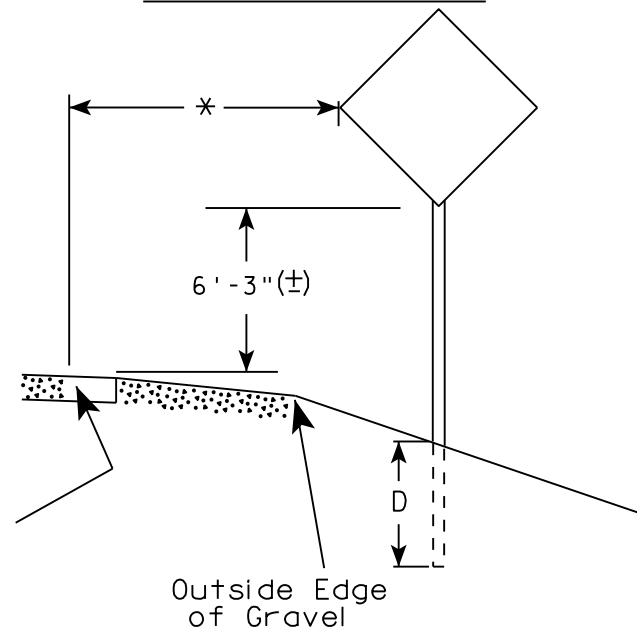


## URBAN AREA

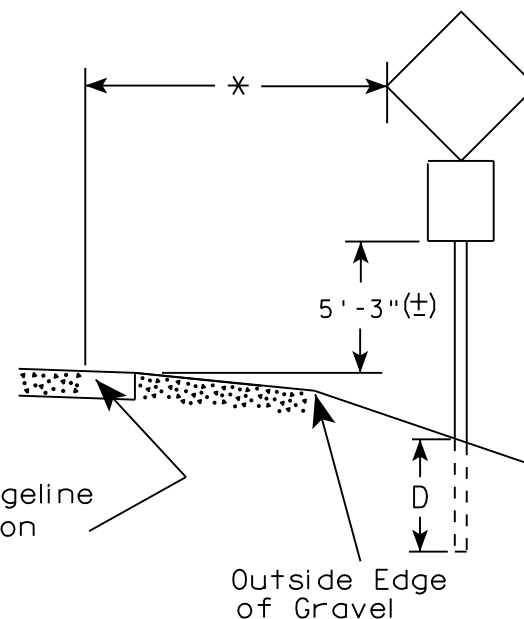


White Edgeline  
Location

## RURAL AREA (See Note 2)



White Edgeline  
Location



Outside Edge  
of Gravel

### POST EMBEDMENT DEPTH

| Area of Sign<br>Installation<br>( Sq. Ft. ) | D<br>( Min ) |
|---------------------------------------------|--------------|
| 20 or Less                                  | 4'           |
| Greater than 20                             | 5'           |

### GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

✱✱ The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

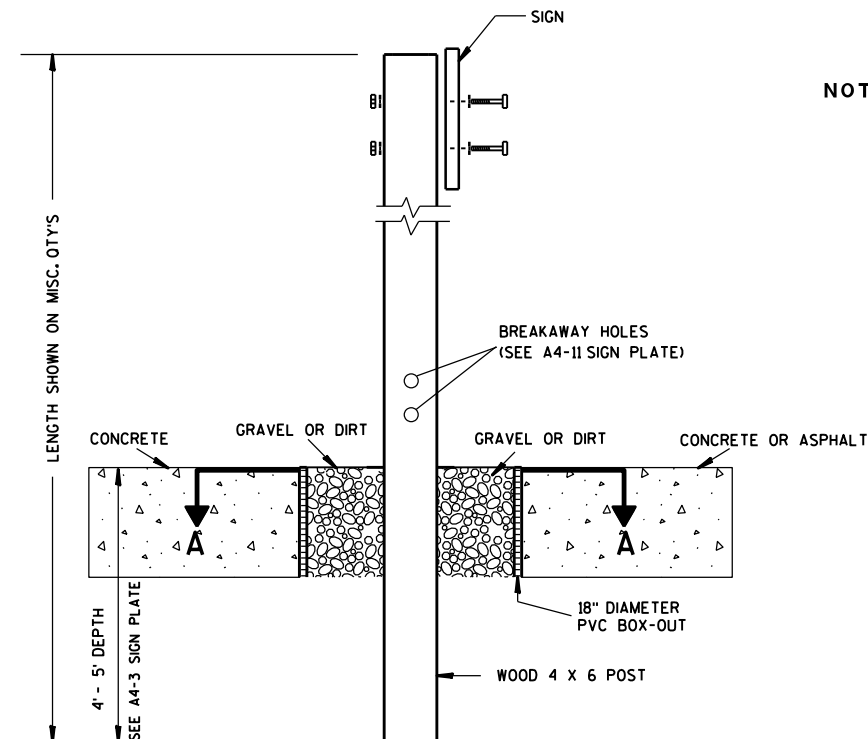
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 101

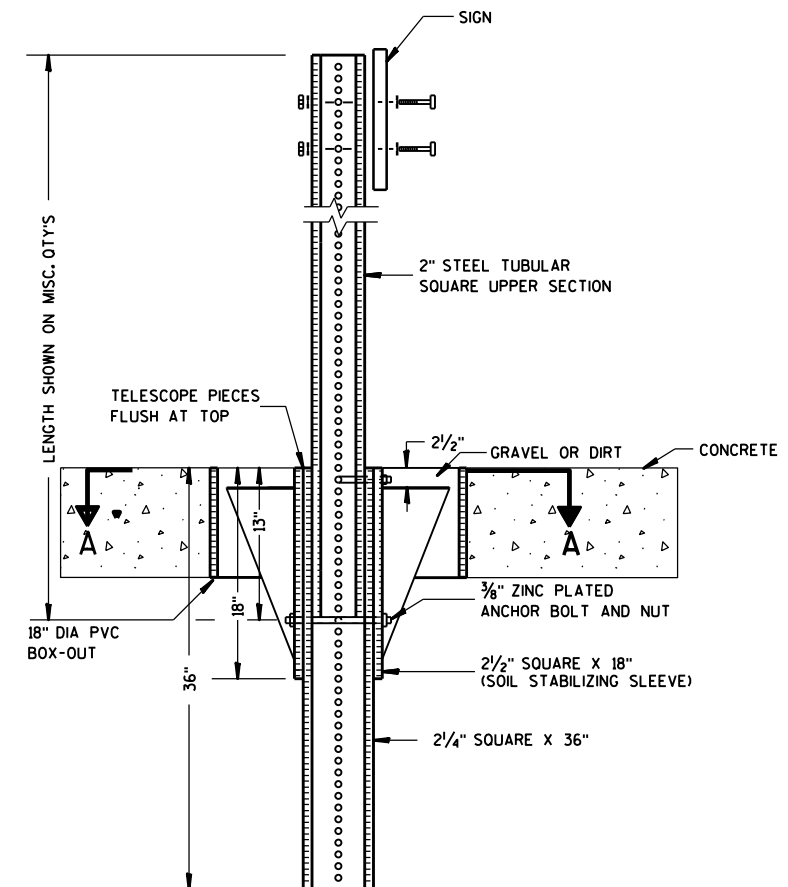
E



**ELEVATION VIEW**

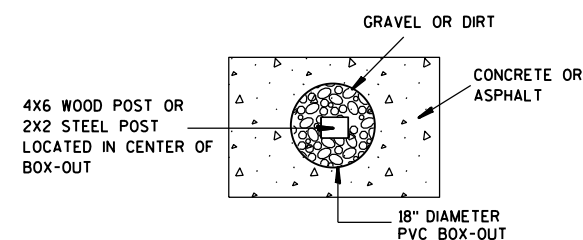
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

- NOTES:**
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
  2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
  3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



**ELEVATION VIEW**

**DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT**



**PLAN VIEW**

**FOR NEW CONCRETE/ASPHALT INSTALLATIONS**

**SIGN POST  
BOX-OUTS  
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/27/14 PLAT 102 A4-3B.1

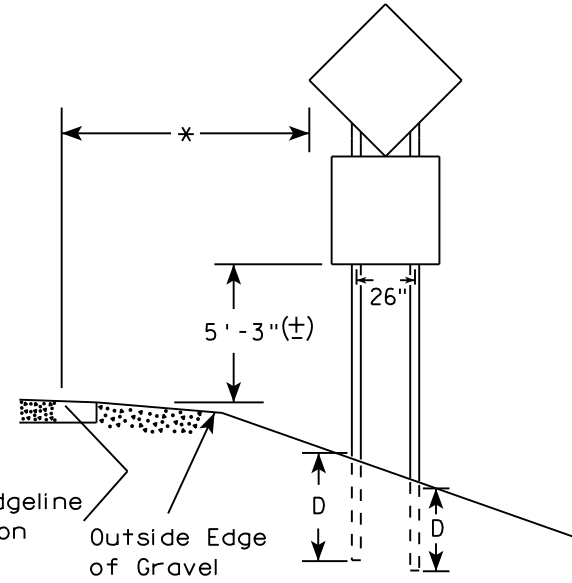
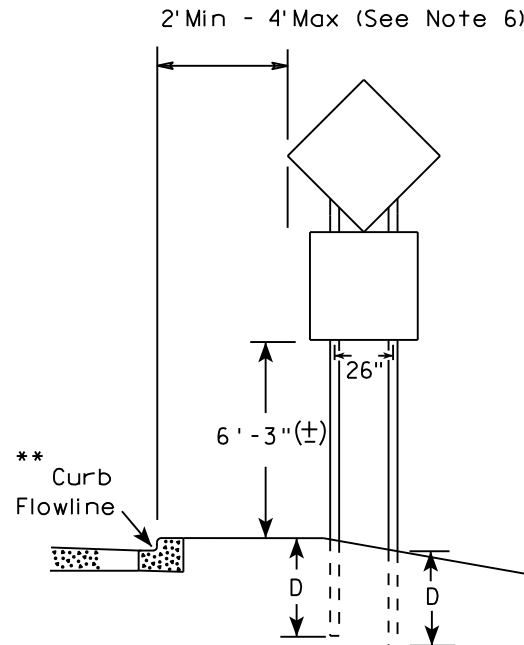
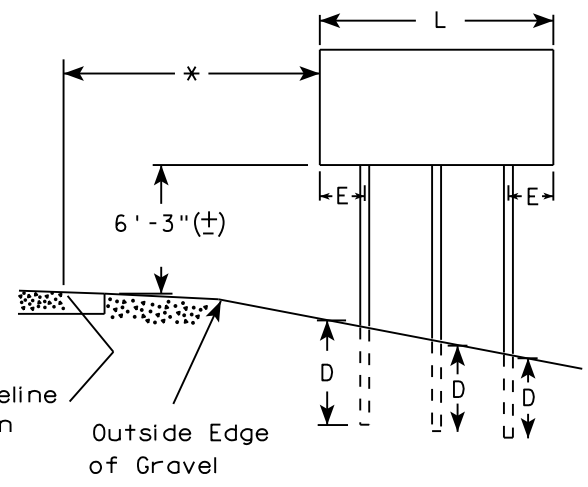
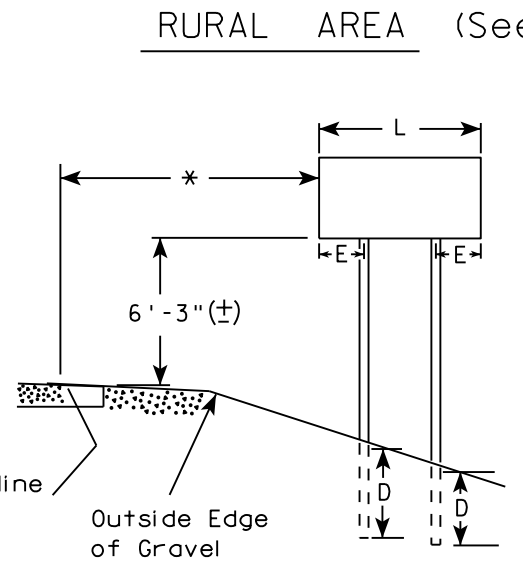
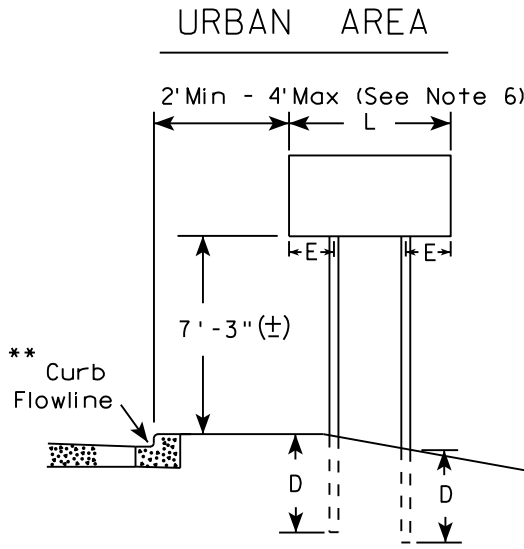
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

\*\*\*

| SIGN SHAPE OTHER THAN DIAMOND<br>(TWO POSTS REQUIRED) |     |
|-------------------------------------------------------|-----|
| L                                                     | E   |
| Greater than 48"<br>Less than 60"                     | 12" |
| 60" to 108"                                           | L/5 |

| SIGN SHAPE OTHER THAN DIAMOND<br>(THREE POSTS REQUIRED) |     |
|---------------------------------------------------------|-----|
| L                                                       | E   |
| Greater than 108"<br>to 144"                            | 12" |

POST EMBEDMENT DEPTH

| Area of Sign<br>Installation<br>( Sq. Ft. ) | D<br>( Min ) |
|---------------------------------------------|--------------|
| 20 or Less                                  | 4'           |
| Greater than 20                             | 5'           |

TYPICAL INSTALLATION  
OF TYPE II SIGNS  
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

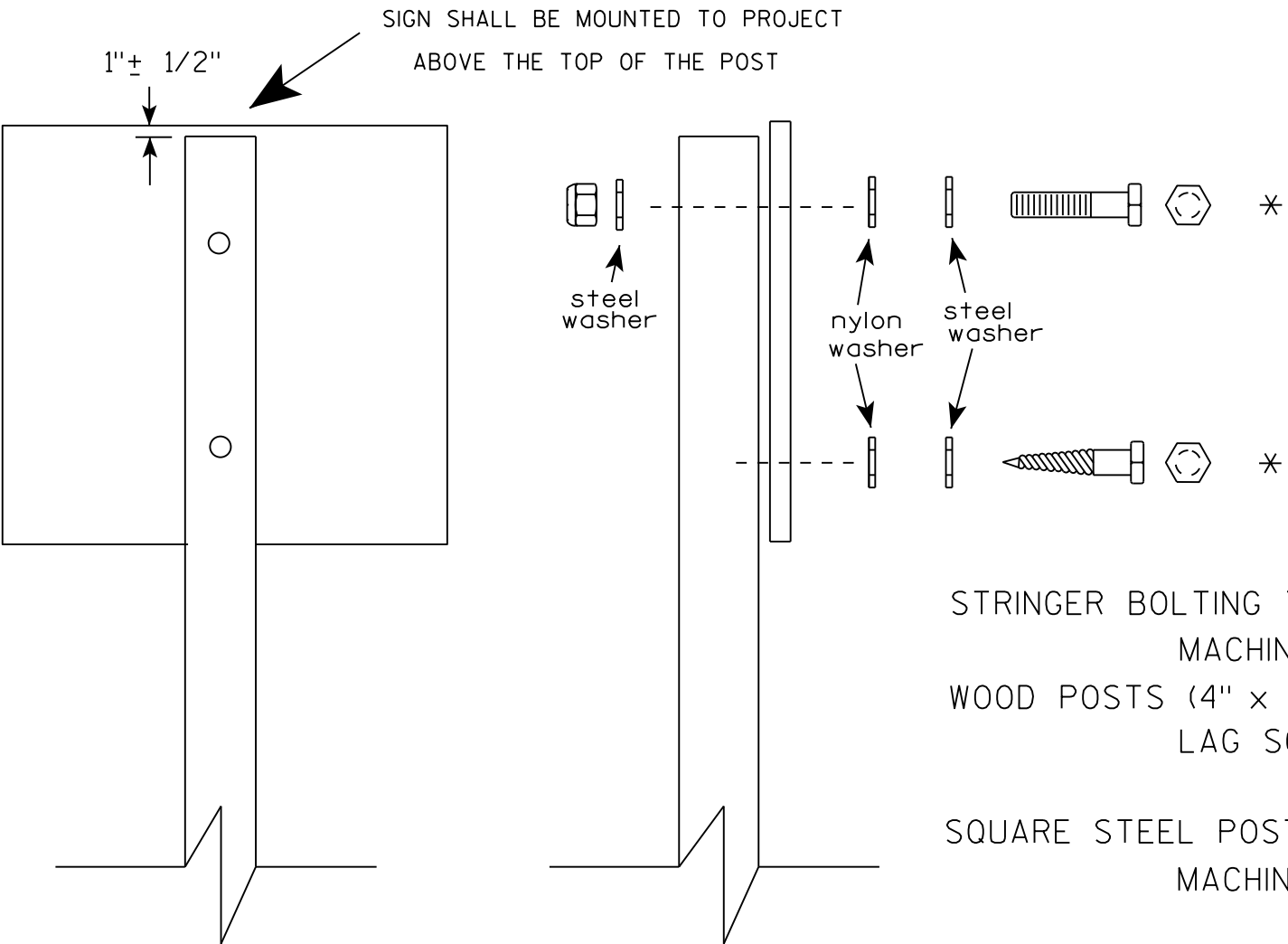
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

- GENERAL NOTES
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
  2. See tables below for required number of posts.
  3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
  4. The (±) tolerance for mounting height is 3 inches.
  5. J-Assemblies are considered to be one sign for mounting height.
  6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
  7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
  8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

- \* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.
- \*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.
- \*\*\* See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.





Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
  - 3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
  - 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
  - 1-1/4" O.D. X 3/8" I.D. X .080 NYLON

\* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

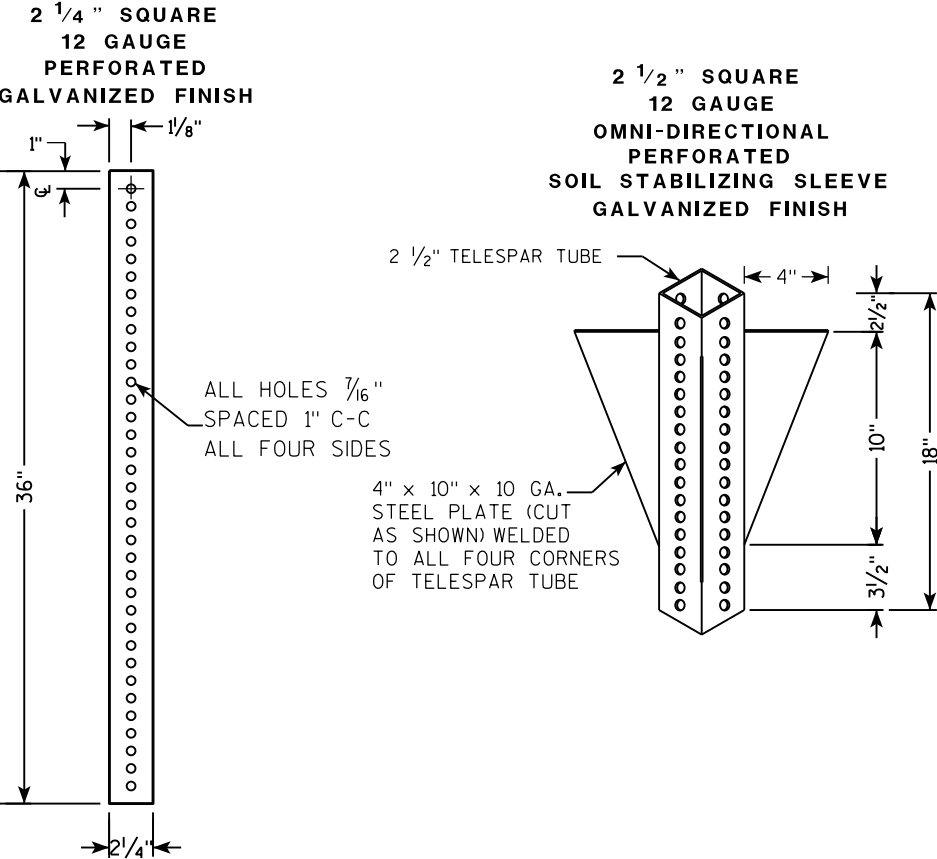
ATTACHMENT OF SIGNS  
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

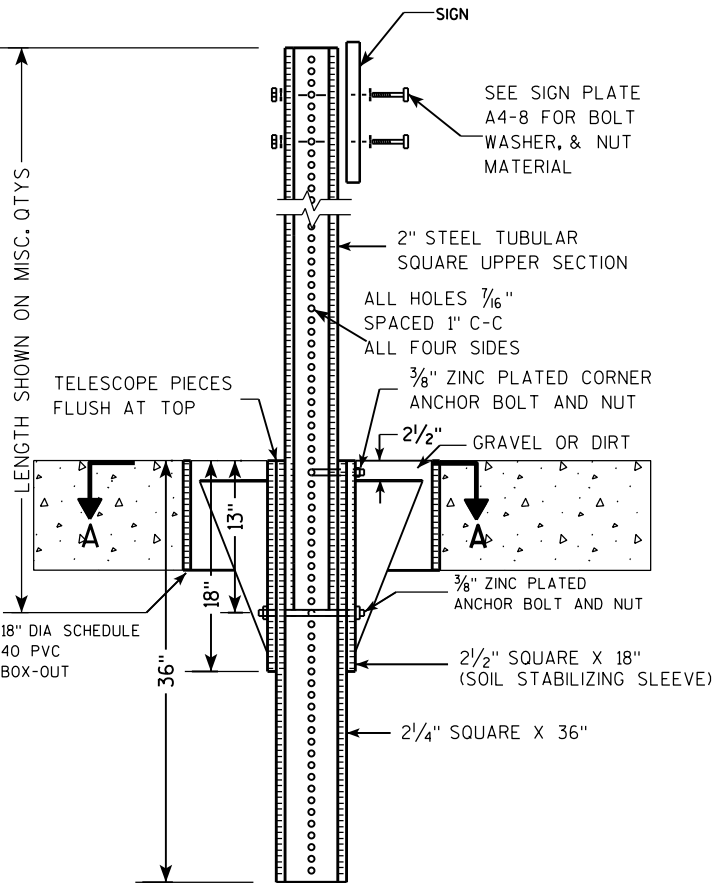
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8  
104

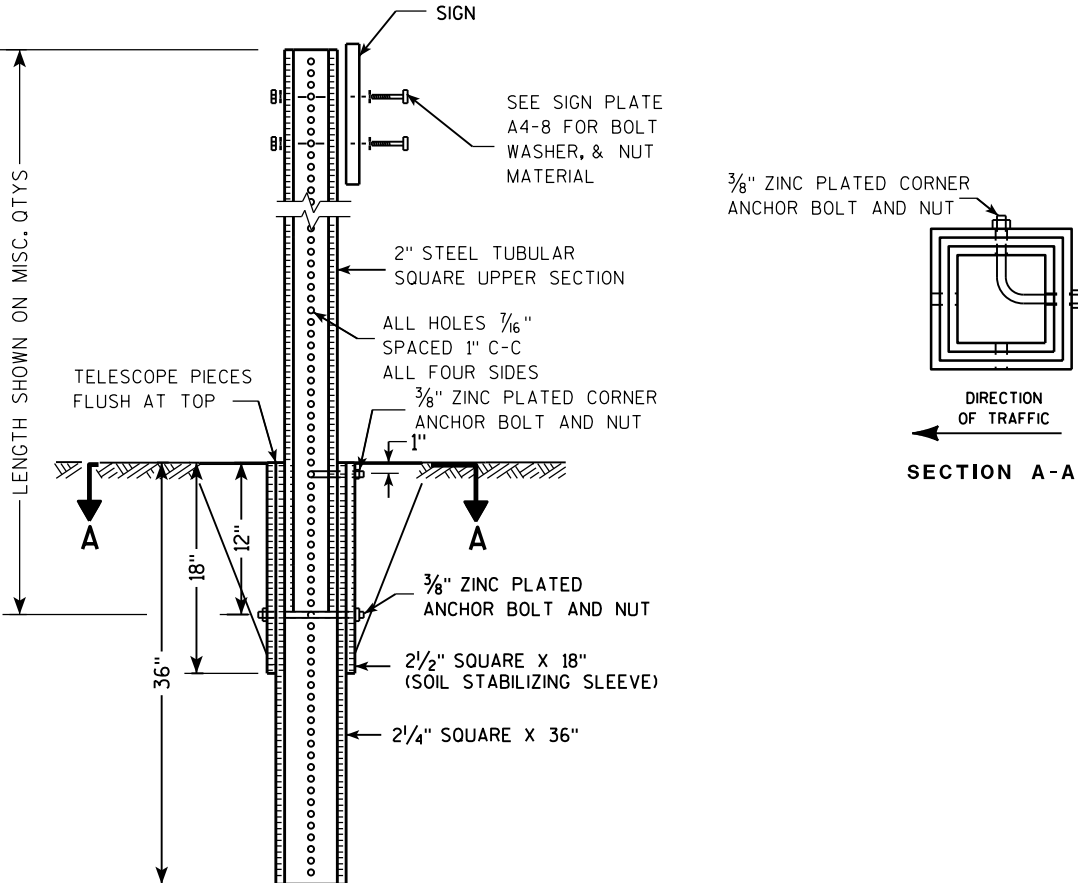
TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM



DETAIL OF TUBULAR STEEL SIGN POST  
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST  
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



| Area of Sign Installation (Sq. Ft.)      | Number of Required Posts |
|------------------------------------------|--------------------------|
| 9 or less                                | 1                        |
| Greater than 9 less than or equal to 18  | 2                        |
| Greater than 18 less than or equal to 27 | 3                        |

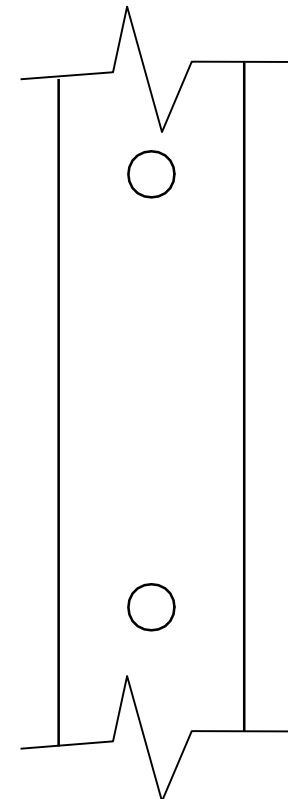
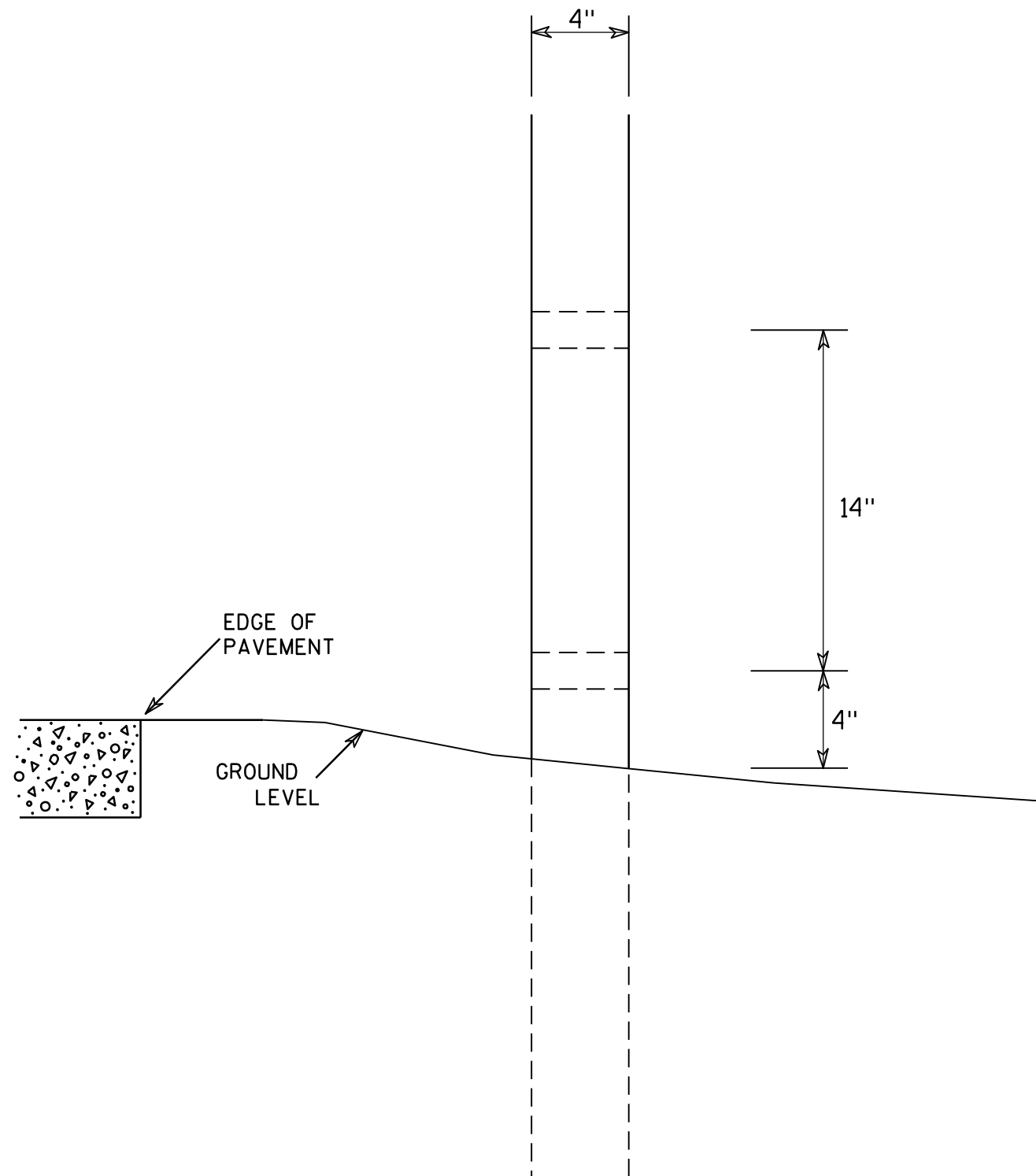
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL  
SIGN POST  
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/05/15 PLAT 105 14-9.9



SIDE VIEW

# GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

## 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

COUNTY:

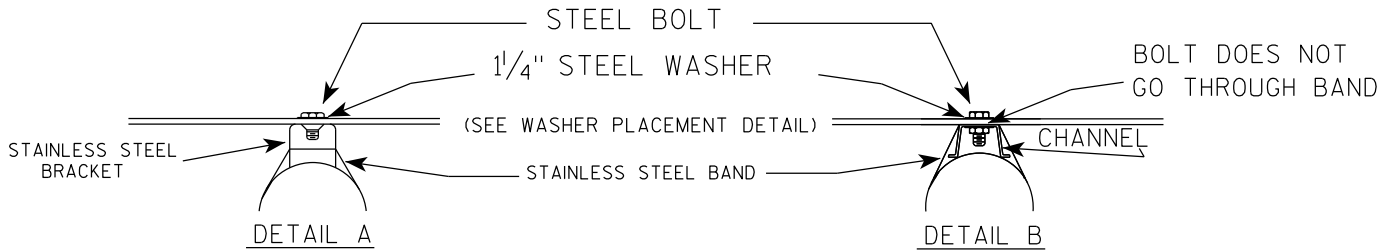
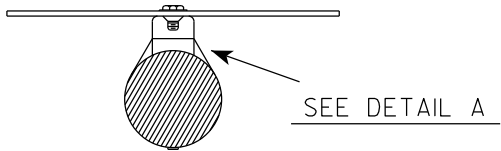
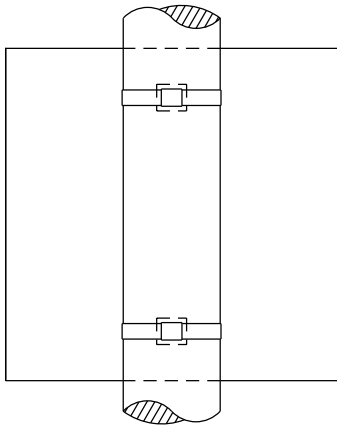
SHEET NO: 106

E

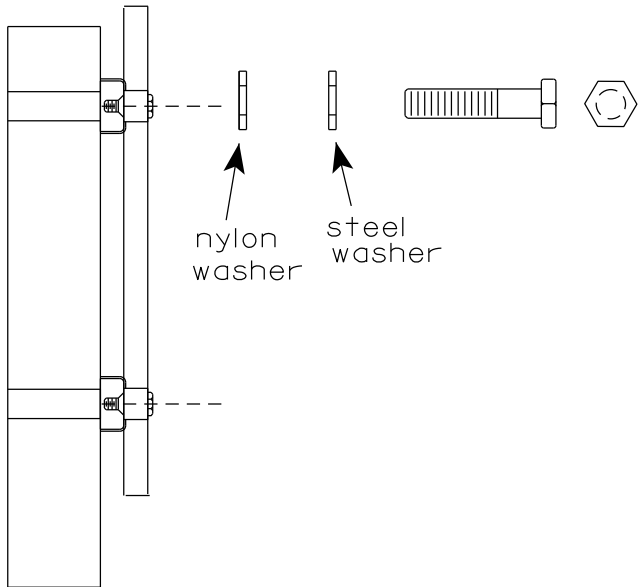


BANDING

SINGLE SIGN



WASHER PLACEMENT

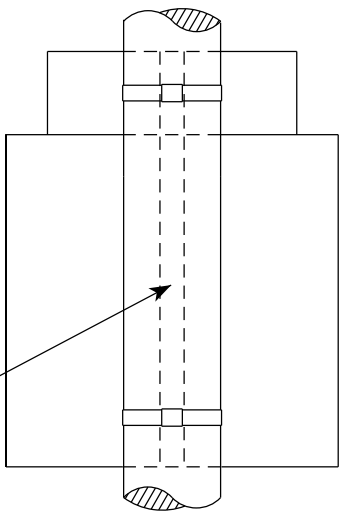


WASHERS (ALL POSTS) -  
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

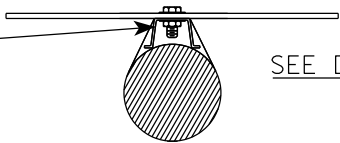
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET

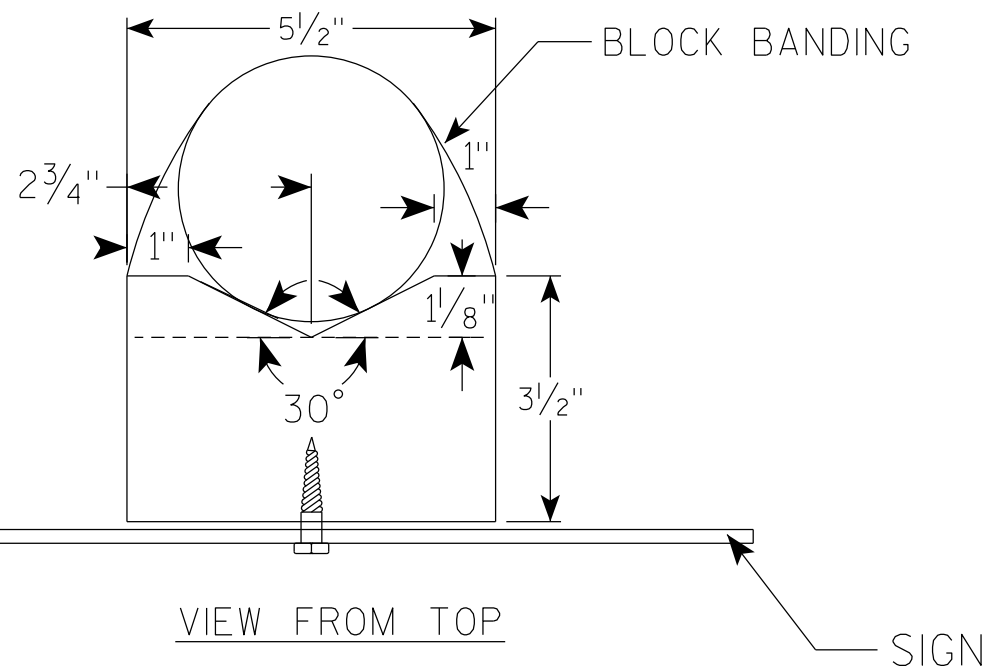
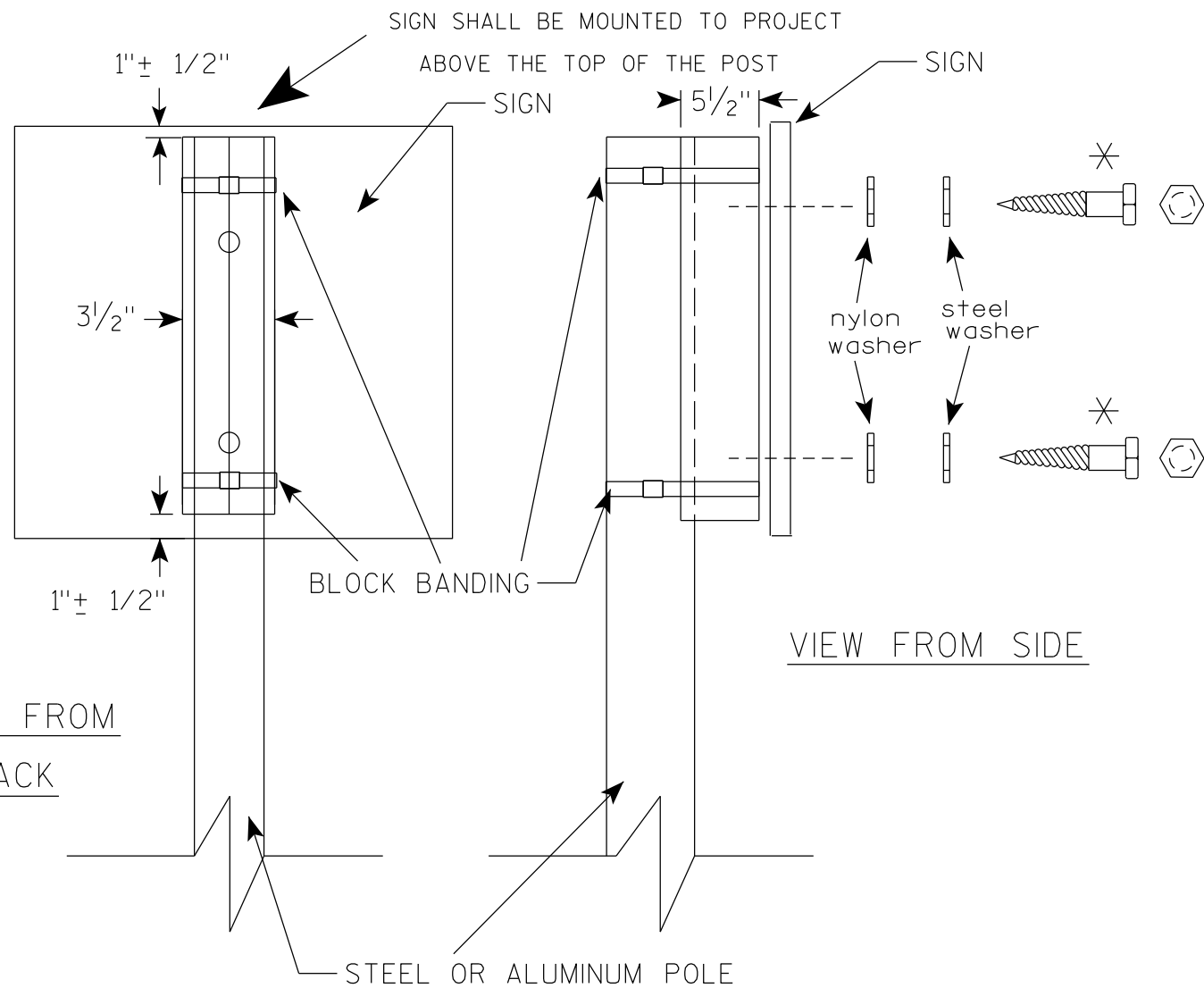


STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 6/10/19 PLATE NO. A5-9.4

VIEW FROM  
BACK



## GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL,  $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE  $1\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE  $1\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE  $\frac{3}{8}$ " X  $2\frac{1}{2}$ "

BLOCK BANDING DETAIL  
( V-BLOCK OPTION )

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

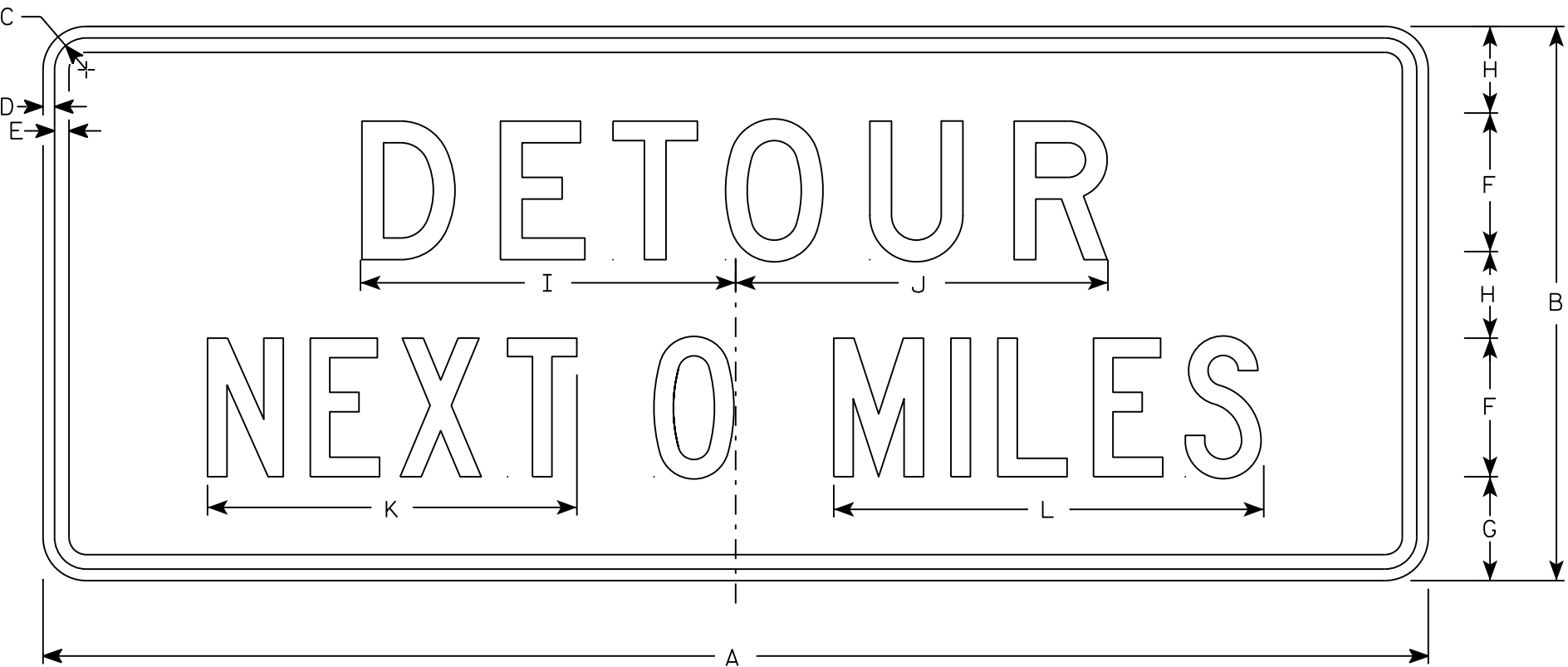
PROJECT NO:

SHEET NO: 108

E

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:  
Background - Orange  
Message - Black
- 3. Message Series - Line 1 is D and Line 2 is C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance



G20-51

| SIZE | A  | B  | C     | D   | E   | F | G     | H     | I      | J      | K  | L      | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|-------|--------|--------|----|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |       |       |        |        |    |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2    | 60 | 24 | 1 3/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 16 1/4 | 16 1/8 | 16 | 18 5/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10              |
| 3    |    |    |       |     |     |   |       |       |        |        |    |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 4    | 60 | 24 | 1 3/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 16 1/4 | 16 1/8 | 16 | 18 5/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10              |
| 5    |    |    |       |     |     |   |       |       |        |        |    |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 109

E

STANDARD SIGN  
G20-51

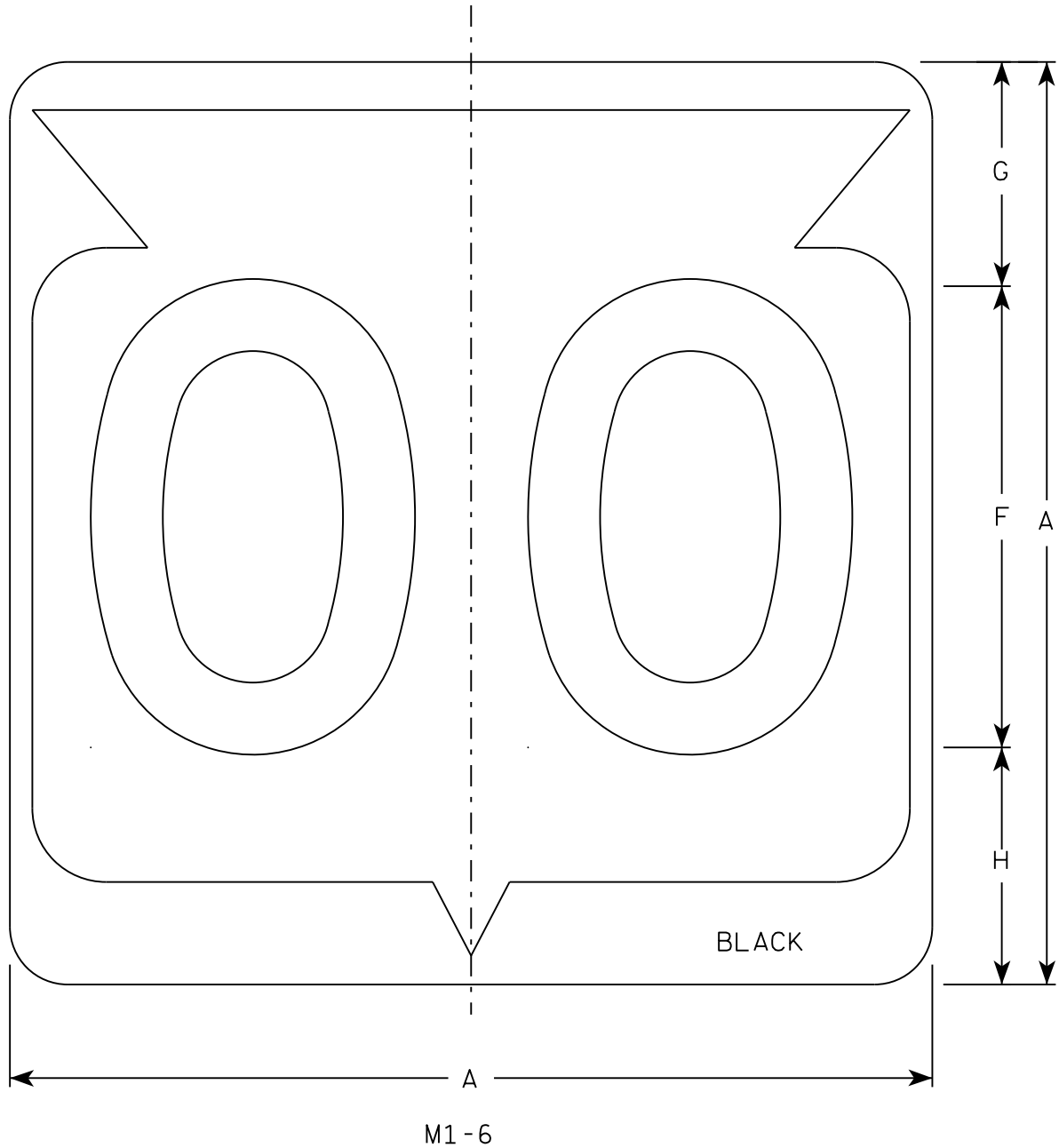
WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-51.2

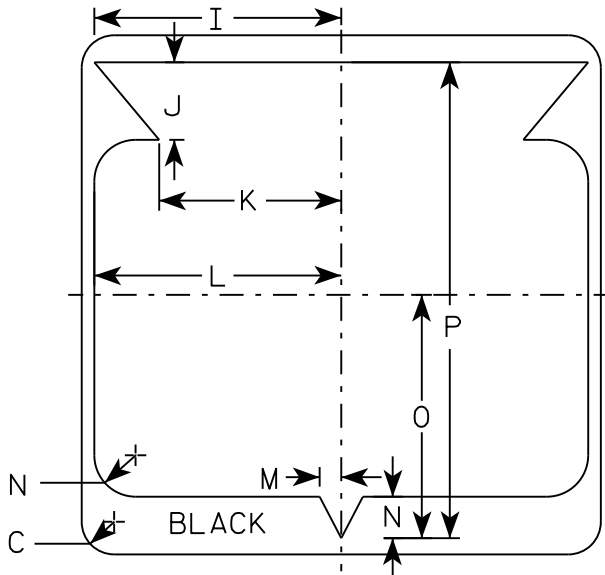


7



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:  
Background - White  
Message - Black
- 3. Message Series - D except 3 number signs Series C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



7

| SIZE | A  | B | C     | D | E | F  | G     | H     | I      | J     | K      | L      | M     | N     | O      | P      | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|---|---|----|-------|-------|--------|-------|--------|--------|-------|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |   |       |   |   |    |       |       |        |       |        |        |       |       |        |        |   |   |   |   |   |   |   |   |   |   |                 |
| 2    | 24 |   | 1 1/2 |   |   | 12 | 5 1/2 | 6 1/2 | 10 1/4 | 2 1/2 | 8 7/8  | 11 1/2 | 1     | 1 7/8 | 11 1/4 | 21 7/8 |   |   |   |   |   |   |   |   |   |   | 4.0             |
| 3    | 36 |   | 2 1/4 |   |   | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33     |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 36 |   | 2 1/4 |   |   | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33     |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 5    | 36 |   | 2 1/4 |   |   | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33     |   |   |   |   |   |   |   |   |   |   | 9.0             |

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 110

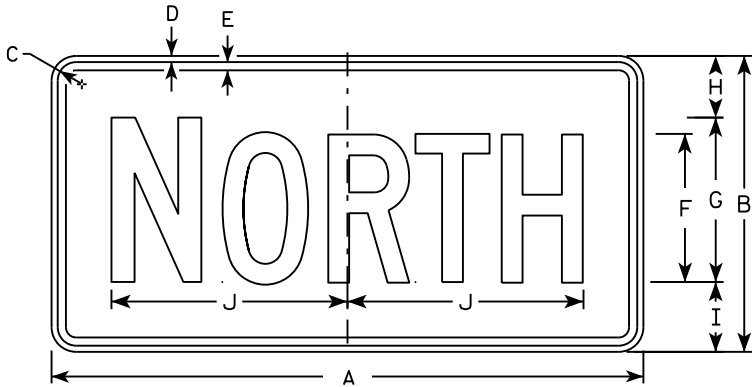
E

STATE ROUTE MARKER  
M1-6 FOR ASSEMBLIES

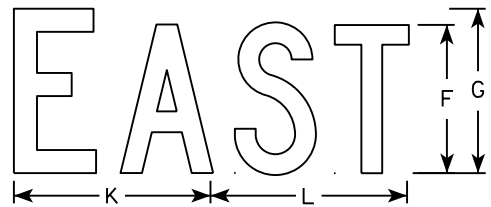
WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Rauch*  
for State Traffic Engineer

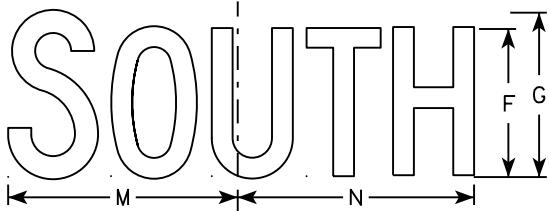
DATE 3/16/18 PLATE NO. M1-6.10



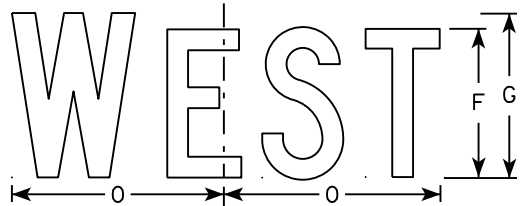
M3-1  
MM3-1  
MP3-1



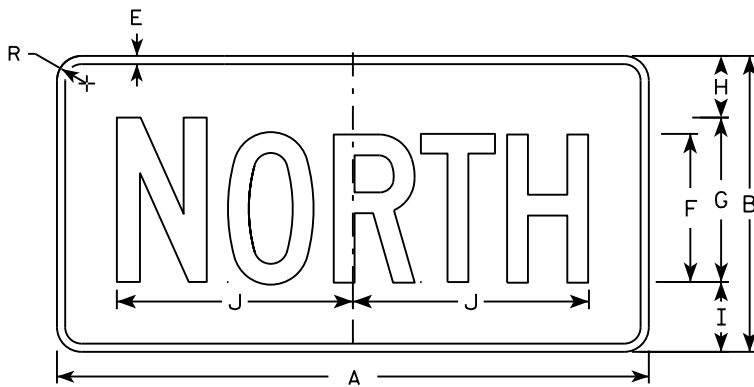
M3-2  
MM3-2  
MP3-2



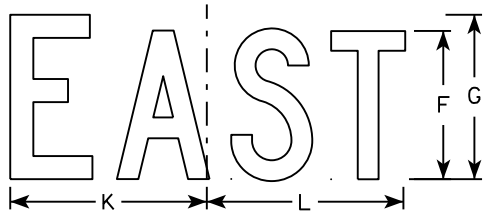
M3-3  
MM3-3  
MP3-3



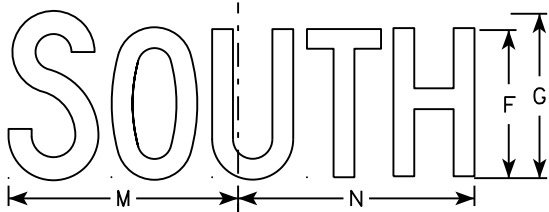
M3-4  
MM3-4  
MP3-4



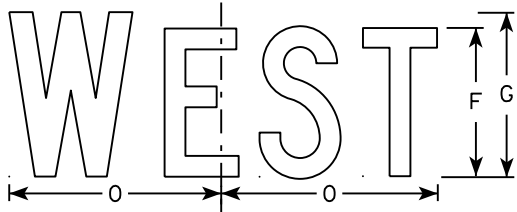
MB3-1  
MK3-1  
MN3-1



MB3-2  
MK3-2  
MN3-2



MB3-3  
MK3-3  
MN3-3



MB3-4  
MK3-4  
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:  
Background - See note 5  
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White  
Message - Black  
MB3-1 thru MB3-4 Background - Blue  
Message - White  
MK3-1 thru MK3-4 Background - Green  
Message - White  
MM3-1 thru MM3-4 Background - White  
Message - Green  
MN3-1 thru MN3-4 Background - Brown  
Message - White  
MP3-1 thru MP3-4 Background - White  
Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

| SIZE | A  | B  | C     | D   | E   | F | G  | H     | I     | J      | K     | L      | M      | N      | O     | P | Q | R     | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|----|-------|-------|--------|-------|--------|--------|--------|-------|---|---|-------|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |    |       |       |        |       |        |        |        |       |   |   |       |   |   |   |   |   |   |   |   |                 |
| 2    | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 6 | 7  | 2 1/4 | 2 3/4 | 10 1/4 | 7 7/8 | 8 3/8  | 10 1/4 | 9 3/4  | 8 3/4 |   |   | 1 1/2 |   |   |   |   |   |   |   |   | 2.00            |
| 3    | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12    | 12 1/8 | 14     | 14 1/8 | 13    |   |   | 1 1/2 |   |   |   |   |   |   |   |   | 4.5             |
| 4    | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12    | 12 1/8 | 14     | 14 1/8 | 13    |   |   | 1 1/2 |   |   |   |   |   |   |   |   | 4.5             |
| 5    | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12    | 12 1/8 | 14     | 14 1/8 | 13    |   |   | 1 1/2 |   |   |   |   |   |   |   |   | 4.5             |

