

EAU

PROJECT ID:  
WITH: N/A

8620-00-74

COUNTY:

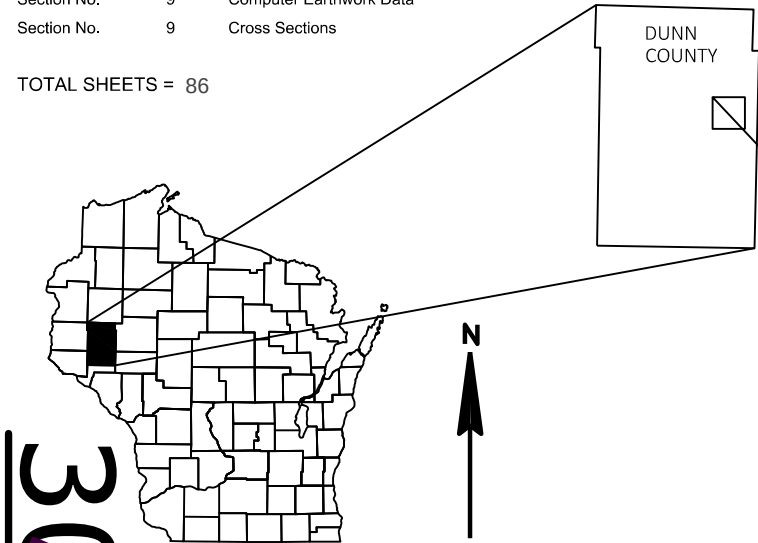
DUNN

OCTOBER 2026

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     |
| <del>Section No.</del> | <del>4</del> | <del>Right of Way Plat</del> |
| Section No.            | 5            | Plan and Profile             |
| Section No.            | 6            | Standard Detail Drawings     |
| Section No.            | 7            | Sign Plates                  |
| Section No.            | 8            | Structure Plans              |
| Section No.            | 9            | Computer Earthwork Data      |
| Section No.            | 9            | Cross Sections               |

TOTAL SHEETS = 86



DESIGN DESIGNATION

|              |        |   |           |
|--------------|--------|---|-----------|
| A.A.D.T.     | (2026) | = | 3,790     |
| A.A.D.T.     | (2046) | = | 4,280     |
| D.H.V.       |        | = | 380       |
| D.D.         |        | = | 50/50     |
| T.           |        | = | 18%       |
| DESIGN SPEED |        | = | 55 MPH    |
| ESALS        |        | = | 1,300,000 |

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           |  |

PROFILE

|                                             |  |
|---------------------------------------------|--|
| GRADE LINE                                  |  |
| ORIGINAL GROUND                             |  |
| MARSH OR ROCK PROFILE (To be noted as such) |  |
| SPECIAL DITCH                               |  |
| GRADE ELEVATION                             |  |
| CULVERT (Profile View)                      |  |
| UTILITIES                                   |  |
| ELECTRIC                                    |  |
| FIBER OPTIC                                 |  |
| GAS                                         |  |
| SANITARY SEWER                              |  |
| STORM SEWER                                 |  |
| TELEPHONE                                   |  |
| WATER                                       |  |
| UTILITY PEDESTAL                            |  |
| POWER POLE                                  |  |
| TELEPHONE POLE                              |  |

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

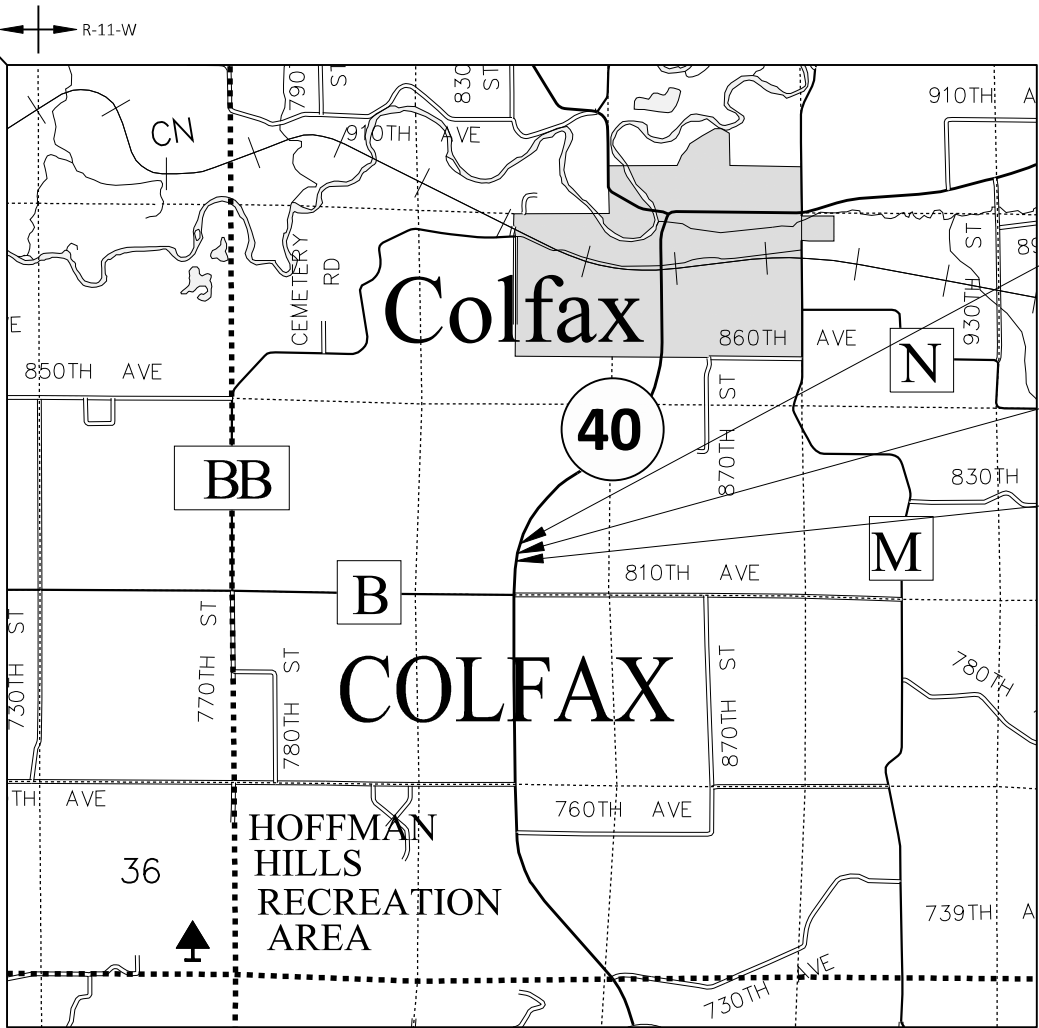
PLAN OF PROPOSED IMPROVEMENT

## ELK MOUND - BLOOMER

BRANCH SINKING CREEK C-17-0051

STH 40  
DUNN COUNTY

STATE PROJECT NUMBER  
8620-00-74



BEGIN PROJECT

STA 7+00.00  
Y = 206349.26  
X = 209212.78

STRUCTURE C-17-0051  
STA 10+00.00

END PROJECT

STA 13+00.00  
Y = 206941.26  
X = 209306.11

LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.076 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), DUNN COUNTY, NAD83 ( 2011 ), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 ( 2012 ). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

STATE PROJECT

8620-00-74

FEDERAL PROJECT

PROJECT

CONTRACT

ORIGINAL PLANS PREPARED BY

AYRES



04/28/2026

(Date)

(Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

|                     |                        |
|---------------------|------------------------|
| Surveyor            | AYRES ASSOCIATES, INC. |
| Designer            | AYRES ASSOCIATES, INC. |
| Project Manager     | TOU YANG               |
| Regional Examiner   | NW REGION              |
| Regional Supervisor | TOU YANG               |

APPROVED FOR THE DEPARTMENT  
Jeffrey G. Olson

DATE:

Digitally signed by  
Jeffrey G. Olson  
Date: 2026.04.30  
08:40:34 -05'00'

(Signature)

E

UTILITIES CONTACTS

DUSTIN SNYDER  
ARVIG COMMUNICATIONS SYSTEMS - COMMUNICATION LINE  
5130 WINNETKA AVENUE NORTH  
NEW HOPE, MN 55427  
(218) 639-4191  
dustin.snyder@arvig.com

CRAIG JISKRA  
BLOOMER TELEPHONE COMPANY - COMMUNICATION LINE  
DBA BLOOMER BROADBAND  
1120 15TH AVE  
BLOOMER, WI 54724-1697  
(715) 568-4830 (OFFICE)  
(715) 568-9920  
craig.jiskra@bloomerbroadband.com

KYLE SCHLAMPP  
CENTURYLINK - COMMUNICATION LINE  
20 S WILSON AVE  
RICE LAKE, WI 54868  
(715) 475-2029 (OFFICE)  
(715) 292-0082 (MOBILE)  
kyle.schlampp@lumen.com

LOREN LUZINSKI  
DUNN ENERGY COOPERATIVE - ELECTRICITY  
N5725 600TH ST  
P.O. BOX 220  
MENOMONIE, WI 54751-0220  
(715) 232-6240  
loren@dunnenergy.com



Dial  or (800)242-8511

www.DiggersHotline.com

WISCONSIN DEPARTMENT OF  
NATURAL RESOURCES CONTACT:

LEAH NICOL  
1300 WEST CLAIREMONT AVE  
EAU CLAIRE, WI 54701  
(715) 934-9014  
LEAH.NICOLE@WISCONSIN.GOV

WISDOT CONTACT:

TOU YANG  
718 WEST CLAIREMONT AVENUE  
EAU CLAIRE, WI 54701  
(715) 833-5570  
TOU.YANG@DOT.WI.GOV

DESIGNER

ARLEN BEAUDETTE, PE  
AYRES ASSOCIATES  
3433 OAKWOOD HILLS PARKWAY  
EAU CLAIRE WI 54701-7698  
(715) 831-7566  
BEAUDETTEA@AYRESASSOCIATES.COM

GENERAL NOTES

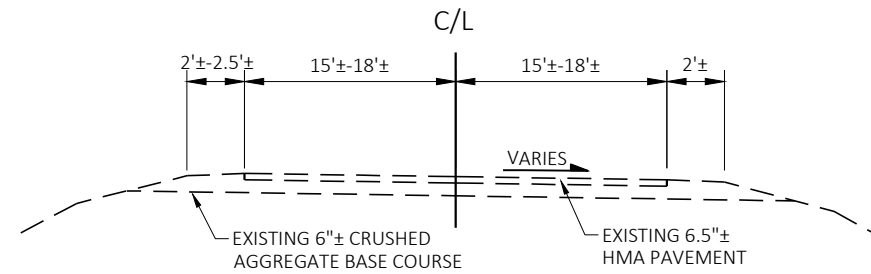
THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN IN THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

RUNOFF COEFFICIENT TABLE

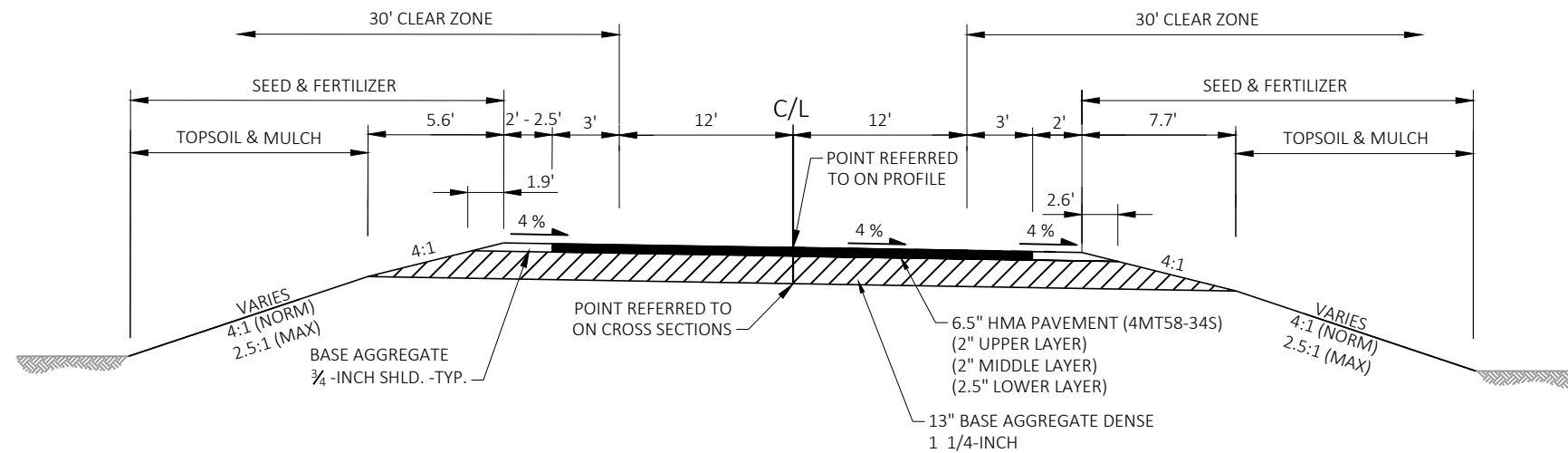
| LAND USE:                | HYDROLOGIC SOIL GROUP |     |          |                       |     |          |                       |     |          |                       |     |          |
|--------------------------|-----------------------|-----|----------|-----------------------|-----|----------|-----------------------|-----|----------|-----------------------|-----|----------|
|                          | A                     |     |          | B                     |     |          | C                     |     |          | D                     |     |          |
|                          | SLOPE RANGE (PERCENT) |     |          | SLOPE RANGE (PERCENT) |     |          | SLOPE RANGE (PERCENT) |     |          | SLOPE RANGE (PERCENT) |     |          |
|                          | 0-2                   | 2-6 | 6 & OVER | 0-2                   | 2-6 | 6 & OVER | 0-2                   | 2-6 | 6 & OVER | 0-2                   | 2-6 | 6 & OVER |
| ROW CROPS:               | .08                   | .16 | .22      | .12                   | .20 | .27      | .15                   | .24 | .33      | .19                   | .28 | .38      |
|                          | .22                   | .30 | .38      | .26                   | .34 | .44      | .30                   | .37 | .50      | .34                   | .41 | .56      |
| MEDIAN STRIPTURF:        | .19                   | .20 | .24      | .19                   | .22 | .26      | .20                   | .23 | .30      | .20                   | .25 | .30      |
|                          | .24                   | .26 | .30      | .25                   | .28 | .33      | .26                   | .30 | .37      | .27                   | .32 | .40      |
| SIDE SLOPETURF:          |                       |     | .25      |                       |     | .27      |                       |     | .28      |                       |     | .30      |
|                          |                       |     | .32      |                       |     | .34      |                       |     | .36      |                       |     | .38      |
| PAVEMENT:                |                       |     |          |                       |     |          |                       |     |          |                       |     |          |
| ASPHALT:                 | .70 - .95             |     |          |                       |     |          |                       |     |          |                       |     |          |
| CONCRETE:                | .80 - .95             |     |          |                       |     |          |                       |     |          |                       |     |          |
| BRICK:                   | .70 - .80             |     |          |                       |     |          |                       |     |          |                       |     |          |
| DRIVES, WALKS:           | .75 - .85             |     |          |                       |     |          |                       |     |          |                       |     |          |
| ROOFS:                   | .75 - .95             |     |          |                       |     |          |                       |     |          |                       |     |          |
| GRAVEL ROADS, SHOULDERS: | .40 - .60             |     |          |                       |     |          |                       |     |          |                       |     |          |

TOTAL PROJECT AREA = 2.390 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.122 ACRES



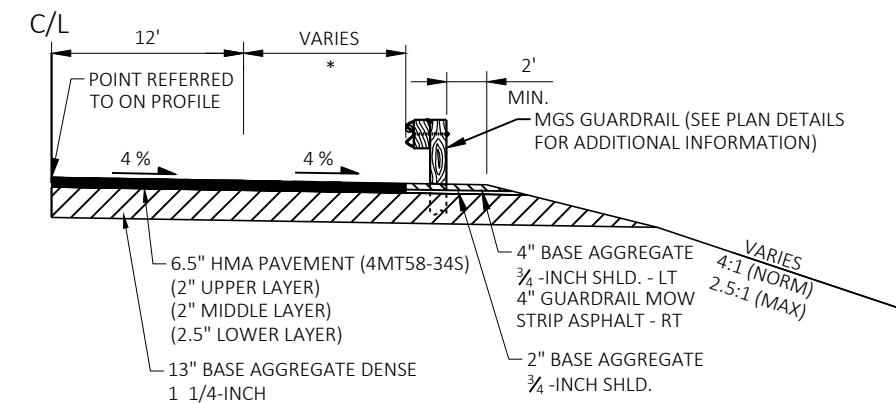
### EXISTING SUPERELEVATED TYPICAL SECTION

STH 40  
STA. 7+00.00 TO STA. 13+00.00



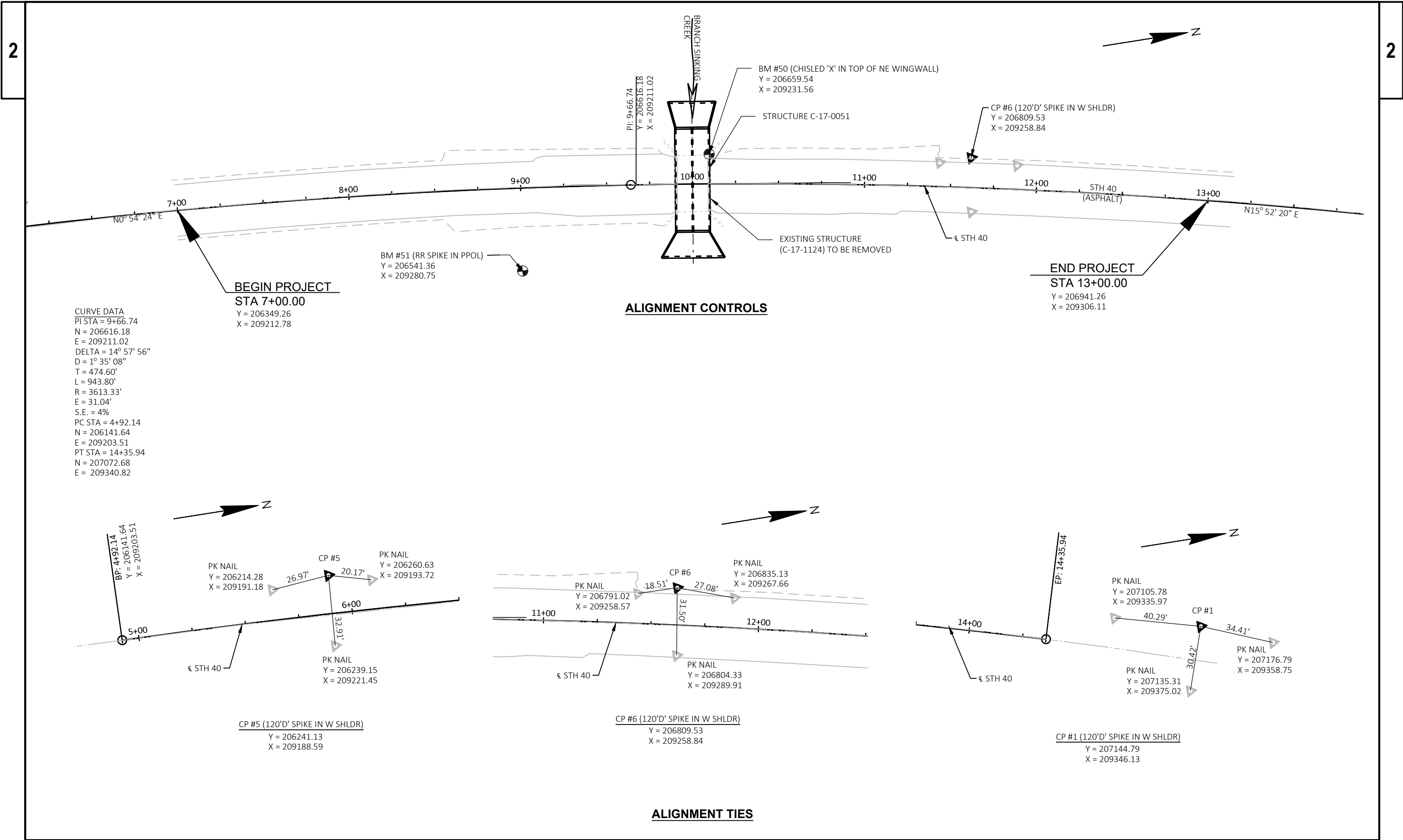
### FINISHED SUPERELEVATED TYPICAL SECTION

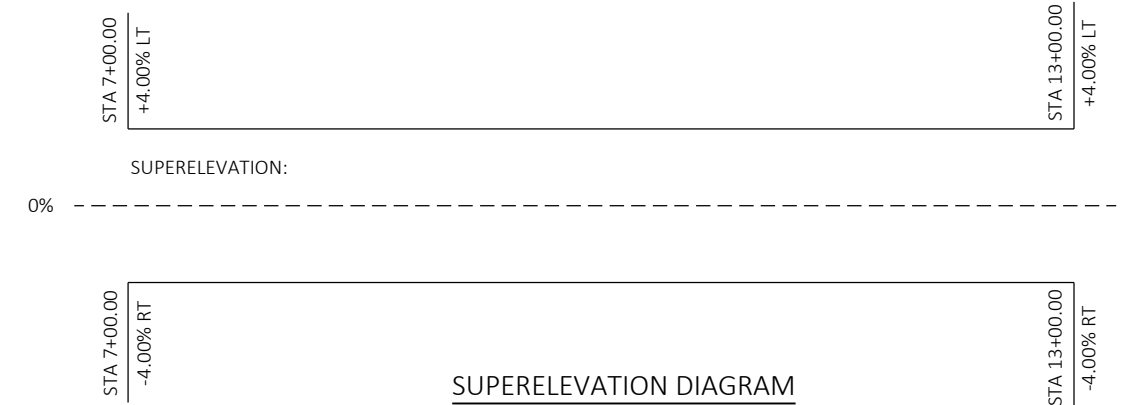
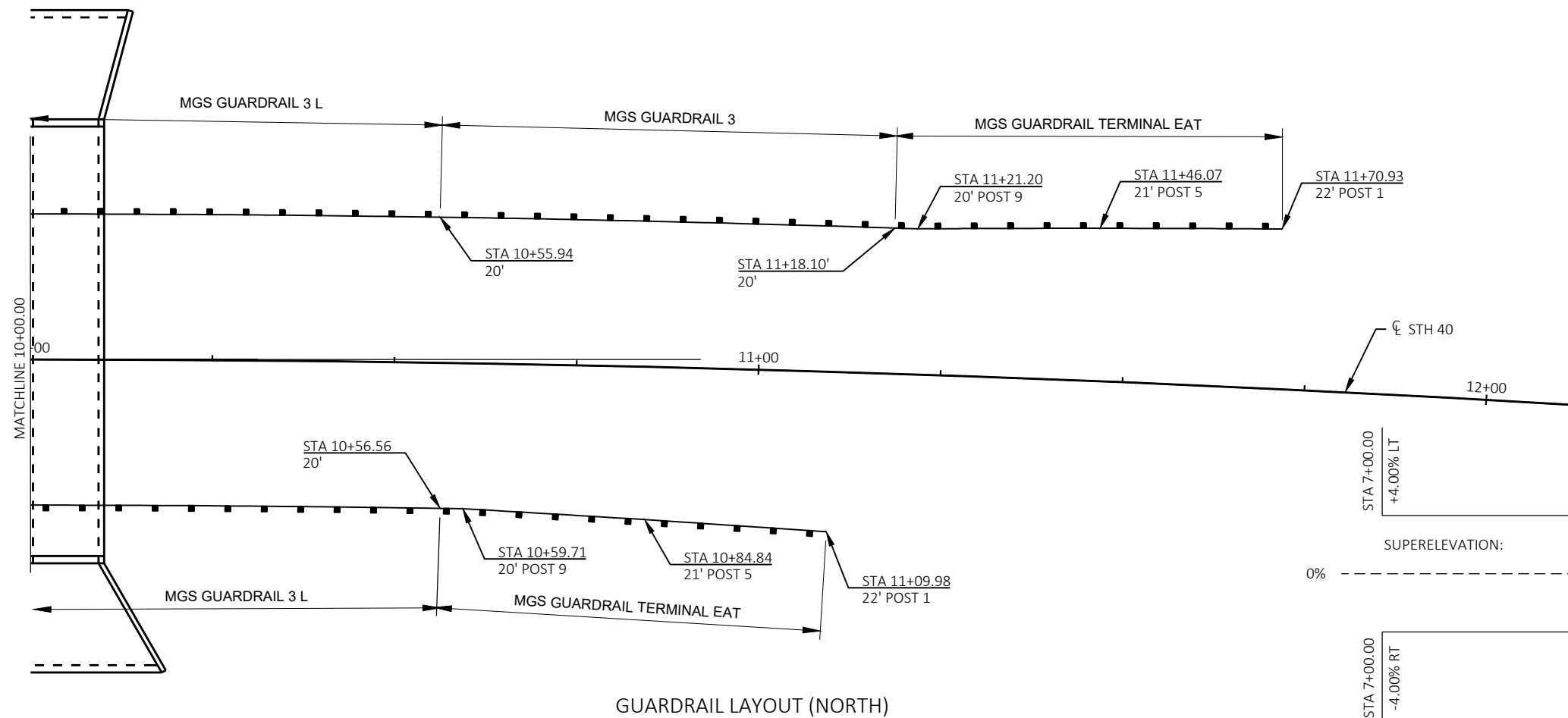
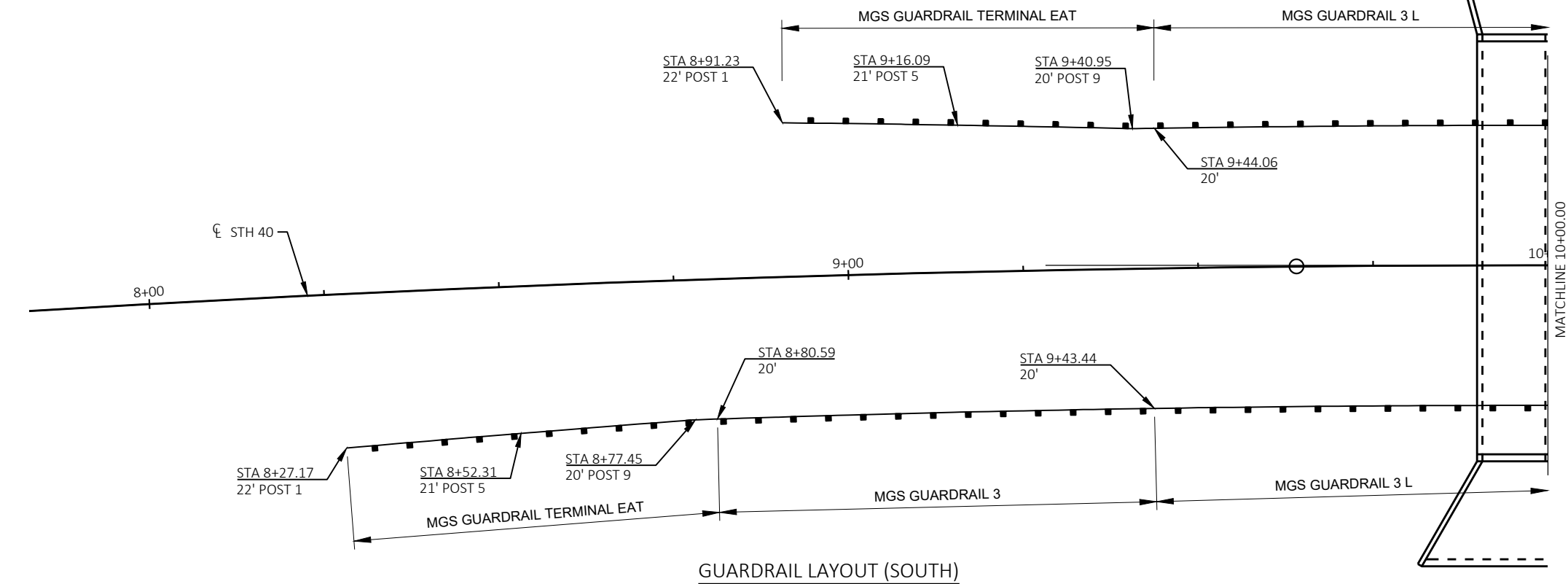
STH 40  
STA. 7+00.00 TO STA. 13+00.00



### FINISHED TYPICAL HALF SECTION WITH GUARDRAIL

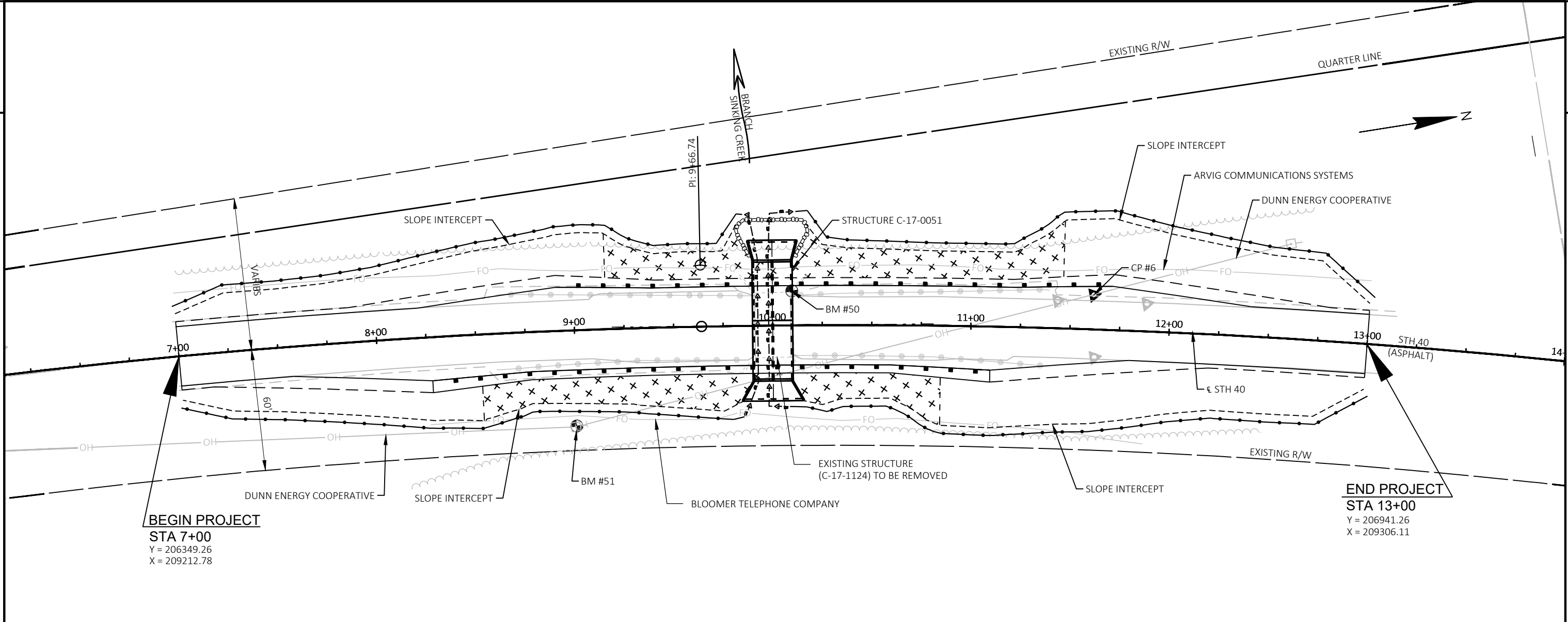
\* 8' MIN. (AT CULVERT)  
10' MAX. (AT END TERMINAL)





2

2



### LEGEND

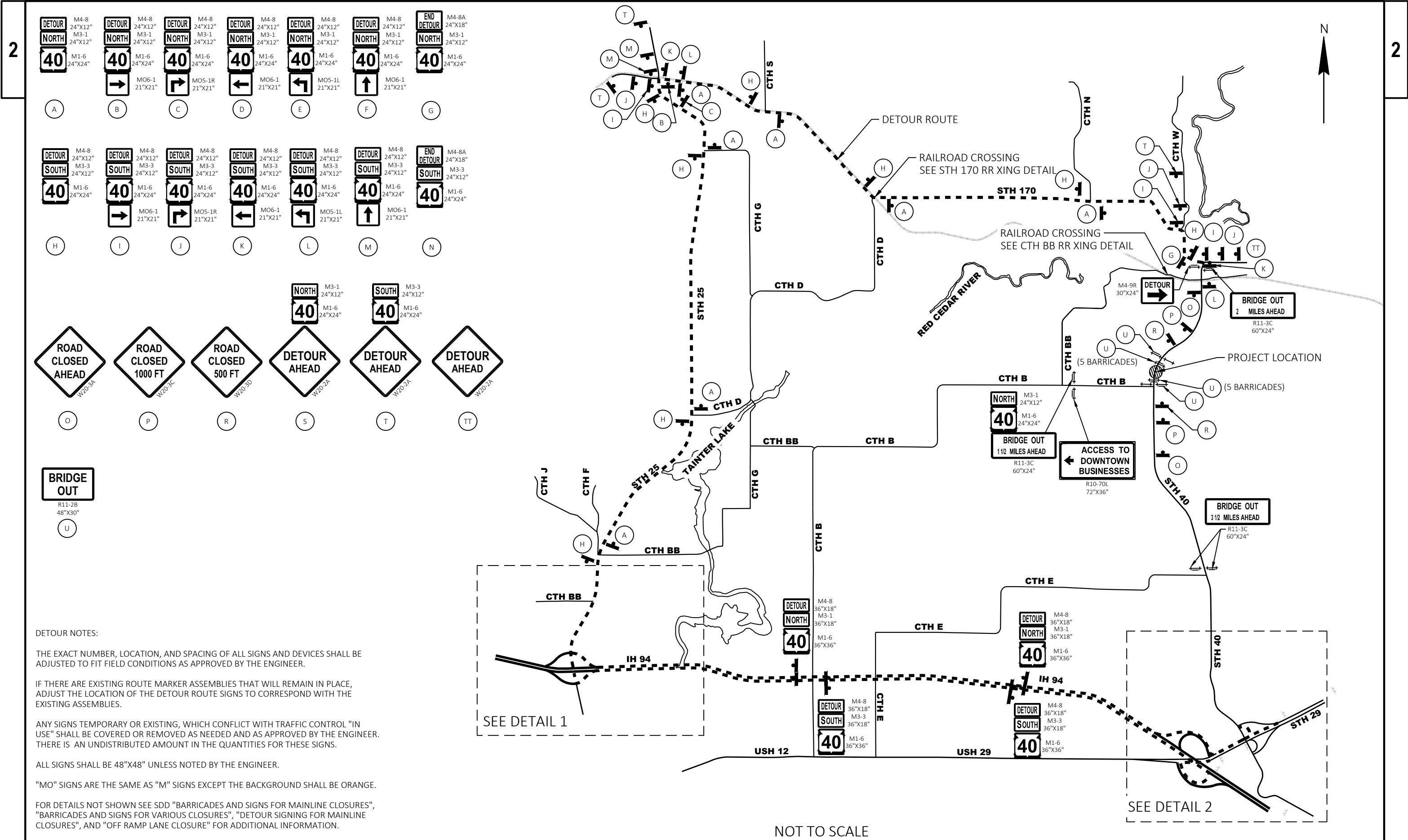
- |                                                                                     |                                       |
|-------------------------------------------------------------------------------------|---------------------------------------|
|  | EROSION MAT CLASS II (TYPE C)         |
|  | SILT FENCE                            |
|  | RIPRAP                                |
|  | SLOPE INTERCEPT                       |
|  | TURBIDITY BARRIER                     |
|  | TEMPORARY DITCH CHECK (UNDISTRIBUTED) |

HW, EL = 961.25'

NOTE:

NO DISTURBANCE OR TOPSOIL STOCKPILING IS  
ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS  
WETLANDS EXIST IN THE PROJECT AREA

MULCH TO BE PLACED ON SIDE SLOPES NOT PROTECTED BY EROSION MAT.



DETOUR NOTES:

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

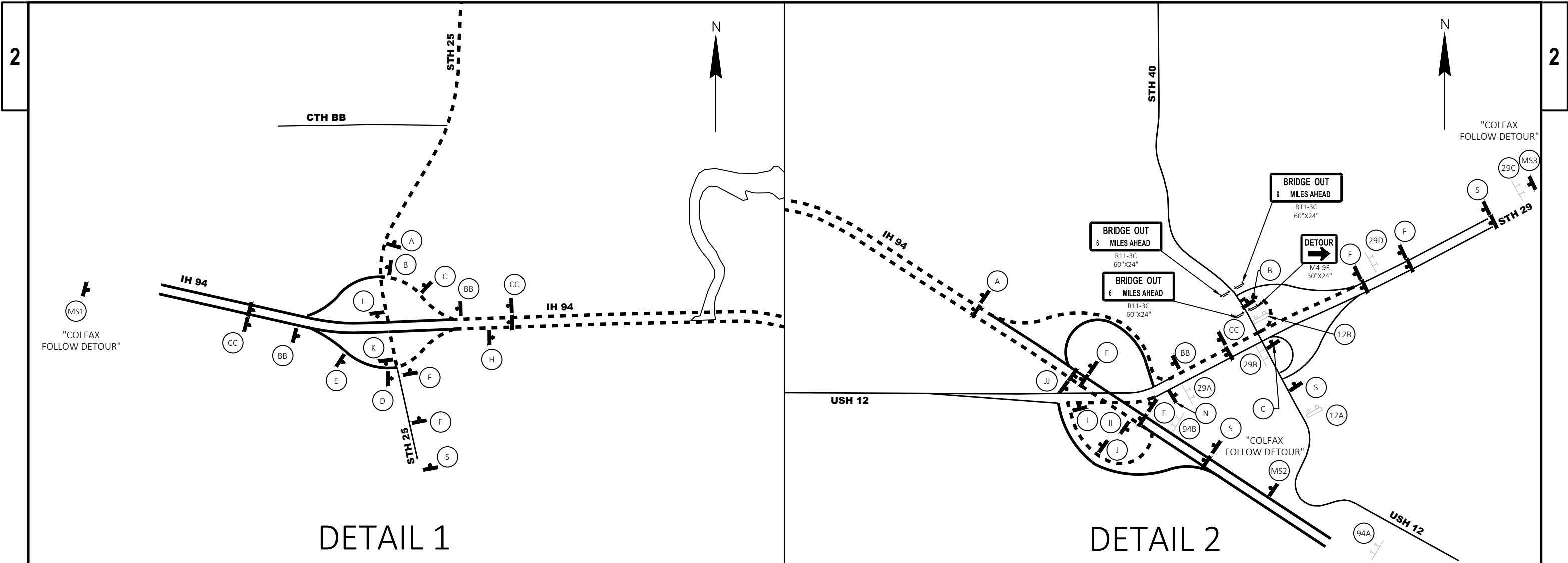
IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED OR REMOVED AS NEEDED AND AS APPROVED BY THE ENGINEER. THERE IS AN UNDISTRIBUTED AMOUNT IN THE QUANTITIES FOR THESE SIGNS.

ALL SIGNS SHALL BE 48"X48" UNLESS NOTED BY THE ENGINEER.

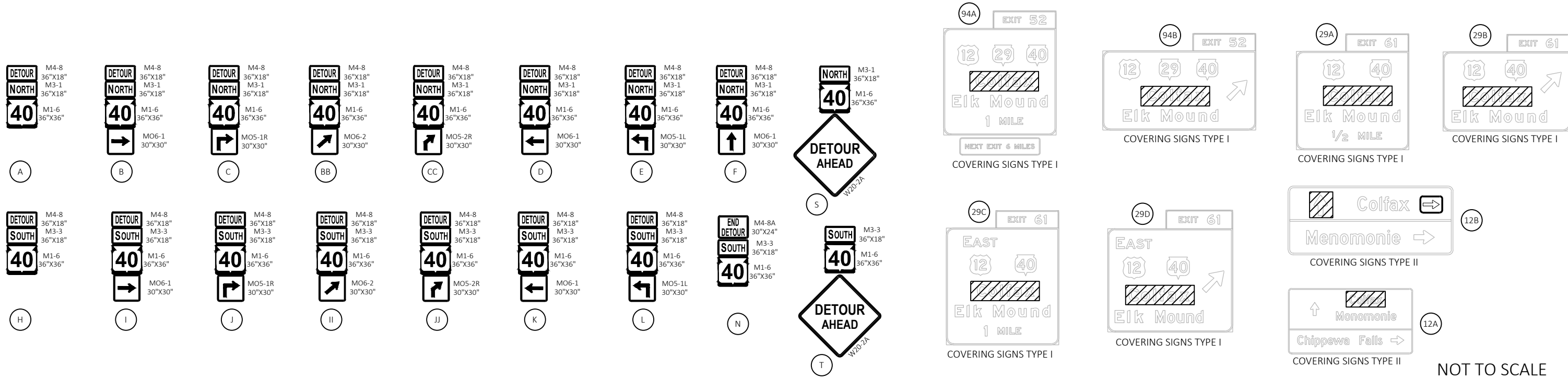
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND SHALL BE ORANGE.

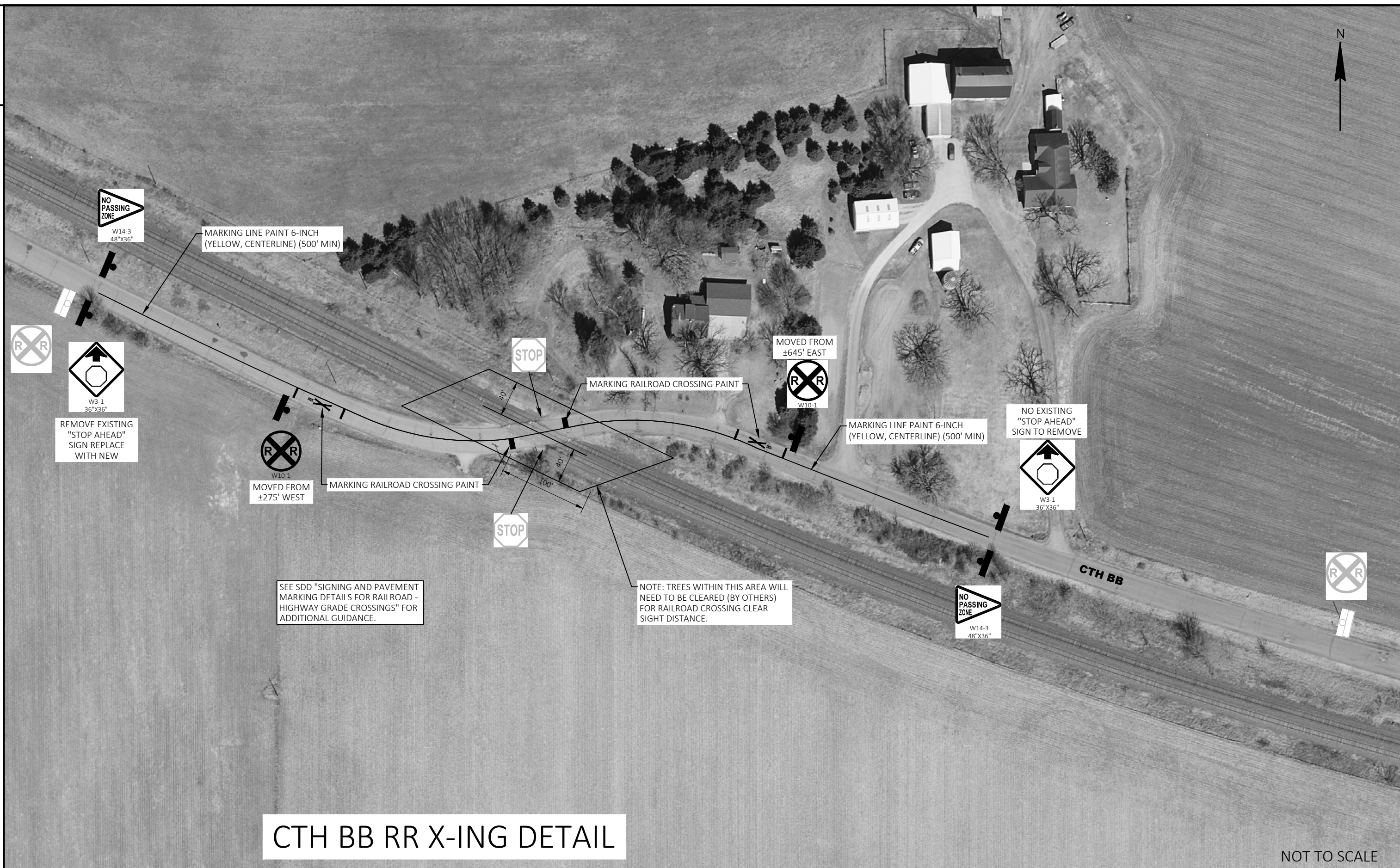
FOR DETAILS NOT SHOWN SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR VARIOUS CLOSURES", "DETOUR SIGNING FOR MAINLINE CLOSURES", AND "OFF RAMP LANE CLOSURE" FOR ADDITIONAL INFORMATION.



DETAIL 1

DETAIL 2





## CTH BB RR X-ING DETAIL

NOT TO SCALE

PROJECT NO: 8620-00-74

HWY: STH 40

COUNTY: DUNN

DETOUR ROUTE

SHEET

9

E

FILE NAME : I:\42\42-1331.00 - DUNN CO, STH 40 BRIDGE\C3D\SHEETS\027003-DT\_RECOVER.DWG  
LAYOUT NAME - 027003-dt

PLOT DATE : 8/18/2026 2:27 PM

PLOT BY : RESHESKE, CARRIE

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42



# STH 170 RR X-ING DETAIL

Estimate Of Quantities

| 8620-00-74 |          |                                                                           |      |            |            |
|------------|----------|---------------------------------------------------------------------------|------|------------|------------|
| Line       | Item     | Item Description                                                          | Unit | Total      | Qty        |
| 0002       | 201.0205 | Grubbing                                                                  | STA  | 4.000      | 4.000      |
| 0004       | 203.0260 | Removing Structure Over Waterway Minimal Debris (structure) 01. C-17-1124 | EACH | 1.000      | 1.000      |
| 0006       | 205.0100 | Excavation Common                                                         | CY   | 891.000    | 891.000    |
| 0008       | 206.2001 | Excavation for Structures Culverts (structure) 01. C-17-0051              | EACH | 1.000      | 1.000      |
| 0010       | 208.0100 | Borrow                                                                    | CY   | 664.000    | 664.000    |
| 0012       | 210.2500 | Backfill Structure Type B                                                 | TON  | 900.000    | 900.000    |
| 0014       | 213.0100 | Finishing Roadway (project) 01. 8620-00-74                                | EACH | 1.000      | 1.000      |
| 0016       | 305.0110 | Base Aggregate Dense 3/4-Inch                                             | TON  | 240.000    | 240.000    |
| 0018       | 305.0120 | Base Aggregate Dense 1 1/4-Inch                                           | TON  | 2,620.000  | 2,620.000  |
| 0020       | 311.0110 | Breaker Run                                                               | TON  | 130.000    | 130.000    |
| 0022       | 455.0605 | Tack Coat                                                                 | GAL  | 345.000    | 345.000    |
| 0024       | 460.2000 | Incentive Density HMA Pavement                                            | DOL  | 570.000    | 570.000    |
| 0026       | 460.6244 | HMA Pavement 4 MT 58-34 S                                                 | TON  | 890.000    | 890.000    |
| 0028       | 504.0100 | Concrete Masonry Culverts                                                 | CY   | 141.000    | 141.000    |
| 0030       | 505.0400 | Bar Steel Reinforcement HS Structures                                     | LB   | 420.000    | 420.000    |
| 0032       | 505.0600 | Bar Steel Reinforcement HS Coated Structures                              | LB   | 18,210.000 | 18,210.000 |
| 0034       | 516.0500 | Rubberized Membrane Waterproofing                                         | SY   | 35.000     | 35.000     |
| 0036       | 606.0300 | Riprap Heavy                                                              | CY   | 15.000     | 15.000     |
| 0038       | 614.0396 | Guardrail Mow Strip Asphalt                                               | SY   | 180.000    | 180.000    |
| 0040       | 614.0920 | Salvaged Rail                                                             | LF   | 321.000    | 321.000    |
| 0042       | 614.0925 | Salvaged Guardrail End Treatments                                         | EACH | 4.000      | 4.000      |
| 0044       | 614.2300 | MGS Guardrail 3                                                           | LF   | 125.000    | 125.000    |
| 0046       | 614.2340 | MGS Guardrail 3 L                                                         | LF   | 225.000    | 225.000    |
| 0048       | 614.2610 | MGS Guardrail Terminal EAT                                                | EACH | 4.000      | 4.000      |
| 0050       | 618.0100 | Maintenance and Repair of Haul Roads (project) 01. 8620-00-74             | EACH | 1.000      | 1.000      |
| 0052       | 619.1000 | Mobilization                                                              | EACH | 1.000      | 1.000      |
| 0054       | 624.0100 | Water                                                                     | MGAL | 85.000     | 85.000     |
| 0056       | 625.0100 | Topsoil                                                                   | SY   | 2,390.000  | 2,390.000  |
| 0058       | 627.0200 | Mulching                                                                  | SY   | 2,285.000  | 2,285.000  |
| 0060       | 628.1504 | Silt Fence                                                                | LF   | 1,485.000  | 1,485.000  |
| 0062       | 628.1520 | Silt Fence Maintenance                                                    | LF   | 2,970.000  | 2,970.000  |
| 0064       | 628.1905 | Mobilizations Erosion Control                                             | EACH | 2.000      | 2.000      |
| 0066       | 628.1910 | Mobilizations Emergency Erosion Control                                   | EACH | 3.000      | 3.000      |
| 0068       | 628.2027 | Erosion Mat Class II Type C                                               | SY   | 875.000    | 875.000    |
| 0070       | 628.6005 | Turbidity Barriers                                                        | SY   | 200.000    | 200.000    |
| 0072       | 628.7504 | Temporary Ditch Checks                                                    | LF   | 60.000     | 60.000     |
| 0074       | 629.0210 | Fertilizer Type B                                                         | CWT  | 2.400      | 2.400      |
| 0076       | 630.0120 | Seeding Mixture No. 20                                                    | LB   | 162.000    | 162.000    |
| 0078       | 630.0200 | Seeding Temporary                                                         | LB   | 43.000     | 43.000     |
| 0080       | 630.0300 | Seeding Borrow Pit                                                        | LB   | 4.000      | 4.000      |
| 0082       | 630.0500 | Seed Water                                                                | MGAL | 83.000     | 83.000     |
| 0084       | 633.5200 | Markers Culvert End                                                       | EACH | 2.000      | 2.000      |
| 0086       | 634.0614 | Posts Wood 4x6-Inch x 14-FT                                               | EACH | 2.000      | 2.000      |
| 0088       | 637.2210 | Signs Type II Reflective H                                                | SF   | 18.000     | 18.000     |
| 0090       | 638.2102 | Moving Signs Type II                                                      | EACH | 3.000      | 3.000      |
| 0092       | 638.2602 | Removing Signs Type II                                                    | EACH | 5.000      | 5.000      |
| 0094       | 638.3000 | Removing Small Sign Supports                                              | EACH | 5.000      | 5.000      |
| 0096       | 638.4000 | Moving Small Sign Supports                                                | EACH | 3.000      | 3.000      |
| 0098       | 642.5001 | Field Office Type B                                                       | EACH | 1.000      | 1.000      |

Estimate Of Quantities

8620-00-74

| Line | Item       | Item Description                                                     | Unit | Total      | Qty        |
|------|------------|----------------------------------------------------------------------|------|------------|------------|
| 0100 | 643.0420   | Traffic Control Barricades Type III                                  | DAY  | 2,475.000  | 2,475.000  |
| 0102 | 643.0705   | Traffic Control Warning Lights Type A                                | DAY  | 3,150.000  | 3,150.000  |
| 0104 | 643.0900   | Traffic Control Signs                                                | DAY  | 17,100.000 | 17,100.000 |
| 0106 | 643.0910   | Traffic Control Covering Signs Type I                                | EACH | 6.000      | 6.000      |
| 0108 | 643.0920   | Traffic Control Covering Signs Type II                               | EACH | 6.000      | 6.000      |
| 0110 | 643.1000   | Traffic Control Signs Fixed Message                                  | SF   | 103.500    | 103.500    |
| 0112 | 643.5000   | Traffic Control                                                      | EACH | 1.000      | 1.000      |
| 0114 | 645.0105   | Geotextile Type C                                                    | SY   | 195.000    | 195.000    |
| 0116 | 645.0120   | Geotextile Type HR                                                   | SY   | 30.000     | 30.000     |
| 0118 | 646.2005   | Marking Line Paint 6-Inch                                            | LF   | 1,250.000  | 1,250.000  |
| 0120 | 646.2040   | Marking Line Grooved Wet Ref Epoxy 6-Inch                            | LF   | 2,440.000  | 2,440.000  |
| 0122 | 646.5305   | Marking Railroad Crossing Paint                                      | EACH | 2.000      | 2.000      |
| 0124 | 650.4500   | Construction Staking Subgrade                                        | LF   | 600.000    | 600.000    |
| 0126 | 650.5000   | Construction Staking Base                                            | LF   | 600.000    | 600.000    |
| 0128 | 650.6501   | Construction Staking Structure Layout (structure) 01. C-17-0051      | EACH | 1.000      | 1.000      |
| 0130 | 650.9911   | Construction Staking Supplemental Control (project) 01. 8620-00-74   | EACH | 1.000      | 1.000      |
| 0132 | 650.9920   | Construction Staking Slope Stakes                                    | LF   | 600.000    | 600.000    |
| 0134 | 690.0150   | Sawing Asphalt                                                       | LF   | 59.000     | 59.000     |
| 0136 | 715.0502   | Incentive Strength Concrete Structures                               | DOL  | 846.000    | 846.000    |
| 0138 | 999.2000.S | Installing and Maintaining Bird Deterrent System (station) 01. 10+00 | EACH | 1.000      | 1.000      |
| 0140 | SPV.0060   | Special 01. Temporary Box Culvert Water Diversion                    | EACH | 1.000      | 1.000      |

GRUBBING

| 201.0205<br>GRUBBING |    |         |          |     |
|----------------------|----|---------|----------|-----|
| STATION              | TO | STATION | LOCATION | STA |
| 8+00                 | -  | 12+00   | STH 40   | 4   |
| TOTAL 0010           |    |         |          | 4   |

NOTE: CLEARING TREES TO BE DONE BY OTHERS PRIOR TO CONSTRUCTION.  
(PROJECT AREA AND CTH BB RAILROAD CROSSING.)

