

RHI  
PROJECT ID: 9478-03-71  
WITH: N/A

COUNTY: MARATHON

APRIL 2025

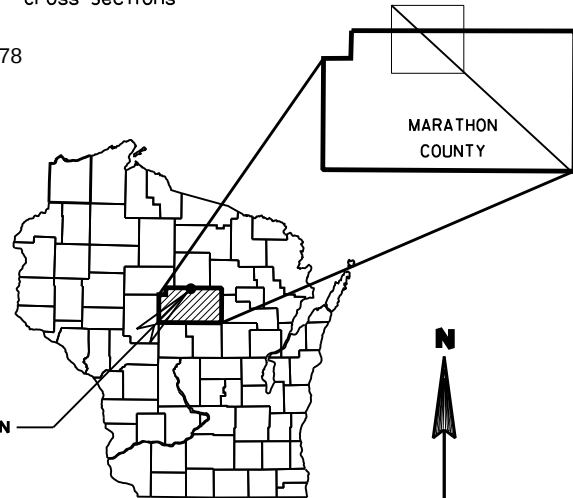
ORDER OF SHEETS

|             |   |                                                                  |
|-------------|---|------------------------------------------------------------------|
| Section No. | 1 | Title                                                            |
| Section No. | 2 | Typical Sections and Details<br>(Includes Erosion Control Plans) |
| Section No. | 3 | Estimate of Quantities                                           |
| Section No. | 3 | Miscellaneous Quantities                                         |
| Section No. | 4 | Right of Way Plat                                                |
| 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 = 78

28

PROJECT LOCATION



N

DESIGN DESIGNATION

|                 |   |        |
|-----------------|---|--------|
| A.A.D.T. (2025) | = | 635    |
| A.A.D.T. (2045) | = | 855    |
| D.H.V.          | = | 60     |
| D.              | = | 50/50  |
| T.              | = | 5%     |
| DESIGN SPEED    | = | 55 MPH |
| ESALS           | = | 73,000 |

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

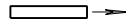
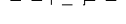
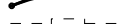
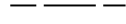
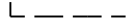
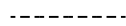
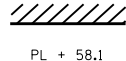
PROPOSED CULVERT  
(Box or Pipe)

COMBUSTIBLE FLUIDS

HIGH VOLTAGE

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

OVERHEAD

ELECTRIC

FIBER OPTIC

GAS

SANITARY SEWER

STORM SEWER

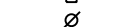
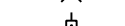
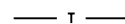
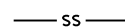
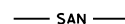
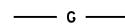
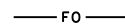
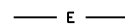
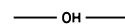
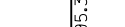
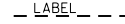
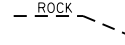
TELEPHONE

WATER

UTILITY PEDESTAL

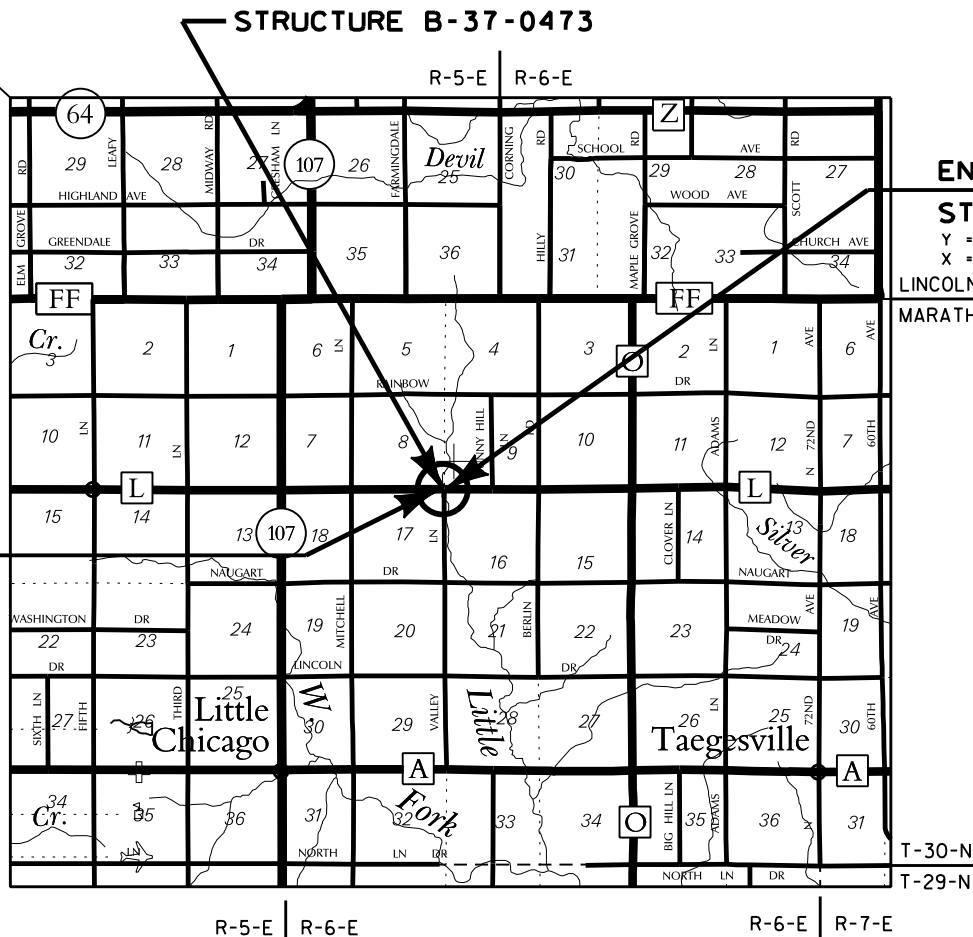
POWER POLE

TELEPHONE POLE



BEGIN PROJECT  
STA. 7+97.50  
Y = 249830.27  
X = 234675.99

STA. 7+97.50  
Y = 249830.27  
X = 234675.99



LAYOUT  
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.086 MI.

END PROJECT

STA. 12+50

Y = 249827.62  
X = 235128.46

LINCOLN CO.

MARATHON CO.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MARATHON 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 NAVD88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

STATE PROJECT

9478-03-71

FEDERAL PROJECT

PROJECT

WISC 2025341

CONTRACT

1

ACCEPTED FOR

County of MARATHON

10/03/2024

Date

James M. Griesbach

Highway Commissioner

ORIGINAL PLANS PREPARED BY

AYRES

3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com



10/10/2024

DATE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor

AYRES ASSOCIATES INC

Designer

AYRES ASSOCIATES INC

Project Manager

MICHAEL GRAGE, PE

Regional Examiner

N/A

Regional Supervisor

DANIEL ERVA, PE

APPROVED FOR THE DEPARTMENT

DATE: 10/28/2024

(Signature)

E

GENERAL NOTES

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

NO TREES AND/OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

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

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

ASPHALTIC REMOVAL IS INCLUDED IN THE ITEM EXCAVATION COMMON.

TOPSOIL SHALL BE PLACED ON THE SLOPES, TO THE POINT OF INTERCEPT WITH THE ORIGINAL GROUND SHOWN ON THE CROSS SECTIONS.

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

ASPHALT SURFACE SHALL USE 1/2" (12.5mm) NOMINAL AGGREGATE SIZE.

WETLANDS EXIST IN THE PROJECT AREA. NO DISTURBANCE IS ALLOWED OUTSIDE THE SLOPE INTERCEPTS.

UTILITIES

FRONTIER COMMUNICATIONS  
(COMMUNICATIONS)  
1851 N 14TH AVENUE  
WAUSAU, WI 54401  
ATTN: CHRIS POLLACK  
715-847-1240  
715-297-4773 (cell)  
christopher.pollack@ftr.com

WISCONSIN PUBLIC SERVICE CORPORATION - (WPS)  
(ELECTRIC DISTRIBUTION)  
P.O. BOX 1166  
WAUSAU, WI 54402  
ATTN: JESSE PATTEN  
715-848-7405  
715-573-0349 (cell)  
jesse.patten@wisconsinpublicservice.com

\* \* DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

DIGGERS

HOTLINE

811

Dial  or (800) 242-8511

www.DiggersHotline.com

WISCONSIN DEPARTMENT OF  
NATURAL RESOURCES CONTACT:

JAY SCHIEFELBEIN  
2984 SHAWANO AVENUE  
GREEN BAY, WI 54313  
920-360-3784  
Jeremiah.Schiefelbein@wisconsin.gov

DESIGNER

AYRES ASSOCIATES  
3433 OAKWOOD HILLS PARKWAY  
EAU CLAIRE, WI 54701  
ATTN: DANIEL SYDOW, PE  
715-834-3161  
sydowd@ayresassociates.com

COUNTY CONTACT:

MARATHON COUNTY, HIGHWAY COMMISSIONER  
1430 WEST STREET  
WAUSAU, WI 54401  
ATTN: JAMES GRIESBACH  
715-261-1800  
james.griesbach@co.marathon.wi.us

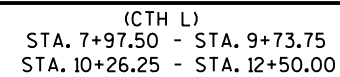
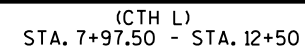
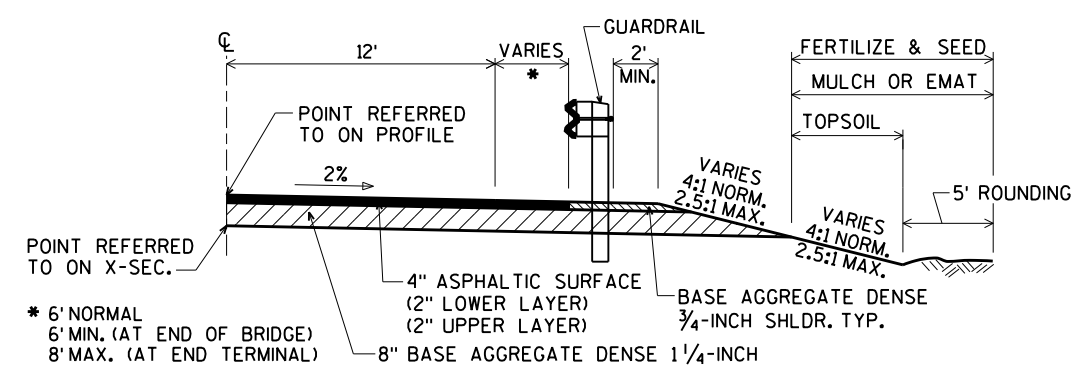


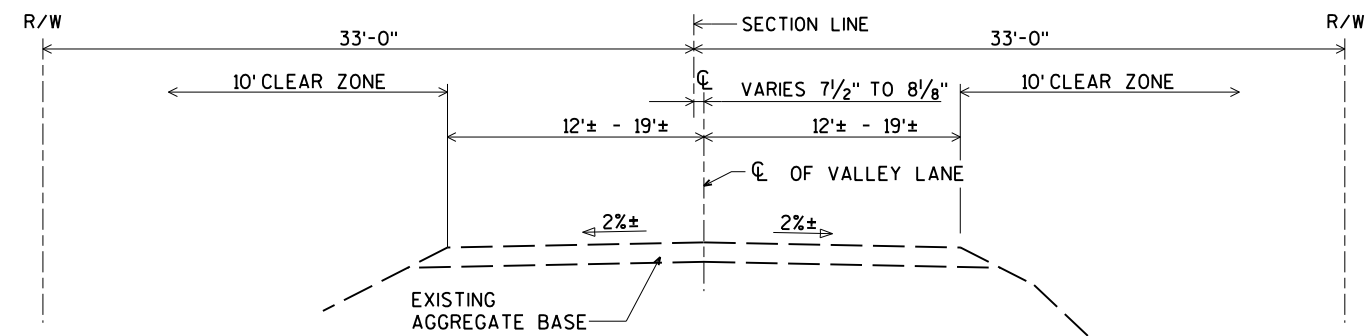
Diagram illustrating the cross-section of a bridge deck and approach, showing various layers and dimensions:

- Topsoil** (5' Rounding)
- MULCH OR EMAT**
- FERTILIZE & SEED**
- GUARDRAIL** (2' MIN.)
- VARIES 4:1 NORM. 2.5:1 MAX.** (Slope)
- VARIES 4:1 NORM. 2.5:1 MAX.** (Slope)
- 4" ASPHALTIC SURFACE (2" LOWER LAYER) (2" UPPER LAYER)**
- 8" BASE AGGREGATE DENSE 1 1/4-INCH**
- BASE AGGREGATE DENSE 3/4-INCH SHLDR. TYP.**
- POINT REFERRED TO ON PROFILE**
- POINT REFERRED TO ON X-SEC.**
- 2%** (Slope)
- 12'** (Length)
- VARIES** (Length)
- \* 2' NORMAL 2' MIN. (AT END OF BRIDGE) 4' MAX. (AT END TERMINAL)**

(CTH L)  
STA. 8+84.06 - STA. 9+73.75, LT.  
STA. 10+26.25 - STA. 12+03.02, LT.

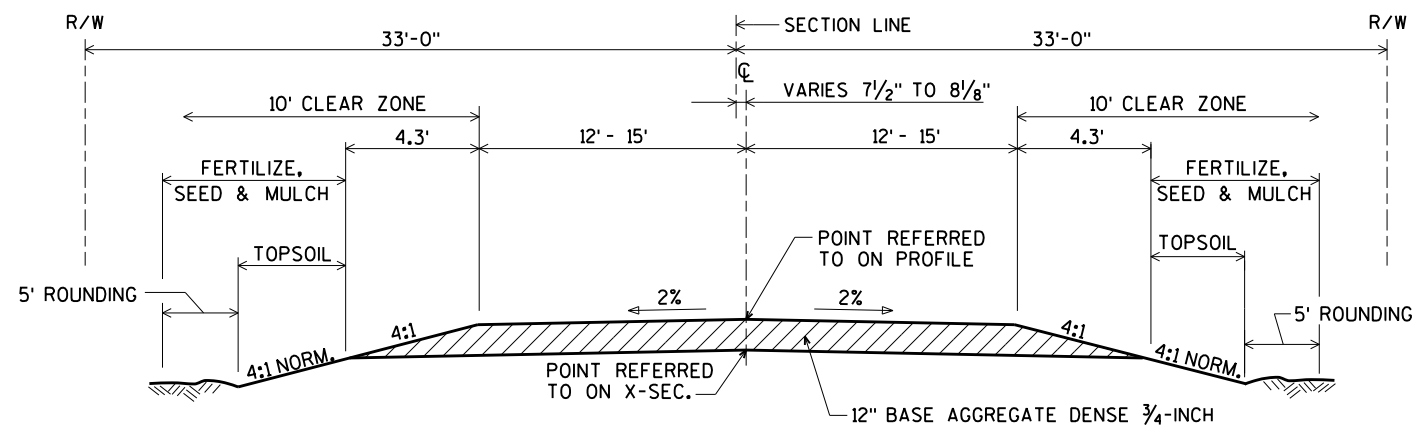


(CTH L)  
STA. 8+34.06 - STA. 9+73.75, RT.