STANDARD SIGNS  
M3-1 thru M3-4  
SERIES

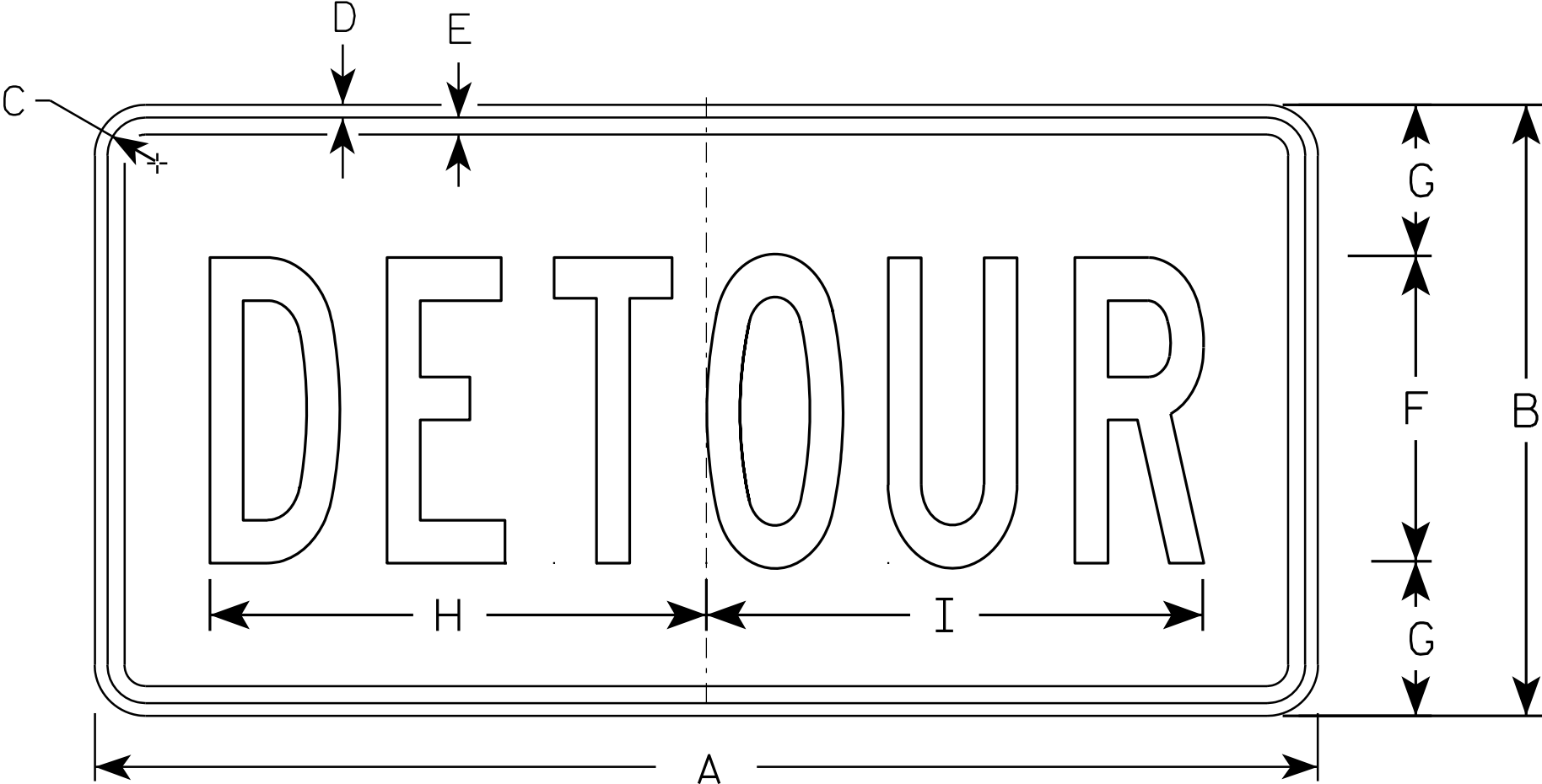
WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Rauch*  
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14  
111

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
  - Background - Orange
  - Message - Black
- 3. Message Series - B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M4 - 8

| SIZE | A  | B  | C     | D   | E   | F | G     | H      | I      | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |       |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2    | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 6 | 3     | 10     | 10 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.0             |
| 3    | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.5             |
| 4    |    |    |       |     |     |   |       |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |     |   |       |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
M4 - 8

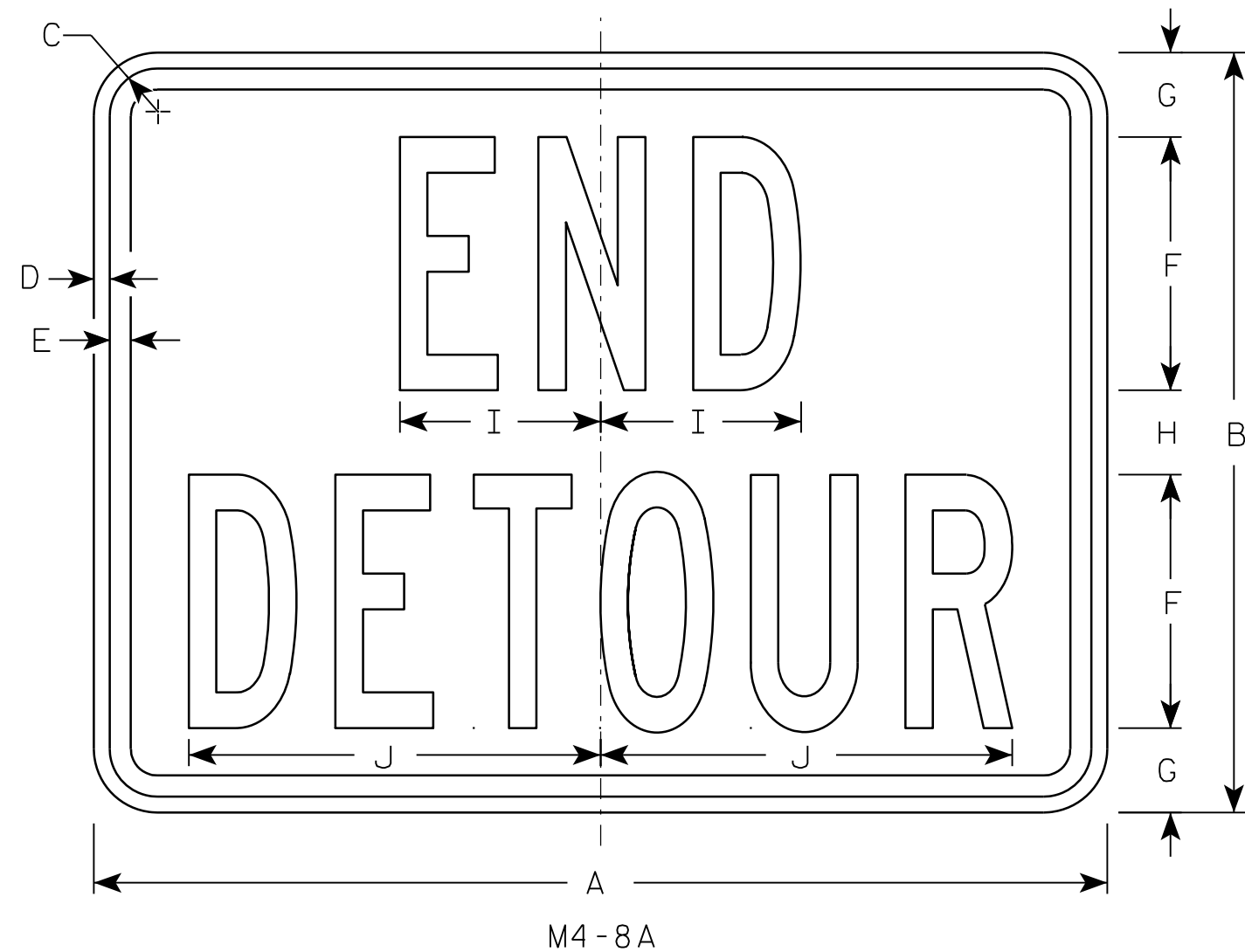
WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2



7



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

| SIZE | A  | B  | C     | D   | E   | F | G     | H | I     | J     | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|---|-------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |       |   |       |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2    | 24 | 18 | 1 1/8 | 3/8 | 1/2 | 6 | 2     | 2 | 4 3/4 | 9 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 3    | 30 | 24 | 1 1/8 | 3/8 | 1/2 | 8 | 2 1/2 | 3 | 6 3/4 | 13    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.0             |
| 4    |    |    |       |     |     |   |       |   |       |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |     |   |       |   |       |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

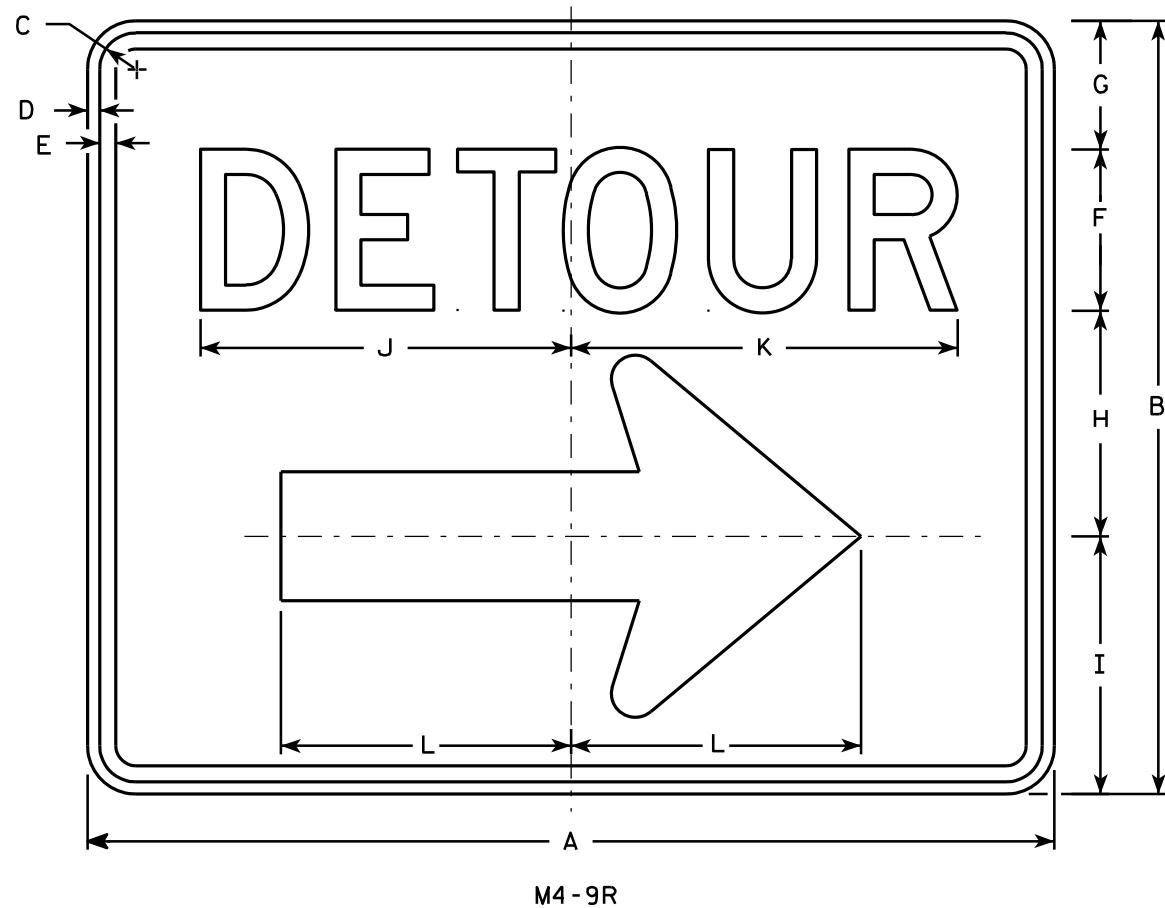
|             |      |         |  |               |   |
|-------------|------|---------|--|---------------|---|
| PROJECT NO: | HWY: | COUNTY: |  | SHEET NO: 113 | E |
|-------------|------|---------|--|---------------|---|

STANDARD SIGN  
M4-8A

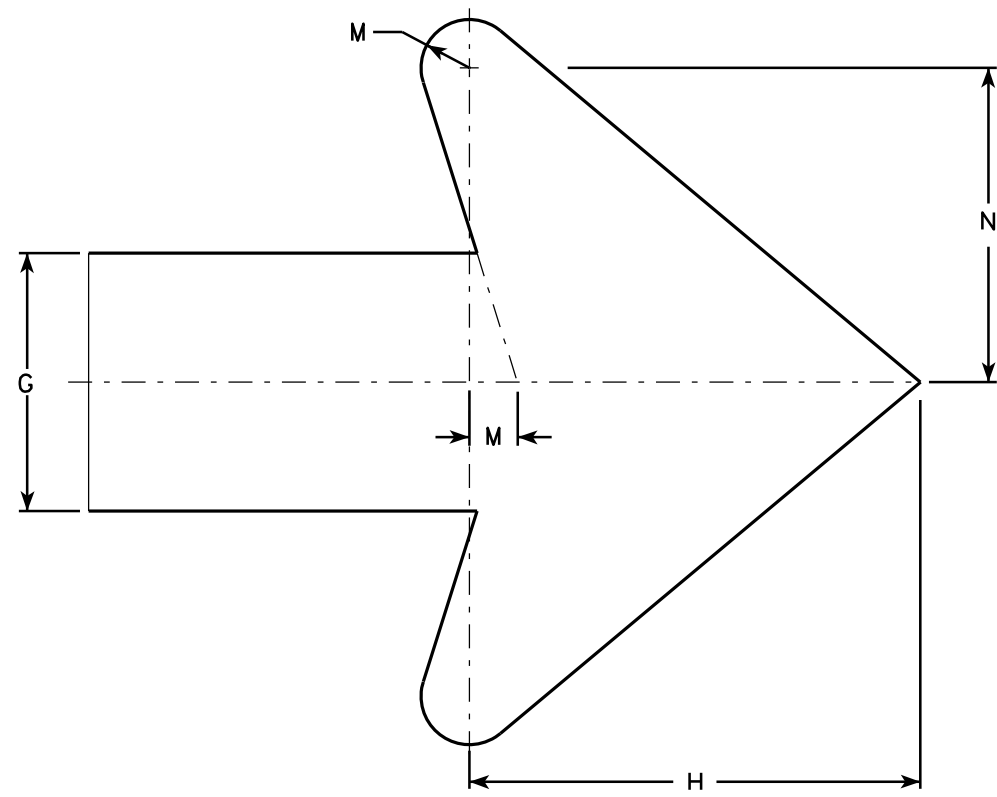
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2



- NOTES**
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
  2. Color:  
Background - Orange  
Message - Black
  3. Message Series - D
  4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
  5. M4-9L is the same as M4-9R except the arrow is reversed.



| SIZE | A  | B  | C     | D   | E   | F | G | H      | I      | J      | K      | L      | M     | N     | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|---|--------|--------|--------|--------|--------|-------|-------|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |   |        |        |        |        |        |       |       |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2    | 30 | 24 | 1 1/8 | 3/8 | 1/2 | 5 | 4 | 7      | 8      | 11 1/2 | 12     | 9      | 3/4   | 4 7/8 |   |   |   |   |   |   |   |   |   |   |   |   | 5.00            |
| 3    | 30 | 24 | 1 1/8 | 3/8 | 1/2 | 5 | 4 | 7      | 8      | 11 1/2 | 12     | 9      | 3/4   | 4 7/8 |   |   |   |   |   |   |   |   |   |   |   |   | 5.00            |
| 4    | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 6 | 10 1/2 | 11 5/8 | 20 5/8 | 20 1/2 | 13 1/4 | 1 1/8 | 6 7/8 |   |   |   |   |   |   |   |   |   |   |   |   | 12.0            |
| 5    | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 6 | 10 1/2 | 11 5/8 | 20 5/8 | 20 1/2 | 13 1/4 | 1 1/8 | 6 7/8 |   |   |   |   |   |   |   |   |   |   |   |   | 12.0            |

STANDARD SIGN  
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

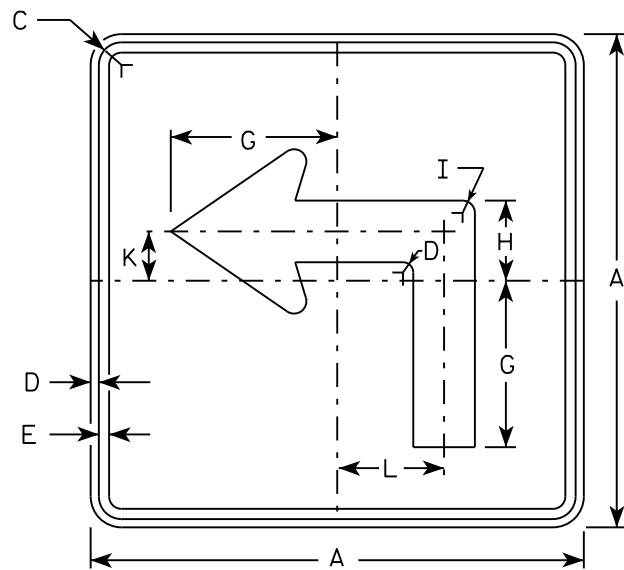
PROJECT NO:

HWY:

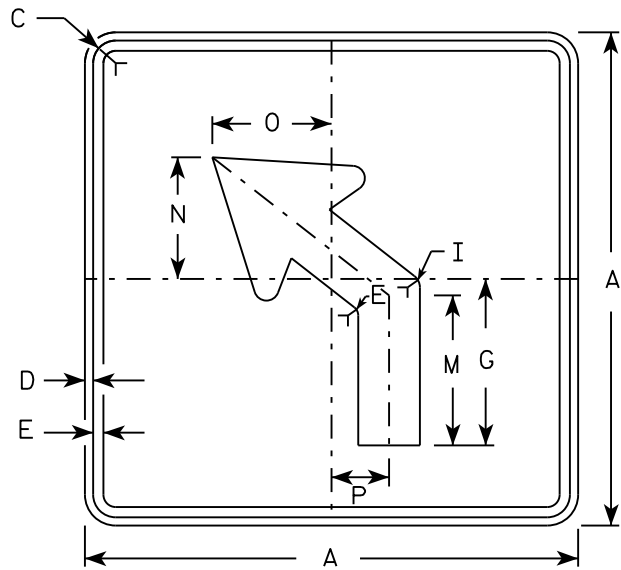
COUNTY:

SHEET NO: 114

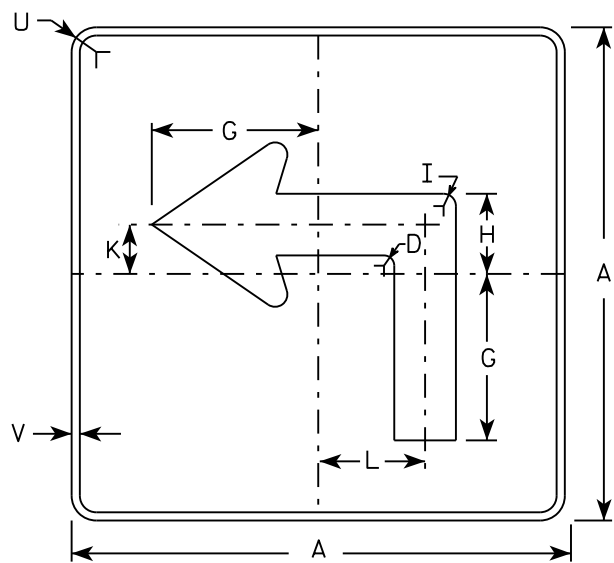
E



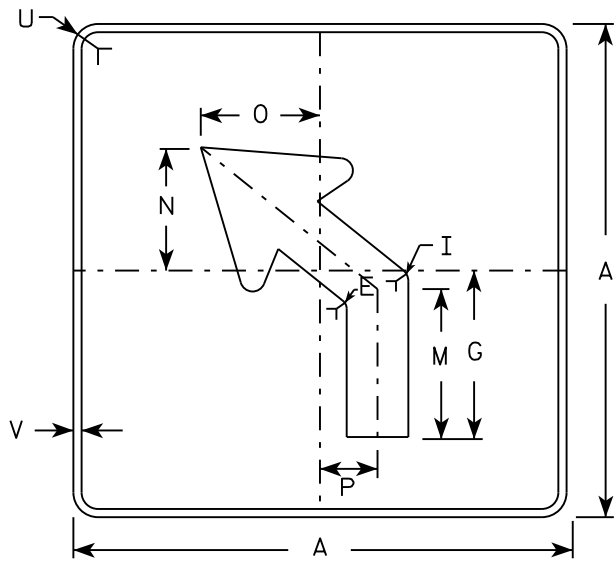
M5-1L  
MM5-1L  
M05-1L  
MP5-1L



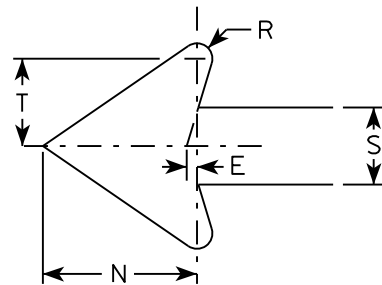
M5-2L  
MM5-2L  
M05-2L  
MP5-2L



MB5-1L  
MK5-1L  
MN5-1L  
MR5-1L



MB5-2L  
MK5-2L  
MN5-2L  
MR5-2L



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:  
Background - See note 4  
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- |                 |                                         |
|-----------------|-----------------------------------------|
| M5-1 and M5-2   | Background - White                      |
|                 | Message - Black                         |
| MB5-1 and MB5-2 | Background - Blue                       |
|                 | Message - White                         |
| MK5-1 and MK5-2 | Background - Green                      |
|                 | Message - White                         |
| MM5-1 and MM5-2 | Background - White                      |
|                 | Message - Green                         |
| MN5-1 and MN5-2 | Background - Brown                      |
|                 | Message - White                         |
| M05-1 and M05-2 | Background - Orange - Type F Reflective |
|                 | Message - Black                         |
| MP5-1 and MP5-2 | Background - White - Type H Reflective  |
|                 | Message - Blue                          |
| MR5-1 and MR5-2 | Background - Brown                      |
|                 | Message - Yellow                        |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

| SIZE | A  | B | C     | D   | E   | F | G      | H     | I   | J | K     | L     | M     | N     | O     | P     | Q | R   | S     | T     | U     | V   | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|---|--------|-------|-----|---|-------|-------|-------|-------|-------|-------|---|-----|-------|-------|-------|-----|---|---|---|---|-----------------|
| 1    |    |   |       |     |     |   |        |       |     |   |       |       |       |       |       |       |   |     |       |       |       |     |   |   |   |   |                 |
| 2    | 21 |   | 1 1/8 | 3/8 | 3/8 |   | 7      | 3 3/8 | 5/8 |   | 2 1/8 | 4 1/2 | 6 3/8 | 5 1/4 | 5     | 2 1/2 |   | 1/2 | 2 5/8 | 3     | 1 1/2 | 1/2 |   |   |   |   | 3.06            |
| 3    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 1/8 | 4 7/8 | 7/8 |   | 3     | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 |   | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 |   |   |   |   | 6.25            |
| 4    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 1/8 | 4 7/8 | 7/8 |   | 3     | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 |   | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 |   |   |   |   | 6.25            |
| 5    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 1/8 | 4 7/8 | 7/8 |   | 3     | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 |   | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 |   |   |   |   | 6.25            |

|             |      |         |           |   |
|-------------|------|---------|-----------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: | E |
|-------------|------|---------|-----------|---|

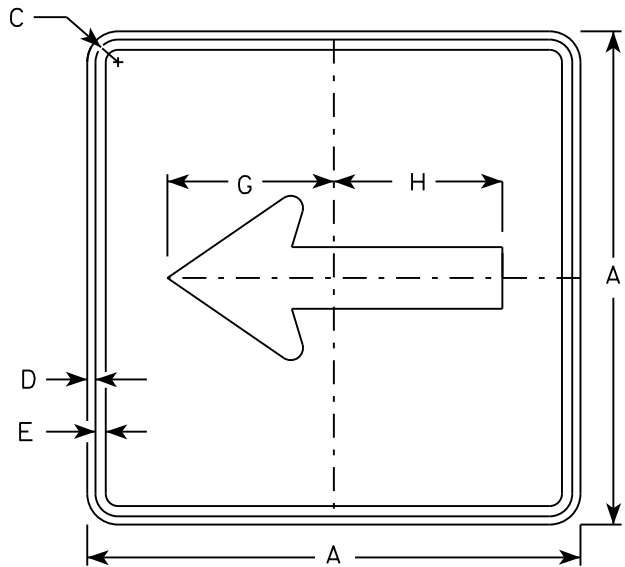
STANDARD SIGN  
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

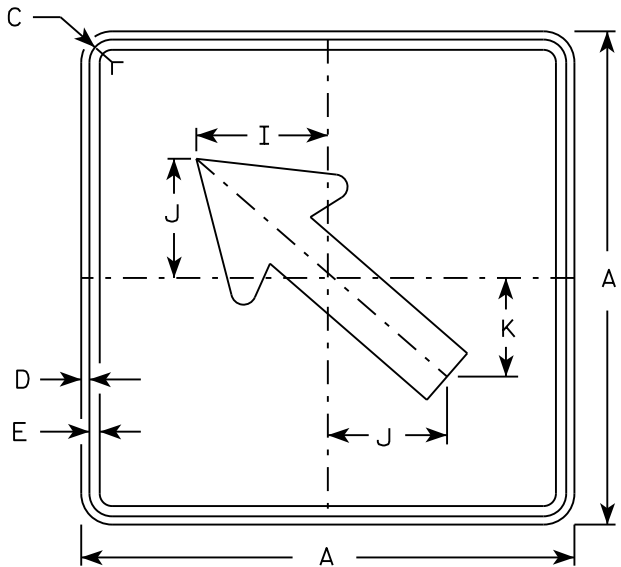
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 10/15/15      PLATE 115      M5-1.13

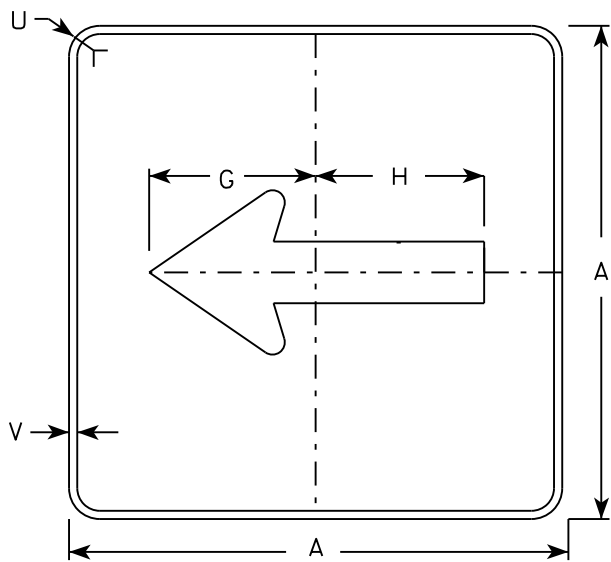




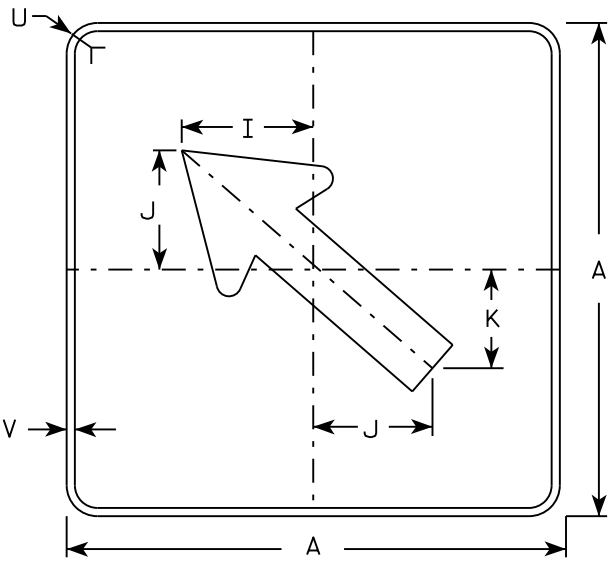
M6 - 1  
MM6 - 1  
M06 - 1  
MP6 - 1



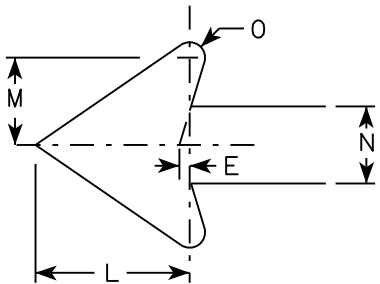
M6 - 2  
MM6 - 2  
M06 - 2  
MP6 - 2



MB6 - 1  
MK6 - 1  
MN6 - 1  
MR6 - 1



MB6 - 2  
MK6 - 2  
MN6 - 2  
MR6 - 2



NOTES

- 1. Signs are Type II - Type H except as Shown
- 2. Color:
  - Background - See note 4
  - Message - See note 4
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. M6-1 and M6-2 Background - White  
Message - Black  
MB6-1 and MB6-2 Background - Blue  
Message - White  
MK6-1 and MK6-2 Background - Green  
Message - White  
MM6-1 and MM6-2 Background - White  
Message - Green  
MN6-1 and MN6-2 Background - Brown  
Message - White  
M06-1 and M06-2 Background - Orange - Type F Reflective  
Message - Black  
MP6-1 and MP6-2 Background - White  
Message - Blue  
MR6-1 and MR6-2 Background - Brown  
Message - Yellow

| SIZE | A  | B | C     | D   | E   | F | G      | H      | I     | J     | K     | L     | M     | N     | O   | P | Q | R | S | T | U     | V   | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|---|--------|--------|-------|-------|-------|-------|-------|-------|-----|---|---|---|---|---|-------|-----|---|---|---|---|-----------------|
| 1    |    |   |       |     |     |   |        |        |       |       |       |       |       |       |     |   |   |   |   |   |       |     |   |   |   |   |                 |
| 2    | 21 |   | 1 1/8 | 3/8 | 3/8 |   | 7 1/2  | 7 1/8  | 5 5/8 | 5     | 4 1/4 | 5 1/4 | 3     | 2 5/8 | 1/2 |   |   |   |   |   | 1 1/2 | 1/2 |   |   |   |   | 3.06            |
| 3    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 3/4 | 10 1/4 | 8     | 7 1/4 | 6     | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 |   |   |   |   |   | 1 7/8 | 1/2 |   |   |   |   | 6.25            |
| 4    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 3/4 | 10 1/4 | 8     | 7 1/4 | 6     | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 |   |   |   |   |   | 1 7/8 | 1/2 |   |   |   |   | 6.25            |
| 5    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 3/4 | 10 1/4 | 8     | 7 1/4 | 6     | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 |   |   |   |   |   | 1 7/8 | 1/2 |   |   |   |   | 6.25            |

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

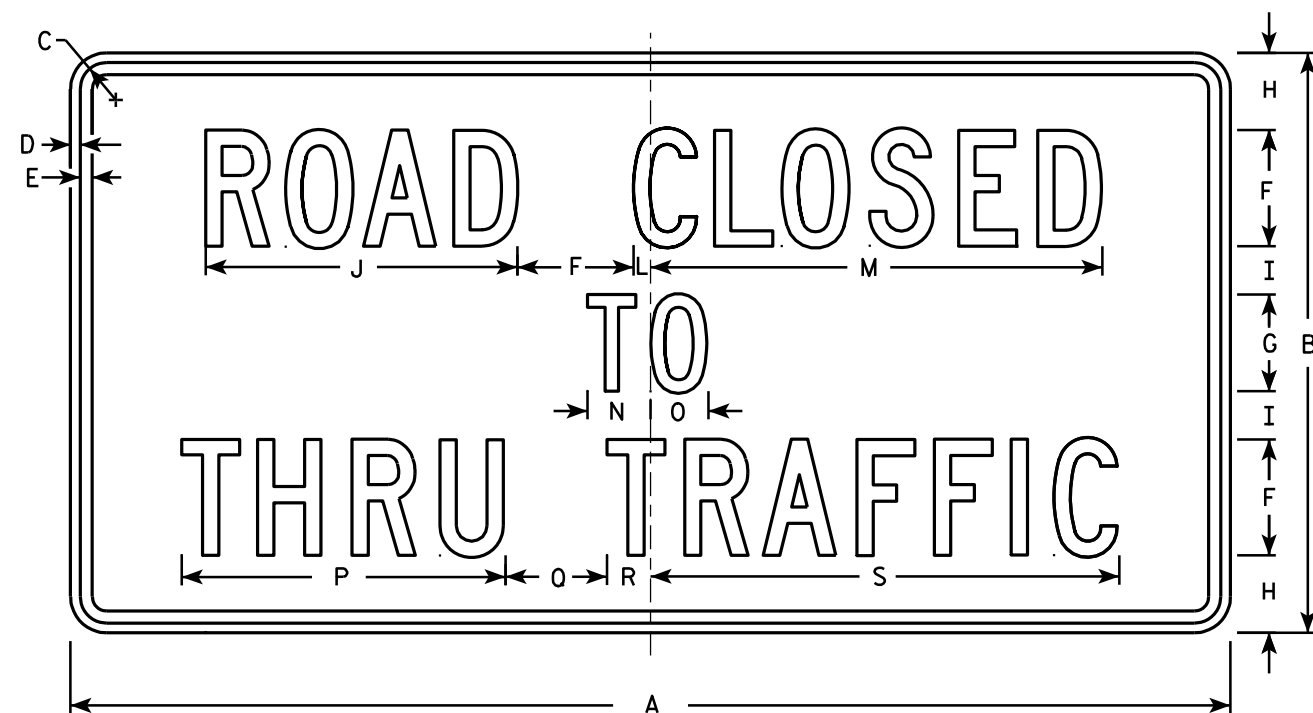
E

STANDARD SIGN  
M6 - 1 & M6 - 2  
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Rauch*  
for State Traffic Engineer

DATE 10/15/15 PLAT 116 M6-1.15



R11-4

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:  
Background - White  
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A  | B  | C     | D   | E   | F | G | H | I     | J      | K | L   | M      | N     | O | P      | Q     | R     | S      | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|---|---|-------|--------|---|-----|--------|-------|---|--------|-------|-------|--------|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |   |   |       |        |   |     |        |       |   |        |       |       |        |   |   |   |   |   |   |   |                 |
| 2S   | 60 | 30 | 1 3⁄8 | 1⁄2 | 5⁄8 | 6 | 5 | 4 | 2 1⁄2 | 16 1⁄8 |   | 7⁄8 | 23 3⁄8 | 3 1⁄4 | 3 | 16 3⁄4 | 5 1⁄4 | 2 1⁄4 | 24 1⁄4 |   |   |   |   |   |   |   | 12.5            |
| 2M   | 60 | 30 | 1 3⁄8 | 1⁄2 | 5⁄8 | 6 | 5 | 4 | 2 1⁄2 | 16 1⁄8 |   | 7⁄8 | 23 3⁄8 | 3 1⁄4 | 3 | 16 3⁄4 | 5 1⁄4 | 2 1⁄4 | 24 1⁄4 |   |   |   |   |   |   |   | 12.5            |
| 3    |    |    |       |     |     |   |   |   |       |        |   |     |        |       |   |        |       |       |        |   |   |   |   |   |   |   |                 |
| 4    |    |    |       |     |     |   |   |   |       |        |   |     |        |       |   |        |       |       |        |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |     |   |   |   |       |        |   |     |        |       |   |        |       |       |        |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO:

HWY:

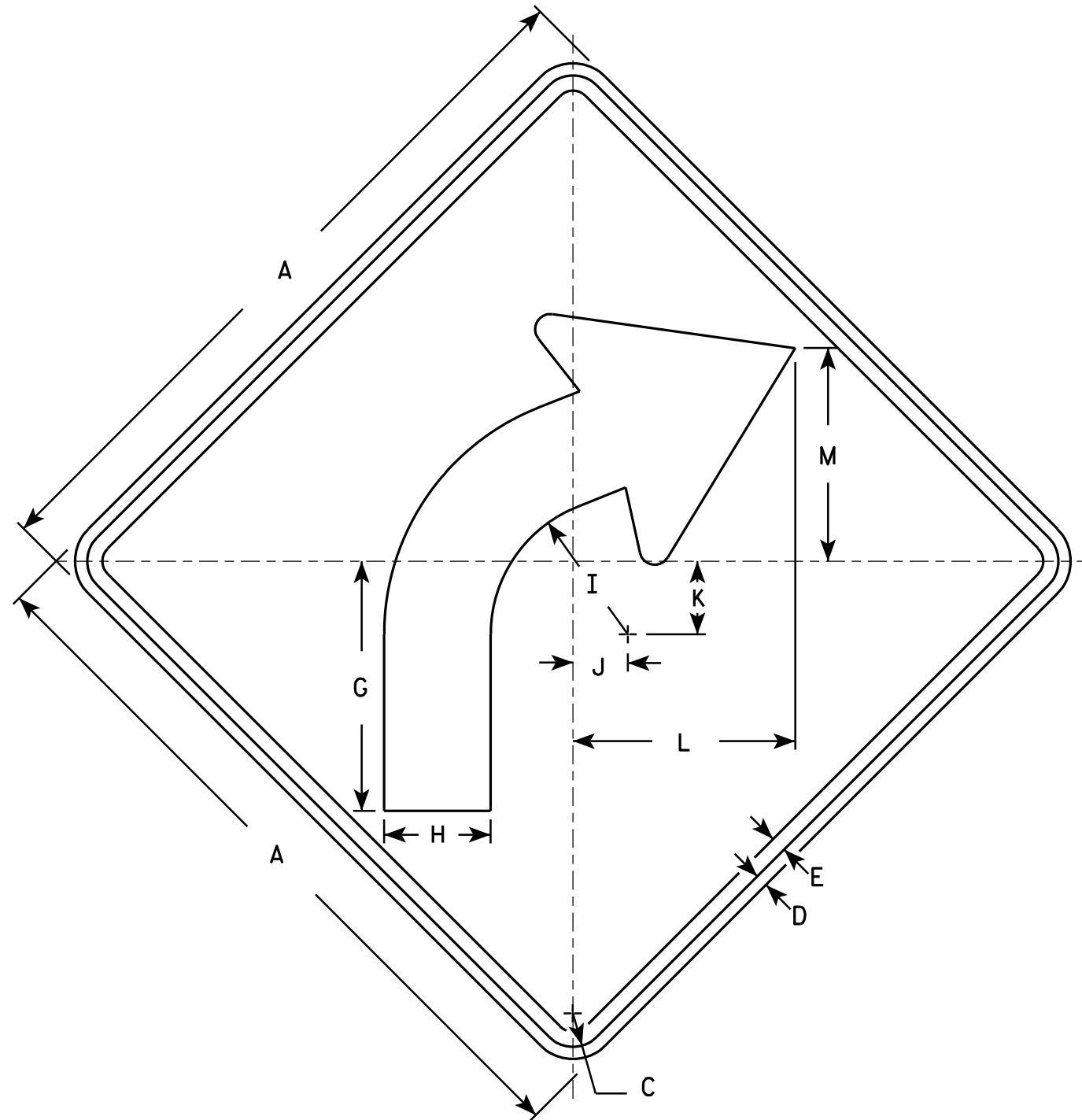
COUNTY:

SHEET NO: 117

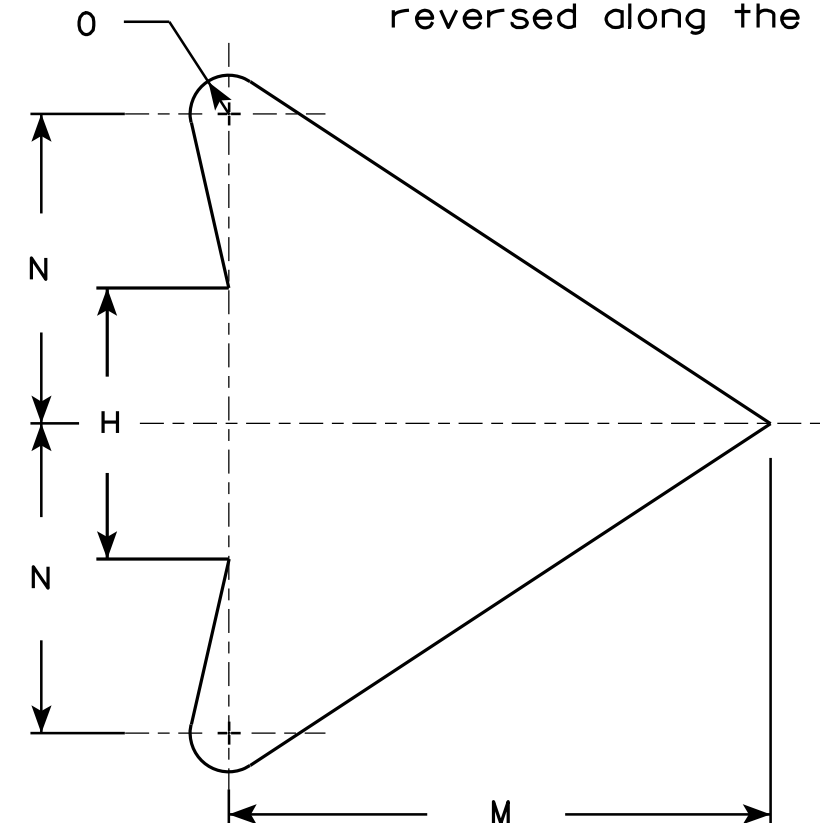
E

# NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



ARROW DETAIL

| SIZE | A  | B | C     | D   | E   | F | G      | H     | I     | J     | K     | L      | M      | N | O   | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|---|--------|-------|-------|-------|-------|--------|--------|---|-----|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 24 |   | 1 1/8 | 3/8 | 1/2 |   | 8 1/4  | 3 1/2 | 4 1/2 | 1 3/4 | 2 3/8 | 7 1/4  | 7      | 4 | 1/2 |   |   |   |   |   |   |   |   |   |   |   | 4.0             |
| 2S   | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 1/4 | 4 3/8 | 5 5/8 | 2 1/4 | 3     | 9 1/8  | 8 3/4  | 5 | 5/8 |   |   |   |   |   |   |   |   |   |   |   | 6.25            |
| 2M   | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   |   | 16 1/2 | 7     | 9     | 3 1/2 | 4 5/8 | 14 1/2 | 14     | 8 | 1   |   |   |   |   |   |   |   |   |   |   |   | 16.0            |

## STANDARD SIGN

W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

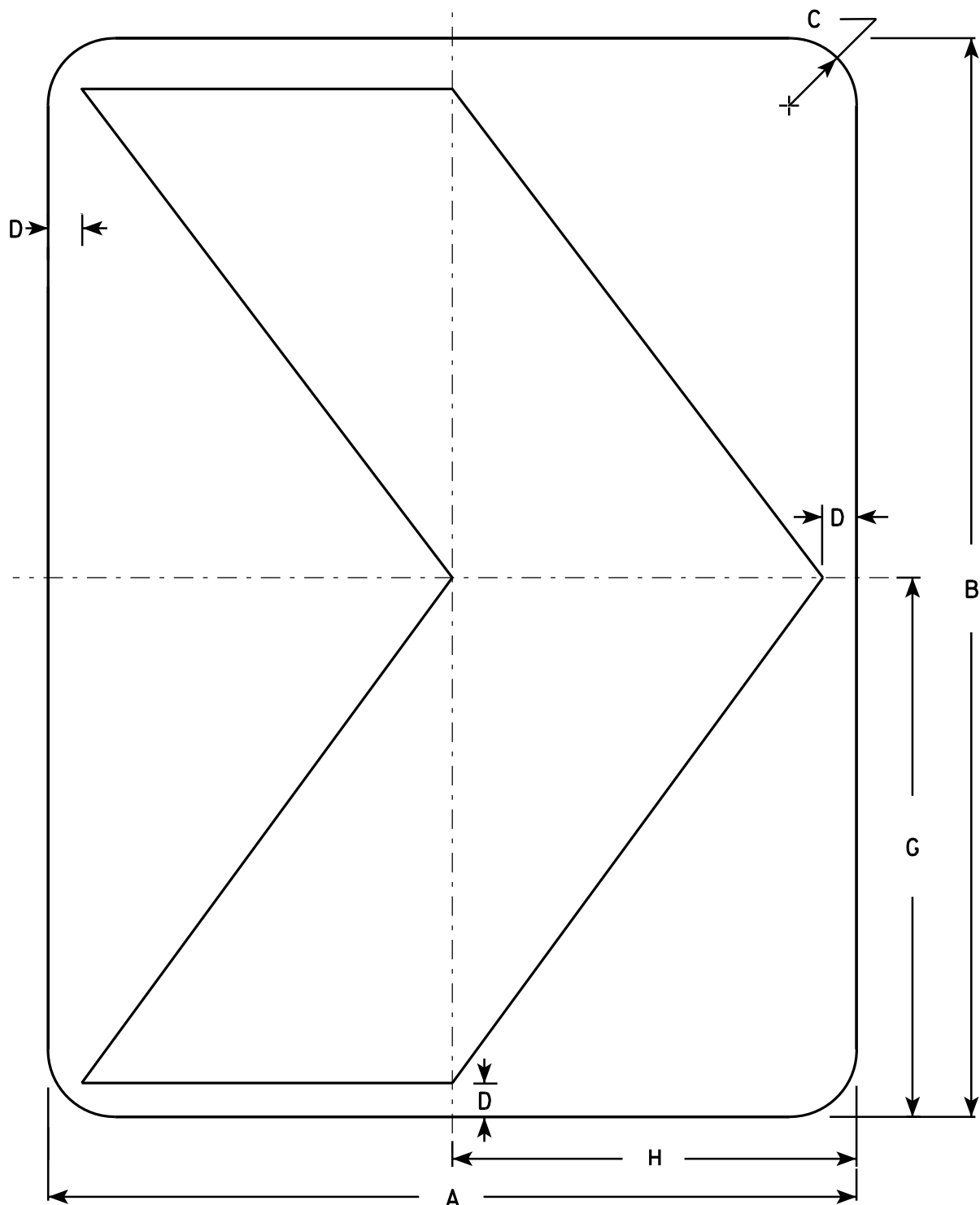
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 118

E



W1-8

### NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A  | B  | C     | D     | E | F | G  | H  | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-------|---|---|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 12 | 18 | 1 1/2 | 1/2   |   |   | 9  | 6  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1.5             |
| 2S   | 18 | 24 | 1 1/2 | 3/4   |   |   | 12 | 9  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 2M   | 18 | 24 | 1 1/2 | 3/4   |   |   | 12 | 9  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 3    | 24 | 30 | 1 1/2 | 1     |   |   | 15 | 12 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.0             |
| 4    | 30 | 36 | 1 7/8 | 1 1/4 |   |   | 18 | 15 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.5             |
| 5    | 36 | 48 | 2 1/4 | 1 1/2 |   |   | 24 | 18 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 12.0            |

### STANDARD SIGN

W1-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

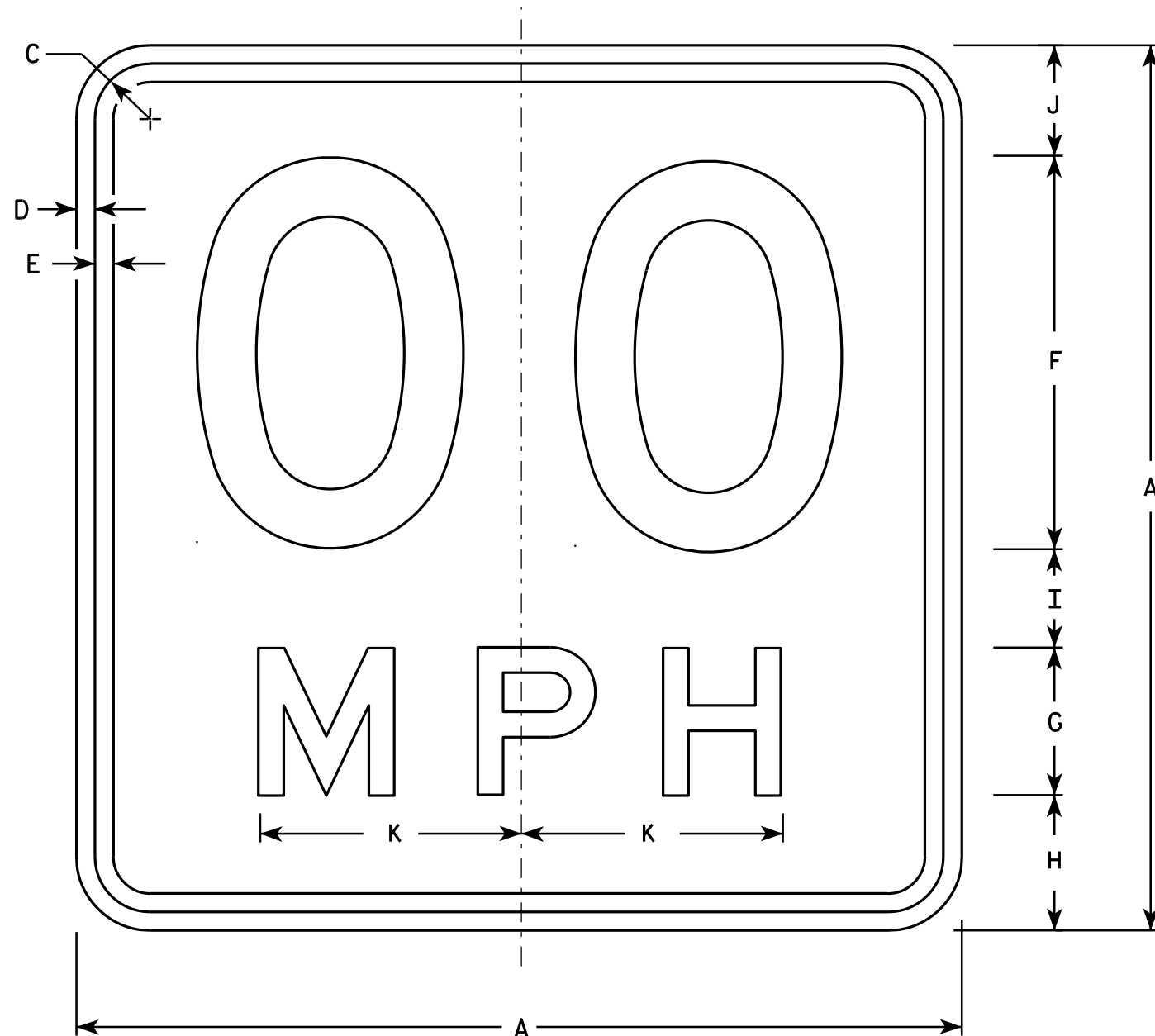
DATE 6/7/10 PLATE NO. W1-8.6

PROJECT NO:

SHEET NO: 119

E





### NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D  
Line 2 is Series E

W13-1

- \* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.  
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

| SIZE | A  | B | C     | D   | E   | F  | G | H     | I     | J     | K      | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|----|---|-------|-------|-------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 18 |   | 1 1/8 | 3/8 | 3/8 | 8  | 3 | 2 3/4 | 2     | 2 1/4 | 5 3/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.25            |
| * 2S | 18 |   | 1 1/8 | 3/8 | 3/8 | 8  | 3 | 2 3/4 | 2     | 2 1/4 | 5 3/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.25            |
| * 2M | 18 |   | 1 1/8 | 3/8 | 3/8 | 8  | 3 | 2 3/4 | 2     | 2 1/4 | 5 3/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.25            |
| 3    | 24 |   | 1 1/8 | 3/8 | 1/2 | 10 | 4 | 4     | 2 3/4 | 3 1/4 | 6 5/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.00            |
| 4    | 36 |   | 1 5/8 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4     | 4 1/2 | 10 5/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 9.00            |
| 5    | 36 |   | 1 5/8 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4     | 4 1/2 | 10 5/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 9.00            |

### STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

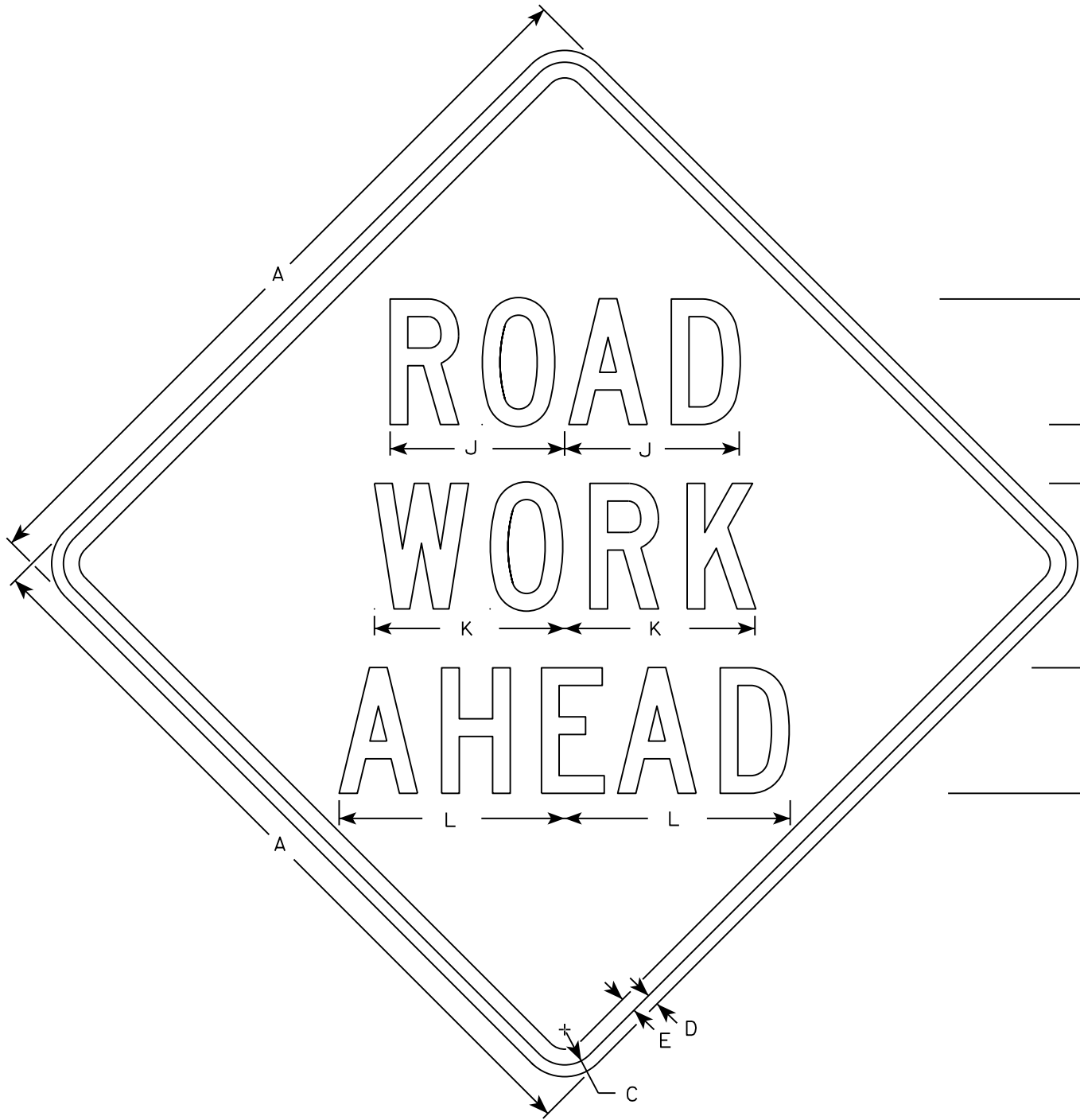
PROJECT NO:

HWY:

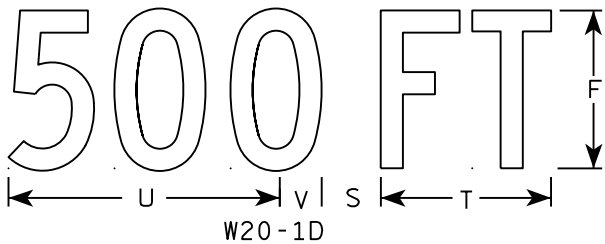
COUNTY:

SHEET NO: 120

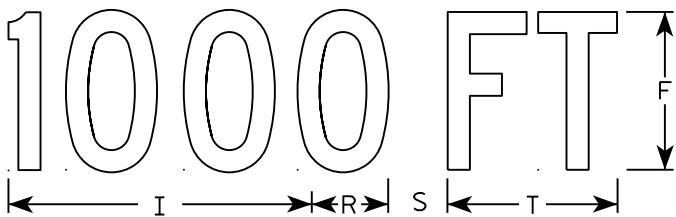
E



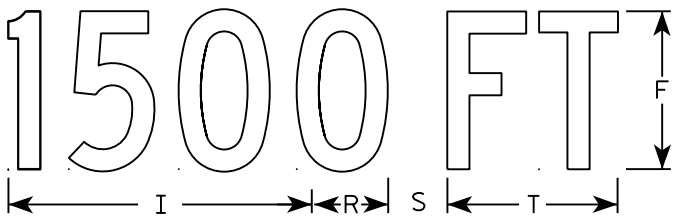
W20-1A



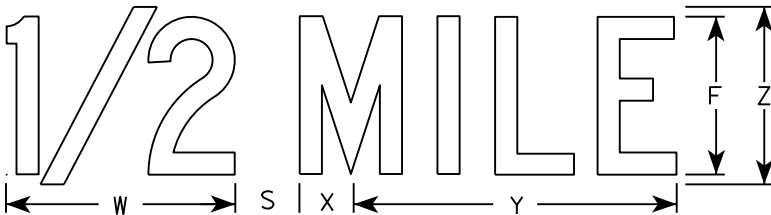
W20-1D



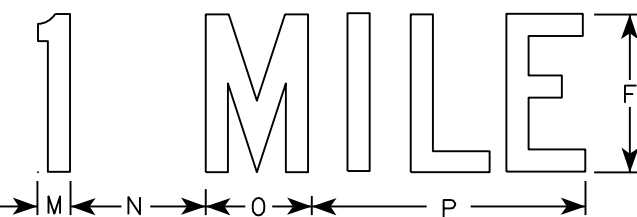
W20-1C



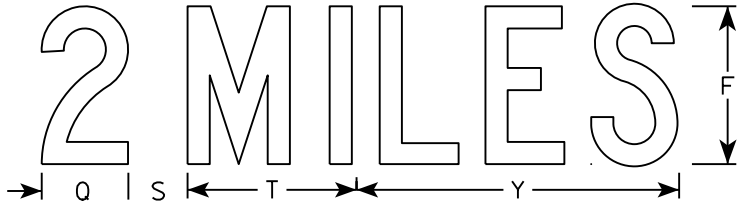
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:  
Background - Orange  
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A  | B | C     | D   | E   | F | G     | H     | I      | J      | K      | L      | M     | N     | O     | P      | Q     | R     | S     | T     | U      | V     | W      | X     | Y      | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|---|-------|-------|--------|--------|--------|--------|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|--------|-------|--------|---|-----------------|
| 1    | 36 |   | 1 3/8 | 1/2 | 5/8 | 5 | 2 5/8 | 3 1/4 | 10 1/8 | 7      | 7 5/8  | 8 7/8  | 1 1/8 | 4 1/2 | 3 1/2 | 9      |       | 2 1/2 | 2 1/4 | 5 5/8 | 9      | 1 3/8 | 8      | 1 3/4 | 10 3/4 | 6 | 9.0             |
| 2S   | 48 |   | 2 1/4 | 3/4 | 1   | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3     | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0            |
| 2M   | 48 |   | 2 1/4 | 3/4 | 1   | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3     | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0            |
| 3    | 48 |   | 2 1/4 | 3/4 | 1   | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3     | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0            |
| 4    | 48 |   | 2 1/4 | 3/4 | 1   | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3     | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0            |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3     | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0            |

STANDARD SIGN  
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

121

TRAFFIC VOLUME

STH 162  
ADT = 2,000 (2032)  
R.D.S. = 60 M.P.H.