STH 40 EARTHWORK SUMMARY

| From/To Station | Location | Excavation<br>Common<br>(1)<br>205.0100 | Salvaged /<br>Unuseable<br>Pavement<br>Material<br>(5) | Unexpanded<br>Fill | Expanded<br>Fill<br>(2) | Mass<br>Ordinate<br>+/-<br>(3) | Waste | Borrow<br><br>208.0100 |
|-----------------|----------|-----------------------------------------|--------------------------------------------------------|--------------------|-------------------------|--------------------------------|-------|------------------------|
|                 |          | Cut                                     |                                                        |                    | Factor<br>1.30          |                                |       |                        |
| 7+00 - 13+00    | STH 40   | 891                                     | 277                                                    | 984                | 1,279                   | -664                           | 0     | 664                    |
| TOTAL           |          | 891                                     |                                                        | 984                | 1,279                   |                                | 0     | 664                    |

- 1) Excavation Common is the Cut. Item number 205.0100.  
2) Expanded Fill. Factor = 1.30; Expanded Fill = Unexpanded Fill \* Fill Factor  
3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material on the project.  
4) All quantities shown in CY.  
5) Salvaged/unuseable pavement material

FINISHING ROADWAY

| 213.0100.01<br>FINISHING ROADWAY<br>(PROJECT) (01. 8620-00-74) |      |
|----------------------------------------------------------------|------|
| LOCATION                                                       | EACH |
| PROJECT LIMITS                                                 | 1    |
| TOTAL 0010                                                     | 1    |

BASE AGGREGATE DENSE

|            |    |         |          | 305.0110<br>BASE AGGREGATE<br>DENSE 3/4-INCH | 305.0120<br>BASE AGGREGATE<br>DENSE 1 1/4-INCH |
|------------|----|---------|----------|----------------------------------------------|------------------------------------------------|
| STATION    | TO | STATION | LOCATION | TON                                          | TON                                            |
| 7+00       | -  | 13+00   | STH 40   | 240                                          | 2,620                                          |
| TOTAL 0010 |    |         |          | 240                                          | 2,620                                          |

HMA PAVEMENT

| 455.0605      460.6244<br>TACK COAT      HMA PAVEMENT<br>4 MT 58-34 S |    |         |          |     |     |
|-----------------------------------------------------------------------|----|---------|----------|-----|-----|
| STATION                                                               | TO | STATION | LOCATION | GAL | TON |
| 7+00                                                                  | -  | 13+00   | STH 40   | 345 | 890 |
| TOTAL 0010                                                            |    |         |          | 345 | 890 |

GUARDRAIL

|            |    |         |          | 614.0396<br>GUARDRAIL<br>MOW STRIP<br>ASPHALT | 614.0920<br>SALVAGED RAIL | 614.0925<br>SALVAGED<br>GUARDRAIL END<br>TREATMENTS | 614.2300<br>MGS GUARDRAIL<br>3 | 614.2340<br>MGS GUARDRAIL<br>3 L | 614.2610<br>MGS GUARDRAIL<br>TERMINAL EAT |
|------------|----|---------|----------|-----------------------------------------------|---------------------------|-----------------------------------------------------|--------------------------------|----------------------------------|-------------------------------------------|
| STATION    | TO | STATION | LOCATION | SY                                            | LF                        | EACH                                                | LF                             | LF                               | EACH                                      |
| 8+60       | -  | 9+88    | RT       | --                                            | 78                        | 1                                                   | --                             | --                               | --                                        |
| 8+61       | -  | 9+91    | LT       | --                                            | 80                        | 1                                                   | --                             | --                               | --                                        |
| 8+27       | -  | 11+10   | RT       | 180                                           | --                        | --                                                  | 62.5                           | 112.5                            | 2                                         |
| 8+91       | -  | 11+71   | LT       | --                                            | --                        | --                                                  | 62.5                           | 112.5                            | 2                                         |
| 10+09      | -  | 11+41   | RT       | --                                            | 82                        | 1                                                   | --                             | --                               | --                                        |
| 10+09      | -  | 11+40   | LT       | --                                            | 81                        | 1                                                   | --                             | --                               | --                                        |
| TOTAL 0010 |    |         |          | 180                                           | 321                       | 4                                                   | 125                            | 225                              | 4                                         |

MAINTENANCE AND REPAIR OF HAUL ROADS

| 618.0100.01<br>MAINTENANCE AND REPAIR<br>OF HAUL ROADS (PROJECT)<br>(01. 8620-00-74) |      |
|--------------------------------------------------------------------------------------|------|
| LOCATION                                                                             | EACH |
| PROJECT LIMITS                                                                       | 1    |
| TOTAL 0010                                                                           | 1    |

MOBILIZATION

| PROJECT    | 619.1000<br>MOBILIZATION<br>EACH |
|------------|----------------------------------|
| 8620-00-74 | 1                                |
| TOTAL 0010 | 1                                |

WATER

| LOCATION     | 624.0100<br>WATER<br>MGAL |
|--------------|---------------------------|
| COMPACTION   | 44                        |
| DUST CONTROL | 41                        |
| TOTAL 0010   | 85                        |

EROSION CONTROL

|               |    |         |          | 628.1504<br>SILT FENCE | 628.1520<br>SILT FENCE<br>MAINTENANCE | 628.2027<br>EROSION MAT<br>CLASS II TYPE C | 628.6005<br>TURBIDITY<br>BARRIERS | 628.7504<br>TEMPORARY<br>DITCH CHECKS |
|---------------|----|---------|----------|------------------------|---------------------------------------|--------------------------------------------|-----------------------------------|---------------------------------------|
| STATION       | TO | STATION | LOCATION | LF                     | LF                                    | SY                                         | SY                                | LF                                    |
| 7+00          | -  | 13+00   | RT       | 575                    | 1,150                                 | 335                                        | 160                               | --                                    |
| 7+00          | -  | 13+00   | LT       | 610                    | 1,220                                 | 365                                        | --                                | --                                    |
| UNDISTRIBUTED |    |         |          | 300                    | 600                                   | 175                                        | 40                                | 60                                    |
| TOTAL 0010    |    |         |          | 1,485                  | 2,970                                 | 875                                        | 200                               | 60                                    |

RESTORATION ITEMS

|               |    |         |          | 625.0100<br>TOPSOIL | 627.0200<br>MULCHING | 629.0210<br>FERTILIZER<br>TYPE B | 630.0120<br>SEEDING<br>MIXTURE<br>NO. 20 | 630.0200<br>SEEDING<br>TEMPORARY | 630.0300<br>SEEDING<br>BORROW<br>PIT | 630.0500<br>SEED WATER |
|---------------|----|---------|----------|---------------------|----------------------|----------------------------------|------------------------------------------|----------------------------------|--------------------------------------|------------------------|
| STATION       | TO | STATION | LOCATION | SY                  | SY                   | CWT                              | LB                                       | LB                               | LB                                   | MGAL                   |
| 7+00          | -  | 13+00   | RT       | 902                 | 876                  | 0.9                              | 62                                       | 16                               |                                      | 32                     |
| 7+00          | -  | 13+00   | LT       | 1,011               | 952                  | 1                                | 67                                       | 18                               | 3                                    | 34                     |
| UNDISTRIBUTED |    |         |          | 477                 | 457                  | 0.5                              | 33                                       | 9                                | 1                                    | 17                     |
| TOTAL 0010    |    |         |          | 2,390               | 2,285                | 2.4                              | 162                                      | 43                               | 4                                    | 83                     |

ALL ITEMS ON THIS SHEET  
ARE CATEGORY 0010  
UNLESS OTHERWISE NOTED

3

MOBILIZATION EROSION CONTROL

|                | 628.1905<br>MOBILIZATIONS<br>EROSION<br>CONTROL<br>EACH | 628.1910<br>MOBILIZATIONS<br>EMERGENCY EROSION<br>CONTROL<br>EACH |
|----------------|---------------------------------------------------------|-------------------------------------------------------------------|
| PROJECT LIMITS | 2                                                       | 3                                                                 |
| TOTAL 0010     | 2                                                       | 3                                                                 |

MARKERS CULVERT END

| STATION    | LOCATION | 633.5200<br>MARKERS CULVERT END<br>EACH |
|------------|----------|-----------------------------------------|
| 9+88       | RT       | 1                                       |
| 10+12      | LT       | 1                                       |
| TOTAL 0010 |          | 2                                       |

FIELD OFFICE TYPE B

| PROJECT    | 642.5001<br>FIELD OFFICE<br>TYPE B<br>EACH |
|------------|--------------------------------------------|
| 8620-00-74 | 1                                          |
| TOTAL 0010 | 1                                          |

TRAFFIC CONTROL

| PROJECT                     | CALENDAR<br>DAYS | #  | 643.0420<br>TRAFFIC<br>CONTROL<br>BARRICADES<br>TYPE III<br>DAY | #  | 643.0705<br>TRAFFIC<br>CONTROL<br>WARNING<br>LIGHTS TYPE A<br>DAY | #   | 643.0900<br>TRAFFIC<br>CONTROL<br>SIGNS<br>DAY | 643.5000<br>TRAFFIC<br>CONTROL<br>EACH |
|-----------------------------|------------------|----|-----------------------------------------------------------------|----|-------------------------------------------------------------------|-----|------------------------------------------------|----------------------------------------|
| 8620-00-74<br>UNDISTRIBUTED | 90               | 22 | 1,980<br>495                                                    | 28 | 2,520<br>630                                                      | 152 | 13,680<br>3,420                                | 1                                      |
| TOTAL 0010                  |                  |    | 2,475                                                           |    | 3,150                                                             |     | 17,100                                         | 1                                      |

3

SIGNS TYPE II

| STATION    | LOCATION | SIGN<br>CODE | SIGN SIZE<br>(WxH) | 634.0614<br>POSTS WOOD<br>4X6-INCH X<br>14-FT<br>EACH | 637.2210<br>SIGNS TYPE II<br>REFLECTIVE H<br>SF | 638.2102<br>MOVING<br>SIGNS TYPE II<br>EACH | 638.2602<br>REMOVING<br>SIGNS TYPE II<br>EACH | 638.3000<br>REMOVING<br>SMALL SIGN<br>SUPPORTS<br>EACH | 638.4000<br>MOVING SMALL<br>SIGN SUPPORTS<br>EACH | DESCRIPTION   |
|------------|----------|--------------|--------------------|-------------------------------------------------------|-------------------------------------------------|---------------------------------------------|-----------------------------------------------|--------------------------------------------------------|---------------------------------------------------|---------------|
| 9+86       | RT       | --           | --                 | --                                                    | --                                              | --                                          | 1                                             | 1                                                      | --                                                |               |
| 9+86       | LT       | --           | --                 | --                                                    | --                                              | --                                          | 1                                             | 1                                                      | --                                                |               |
| 10+12      | RT       | --           | --                 | --                                                    | --                                              | --                                          | 1                                             | 1                                                      | --                                                |               |
| 10+12      | LT       | --           | --                 | --                                                    | --                                              | --                                          | 1                                             | 1                                                      | --                                                |               |
| 11+61      | LT       | --           | --                 | --                                                    | --                                              | 1                                           | --                                            | --                                                     | 1                                                 |               |
|            | CTH BB   | --           | --                 | --                                                    | --                                              | 1                                           | --                                            | --                                                     | 1                                                 | RAILROAD XING |
|            | CTH BB   | --           | --                 | --                                                    | --                                              | 1                                           | --                                            | --                                                     | 1                                                 | RAILROAD XING |
|            | CTH BB   | W3-1         | 36x36              | 1                                                     | 9                                               | --                                          | 1                                             | 1                                                      | --                                                | STOP AHEAD    |
|            | CTH BB   | W3-1         | 36x36              | 1                                                     | 9                                               | --                                          | --                                            | --                                                     | --                                                | STOP AHEAD    |
| TOTAL 0010 |          |              |                    | 2                                                     | 18                                              | 3                                           | 5                                             | 5                                                      | 3                                                 |               |

PAVEMENT MARKING

| STATION    | TO | STATION | LOCATION                                  | COLOR        | 646.2005<br>MARKING LINE<br>PAINT 6-INCH<br>LF | 646.2040<br>MARKING LINE<br>GROOVED WET<br>REF EPOXY<br>6-INCH<br>LF | 646.5305<br>MARKING<br>RAILROAD<br>CROSSING PAINT<br>EACH |
|------------|----|---------|-------------------------------------------|--------------|------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|
| 7+00       | -  | 13+00   | CENTERLINE                                | YELLOW       | --                                             | 1,220                                                                | --                                                        |
| 7+00       | -  | 13+00   | EDGELINES, LT/RT                          | WHITE        | --                                             | 1,220                                                                | --                                                        |
|            |    |         | RAILROAD CROSSING ON<br>CTH BB FOR DETOUR | YELLOW/WHITE | 1,250                                          | --                                                                   | 2                                                         |
| TOTAL 0010 |    |         |                                           |              | 1,250                                          | 2,440                                                                | 2                                                         |

TRAFFIC CONTROL COVERING SIGNS

| SIGN<br>NO    | LOCATION  | CYCLES | 643.0910<br>TRAFFIC CONTROL<br>COVERING SIGNS<br>TYPE I<br>EACH | 643.0920<br>TRAFFIC CONTROL<br>COVERING SIGNS<br>TYPE II<br>EACH | REMARKS                           |
|---------------|-----------|--------|-----------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------|
| 94A           | IH 94 WB  | 1      | 1                                                               | --                                                               | COLFAX/ELK MOUND 1 MILE           |
| 94B           | IH 94 WB  | 1      | 1                                                               | --                                                               | COLFAX/ELK MOUND                  |
| 29A           | STH 29 EB | 1      | 1                                                               | --                                                               | COLFAX/ELK MOUND 1/2 MILE         |
| 29B           | STH 29 EB | 1      | 1                                                               | --                                                               | COLFAX/ELK MOUND                  |
| 29C           | STH 29 WB | 1      | 1                                                               | --                                                               | COLFAX/ELK MOUND 1 MILE           |
| 29D           | STH 29 WB | 1      | 1                                                               | --                                                               | COLFAX/ELK MOUND                  |
| 12A           | USH 12 WB | 1      | --                                                              | 1                                                                | COLFAX - MENOMONIE                |
| 12B           | USH 12 WB | 1      | --                                                              | 1                                                                | COLFAX/MENOMONIE - CHIPPEWA FALLS |
| UNDISTRIBUTED |           |        | --                                                              | 4                                                                |                                   |
| TOTAL 0010    |           |        | 6                                                               | 6                                                                |                                   |

TRAFFIC CONTROL SIGNS FIXED MESSAGE

| SIGN<br>NO | LOCATION                                     | 643.1000<br>TRAFFIC<br>CONTROL SIGNS<br>FIXED MESSAGE<br>SF | MESSAGE                |
|------------|----------------------------------------------|-------------------------------------------------------------|------------------------|
| MS1        | IH 94 EB PRIOR TO STH 25 INTERCHANGE         | 34.5                                                        | COLFAX / FOLLOW DETOUR |
| MS2        | IH 94 WB PRIOR TO STH 29 INTERCHANGE         | 34.5                                                        | COLFAX / FOLLOW DETOUR |
| MS3        | STH 29 WB PRIOR TO USH 12/STH 40 INTERCHANGE | 34.5                                                        | COLFAX / FOLLOW DETOUR |
| TOTAL 0010 |                                              | 103.5                                                       |                        |

ALL ITEMS ON THIS SHEET  
ARE CATEGORY 0010  
UNLESS OTHERWISE NOTED

CONSTRUCTION STAKING

|            |    |         |          | 650.4500<br>CONSTRUCTION<br>STAKING<br>SUBGRADE | 650.5000<br>CONSTRUCTION<br>STAKING BASE | 650.9920<br>CONSTRUCTION<br>STAKING SLOPE<br>STAKES |
|------------|----|---------|----------|-------------------------------------------------|------------------------------------------|-----------------------------------------------------|
| STATION    | TO | STATION | LOCATION | LF                                              | LF                                       | LF                                                  |
| 7+00       | -  | 13+00   | STH 40   | 600                                             | 600                                      | 600                                                 |
| TOTAL 0010 |    |         |          | 600                                             | 600                                      | 600                                                 |

CONSTRUCTION STAKING STRUCTURE LAYOUT

|            |           | 650.6501.01<br>CONSTRUCTION STAKING<br>STRUCTURE LAYOUT<br>(STRUCTURE) (01. C-17-0051) |
|------------|-----------|----------------------------------------------------------------------------------------|
| CATEGORY   | STRUCTURE | EACH                                                                                   |
| 0020       | C-17-0051 | 1                                                                                      |
| TOTAL 0020 |           | 1                                                                                      |

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

|            |  | 650.9911.01<br>CONSTRUCTION STAKING<br>SUPPLEMENTAL CONTROL<br>(PROJECT) (01. 8620-00-74) |
|------------|--|-------------------------------------------------------------------------------------------|
| PROJECT    |  | EACH                                                                                      |
| 8620-00-74 |  | 1                                                                                         |
| TOTAL 0010 |  | 1                                                                                         |

SAWING ASPHALT

| STATION    | LOCATION | 690.0150<br>SAWING<br>ASPHALT<br>LF |
|------------|----------|-------------------------------------|
| 7+00       | STH 40   | 30                                  |
| 13+00      | STH 40   | 29                                  |
| TOTAL 0010 |          | 59                                  |

INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM

|            |           | 999.2000.S.01<br>INSTALLING AND MAINTAINING<br>BIRD DETERRENT SYSTEM<br>(STATION) (01. 10+00) |
|------------|-----------|-----------------------------------------------------------------------------------------------|
| STATION    | LOCATION  | EACH                                                                                          |
| 10+00      | C-17-1124 | 1                                                                                             |
| TOTAL 0010 |           | 1                                                                                             |

TEMPORARY BOX CULVERT WATER DIVERSION

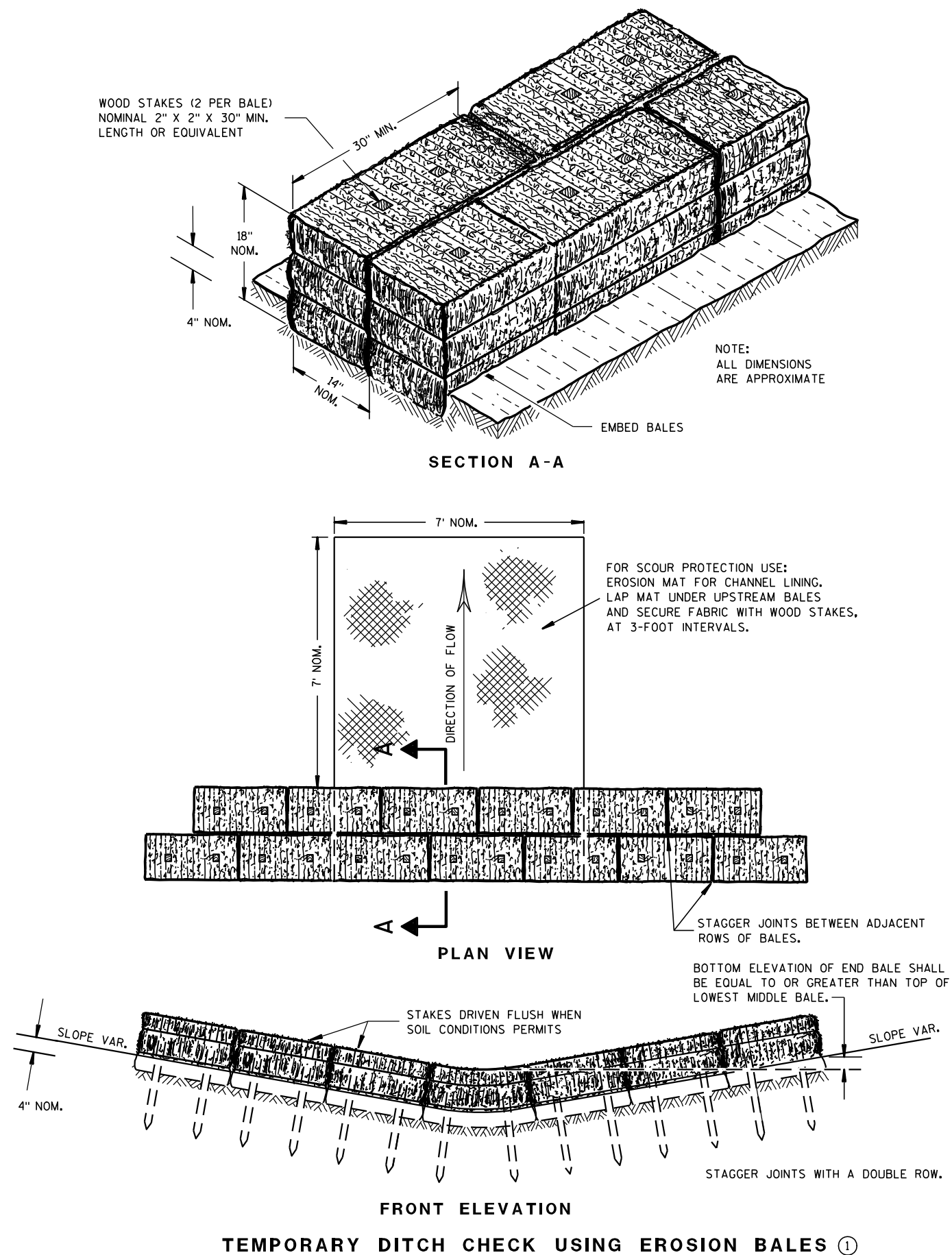
|            |  | SPV.0060.01<br>SPECIAL (01. TEMPORARY BOX CULVERT WATER DIVERSION) |
|------------|--|--------------------------------------------------------------------|
| LOCATION   |  | EACH                                                               |
| C-17-0051  |  | 1                                                                  |
| TOTAL 0010 |  | 1                                                                  |

ALL ITEMS ON THIS SHEET  
ARE CATEGORY 0010  
UNLESS OTHERWISE NOTED



Standard Detail Drawing List

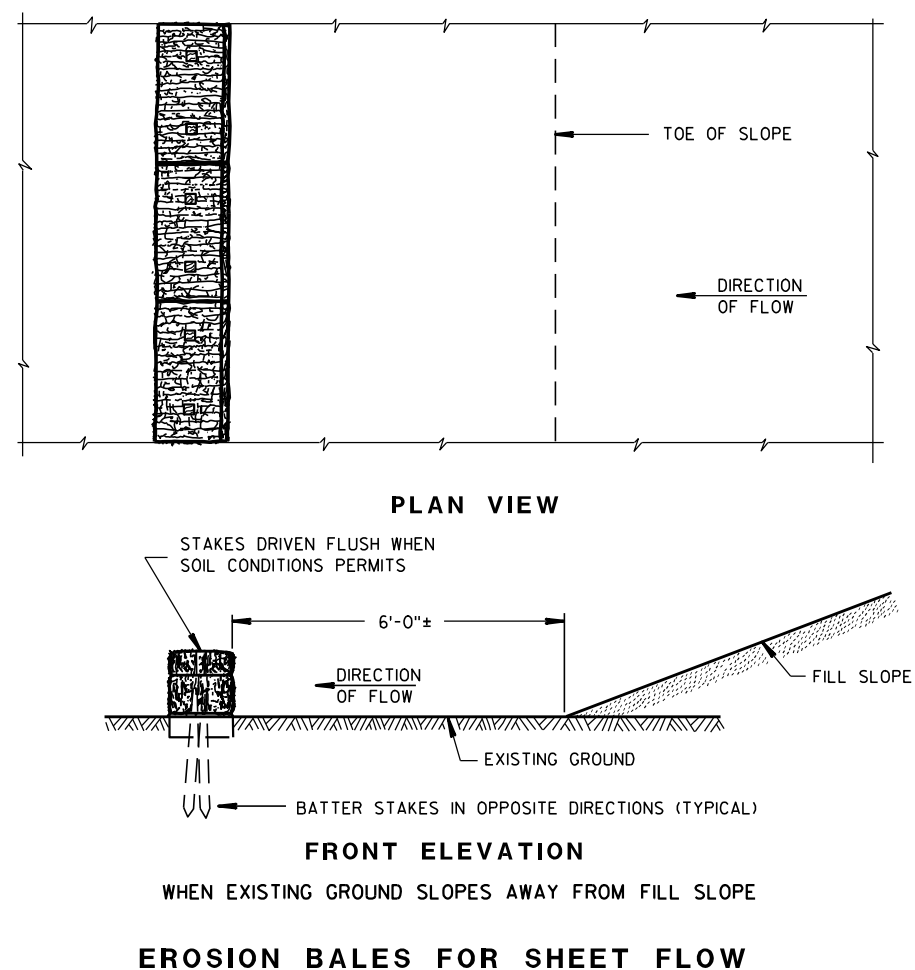
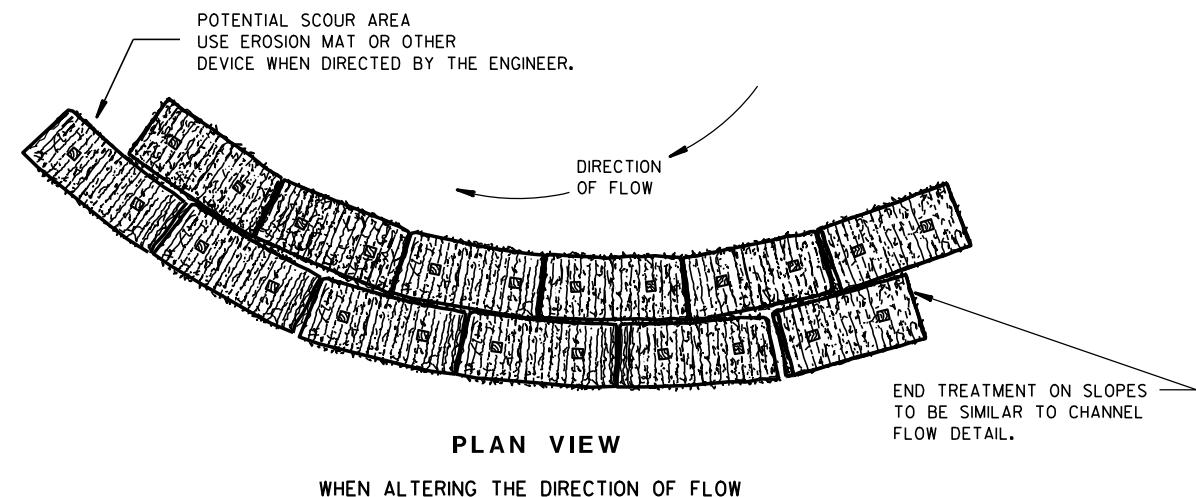
|           |                                                                           |
|-----------|---------------------------------------------------------------------------|
| 08E08-03  | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS           |
| 08E09-06  | SILT FENCE                                                                |
| 08E11-02  | TURBIDITY BARRIER                                                         |
| 12A03-10  | NAME PLATE (STRUCTURES)                                                   |
| 13C19-03  | HMA LONGITUDINAL JOINTS                                                   |
| 14B28-04A | GUARDRAIL MOW STRIP                                                       |
| 14B28-04B | GUARDRAIL MOW STRIP                                                       |
| 14B42-07A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                  |
| 14B42-07B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                  |
| 14B42-07C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                  |
| 14B42-07D | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                  |
| 14B43-04A | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)                                |
| 14B43-04B | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)                                |
| 14B43-04C | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)                                |
| 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                                      |
| 15C02-10A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES                                |
| 15C02-10B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES                                 |
| 15C02-10C | DETOUR SIGNING FOR MAINLINE CLOSURES                                      |
| 15C08-24A | PERMANENT LONGITUDINAL PAVEMENT MARKINGS                                  |
| 15C09-13A | SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS |
| 15C11-11B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS         |



## 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.

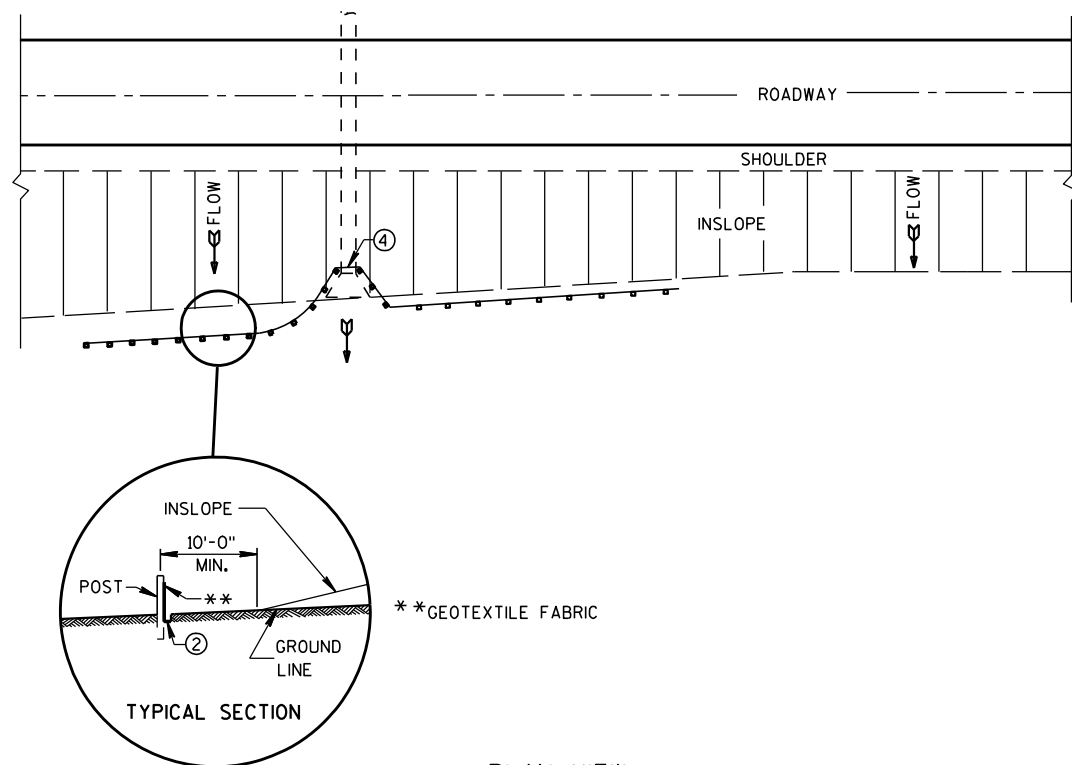
TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

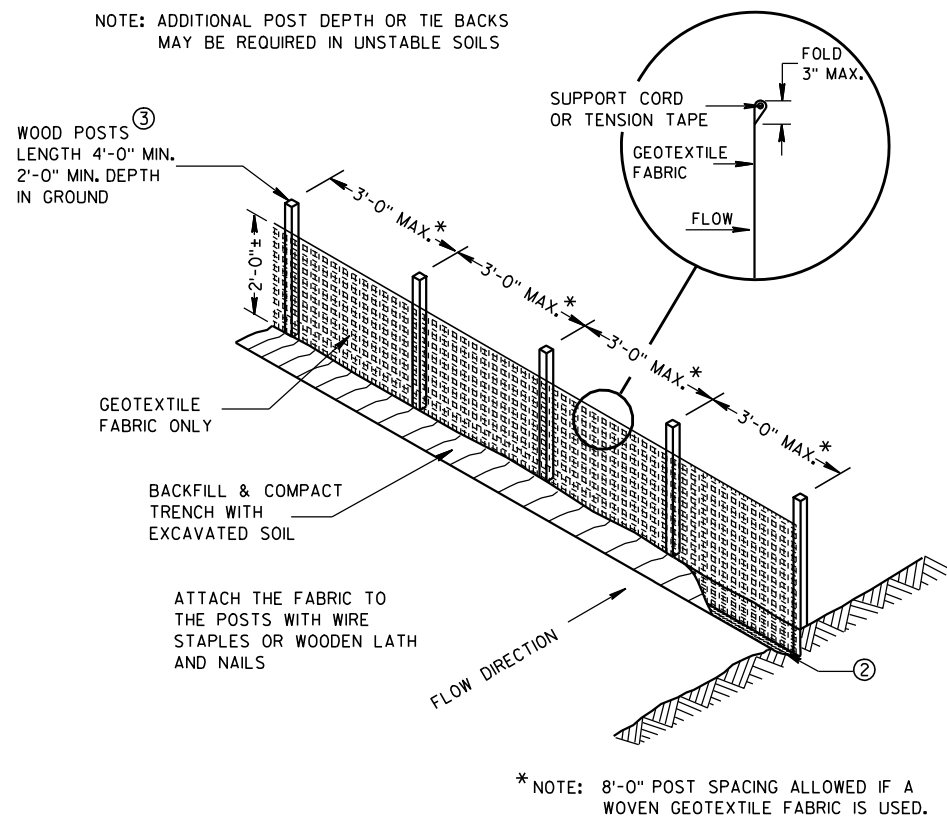
6/04/02  
DATE/S/ Beth Conn-----  
CHIEF ROADWAY DEVELOPER 18 ENGINEER

FHWA

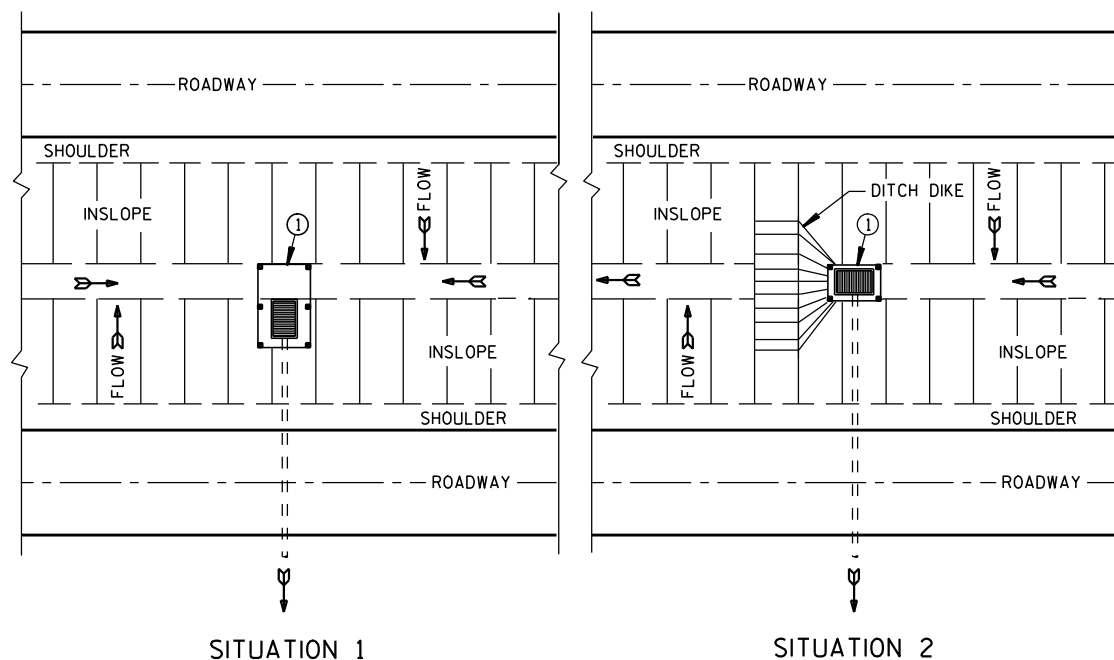


### TYPICAL APPLICATION OF SILT FENCE

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

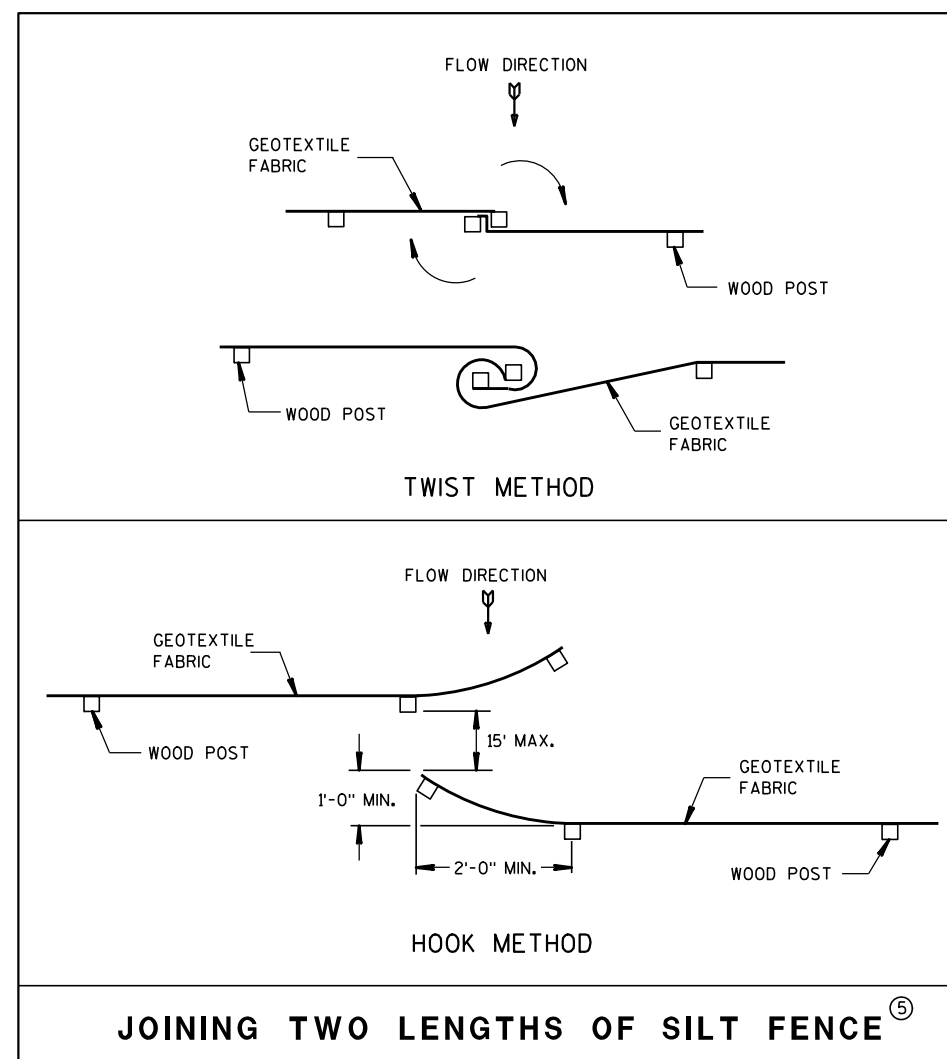


### SILT FENCE



### PLAN VIEW

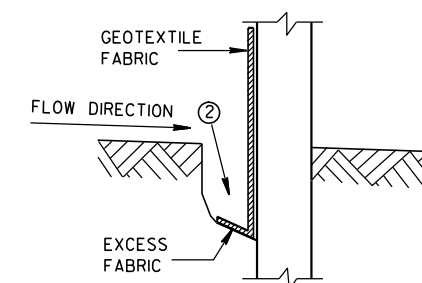
### SILT FENCE AT MEDIAN SURFACE DRAINS



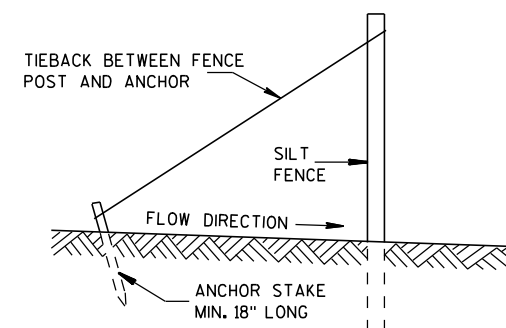
### GENERAL NOTES

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

- 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 1 1/8" X 1 1/8" 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.



### TRENCH DETAIL



### SILT FENCE TIE BACK (WHEN REQUIRED BY THE ENGINEER)

### SILT FENCE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

4-29-05

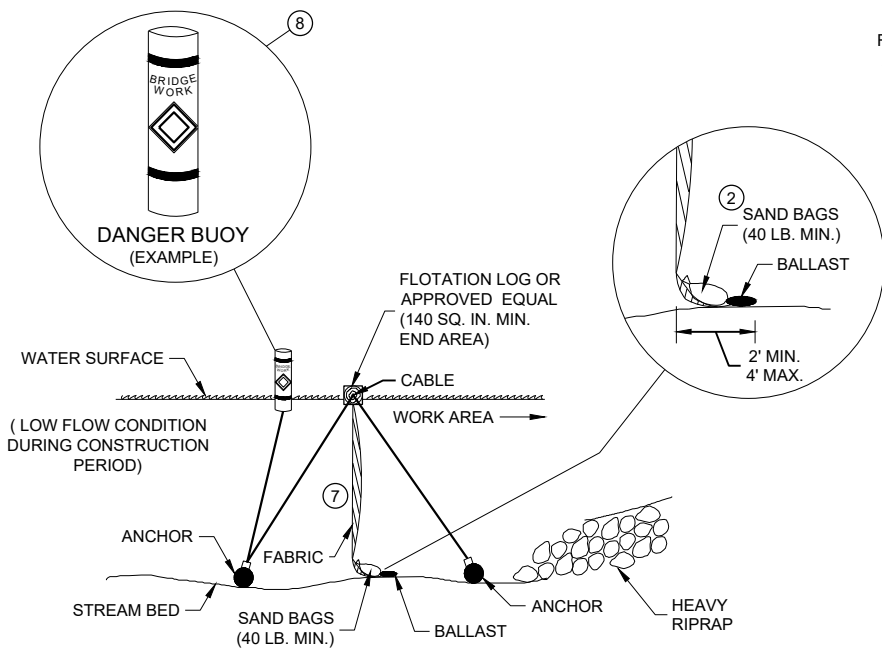
DATE

/S/ Beth Conn

CHIEF ROADWAY DEVELOPER

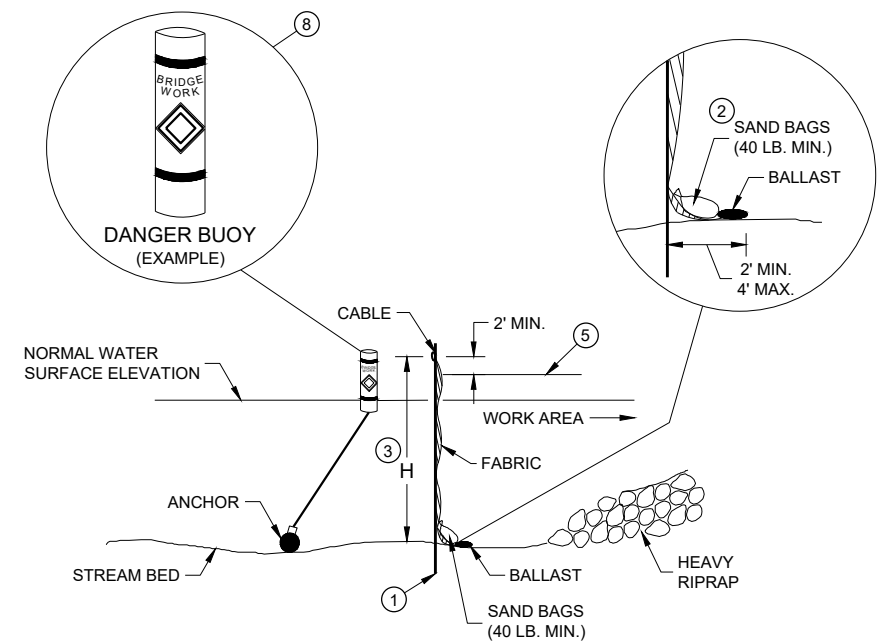
FHWA

ENGINEER



SECTION B - B

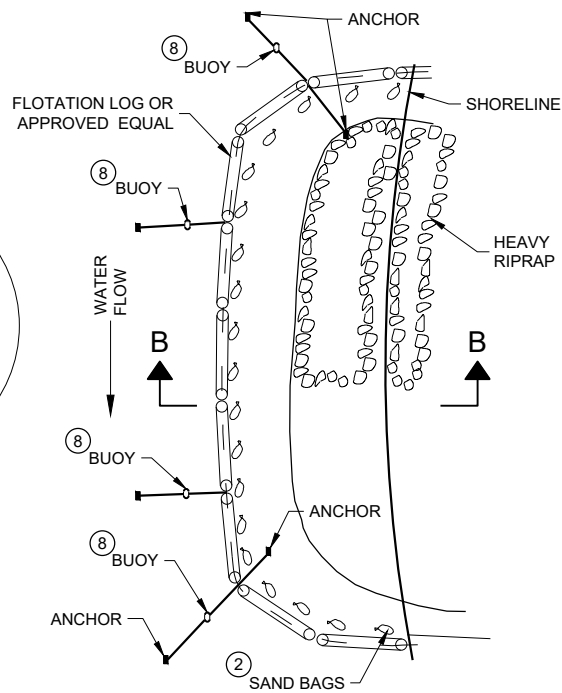
**TURBIDITY BARRIER - FLOAT ALTERNATIVE**  
**CAUTION - SEE NOTE 6**



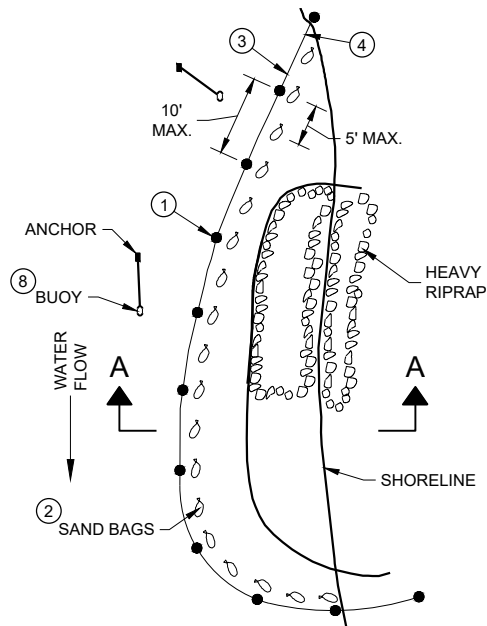
SECTION A - A

**TURBIDITY BARRIER - STANDARD POST INSTALLATION**

**TURBIDITY BARRIER PLACEMENT DETAILS**



PLAN VIEW



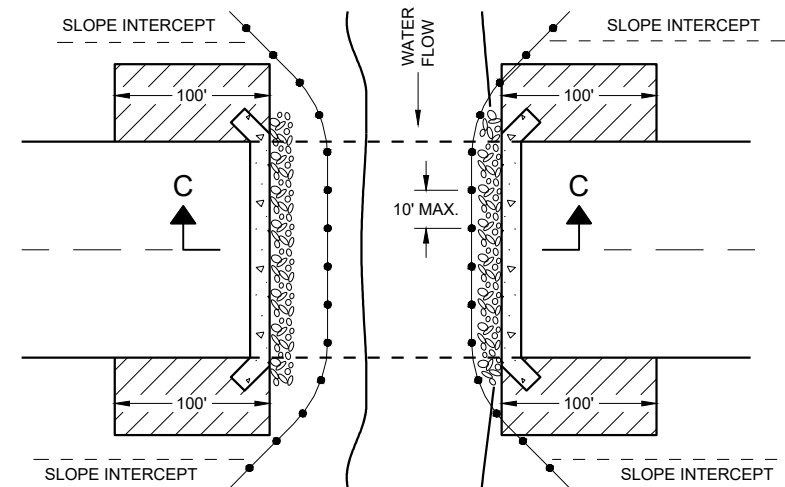
PLAN VIEW

**GENERAL NOTES**

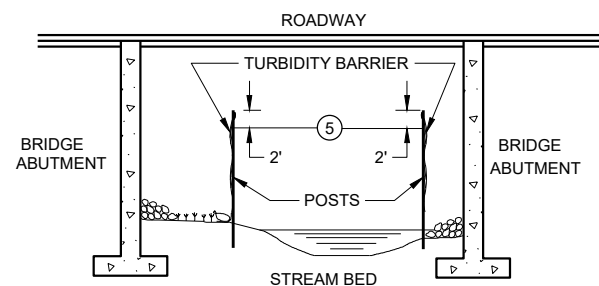
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- 1 DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- 2 SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- 3 WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- 4 IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- 5 ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- 6 FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- 7 ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- 8 USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



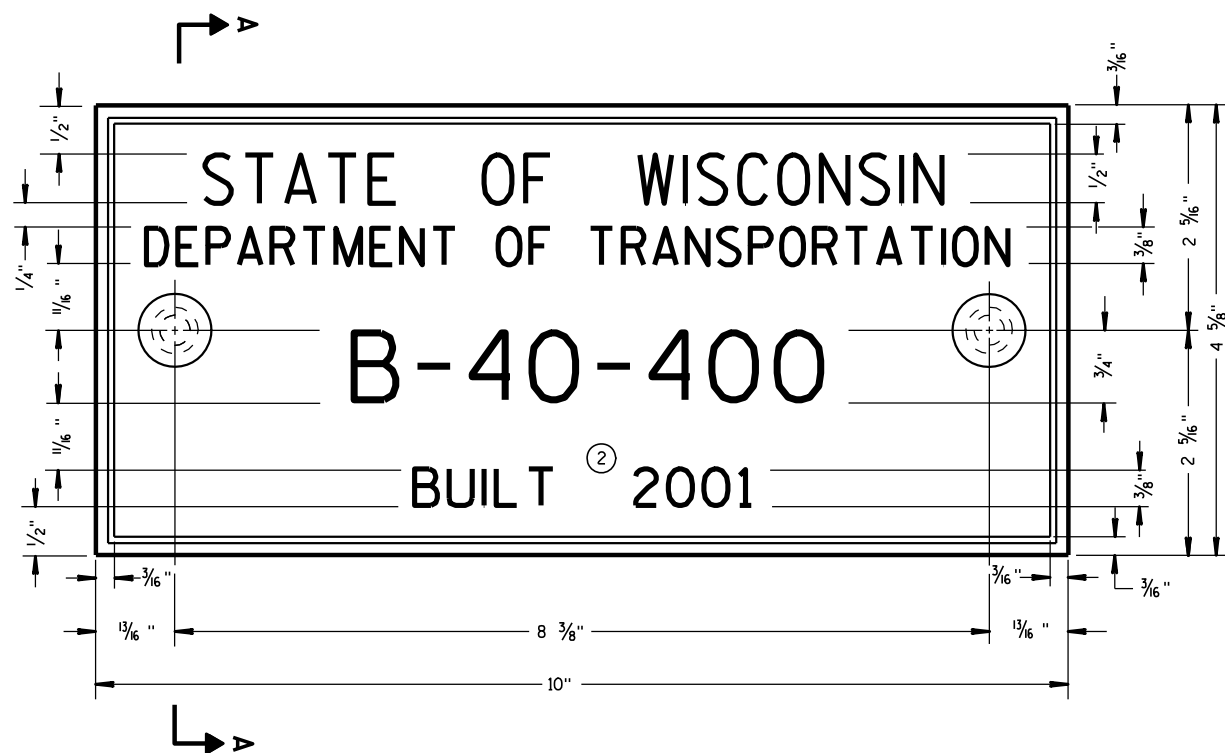
SECTION C - C

**TURBIDITY BARRIER DETAIL SHOWING**  
**TYPICAL PLACEMENT AT STRUCTURES**

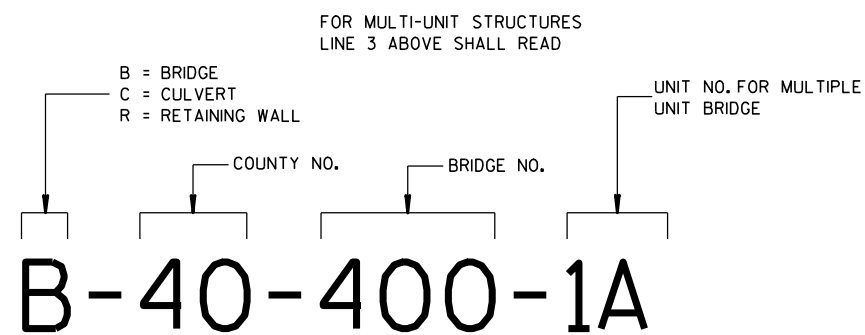
**TURBIDITY BARRIER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
6/4/02 DATE /S/ Beth Cannestra  
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER 20  
FHWA



**TYPICAL NAME PLATE**  
(BRIDGES, CULVERTS, AND RETAINING WALLS)



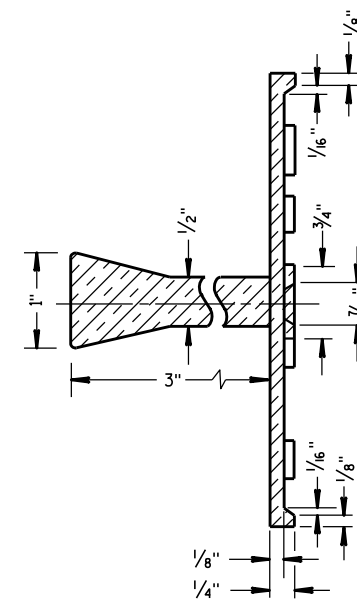
**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

## GENERAL NOTES

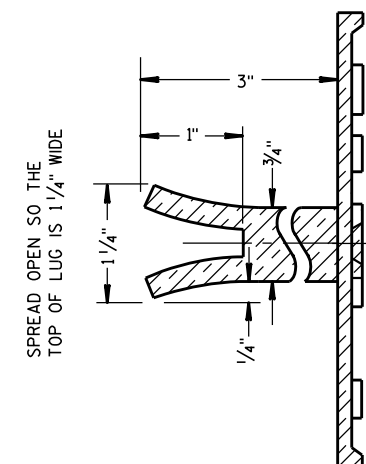
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



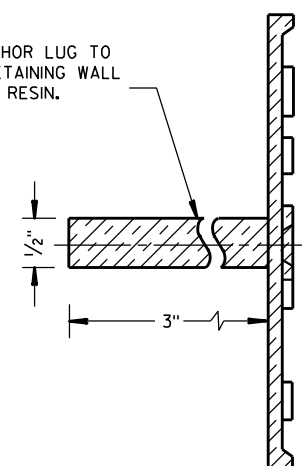
**SECTION A-A**



SPREAD OPEN SO THE  
TOP OF LUG IS 1 1/4" WIDE

**ALTERNATE LUG**

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE  
(STRUCTURES)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

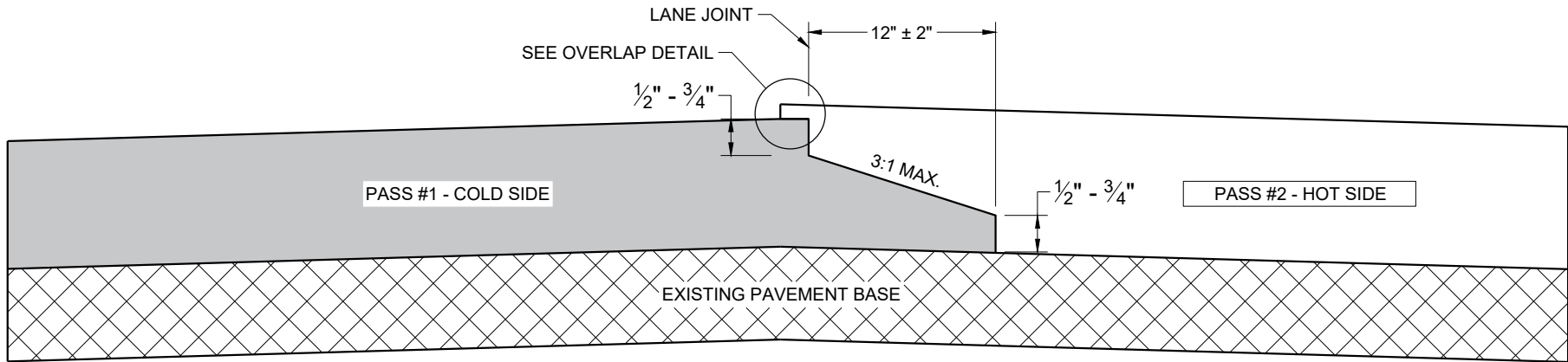
APPROVED

3/26/10  
DATE

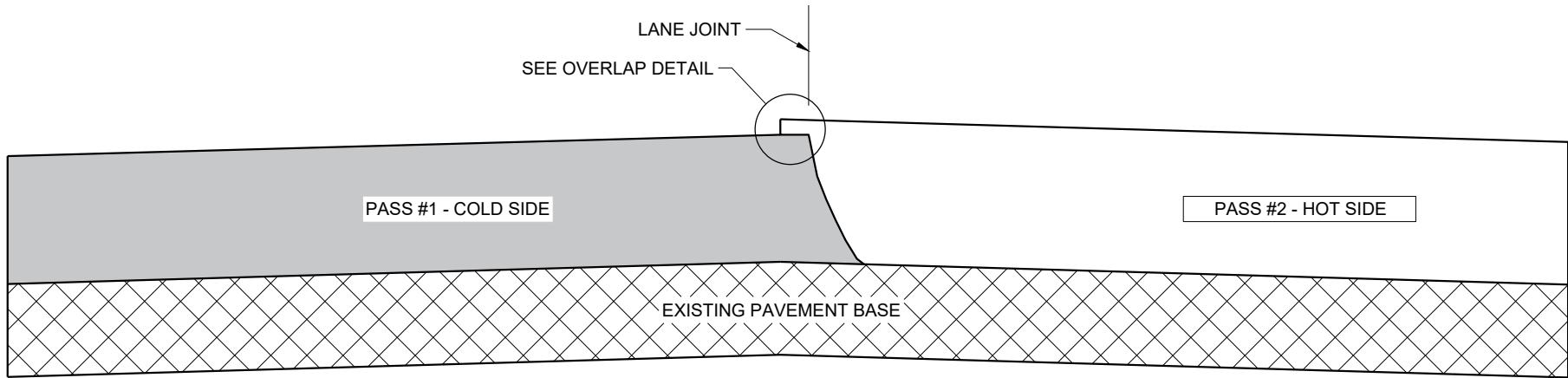
FHWA

/S/ Scot Beck  
CHIEF STRUCTURAL DEVELOPER

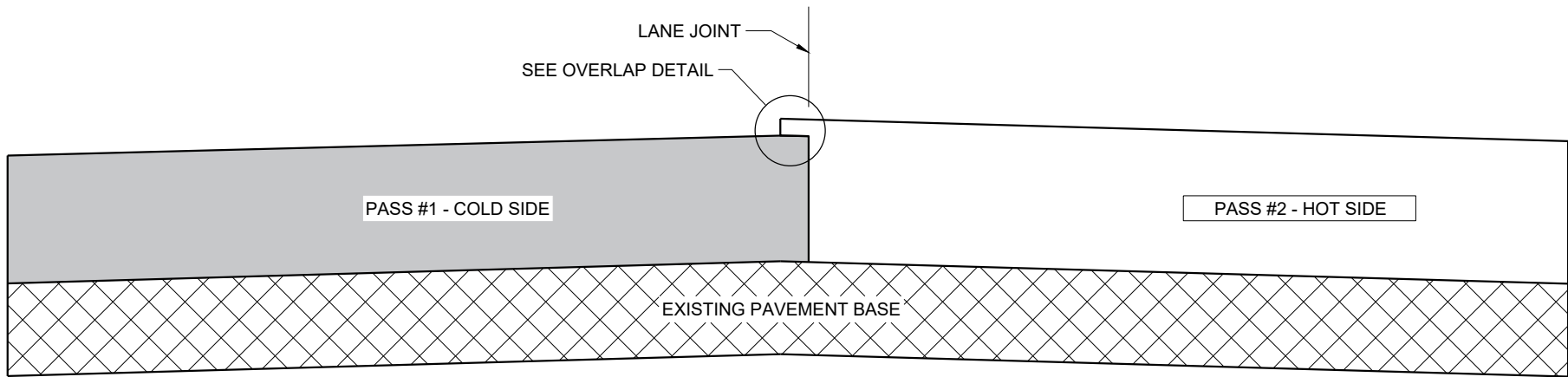
JEER



TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT (MILLED)

GENERAL NOTES

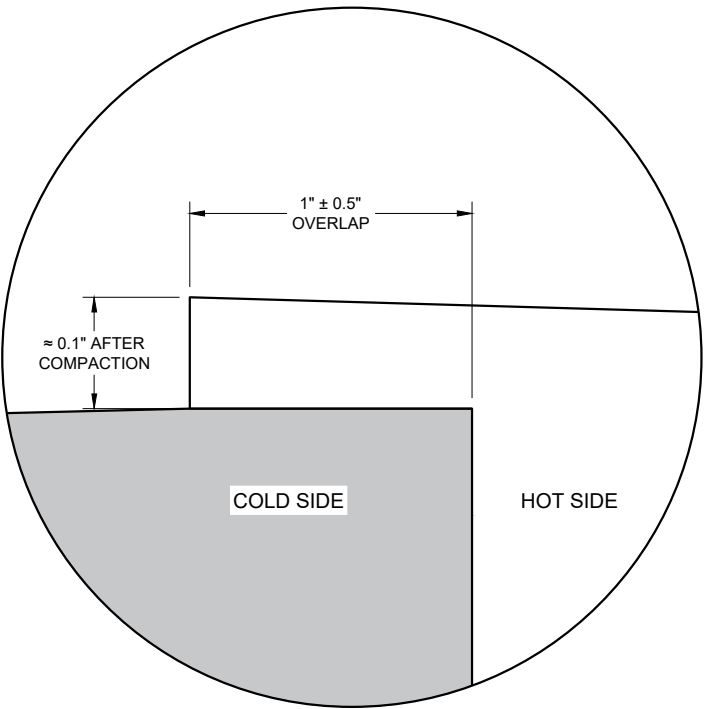
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY  $1" \pm 0.5"$  AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.