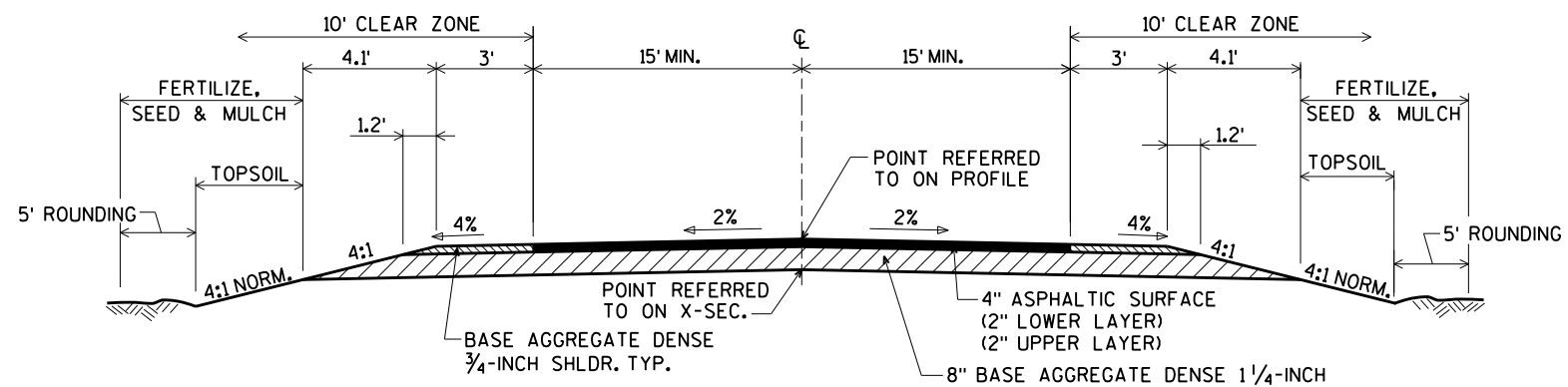
### EXISTING TYPICAL SECTION

(VALLEY LANE)  
STA. 19+17.24 - STA. 19+83



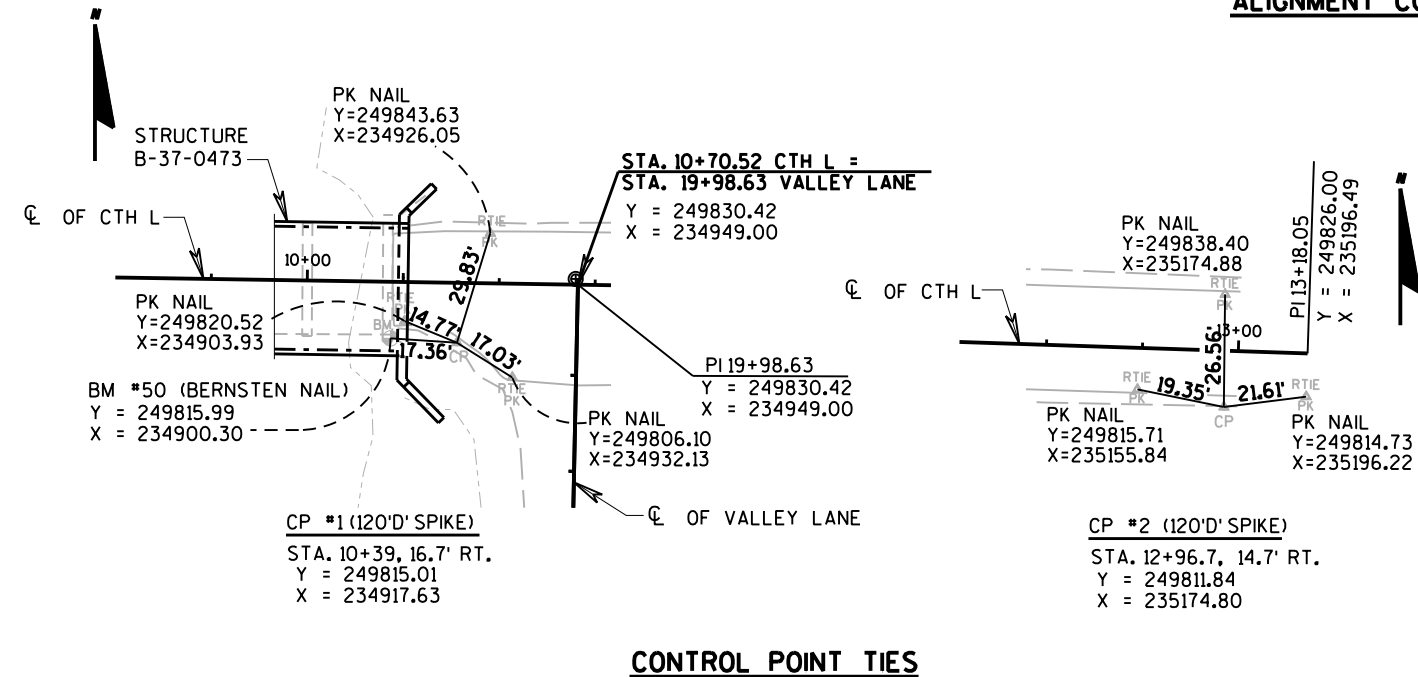
### FINISHED TYPICAL SECTION

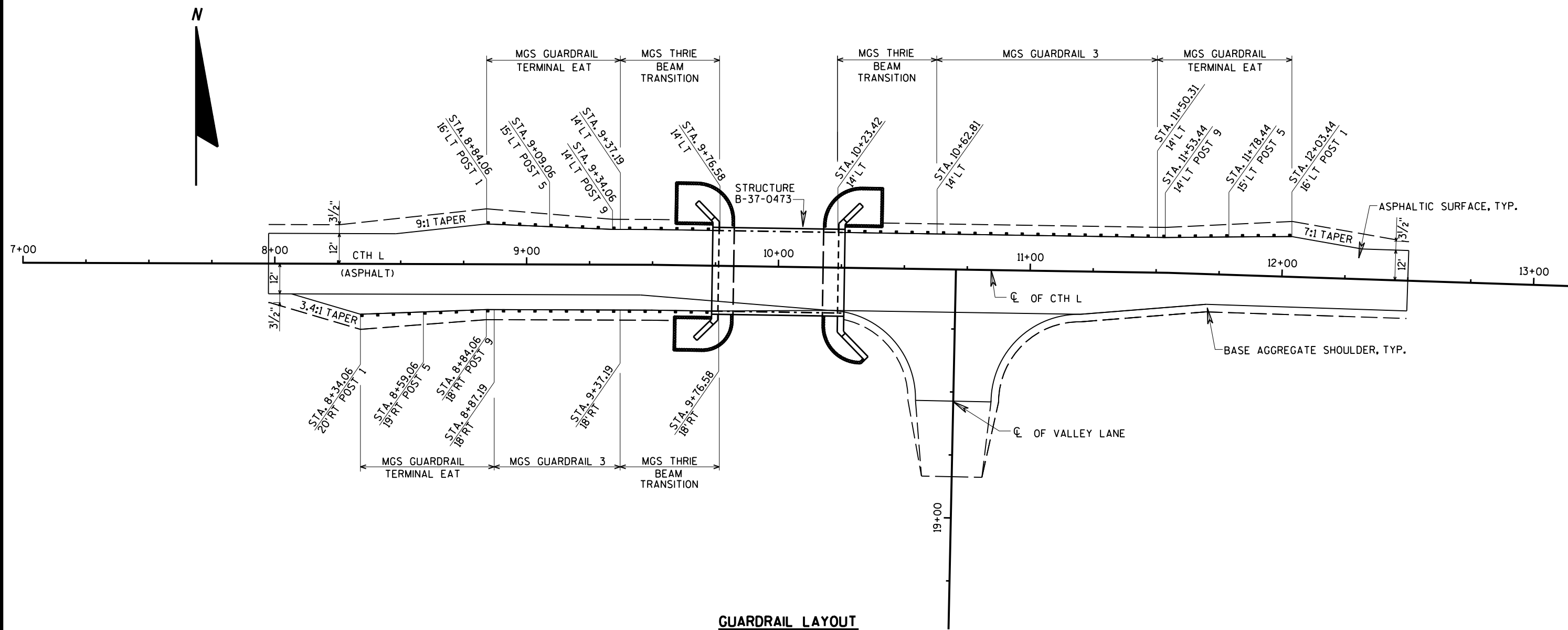
(VALLEY LANE)  
STA. 19+16.38 - STA. 19+46.38



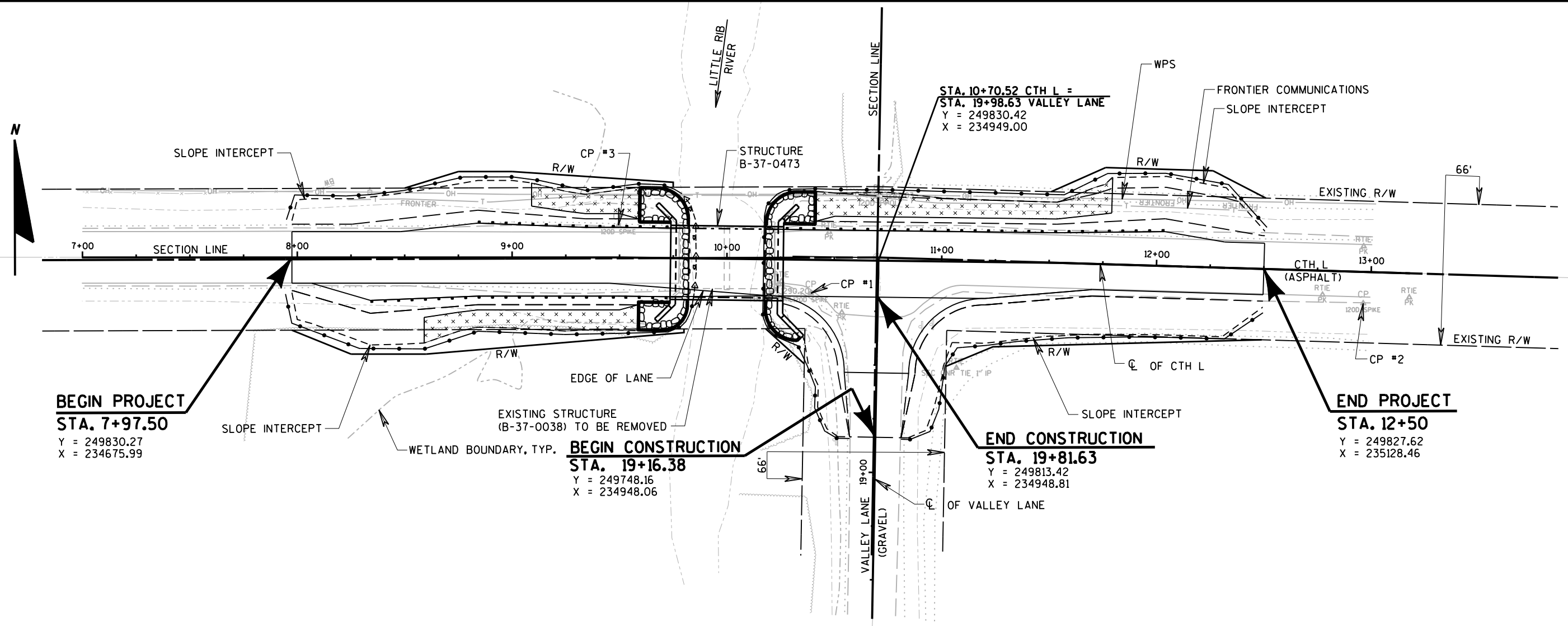
### FINISHED TYPICAL SECTION

(VALLEY LANE)  
STA. 19+46.38 - STA. 19+81.63







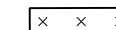


|                         | HYDROLOGIC SOIL GROUP    |            |            |                          |            |            |                          |            |            |                          |            |            |
|-------------------------|--------------------------|------------|------------|--------------------------|------------|----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

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

HIGH WATER<sub>2</sub> EL. 1284.91

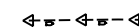
#### LEGEND



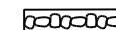
EROSION MAT CLASS II TYPE C



SILT FENCE



TURBIDITY BARRIER



RIPRAP HEAVY

TOTAL PROJECT AREA = 0.880 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.718 ACRES

PROJECT NO: 9478-03-71

HWY: CTH L

COUNTY: MARATHON

EROSION CONTROL

SCALE, FEET 0 25 50

SHEET

E

Estimate Of Quantities

9478-03-71

| Line | Item       | Item Description                                                          | Unit | Total      | Qty        |
|------|------------|---------------------------------------------------------------------------|------|------------|------------|
| 0002 | 201.0105   | Clearing                                                                  | STA  | 3.000      | 3.000      |
| 0004 | 201.0205   | Grubbing                                                                  | STA  | 3.000      | 3.000      |
| 0006 | 203.0260   | Removing Structure Over Waterway Minimal Debris (structure) 01. B-37-0038 | EACH | 1.000      | 1.000      |
| 0008 | 205.0100   | Excavation Common                                                         | CY   | 382.000    | 382.000    |
| 0010 | 205.0508.S | Excavation, Hauling, and Disposal of Potential Creosote Contaminated Soil | TON  | 150.000    | 150.000    |
| 0012 | 206.1001   | Excavation for Structures Bridges (structure) 01. B-37-0473               | EACH | 1.000      | 1.000      |
| 0014 | 208.0100   | Borrow                                                                    | CY   | 437.000    | 437.000    |
| 0016 | 210.1500   | Backfill Structure Type A                                                 | TON  | 615.000    | 615.000    |
| 0018 | 213.0100   | Finishing Roadway (project) 01. 9478-03-71                                | EACH | 1.000      | 1.000      |
| 0020 | 305.0110   | Base Aggregate Dense 3/4-Inch                                             | TON  | 155.000    | 155.000    |
| 0022 | 305.0120   | Base Aggregate Dense 1 1/4-Inch                                           | TON  | 860.000    | 860.000    |
| 0024 | 455.0605   | Tack Coat                                                                 | GAL  | 105.000    | 105.000    |
| 0026 | 465.0105   | Asphaltic Surface                                                         | TON  | 340.000    | 340.000    |
| 0028 | 502.0100   | Concrete Masonry Bridges                                                  | CY   | 243.000    | 243.000    |
| 0030 | 502.3200   | Protective Surface Treatment                                              | SY   | 288.000    | 288.000    |
| 0032 | 505.0400   | Bar Steel Reinforcement HS Structures                                     | LB   | 5,550.000  | 5,550.000  |
| 0034 | 505.0600   | Bar Steel Reinforcement HS Coated Structures                              | LB   | 30,740.000 | 30,740.000 |
| 0036 | 513.4061   | Railing Tubular Type M                                                    | LF   | 110.000    | 110.000    |
| 0038 | 516.0500   | Rubberized Membrane Waterproofing                                         | SY   | 17.000     | 17.000     |
| 0040 | 550.0010   | Pre-Boring Unconsolidated Materials                                       | LF   | 304.000    | 304.000    |
| 0042 | 550.0500   | Pile Points                                                               | EACH | 16.000     | 16.000     |
| 0044 | 550.1100   | Piling Steel HP 10-Inch X 42 Lb                                           | LF   | 480.000    | 480.000    |
| 0046 | 606.0300   | Riprap Heavy                                                              | CY   | 125.000    | 125.000    |
| 0048 | 612.0406   | Pipe Underdrain Wrapped 6-Inch                                            | LF   | 195.000    | 195.000    |
| 0050 | 614.2300   | MGS Guardrail 3                                                           | LF   | 137.500    | 137.500    |
| 0052 | 614.2500   | MGS Thrie Beam Transition                                                 | LF   | 120.000    | 120.000    |
| 0054 | 614.2610   | MGS Guardrail Terminal EAT                                                | EACH | 3.000      | 3.000      |
| 0056 | 618.0100   | Maintenance and Repair of Haul Roads (project) 01. 9478-03-71             | EACH | 1.000      | 1.000      |
| 0058 | 619.1000   | Mobilization                                                              | EACH | 1.000      | 1.000      |
| 0060 | 624.0100   | Water                                                                     | MGAL | 37.000     | 37.000     |
| 0062 | 625.0100   | Topsoil                                                                   | SY   | 1,045.000  | 1,045.000  |
| 0064 | 627.0200   | Mulching                                                                  | SY   | 1,230.000  | 1,230.000  |
| 0066 | 628.1504   | Silt Fence                                                                | LF   | 1,575.000  | 1,575.000  |
| 0068 | 628.1520   | Silt Fence Maintenance                                                    | LF   | 3,150.000  | 3,150.000  |
| 0070 | 628.1905   | Mobilizations Erosion Control                                             | EACH | 4.000      | 4.000      |
| 0072 | 628.1910   | Mobilizations Emergency Erosion Control                                   | EACH | 4.000      | 4.000      |
| 0074 | 628.2027   | Erosion Mat Class II Type C                                               | SY   | 395.000    | 395.000    |
| 0076 | 628.6005   | Turbidity Barriers                                                        | SY   | 55.000     | 55.000     |
| 0078 | 628.7504   | Temporary Ditch Checks                                                    | LF   | 50.000     | 50.000     |
| 0080 | 629.0210   | Fertilizer Type B                                                         | CWT  | 1.000      | 1.000      |
| 0082 | 630.0120   | Seeding Mixture No. 20                                                    | LB   | 74.000     | 74.000     |
| 0084 | 630.0200   | Seeding Temporary                                                         | LB   | 45.000     | 45.000     |
| 0086 | 630.0500   | Seed Water                                                                | MGAL | 36.000     | 36.000     |
| 0088 | 634.0614   | Posts Wood 4x6-Inch X 14-FT                                               | EACH | 5.000      | 5.000      |
| 0090 | 637.2210   | Signs Type II Reflective H                                                | SF   | 5.180      | 5.180      |
| 0092 | 637.2230   | Signs Type II Reflective F                                                | SF   | 12.000     | 12.000     |
| 0094 | 638.2102   | Moving Signs Type II                                                      | EACH | 2.000      | 2.000      |
| 0096 | 638.2602   | Removing Signs Type II                                                    | EACH | 5.000      | 5.000      |
| 0098 | 638.3000   | Removing Small Sign Supports                                              | EACH | 5.000      | 5.000      |