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.  
DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- DETAILS SHOWN FOR POSTS, PLATES, ANCHORAGE SYSTEM AND INSTALLATION, BLOCKS, AND GUARD RAIL ARE NOT PART OF THE STRUCTURE CONTRACT, BUT ARE BID PER THE ROADWAY DESIGN PLANS.
- POST BASE PLATES (AND BOTTOM PLATES IF USED) SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.
- CUT BOTTOM OF POST SO THAT POST WILL BE VERTICAL WHEN POST ASSEMBLY IS PLACED ON TOP OF THE CULVERT. ALONG THE ROADWAY THE POST WILL BE NORMAL TO GRADE LINE. HEX BOLTS AND THREADED RODS ARE TO BE PLACED PERPENDICULAR TO THE BASE PLATE.
- POST, BASE PLATE (AND BOTTOM PLATE IF USED), AND SHIMS SHALL BE GALVANIZED AFTER FABRICATION.
- PRIOR TO GALVANIZING, ALL STEEL POSTS AND PLATES SHALL BE GIVEN A NO. 6 COMMERCIAL BLAST CLEANING BY SSPC SPECS.
- ALL MATERIAL USED IN POSTS AND PLATES SHALL BE MADE FROM MATERIAL CONFORMING TO ASTM DESIGNATION A709 GRADE 50 OR 50S.
- HEX BOLTS, THREADED RODS, HEX NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F1554 GRADE 36, AND SHALL BE GALVANIZED. RODS ARE TO BE FULLY THREADED AND BOLTS TO BE THREADED 3". CHAMFER TOP OF BOLTS AND RODS BEFORE THREADING.
- ADHESIVE ANCHORS 1-INCH. EMBED IN CONCRETE AS DETAILED. CHARACTERISTIC BOND STRENGTH SHALL MEET OR EXCEED 1305 PSI FOR UNCRACKED CONCRETE.
- STEEL SHIMS MAY BE USED BETWEEN PLATES AND SLAB WHERE REQUIRED FOR ALIGNMENT.

TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS                                  | UNIT | TOTALS |
|-----------------|--------------------------------------------|------|--------|
| 206.1000        | EXCAVATION FOR STRUCTURES BRIDGES B-32-120 | LS   | 1      |
| 210.2500        | BACKFILL STRUCTURE TYPE B                  | TON  | 90     |

BENCH MARK

| STATION    | DESCRIPTION               | ELEV.  |
|------------|---------------------------|--------|
| 301+37.33± | TOP OF SOUTHEAST WINGWALL | 811.86 |

- ELEVATIONS CALCULATED FROM EXISTING BENCH MARK AND ORIGINAL PLAN DIMENSIONS.
- CONTRACTOR TO FIELD VERIFY BENCH MARK, AND COMPLETE ADJUSTMENTS TO POST HEIGHT "H" BASED ON FIELD CONDITIONS.

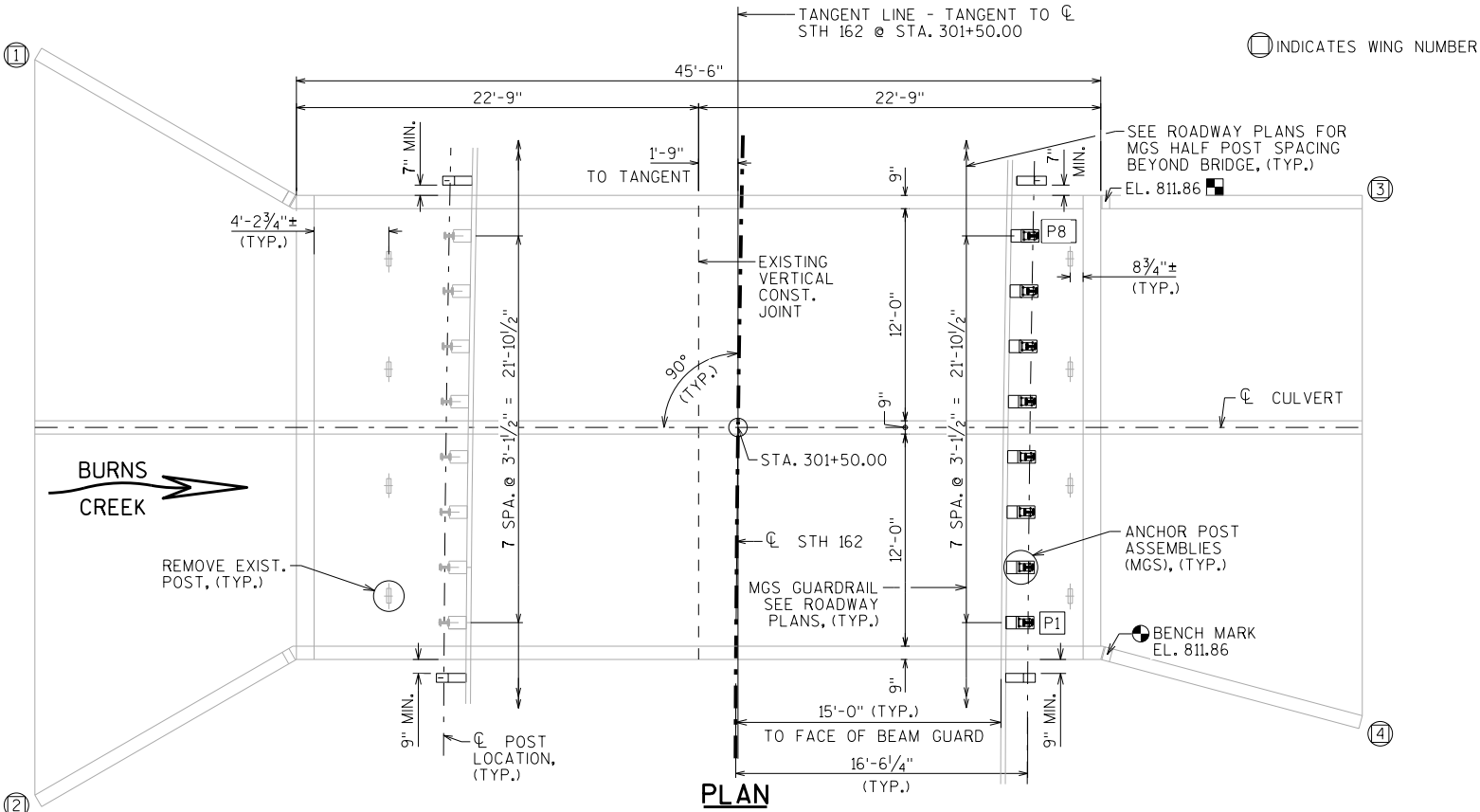
LIST OF DRAWINGS

1. BEAM GUARD POST ANCHOR LAYOUT

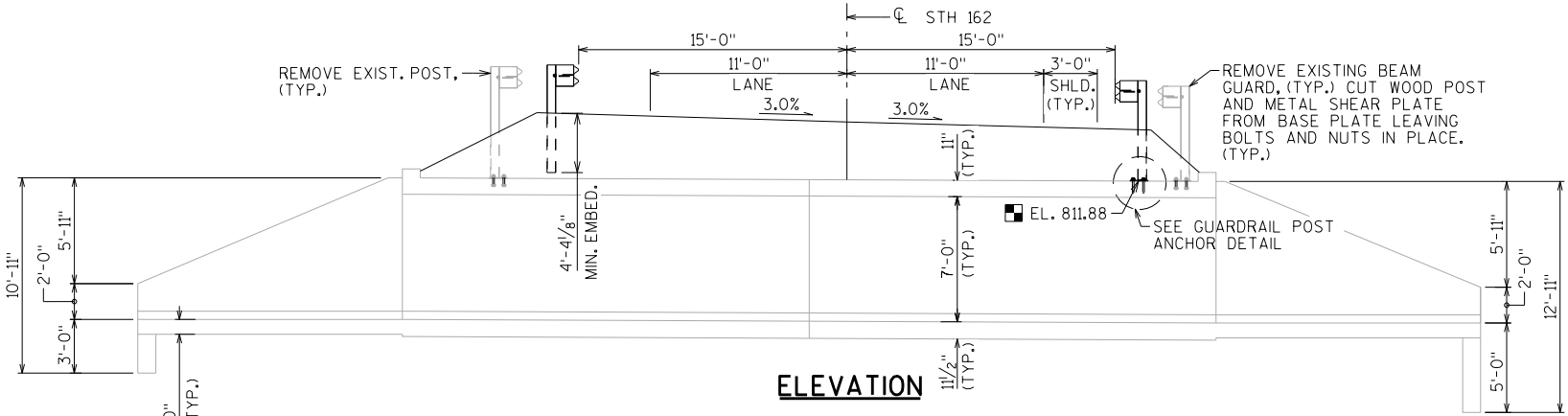
STRUCTURE DESIGN CONTACTS:

JOHN SENDOR (608) 266-5163  
AARON BONK (608) 261-0261

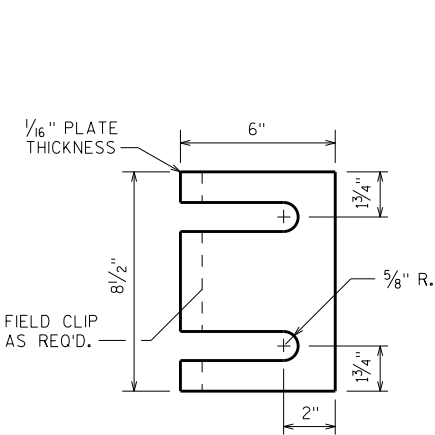
|                                                                                                                   |           |                    |                              |
|-------------------------------------------------------------------------------------------------------------------|-----------|--------------------|------------------------------|
| NO.                                                                                                               | DATE      | REVISION           | BY                           |
|  <b>BUREAU OF STRUCTURES</b> |           |                    |                              |
| ACCEPTED <i>William C. Dierker</i> <b>7/18/19</b><br>CHIEF STRUCTURES DESIGN ENGINEER DATE                        |           |                    |                              |
| <b>STRUCTURE B-32-120</b>                                                                                         |           |                    |                              |
| STH 162 OVER BURNS CREEK                                                                                          |           |                    |                              |
| COUNTY                                                                                                            | LA CROSSE | TOWN               | BURNS                        |
| DESIGN SPEC. N/A REHABILITATION                                                                                   |           |                    |                              |
| DESIGNED BY                                                                                                       | JJS       | DESIGNED CK'D. SEW | DRAWN BY JJS PLANS CK'D. SEW |
| <b>BEAM GUARD POST ANCHOR LAYOUT</b>                                                                              |           |                    | SHEET 1 OF 1                 |
|                                                                                                                   |           |                    | 122                          |



PLAN

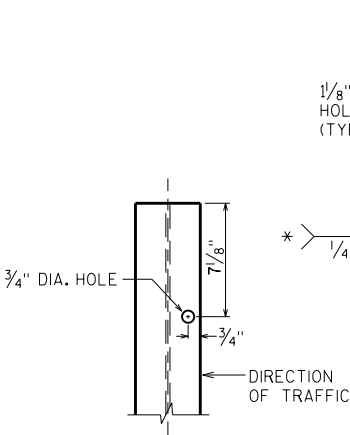


ELEVATION



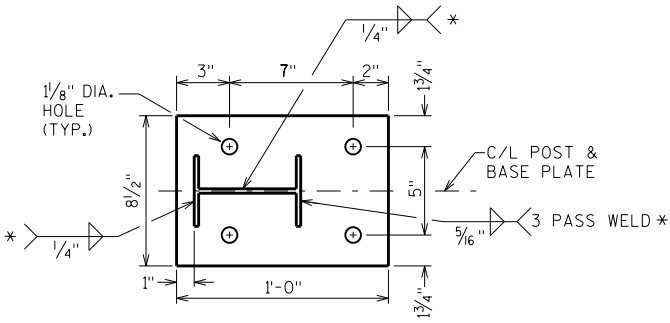
STEEL SHIM DETAIL

4 PER POST



SECTION C-C

HOLE IN POST FLANGE ON APPROACHING TRAFFIC SIDE



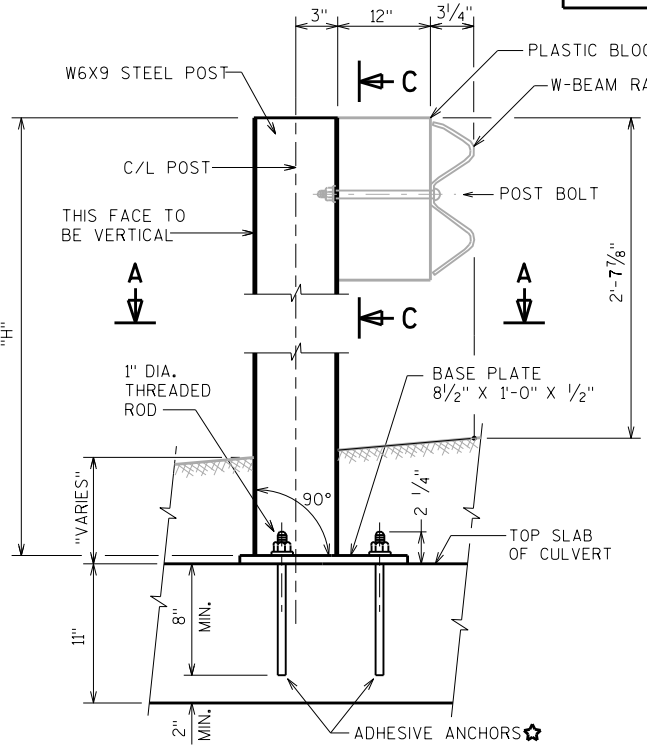
SECTION A-A

POST & BASE PLATE

\* WELDING IS TO BE COMPLETED USING THE GAS-METAL ARC WELDING (GMAW) PROCESS WITH E70S-3 WELDING WIRE AND ARGON-OXYGEN OR CO<sub>2</sub> COVER GAS.

POST HEIGHT

| POST NO. | "H"    |
|----------|--------|
| P1       | 79.25" |
| P2       | 79.50" |
| P3       | 79.75" |
| P4       | 79.75" |
| P5       | 80"    |
| P6       | 80.25" |
| P7       | 80.25" |
| P8       | 80.75" |



GUARDRAIL POST ANCHOR

(ELEVATION VIEW)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.  
DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.  
DETAILS SHOWN FOR POSTS, PLATES, ANCHORAGE SYSTEM AND INSTALLATION, BLOCKS, AND GUARD RAIL ARE NOT PART OF THE STRUCTURE CONTRACT, BUT ARE BID PER THE ROADWAY DESIGN PLANS.

POST BASE PLATES (AND BOTTOM PLATES IF USED) SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

CUT BOTTOM OF POST SO THAT POST WILL BE VERTICAL WHEN POST ASSEMBLY IS PLACED ON TOP OF THE CULVERT. ALONG THE ROADWAY THE POST WILL BE NORMAL TO GRADE LINE. HEX BOLTS AND THREADED RODS ARE TO BE PLACED PERPENDICULAR TO THE BASE PLATE.

POST, BASE PLATE (AND BOTTOM PLATE IF USED), AND SHIMS SHALL BE GALVANIZED AFTER FABRICATION.

PRIOR TO GALVANIZING, ALL STEEL POSTS AND PLATES SHALL BE GIVEN A NO. 6 COMMERCIAL BLAST CLEANING BY SSPC SPECS.

ALL MATERIAL USED IN POSTS AND PLATES SHALL BE MADE FROM MATERIAL CONFORMING TO ASTM DESIGNATION A709 GRADE 50 OR 50S.

HEX BOLTS, THREADED RODS, HEX NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F1554 GRADE 36, AND SHALL BE GALVANIZED. RODS ARE TO BE FULLY THREADED AND BOLTS TO BE THREADED 3". CHAMFER TOP OF BOLTS AND RODS BEFORE THREADING.

ADHESIVE ANCHORS 1-INCH. EMBED IN CONCRETE AS DETAILED. CHARACTERISTIC BOND STRENGTH SHALL MEET OR EXCEED 1305 PSI FOR UNCRACKED CONCRETE.

STEEL SHIMS MAY BE USED BETWEEN PLATES AND SLAB WHERE REQUIRED FOR ALIGNMENT.

TRAFFIC VOLUME

STH 162  
ADT = 2,000 (2032)  
R.D.S. = 60 M.P.H.