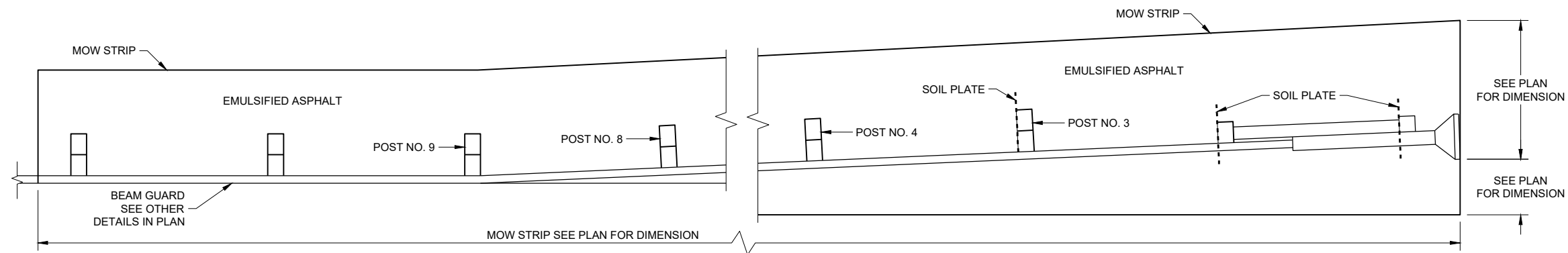


OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2020 /S/ Steven Hefel  
DATE HMA PAVEMENT ENGIN 22  
FHWA

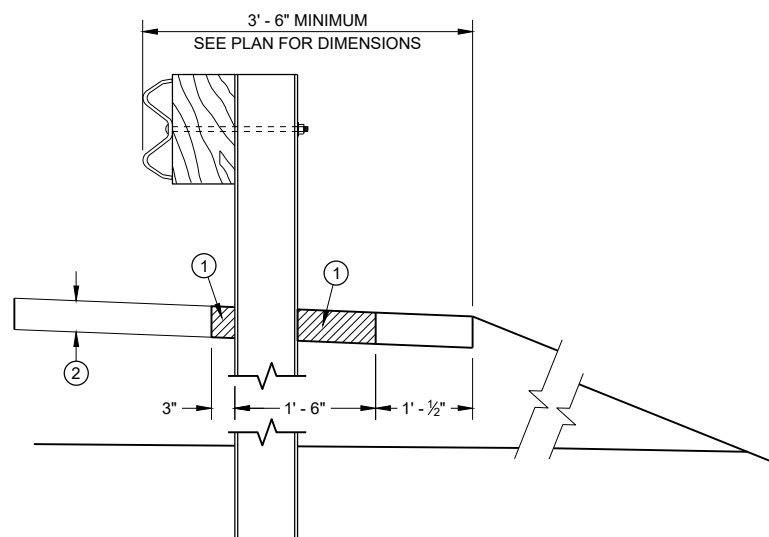


**PLAN VIEW**  
**MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL**

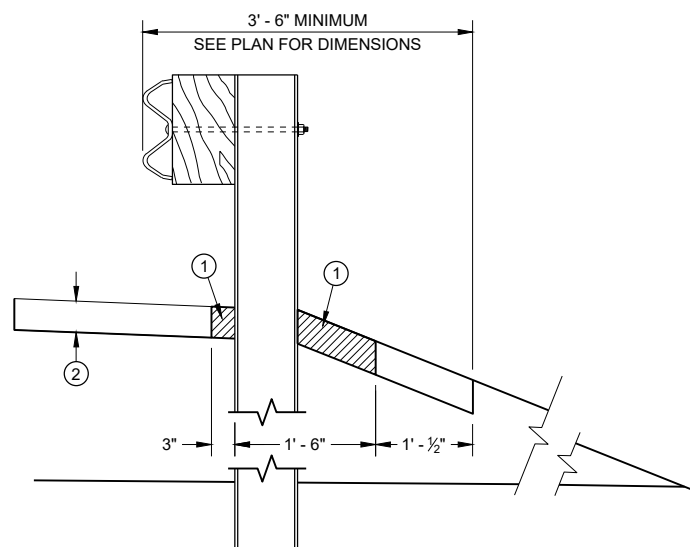
**GENERAL NOTES**

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

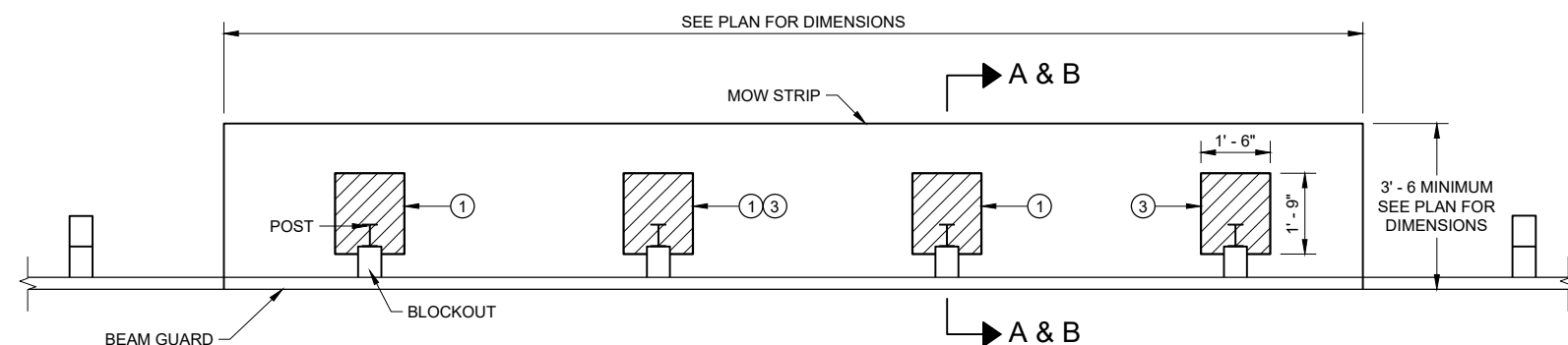
- ① CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
- ② DEPTH OF MOW STRIP:  
ASPHALT - 4"  
CONCRETE - 4"  
EMULSIFIED ASPHALT - 1" OR LESS
- ③ FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)



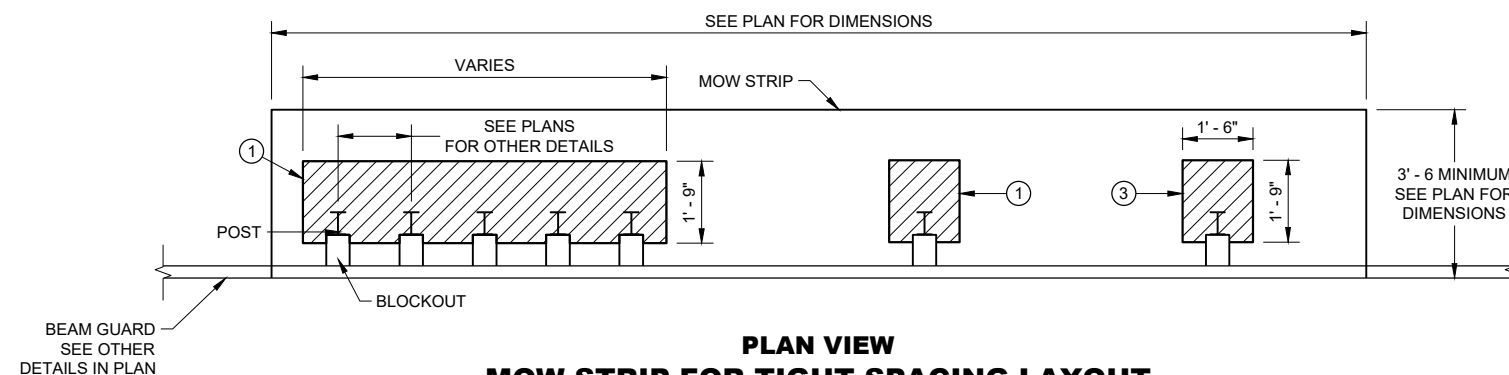
**SECTION A - A**



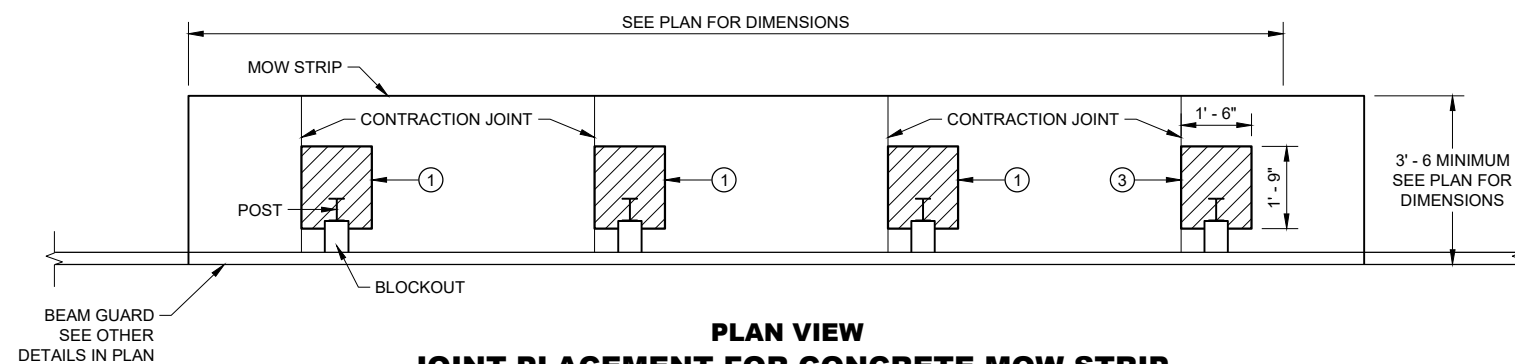
**SECTION B - B**



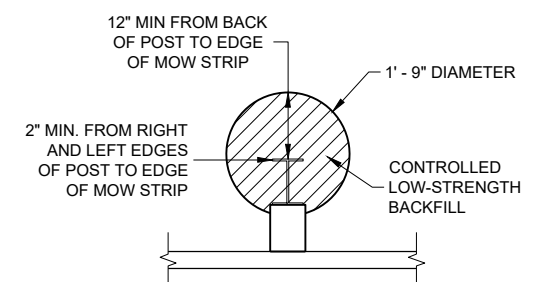
**PLAN VIEW**  
**MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT**



**PLAN VIEW**  
**MOW STRIP FOR TIGHT SPACING LAYOUT**



**PLAN VIEW**  
**JOINT PLACEMENT FOR CONCRETE MOW STRIP**



**ALTERNATIVE HMA**  
**MOW STRIP DESIGN**

**GUARDRAIL MOW STRIP**

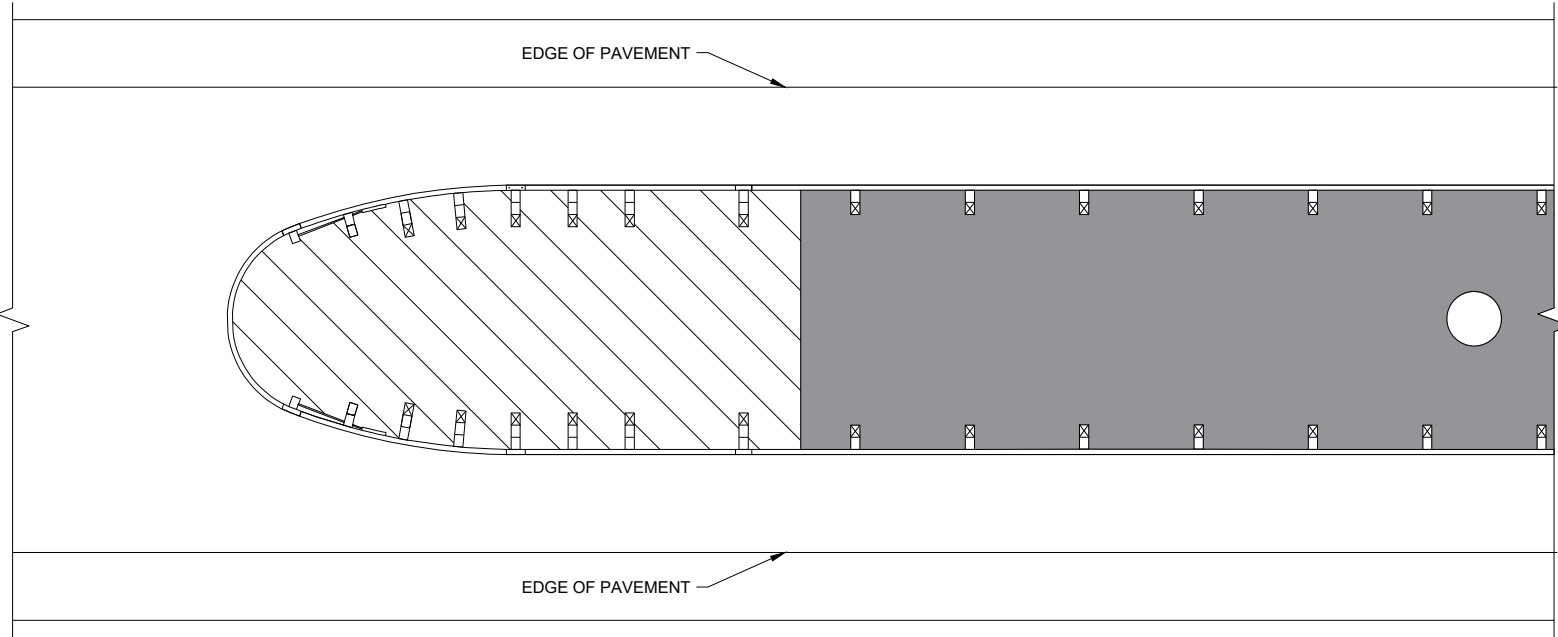
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

LEGEND

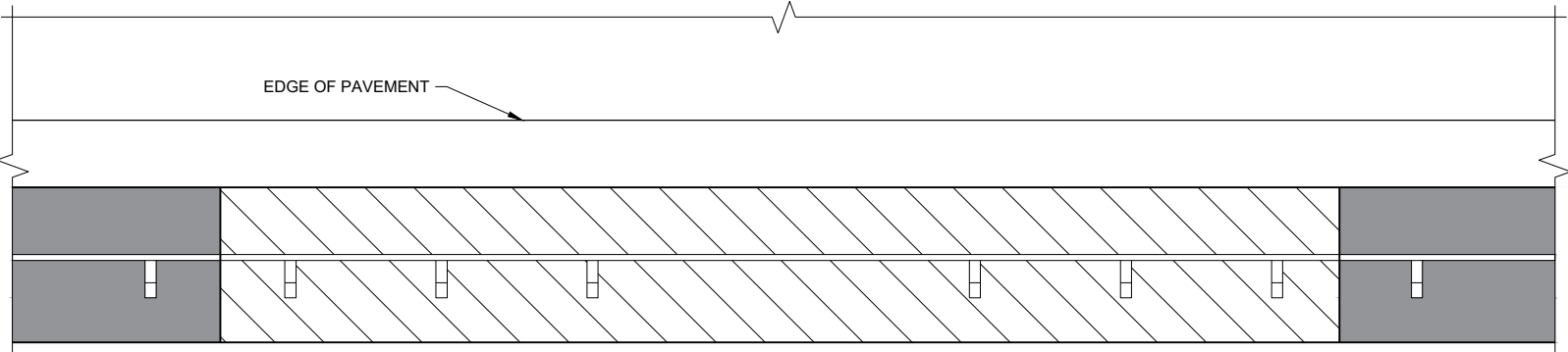
- CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)
- EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

GENERAL NOTES

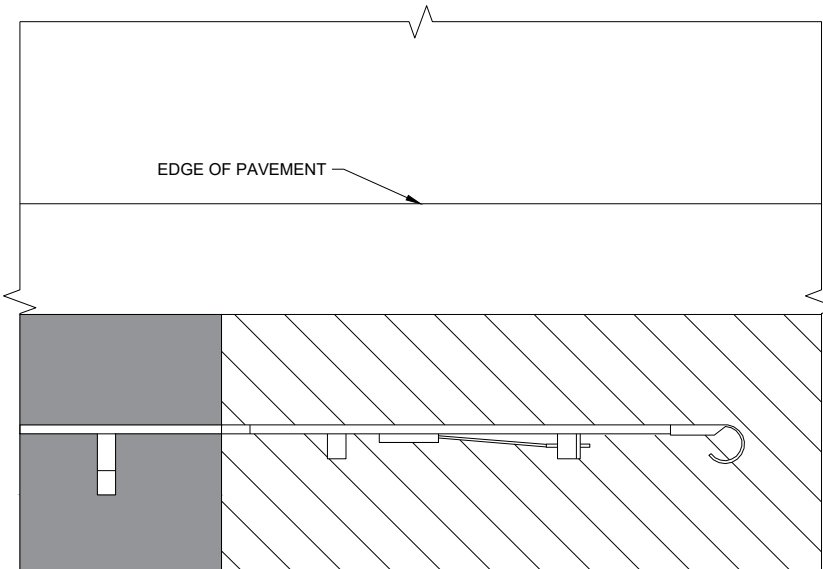
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



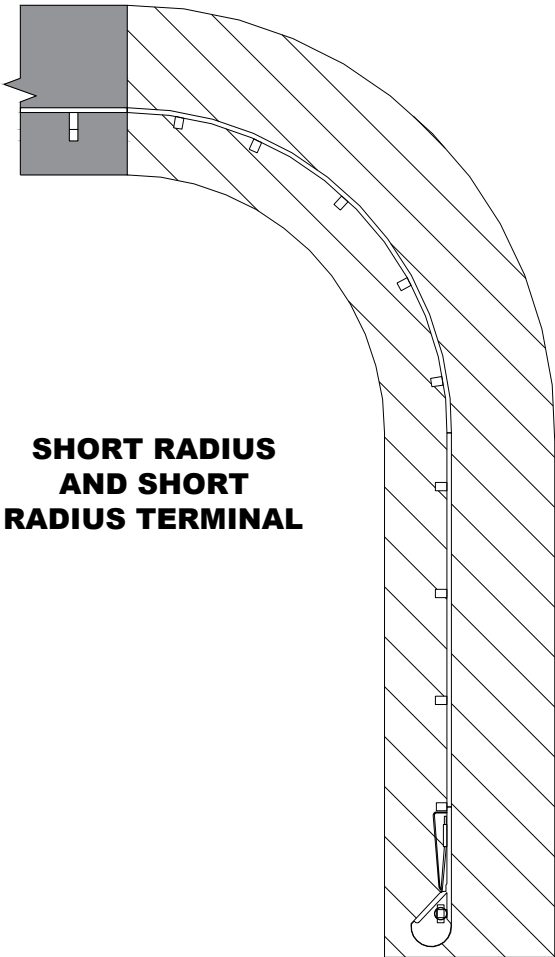
THRIE BEAM BULLNOSE



LONG - SPAN



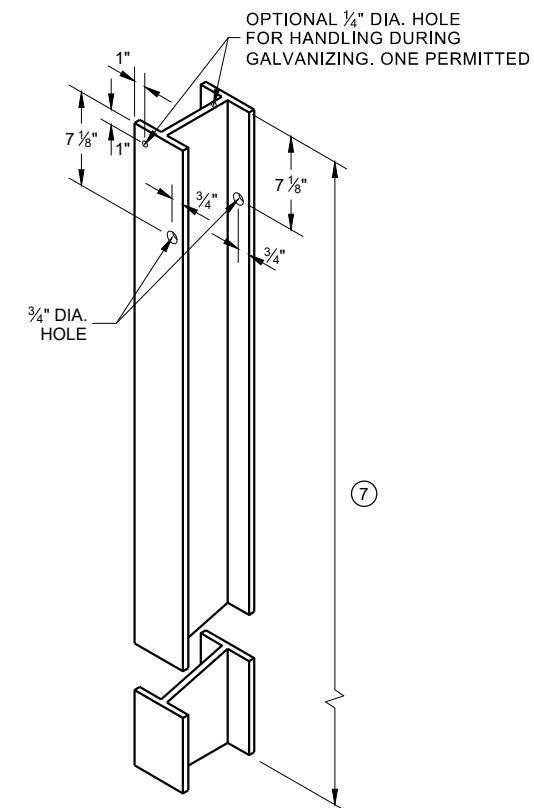
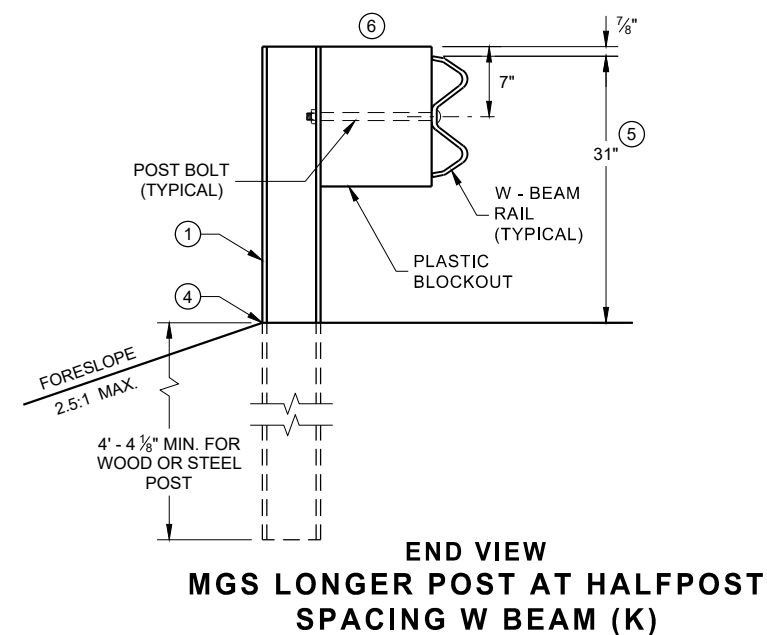
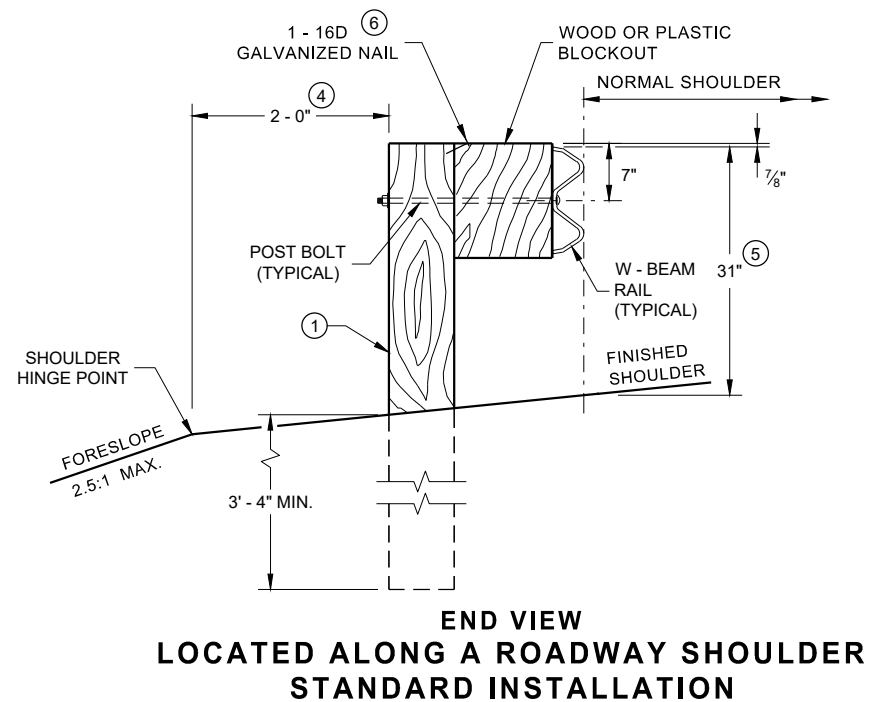
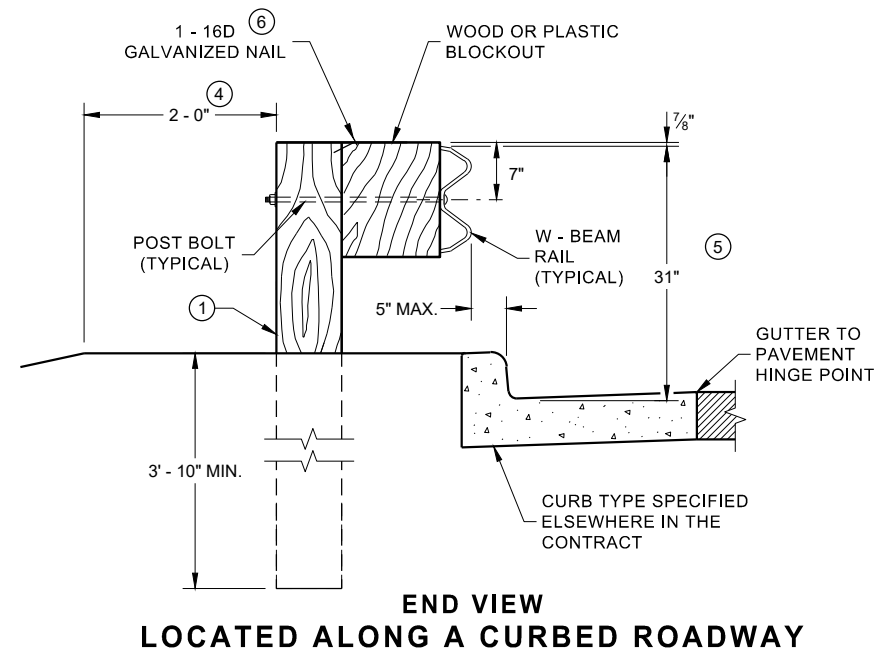
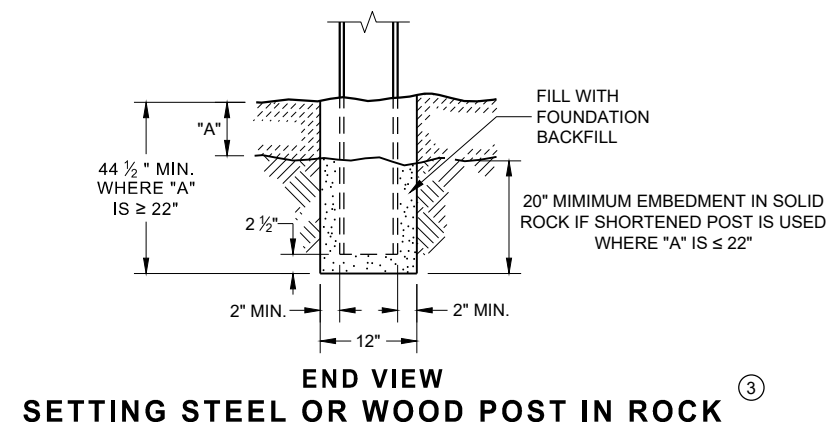
TYPE 2 TERMINAL



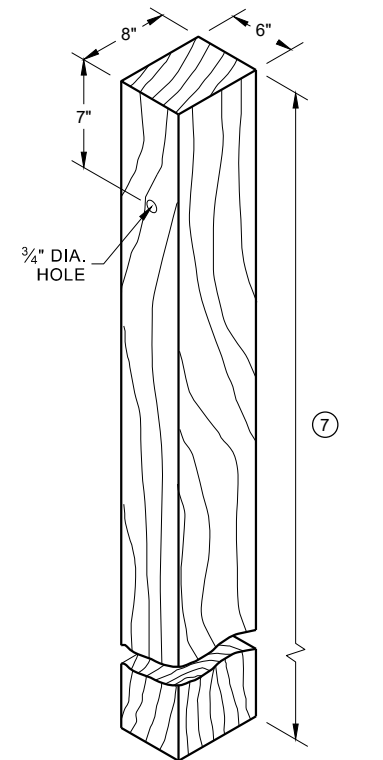
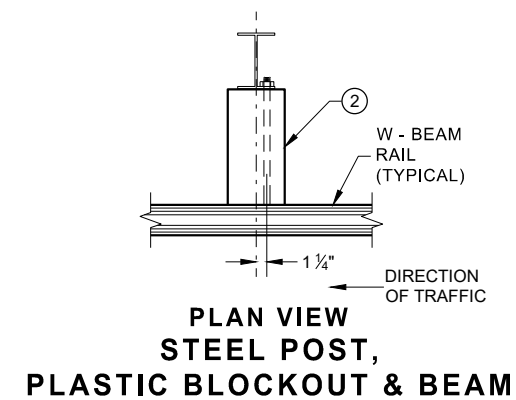
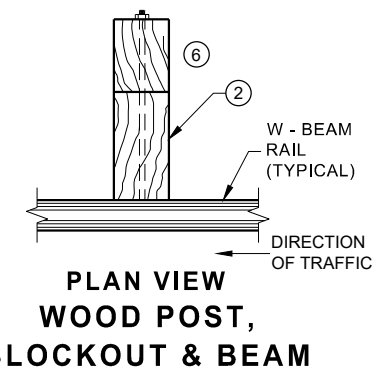
SHORT RADIUS  
AND SHORT  
RADIUS TERMINAL

| GUARDRAIL MOW STRIP                                |                                                                |
|----------------------------------------------------|----------------------------------------------------------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                                |
| APPROVED<br>August 2020<br>DATE                    | /S/ Rodney Taylor<br>ROADWAY STANDARDS DEVELOPMENT ENGINEER 24 |
| FHWA                                               |                                                                |

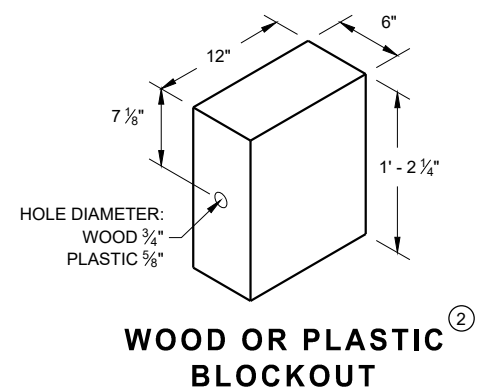
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. 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 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**

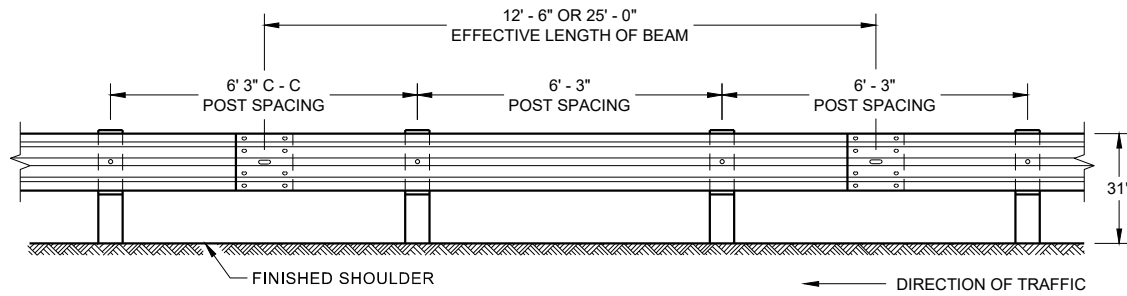


**WOOD POST (6" X 8") NOMINAL** <sup>①</sup>

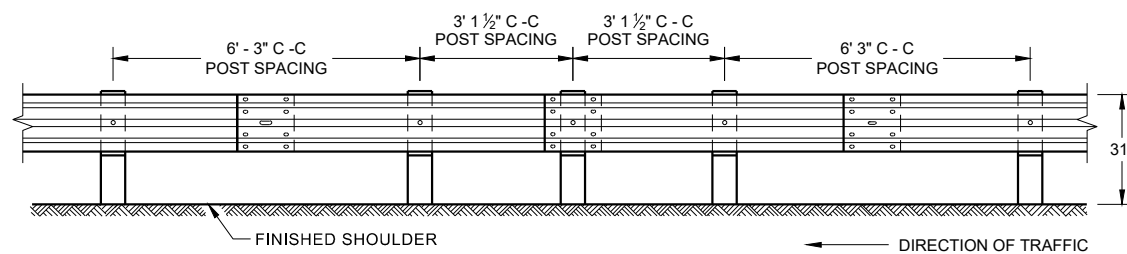


**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

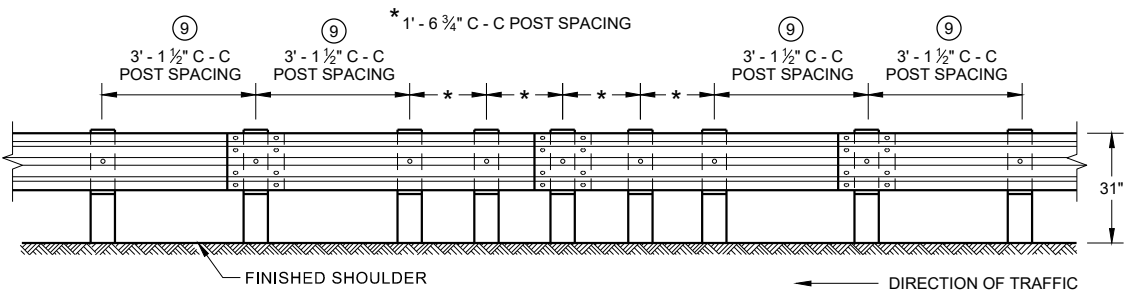
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 25



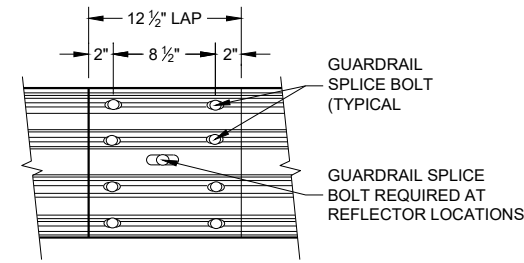
**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



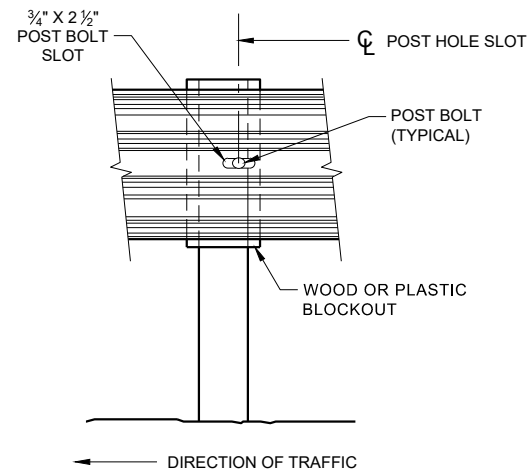
**FRONT VIEW  
HALF POST SPACING (HS) AND  
HALF POST SPACING WITH LONGER POSTS (K)**



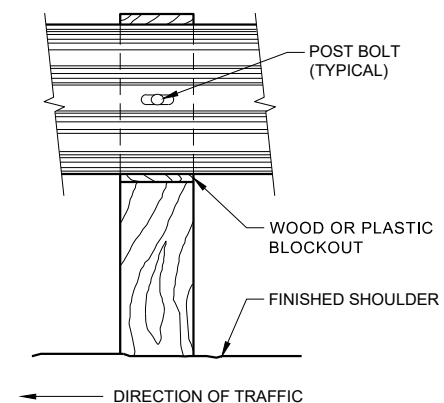
**FRONT VIEW  
QUARTER POST SPACING (QS)**



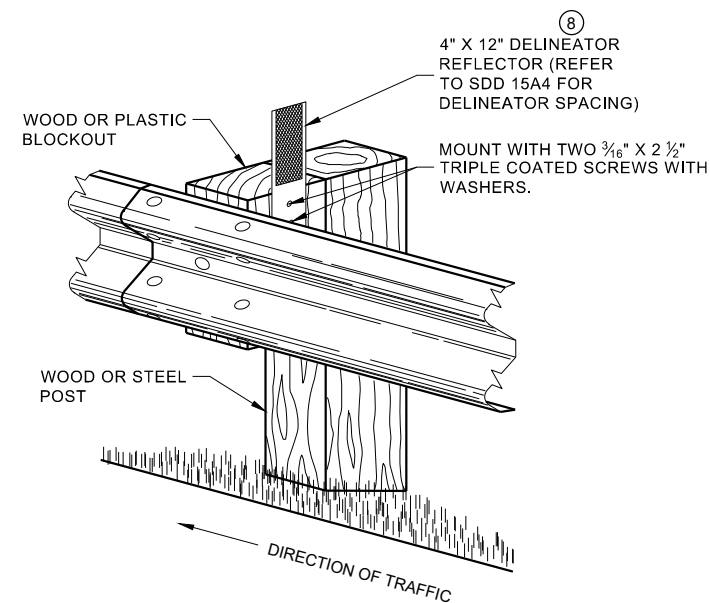
**FRONT VIEW  
MID-SPAN BEAM SPLICE**



**FRONT VIEW AT STEEL POST**



**FRONT VIEW AT WOOD POST**



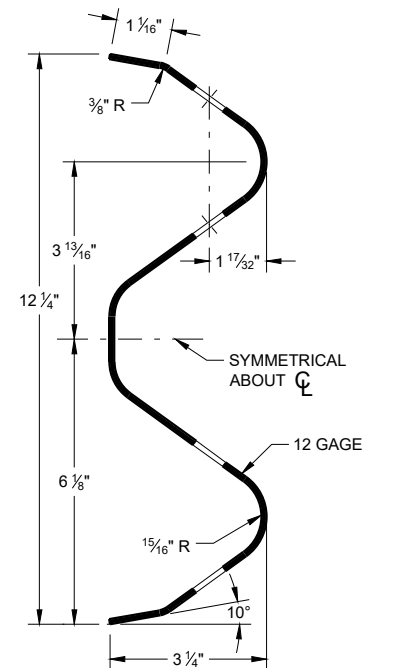
**ONE SIDED REFLECTOR DETAIL  
AND TYPICAL INSTALLATION**

## GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 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 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

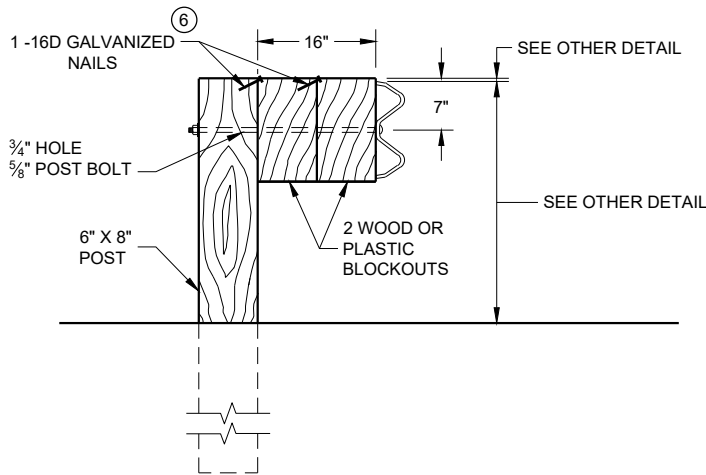
GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



**SECTION THRU W-BEAM RAIL**

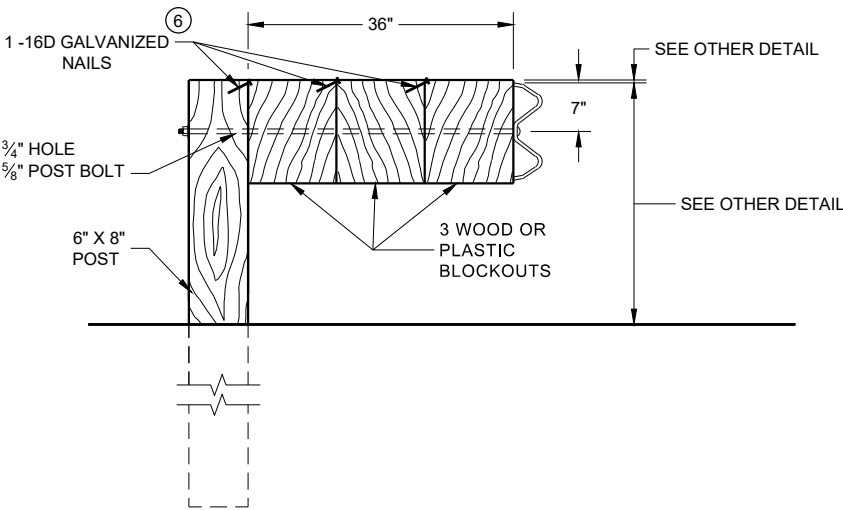
**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

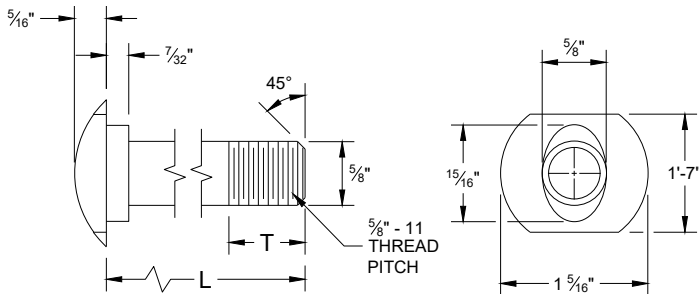
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

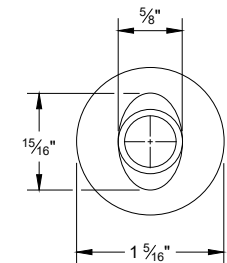
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.  
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE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

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

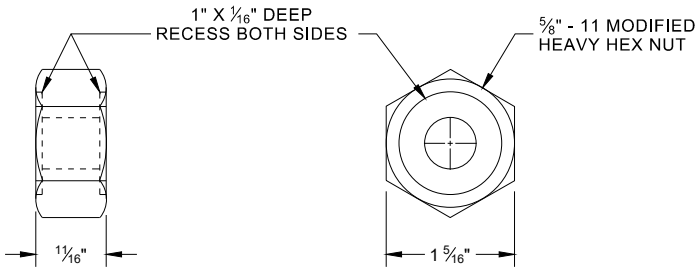


POST BOLT TABLE

| L      | T (MIN.) |
|--------|----------|
| 1 1/4" | 1 1/8"   |
| 2"     | 1 3/4"   |
| 10"    | 4"       |
| 14"    | 4 1/16"  |
| 18"    | 4"       |
| 21"    | 4 1/16"  |
| 25"    | 4"       |

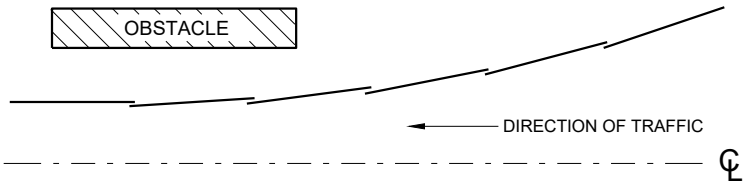


ALTERNATE BOLT HEAD

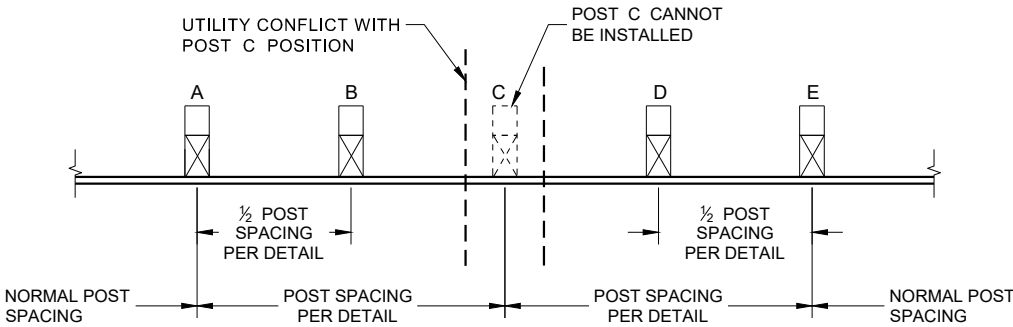


POST BOLT, SPLICE BOLT  
AND RECESS NUT

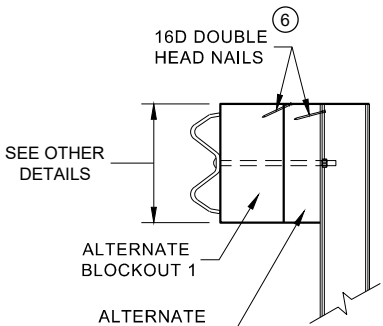
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



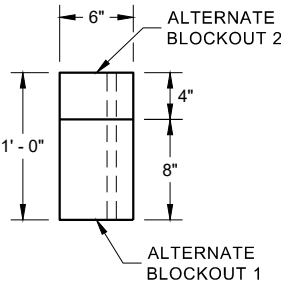
PLAN VIEW  
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION



SIDE VIEW

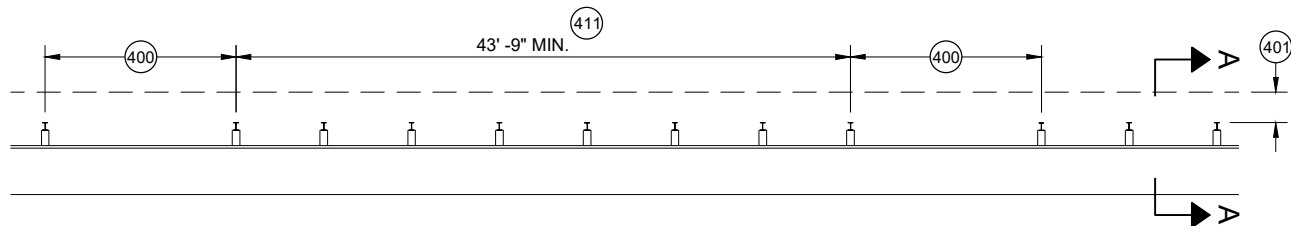


PLAN VIEW

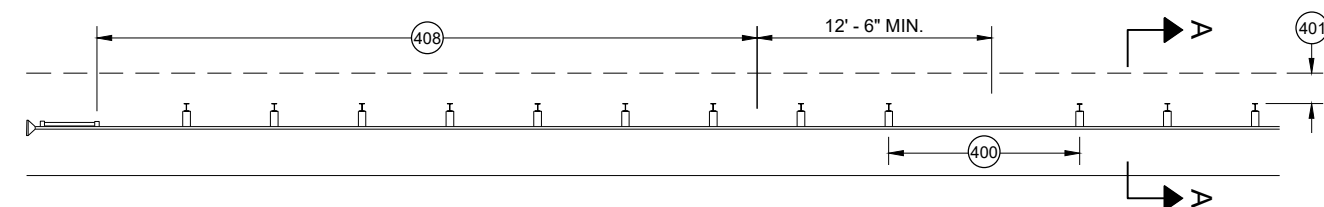
ALTERNATE WOOD  
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL

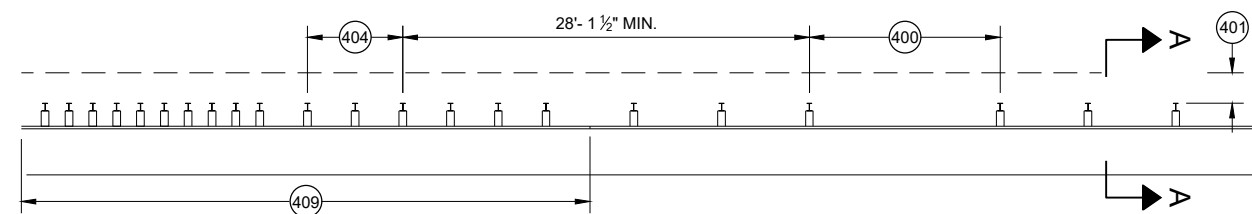
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



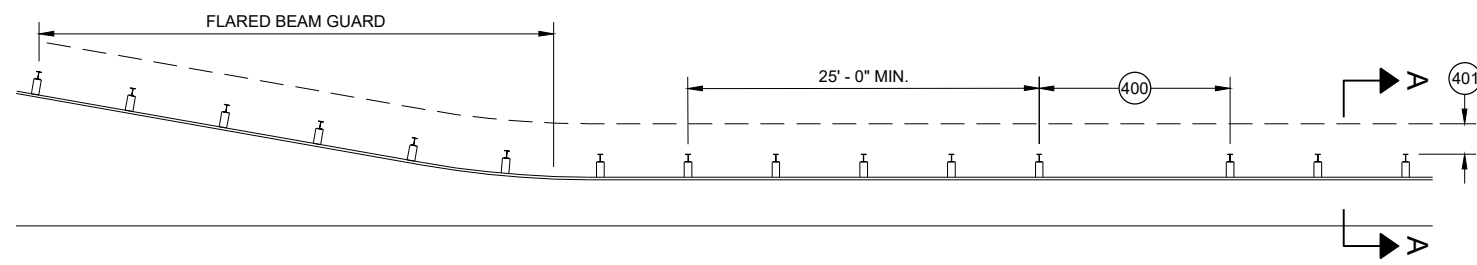
**MISSING POST IN MGS GUARDRAIL**



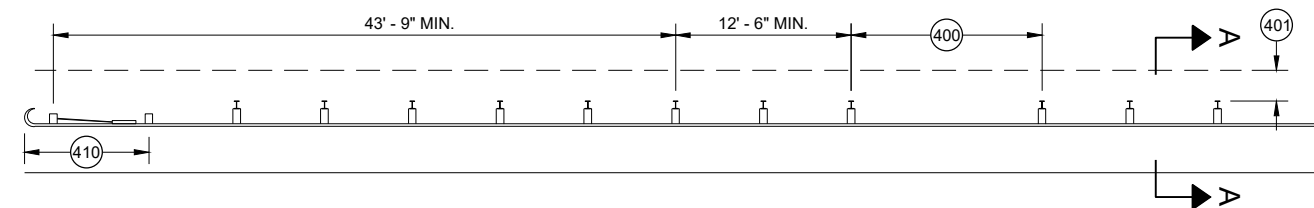
**MISSING POST IN MGS GUARDRAIL NEAR EAT**



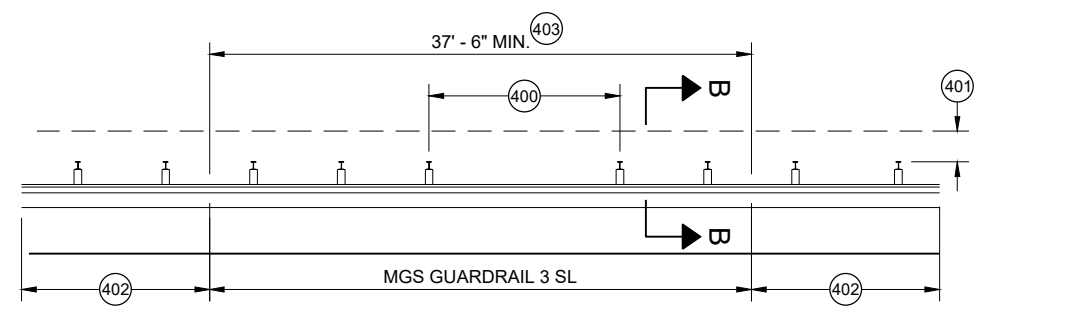
**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**



**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

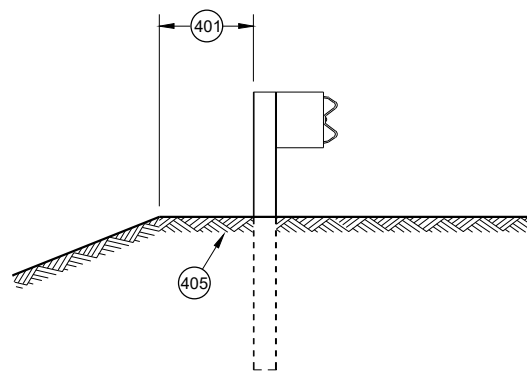


**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

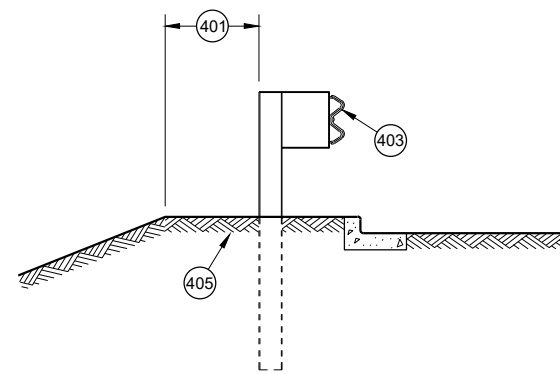


**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)**

- (400) MAX SPAN 12' - 6"
- (401) 2' MIN.
- (402) MGS GUARDRAIL 3
- (403) NESTING BEAM GUARD
- (404) ASYMMETRIC TRANSITION
- (405) SOIL WELL DRAINED AND COMPACTED
- (406) SEE OTHER DRAWINGS IN THIS SDD
- (407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- (408) SEE SDD 14B44
- (409) SEE SDD 14B45
- (410) SEE SDD 14B47
- (411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



**SECTION A - A**



**SECTION B - B**

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2021  
DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

FHWA

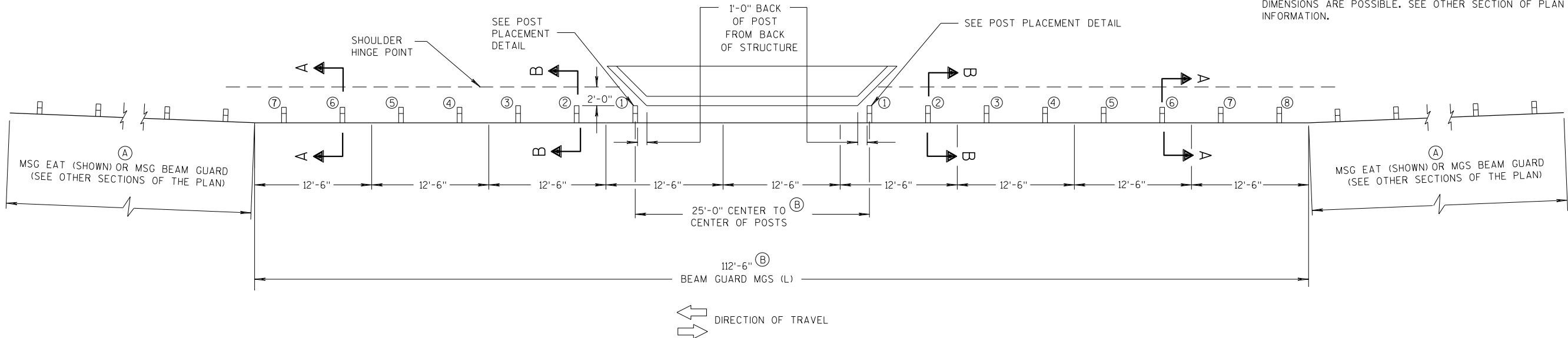
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.  
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

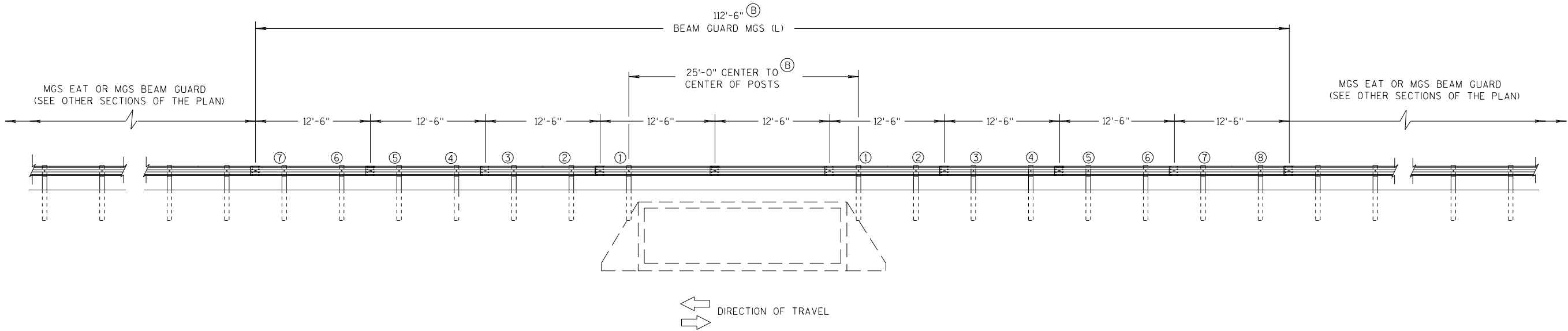
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN, IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

MIDWEST GUARDRAIL SYSTEM  
LONG SPAN MGS (L)

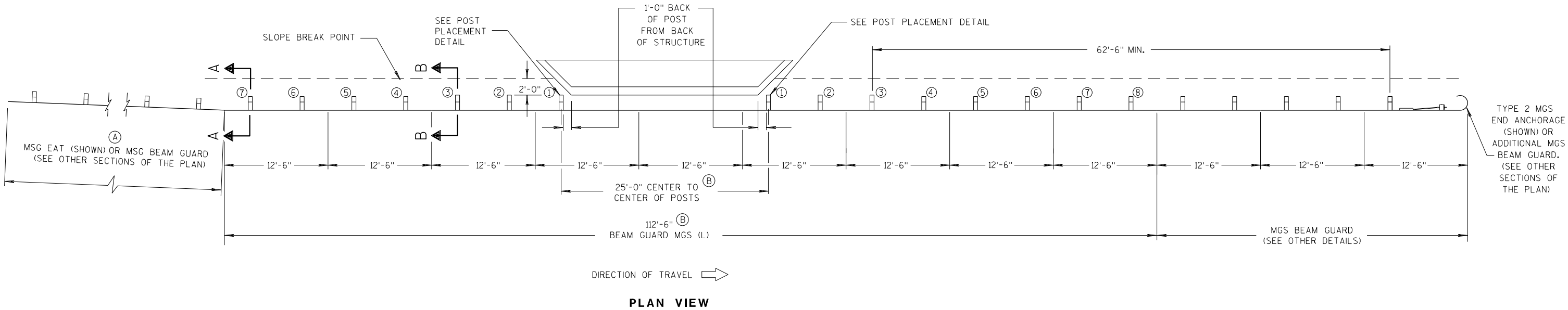
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

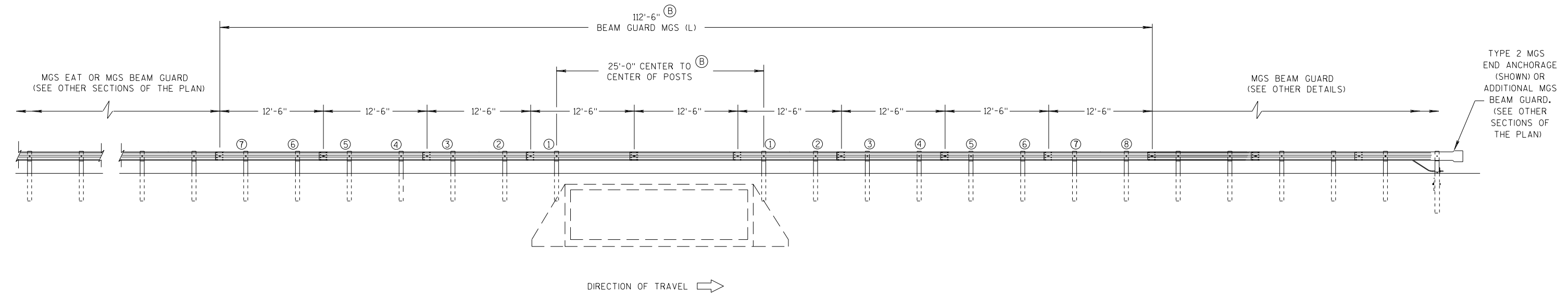
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SEE SDD 14 B 42 FOR MORE DETAILS.