Estimate Of Quantities

9478-03-71

| Line | Item       | Item Description                                                   | Unit | Total     | Qty       |
|------|------------|--------------------------------------------------------------------|------|-----------|-----------|
| 0100 | 638.4000   | Moving Small Sign Supports                                         | EACH | 1.000     | 1.000     |
| 0102 | 642.5001   | Field Office Type B                                                | EACH | 1.000     | 1.000     |
| 0104 | 643.0420   | Traffic Control Barricades Type III                                | DAY  | 2,860.000 | 2,860.000 |
| 0106 | 643.0705   | Traffic Control Warning Lights Type A                              | DAY  | 4,030.000 | 4,030.000 |
| 0108 | 643.0900   | Traffic Control Signs                                              | DAY  | 2,120.000 | 2,120.000 |
| 0110 | 643.5000   | Traffic Control                                                    | EACH | 1.000     | 1.000     |
| 0112 | 645.0111   | Geotextile Type DF Schedule A                                      | SY   | 125.000   | 125.000   |
| 0114 | 645.0120   | Geotextile Type HR                                                 | SY   | 265.000   | 265.000   |
| 0116 | 646.1020   | Marking Line Epoxy 4-Inch                                          | LF   | 1,020.000 | 1,020.000 |
| 0118 | 650.4500   | Construction Staking Subgrade                                      | LF   | 467.000   | 467.000   |
| 0120 | 650.5000   | Construction Staking Base                                          | LF   | 401.000   | 401.000   |
| 0122 | 650.6501   | Construction Staking Structure Layout (structure) 01. B-37-0473    | EACH | 1.000     | 1.000     |
| 0124 | 650.9911   | Construction Staking Supplemental Control (project) 01. 9478-03-71 | EACH | 1.000     | 1.000     |
| 0126 | 650.9920   | Construction Staking Slope Stakes                                  | LF   | 467.000   | 467.000   |
| 0128 | 690.0150   | Sawing Asphalt                                                     | LF   | 48.000    | 48.000    |
| 0130 | 715.0502   | Incentive Strength Concrete Structures                             | DOL  | 1,458.000 | 1,458.000 |
| 0132 | 999.2005.S | Maintaining Bird Deterrent System (station) 01. 10+00              | EACH | 1.000     | 1.000     |
| 0134 | ASP.1T0A   | On-the-Job Training Apprentice at \$5.00/HR                        | HRS  | 300.000   | 300.000   |
| 0136 | ASP.1T0G   | On-the-Job Training Graduate at \$5.00/HR                          | HRS  | 600.000   | 600.000   |
| 0138 | SPV.0090   | Special 01. Removing Existing Timber Piling                        | LF   | 150.000   | 150.000   |

CLEARING & GRUBBING

| STATION    | TO | STATION | LOCATION | 201.0105        | 201.0205        |
|------------|----|---------|----------|-----------------|-----------------|
|            |    |         |          | CLEARING<br>STA | GRUBBING<br>STA |
| 8+00       | -  | 11+00   | CTH L    | 3               | 3               |
| TOTAL 0010 |    |         |          | 3               | 3               |

NOTE: TREES TO BE CUT DOWN BY OTHERS PRIOR TO CONSTRUCTION AND LEFT IN PLACE.

EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL

| STATION    | TO | STATION | LOCATION | 205.0506.S                                                                      | REMARKS         |
|------------|----|---------|----------|---------------------------------------------------------------------------------|-----------------|
|            |    |         |          | EXCAVATION, HAULING,<br>AND DISPOSAL OF<br>CREOSOTE<br>CONTAMINATED SOIL<br>TON |                 |
| 9+69       | -  | 9+79    | W. ABUT. | 75                                                                              | TIMBER ABUTMENT |
| 10+21      | -  | 10+31   | E. ABUT. | 75                                                                              | TIMBER ABUTMENT |
| TOTAL 0010 |    |         |          | 150                                                                             |                 |

EXCAVATE A 2' OFFSET AROUND EACH EXISTING BRIDGE TIMBER SUBSTRUCTURE WITH 2' ADDITIONAL  
OFFSET AT THE FRONT FACE OF THE WINGWALLS IN THE NW, NE, & SW QUADRANTS AND 3' DEEP.

BASE AGGREGATE DENSE

| STATION    | TO | STATION  | LOCATION  | 305.0110                                | 305.0120                                  |
|------------|----|----------|-----------|-----------------------------------------|-------------------------------------------|
|            |    |          |           | BASE AGGREGATE<br>DENSE 3/4-INCH<br>TON | BASE AGGREGATE<br>DENSE 1 1/4-INCH<br>TON |
| 7+97.5     | -  | 9+73.75  | CTH L     | 40                                      | 365                                       |
| 10+26.25   | -  | 12+50    | CTH L     | 35                                      | 395                                       |
| 19+16.38   | -  | 19+81.63 | VALLEY LN | 80                                      | 100                                       |
| TOTAL 0010 |    |          |           | 155                                     | 860                                       |

CTH L EARTHWORK SUMMARY

| From/To Station   | Location  | Excavation<br>Common<br>(1)<br>205.0100 | Salvaged /<br>Unuseable<br>Pavement<br>Material (5) | Unexpanded<br>Fill | Expanded Fill<br>(2) | Mass<br>Ordinate +/-<br>(3) | Waste | Borrow |
|-------------------|-----------|-----------------------------------------|-----------------------------------------------------|--------------------|----------------------|-----------------------------|-------|--------|
|                   |           | Cut                                     |                                                     |                    | Factor<br>1.30       |                             |       |        |
| 7+97.50-9+73.75   | CTH L     | 143                                     | 65                                                  | 242                | 315                  | -237                        | 0     | 237    |
| 10+26.25 - 12+50  | CTH L     | 188                                     | 83                                                  | 204                | 265                  | -160                        | 0     | 160    |
| 19+16.38-19+81.63 | VALLEY LN | 51                                      | 13                                                  | 60                 | 78                   | -40                         | 0     | 40     |
| TOTAL             |           | 382                                     |                                                     | 507                | 659                  |                             |       | 437    |

- 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 asphalt pavement.

ASPHALTIC SURFACE

| STATION    | TO | STATION  | LOCATION  | 455.0605         | 465.0105                    |
|------------|----|----------|-----------|------------------|-----------------------------|
|            |    |          |           | TACK COAT<br>GAL | ASPHALTIC<br>SURFACE<br>TON |
| 7+97.5     | -  | 9+73.75  | CTH L     | 43               | 140                         |
| 10+26.25   | -  | 12+50    | CTH L     | 50               | 160                         |
| 19+46.38   | -  | 19+81.63 | VALLEY LN | 12               | 40                          |
| TOTAL 0010 |    |          |           | 105              | 340                         |

MGS GUARDRAIL

| STATION    | TO | STATION  | LOCATION | 614.2300                 | 614.2500                | 614.2610                              |
|------------|----|----------|----------|--------------------------|-------------------------|---------------------------------------|
|            |    |          |          | MGS<br>GUARDRAIL 3<br>LF | MGS THRIE<br>BEAM<br>LF | MGS GUARDRAIL<br>TERMINAL EAT<br>EACH |
| 8+34.06    | -  | 9+76.58  | RT       | 50                       | 40                      | 1                                     |
| 8+84.06    | -  | 9+76.58  | LT       | --                       | 40                      | 1                                     |
| 10+23.42   | -  | 12+03.44 | LT       | 87.5                     | 40                      | 1                                     |
| TOTAL 0010 |    |          |          | 137.5                    | 120                     | 3                                     |

WATER

| LOCATION     | 624.0100<br>WATER<br>MGAL |
|--------------|---------------------------|
| COMPACTION   | 15                        |
| DUST CONTROL | 22                        |
| TOTAL 0010   | 37                        |

ALL ITEMS ON THIS SHEET  
ARE CATEGORY 0010  
UNLESS OTHERWISE NOTED

EROSION CONTROL ITEMS

|            |    |         |               | 628.1504   | 628.1520   | 628.2027        | 628.6005  | 628.7504     |
|------------|----|---------|---------------|------------|------------|-----------------|-----------|--------------|
|            |    |         |               | SILT FENCE | SILT FENCE | EROSION MAT     | TURBIDITY | TEMPORARY    |
|            |    |         |               | LF         | LF         | CLASS II TYPE C | BARRIERS  | DITCH CHECKS |
| STATION    | TO | STATION | LOCATION      | LF         | LF         | SY              | SY        | LF           |
| 7+97.5     | -  | 9+85    | CTH L         | 415        | 830        | 160             | 45        | -            |
| 10+25      | -  | 12+50   | CTH L         | 845        | 1,690      | 155             | -         | -            |
|            |    |         | UNDISTRIBUTED | 315        | 630        | 80              | 10        | 50           |
| TOTAL 0010 |    |         |               | 1,575      | 3,150      | 395             | 55        | 50           |

RESTORATION ITEMS

|            |    |          |               | 625.0100 | 627.0200 | 629.0210   | 630.0120       | 630.0200  | 630.0500   |
|------------|----|----------|---------------|----------|----------|------------|----------------|-----------|------------|
|            |    |          |               | TOPSOIL  | MULCHING | FERTILIZER | SEEDING        | SEEDING   |            |
|            |    |          |               | SY       | SY       | TYPE B     | MIXTURE NO. 20 | TEMPORARY | SEED WATER |
| STATION    | TO | STATION  | LOCATION      | SY       | SY       | CWT        | LB             | LB        | MGAL       |
| 7+97.5     | -  | 9+73.75  | CTH L         | 310      | 345      | 0.3        | 23             | 14        | 11         |
| 10+26.25   | -  | 12+50    | CTH L         | 415      | 460      | 0.4        | 28             | 17        | 14         |
| 19+16.38   | -  | 19+81.63 | VALLEY LN     | 110      | 180      | 0.1        | 8              | 5         | 4          |
|            |    |          | UNDISTRIBUTED | 210      | 245      | 0.2        | 15             | 9         | 7          |
| TOTAL 0010 |    |          |               | 1,045    | 1,230    | 1.0        | 74             | 45        | 36         |

SIGNS TYPE II

|            |               |              |                       | 634.0614<br>POSTS WOOD<br>4X6-INCH | 637.2210<br>SIGN TYPE II<br>REFLECTIVE H | 637.2230<br>SIGN TYPE II<br>REFLECTIVE F | 638.2102<br>MOVING SIGN<br>TYPE II | 638.2602<br>REMOVING<br>SIGN TYPE II | 638.3000<br>REMOVING<br>SMALL SIGN<br>SUPPORTS | 638.4000<br>MOVING SMALL<br>SIGN SUPPORTS | REMARKS                            |
|------------|---------------|--------------|-----------------------|------------------------------------|------------------------------------------|------------------------------------------|------------------------------------|--------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------|
| STATION    | LOCATION      | SIGN<br>CODE | SIGN SIZE<br>(INCHES) | 14-FT<br>EACH                      | SF                                       | SF                                       | EACH                               | EACH                                 | EACH                                           | EACH                                      |                                    |
|            |               |              |                       |                                    |                                          |                                          |                                    |                                      |                                                |                                           |                                    |
| 9+72       | CTH L, LT     | W5-52L       | 12x36                 | 1                                  | --                                       | 3                                        | --                                 | 1                                    | 1                                              | --                                        | BRIDGE HASH MARKER SIGN            |
| 9+72       | CTH L, RT     | W5-52R       | 12x36                 | 1                                  | --                                       | 3                                        | --                                 | 1                                    | 1                                              | --                                        | BRIDGE HASH MARKER SIGN            |
| 10+28      | CTH L, LT     | W5-52R       | 12x36                 | 1                                  | --                                       | 3                                        | --                                 | 1                                    | 1                                              | --                                        | BRIDGE HASH MARKER SIGN            |
| 10+28      | CTH L, RT     | W5-52L       | 12x36                 | 1                                  | --                                       | 3                                        | --                                 | 1                                    | 1                                              | --                                        | BRIDGE HASH MARKER SIGN            |
| 19+68      | VALLEY LN, RT | R1-1         | 30x30                 | 1                                  | 5.18                                     | --                                       | --                                 | 1                                    | 1                                              | --                                        | STOP SIGN                          |
| 19+69      | VALLEY LN, RT | -            | -                     | --                                 | --                                       | --                                       | 2                                  | --                                   | --                                             | 1                                         | VALLEY LN & COUNTY RD L ROAD SIGNS |
| TOTAL 0010 |               |              |                       | 5                                  | 5.18                                     | 12                                       | 2                                  | 5                                    | 5                                              | 1                                         |                                    |

MOBILIZATIONS EROSION CONTROL

|                |  |  | 628.1905      | 628.1910      |
|----------------|--|--|---------------|---------------|
|                |  |  | MOBILIZATIONS | MOBILIZATIONS |
|                |  |  | EROSION       | EMERGENCY     |
|                |  |  | CONTROL       | EROSION       |
|                |  |  | EACH          | CONTROL       |
|                |  |  | EACH          | EACH          |
| PROJECT LIMITS |  |  | 4             | 4             |
| TOTAL 0010     |  |  | 4             | 4             |

FIELD OFFICE TYPE B

|                |  | 642.5001     |
|----------------|--|--------------|
|                |  | FIELD OFFICE |
|                |  | TYPE B       |
|                |  | EACH         |
| PROJECT LIMITS |  | 1            |
| TOTAL 0010     |  | 1            |

ALL ITEMS ON THIS SHEET  
ARE CATEGORY 0010  
UNLESS OTHERWISE NOTED

TRAFFIC CONTROL

| LOCATION      | DURATION<br>DAYS | EACH | 643.0420                                     | EACH | 643.0705                                       | EACH | 643.0900                    | EACH | 643.5000           |
|---------------|------------------|------|----------------------------------------------|------|------------------------------------------------|------|-----------------------------|------|--------------------|
|               |                  |      | TRAFFIC<br>CONTROL<br>BARRICADES<br>TYPE III |      | TRAFFIC<br>CONTROL<br>WARNING<br>LIGHTS TYPE A |      | TRAFFIC<br>CONTROL<br>SIGNS |      | TRAFFIC<br>CONTROL |
|               |                  |      | DAY                                          |      | DAY                                            |      | DAY                         |      | DAY                |
| PER SDD 15C02 | 90               | 27   | 2,430                                        | 38   | 3,420                                          | 20   | 1,800                       |      | 1                  |
| UNDISTRIBUTED |                  | --   | 430                                          | --   | 610                                            | --   | 320                         |      | --                 |
| TOTAL 0010    |                  |      | 2,860                                        |      | 4,030                                          |      | 2,120                       |      | 1                  |

MARKING LINE EPOXY 4-INCH

| STATION    | TO | STATION | LOCATION | COLOR/DESCRIPTION | 646.1020                           |
|------------|----|---------|----------|-------------------|------------------------------------|
|            |    |         |          |                   | MARKING LINE<br>EPOXY 4-INCH<br>LF |
| 7+97.5     | -  | 12+50   | CTH L    | WHITE/EDGE LINE   | 906                                |
| 7+97.5     | -  | 12+50   | CTH L    | YELLOW/CENTERLINE | 114                                |
| TOTAL 0010 |    |         |          |                   | 1,020                              |

CONSTRUCTION STAKING

| STATION    | TO | STATION | LOCATION  | 650.4500                                  | 650.5000                           | 650.9920                                      |
|------------|----|---------|-----------|-------------------------------------------|------------------------------------|-----------------------------------------------|
|            |    |         |           | CONSTRUCTION<br>STAKING<br>SUBGRADE<br>LF | CONSTRUCTION<br>STAKING BASE<br>LF | CONSTRUCTION<br>STAKING SLOPE<br>STAKES<br>LF |
| 7+97       | -  | 9+74    | CTH L     | 177                                       | 177                                | 177                                           |
| 10+26      | -  | 12+50   | CTH L     | 224                                       | 224                                | 224                                           |
| 19+16      | -  | 19+82   | VALLEY LN | 66                                        | --                                 | 66                                            |
| TOTAL 0010 |    |         |           | 467                                       | 401                                | 467                                           |