STRUCTURE DESIGN CONTACTS:

JOHN SENDOR (608) 266-5163  
AARON BONK (608) 261-0261

|                                                                                                                                                                                                                                                                                                                                               |           |                |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------|--------------|
| NO.                                                                                                                                                                                                                                                                                                                                           | DATE      | REVISION       | BY           |
| <div><div><div><div><div><div><span></span></div><div>WISCONSIN</div></div><div><div>DEPARTMENT OF TRANSPORTATION</div></div></div></div><div><div><div><b>BUREAU OF</b></div><div><b>STRUCTURES</b></div></div><div>ACCEPTED <i>William C. Dechen</i> <b>7/18/19</b></div><div>CHIEF STRUCTURES DESIGN ENGINEER DATE</div></div></div></div> |           |                |              |
| STRUCTURE C-32-87                                                                                                                                                                                                                                                                                                                             |           |                |              |
| STH 162 OVER DRAINAGE WAY                                                                                                                                                                                                                                                                                                                     |           |                |              |
| COUNTY                                                                                                                                                                                                                                                                                                                                        | LA CROSSE | TOWN           | BURNS        |
| DESIGN SPEC. N/A REHABILITATION                                                                                                                                                                                                                                                                                                               |           |                |              |
| DESIGNED BY                                                                                                                                                                                                                                                                                                                                   | JJS       | DESIGNED CK'D. | SEW          |
| DRAWN BY                                                                                                                                                                                                                                                                                                                                      | JJS       | PLANS CK'D.    | SEW          |
| BEAM GUARD POST ANCHOR LAYOUT                                                                                                                                                                                                                                                                                                                 |           |                | SHEET 1 OF 1 |
|                                                                                                                                                                                                                                                                                                                                               |           |                | 123          |

INDICATES WING NUMBER

POST HEIGHT

| POST NO. | "H"    |
|----------|--------|
| P1       | 83"    |
| P2       | 83.50" |
| P3       | 84"    |
| P4       | 84.75" |
| P5       | 85.25" |
| P6       | 86"    |

SKUEW TAKEN FROM AS BUILT

ELEVATIONS CALCULATED FROM EXISTING BENCH MARK AND ORIGINAL PLAN DIMENSIONS.

CONTRACTOR TO FIELD VERIFY APRON ELEVATIONS, AND COMPLETE ADJUSTMENTS TO POST HEIGHT "H" BASED ON FIELD CONDITIONS.

STEEL SHIM DETAIL

4 PER POST

LIST OF DRAWINGS

1. BEAM GUARD POST ANCHOR LAYOUT

PLAN

ELEVATION

GUARDRAIL POST ANCHOR

(ELEVATION VIEW)

SECTION A-A

POST & BASE PLATE

SECTION C-C

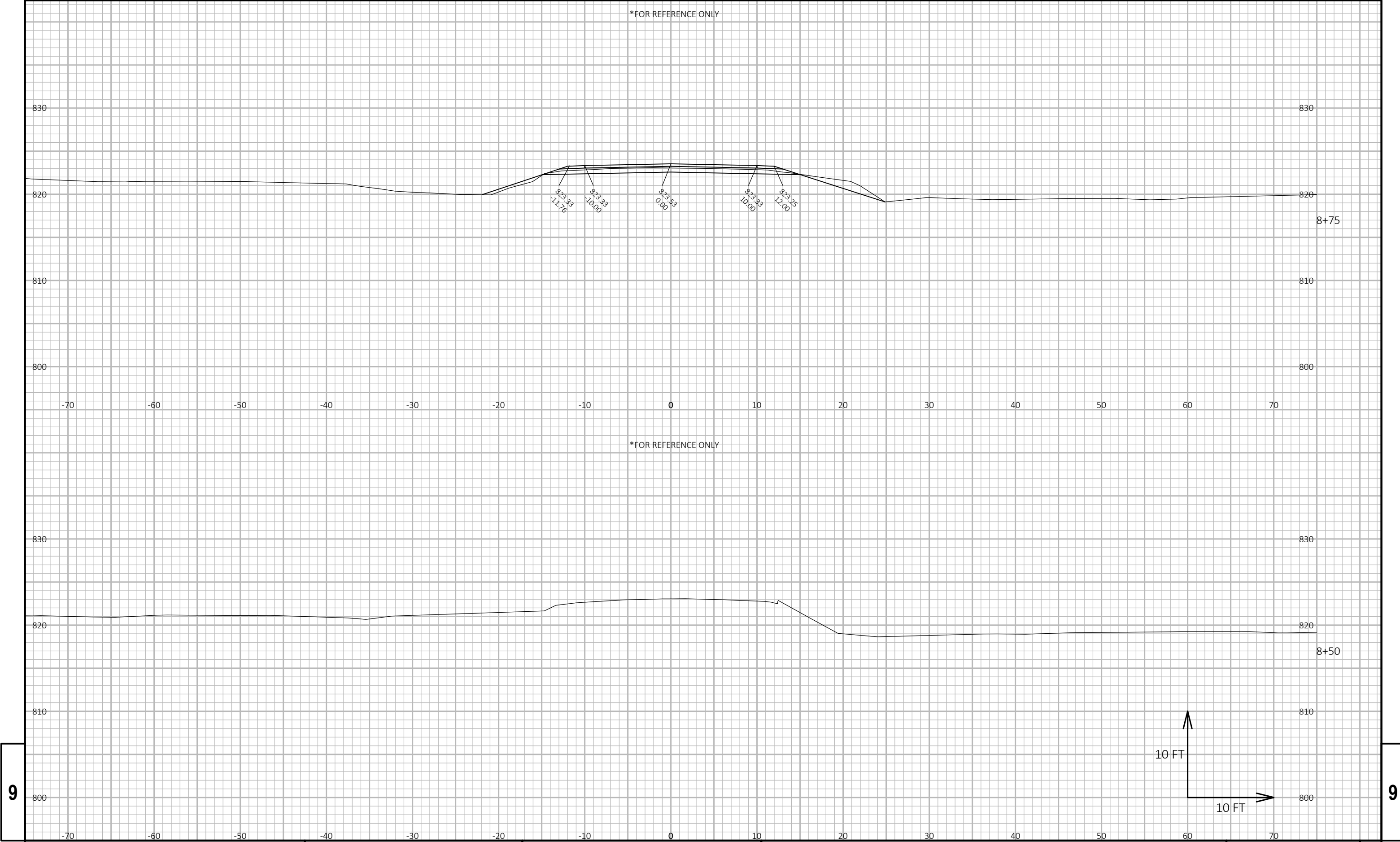
HOLE IN POST FLANGE ON APPROACHING TRAFFIC SIDE

TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS                                  | UNIT | TOTALS |
|-----------------|--------------------------------------------|------|--------|
| 206.2000        | EXCAVATION FOR STRUCTURES CULVERTS C-32-87 | LS   | 1      |
| 210.2500        | BACKFILL STRUCTURE TYPE B                  | TON  | 65     |

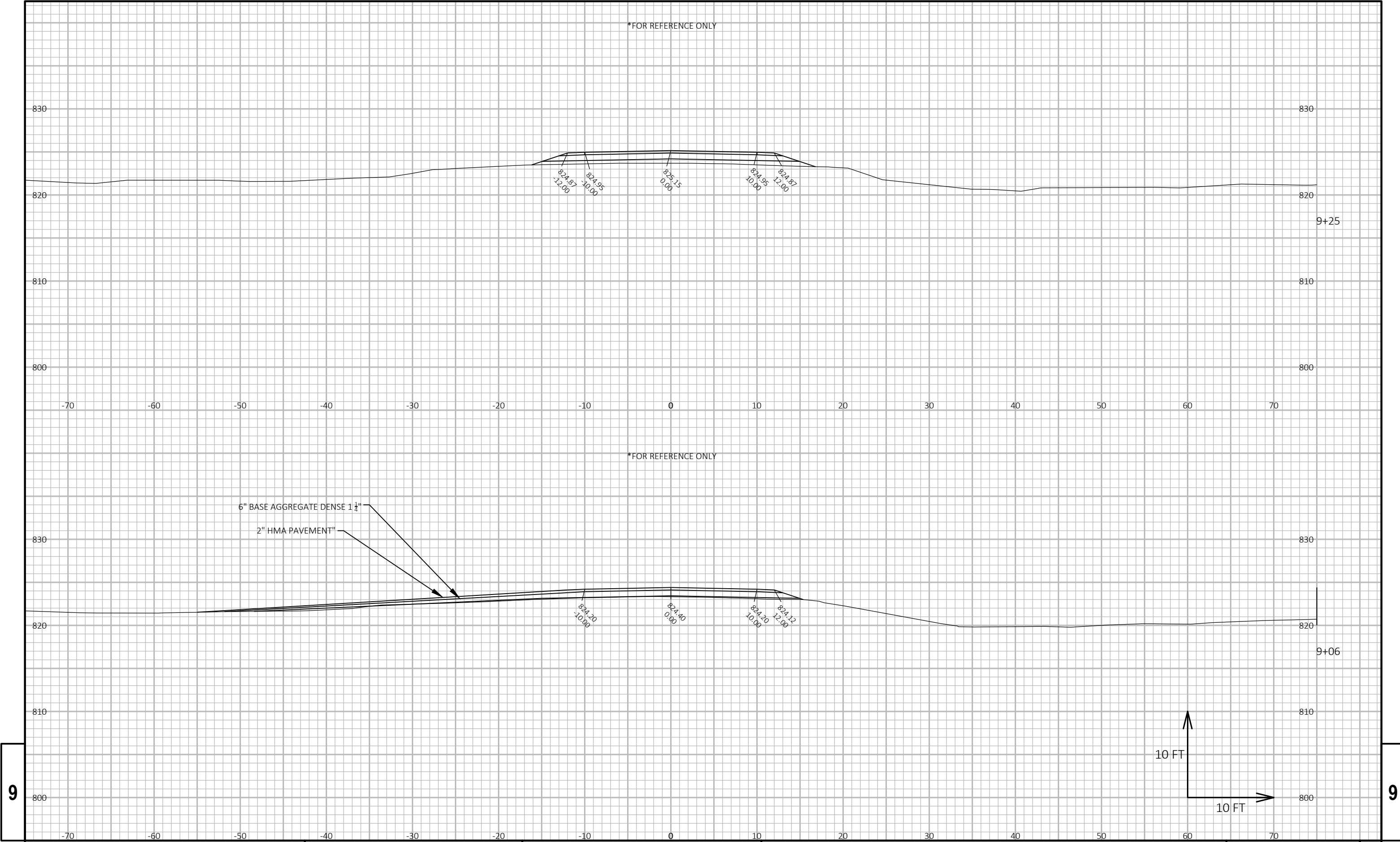
ONE ADDITIONAL ANCHOR ASSEMBLY IS NOTED, VERSUS WHAT IS SHOWN IN PLAN VIEW, TO COMPENSATE FOR POTENTIAL DIFFERING SKEW OF THE CULVERT IN THE FIELD.





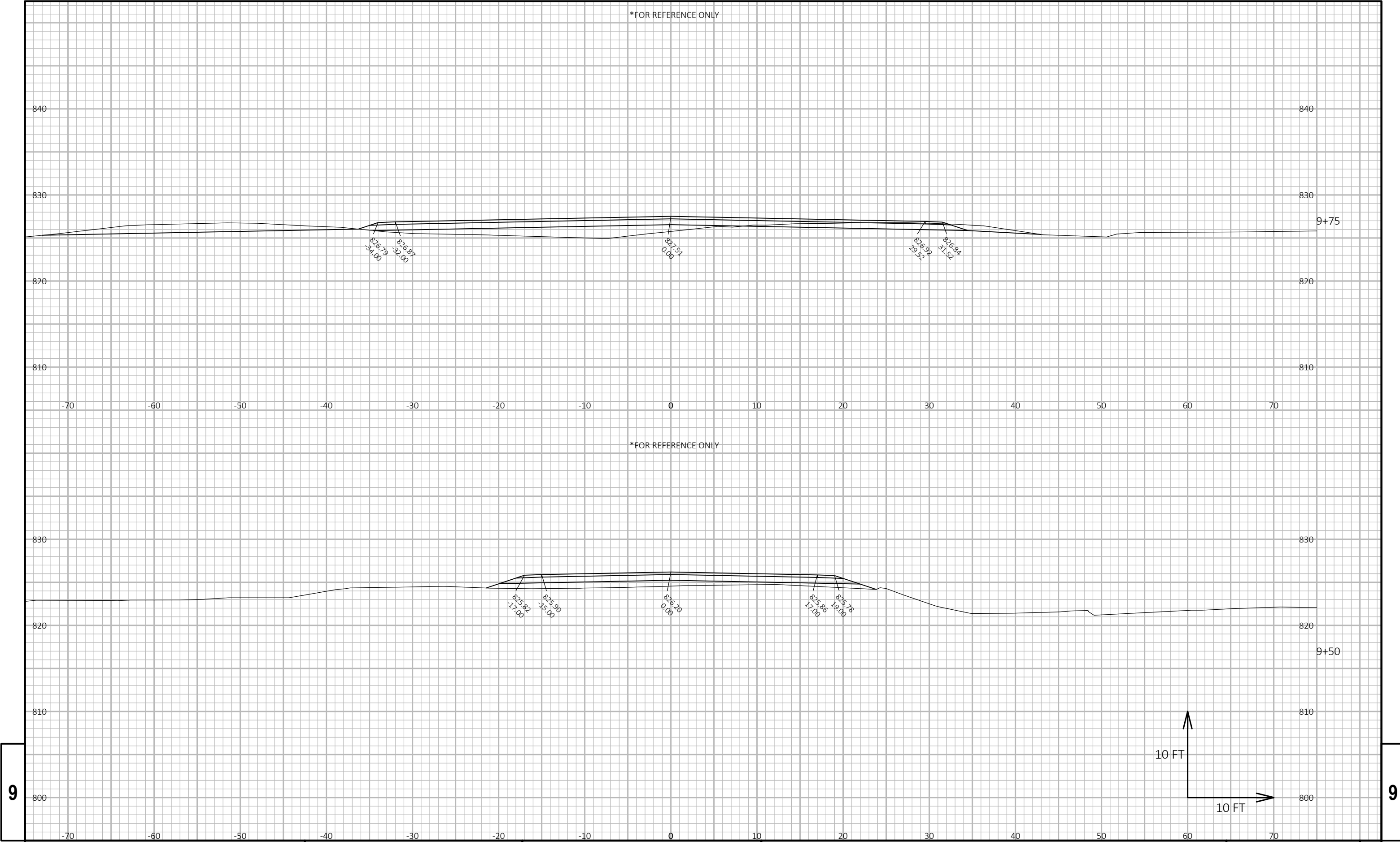
9

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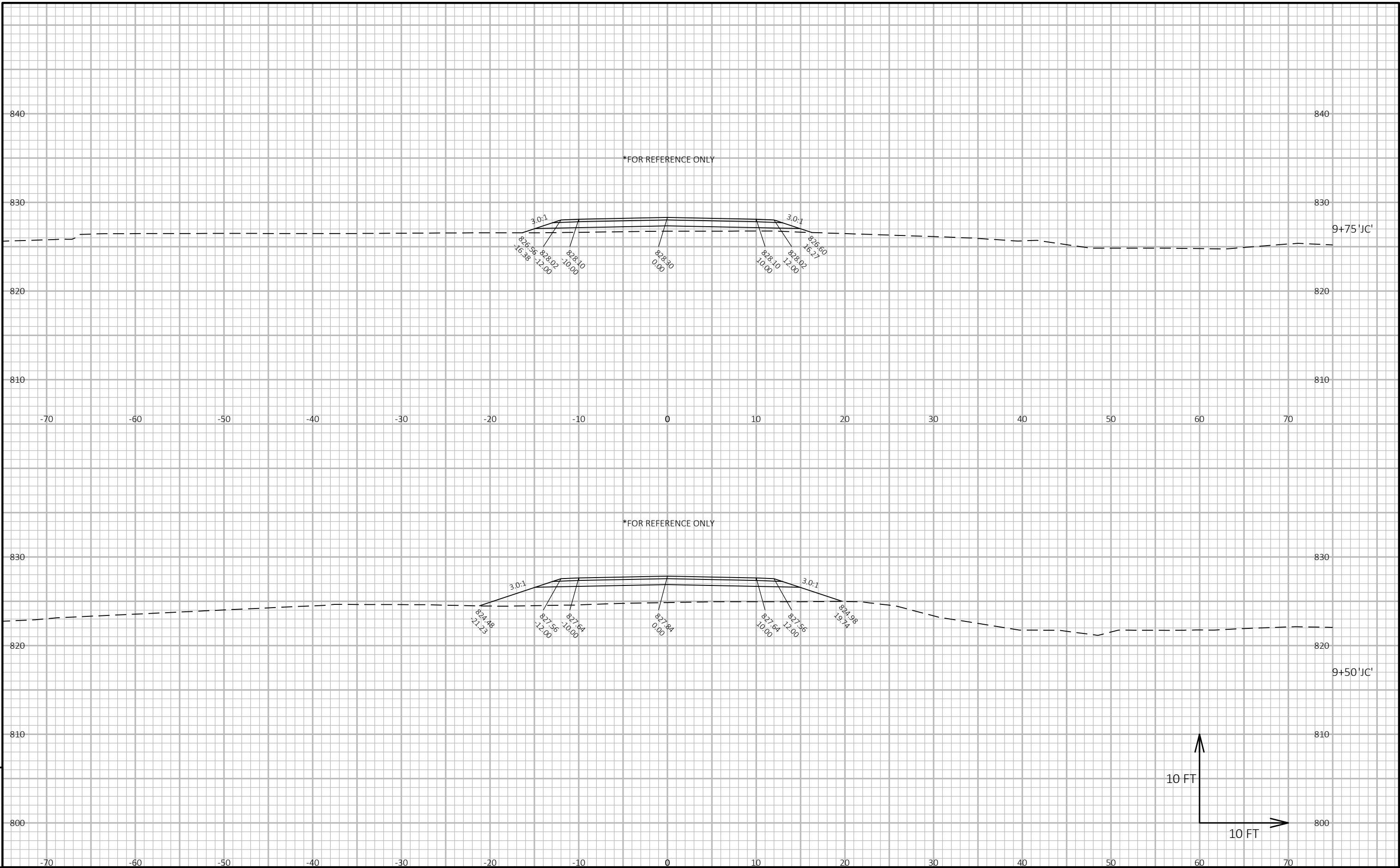
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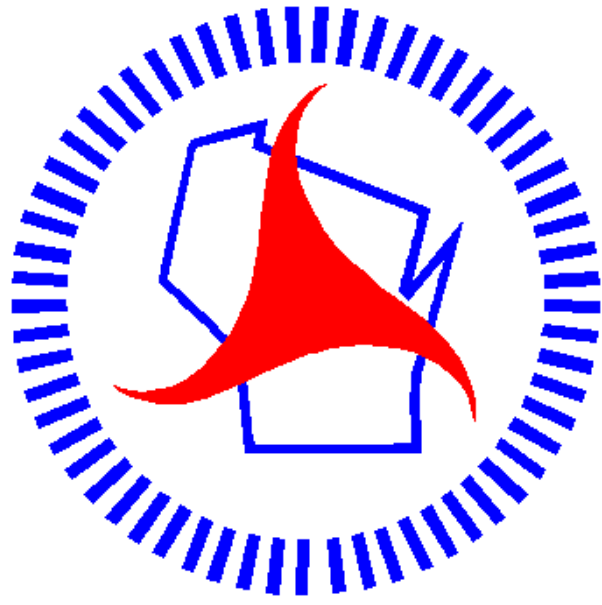


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## ***Wisconsin Department of Transportation***

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