- (A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.
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PLAN VIEW

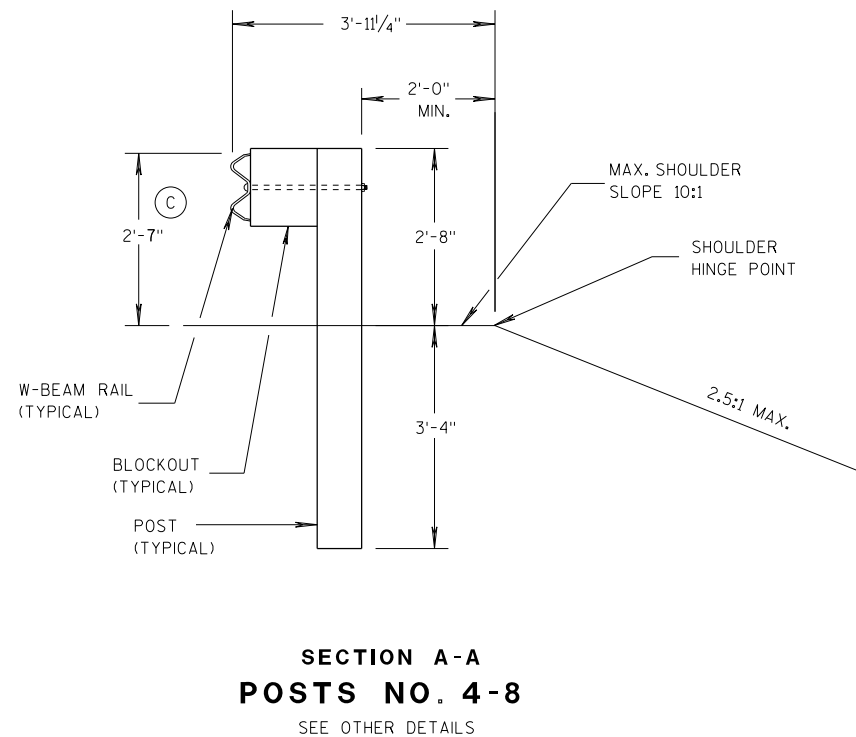
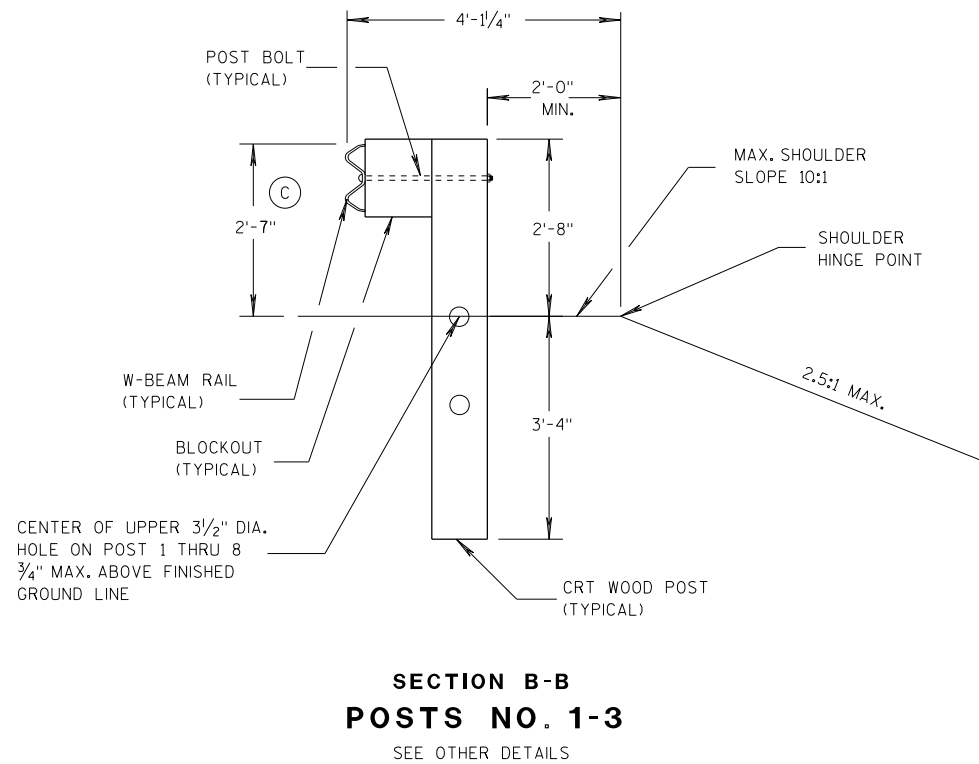
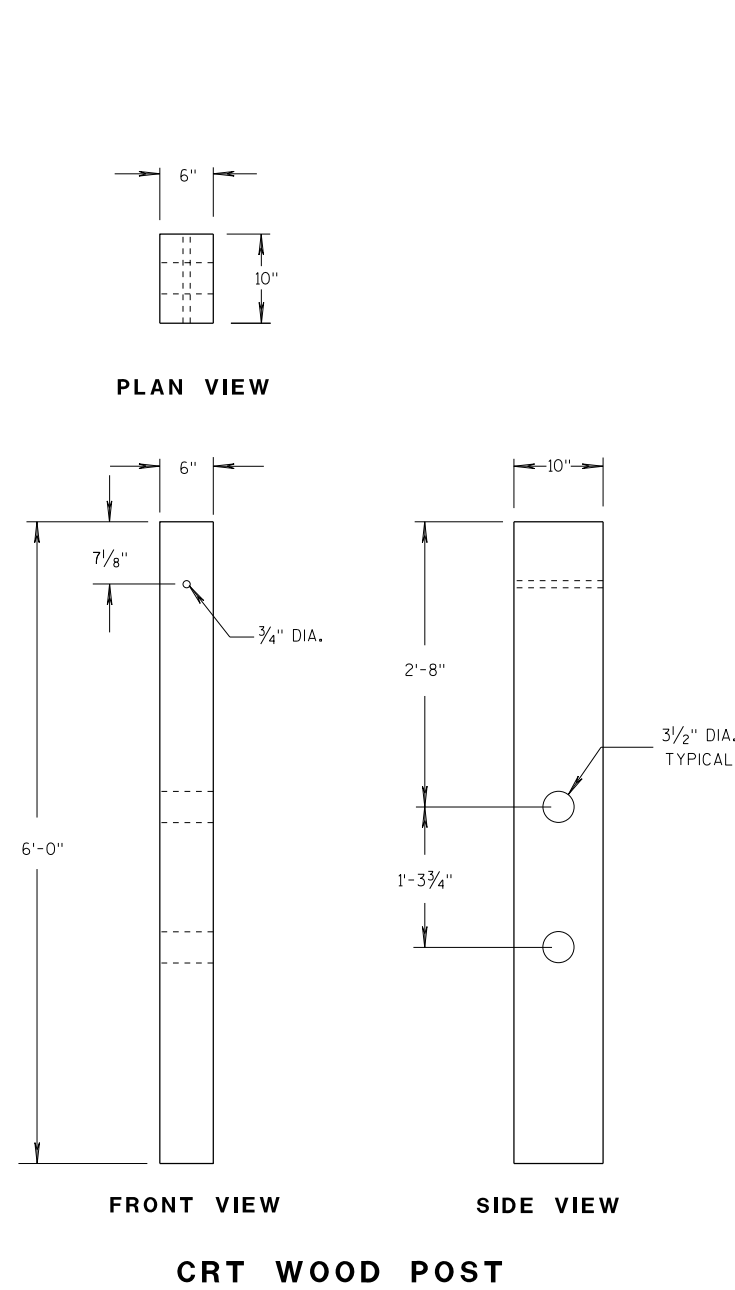


ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

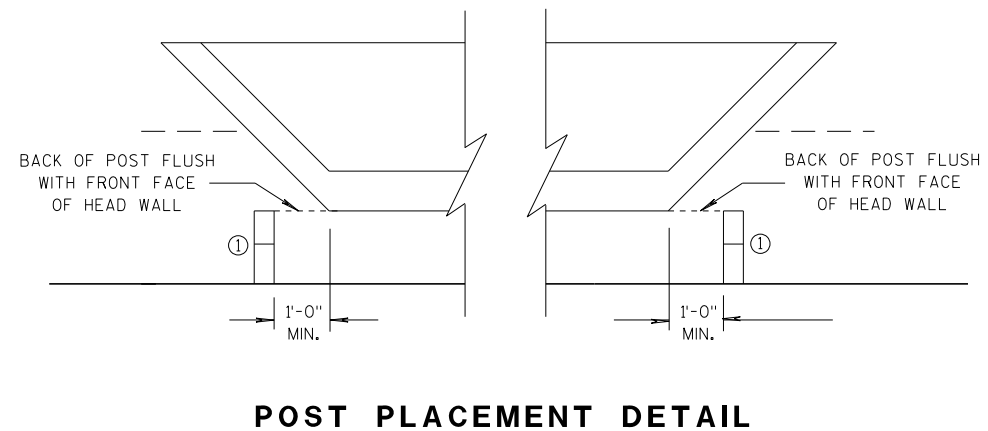
MIDWEST GUARDRAIL SYSTEM  
LONG SPAN MGS (L)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**GENERAL NOTES**

(C) TOLERANCE FOR TOP OF W-BEAM RAIL IS  $\pm 1"$ .



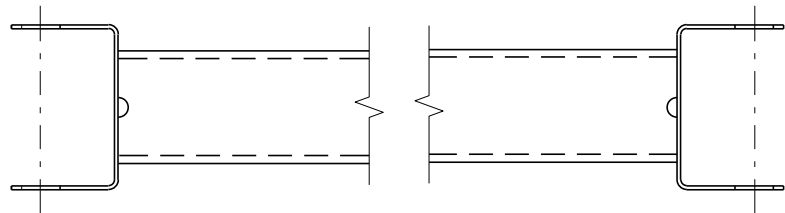
|                                                    |                                                 |       |
|----------------------------------------------------|-------------------------------------------------|-------|
| MIDWEST GUARDRAIL SYSTEM<br>LONG SPAN MGS (L)      |                                                 |       |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                 |       |
| APPROVED<br>DATE 07/2018                           | /S/ Rodney Taylor<br>ROADWAY STANDARDS ENGINEER | 31 NT |
| 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.

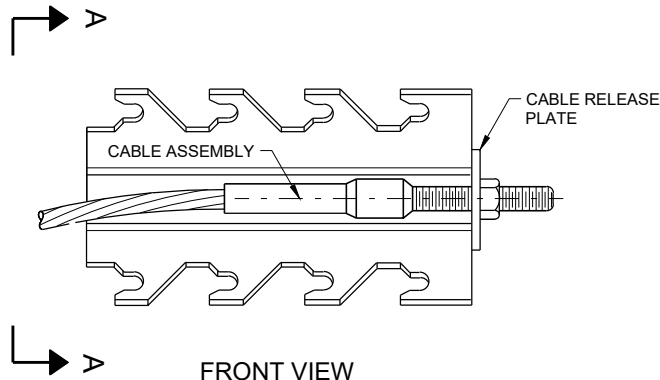
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 32

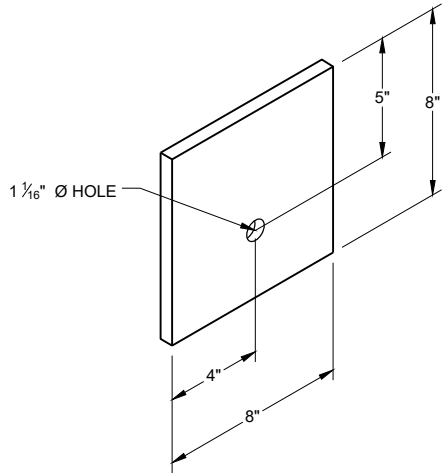
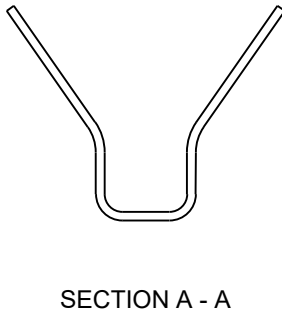


GENERIC GROUND STRUT<sup>9</sup> <sup>E</sup>

| 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                                                                                               |



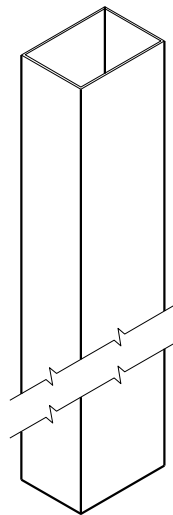
GENERIC ANCHOR CABLE BOX<sup>9</sup> <sup>E</sup>



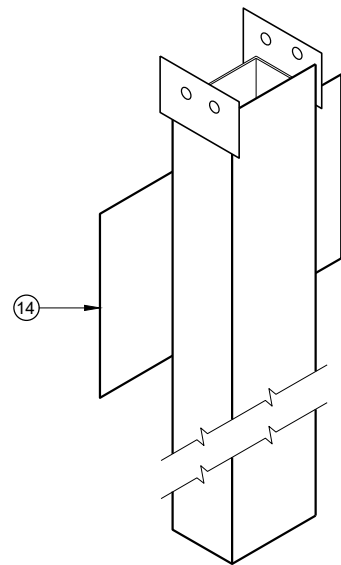
BEARING PLATE<sup>6</sup> <sup>E</sup>

MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)

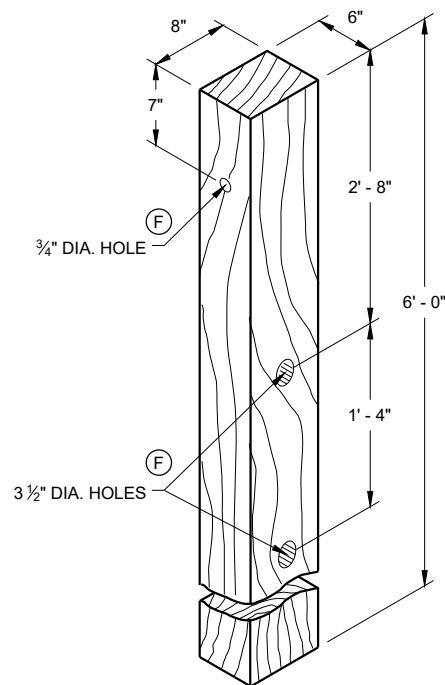
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



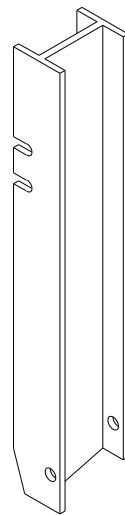
UPPER POST NO. 1 <sup>(1)</sup> (E)



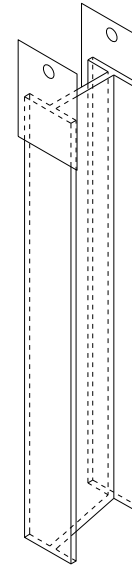
LOWER POST NO. 1 <sup>(2)</sup> (E)



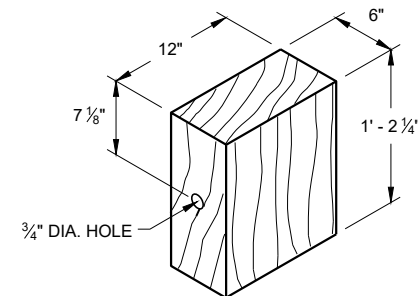
WOOD CRT POST <sup>(3)</sup> (E)  
POSTS NUMBER 3-9



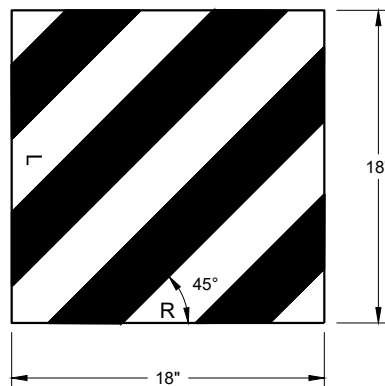
UPPER POST NO. 2 <sup>(15)</sup> (E)



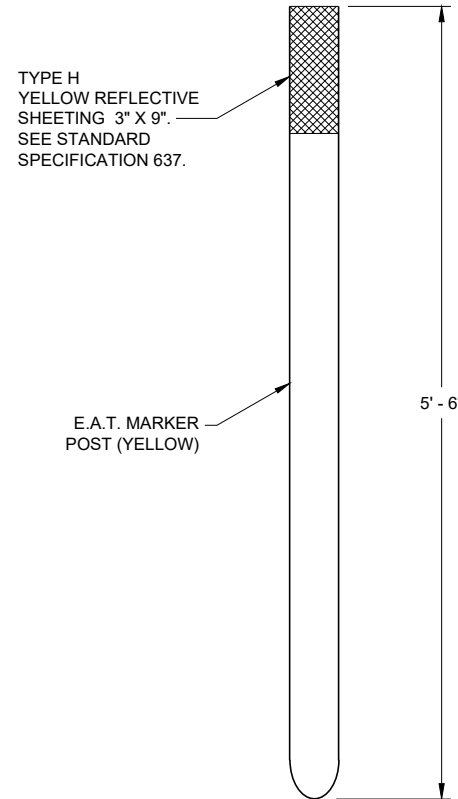
LOWER POST NO. 2 <sup>(16)</sup> (E)



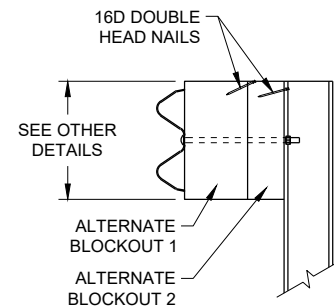
WOOD BLOCKOUT <sup>(4)</sup>  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



W5 - 59  
REFLECTIVE SHEETING DETAIL <sup>(E)</sup>

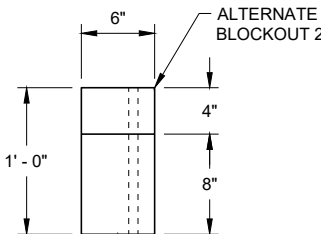


FRONT VIEW  
SIDE VIEW  
E.A.T. MARKER POST <sup>(13)</sup>



SIDE VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

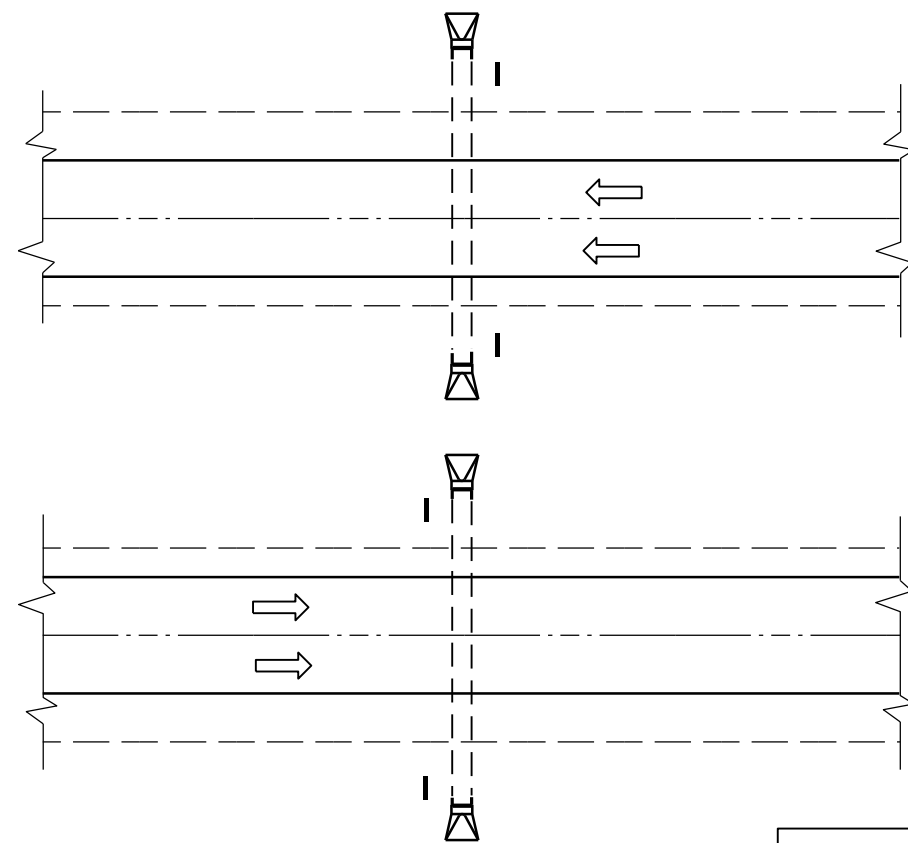


TOP VIEW

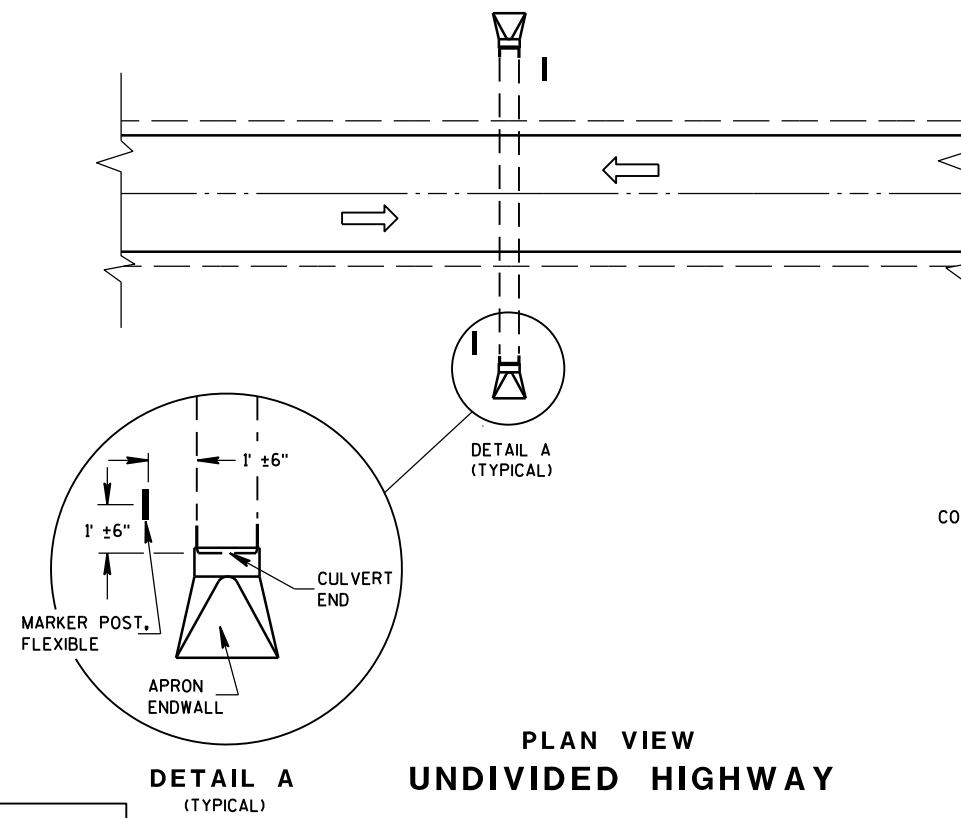
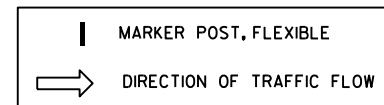
MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018  
DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
34  
FHWA



PLAN VIEW  
DIVIDED HIGHWAY

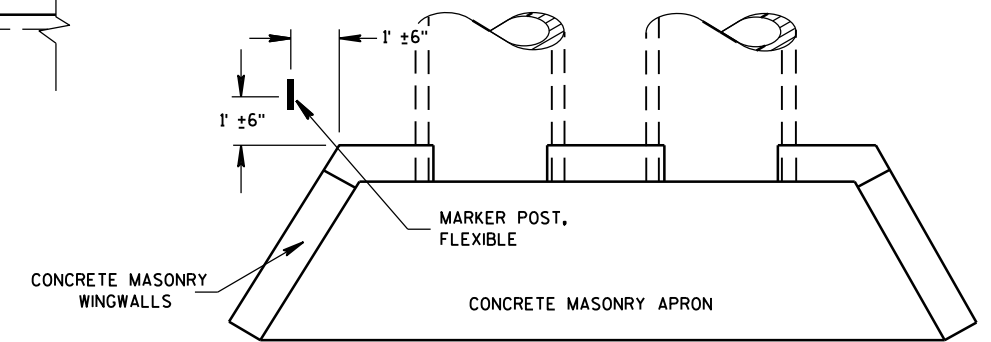


PLAN VIEW  
UNDIVIDED HIGHWAY

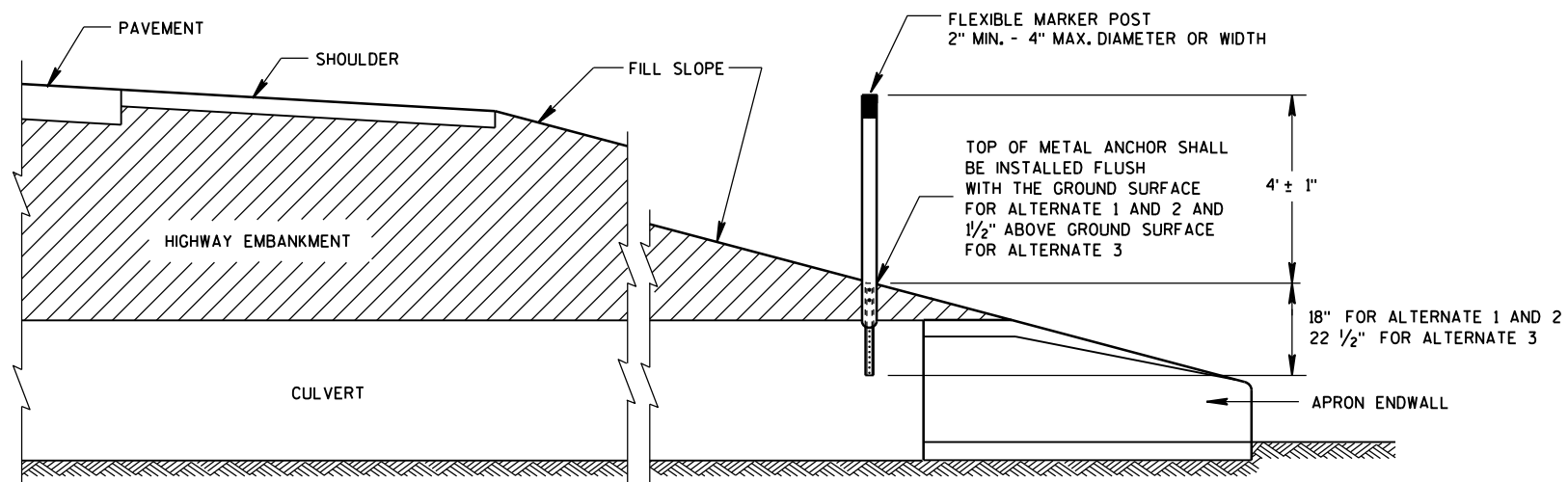
### FLEXIBLE MARKER POST LOCATION

### 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.



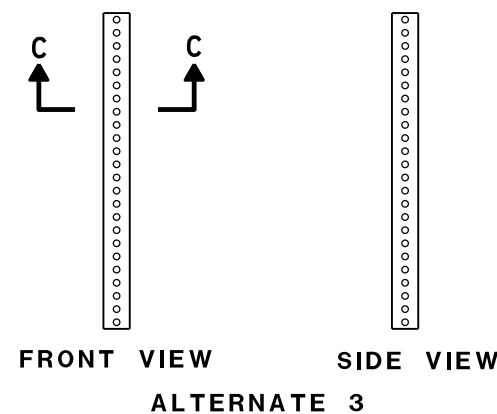
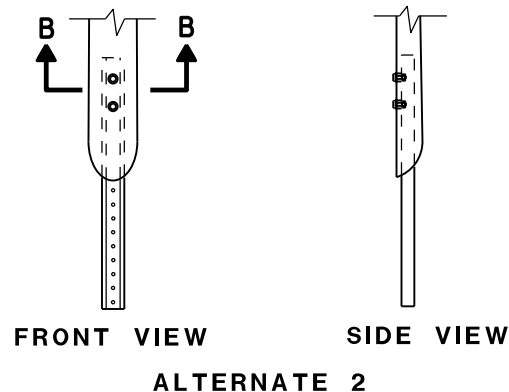
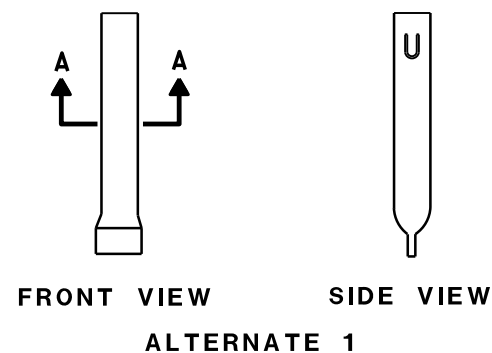
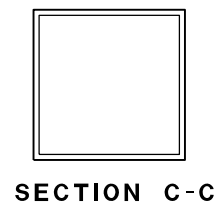
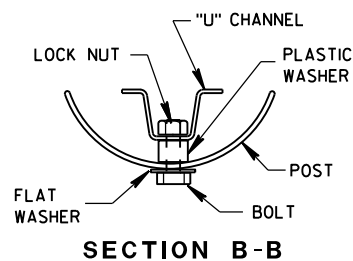
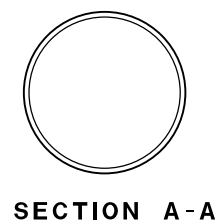
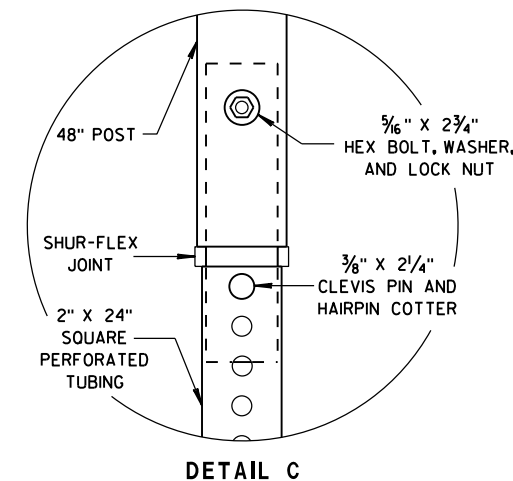
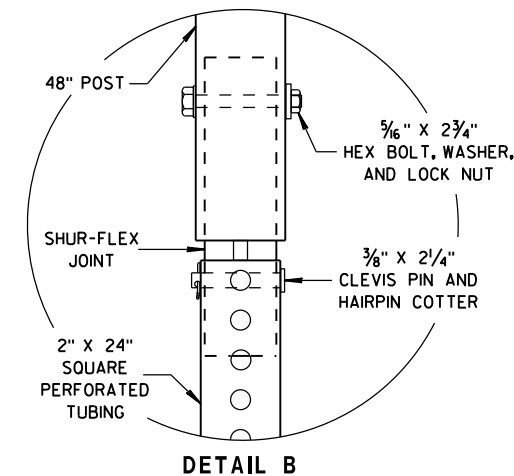
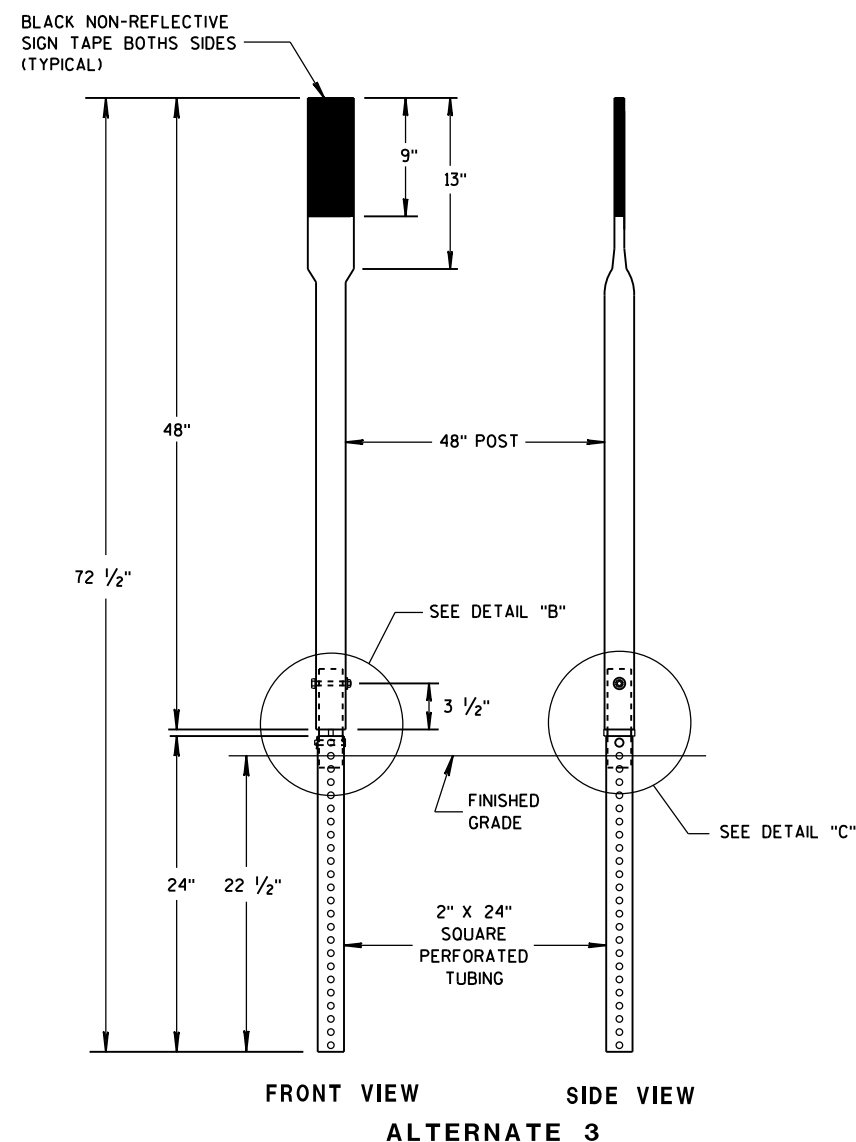
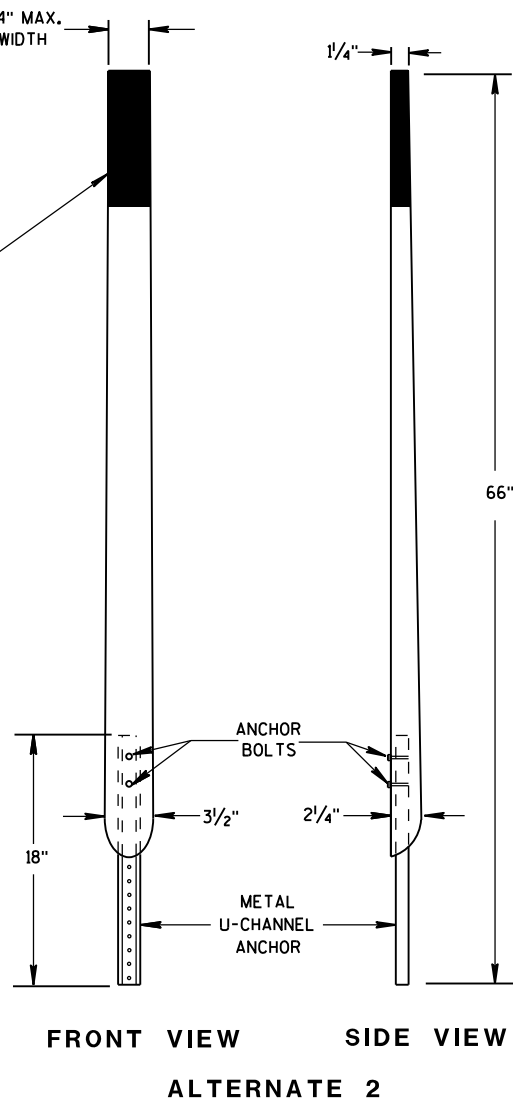
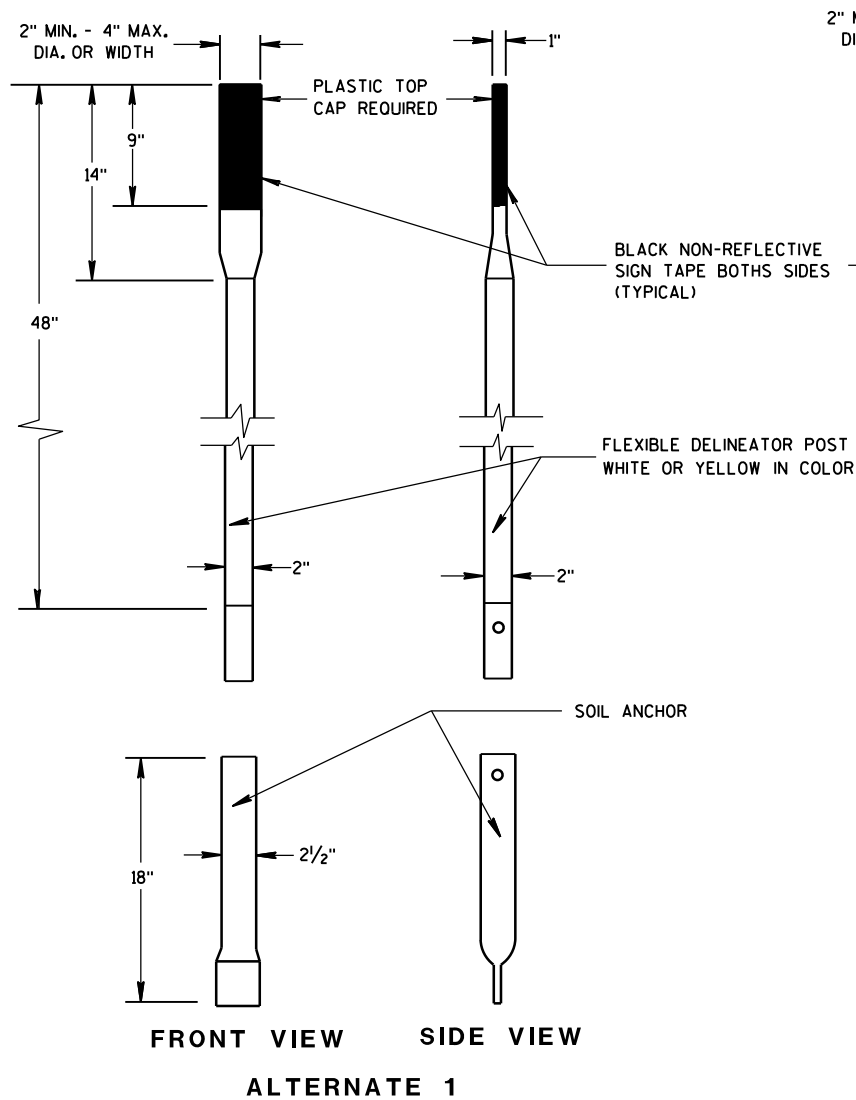
PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH



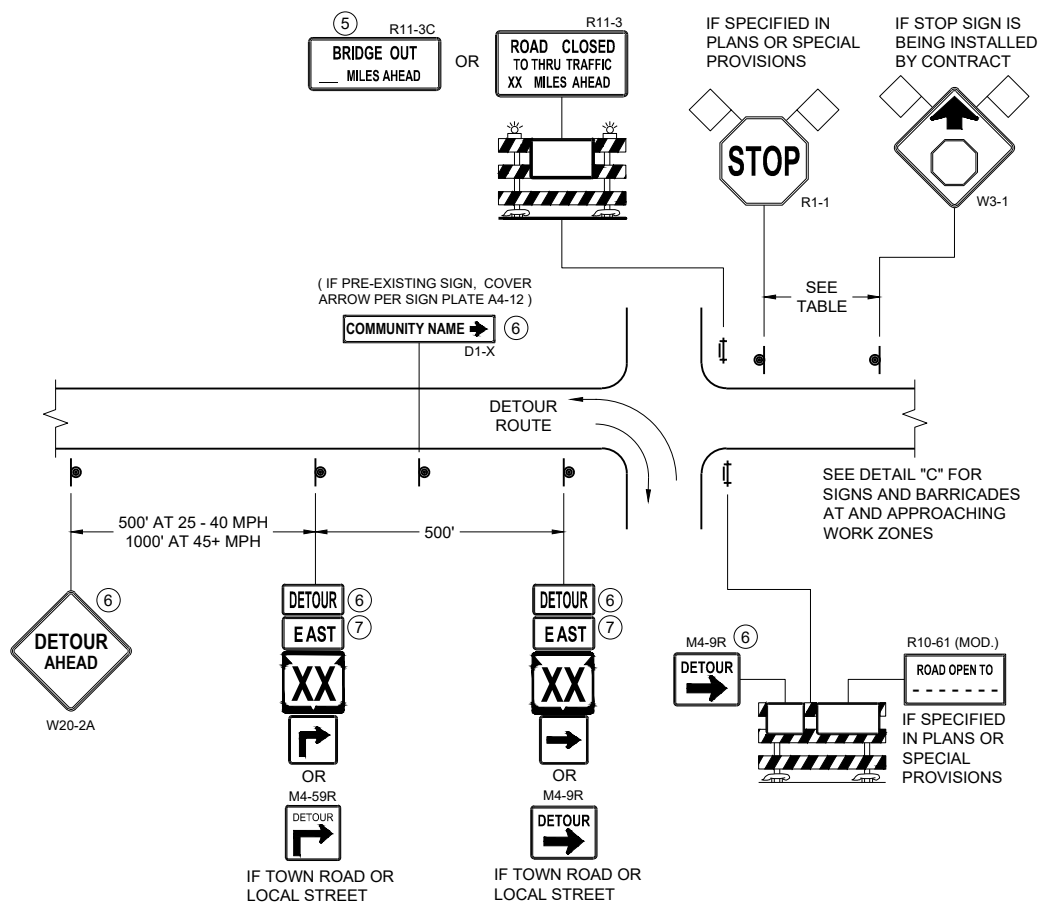
CROSS SECTION  
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST  
FOR CULVERT END

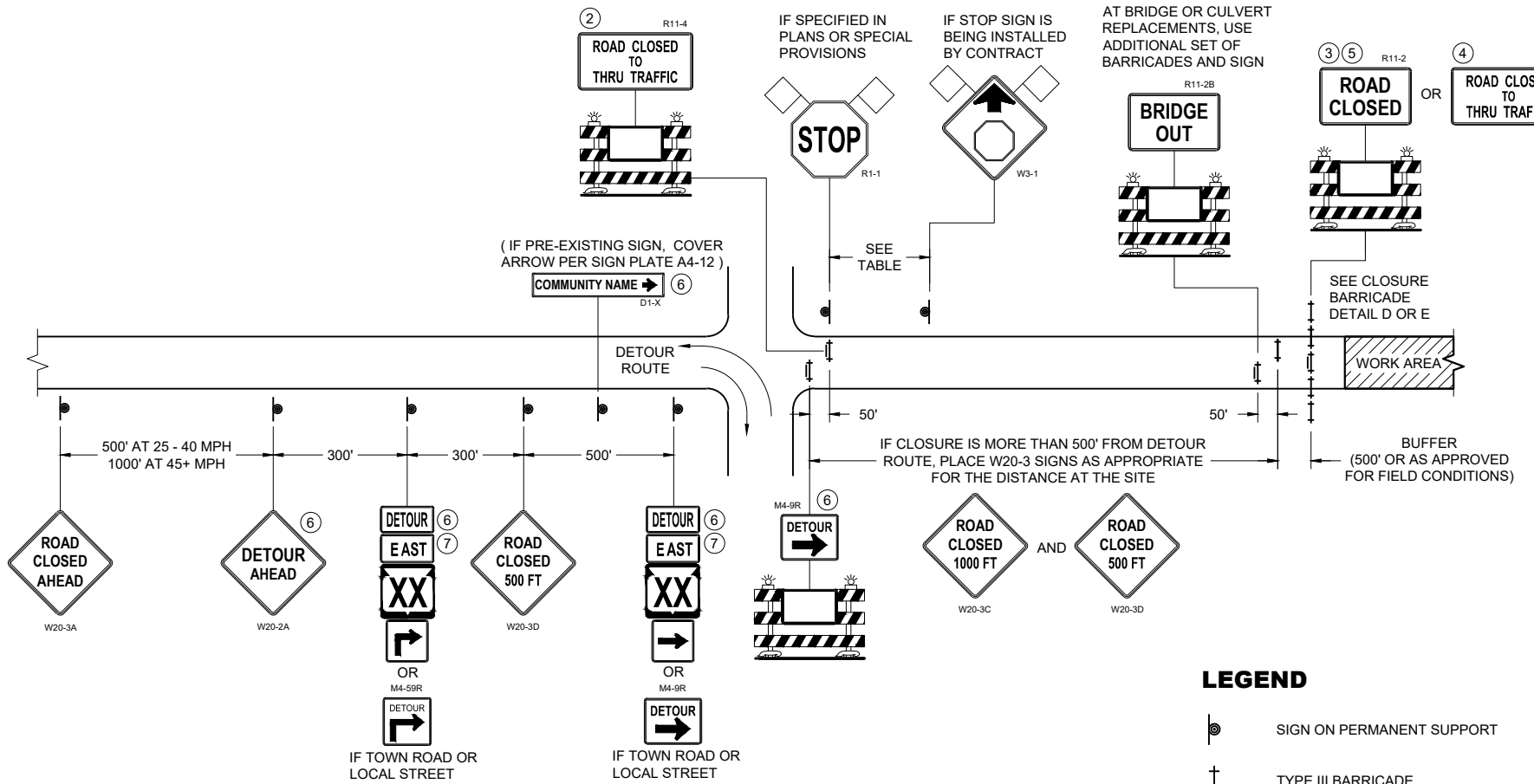
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



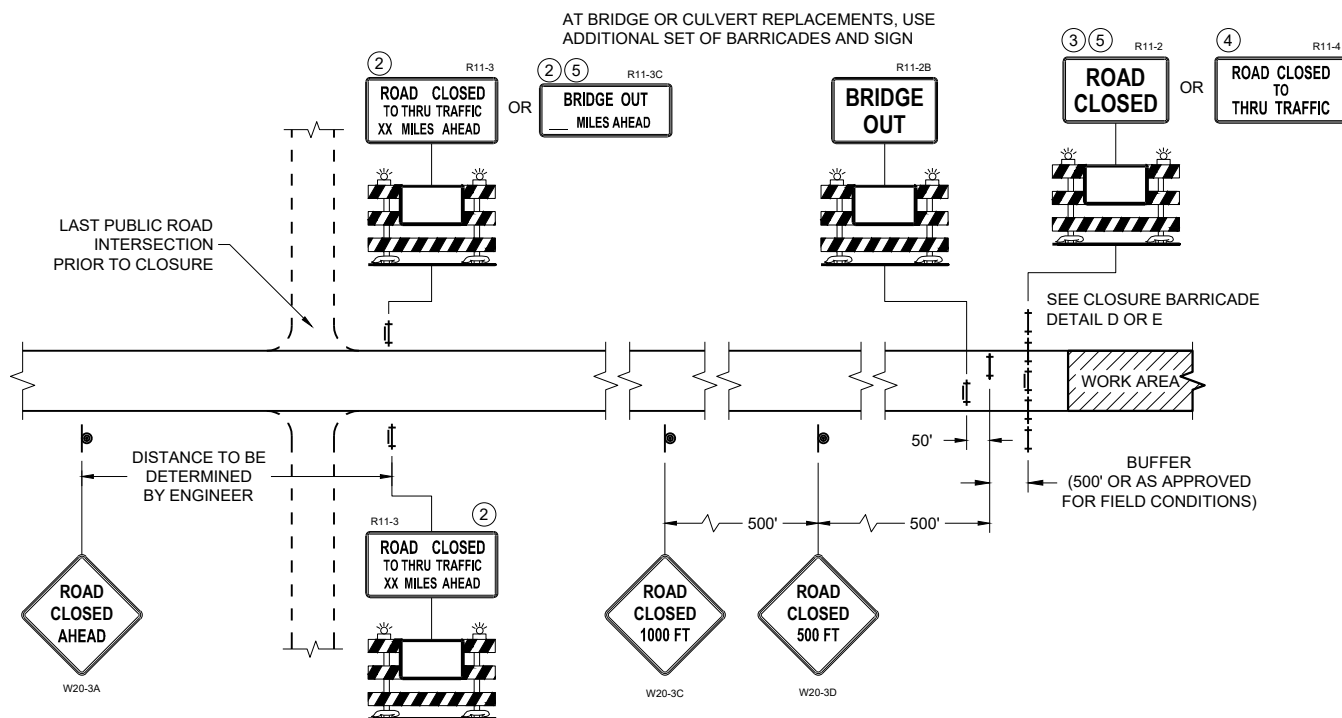
|                                                    |                                                |     |
|----------------------------------------------------|------------------------------------------------|-----|
| <b>FLEXIBLE MARKER POST<br/>FOR CULVERT END</b>    |                                                |     |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                |     |
| APPROVED<br>10/1/2012<br>DATE                      | /S/ Travis Feltes<br>STATE TRAFFIC ENGINEER 36 | IGN |
| FHWA                                               |                                                |     |



**DETAIL A**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )



**DETAIL B**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
WORK ZONE LESS THAN ½ MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )



**DETAIL C**  
**MAINLINE CLOSURE, NO POSTED DETOUR**

| 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

**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)

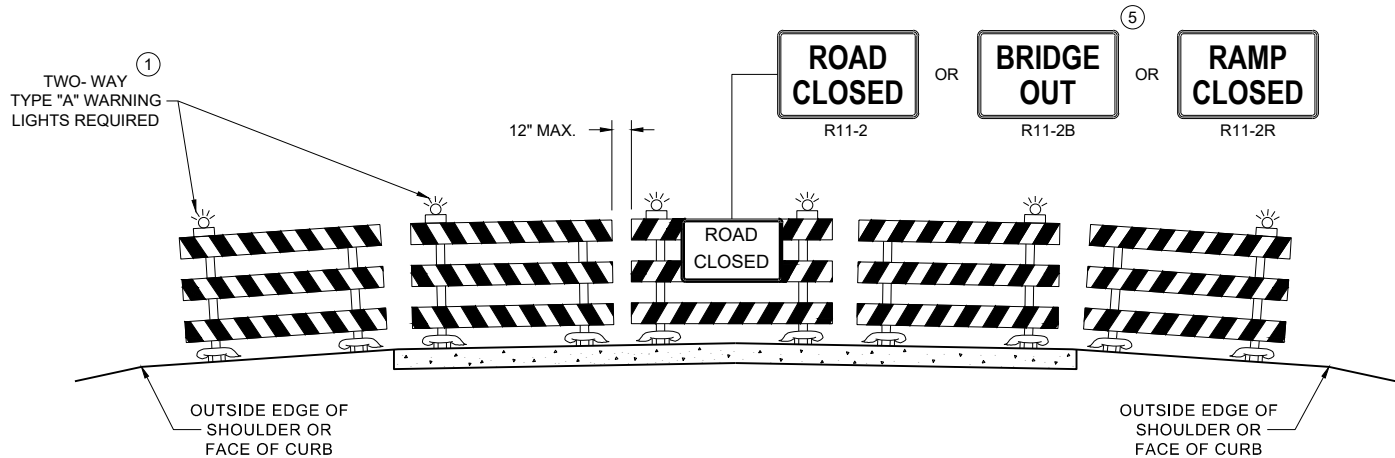
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1

**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

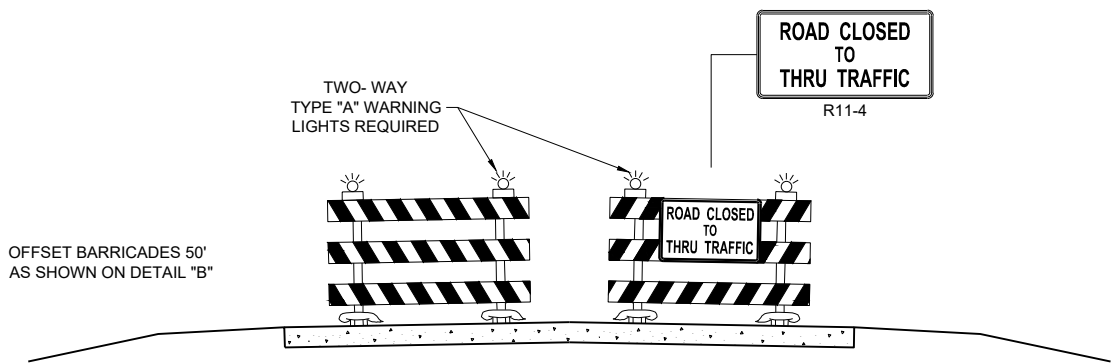
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2025 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



**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.

PARTIAL NUMBERS ON SIGNS SHALL BE DISPLAYED AS A WHOLE NUMBER(AS NEEDED) FOLLOWED BY A FRACTION. SIGNS SHALL NOT DISPLAY NUMBERS IN DECIMAL FORM.

"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"

SIGNS PLACED ON TYPE III BARRICADES THAT ARE SIZES OTHER THAN 48"X30" SHALL HAVE A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE.