CONSTRUCTION STAKING STRUCTURE LAYOUT

| CATEGORY   | STATION | LOCATION | 650.6501.01                                                                     |
|------------|---------|----------|---------------------------------------------------------------------------------|
|            |         |          | CONSTRUCTION STAKING<br>STRUCTURE LAYOUT<br>(STRUCTURE) (01. B-37-0473)<br>EACH |
| 0020       | 10+00   | CTH L    | 1                                                                               |
| TOTAL 0020 |         |          | 1                                                                               |

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

| PROJECT    | 650.9911.01                                                                        |
|------------|------------------------------------------------------------------------------------|
|            | CONSTRUCTION STAKING<br>SUPPLEMENTAL CONTROL<br>(PROJECT) (01. 9478-03-71)<br>EACH |
| 9478-03-71 | 1                                                                                  |
| TOTAL 0010 | 1                                                                                  |

SAWING ASPHALT

| STATION    | LOCATION | 690.0150                |
|------------|----------|-------------------------|
|            |          | SAWING<br>ASPHALT<br>LF |
| 7+97.5     | CTH L    | 24                      |
| 12+50      | CTH L    | 24                      |
| TOTAL 0010 |          | 48                      |

MAINTAINING BIRD DETERRENT SYSTEM

| STATION    | LOCATION | 999.2005.S.01                                                          |
|------------|----------|------------------------------------------------------------------------|
|            |          | MAINTAINING BIRD DETERRENT<br>SYSTEM (STATION) (01. STA 10+00)<br>EACH |
| 10+00      | CTH L    | 1                                                                      |
| TOTAL 0010 |          | 1                                                                      |

ALL ITEMS ON THIS SHEET  
ARE CATEGORY 0010  
UNLESS OTHERWISE NOTED

| CONVENTIONAL SYMBOLS                                        |     |                                                    |    |
|-------------------------------------------------------------|-----|----------------------------------------------------|----|
| SECTION LINE                                                | --- | SECTION CORNER SYMBOL                              |    |
| QUARTER LINE                                                | --- | R/W MONUMENT (TO BE SET)                           | ●  |
| SIXTEENTH LINE                                              | --- | NON-MONUMENTED R/W POINT                           | ○  |
| NEW REFERENCE LINE                                          | --- | FOUND IRON PIN (1-INCH UNLESS NOTED)               | IP |
| NEW R/W LINE                                                | --- | GEODETIC SURVEY MONUMENT                           |    |
| EXISTING R/W OR HE LINE                                     | --- | SIXTEENTH CORNER MONUMENT                          |    |
| PROPERTY LINE                                               | --- | SIGN                                               |    |
| LOT, TIE & OTHER MINOR LINES                                | --- | OFF-PREMISE SIGN                                   |    |
| SLOPE INTERCEPT                                             | --- | COMPENSABLE                                        |    |
| CORPORATE LIMITS                                            | --- | NON-COMPENSABLE                                    |    |
| UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)        | --- | ELECTRIC POLE                                      |    |
| NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)              | --- | TELEPHONE POLE                                     |    |
| TEMPORARY LIMITED EASEMENT AREA                             | --- | PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)        |    |
| EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT) | --- | ACCESS RESTRICTED BY ACQUISITION                   |    |
| TRANSMISSION STRUCTURES                                     | --- | NO ACCESS (BY STATUTORY AUTHORITY)                 |    |
| BUILDING                                                    |     | ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL) |    |
| TO BE REMOVED                                               |     | NO ACCESS (NEW HIGHWAY)                            |    |
| BRIDGE                                                      |     | PARCEL NUMBER                                      |    |
| CULVERT                                                     |     | UTILITY NUMBER                                     |    |
|                                                             |     | PRW POINT NUMBER                                   |    |
|                                                             |     | TLE POINT NUMBER                                   |    |
|                                                             |     | PARALLEL OFFSETS                                   |    |

**BEGIN RELOCATION ORDER**  
STA 7+97.50  
Y = 249830.272  
X = 234675.997  
LOCATED 1.63 FEET SOUTH AND  
272.41 FEET WEST OF THE SOUTHEAST  
CORNER OF SECTION 8, TOWNSHIP 30  
NORTH, RANGE 6 EAST.



LAYOUT  
SCALE 0 1 MI  
TOTAL NET LENGTH OF CENTERLINE = 0.086 MILES

**END RELOCATION ORDER**  
STA 12+49.98  
Y = 249827.618  
X = 235128.441  
LOCATED 4.28 FEET SOUTH AND  
180.03 FEET EAST OF THE SOUTHWEST  
CORNER OF SECTION 8, TOWNSHIP 30  
NORTH, RANGE 6 EAST.

**NOTES:**  
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), MARATHON COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSE ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (3/4"x24" CAPPED IRON REBAR WEIGHING 1.50 LBS.LIN. FT.) AND ARE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING ROAD RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINT OF REFERENCE:  
CTH L AND VALLEY LANE WERE ESTABLISHED FROM STATUTE 82.31 USING THE CENTERLINE OF THE EXISTING GRAVEL AND A PRESUMED 66' WIDTH.

#### CONVENTIONAL UTILITY SYMBOLS

|                             |     |
|-----------------------------|-----|
| WATER                       | --- |
| GAS                         | --- |
| TELEPHONE                   | --- |
| OVERHEAD TRANSMISSION LINES | --- |
| ELECTRIC                    | --- |
| CABLE TELEVISION            | --- |
| FIBER OPTIC                 | --- |
| SANITARY SEWER              | --- |
| STORM SEWER                 | --- |
| ELECTRIC TOWER              |     |

#### CURVE DATA ABBREVIATIONS

|                    |           |
|--------------------|-----------|
| LONG CHORD         | LCH       |
| LONG CHORD BEARING | LCB       |
| RADIUS             | R         |
| DEGREE OF CURVE    | D         |
| CENTRAL ANGLE      | Δ / DELTA |
| LENGTH OF CURVE    | L         |
| TANGENT            | T         |
| DIRECTION AHEAD    | DA        |
| DIRECTION BACK     | DB        |

|                                                                                                   |                         |                      |
|---------------------------------------------------------------------------------------------------|-------------------------|----------------------|
| R/W PROJECT NUMBER<br>9478-03-01                                                                  | SHEET<br>NUMBER<br>4.01 | TOTAL<br>SHEETS<br>2 |
| CONSTRUCTION PROJECT NUMBER<br>9478-03-71                                                         |                         |                      |
| PLAT OF RIGHT OF WAY REQUIRED FOR<br><br>WIS 107 - CTH O<br><br>LITTLE RIB RIVER BRIDGE B-07-0473 |                         |                      |
| LOCAL STREET                                                                                      |                         | MARATHON COUNTY      |

#### CONVENTIONAL ABBREVIATIONS

|                      |       |                          |        |                             |      |
|----------------------|-------|--------------------------|--------|-----------------------------|------|
| ACCESS RIGHTS        | AR    | HIGHWAY EASEMENT         | HE     | REEL / IMAGE                | R/I  |
| ACRES                | AC    | IDENTIFICATION           | ID     | REFERENCE LINE              | R/L  |
| AHEAD                | AH    | LAND CONTRACT            | LC     | REMAINING                   | REM  |
| ALUMINUM             | ALUM  | LEFT                     | LT     | RESTRICTIVE DEVELOPMENT     | RDE  |
| AND OTHERS           | ET AL | MONUMENT                 | MON    | EASEMENT                    |      |
| BACK                 | BK    | NATIONAL GEODETIC SURVEY | NGS    | RIGHT                       | RT   |
| BLOCK                | BLK   | NUMBER                   | NO     | RIGHT OF WAY                | R/W  |
| CENTERLINE           | C/L   | OUTLOT                   | OL     | SECTION                     | SEC  |
| CERTIFIED SURVEY MAP | CSM   | PAGE                     | P      | SEPTIC VENT                 | SEPV |
| CONCRETE             | CONC  | POINT OF TANGENCY        | PT     | SQUARE FEET                 | SF   |
| COUNTY               | CO    | PERMANENT LIMITED        | PLE    | STATE TRUNK HIGHWAY         | STH  |
| COUNTY TRUNK HIGHWAY | CTH   | EASEMENT                 |        | STATION                     | TA   |
| DISTANCE             | DIST  | POINT OF BEGINNING       | POB    | TELEPHONE PEDESTAL          | TP   |
| CORNER               | COR   | POINT OF CURVATURE       | PC     | TEMPORARY LIMITED           | TLE  |
| DOCUMENT NUMBER      | DOC   | POINT OF COMPOUND CURVE  | PCC    | EASEMENT                    |      |
| EASEMENT             | EASE  | POINT OF INTERSECTION    | PI     | TRANSPORTATION PROJECT PLAT |      |
| EXISTING             | EX    | PROPERTY LINE            | PL     |                             | TPP  |
| GAS VALVE            | GV    | RECORDED AS              | (100') | UNITED STATES HIGHWAY       | USH  |
| GRID NORTH           | GN    |                          |        | VOLUME                      | V    |

APPROVED  
FOR  
COUNTY OF MARATHON  
  
9/10/2024  
DATE  
  
James M. Griesbach  
HIGHWAY COMMISSIONER

PLAT PREPARED BY  
**AYRES**

THE SURVEY IS PREPARED AT THE REQUEST OF MARATHON COUNTY.

THE FIELD SURVEY WAS PERFORMED IN OCTOBER 2021.

THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.



07/17/2024  
DATE  
CHRISTOPHER R. BADTKE, P.L.S.  
S-3150

REVISION DATE  
08/08/2024

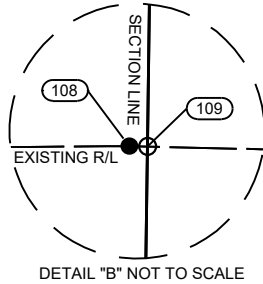
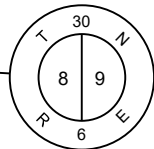
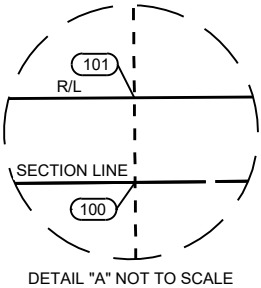
| R/W STATION & OFFSET TABLE |          |           |
|----------------------------|----------|-----------|
| POINT                      | STATION  | OFFSET    |
| 100                        | 7+97.50  | 0.88' RT  |
| 101                        | 7+97.50  | 0.00'     |
| 102                        | 7+97.50  | 32.12' LT |
| 103                        | 8+50.00  | 32.29' LT |
| 104                        | 8+75.00  | 40.00' LT |
| 105                        | 9+00.00  | 40.00' LT |
| 106                        | 9+74.56  | 35.31' LT |
| 107                        | 9+74.59  | 33.00' LT |
| 108                        | 10+69.94 | 34.49' LT |
| 109                        | 10+70.13 | 34.48' LT |
| 110                        | 11+50.55 | 33.08' LT |
| 111                        | 11+74.98 | 45.00' LT |
| 112                        | 12+24.98 | 45.00' LT |

| R/W STATION & OFFSET TABLE |          |           |
|----------------------------|----------|-----------|
| POINT                      | STATION  | OFFSET    |
| 113                        | 12+49.98 | 33.00' LT |
| 114                        | 12+49.98 | 0.00'     |
| 115                        | 12+49.98 | 33.00' RT |
| 116                        | 11+24.29 | 39.47' RT |
| 117                        | 11+02.62 | 48.80' RT |
| 118                        | 10+69.62 | 48.63' RT |
| 119                        | 10+36.62 | 48.46' RT |
| 120                        | 10+18.40 | 32.33' RT |
| 121                        | 9+80.41  | 32.92' RT |
| 122                        | 9+80.43  | 34.63' RT |
| 123                        | 8+60.00  | 45.00' RT |
| 124                        | 8+25.00  | 45.00' RT |
| 125                        | 7+97.50  | 33.88' RT |

| SCHEDULE OF LANDS AND INTERESTS REQUIRED |                                      |                   |             |          |       |
|------------------------------------------|--------------------------------------|-------------------|-------------|----------|-------|
| PARCEL NO.                               | OWNER(S)                             | INTEREST REQUIRED | R/W (ACRES) |          |       |
|                                          |                                      |                   | NEW         | EXISTING | TOTAL |
| 1                                        | DALE J. KREUGER AND JULIE A. KREUGER | FEE               | 0.050       | 0.368    | 0.418 |
| 2                                        | WAYNE M. HINTZ                       | FEE               | 0.015       | 0.207    | 0.222 |
| 3                                        | EMMERICH FAMILY FARMS, INC.          | FEE               | 0.021       | 0.137    | 0.158 |
| 50                                       | WISCONSIN PUBLIC SERVICE             | RELEASE OF RIGHTS |             |          |       |

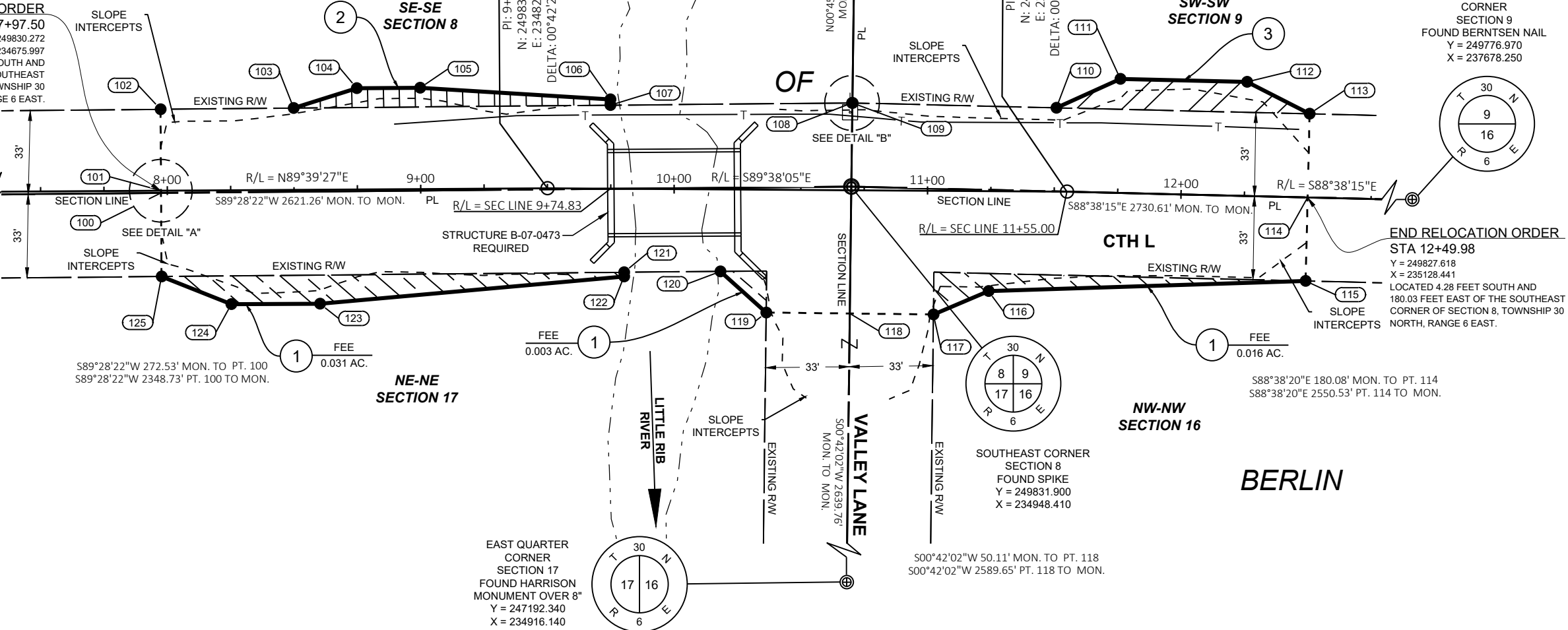
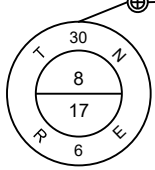
OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE COUNTY.

50 WISCONSIN PUBLIC SERVICE  
BOOK 240, PG. 289 - PARCEL 2 AND 3



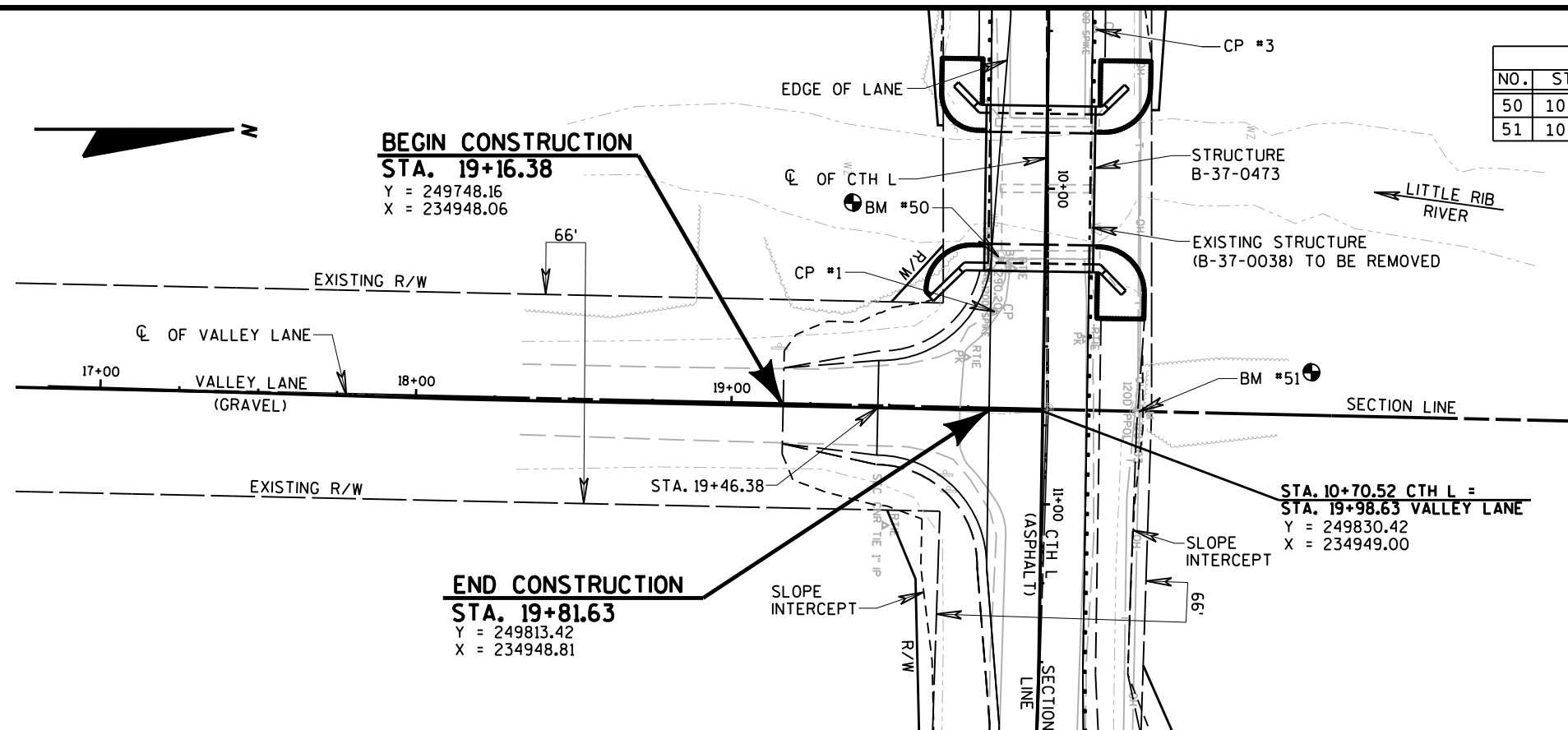
| R/W COURSE TABLE |             |          |
|------------------|-------------|----------|
| COURSE           | BEARING     | DISTANCE |
| 100-101          | N00°20'33"W | 0.88'    |
| 101-102          | N00°20'33"W | 32.12'   |
| 102-103          | N89°28'22"E | 52.50'   |
| 103-104          | N72°31'11"E | 26.16'   |
| 104-105          | N89°39'27"E | 25.00'   |
| 105-106          | S86°31'42"E | 75.17'   |
| 106-107          | S00°20'33"E | 2.31'    |
| 107-108          | N89°28'22"E | 95.36'   |
| 108-109          | S88°38'15"E | 0.19'    |
| 109-110          | S88°38'15"E | 80.43'   |
| 110-111          | N65°43'18"E | 27.73'   |
| 111-112          | S88°38'15"E | 50.00'   |
| 112-113          | S62°59'47"E | 27.73'   |
| 113-114          | S01°21'45"W | 33.00'   |
| 114-115          | S01°21'45"W | 33.00'   |
| 115-116          | S88°09'26"W | 125.20'  |
| 116-117          | S67°05'02"W | 23.59'   |
| 117-118          | N89°20'31"W | 33.00'   |
| 118-119          | N89°20'31"W | 33.00'   |
| 119-120          | N48°06'00"W | 24.34'   |
| 120-121          | S89°28'22"W | 38.00'   |
| 121-122          | S00°20'33"E | 1.71'    |
| 122-123          | S84°53'38"W | 120.42'  |
| 123-124          | S89°39'27"W | 35.00'   |
| 124-125          | N68°19'18"W | 29.66'   |
| 125-100          | N00°20'33"W | 33.00'   |

BEGIN RELOCATION ORDER  
STA 7+97.50  
Y = 249830.272  
X = 234675.997  
LOCATED 1.63 FEET SOUTH AND  
272.41 FEET WEST OF THE SOUTHEAST  
CORNER OF SECTION 8, TOWNSHIP 30  
NORTH, RANGE 6 EAST.



|                             |                 |                        |                  |                                        |                 |
|-----------------------------|-----------------|------------------------|------------------|----------------------------------------|-----------------|
| REVISION DATE<br>08/08/2024 | DATE 07/17/2024 | SCALE, FEET<br>0 25 50 | HWY: CTH L       | STATE R/W PROJECT NUMBER 9478-03-01    | PLAT SHEET 4.02 |
|                             | GRID FACTOR     |                        | COUNTY: MARATHON | CONSTRUCTION PROJECT NUMBER 9478-03-71 | PS&E SHEET      |

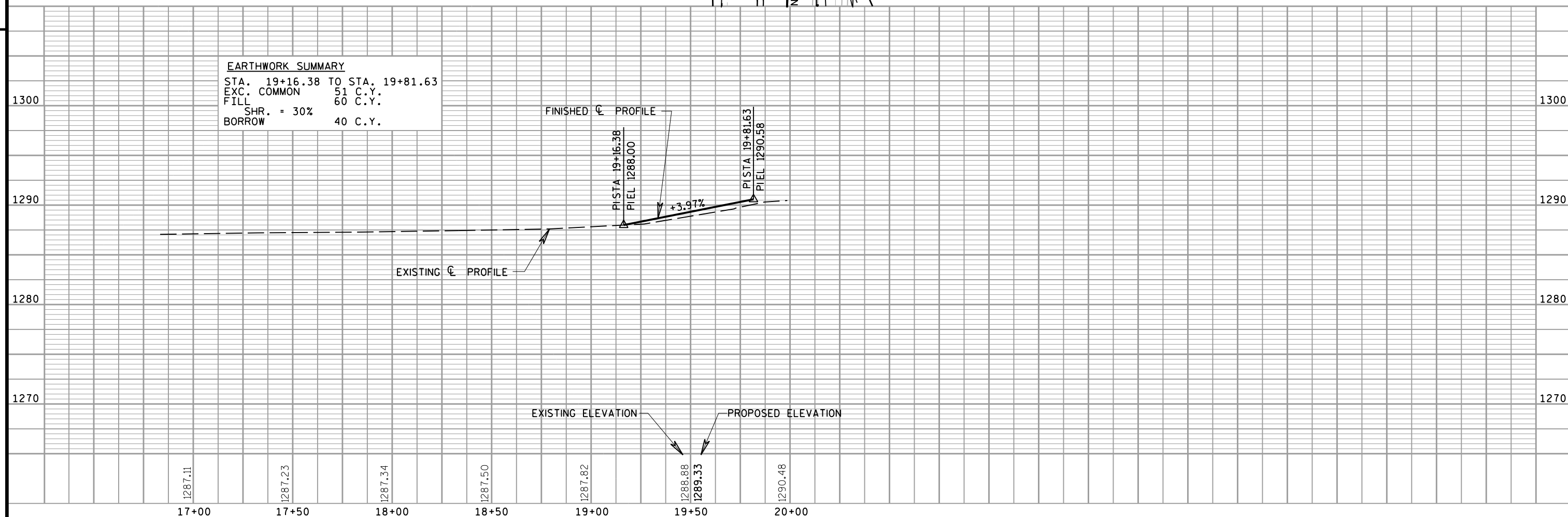




| BENCH MARKS |       |                                                    |         |
|-------------|-------|----------------------------------------------------|---------|
| NO.         | STA.  | DESCRIPTION                                        | ELEV.   |
| 50          | 10+22 | BERNSTEN NAIL IN TOP OF S. END E. ABUT., 15.6' RT. | 1290.20 |
| 51          | 10+70 | 120'D' SPIKE IN PPOL, 29.1' LT.                    | 1287.03 |

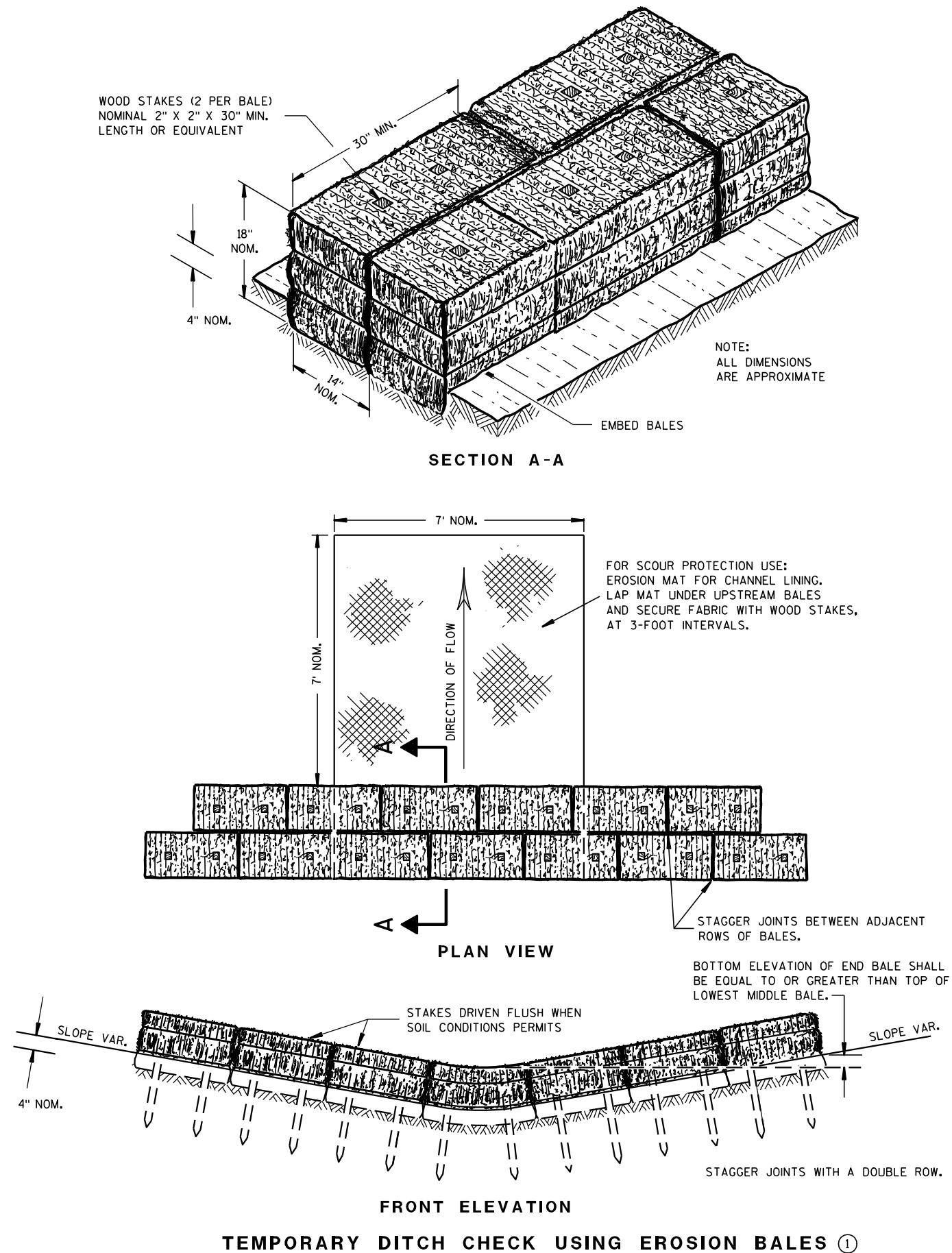
NOTES:  
 FOR ALIGNMENT CONTROL POINTS,  
 BEARINGS, AND COORDINATES, SEE  
 "ALIGNMENT CONTROLS" SHEET.

**EARTHWORK SUMMARY**  
 STA. 19+16.38 TO STA. 19+81.63  
 EXC. COMMON 51 C.Y.  
 FILL 60 C.Y.  
 SHR. = 30%  
 BORROW 40 C.Y.