- 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.

|                                                          |                                          |
|----------------------------------------------------------|------------------------------------------|
| <b>BARRICADES AND SIGNS<br/>FOR<br/>VARIOUS CLOSURES</b> |                                          |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION       |                                          |
| APPROVED<br>November 2025<br>DATE                        | /S/ Andrew Heidtke<br>WORK ZONE ENGINEER |
| FHWA                                                     |                                          |

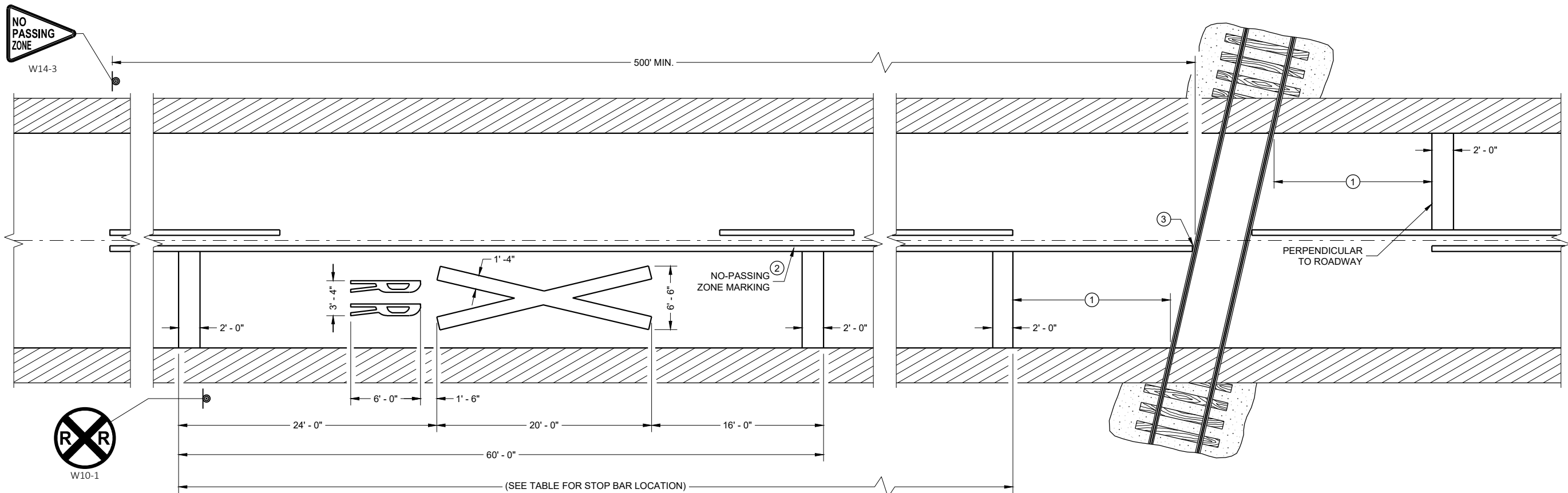


**SDD 15C08-24a**



**SDD 15C08-24a**

40



PAVEMENT MARKING

LEGEND

SIGN ON PERMANENT SUPPORT

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.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

TRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

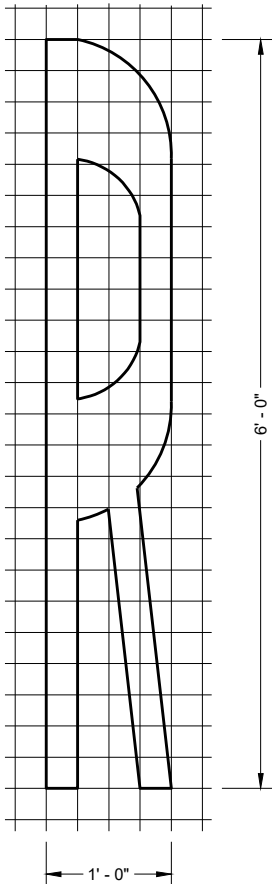
- ① PLACE STOP BAR APPROXIMATELY 8 FEET IN ADVANCE OF THE GATE (IF PRESENT), BUT NO CLOSER THAN 15 FEET IN ADVANCE OF THE NEAREST RAIL. FIELD-FIT STOP BAR TO MAXIMIZE VIEW OF APPROACHING TRAIN.
- ② 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
- ③ FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

DISTANCE TABLE

TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

| POSTED SPEED (M.P.H.) | DIMENSION RANGE (FEET) |
|-----------------------|------------------------|
| 25                    | 150* - 250'            |
| 30                    | 200* - 300'            |
| 35                    | 250* - 450'            |
| 40                    | 300* - 500'            |
| 45                    | 400* - 650'            |
| 50                    | 550* - 800'            |
| 55                    | 750* - 1000'           |
| 60                    | 1000* - 1250'          |
| 65                    | 1000* - 1250'          |

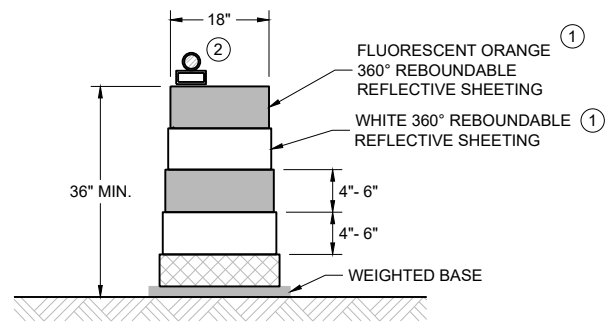
\* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSED PROXIMITY OF DRIVEWAYS, BRIDGES, SIDE ROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.



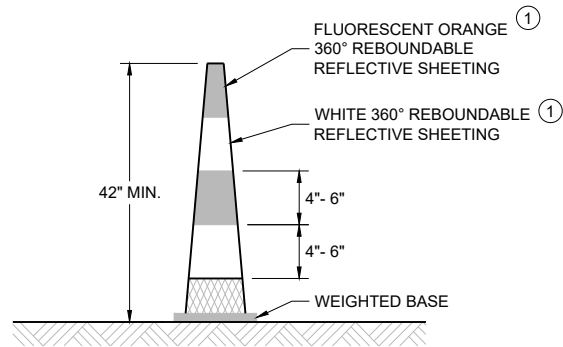
SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD - HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Matthew R. Rauch  
DATE STATE SIGNING AND MAP ENGINEER 41  
FHWA

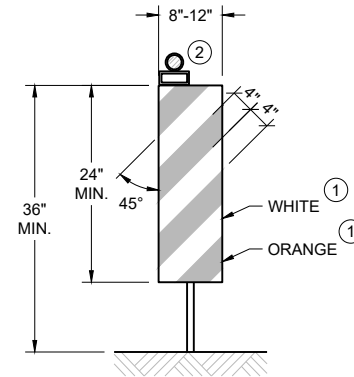
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"

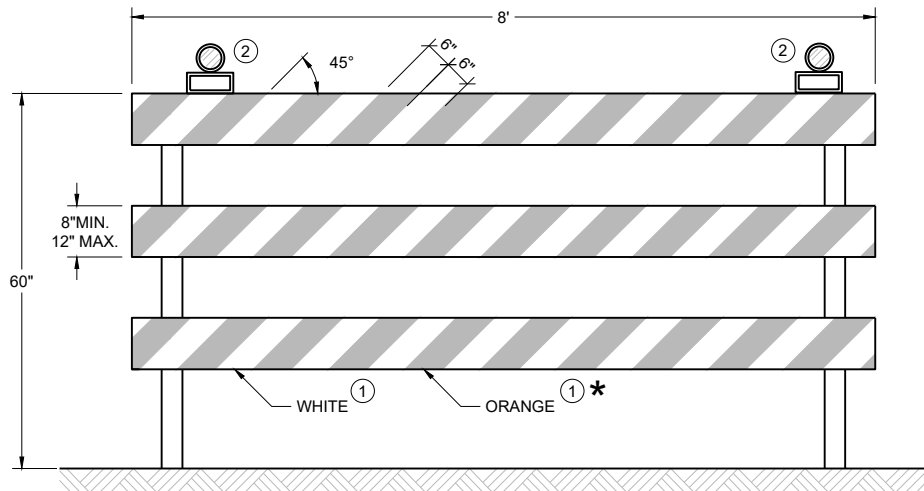
**42" CONE**

DO NOT USE IN TAPERS  
 $\frac{1}{2}$  SPACING OF DRUMS

BALLAST WIDTHS  
RANGE FROM 14"-20"

**VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO  
THE TRAFFIC SIDE FOR CHANNELIZATION.

**TYPE III BARRICADE**

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP  
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

\* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

**GENERAL NOTES**

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

**CHANNELIZING DEVICES  
DRUMS, CONES, BARRICADES  
AND VERTICAL PANELS**

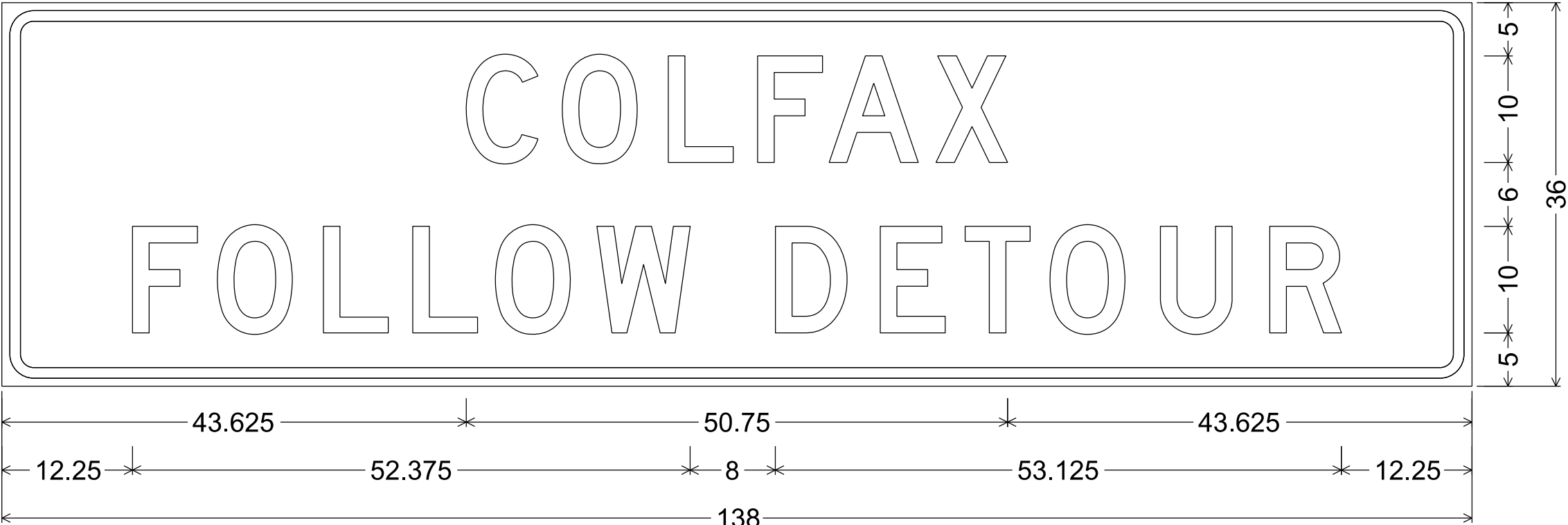
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2026 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER  
FHWA

7

NOTES

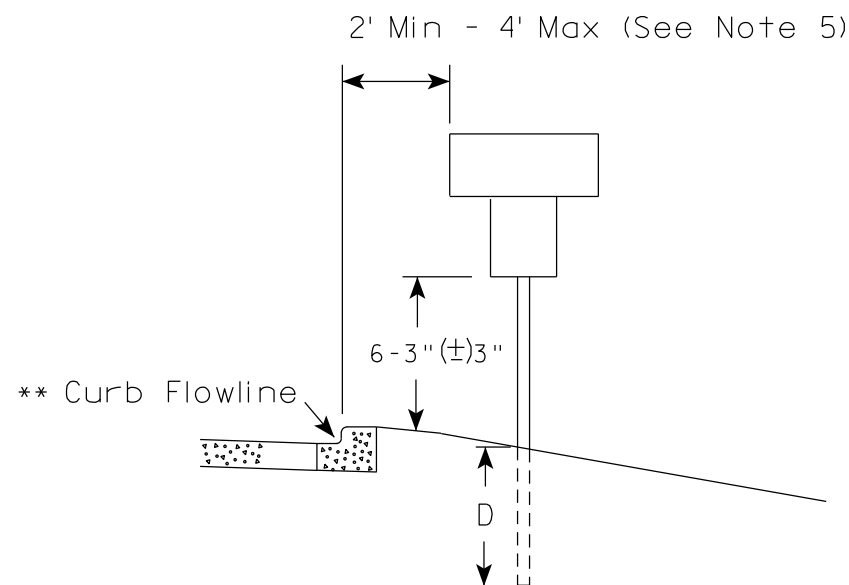
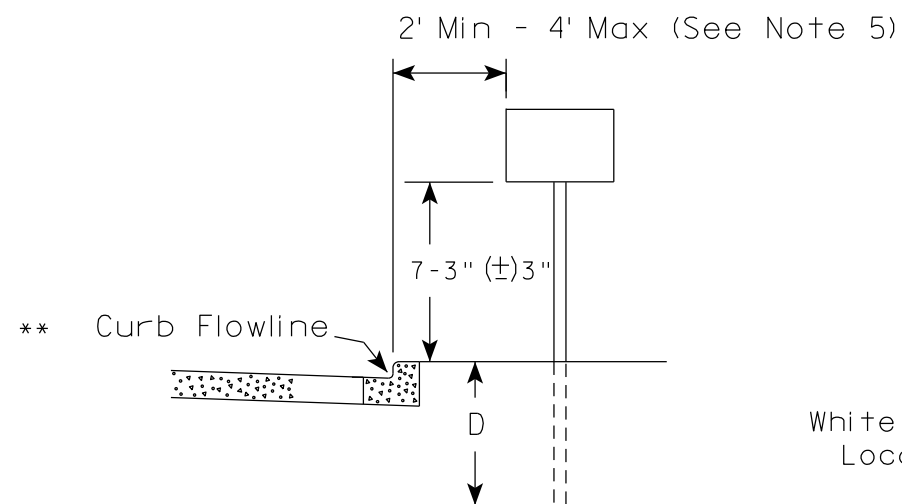
- 1. Fixed Message Sign Type II- Type F Reflective
- 2. Color:  
Background - Orange  
Message - Black
- 3. Message Series - D



3.000" Radius, 1.000" Border, 0.750" Indent

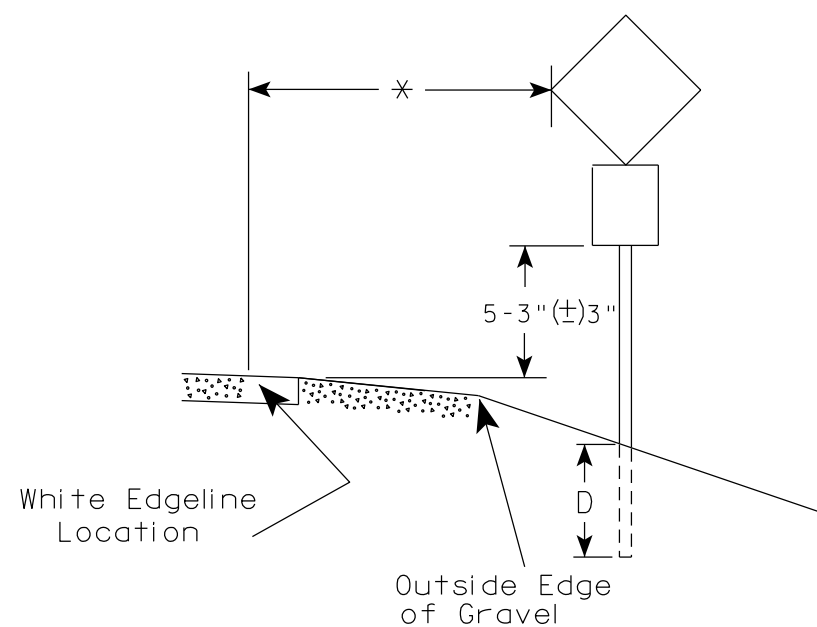
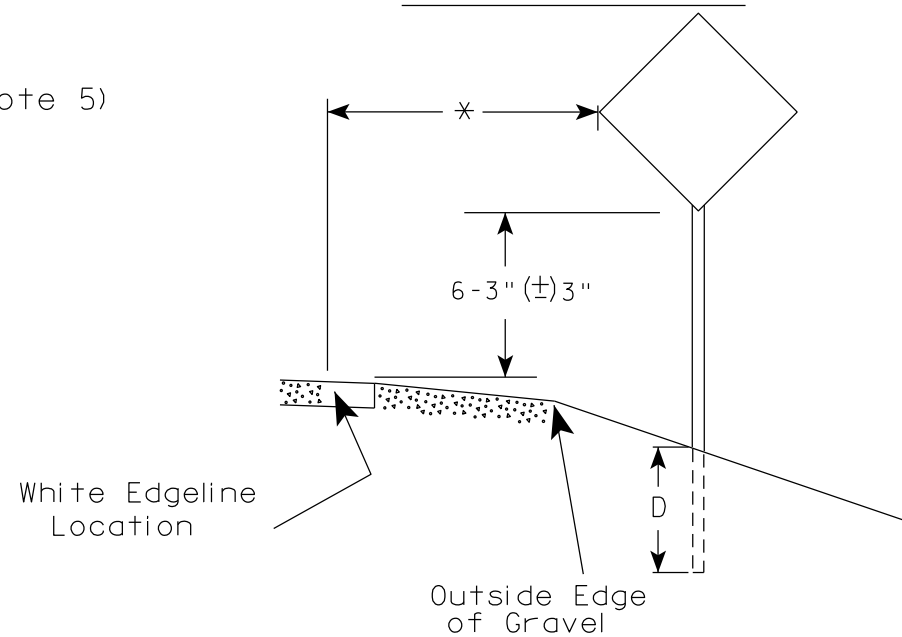
7

## URBAN AREA



\* \* 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.

## RURAL AREA (See Note 2)



\* 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.

## 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 or behind barrier wall, see A4-10 sign plate.  
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 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" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

### POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/6/23

PLATE NO. A4-3.23

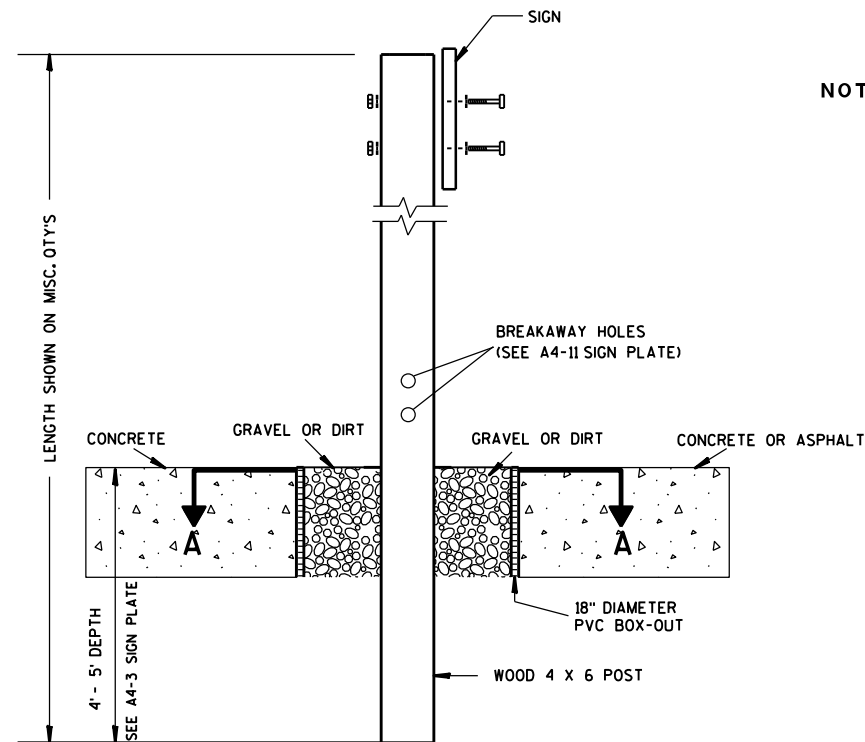
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 44

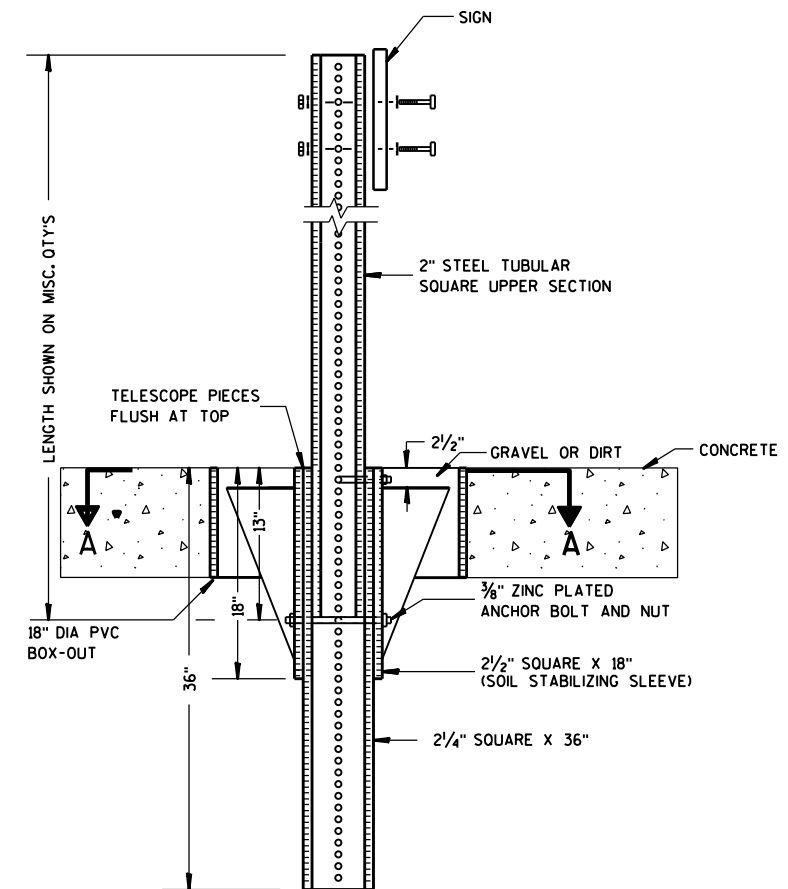
E



### ELEVATION VIEW

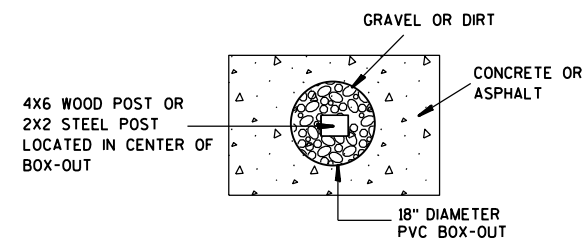
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 45 A4-3B.1

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

GENERAL NOTES

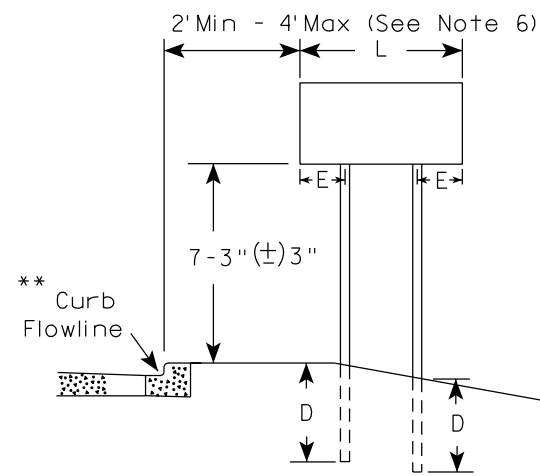
- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- J-Assemblies are considered to be one sign for mounting height.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 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" (±) 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.

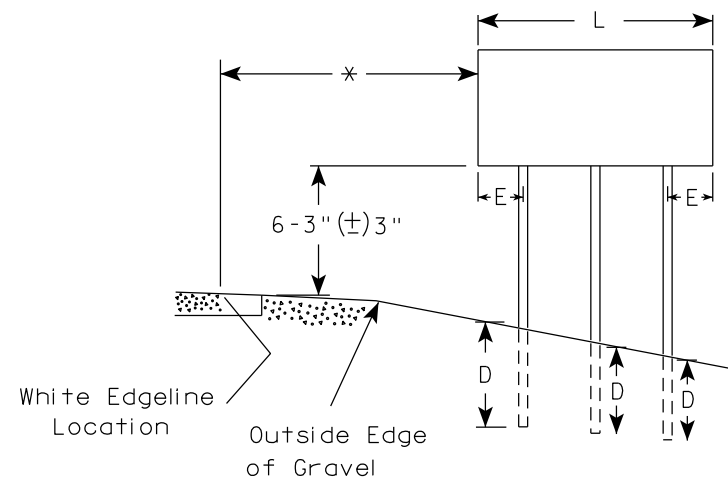
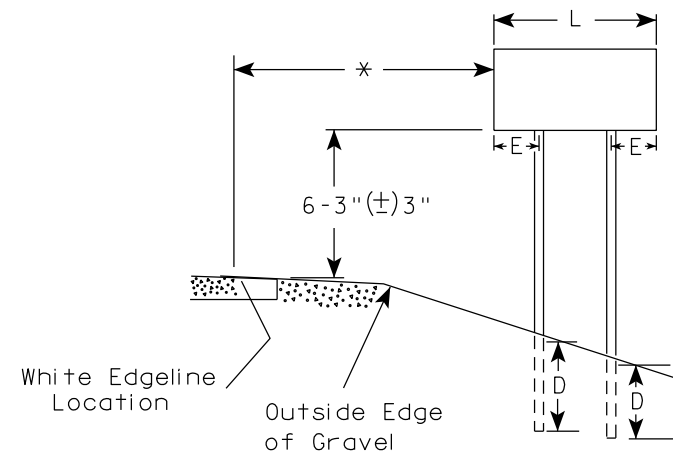
\*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of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

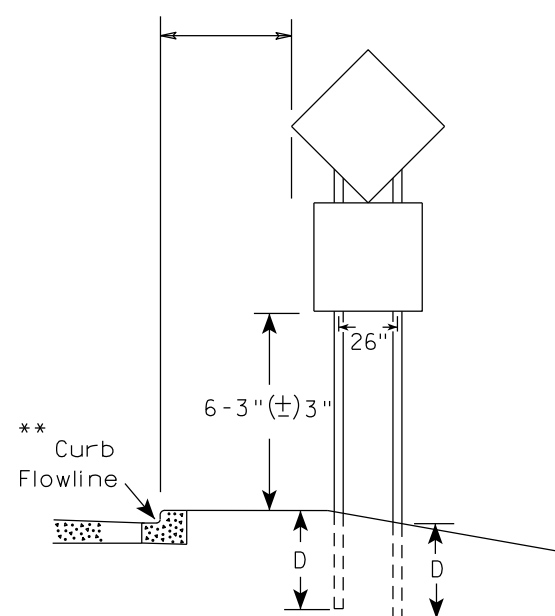
URBAN AREA



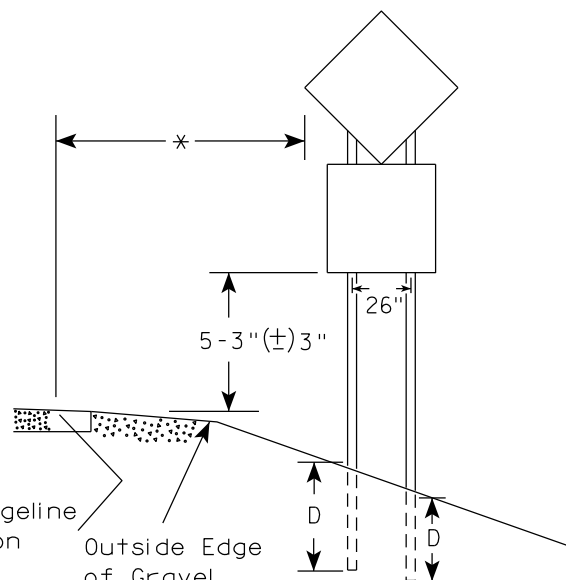
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



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 12/6/23 PLATE NO. A4-4.16

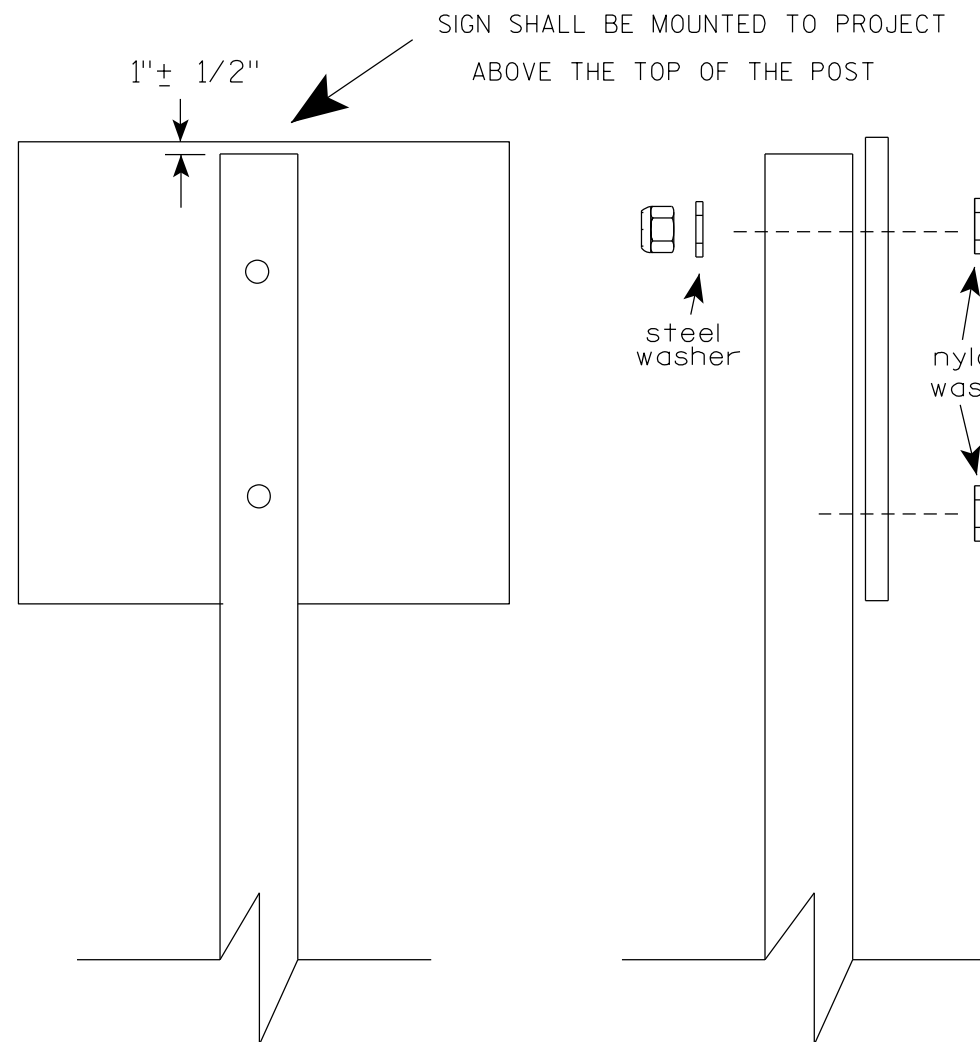
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 46

E



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.

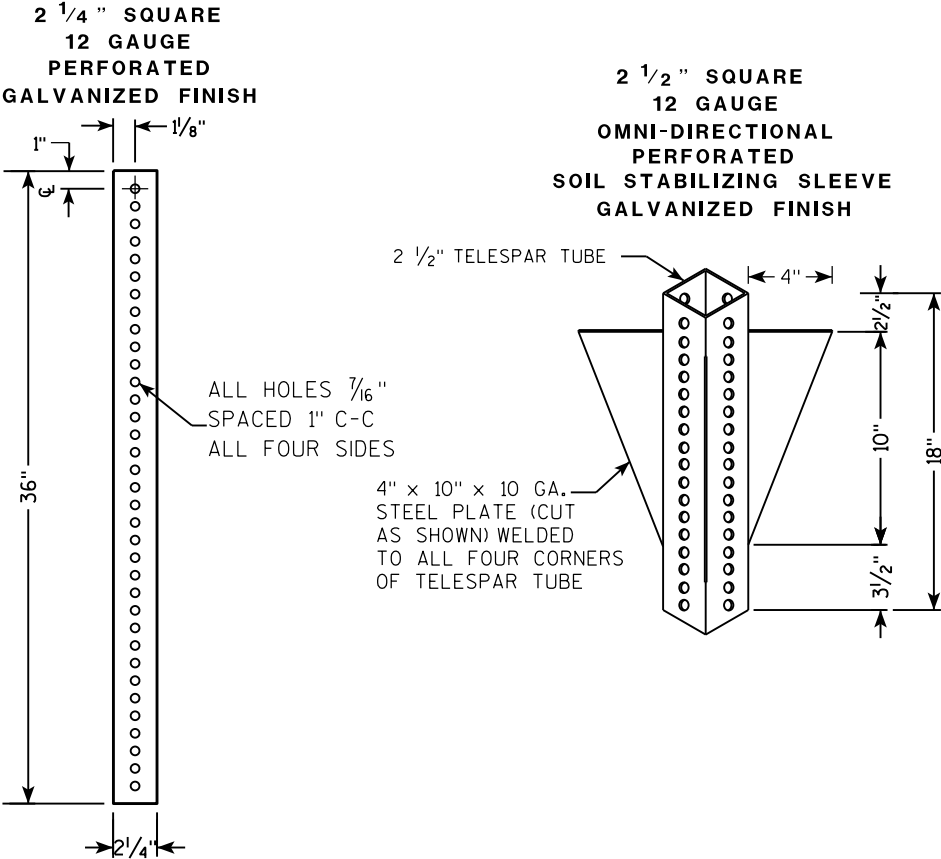
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS -  $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS -  $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)  
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS -  $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)  
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS -  $\frac{9}{32}$ " (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  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X .080 NYLON

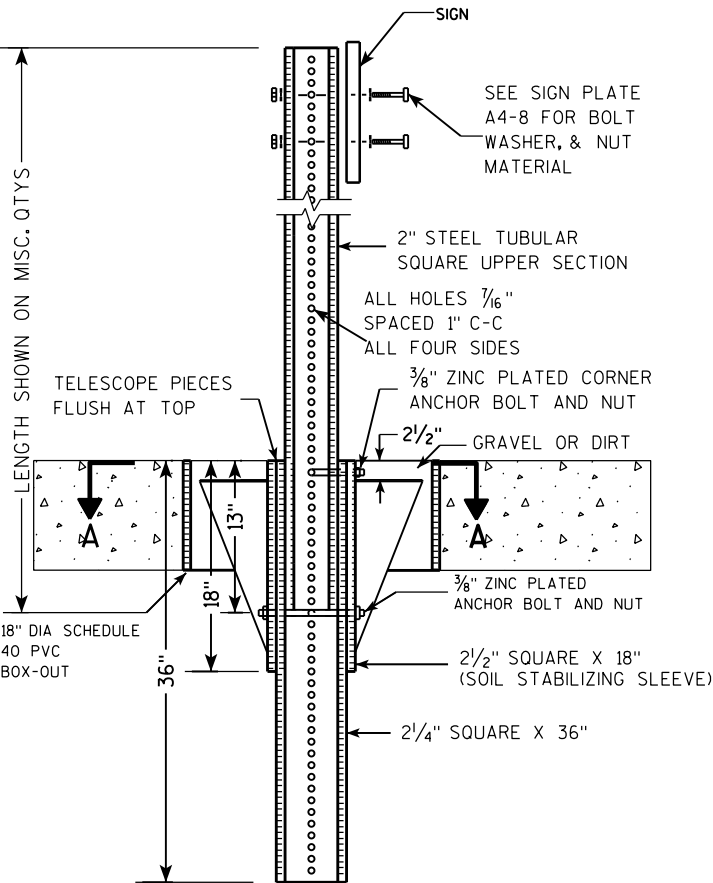
\* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| ATTACHMENT OF SIGNS<br>TO POSTS  |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION |                                                       |
| APPROVED                         | <i>Matthew R. Rauch</i><br>For State Traffic Engineer |
| DATE 4/1/2020                    | PLATE NO. A4-8.9                                      |

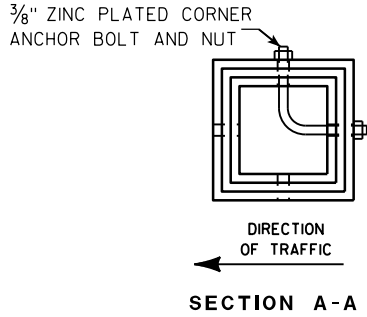
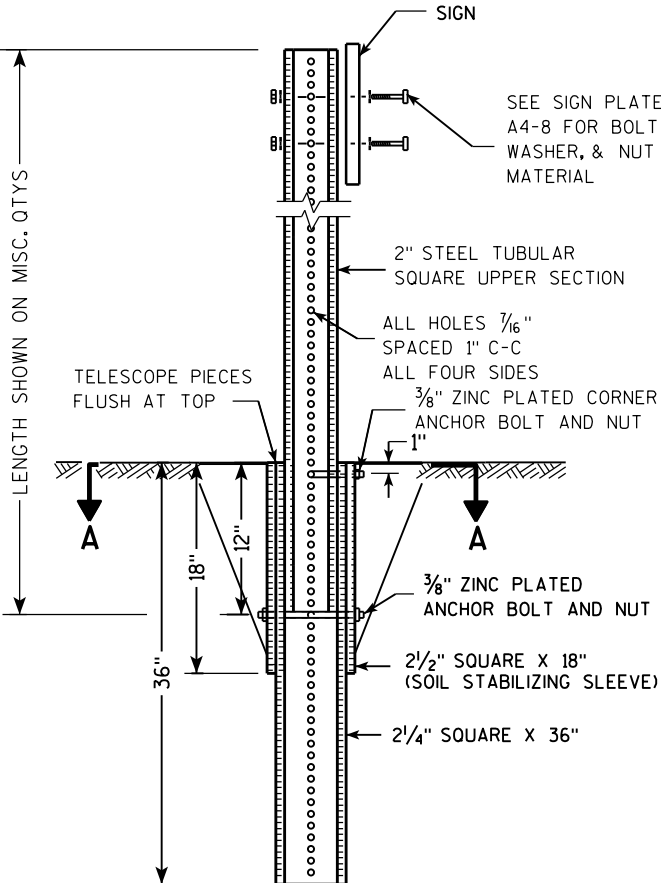
TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM



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                        |

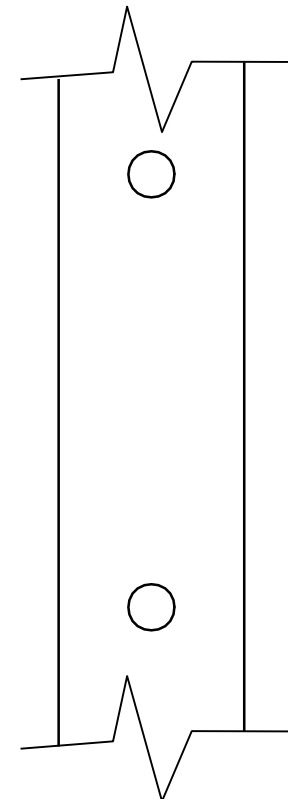
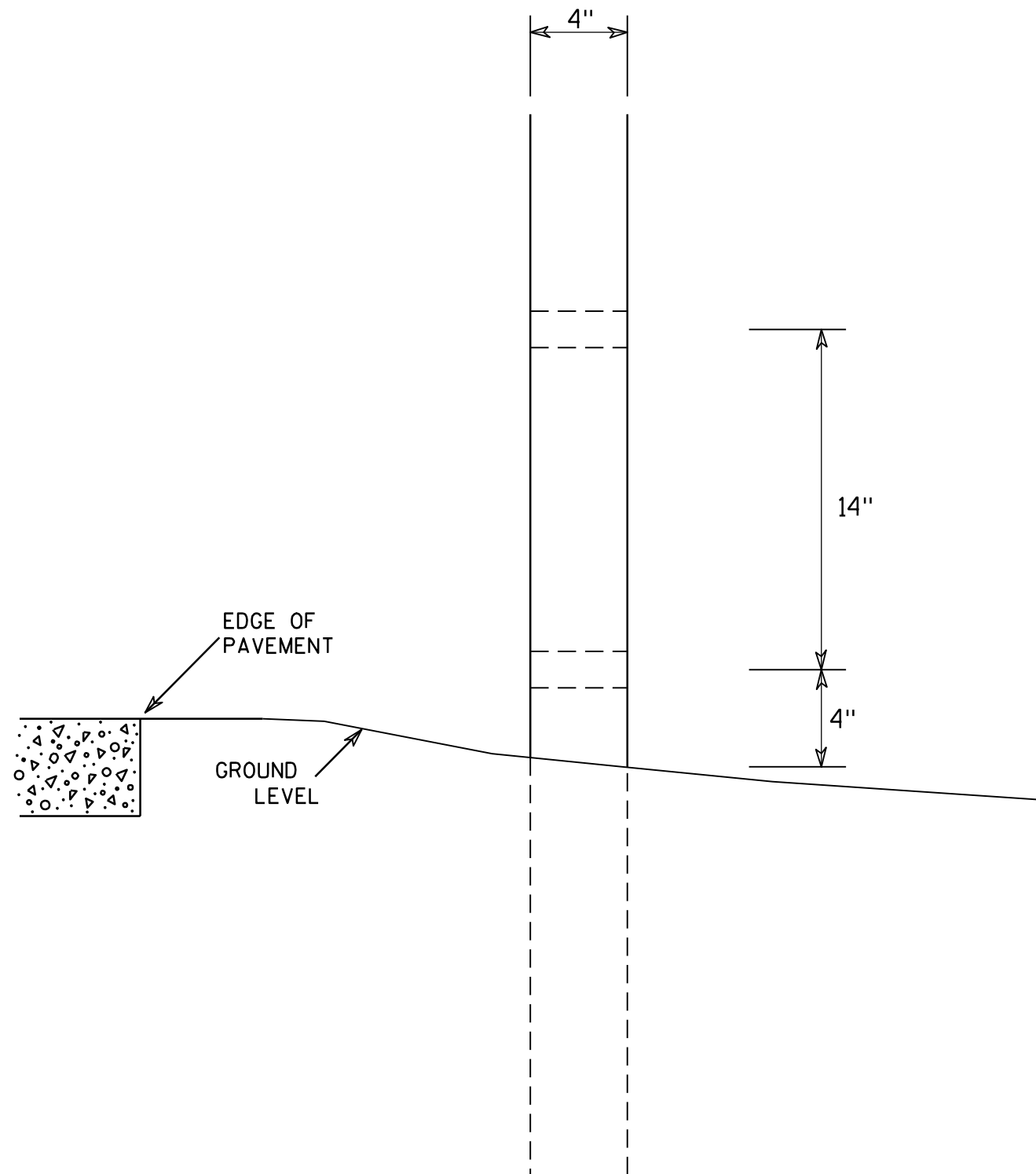
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL  
SIGN POST  
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/05/15 PLAT 48 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:

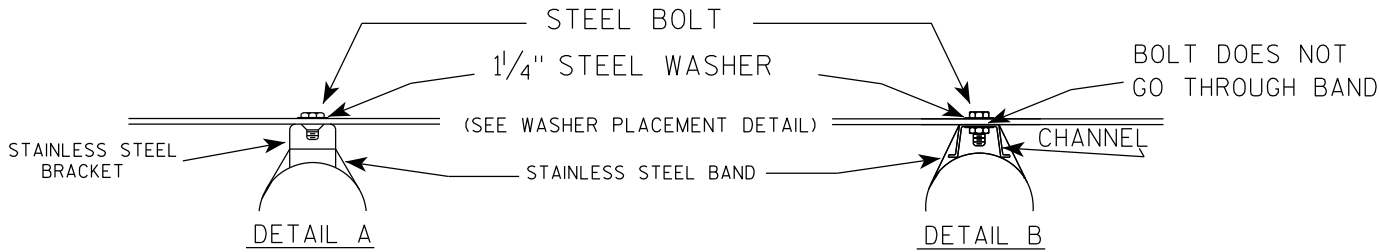
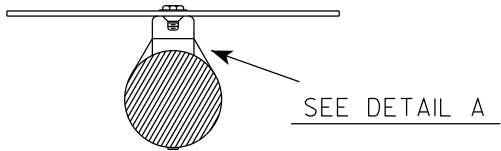
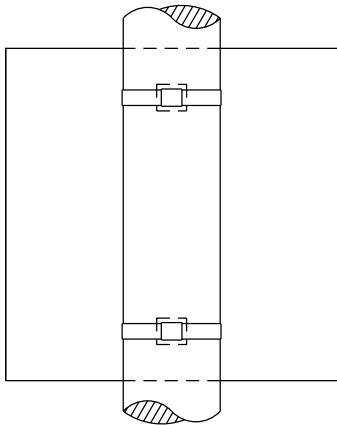
COUNTY:

SHEET NO: 49

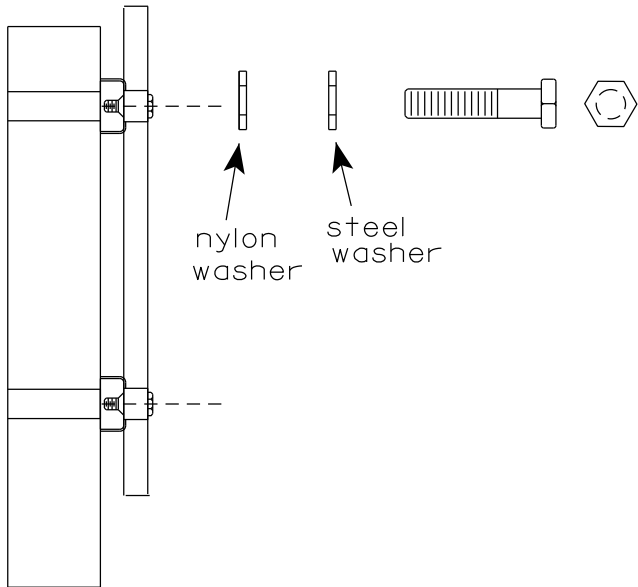
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

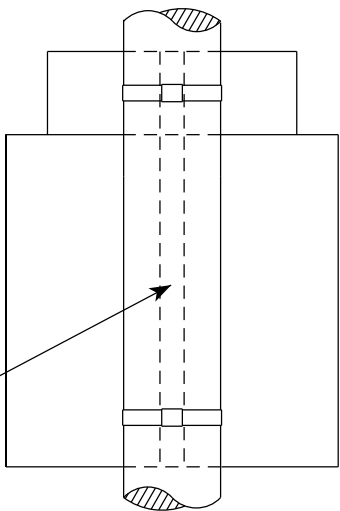


WASHERS (ALL POSTS) -  
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

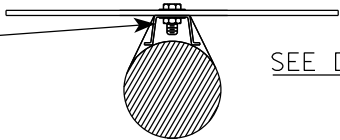
GENERAL NOTES

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



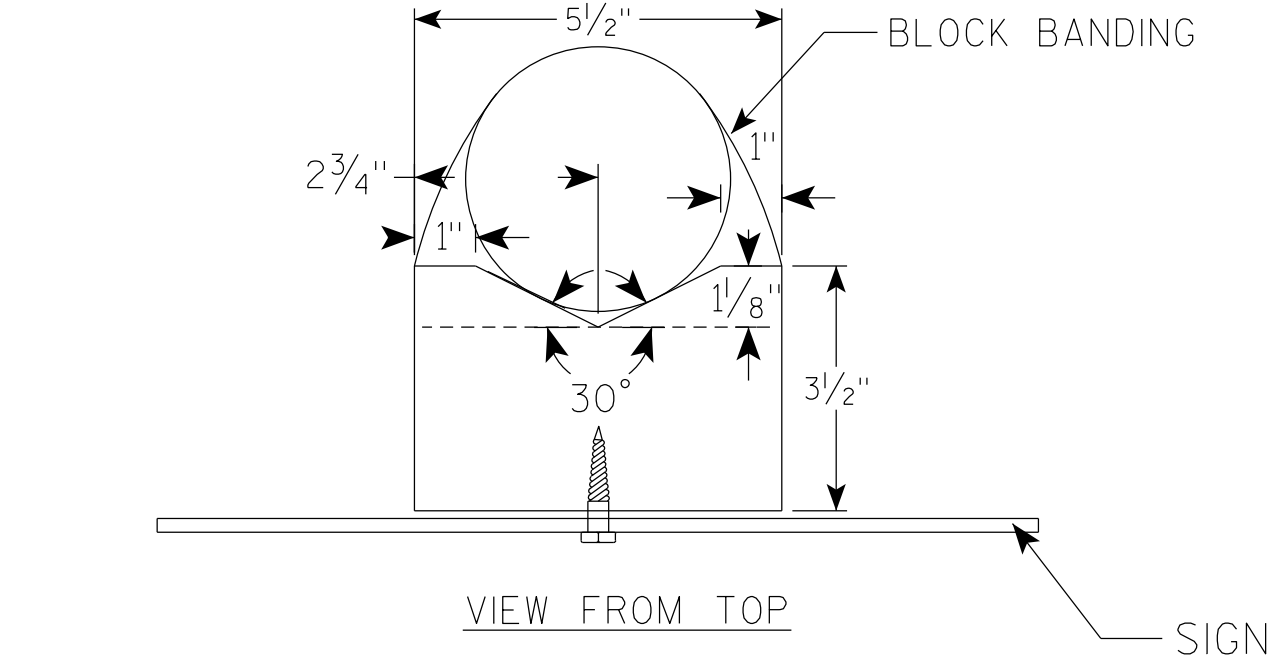
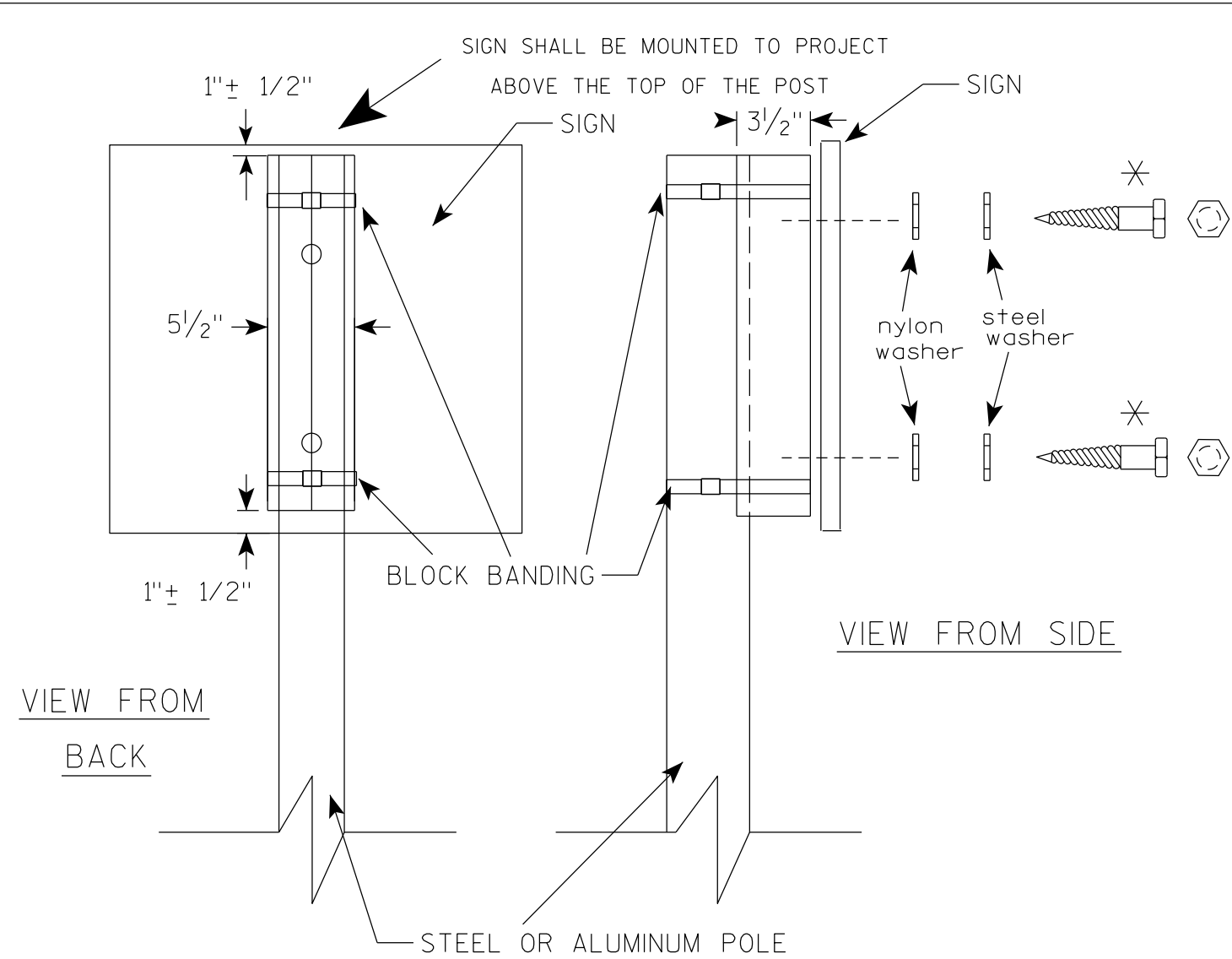
CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



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



## 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  $\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE  $\frac{1}{4}$ " 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

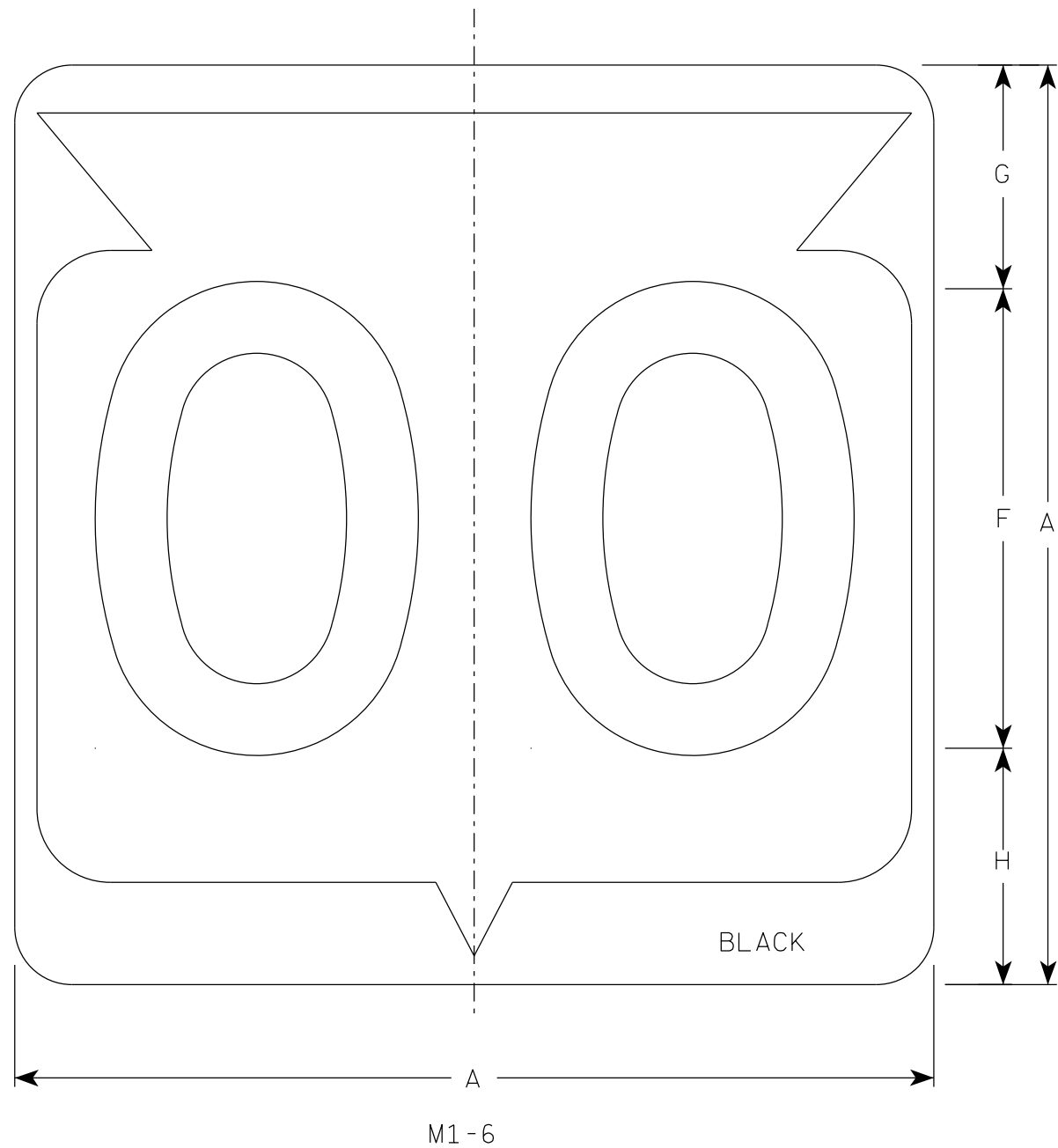
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 51

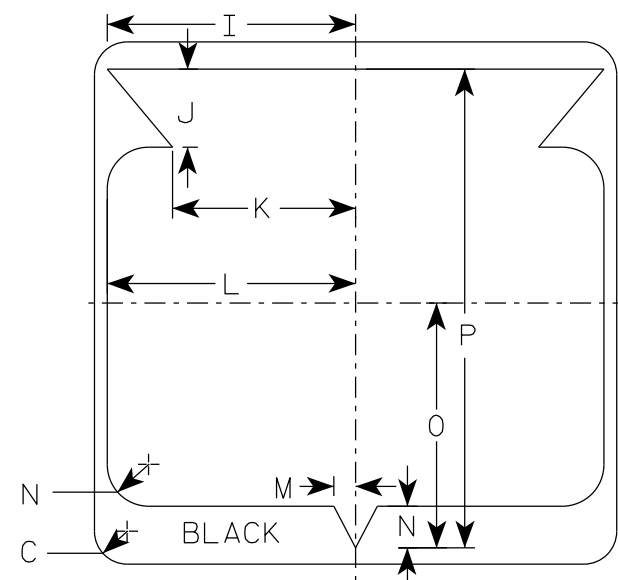
E

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



| 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             |
| 2M   | 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             |