Standard Detail Drawing List

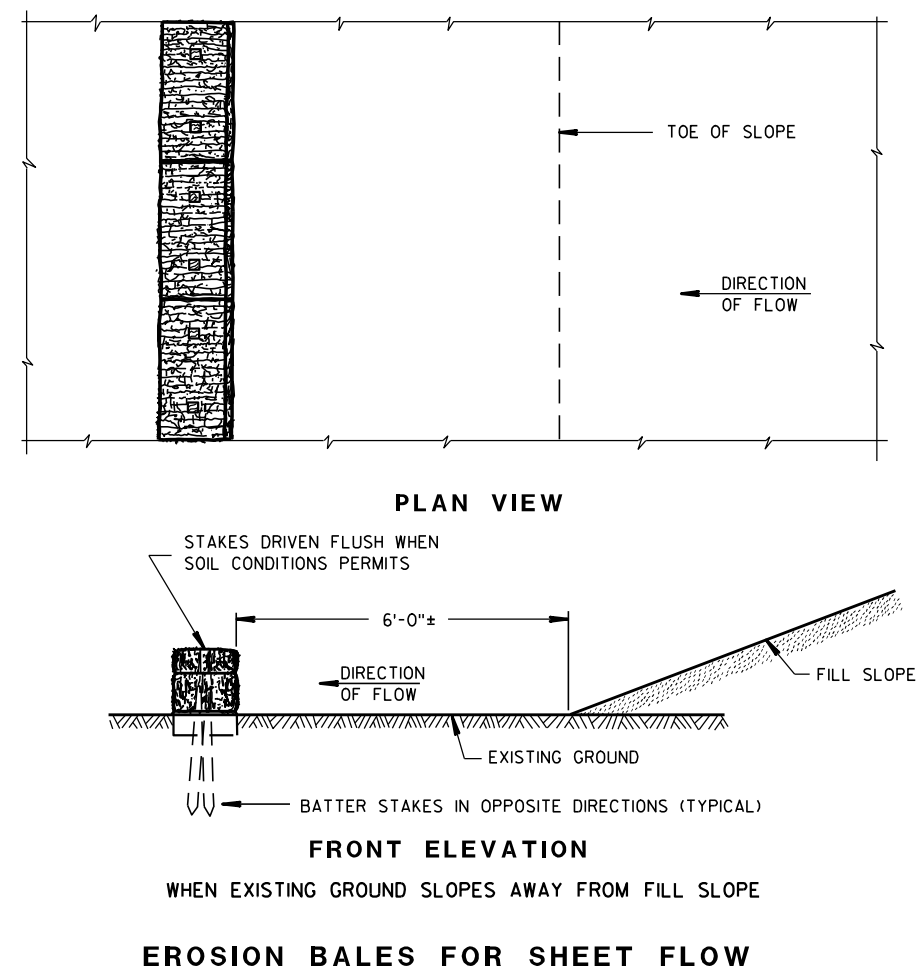
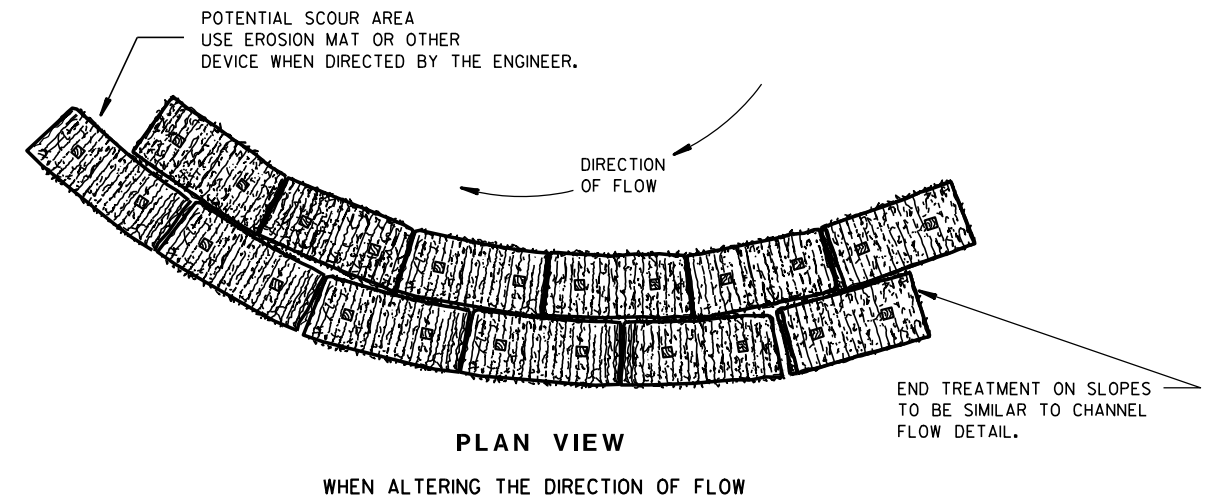
|           |                                                                 |
|-----------|-----------------------------------------------------------------|
| 08E08-03  | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06  | SILT FENCE                                                      |
| 08E11-02  | TURBIDITY BARRIER                                               |
| 12A03-10  | NAME PLATE (STRUCTURES)                                         |
| 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                        |
| 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)        |
| 14B45-05A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)            |
| 14B45-05B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)            |
| 14B45-05C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)            |
| 14B45-05D | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)            |
| 14B45-05H | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)            |
| 15C02-09A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES                      |
| 15C02-09B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES                       |
| 15C06-12  | SIGNING & MARKING FOR TWO LANE BRIDGES                          |
| 15C08-23A | PERMANENT LONGITUDINAL PAVEMENT MARKINGS                        |



## 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

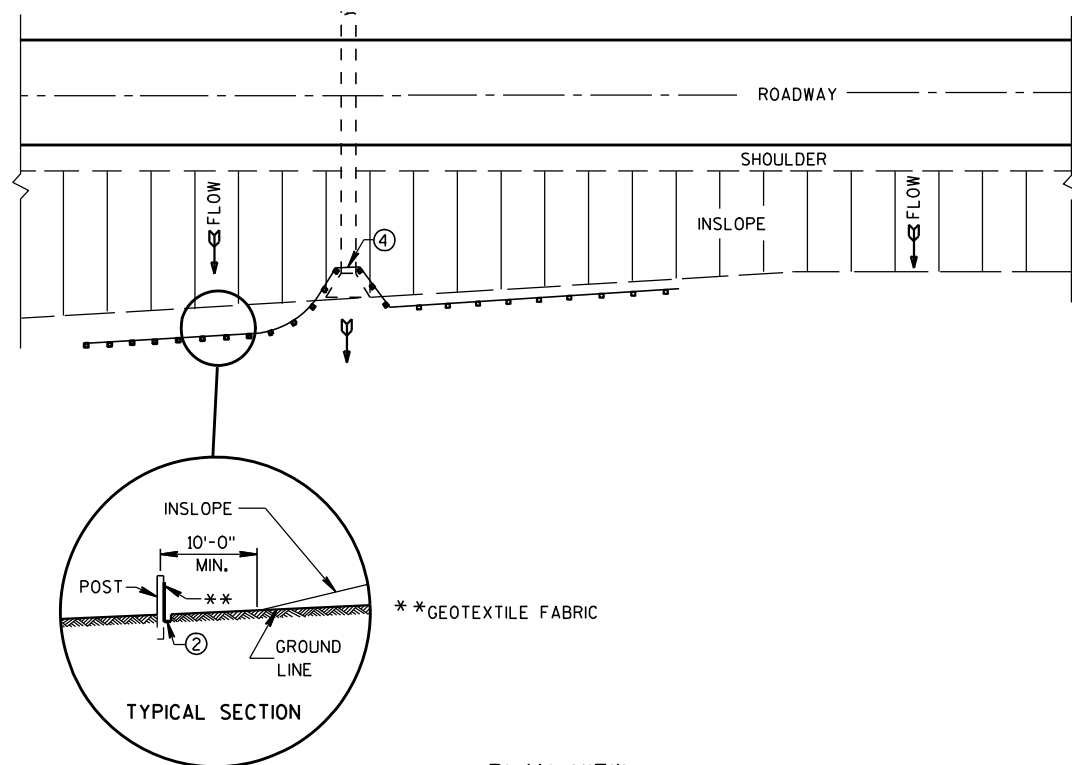
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02  
DATE

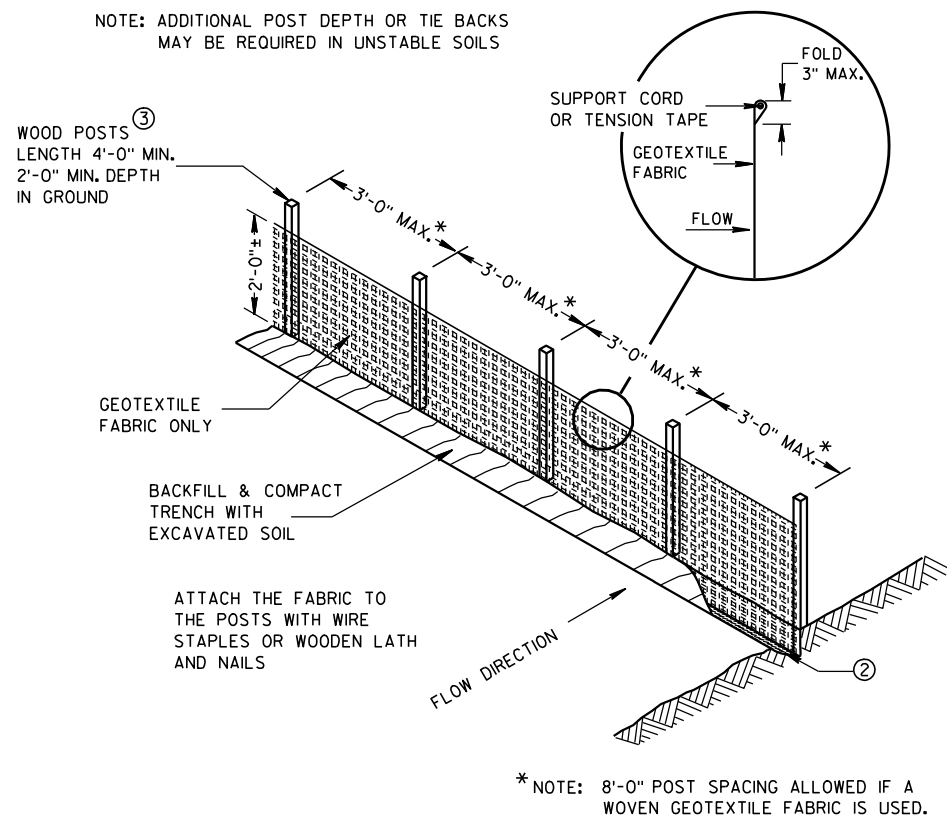
FHWA

/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER



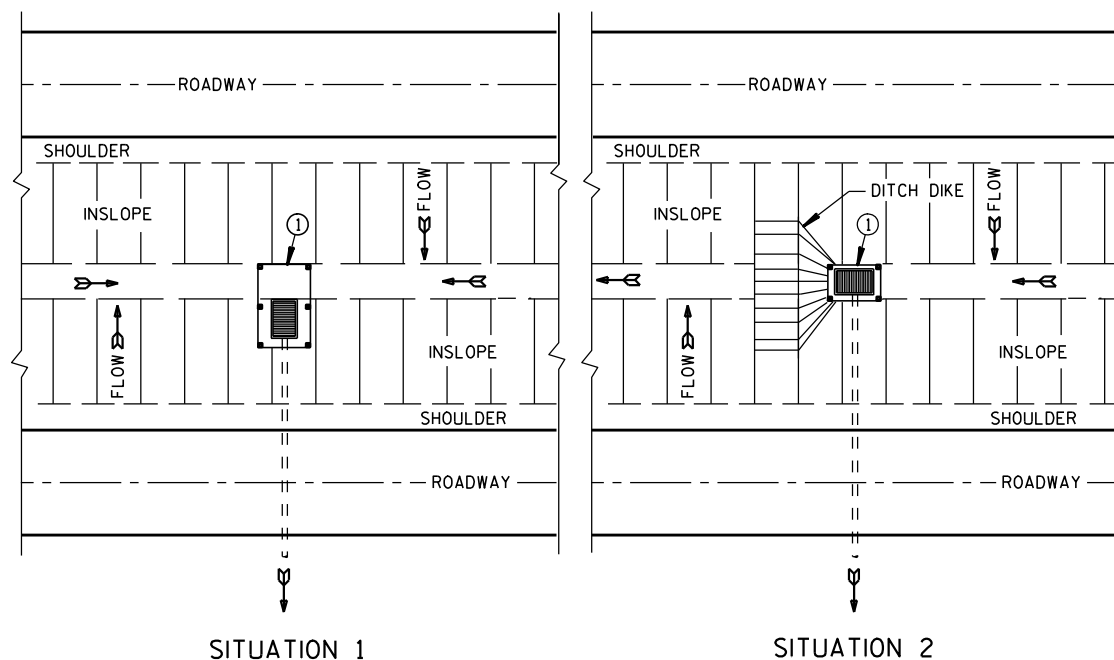
PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

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

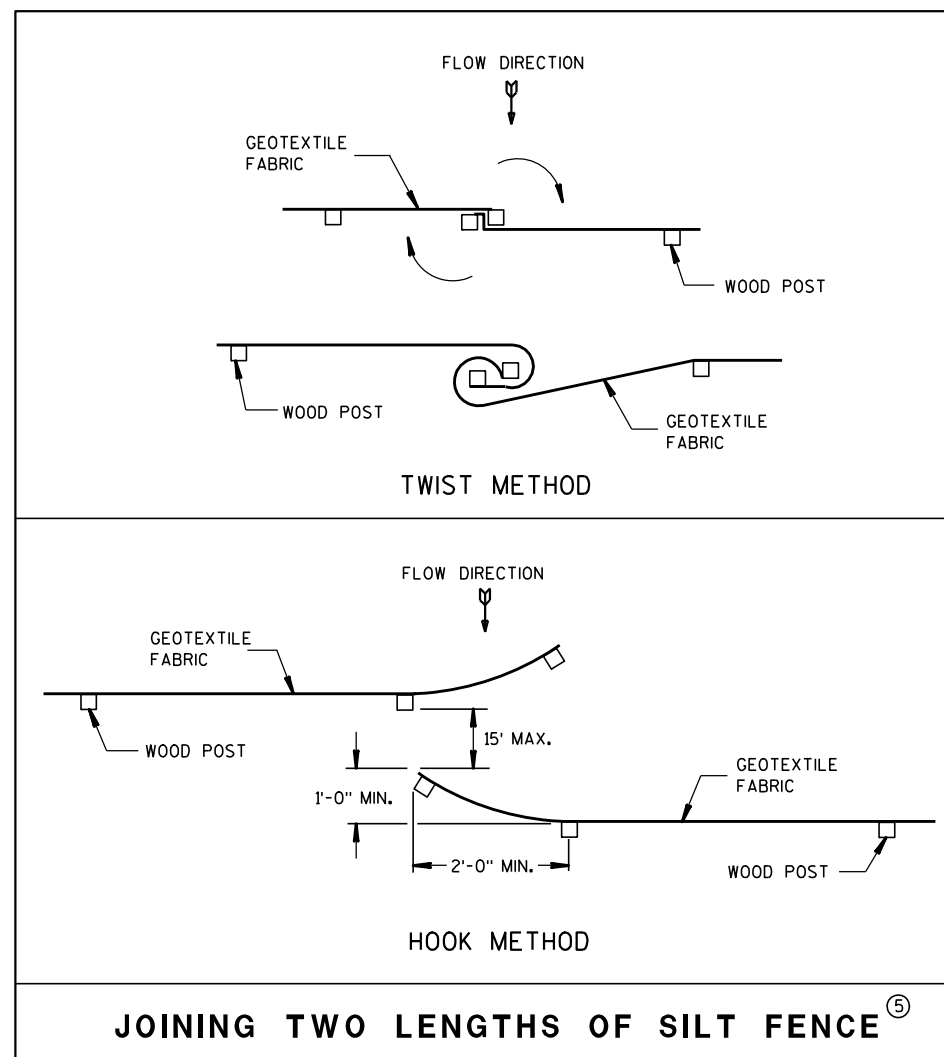


SILT FENCE

\* NOTE: 8'-0" POST SPACING ALLOWED IF A  
WOVEN GEOTEXTILE FABRIC IS USED.



PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

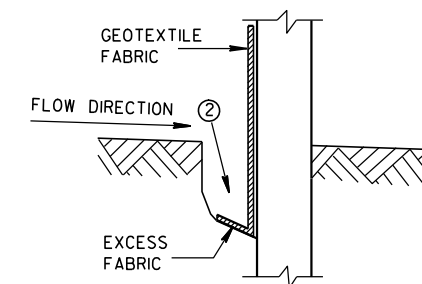


JOINING TWO LENGTHS OF SILT FENCE<sup>⑤</sup>

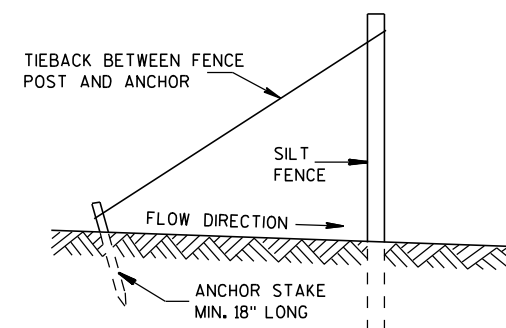
## GENERAL NOTES

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

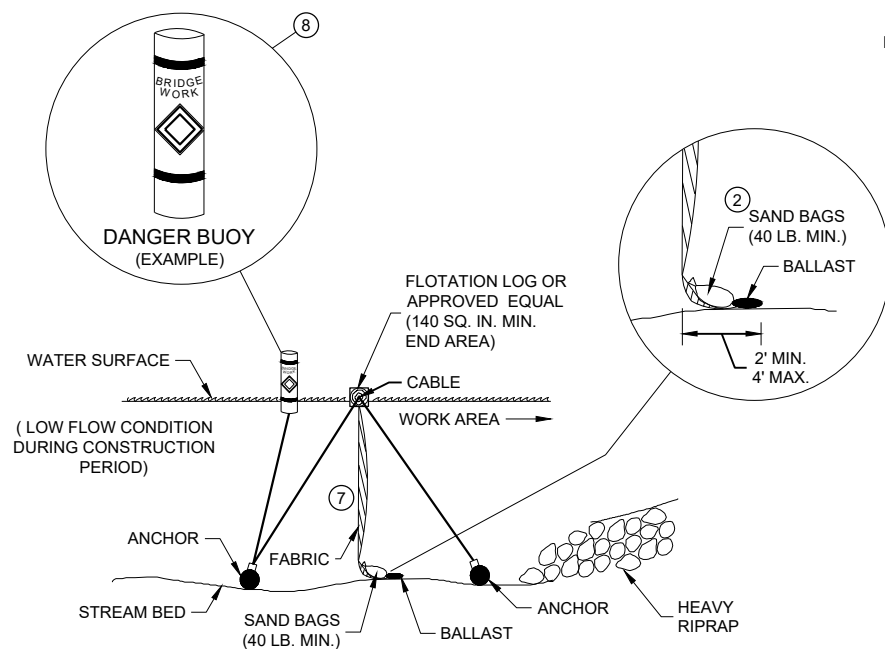
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