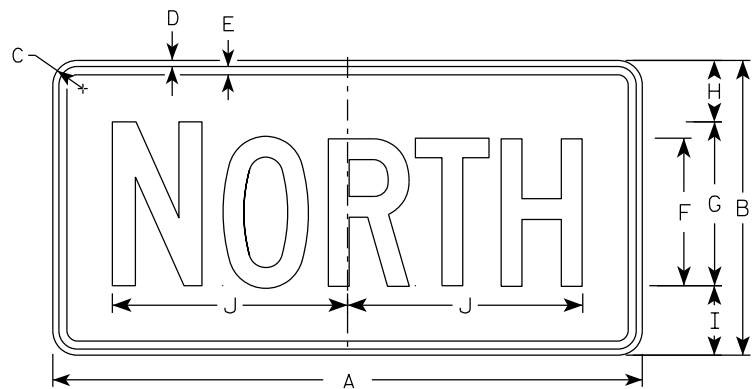
STATE ROUTE MARKER  
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

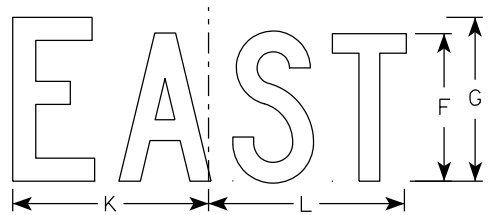
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

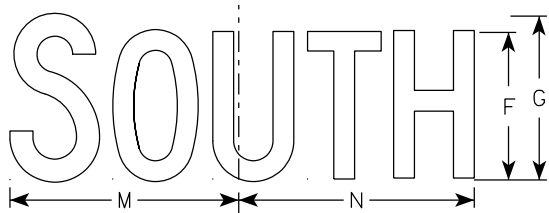
7



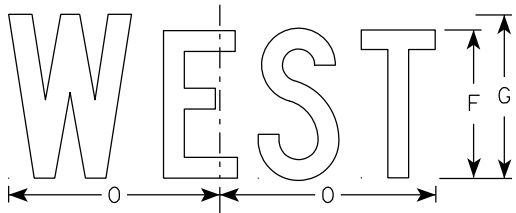
M3-1  
MM3-1  
MP3-1



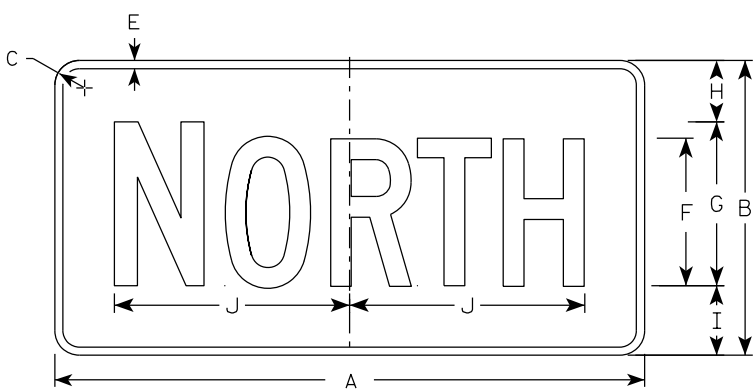
M3-2  
MM3-2  
MP3-2



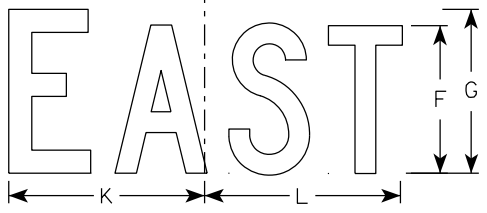
M3-3  
MM3-3  
MP3-3



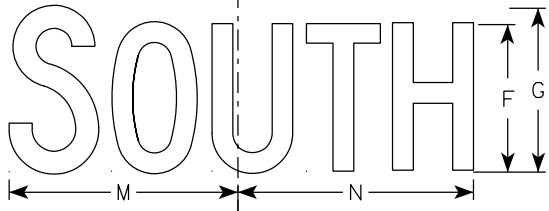
M3-4  
MM3-4  
MP3-4



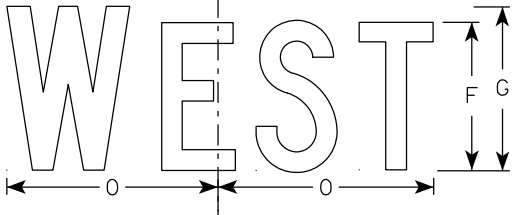
MB3-1  
MK3-1  
MN3-1



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 Reflective
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    |    |    |       |     |     |   |    |       |       |        |       |        |        |        |       |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 24 | 12 | 1 1/2 | 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 |   |   |   |   |   |   |   |   |   |   |   | 2.00            |
| 2M   | 24 | 12 | 1 1/2 | 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 |   |   |   |   |   |   |   |   |   |   |   | 2.00            |
| 3    | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12    | 12 1/8 | 14     | 14 1/8 | 13    |   |   |   |   |   |   |   |   |   |   |   | 4.5             |
| 4    | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12    | 12 1/8 | 14     | 14 1/8 | 13    |   |   |   |   |   |   |   |   |   |   |   | 4.5             |
| 5    | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12    | 12 1/8 | 14     | 14 1/8 | 13    |   |   |   |   |   |   |   |   |   |   |   | 4.5             |

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 53

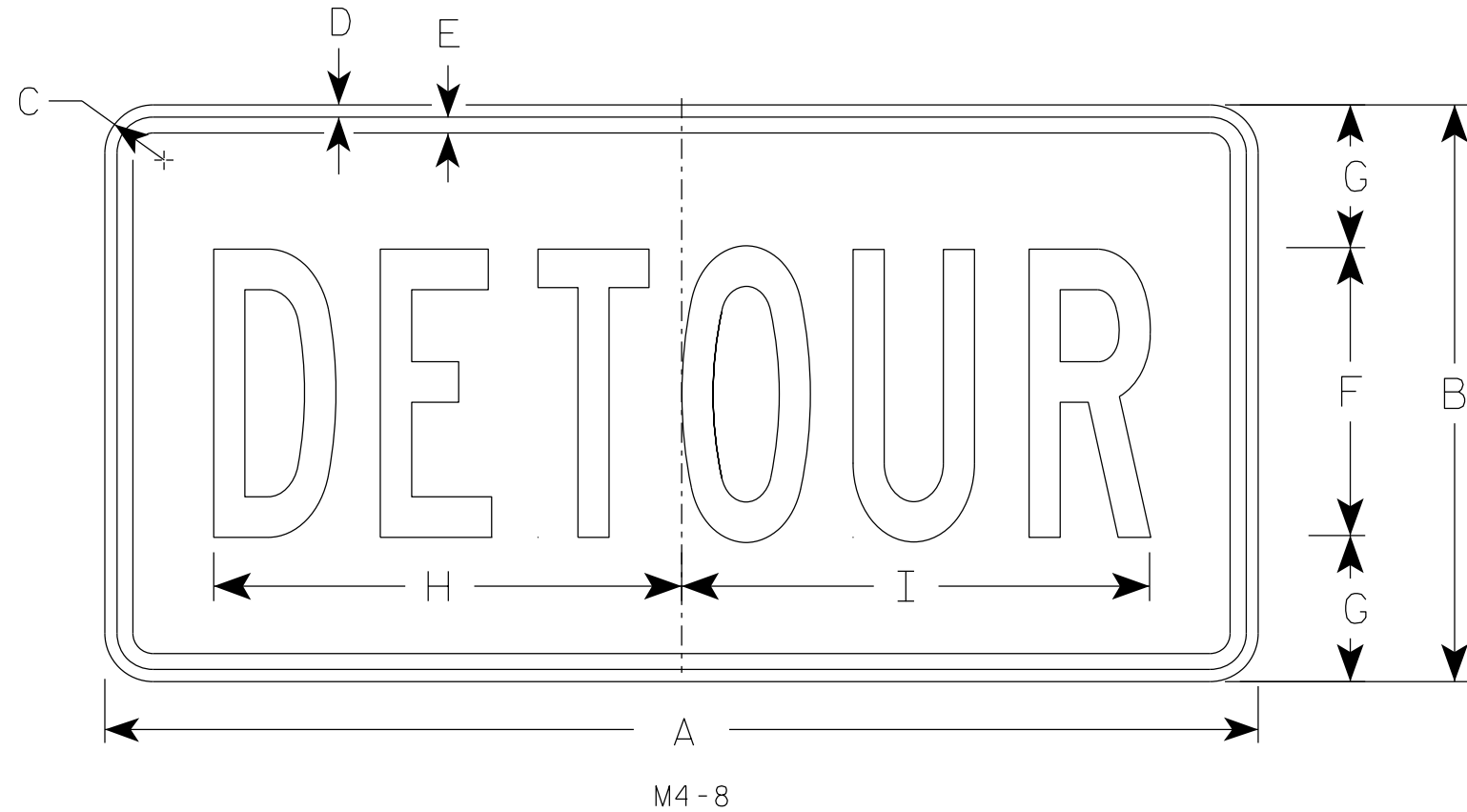
E

7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 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.



| 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 1/2 | 3/8 | 3/8 | 6 | 3     | 10     | 10 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.0             |
| 2M   | 24 | 12 | 1 1/2 | 3/8 | 3/8 | 6 | 3     | 10     | 10 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.0             |
| 3    | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.5             |
| 4    | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.5             |
| 5    | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.5             |

STANDARD SIGN

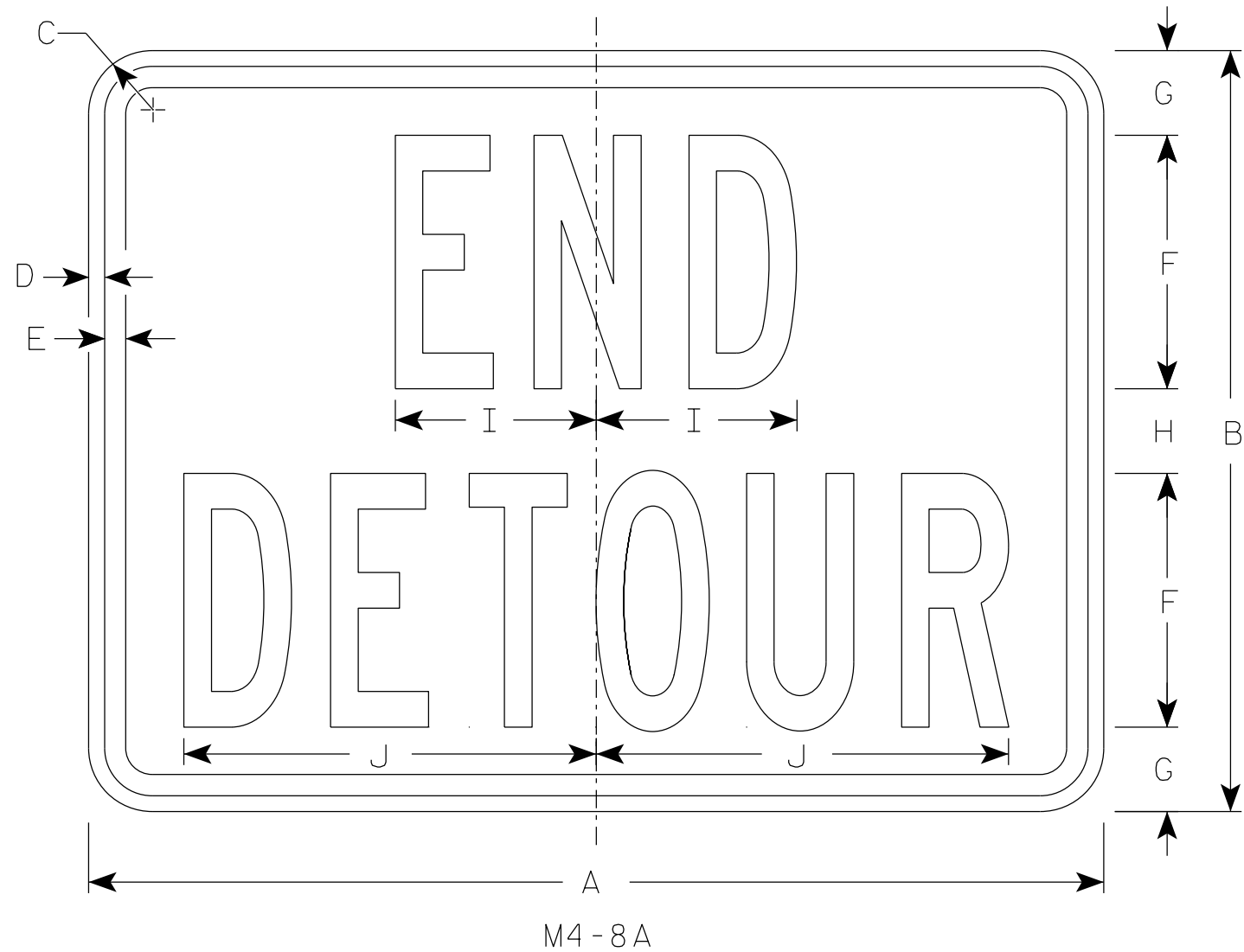
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

7



NOTES

- 1. Sign is Type II - Type F Reflective
- 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 1/2 | 3/8 | 1/2 | 6 | 2     | 2 | 4 3/4 | 9 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 2M   | 24 | 18 | 1 1/2 | 3/8 | 1/2 | 6 | 2     | 2 | 4 3/4 | 9 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 3    | 30 | 24 | 1 1/2 | 3/8 | 1/2 | 8 | 2 1/2 | 3 | 6 3/4 | 13    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.0             |
| 4    | 30 | 24 | 1 1/2 | 3/8 | 1/2 | 8 | 2 1/2 | 3 | 6 3/4 | 13    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.0             |
| 5    | 30 | 24 | 1 1/2 | 3/8 | 1/2 | 8 | 2 1/2 | 3 | 6 3/4 | 13    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.0             |

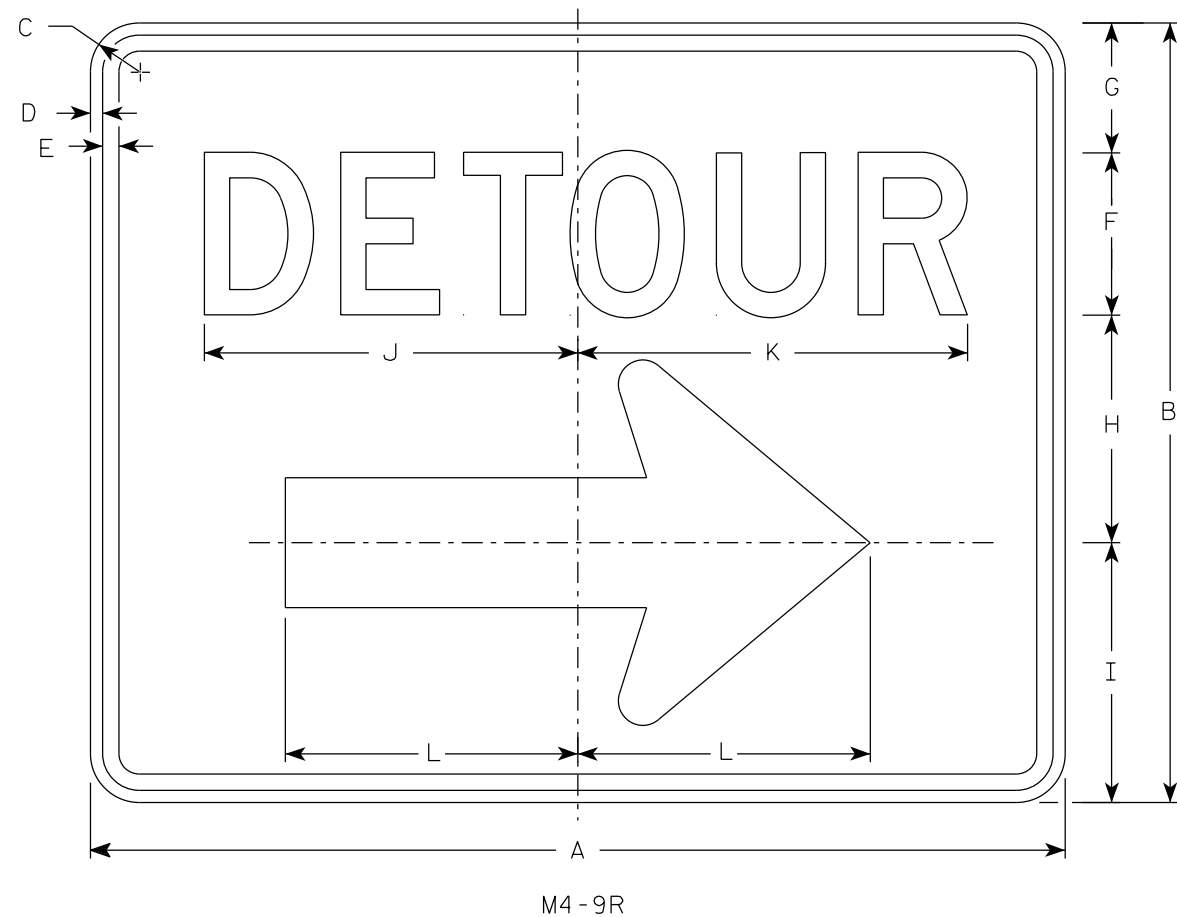
STANDARD SIGN

M4-8A

WISCONSIN DEPT OF TRANSPORTATION

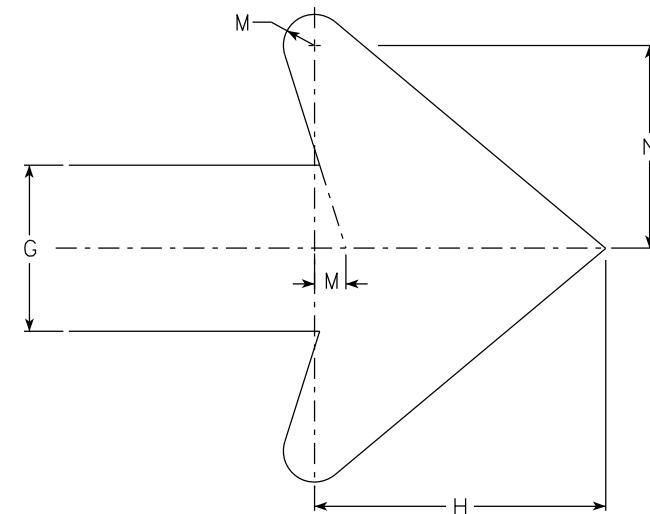
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4



NOTES

1. Sign is Type II - Type F Reflective
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.
4. M4-9L is the same as M4-9R except the arrow is reversed.



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    |    |    |       |     |     |   |   |        |        |        |        |        |       |       |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2    | 30 | 24 | 1 1/2 | 3/8 | 1/2 | 5 | 4 | 7      | 8      | 11 1/2 | 12     | 9      | 3/4   | 4 7/8 |   |   |   |   |   |   |   |   |   |   |   |   | 5.00            |
| 2M   | 30 | 24 | 1 1/2 | 3/8 | 1/2 | 5 | 4 | 7      | 8      | 11 1/2 | 12     | 9      | 3/4   | 4 7/8 |   |   |   |   |   |   |   |   |   |   |   |   | 5.00            |
| 3    | 30 | 24 | 1 1/2 | 3/8 | 1/2 | 5 | 4 | 7      | 8      | 11 1/2 | 12     | 9      | 3/4   | 4 7/8 |   |   |   |   |   |   |   |   |   |   |   |   | 5.00            |
| 4    | 48 | 36 | 1 7/8 | 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 7/8 | 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 2/9/2023 PLATE NO. M4-9R.6

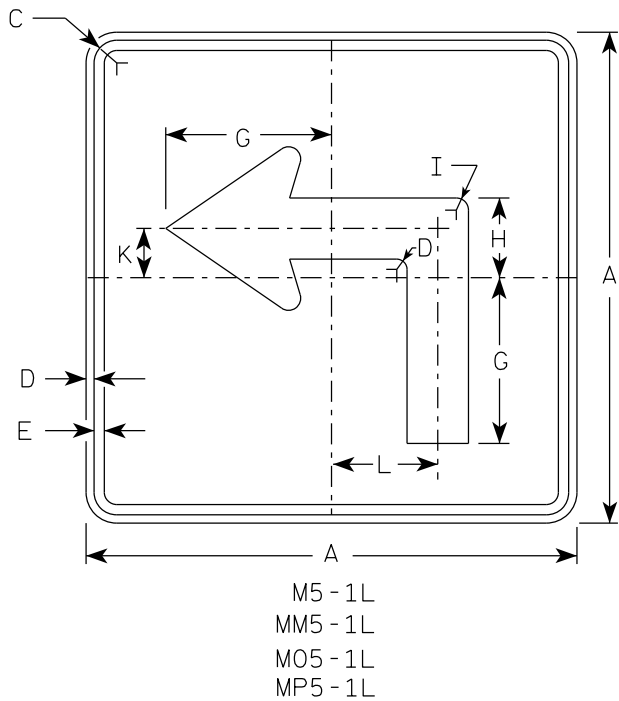
PROJECT NO:

HWY:

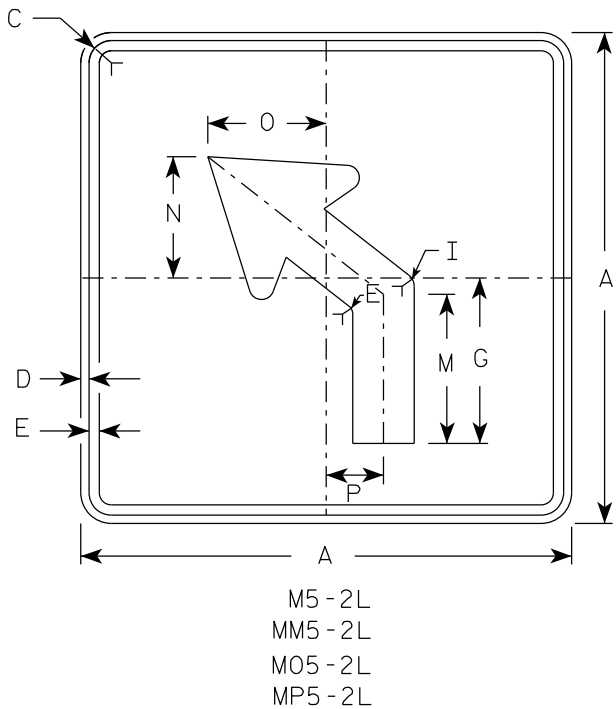
COUNTY:

SHEET NO:

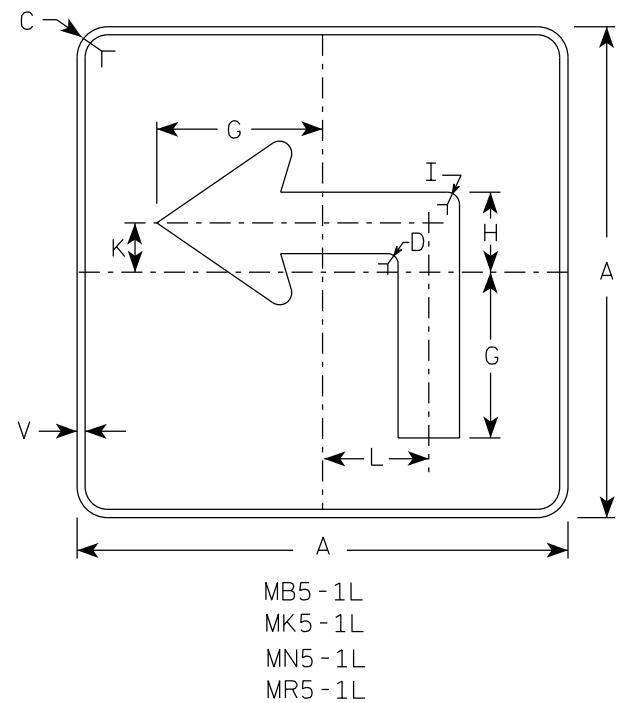
E



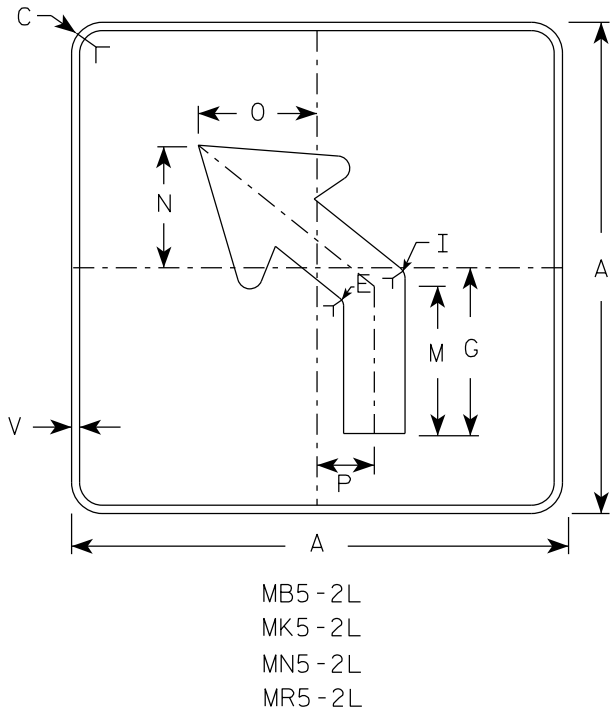
M5-1L  
MM5-1L  
M05-1L  
MP5-1L



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



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

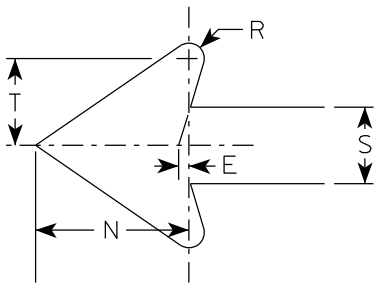


MB5-2L  
MK5-2L  
MN5-2L  
MR5-2L

NOTES

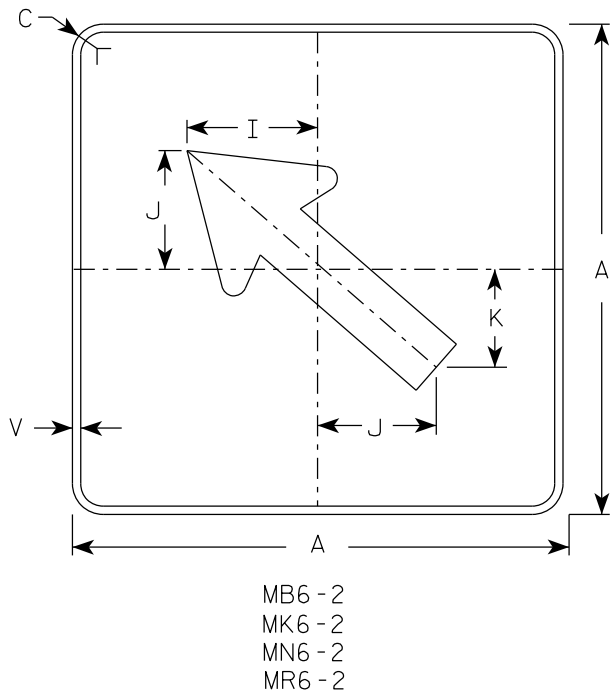
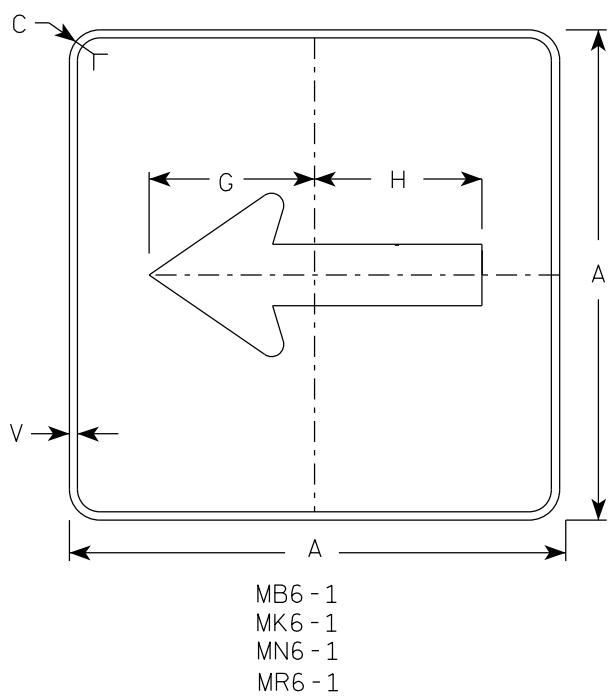
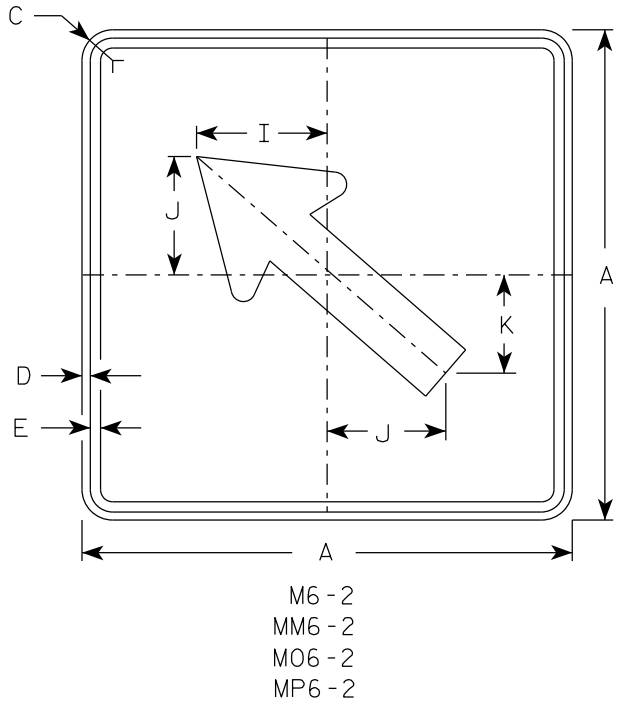
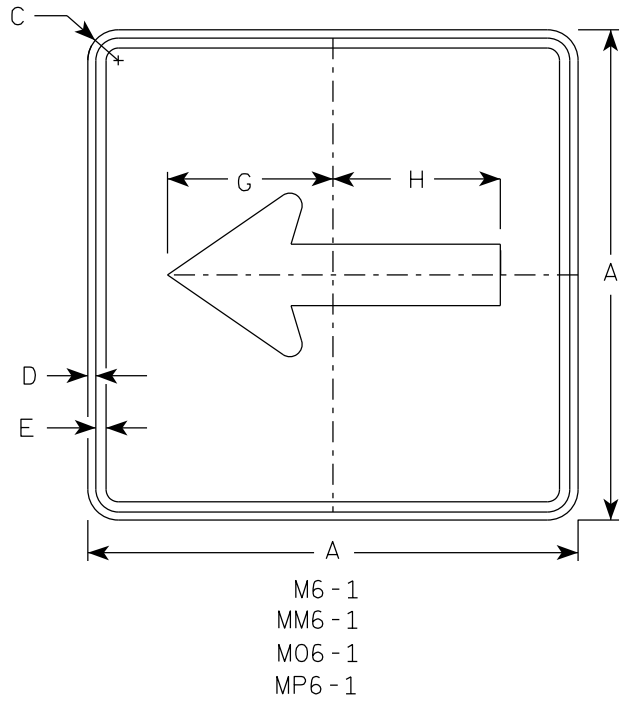
- Signs are Type II - Type H reflective except as shown
- Color:  
Background - See note 4  
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- |           |       |                                         |
|-----------|-------|-----------------------------------------|
| 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                      |
|           |       | 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.

ARROW DETAIL

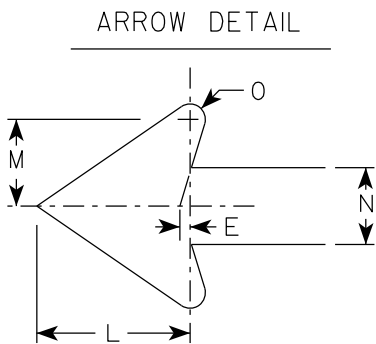


| SIZE | A  | B | C     | D   | E   | F | G      | H     | I   | J | K     | L     | M     | N     | O     | P     | Q | R   | S     | T     | U | V   | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|---|--------|-------|-----|---|-------|-------|-------|-------|-------|-------|---|-----|-------|-------|---|-----|---|---|---|---|---------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

|             |      |         |              |   |
|-------------|------|---------|--------------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: 57 | E |
|-------------|------|---------|--------------|---|



- 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.
  - 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    |    |   |       |     |     |   |        |        |       |       |       |       |       |       |     |   |   |   |   |   |   |     |   |   |   |   |                 |      |
| 2S   | 21 |   | 1 1/2 | 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 |   |   |   |   |   |   | 1/2 |   |   |   |   |                 | 3.06 |
| 2M   | 21 |   | 1 1/2 | 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 |   |   |   |   |   |   | 1/2 |   |   |   |   |                 | 3.06 |
| 3    | 30 |   | 1 7/8 | 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 |   |   |   |   |   |   | 1/2 |   |   |   |   |                 | 6.25 |
| 4    | 30 |   | 1 7/8 | 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 |   |   |   |   |   |   | 1/2 |   |   |   |   |                 | 6.25 |
| 5    | 30 |   | 1 7/8 | 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 |   |   |   |   |   |   | 1/2 |   |   |   |   |                 | 6.25 |

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 58

E

STANDARD SIGN  
M6 - 1 & M6 - 2  
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16



R10-70



R10-70L

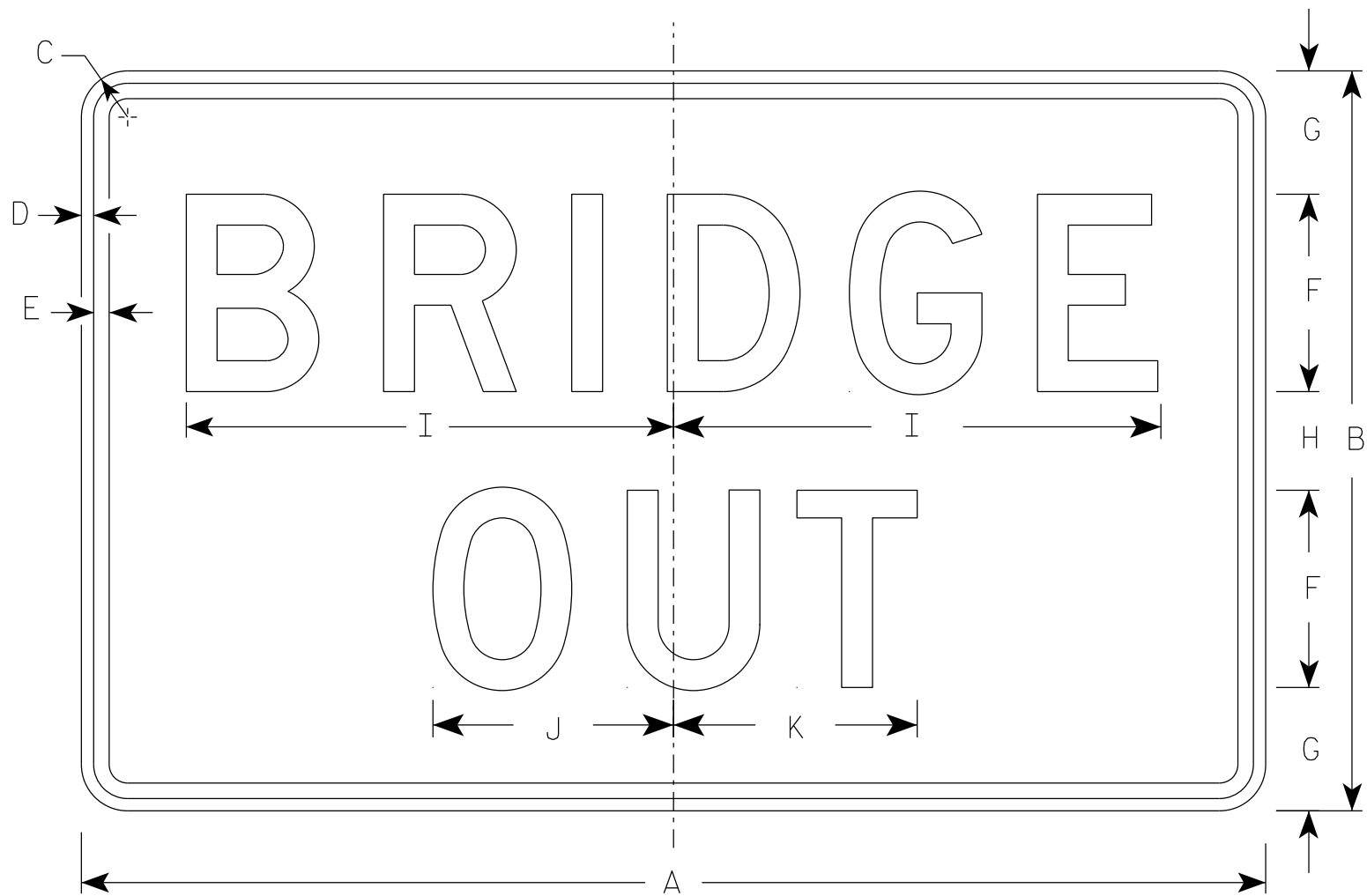


R10-70R

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:  
Background - White  
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.

|      |    |    |   |   |   |   |   |   |    |      |      |     |     |   |      |    |      |    |     |      |      |     |      |      |      |    |                 | R10-70L&R       | R10-70 |
|------|----|----|---|---|---|---|---|---|----|------|------|-----|-----|---|------|----|------|----|-----|------|------|-----|------|------|------|----|-----------------|-----------------|--------|
| 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. | Area<br>sq. ft. |        |
| 1    |    |    |   |   |   |   |   |   |    |      |      |     |     |   |      |    |      |    |     |      |      |     |      |      |      |    |                 |                 |        |
| 2S   | 72 | 36 | 3 | ¾ | 1 | 6 | 5 | 4 | 18 | 17 ½ | 14 ⅛ | 9 ⅛ | 8 ½ | 6 | 16 ¾ | 30 | 23 ¾ | 66 | 2 ⅜ | 23 ⅞ | 23 ⅞ | 8 ¾ | 23 ¼ | 23 ½ | 26 ⅞ | 27 | 18.0            | 16.5            |        |
| 2M   | 72 | 36 | 3 | ¾ | 1 | 6 | 5 | 4 | 18 | 17 ½ | 14 ⅛ | 9 ⅛ | 8 ½ | 6 | 16 ¾ | 30 | 23 ¾ | 66 | 2 ⅜ | 23 ⅞ | 23 ⅞ | 8 ¾ | 23 ¼ | 23 ½ | 26 ⅞ | 27 | 18.0            | 16.5            |        |
| 3    |    |    |   |   |   |   |   |   |    |      |      |     |     |   |      |    |      |    |     |      |      |     |      |      |      |    |                 |                 |        |
| 4    |    |    |   |   |   |   |   |   |    |      |      |     |     |   |      |    |      |    |     |      |      |     |      |      |      |    |                 |                 |        |
| 5    |    |    |   |   |   |   |   |   |    |      |      |     |     |   |      |    |      |    |     |      |      |     |      |      |      |    |                 |                 |        |



R11-2B

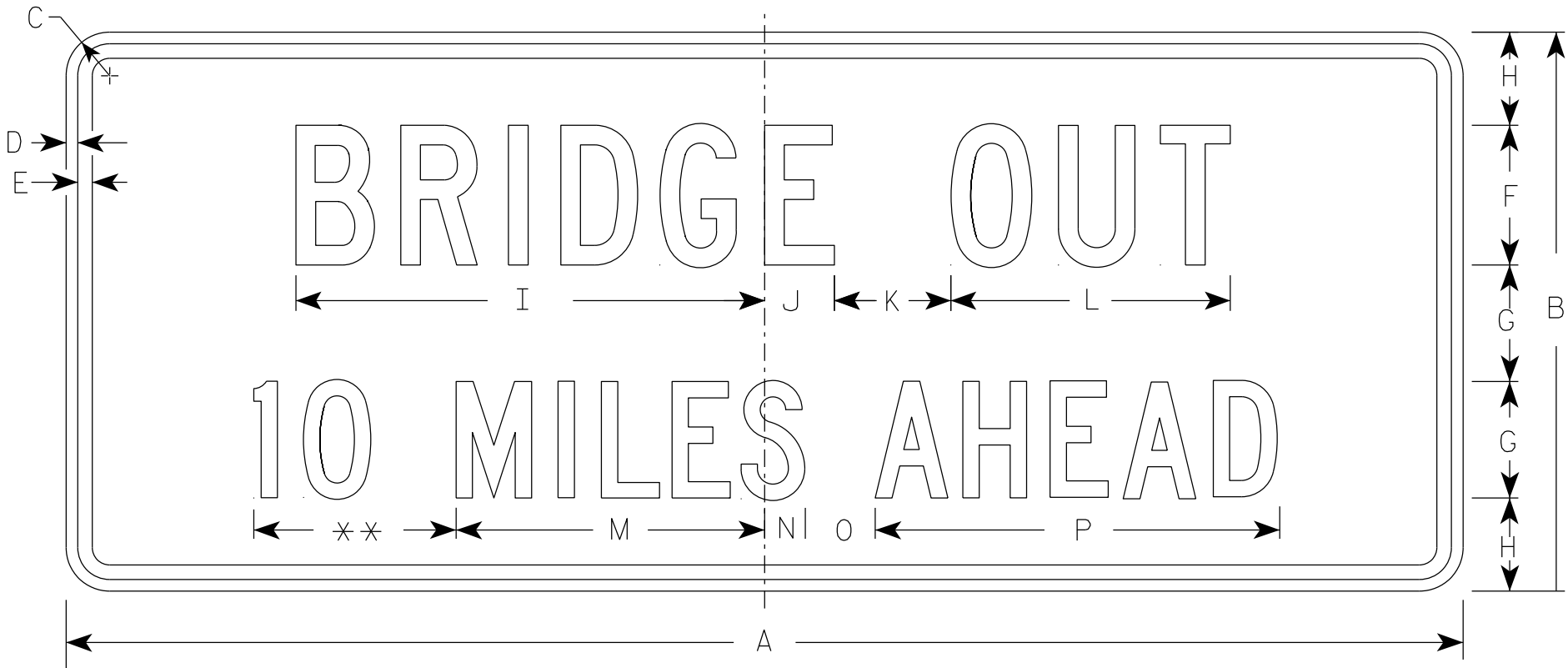
NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
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.

| 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   | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 2M   | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 3    | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 4    | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 5    | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.0            |

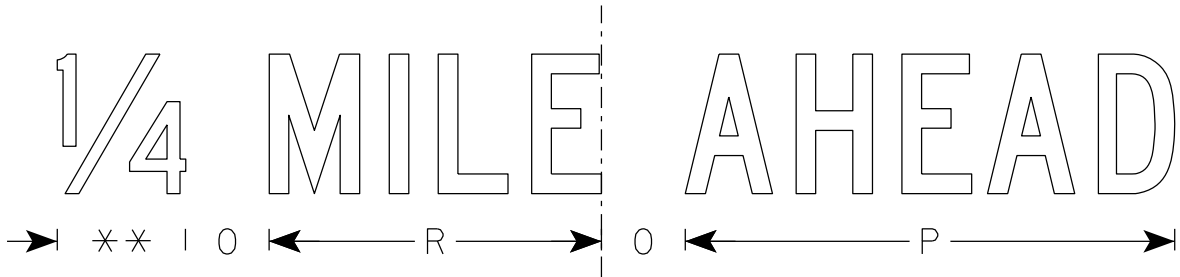
NOTES

- 1. Sign is Type II - Type H Reflective
- 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.
- 5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



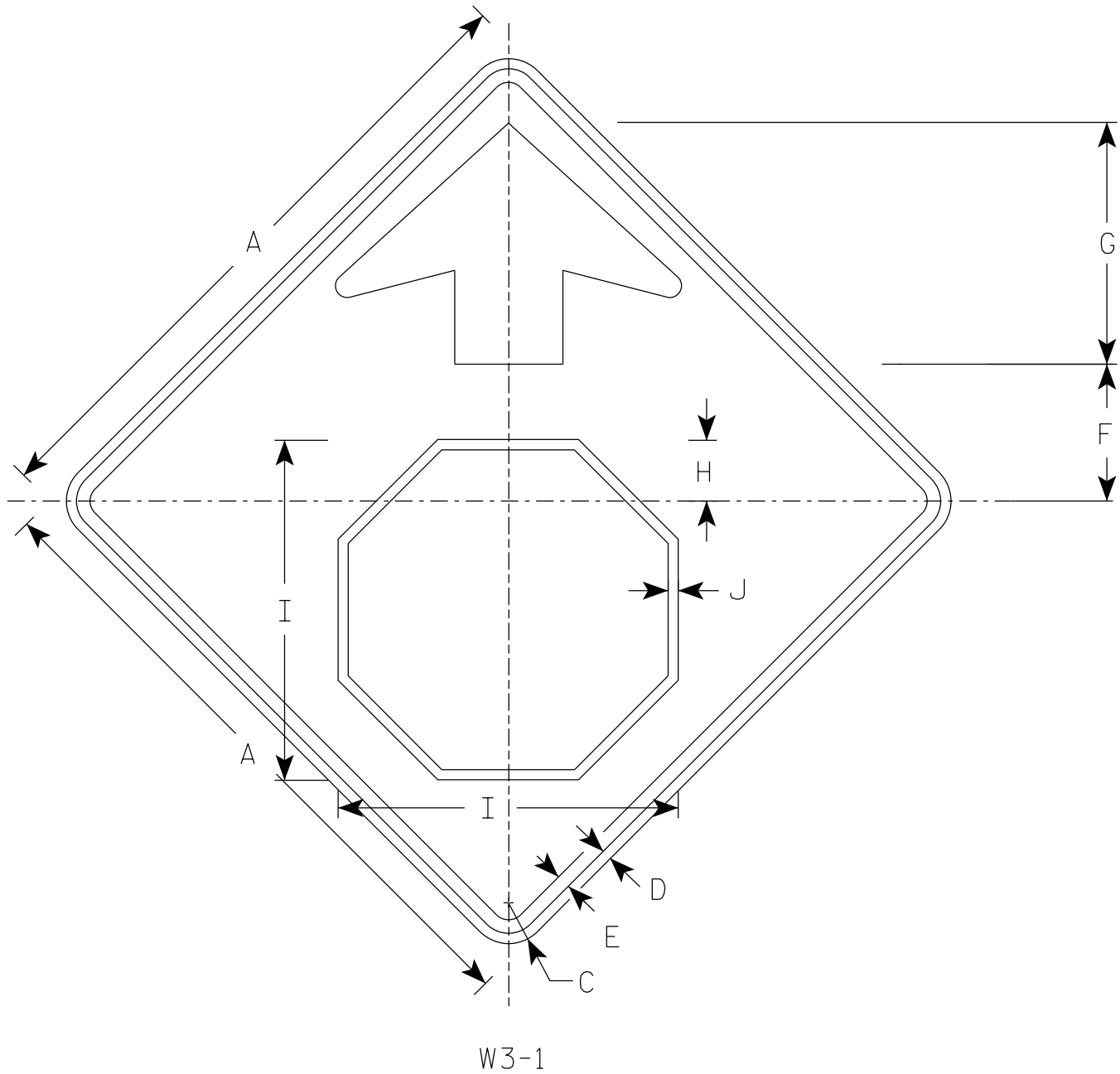
R11-3C

\*\* See Note 5



| 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 | 15 | 1 1/2 | 1/2 | 5/8 | 4 | 3 | 2 1/2 | 13 1/4 | 2 1/4 | 3 | 8  | 8      | 1 1/2 | 2 | 10 3/4 |   | 7 1/8  |   |   |   |   |   |   |   |   | 3.75            |
| 2S   | 60 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 5 | 4     | 20 1/8 | 3     | 5 | 12 | 13 1/4 | 1 3/4 | 3 | 17 3/8 |   | 11 7/8 |   |   |   |   |   |   |   |   | 10.0            |
| 2M   | 60 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 5 | 4     | 20 1/8 | 3     | 5 | 12 | 13 1/4 | 1 3/4 | 3 | 17 3/8 |   | 11 7/8 |   |   |   |   |   |   |   |   | 10.0            |
| 3    |    |    |       |     |     |   |   |       |        |       |   |    |        |       |   |        |   |        |   |   |   |   |   |   |   |   |                 |
| 4    |    |    |       |     |     |   |   |       |        |       |   |    |        |       |   |        |   |        |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |     |   |   |       |        |       |   |    |        |       |   |        |   |        |   |   |   |   |   |   |   |   |                 |

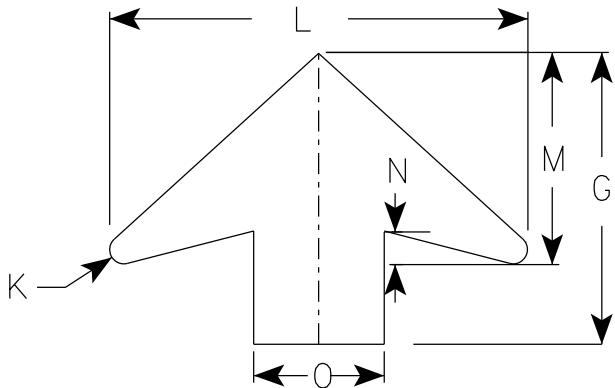
7



W3-1

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
  - Background - Yellow
  - Arrow & Border - Black
  - Stop Symbol - White Border on Red Background



ARROW DETAIL

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    | 30 |   | 1 7/8 | 1/2 | 5/8 | 6 1/4 | 11 1/4 | 2 3/8 | 15 3/4 | 1/2 | 1/2 | 16     | 8     | 1 1/4 | 5 |   |   |   |   |   |   |   |   |   |   |   | 6.25            |
| 2S   | 36 |   | 2 1/4 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19     | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 2M   | 36 |   | 2 1/4 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19     | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 2 1/4 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19     | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 48 |   | 3     | 3/4 | 1   | 10    | 17 7/8 | 4 1/2 | 25 1/8 | 3/4 | 7/8 | 25 5/8 | 13    | 2     | 8 |   |   |   |   |   |   |   |   |   |   |   | 16.0            |
| 5    | 48 |   | 3     | 3/4 | 1   | 10    | 17 7/8 | 4 1/2 | 25 1/8 | 3/4 | 7/8 | 25 5/8 | 13    | 2     | 8 |   |   |   |   |   |   |   |   |   |   |   | 16.0            |

STANDARD SIGN

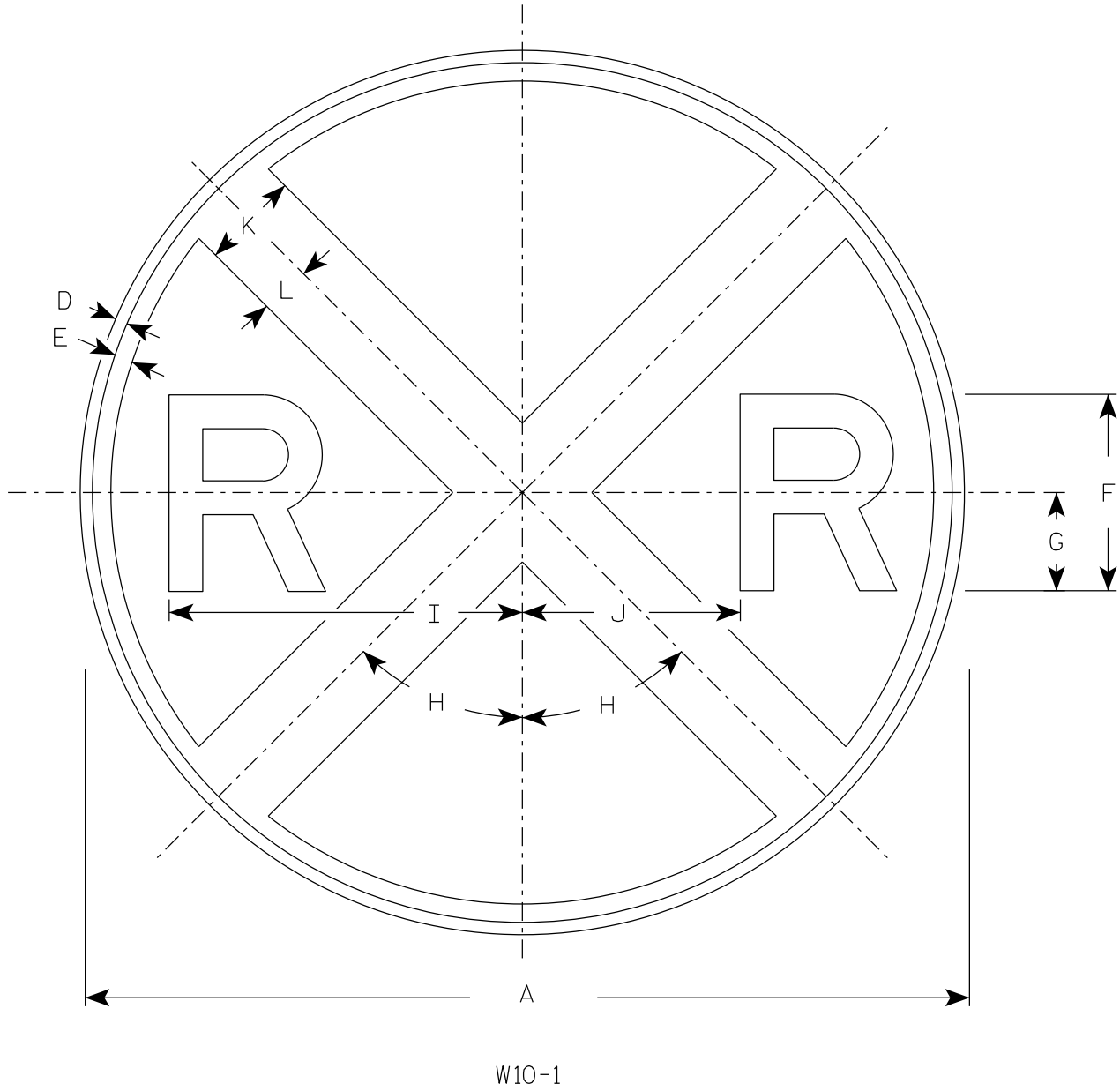
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 8/17/2023

PLATE NO. W3-1.13



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:  
Background - Yellow  
Message - Black
- 3. Message Series - E

7

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    | 30 |   |   | $\frac{3}{8}$ | $\frac{5}{8}$   | 7  | 3 $\frac{1}{2}$ | 45° | 12 $\frac{3}{8}$ | 7 $\frac{1}{8}$  | 3 | 1 $\frac{1}{2}$ |   |   |   |   |   |   | S | T | U | V | W | X | Y | Z | 4.91            |
| 2S   | 36 |   |   | $\frac{5}{8}$ | $\frac{3}{4}$   | 8  | 4               | 45° | 14 $\frac{3}{8}$ | 8 $\frac{5}{8}$  | 4 | 2               |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.07            |
| 2M   | 36 |   |   | $\frac{5}{8}$ | $\frac{3}{4}$   | 8  | 4               | 45° | 14 $\frac{3}{8}$ | 8 $\frac{5}{8}$  | 4 | 2               |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.07            |
| 3    | 36 |   |   | $\frac{5}{8}$ | $\frac{3}{4}$   | 8  | 4               | 45° | 14 $\frac{3}{8}$ | 8 $\frac{5}{8}$  | 4 | 2               |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.07            |
| 4    | 48 |   |   | $\frac{3}{4}$ | 1 $\frac{1}{4}$ | 10 | 5               | 45° | 18 $\frac{3}{8}$ | 11 $\frac{5}{8}$ | 5 | 2 $\frac{1}{2}$ |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 12.57           |
| 5    |    |   |   |               |                 |    |                 |     |                  |                  |   |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
W10-1

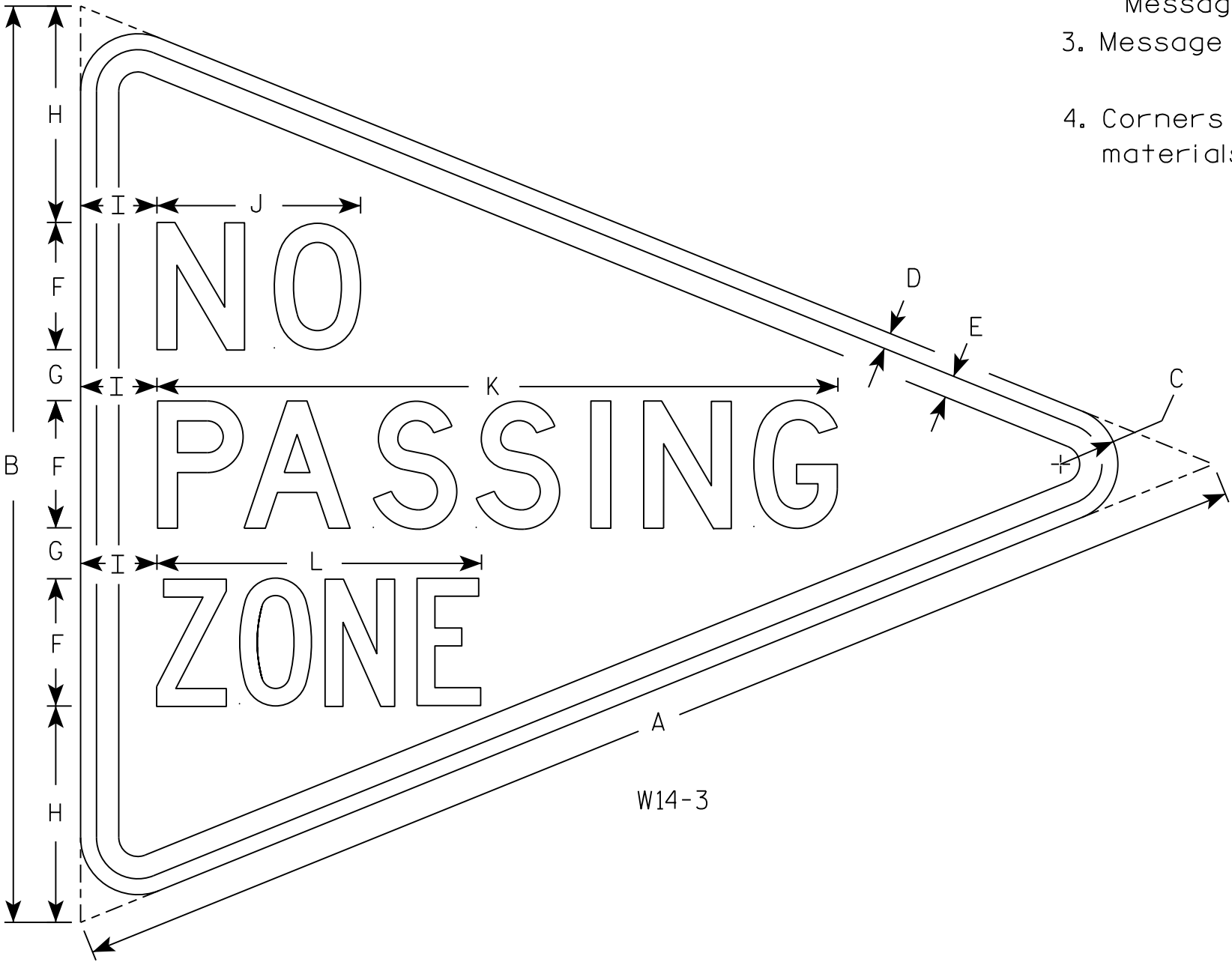
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/27/24 PLATE NO. W10-1.9

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:  
Background - Yellow  
Message - Black
- 3. Message Series - Lines 1 and 2 are Series D.  
Line 3 is series C.
- 4. Corners and borders shall be rounded on all base materials for this sign.