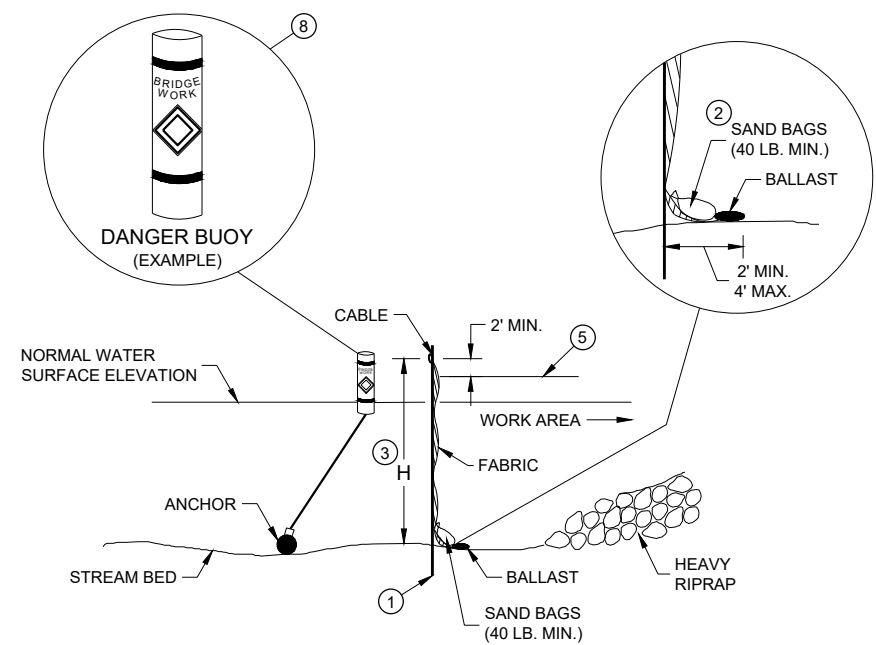
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DATE

FHWA

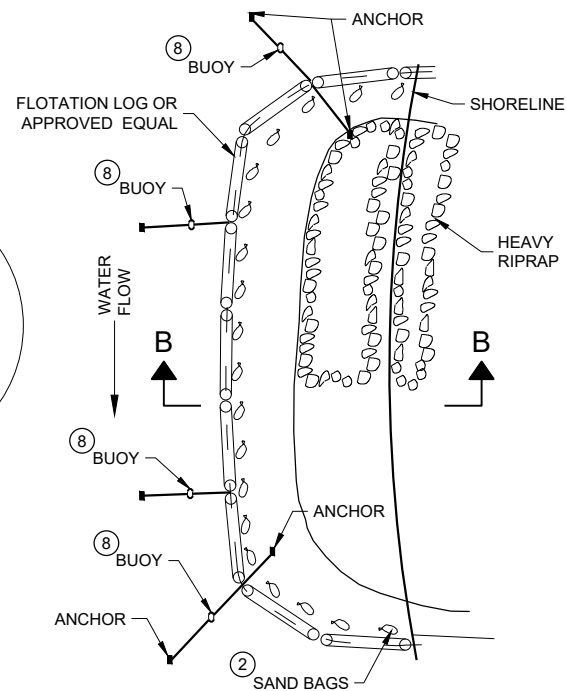
/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER



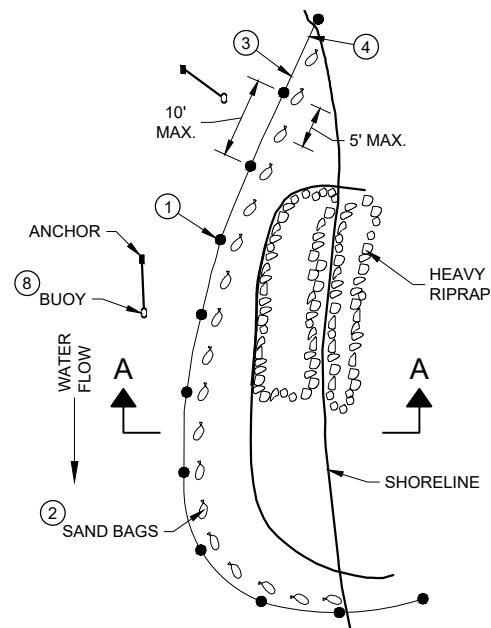
SECTION B - B

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

SECTION A - A

**TURBIDITY BARRIER - STANDARD POST INSTALLATION**

PLAN VIEW



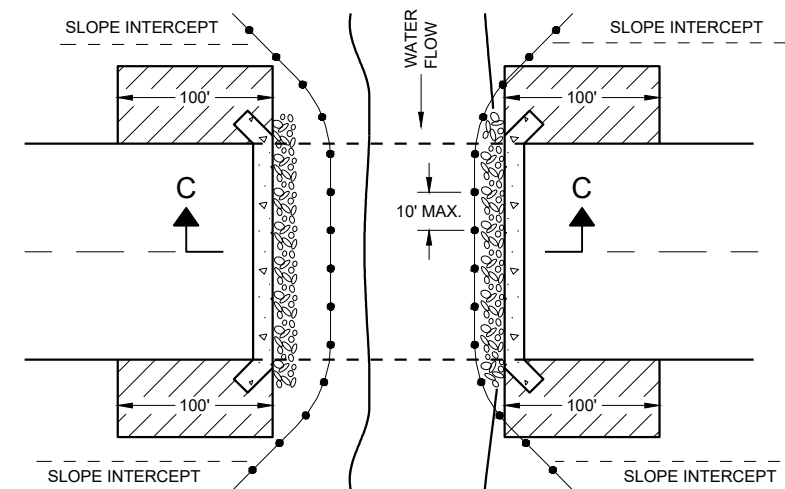
PLAN VIEW

**TURBIDITY BARRIER PLACEMENT DETAILS****GENERAL NOTES**

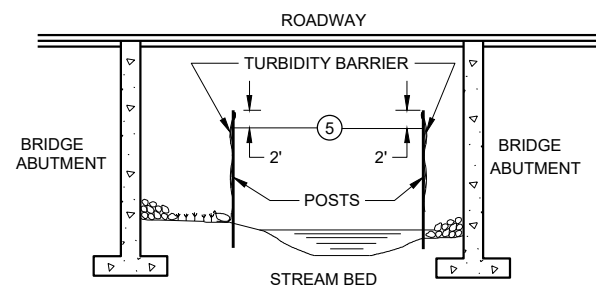
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

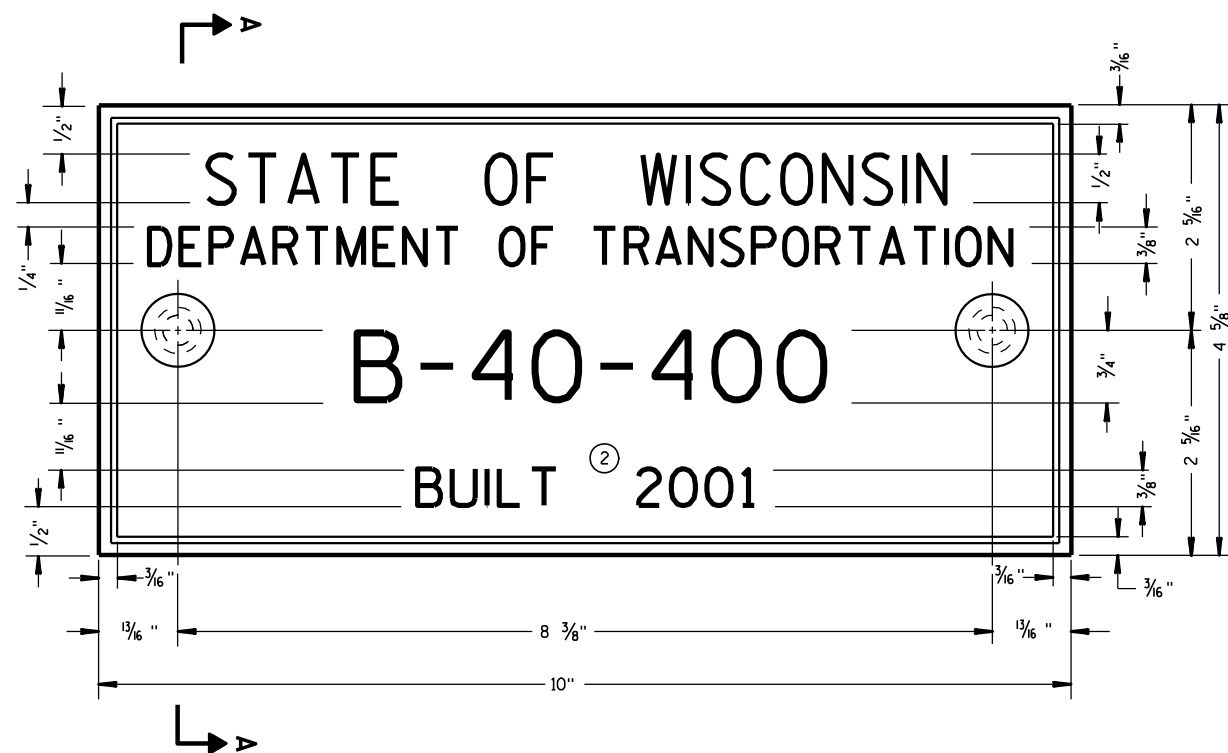
APPROVED

6/4/02

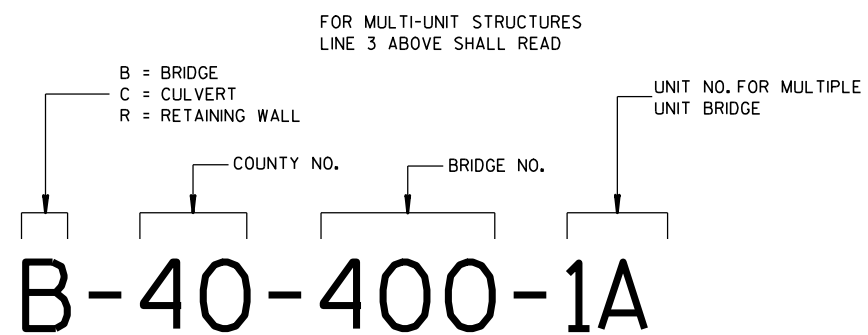
DATE

FHWA

/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT  
ENGINEER



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



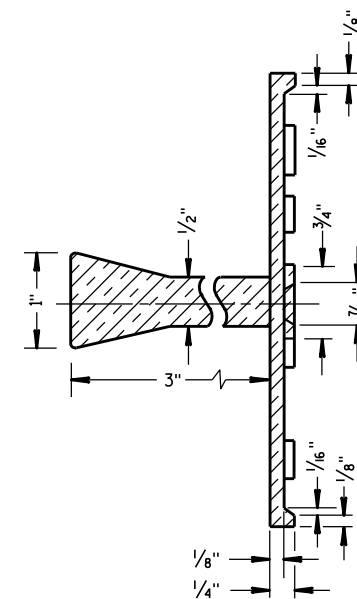
**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

## GENERAL NOTES

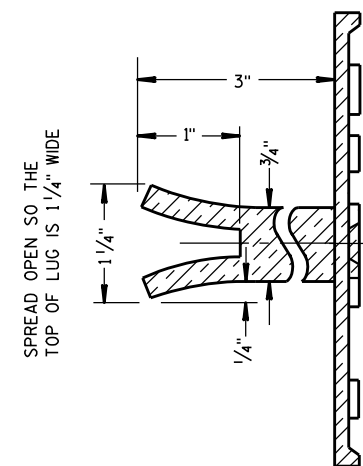
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