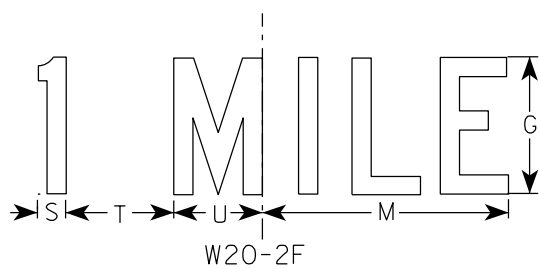
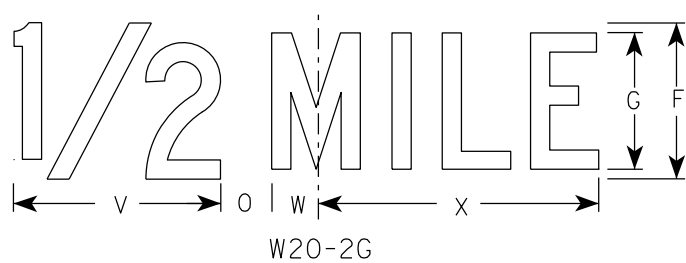
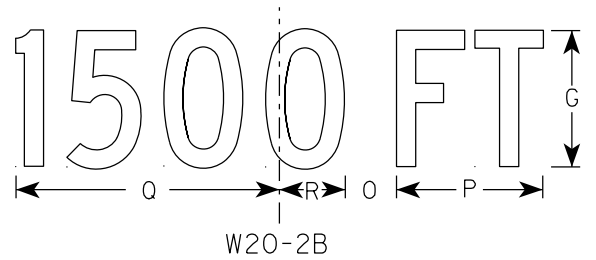
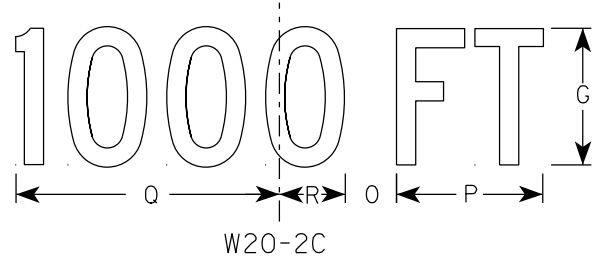
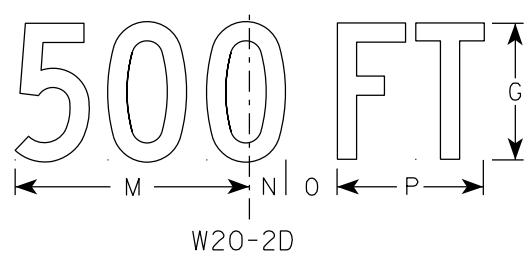
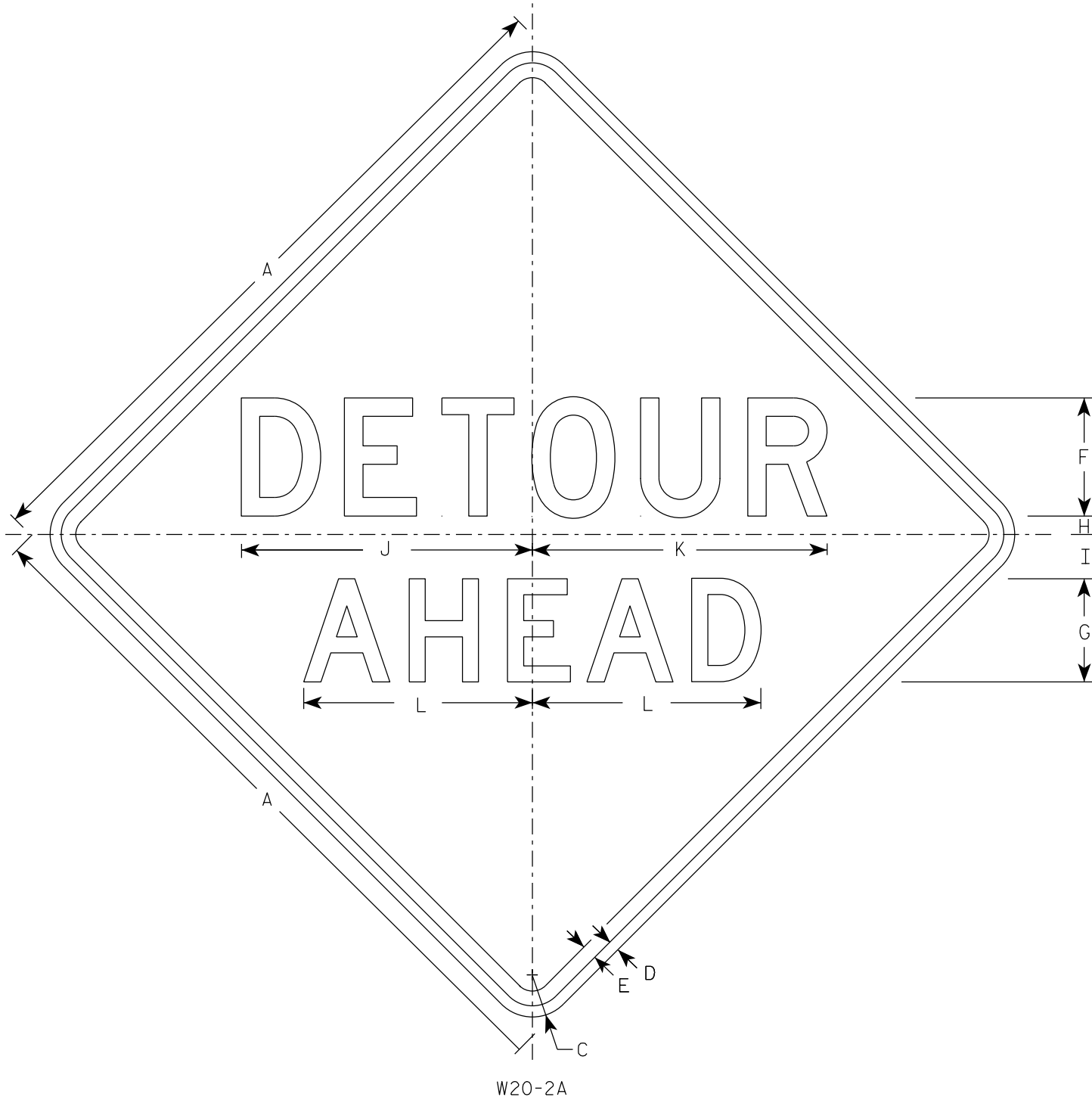
| SIZE | A  | B  | C     | D   | E   | F | G | H     | I | J | K      | L      | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|---|-------|---|---|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |   |       |   |   |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 48 | 36 | 2 1/4 | 5/8 | 7/8 | 5 | 2 | 8 1/2 | 3 | 8 | 26 3/4 | 12 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.56            |
| 2M   |    |    |       |     |     |   |   |       |   |   |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 3    |    |    |       |     |     |   |   |       |   |   |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 4    |    |    |       |     |     |   |   |       |   |   |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |     |   |   |       |   |   |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W14-3.10



### NOTES

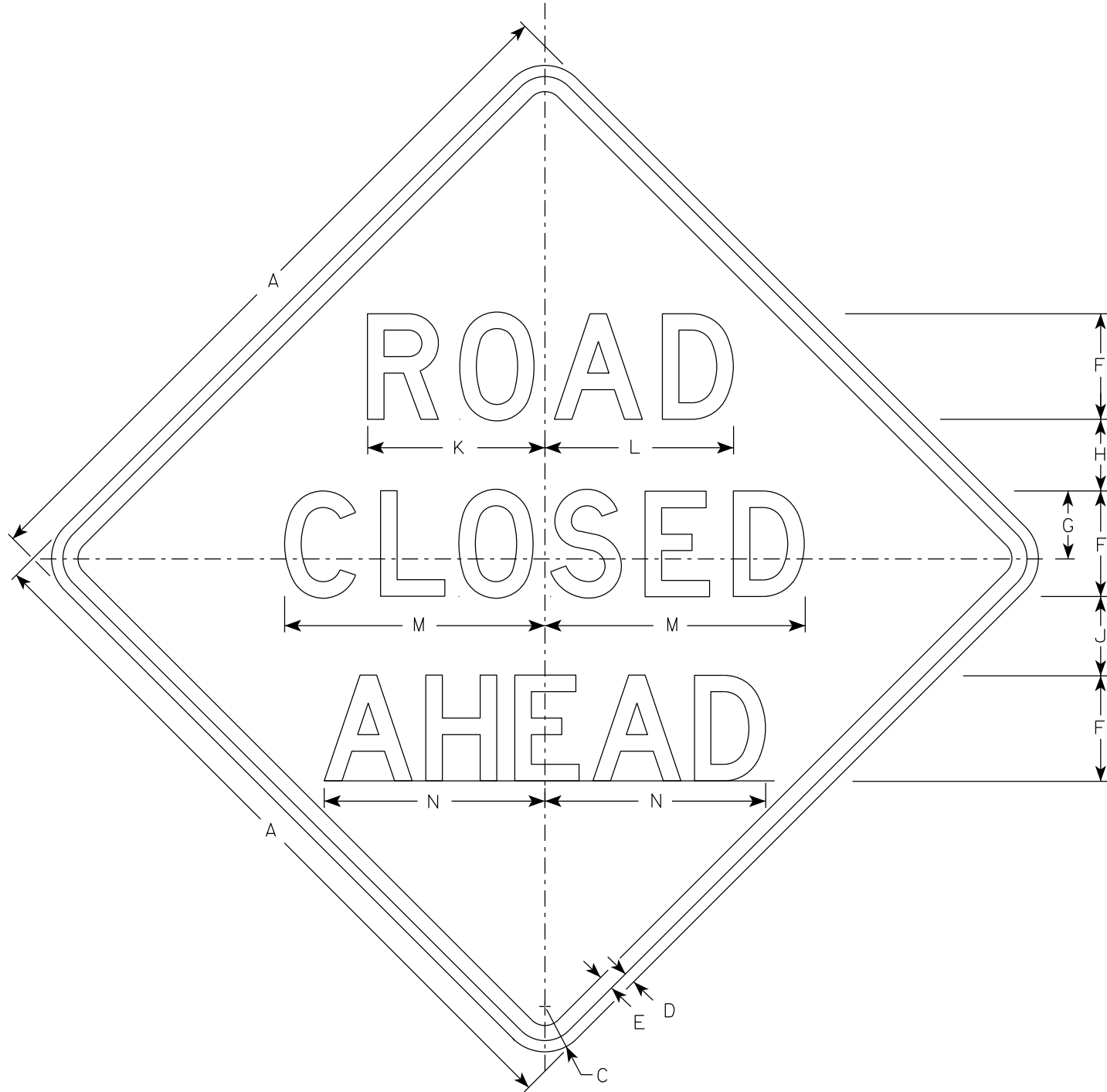
- Sign is Type II - Type F Reflective
- Color:  
Background - Orange  
Message - Black
- Message Series - See note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Line 1 is Series D.  
Line 2 is Series D for AHEAD and Series C for all other distances.

| 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 |   | 2 1/4 | 5/8 | 3/4 | 6 | 5 | 1     | 2 1/4 | 14 3/4 | 15 | 11 5/8 | 9  | 1 3/8 | 1 7/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 1/8 | 4 1/2 | 3 1/2 | 8      | 1 3/4 | 10 3/4 |   |   | 9.0             |
| 2S   | 48 |   | 3     | 3/4 | 1   | 8 | 7 | 1 1/4 | 3     | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6     | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 |   |   | 16.0            |
| 2M   | 48 |   | 3     | 3/4 | 1   | 8 | 7 | 1 1/4 | 3     | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6     | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 |   |   | 16.0            |
| 3    | 48 |   | 3     | 3/4 | 1   | 8 | 7 | 1 1/4 | 3     | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6     | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 |   |   | 16.0            |
| 4    | 48 |   | 3     | 3/4 | 1   | 8 | 7 | 1 1/4 | 3     | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6     | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 |   |   | 16.0            |
| 5    | 48 |   | 3     | 3/4 | 1   | 8 | 7 | 1 1/4 | 3     | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6     | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 |   |   | 16.0            |

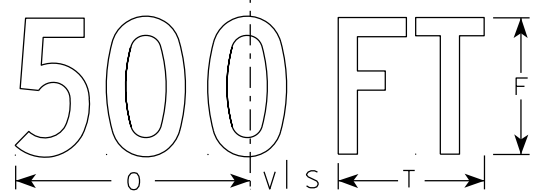
|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| STANDARD SIGN                    |                                                       |
| W20-2A,B,C,D,F & G               |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION |                                                       |
| APPROVED                         | <i>Matthew R. Rauch</i><br>For State Traffic Engineer |
| DATE 1/10/2024                   | PLATE NO. W20-2.7                                     |

|             |      |         |              |   |
|-------------|------|---------|--------------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: 65 | E |
|-------------|------|---------|--------------|---|

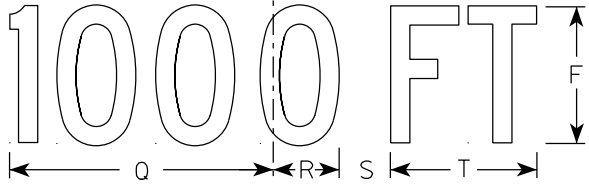
7



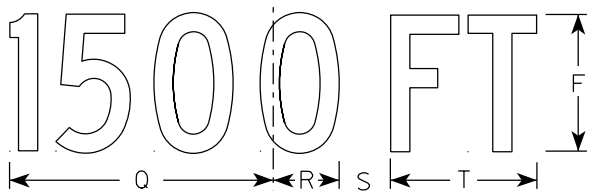
W20-3A



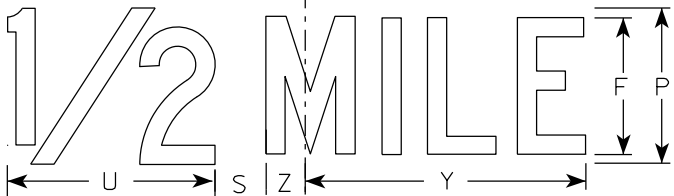
W20-3D



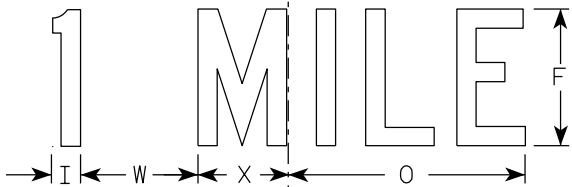
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Message Series - see note 5
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. Lines 1 and 2 are Series D.  
Line 3 is Series D for AHEAD and Series C for all other distances.

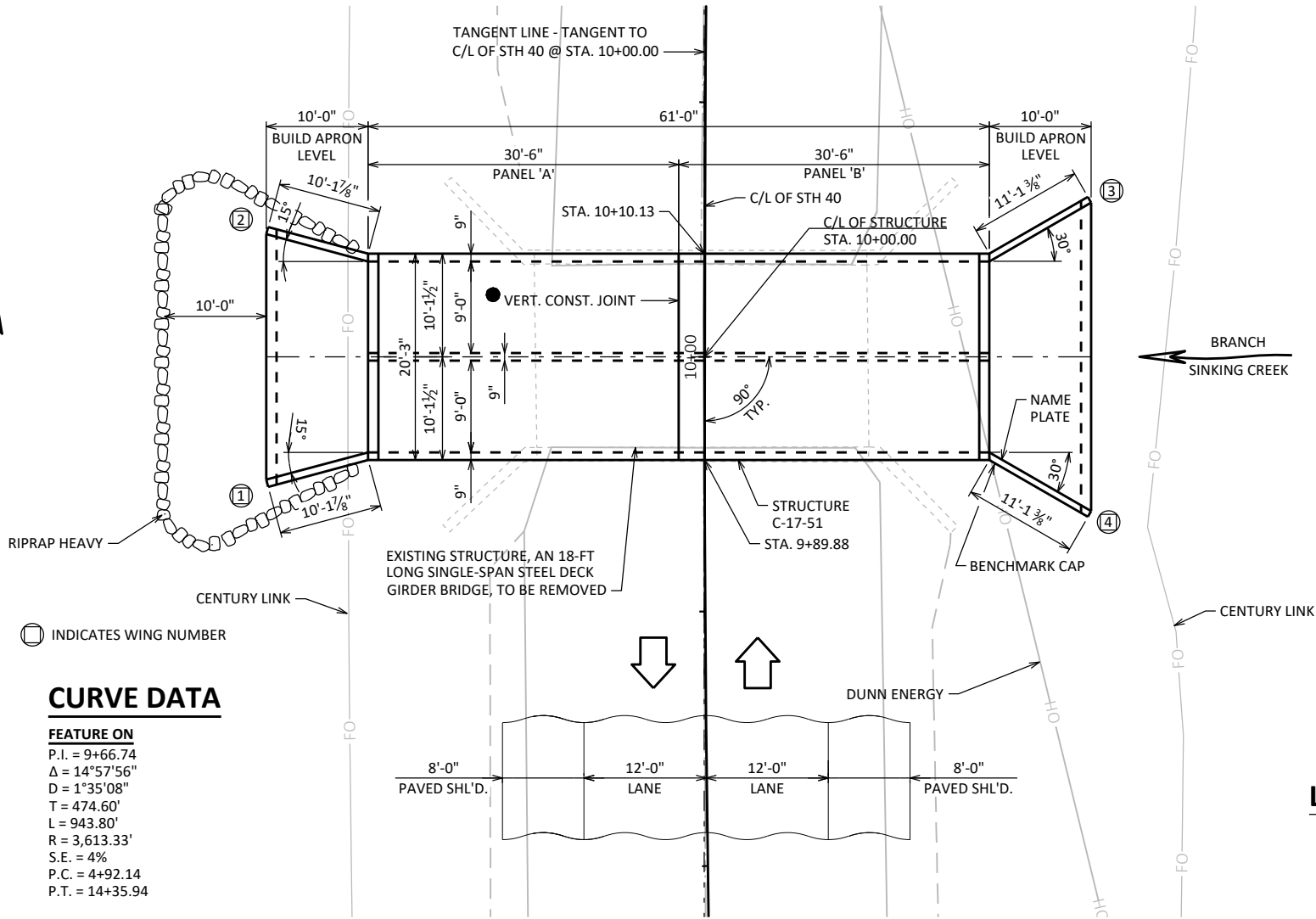
| SIZE | A  | B | C     | D   | E   | F | G     | H     | I     | J     | K      | L      | M      | N      | O  | P | Q      | R     | S     | T     | U      | v     | W     | X     | Y      | Z     | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|---|-------|-------|-------|-------|--------|--------|--------|--------|----|---|--------|-------|-------|-------|--------|-------|-------|-------|--------|-------|-----------------|
| 1    | 36 |   | 2 1/4 | 5/8 | 3/4 | 5 | 3 3/8 | 3 1/2 | 1 1/8 | 4     | 8 3/8  | 8 7/8  | 12 1/2 | 11     | 9  | 6 | 10 1/8 | 2 1/2 | 1 7/8 | 5 5/8 | 8      | 1 3/8 | 4 1/2 | 3 1/2 | 10 3/4 | 1 3/4 | 9.0             |
| 2S   | 48 |   | 3     | 3/4 | 1   | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6     | 4 5/8 | 14 3/8 | 2 3/8 | 16.0            |
| 2M   | 48 |   | 3     | 3/4 | 1   | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6     | 4 5/8 | 14 3/8 | 2 3/8 | 16.0            |
| 3    | 48 |   | 3     | 3/4 | 1   | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6     | 4 5/8 | 14 3/8 | 2 3/8 | 16.0            |
| 4    | 48 |   | 3     | 3/4 | 1   | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6     | 4 5/8 | 14 3/8 | 2 3/8 | 16.0            |
| 5    | 48 |   | 3     | 3/4 | 1   | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6     | 4 5/8 | 14 3/8 | 2 3/8 | 16.0            |

STANDARD SIGN  
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-3.8

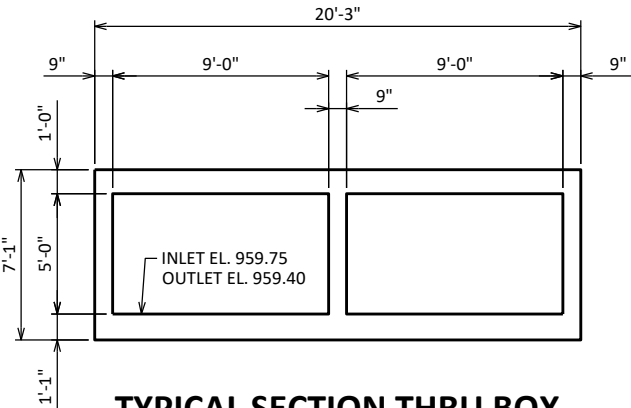


PLAN

TWIN-CELL CONCRETE BOX CULVERT

LIST OF DRAWINGS:

1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. APRON PLAN
4. WING DETAILS
5. BOX DETAILS
6. BAR STEEL LAYOUT
7. BILL OF BARS AND DETAILS
8. SUBSURFACE EXPLORATION



TYPICAL SECTION THRU BOX

DESIGN DATA

**LIVE LOAD:**  
DESIGN LOADING: HL-93  
INVENTORY RATING: RF = 1.45  
OPERATING RATING: RF = 2.25  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

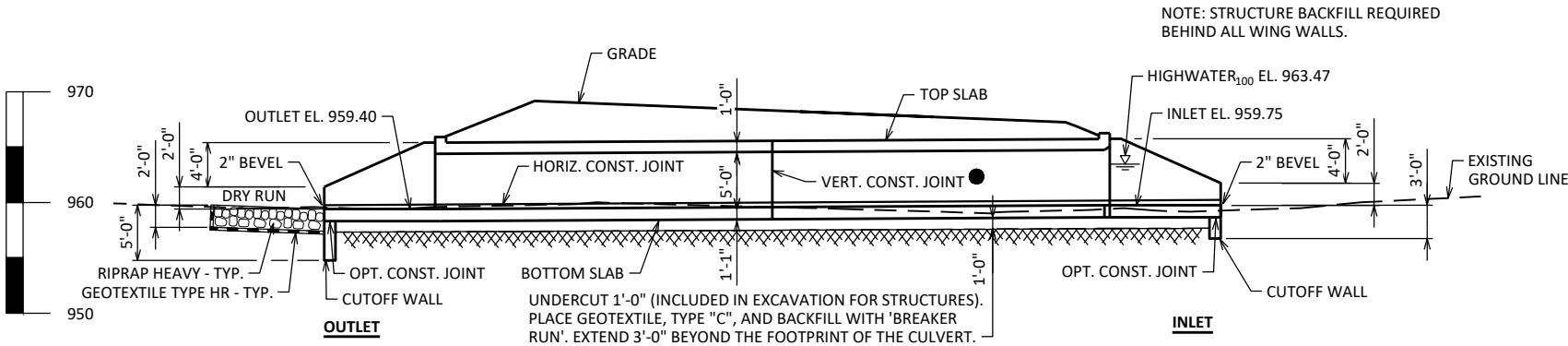
**EARTHLOAD:**  
DESIGNED FOR 2.0 TO 4.0 FT. OF FILL.  
**MATERIAL PROPERTIES:**  
CONCRETE MASONRY:  $f'_c = 3,500$  PSI  
BAR STEEL REINFORCEMENT:  $f_y = 60,000$  PSI

HYDRAULIC DATA TRAFFIC DATA

**100-YEAR FREQUENCY:**  
 $Q_{100} = 270$  C.F.S.  
 $V_{100} = 4.9$  F.P.S.  
 $HW_{100} = EL. 963.47$   
WATERWAY AREA = 55 SQ. FT.  
DRAINAGE AREA = 1.3 SQ. MI.  
ROADWAY OVERTOPPING = N/A  
SCOUR CRITICAL CODE = 8

**2-YEAR FREQUENCY:**  
 $Q_2 = 60$  C.F.S.  
 $V_2 = 1.9$  F.P.S.  
 $HW_2 = EL. 962.93$

**FEATURE ON:**  
ADT = 3,790 (2025)  
ADT = 4,280 (2045)  
R.D.S. = 55 MPH



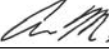
ELEVATION

NOTE: THE INVERTS ARE SET 0.5' BELOW EXISTING STREAMBED ELEVATION



03/16/2025

STRUCTURE DESIGN CONTACTS:  
ARLEN BEAUDETTE 715-834-3161  
AARON BONK 608-261-0261

|                                                         |                                                                                                          |                                                                               |                                 |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|---------------------------------|
| NO.                                                     | DATE                                                                                                     | REVISION                                                                      | BY                              |
| ORIGINAL PLANS PREPARED BY                              |                                                                                                          |                                                                               |                                 |
| <b>AYRES</b>                                            |                                                                                                          | 3433 Oakwood Hills Parkway<br>Eau Claire, WI 54701<br>www.AyresAssociates.com |                                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION      |                                                                                                          |                                                                               |                                 |
| ACCEPTED                                                |  <small>BMK</small> |                                                                               | <b>5/2/25</b>                   |
|                                                         | CHIEF STRUCTURES DESIGN ENGINEER                                                                         |                                                                               | DATE                            |
| <b>STRUCTURE C-17-51</b>                                |                                                                                                          |                                                                               |                                 |
| STH 40 OVER BRANCH SINKING CREEK                        |                                                                                                          |                                                                               |                                 |
| COUNTY                                                  | DUNN                                                                                                     |                                                                               | TOWN COLFAX                     |
| DESIGN SPEC.<br>AASHTO LRFD BRIDGE DESIGN SPECIFICATION |                                                                                                          |                                                                               |                                 |
| DESIGNED BY                                             | DESIGNED CK'D                                                                                            | DRS BY                                                                        | DRAWN ZSS/CLP<br>PLANS CK'D AEB |
| <b>GENERAL PLAN</b>                                     |                                                                                                          |                                                                               | SHEET 1 OF 8<br><b>67</b>       |

I.D. DATE:

TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS                                                 | UNIT | TOTALS     |
|-----------------|-----------------------------------------------------------|------|------------|
| 203.0260        | REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS C-17-1124 | EACH | 1          |
| 206.2001        | EXCAVATION FOR STRUCTURES CULVERTS C-17-51                | EACH | 1          |
| 210.2500        | BACKFILL STRUCTURE TYPE B                                 | TON  | 900        |
| 311.0110        | BREAKER RUN                                               | TON  | 130        |
| 504.0100        | CONCRETE MASONRY CULVERTS                                 | CY   | 141        |
| 55.0400         | BAR STEEL REINFORCEMENT HS STRUCTURES                     | LB   | 420        |
| 505.0600        | BAR STEEL REINFORCEMENT HS COATED STRUCTURES              | LB   | 18,210     |
| 516.0500        | RUBBERIZED MEMBRANE WATERPROOFING                         | SY   | 35         |
| 606.0300        | RIPRAP HEAVY                                              | CY   | 15         |
| 645.0105        | GEOTEXTILE TYPE C                                         | SY   | 195        |
| 645.0120        | GEOTEXTILE TYPE HR                                        | SY   | 30         |
|                 |                                                           |      |            |
|                 | NON-BID ITEMS                                             |      |            |
|                 | FILLER                                                    | SIZE | 1/2", 3/4" |
|                 |                                                           |      |            |

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-17-51" SHALL BE THE EXISTING GROUNDLINE.

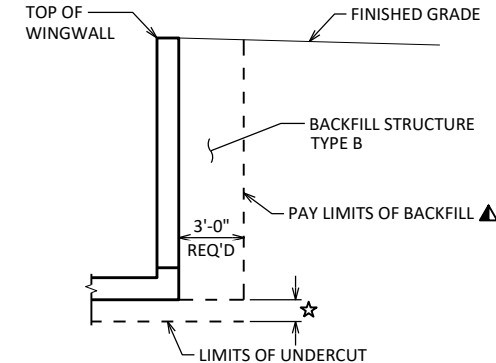
ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL WITHIN THE LENGTH OF THE CULVERT INCLUDING THE APRON WING WALLS.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

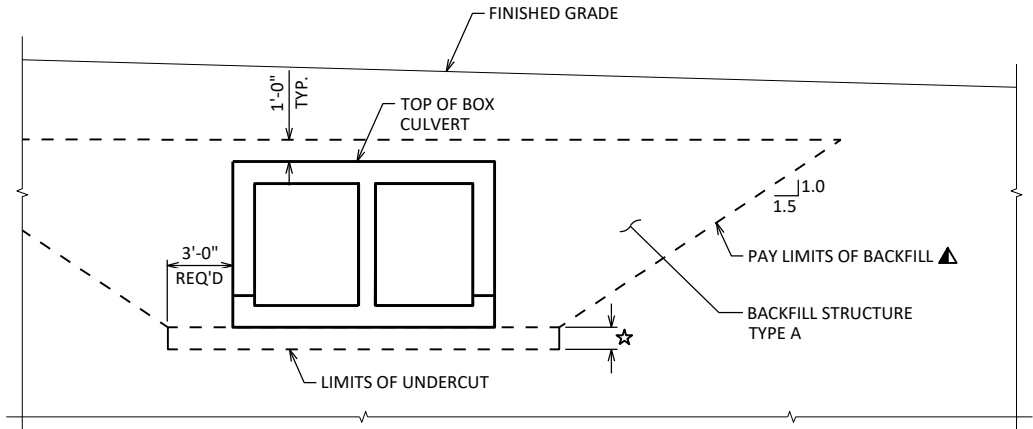
THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

PLACE 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND 6" MIN. BELOW TOP OF BOTTOM SLAB.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DESIGN SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO PRECAST DETAILS ON CHAPTER 36 STANDARDS OF THE CURRENT WISC. DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON THE QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES".



TYPICAL SECTION THRU BOX CULVERT WINGWALL

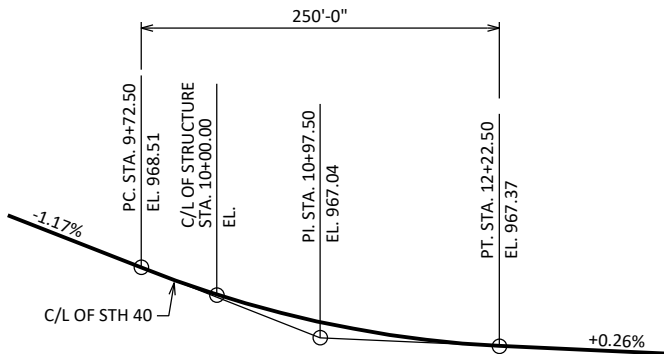


TYPICAL SECTION THRU BOX CULVERT

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

☆ UNDERCUT 1'-0". EXCAVATION FOR UNDER CUT IS TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE FABRIC TYPE C" AND BACKFILL WITH "BREAKER RUN".

IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR THE BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.

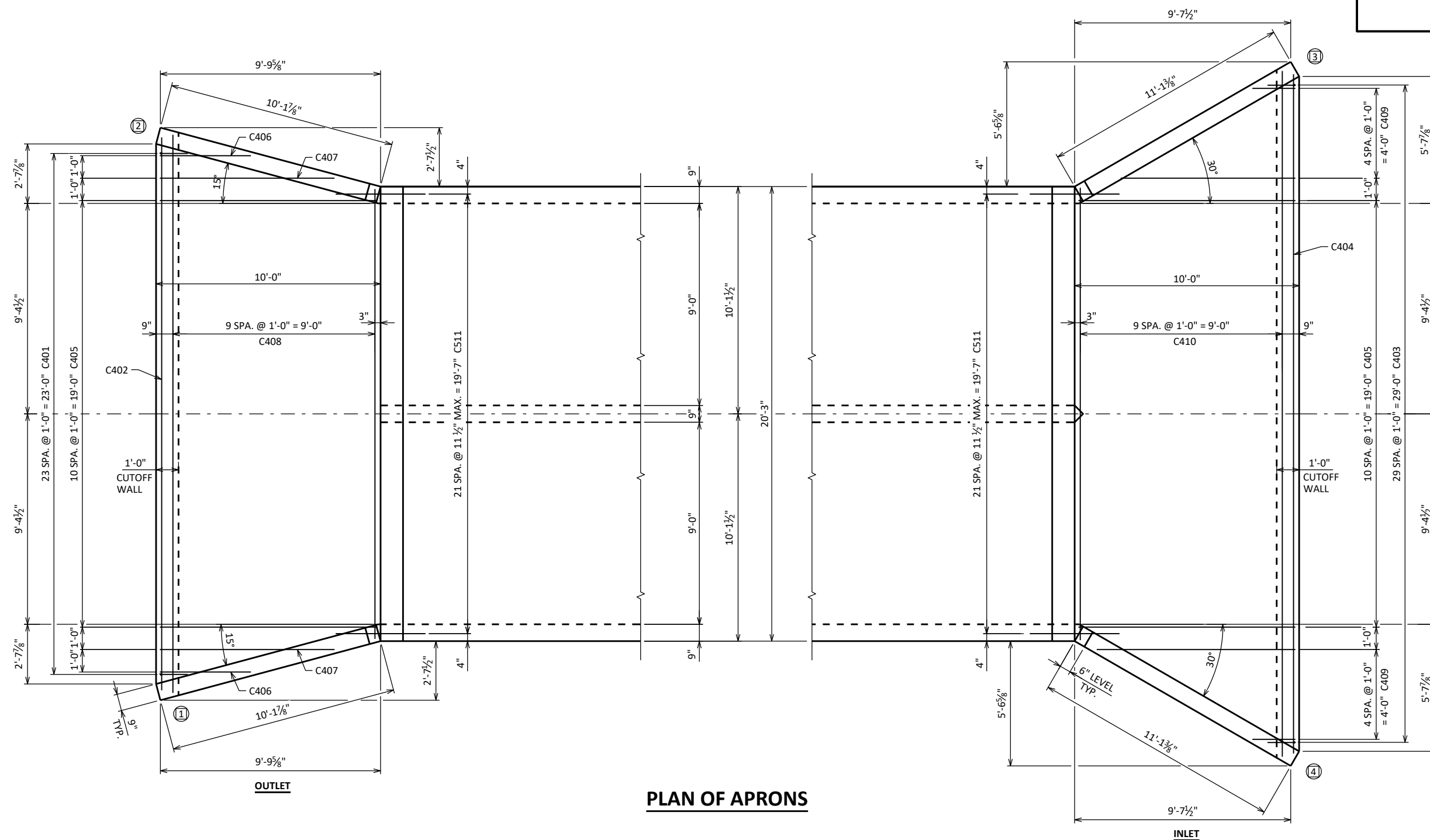


PROFILE GRADE LINE

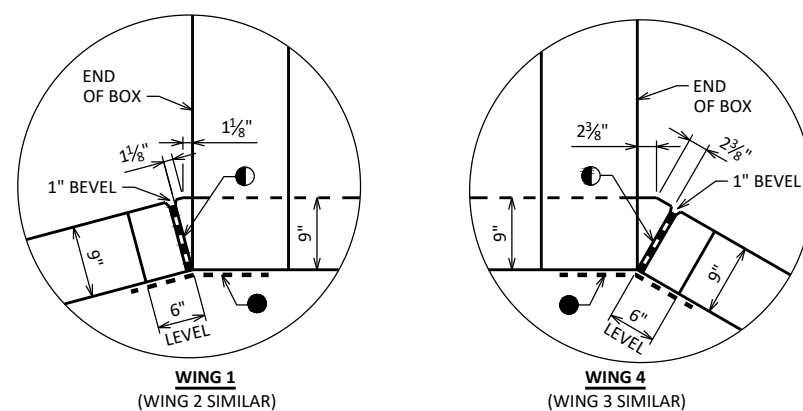
BENCH MARK

| NO. | STATION  | DESCRIPTION                              | ELEV.  |
|-----|----------|------------------------------------------|--------|
| 50  | 10+09.72 | CHIS. 'X' IN TOP OF NE WINGWALL, 17' LT. | 968.07 |
| 51  | 8+99.33  | RR SPIKE IN PPOL, 48' RT                 | 963.49 |

|                                                    |      |                |    |
|----------------------------------------------------|------|----------------|----|
|                                                    |      |                |    |
| NO.                                                | DATE | REVISION       | BY |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |    |
| STRUCTURE C-17-51                                  |      |                |    |
| DRAWN BY ZSS/CLP                                   |      | PLANS CK'D AEB |    |
| QUANTITIES AND NOTES                               |      | SHEET 2 OF 8   |    |
|                                                    |      | 68             |    |



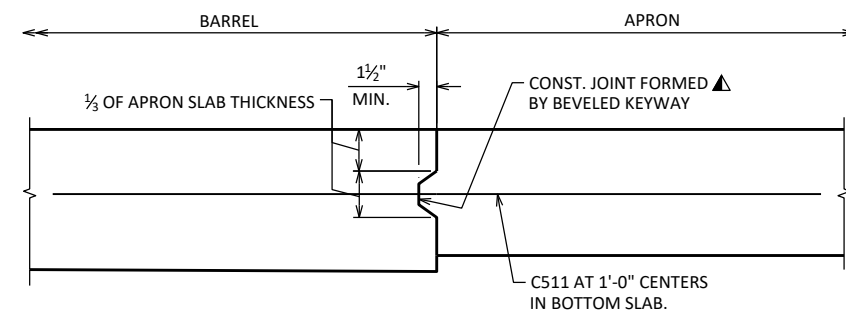
## PLAN OF APRONS



## CORNER DETAILS

- 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM HORIZ. CONST. JOINT TO TOP OF WING.
- ¾" FILLER TO EXTEND FROM HORIZ. CONST. JOINT TO TOP OF WING.

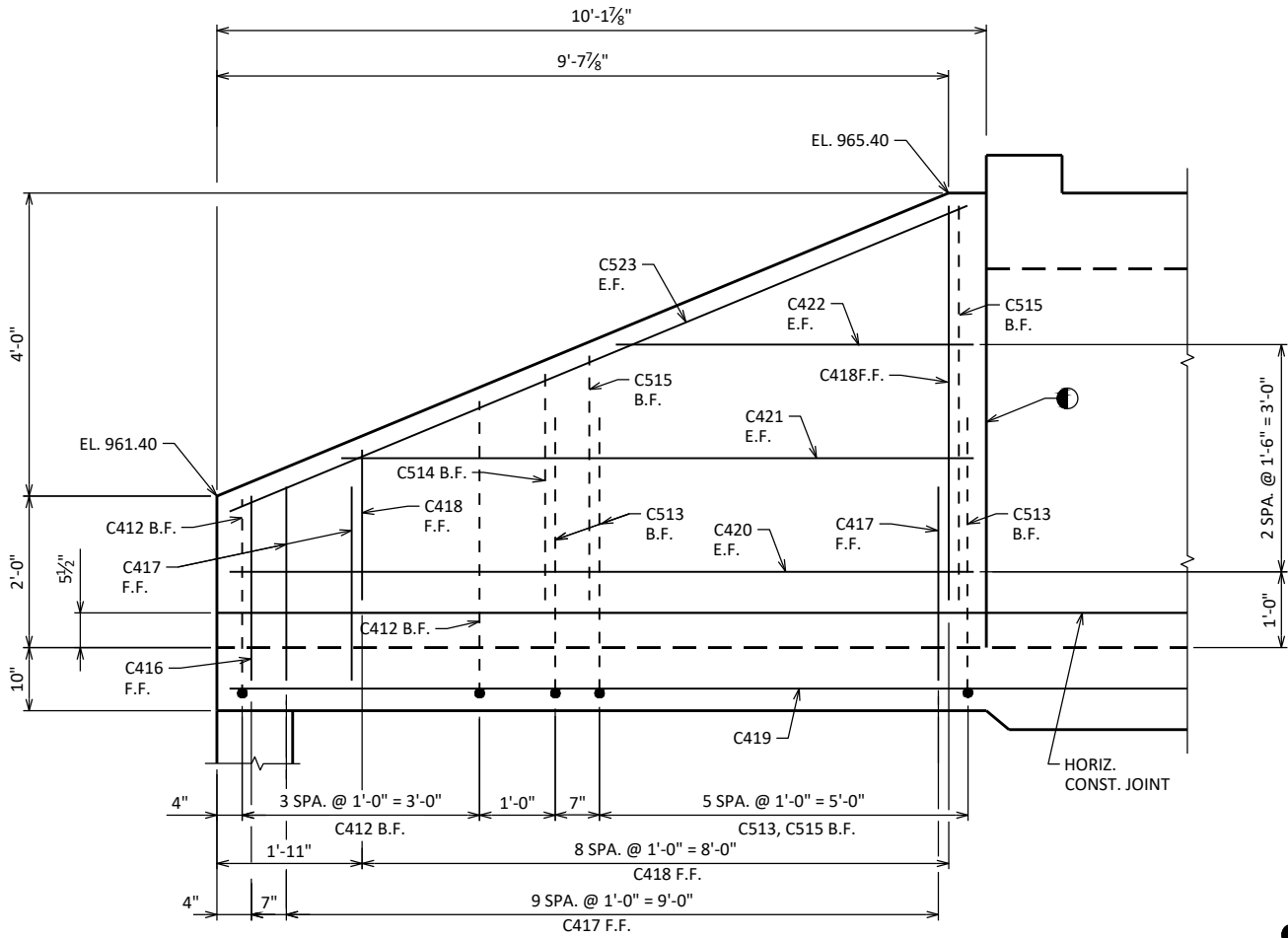
NOTE:  
DO NOT RUN ANY BAR STEEL  
REINF. THRU JOINT FILLER.



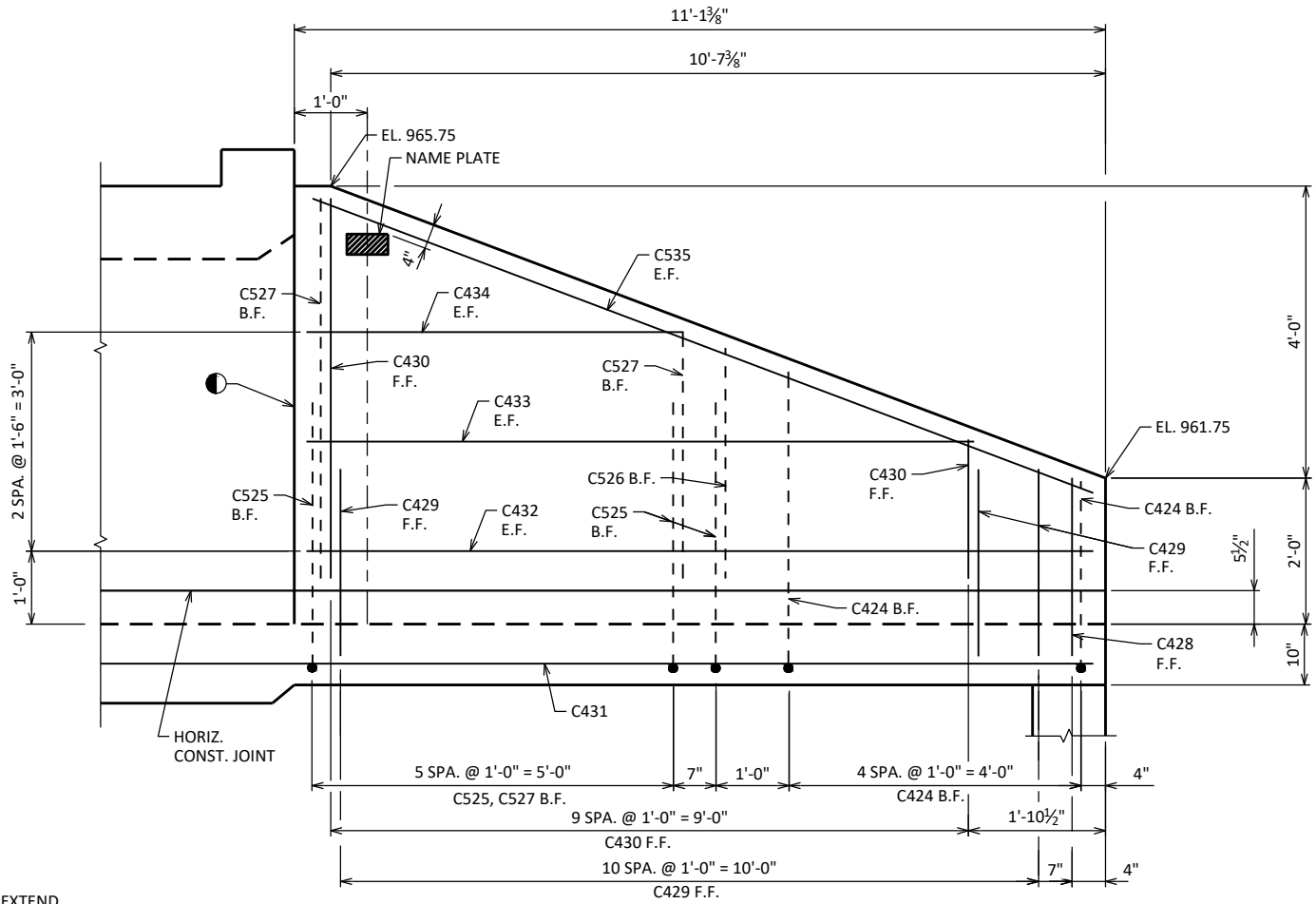
## APRON CONNECTION DETAIL

**▲ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.**

|                                                    |      |                    |                |
|----------------------------------------------------|------|--------------------|----------------|
| NO.                                                | DATE | REVISION           | BY             |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                    |                |
| <b>STRUCTURE</b>                                   |      | <b>C-17-51</b>     |                |
| DRAWN BY                                           |      | CLP                | PLANS CK'D AEB |
| <b>APRON PLAN</b>                                  |      | SHEET 3 OF 8<br>69 |                |

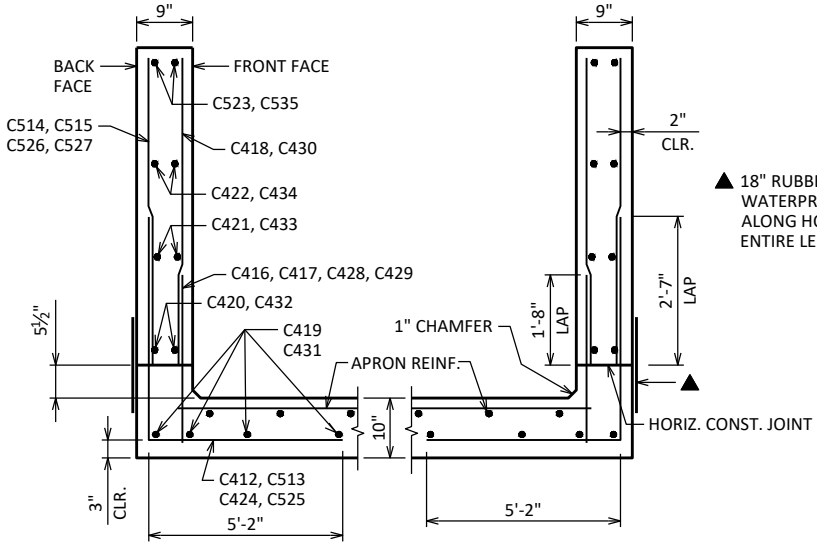


ELEVATION - WING 1  
(WING 2 SIMILAR)



ELEVATION - WING 4  
(WING 3 SIMILAR)

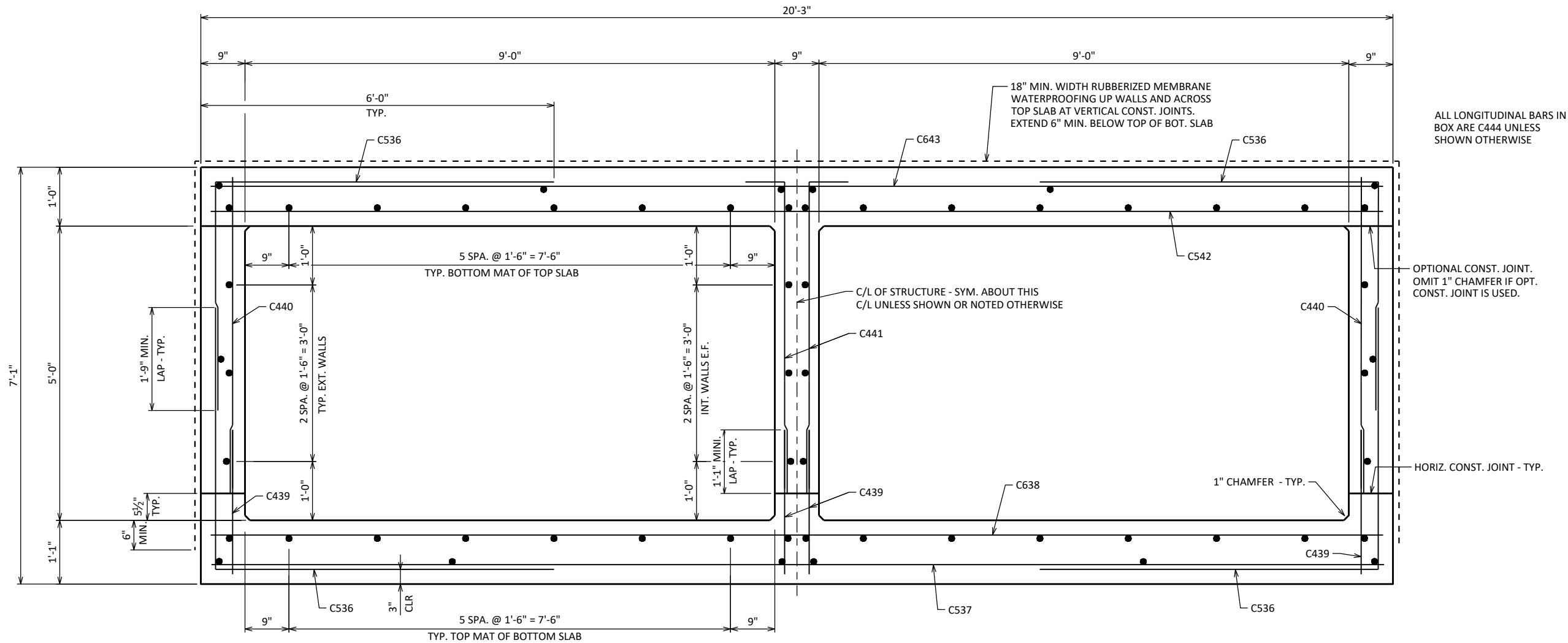
3/4" FILLER TO EXTEND FROM HORIZ. CONST. JOINT TO TOP OF WING.



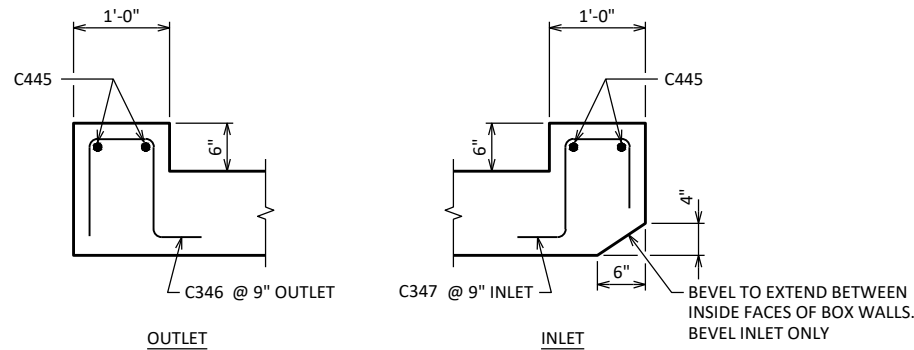
SECTION THRU WINGS

18" RUBBERIZED MEMBRANE WATERPROOFING, PLACE ALONG HORIZ. CONST. JT. FOR ENTIRE LENGTH OF WING, TYP.

| NO.                                                | DATE | REVISION           | BY             |
|----------------------------------------------------|------|--------------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                    |                |
| STRUCTURE C-17-51                                  |      |                    |                |
| DRAWN BY                                           |      | CLP                | PLANS CK'D AEB |
| WING DETAILS                                       |      | SHEET 4 OF 8<br>70 |                |



TYPICAL SECTION THRU BOX



SECTION THRU HEADER

| NO.                                                | DATE | REVISION           | BY             |
|----------------------------------------------------|------|--------------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                    |                |
| STRUCTURE C-17-51                                  |      |                    |                |
| DRAWN BY                                           |      | CLP                | PLANS CK'D AEB |
| BOX DETAILS                                        |      | SHEET 5 OF 8<br>71 |                |



● 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB AT VERTICAL CONST. JOINTS. EXTEND 6" MIN. BELOW TOP OF BOT. SLAB

|                                                    |      |                |               |
|----------------------------------------------------|------|----------------|---------------|
|                                                    |      |                |               |
| NO.                                                | DATE | REVISION       | B             |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |               |
| <b>STRUCTURE</b>                                   |      | <b>C-17-51</b> |               |
|                                                    |      | DRAWN<br>BY    | PLANS<br>CK'D |
|                                                    |      | CLP            | AE            |
| <b>BAR STEEL<br/>LAYOUT</b>                        |      | SHEET 6 OF 8   |               |
|                                                    |      | 72             |               |

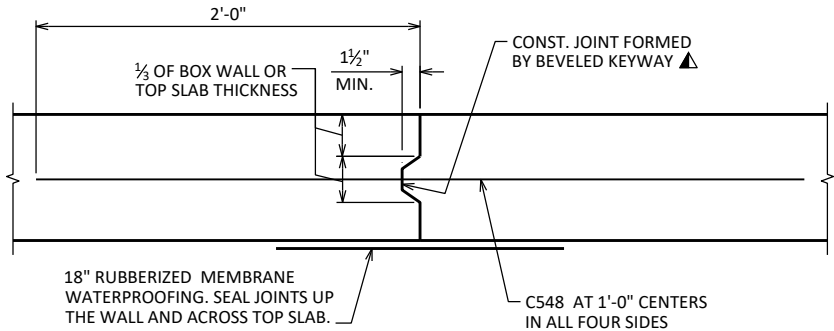
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

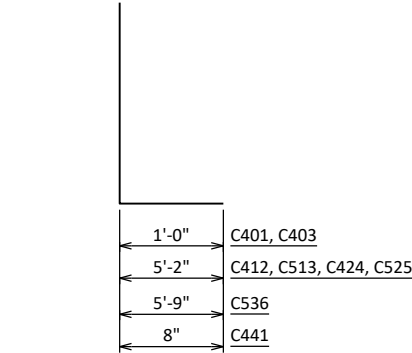
| BAR MARK | COAT | NO. REQ'D. | LENGTH  | BENT | BAR SERIES | LOCATION                                    |
|----------|------|------------|---------|------|------------|---------------------------------------------|
| C401     |      | 24         | 5'-7"   | X    |            | CUTOFF WALL OUTLET                          |
| C402     |      | 5          | 24'-7"  |      |            | CUTOFF WALL OUTLET                          |
| C403     |      | 30         | 3'-7"   | X    |            | CUTOFF WALL INLET                           |
| C404     |      | 3          | 30'-3"  |      |            | CUTOFF WALL INLET                           |
| C405     |      | 22         | 9'-8"   |      |            | APRON INLET & OUTLET                        |
| C406     |      | 2          | 4'-0"   |      |            | APRON OUTLET WINGS 1 & 2                    |
| C407     |      | 2          | 7'-9"   |      |            | APRON OUTLET WINGS 1 & 2                    |
| C408     |      | 10         | 22'-5"  |      | ⊗          | APRON OUTLET                                |
| C409     |      | 10         | 5'-4"   |      | ⊗          | APRON INLET WINGS 3 & 4                     |
| C410     |      | 10         | 25'-4"  |      | ⊗          | APRON INLET                                 |
| C511     |      | 44         | 4'-0"   |      |            | APRON CONNECTORS BOTTOM SLAB INLET & OUTLET |
| C412     | X    | 4          | 8'-2"   | X    | ⊗          | WINGS 1 & 2 VERT. B.F.                      |
| C513     | X    | 7          | 8'-9"   | X    |            | WINGS 1 & 2 VERT. B.F.                      |
| C514     | X    | 1          | 3'-0"   |      |            | WINGS 1 & 2 VERT. B.F.                      |
| C515     | X    | 6          | 4'-2"   |      | ⊗          | WINGS 1 & 2 VERT. B.F.                      |
| C416     | X    | 1          | 2'-4"   |      |            | WINGS 1 & 2 VERT. F.F.                      |
| C417     | X    | 10         | 2'-6"   |      |            | WINGS 1 & 2 VERT. F.F.                      |
| C418     | X    | 9          | 3'-6"   |      | ⊗          | WINGS 1 & 2 VERT. F.F.                      |
| C419     |      | 4          | 13'-1"  |      |            | WINGS 1 & 2 HORIZ. APRON                    |
| C420     | X    | 2          | 9'-10"  |      |            | WINGS 1 & 2 HORIZ. E.F.                     |
| C421     | X    | 2          | 8'-4"   |      |            | WINGS 1 & 2 HORIZ. E.F.                     |
| C422     | X    | 2          | 4'-9"   |      |            | WINGS 1 & 2 HORIZ. E.F.                     |
| C523     | X    | 2          | 10'-6"  |      |            | WINGS 1 & 2 DIAG. E.F.                      |
| C424     | X    | 5          | 8'-2"   | X    | ⊗          | WINGS 3 & 4 VERT. B.F.                      |
| C525     | X    | 6          | 8'-9"   | X    |            | WINGS 3 & 4 VERT. B.F.                      |
| C526     | X    | 1          | 3'-2"   |      |            | WINGS 3 & 4 VERT. B.F.                      |
| C527     | X    | 6          | 4'-2"   |      | ⊗          | WINGS 3 & 4 VERT. B.F.                      |
| C428     | X    | 1          | 2'-4"   |      |            | WINGS 3 & 4 VERT. F.F.                      |
| C429     | X    | 11         | 2'-6"   |      |            | WINGS 3 & 4 VERT. F.F.                      |
| C430     | X    | 10         | 3'-6"   |      | ⊗          | WINGS 3 & 4 VERT. F.F.                      |
| C431     |      | 4          | 13'-4"  |      |            | WINGS 3 & 4 HORIZ. APRON                    |
| C432     | X    | 2          | 10'-9"  |      |            | WINGS 3 & 4 HORIZ. E.F.                     |
| C433     | X    | 2          | 9'-2"   |      |            | WINGS 3 & 4 HORIZ. E.F.                     |
| C434     | X    | 2          | 5'-2"   |      |            | WINGS 3 & 4 HORIZ. E.F.                     |
| C535     | X    | 2          | 11'-5"  |      |            | WINGS 3 & 4 DIAG. E.F.                      |
| C536     |      | 328        | 9'-10"  | X    |            | BOX CORNERS                                 |
| C537     |      | 122        | 19'-11" |      |            | BOX BOTTOM SLAB TRANS.                      |
| C638     |      | 82         | 19'-11" |      |            | BOX BOTTOM SLAB TRANS.                      |
| C439     |      | 248        | 2'-6"   |      |            | BOX WALLS VERT. INT. & EXT.                 |
| C440     |      | 124        | 5'-2"   |      |            | BOX WALLS VERT. EXT.                        |
| C441     |      | 124        | 5'-9"   | X    |            | BOX WALLS VERT. INT.                        |
| C542     |      | 122        | 19'-11" |      |            | BOX TOP SLAB TRANS.                         |
| C643     |      | 122        | 19'-11" |      |            | BOX TOP SLAB TRANS.                         |
| C444     |      | 58         | 30'-2"  |      |            | BOX LONG. INT. WALLS & BOTTOM SLAB          |
| C445     |      | 4          | 19'-11" |      |            | BOX HEADERS INLET & OUTLET                  |
| C346     |      | 26         | 3'-4"   | X    |            | BOX HEADER OUTLET                           |
| C347     |      | 26         | 3'-0"   | X    |            | BOX HEADER INLET                            |
| C548     |      | 50         | 4'-0"   |      |            | BOX VERT. & LONG. CONST. JOINT              |

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

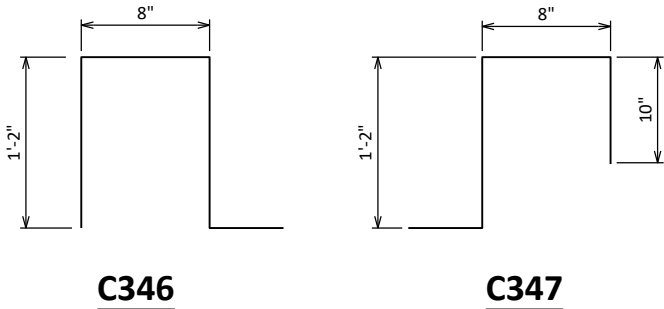
⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



VERTICAL CONSTRUCTION JOINT



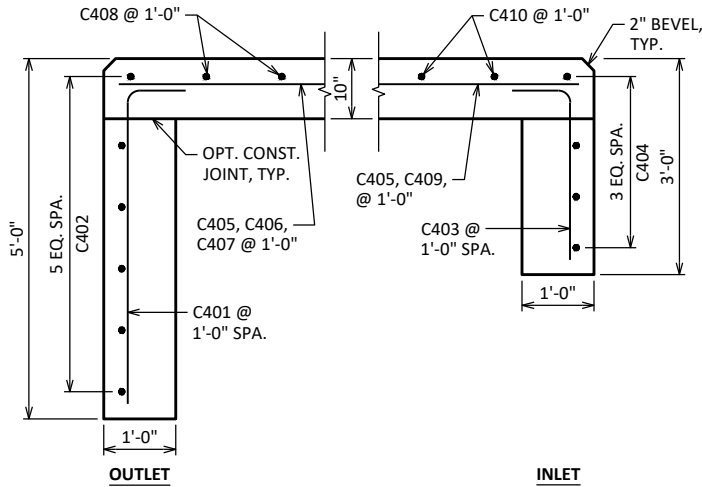
C401, C403, C412, C513  
C424, C525, C536, C441



BAR SERIES TABLE

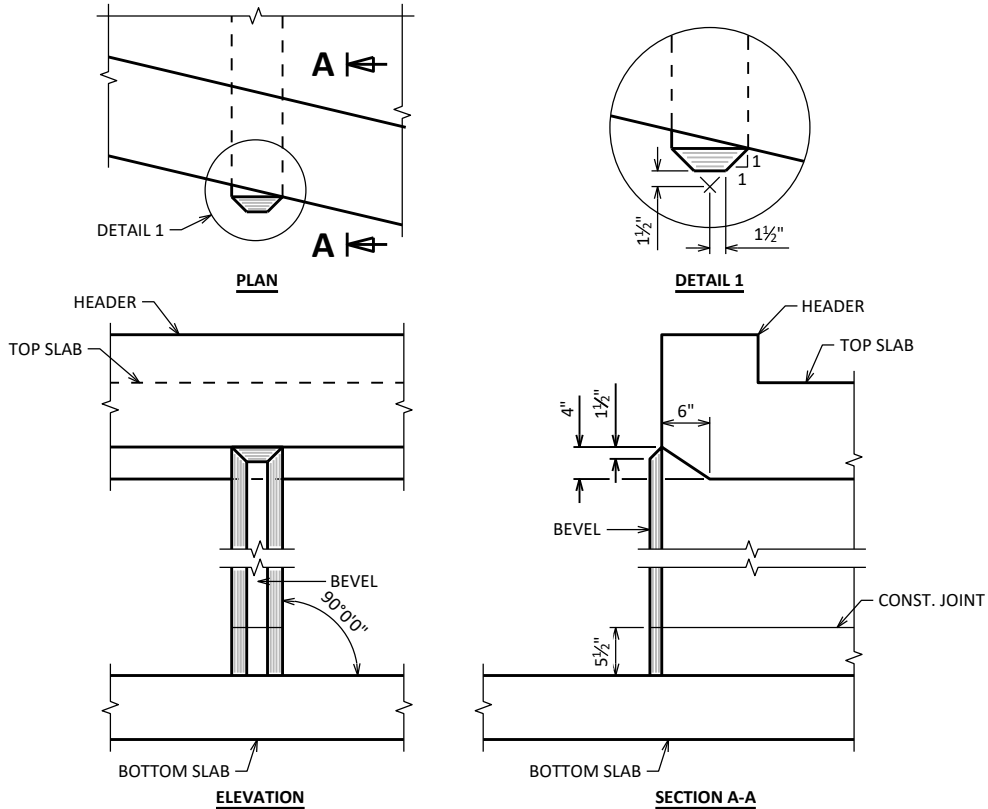
BUNDLE AND TAG EACH SERIES SEPARATELY.

| BAR MARK |                | NO. REQ'D. | LENGTH     |
|----------|----------------|------------|------------|
| C408     | 1 SERIES OF 10 | 20'-0"     | TO 24'-10" |
| C409     | 2 SERIES OF 5  | 1'-10"     | TO 8'-10"  |
| C410     | 1 SERIES OF 10 | 20'-2"     | TO 30'-6"  |
| C412     | 1 SERIES OF 4  | 7'-7"      | TO 8'-9"   |
| C515     | 1 SERIES OF 6  | 3'-2"      | TO 5'-2"   |
| C418     | 1 SERIES OF 9  | 1'-10"     | TO 5'-2"   |
| C424     | 1 SERIES OF 5  | 7'-7"      | TO 8'-9"   |
| C527     | 1 SERIES OF 6  | 3'-2"      | TO 5'-2"   |
| C430     | 1 SERIES OF 10 | 1'-10"     | TO 5'-2"   |

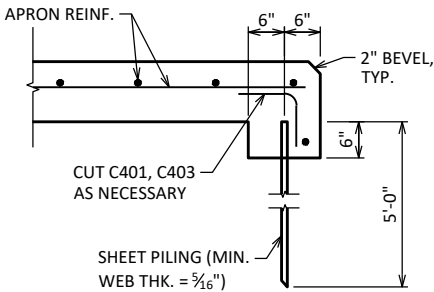


CUT-OFF WALLS

▲ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED.



INLET NOSE DETAILS



ALTERNATE CUT-OFF WALLS

THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.

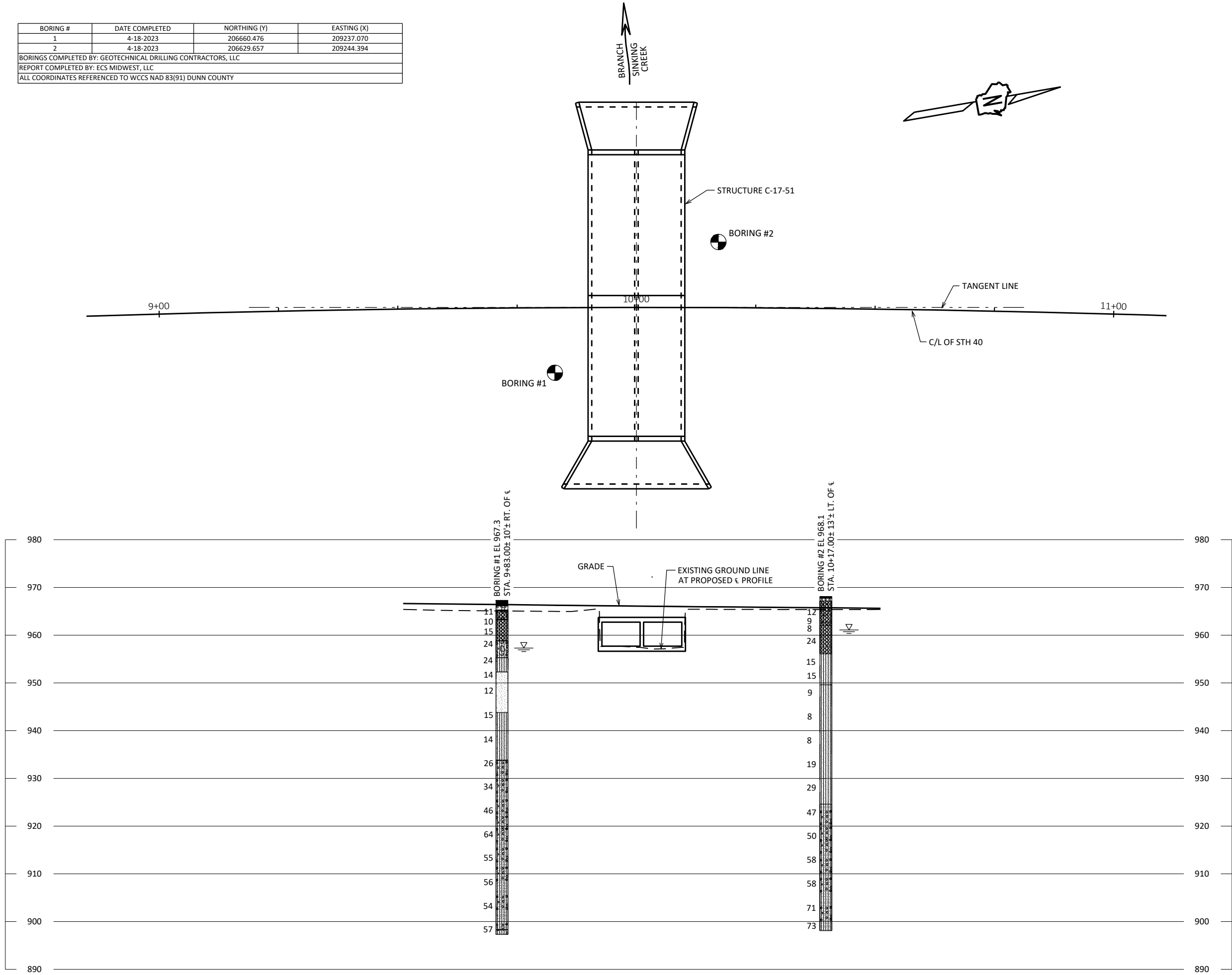
|                                                    |      |                    |                |
|----------------------------------------------------|------|--------------------|----------------|
| NO.                                                | DATE | REVISION           | BY             |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                    |                |
| STRUCTURE C-17-51                                  |      |                    |                |
| DRAWN BY                                           |      | CLP                | PLANS CK'D AEB |
| BILL OF BARS AND DETAILS                           |      | SHEET 7 OF 8<br>73 |                |

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|----------|----------------|--------------|-------------|
| 1        | 4-18-2023      | 206660.476   | 209237.070  |
| 2        | 4-18-2023      | 206629.657   | 209244.394  |

BORINGS COMPLETED BY: GEOTECHNICAL DRILLING CONTRACTORS, LLC

REPORT COMPLETED BY: ECS MIDWEST, LLC

ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DUNN COUNTY



STATE PROJECT NUMBER

8620-00-74

MATERIAL SYMBOLS

ASPHALT

CONCRETE

SAND

BOULDERS OR COBBLES

SHALE

TOPSOIL

FILL

CLAY

LIMESTONE

SANDSTONE

PEAT

GRAVEL

SILT

BEDROCK (UNKNOWN)

IGNEOUS/META

LEGEND OF BORING

BORING #/EL STA./OFFSET

ST 0.25 (1) 17 (2)

F-C COBBLE OR BOULDER

WEATHERED LIMESTONE

CORE RUN #1 - 24'-29' REC=80%, RQD=72%

(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ END OF DRILLING

▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

|     |      |          |    |
|-----|------|----------|----|
| NO. | DATE | REVISION | BY |
|-----|------|----------|----|

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-17-51

DRAWN BY ZSS

PLANS CK'D AEB

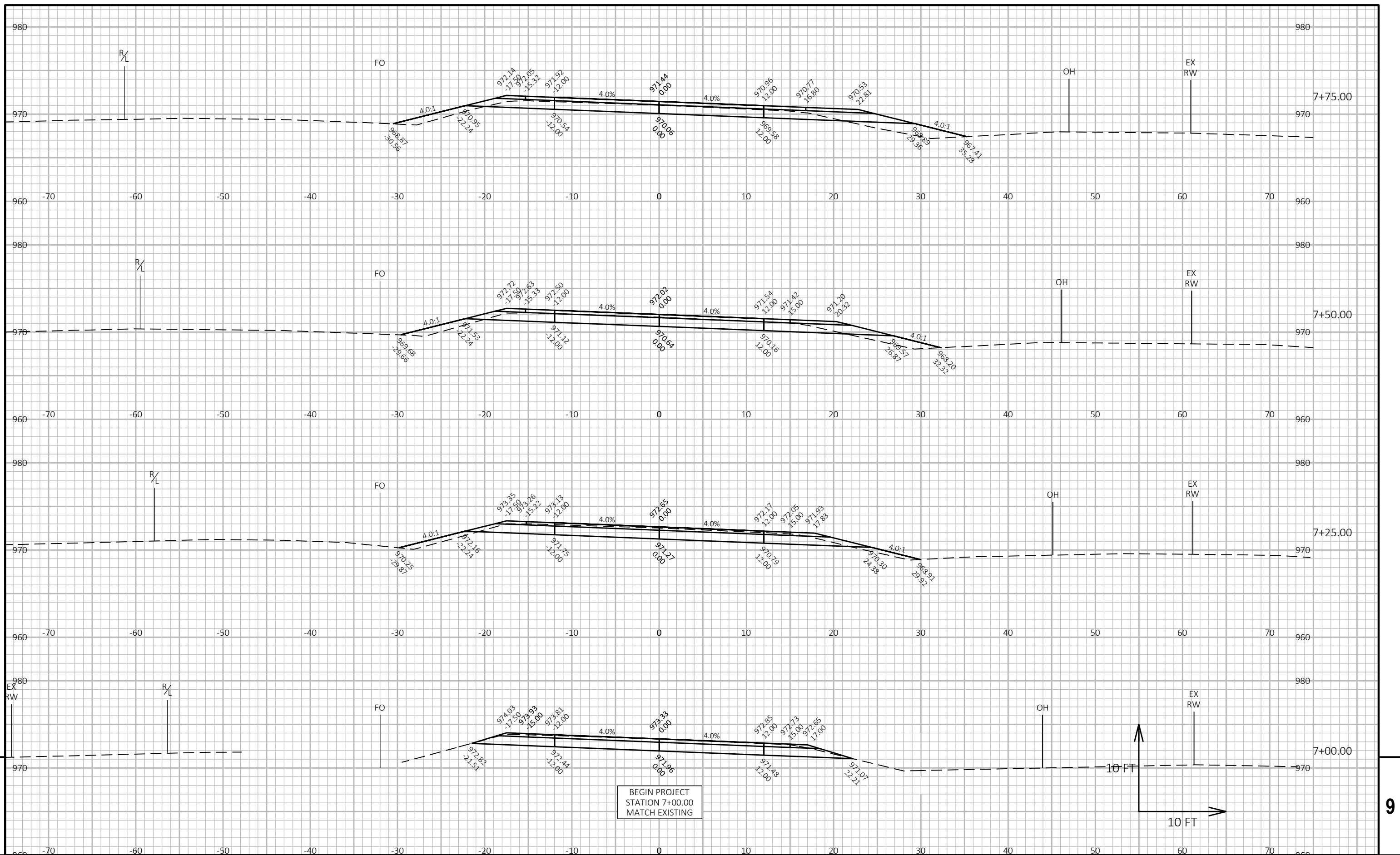
SUBSURFACE EXPLORATION

SHEET 8 OF 8

74

SCALE =

| STH 40 COMPUTER EARTHWORK |          |           |                                   |        |                                   |                                   |      |                     |              |               |
|---------------------------|----------|-----------|-----------------------------------|--------|-----------------------------------|-----------------------------------|------|---------------------|--------------|---------------|
| Station                   | Distance | Area (SF) |                                   |        | Incremental Vol (CY) (Unadjusted) |                                   |      | Cumulative Vol (CY) |              | Mass Ordinate |
|                           |          | Cut       | Unuseable<br>Pavement<br>Material | Fill   | Salvaged /                        |                                   |      | Expanded            |              |               |
|                           |          |           |                                   |        | Cut                               | Unuseable<br>Pavement<br>Material | Fill | Cut<br>1.00         | Fill<br>1.30 |               |
|                           |          |           |                                   |        |                                   |                                   |      |                     |              |               |
| Note 1                    | Note 4   | Note 2    | Note 5                            | Note 3 |                                   |                                   |      |                     |              |               |
| 7+00                      | --       | 50.5      | 14.4                              | 0.0    |                                   |                                   |      |                     |              |               |
| 7+25                      | 25.00    | 45.1      | 14.4                              | 6.8    | 44                                | 13                                | 3    | 31                  | 4            | 27            |
| 7+50                      | 25.00    | 37.6      | 14.4                              | 12.0   | 38                                | 13                                | 9    | 56                  | 15           | 41            |
| 7+75                      | 25.00    | 33.4      | 14.4                              | 16.6   | 33                                | 13                                | 13   | 76                  | 33           | 43            |
| 8+00                      | 25.00    | 28.1      | 14.4                              | 26.0   | 28                                | 13                                | 20   | 91                  | 58           | 33            |
| 8+25                      | 25.00    | 24.3      | 14.4                              | 42.3   | 24                                | 13                                | 32   | 102                 | 99           | 2             |
| 8+27.18                   | 2.18     | 24.1      | 14.4                              | 43.8   | 2                                 | 1                                 | 3    | 102                 | 104          | -1            |
| 8+50                      | 22.82    | 20.6      | 14.4                              | 52.4   | 19                                | 12                                | 41   | 109                 | 157          | -47           |
| 8+52.31                   | 2.31     | 20.1      | 14.4                              | 53.2   | 2                                 | 1                                 | 5    | 110                 | 162          | -53           |
| 8+75                      | 22.69    | 17.6      | 14.1                              | 50.1   | 16                                | 12                                | 43   | 113                 | 219          | -105          |
| 8+77.45                   | 2.45     | 17.4      | 14.0                              | 51.3   | 2                                 | 1                                 | 5    | 114                 | 225          | -111          |
| 8+91.23                   | 13.78    | 16.0      | 13.3                              | 66.4   | 9                                 | 7                                 | 30   | 115                 | 264          | -148          |
| 9+00                      | 8.77     | 14.9      | 12.6                              | 69.4   | 5                                 | 4                                 | 22   | 116                 | 292          | -176          |
| 9+16.09                   | 16.09    | 11.8      | 10.5                              | 72.2   | 8                                 | 7                                 | 42   | 117                 | 347          | -230          |
| 9+25                      | 8.91     | 9.3       | 8.4                               | 61.7   | 3                                 | 3                                 | 22   | 118                 | 376          | -258          |
| 9+40.95                   | 15.95    | 5.6       | 5.0                               | 55.8   | 4                                 | 4                                 | 35   | 118                 | 421          | -303          |
| 9+50                      | 9.05     | 4.0       | 3.3                               | 60.6   | 2                                 | 1                                 | 20   | 118                 | 447          | -328          |
| 9+75                      | 25.00    | 2.6       | 2.0                               | 80.6   | 3                                 | 2                                 | 65   | 119                 | 532          | -413          |
| 10+00                     | 25.00    | 0.0       | 0.0                               | 69.9   | 1                                 | 1                                 | 70   | 119                 | 622          | -503          |
| 10+25                     | 25.00    | 28.3      | 14.4                              | 57.2   | 13                                | 7                                 | 59   | 126                 | 699          | -573          |
| 10+50                     | 25.00    | 40.3      | 14.4                              | 38.3   | 32                                | 13                                | 44   | 144                 | 756          | -612          |
| 10+59.71                  | 9.71     | 43.5      | 14.4                              | 35.9   | 15                                | 5                                 | 13   | 154                 | 773          | -620          |
| 10+75                     | 15.29    | 48.5      | 14.4                              | 46.8   | 26                                | 8                                 | 23   | 172                 | 804          | -632          |
| 10+84.84                  | 9.84     | 52.2      | 14.4                              | 59.7   | 18                                | 5                                 | 19   | 185                 | 829          | -644          |
| 11+00                     | 15.16    | 61.0      | 14.4                              | 55.9   | 32                                | 8                                 | 32   | 209                 | 871          | -663          |
| 11+09.98                  | 9.98     | 66.7      | 14.4                              | 53.3   | 24                                | 5                                 | 20   | 227                 | 898          | -671          |
| 11+21.2                   | 11.22    | 72.2      | 14.4                              | 43.6   | 29                                | 6                                 | 20   | 250                 | 924          | -674          |
| 11+25                     | 3.80     | 73.9      | 14.4                              | 43.9   | 10                                | 2                                 | 6    | 258                 | 932          | -674          |
| 11+46.07                  | 21.07    | 82.2      | 14.4                              | 62.8   | 61                                | 11                                | 42   | 308                 | 986          | -678          |
| 11+50                     | 3.93     | 82.1      | 14.4                              | 64.2   | 12                                | 2                                 | 9    | 318                 | 998          | -680          |
| 11+70.93                  | 20.93    | 79.7      | 14.4                              | 71.8   | 63                                | 11                                | 53   | 369                 | 1066         | -697          |
| 11+75                     | 4.07     | 78.9      | 14.4                              | 68.6   | 12                                | 2                                 | 11   | 379                 | 1080         | -701          |
| 12+00                     | 25.00    | 72.7      | 14.4                              | 52.8   | 70                                | 13                                | 56   | 436                 | 1153         | -717          |
| 12+25                     | 25.00    | 68.2      | 14.4                              | 35.1   | 65                                | 13                                | 41   | 488                 | 1206         | -718          |
| 12+50                     | 25.00    | 62.9      | 14.4                              | 24.3   | 61                                | 13                                | 27   | 535                 | 1242         | -707          |
| 12+75                     | 25.00    | 57.1      | 14.4                              | 18.4   | 56                                | 13                                | 20   | 577                 | 1268         | -690          |
| 13+00                     | 25.00    | 51.4      | 14.4                              | 0.0    | 50                                | 13                                | 9    | 614                 | 1279         | -664          |
|                           |          |           |                                   |        | 891                               | 277                               | 984  |                     |              |               |



|             |            |
|-------------|------------|
| PROJECT NO: | 8620-00-74 |
|-------------|------------|

HWY: STH 40

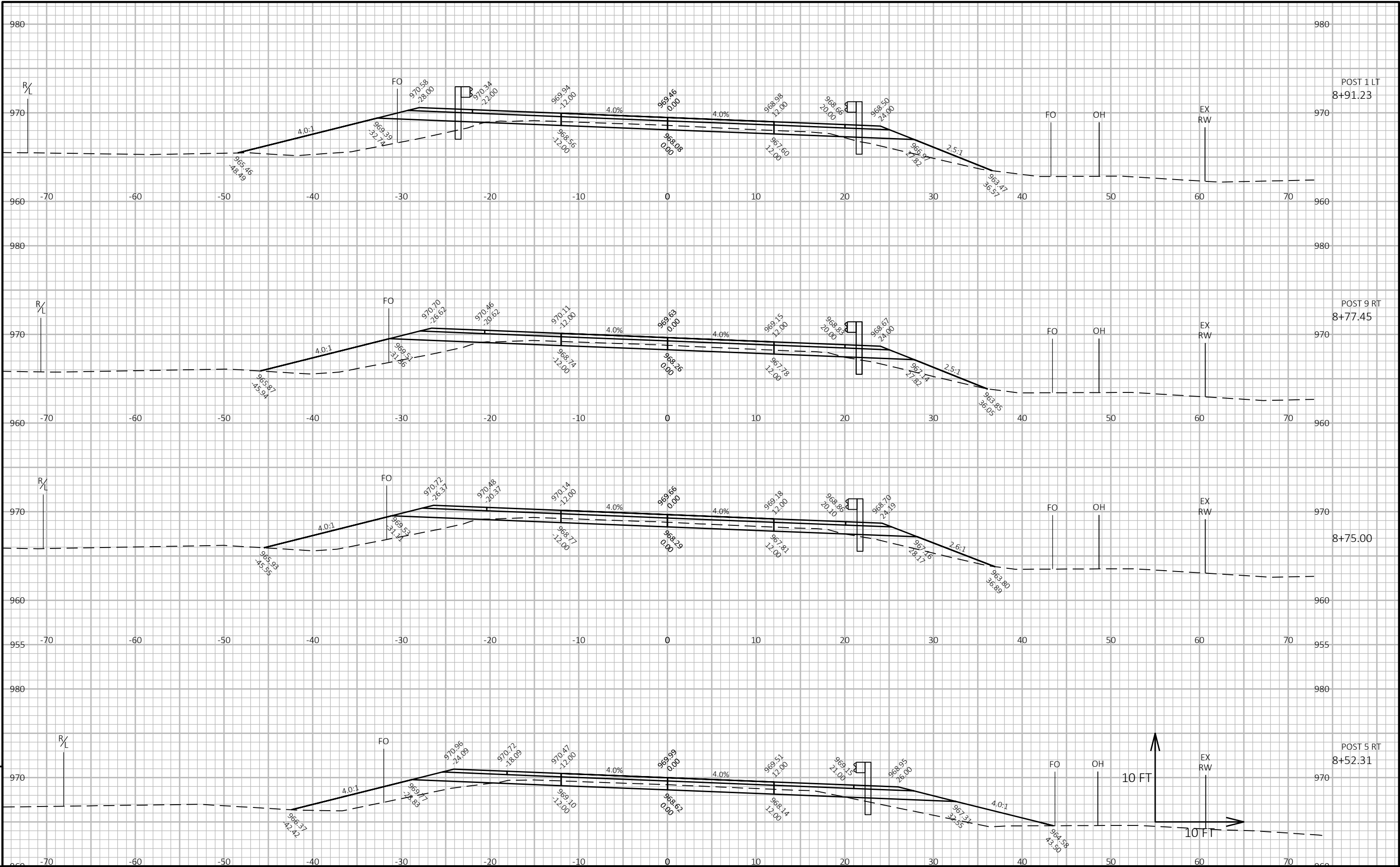
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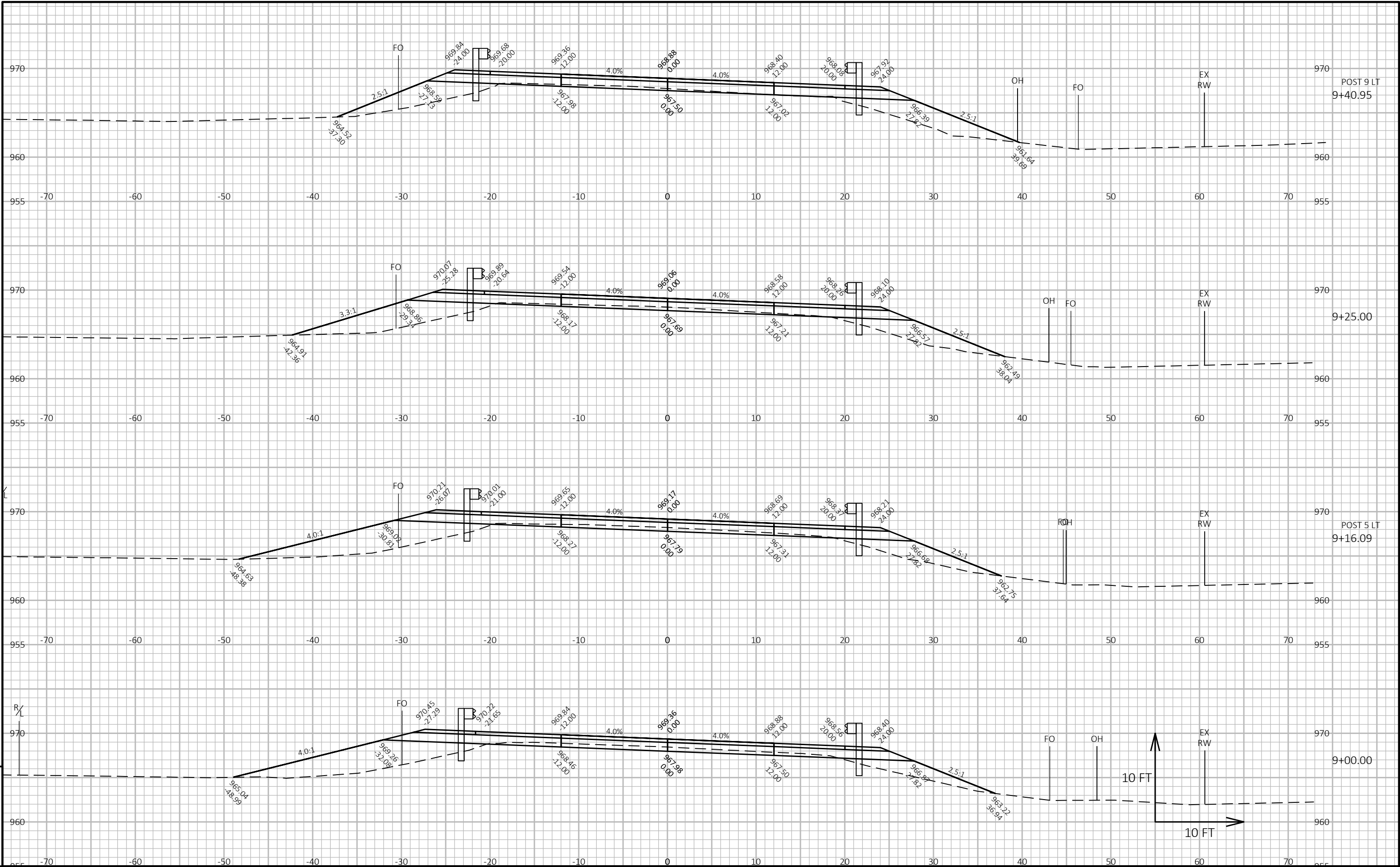
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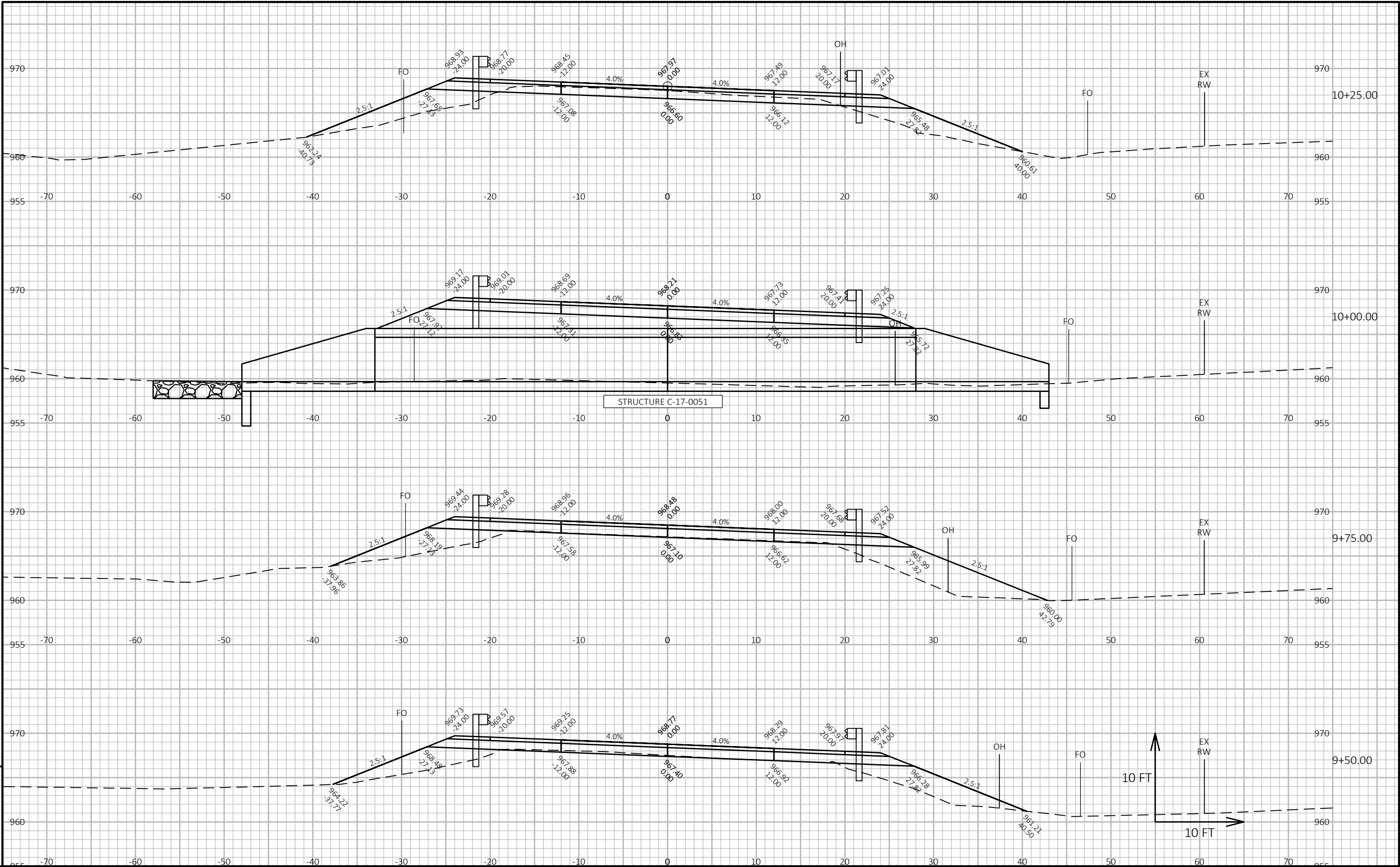
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| SHEET | 76 |
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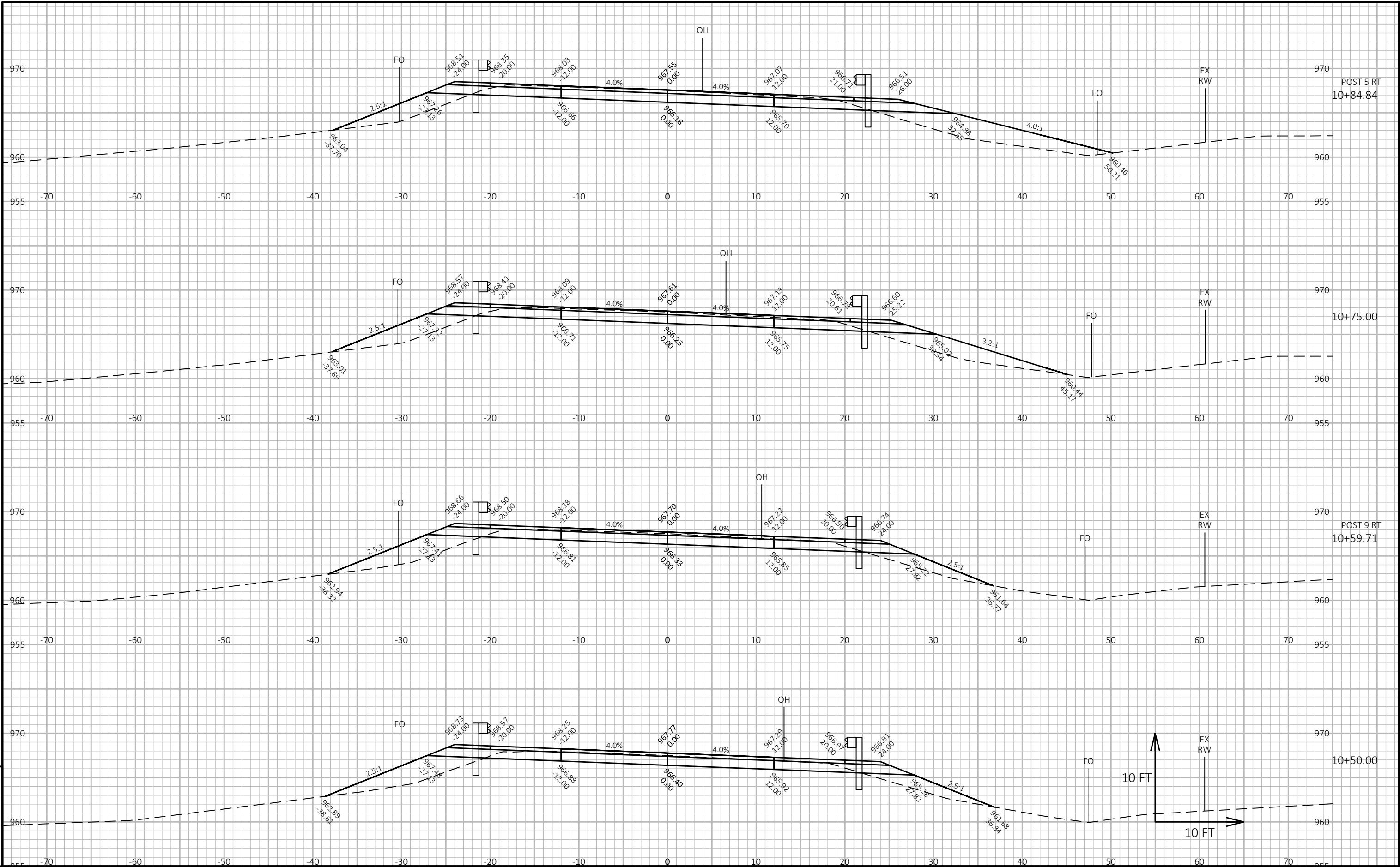
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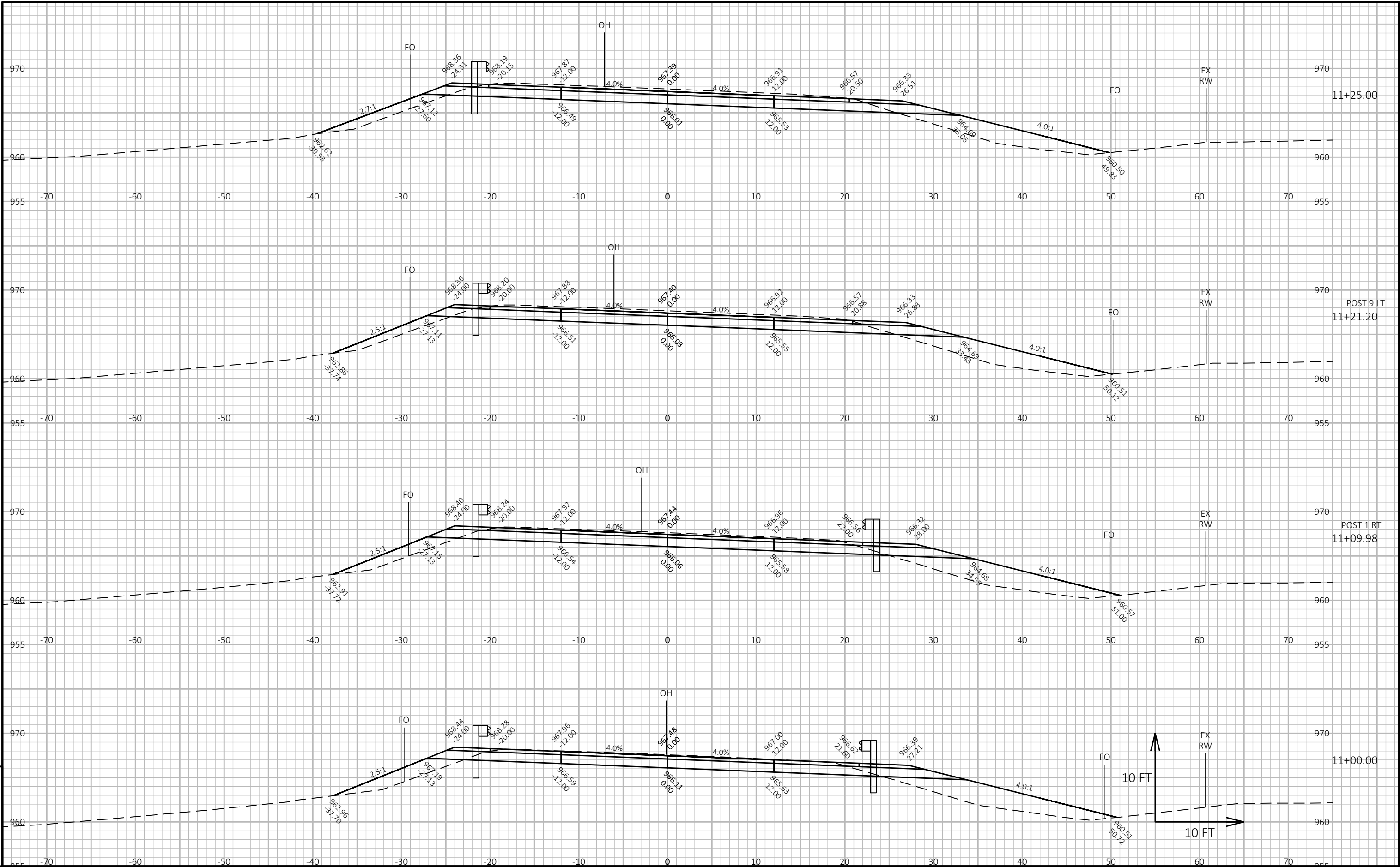


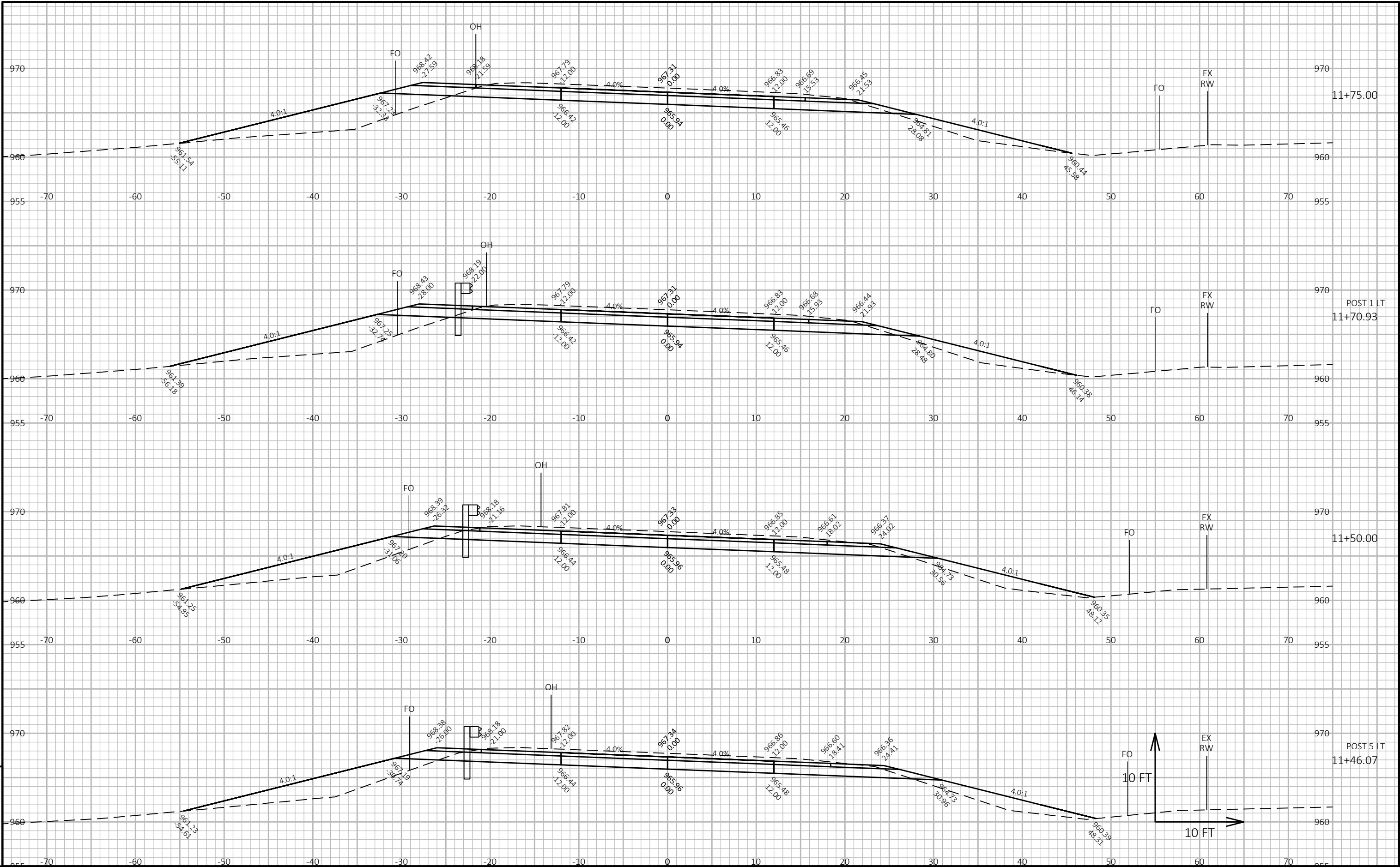


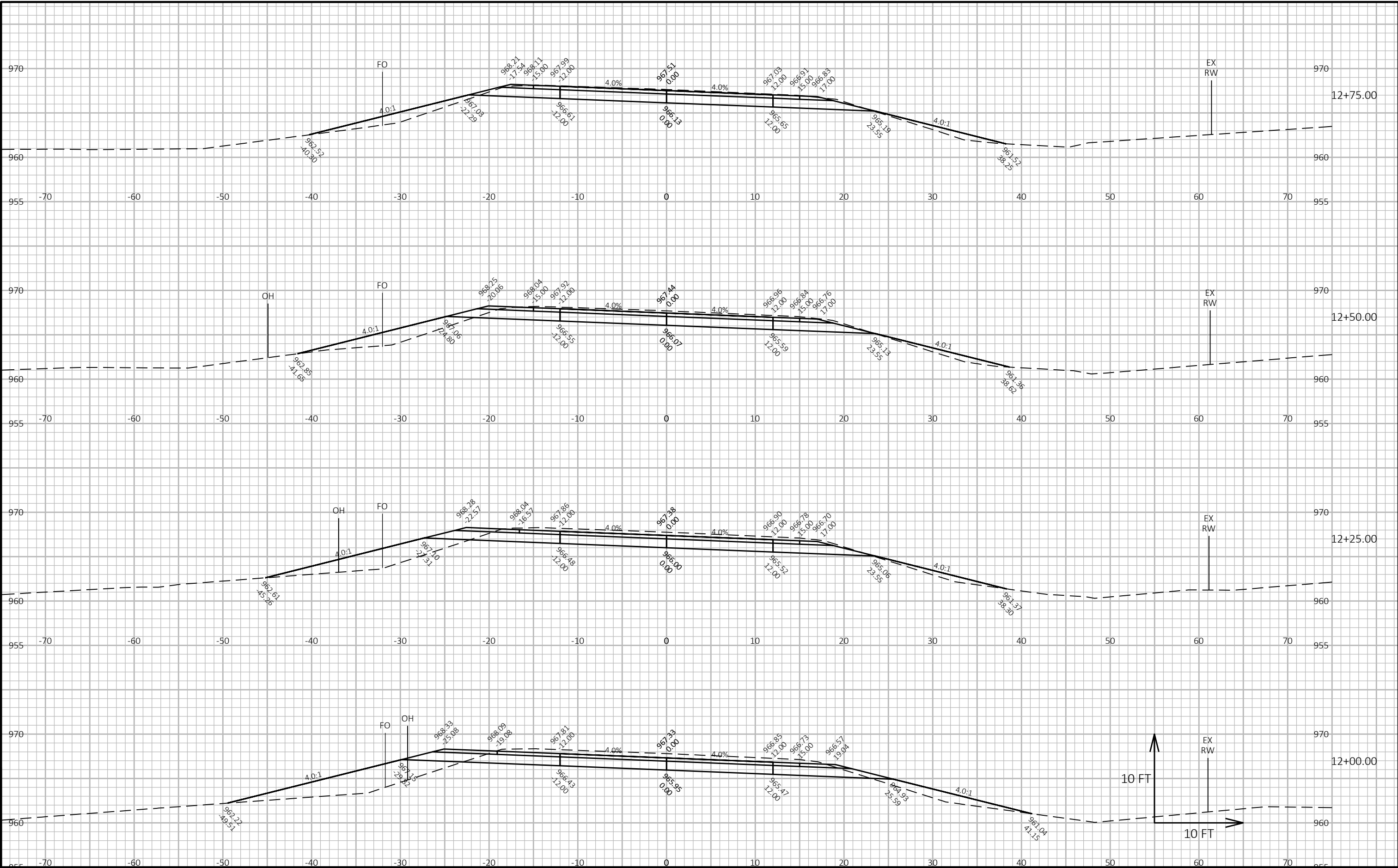


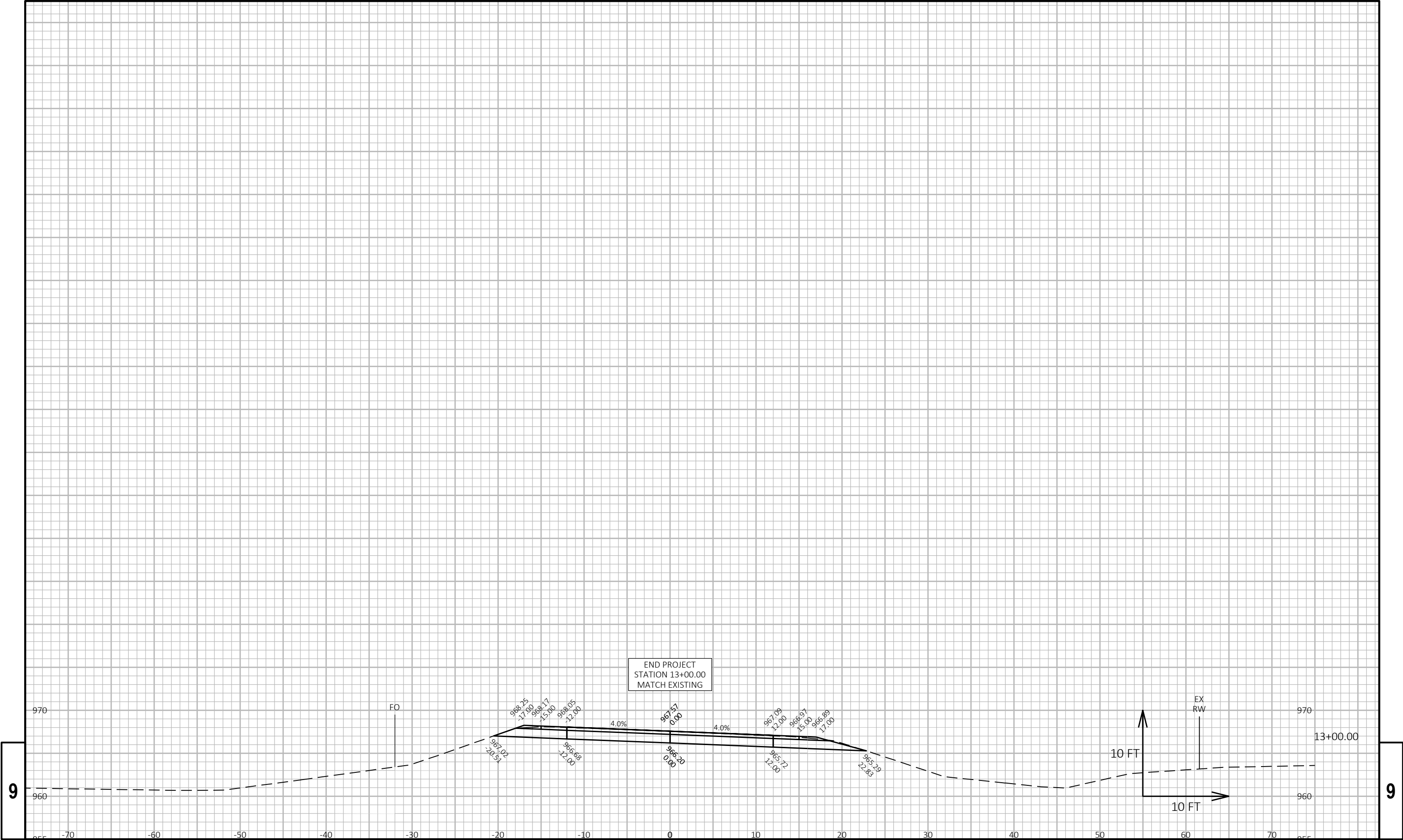


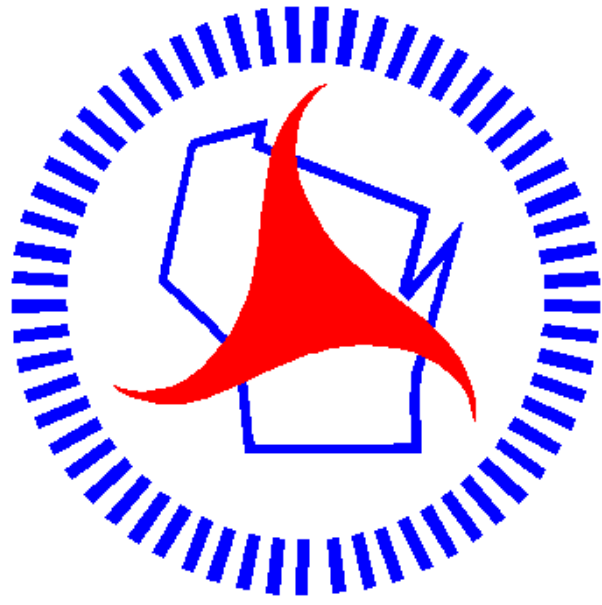












## ***Wisconsin Department of Transportation***

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