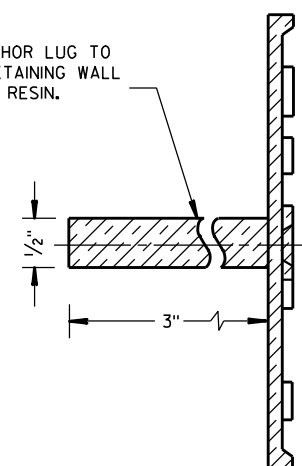


**SECTION A-A**



**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

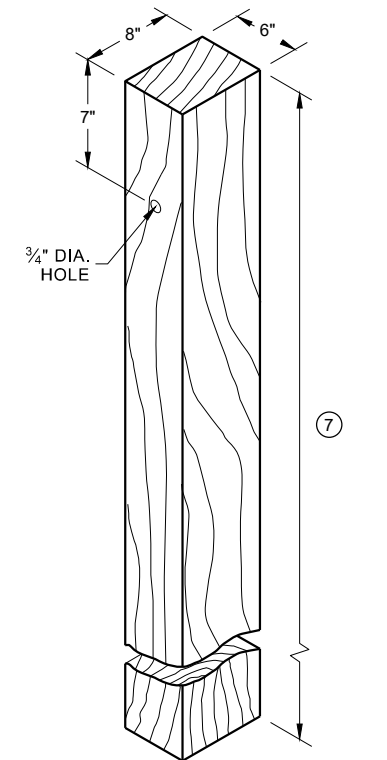
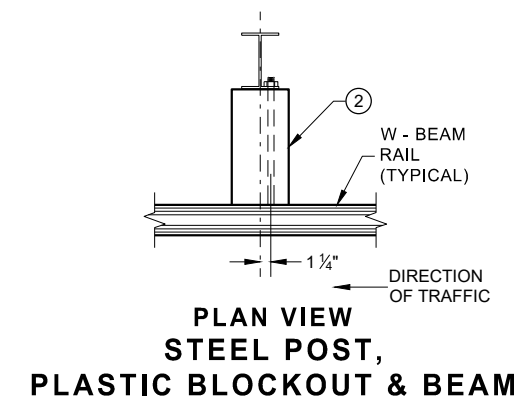
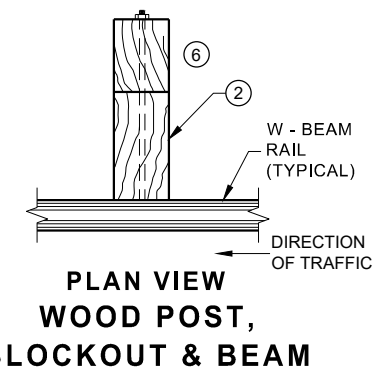
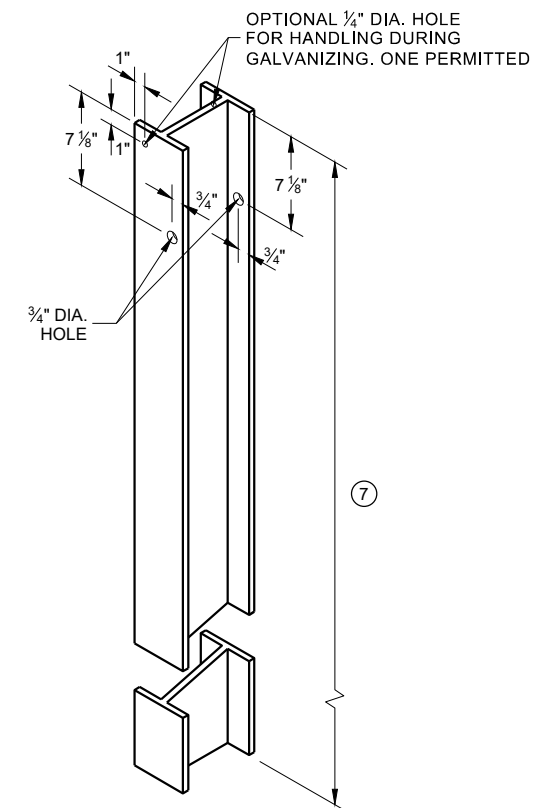
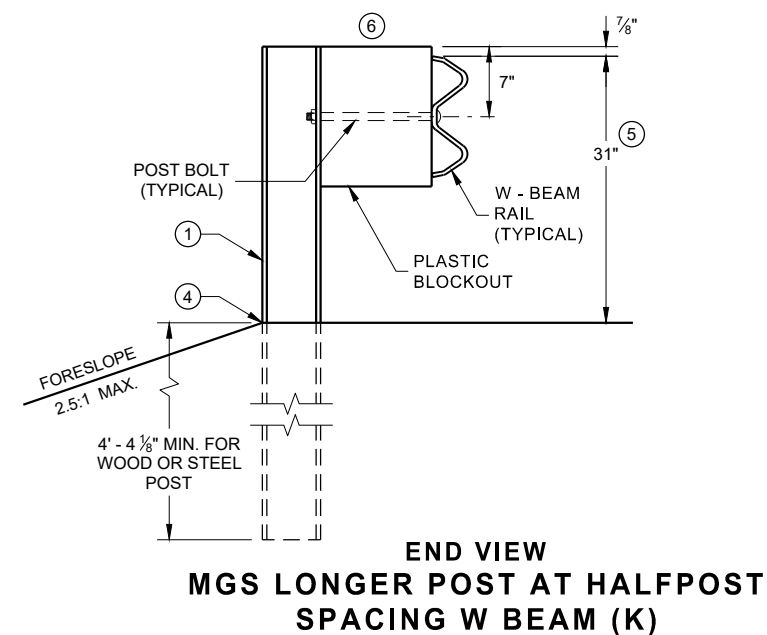
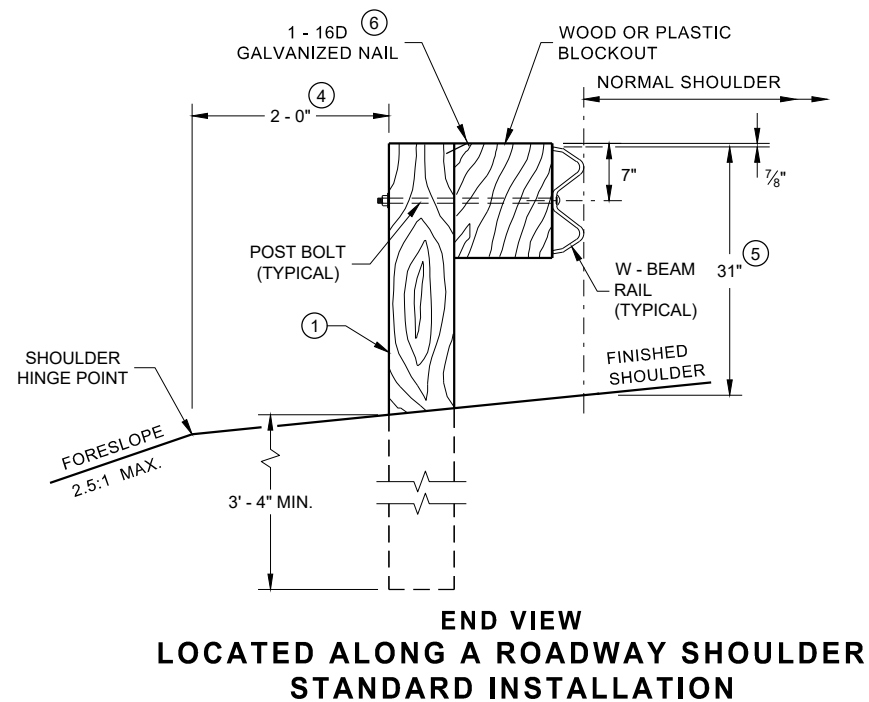
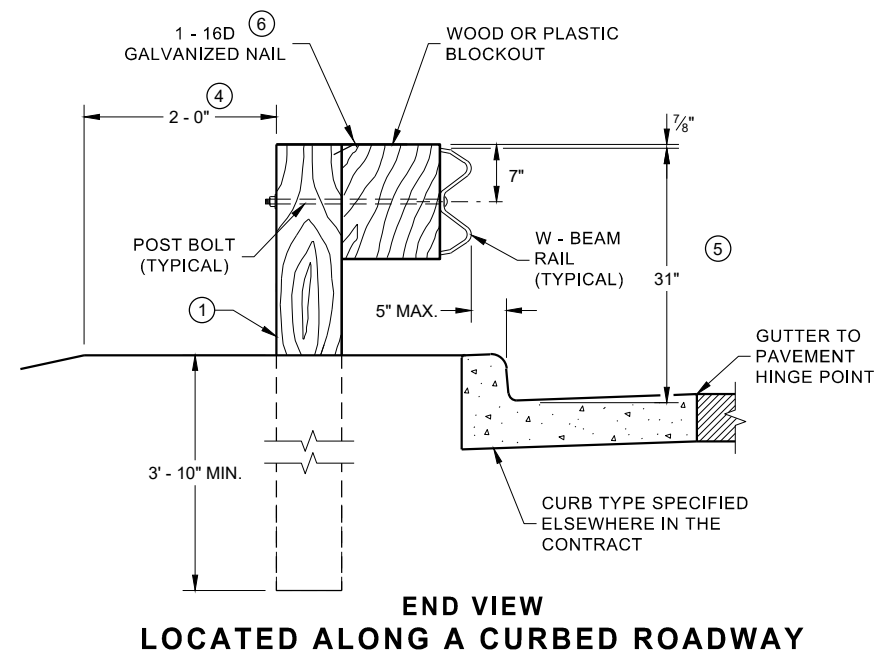
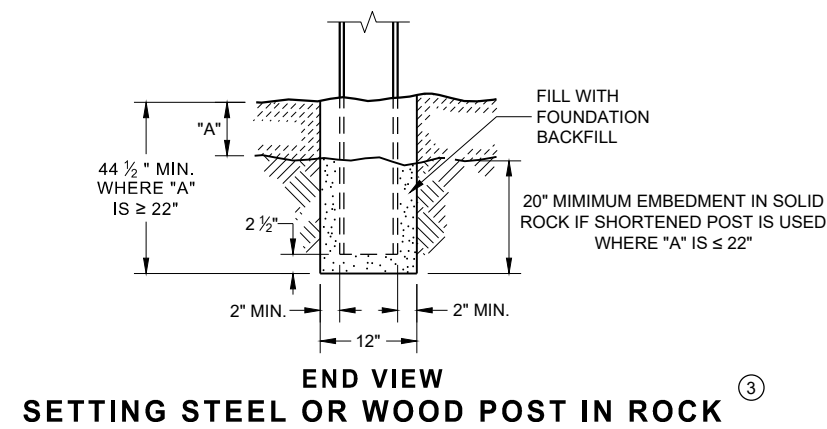
APPROVED

3/26/10  
DATE

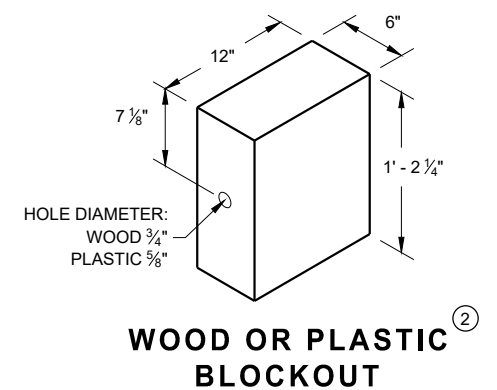
FHWA

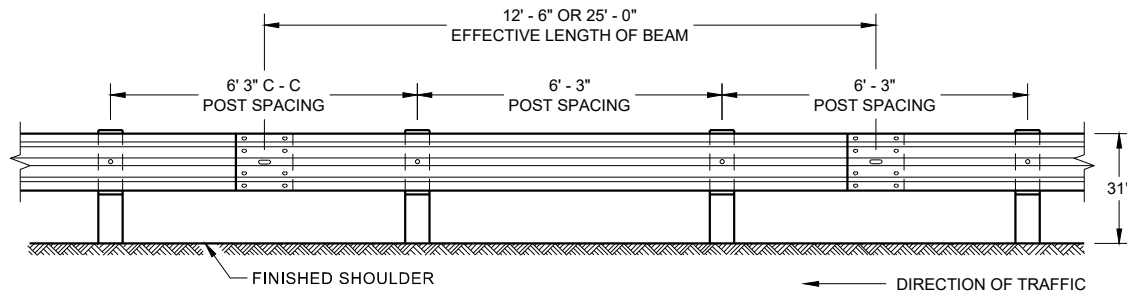
/S/ Scot Becker  
CHIEF STRUCTURAL DEVELOPMENT ENGINEER

- 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 THE 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".

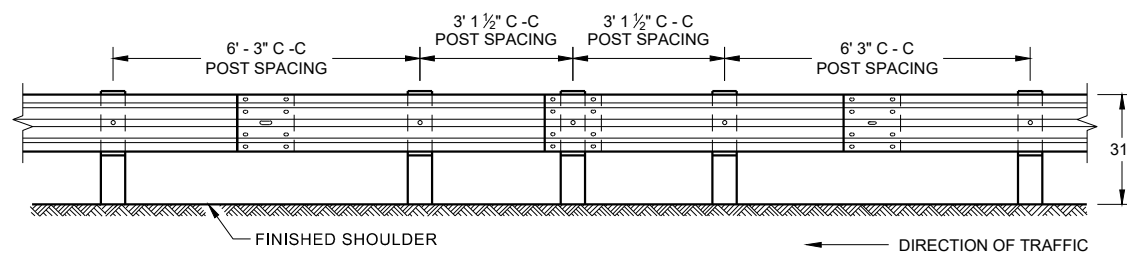


**WOOD POST (6" X 8") NOMINAL** <sup>(1)</sup>

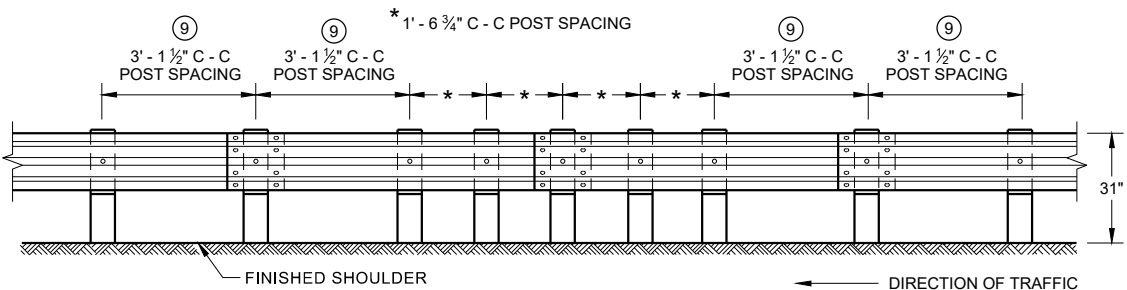




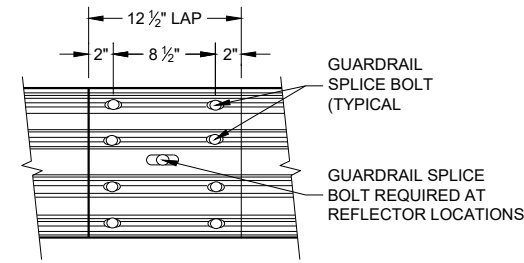
**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



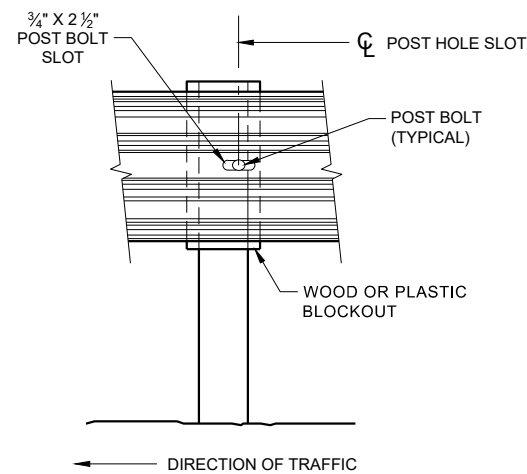
**FRONT VIEW  
HALF POST SPACING (HS) AND  
HALF POST SPACING WITH LONGER POSTS (K)**



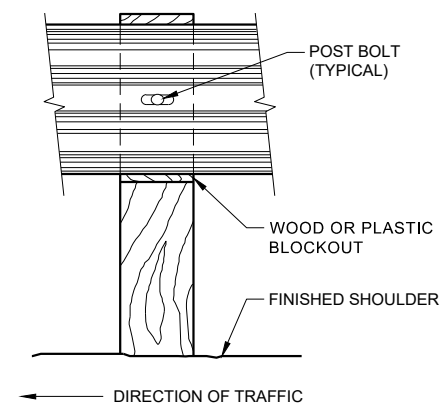
**FRONT VIEW  
QUARTER POST SPACING (QS)**



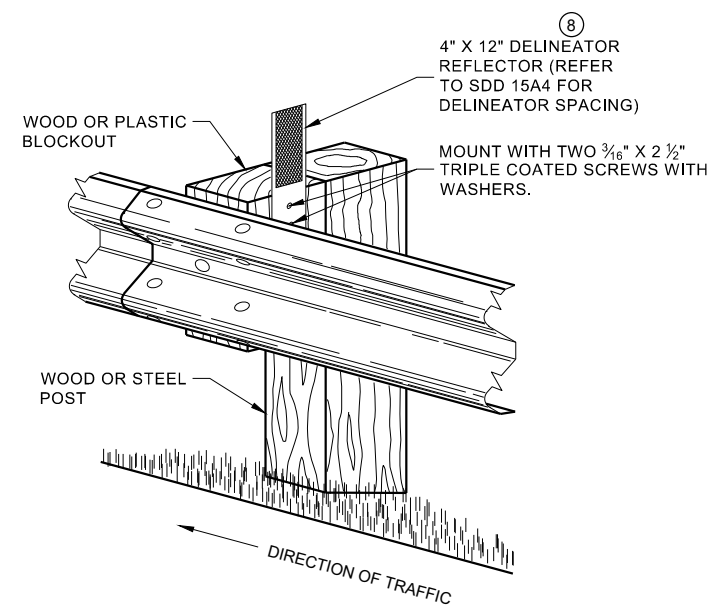
**FRONT VIEW  
MID-SPAN BEAM SPLICE**



**FRONT VIEW AT STEEL POST**



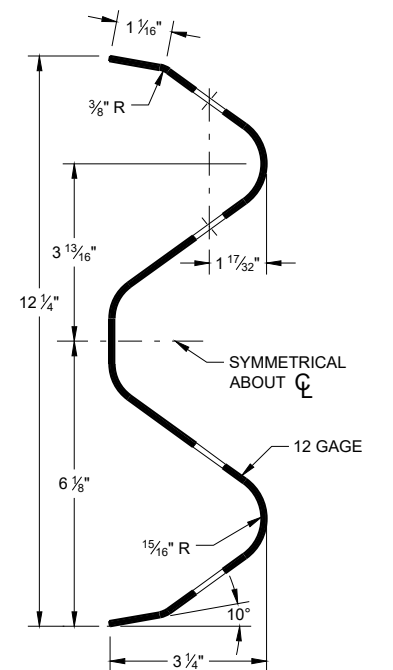
**FRONT VIEW AT WOOD POST**



**ONE SIDED REFLECTOR DETAIL  
AND TYPICAL INSTALLATION**

**GENERAL NOTES**

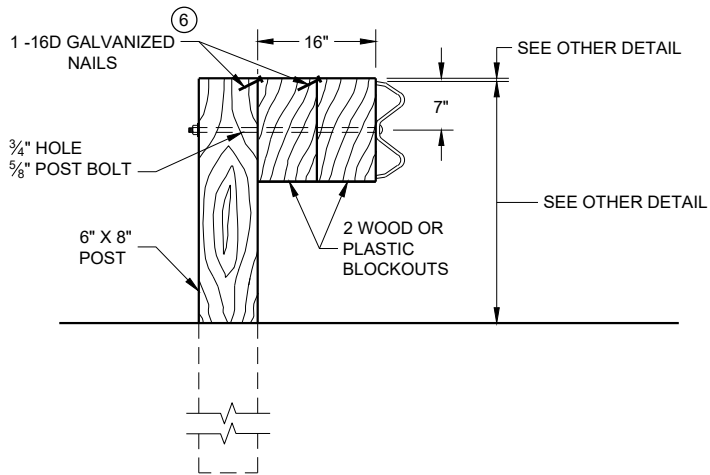
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
  - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER 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 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



**SECTION THRU W-BEAM RAIL**

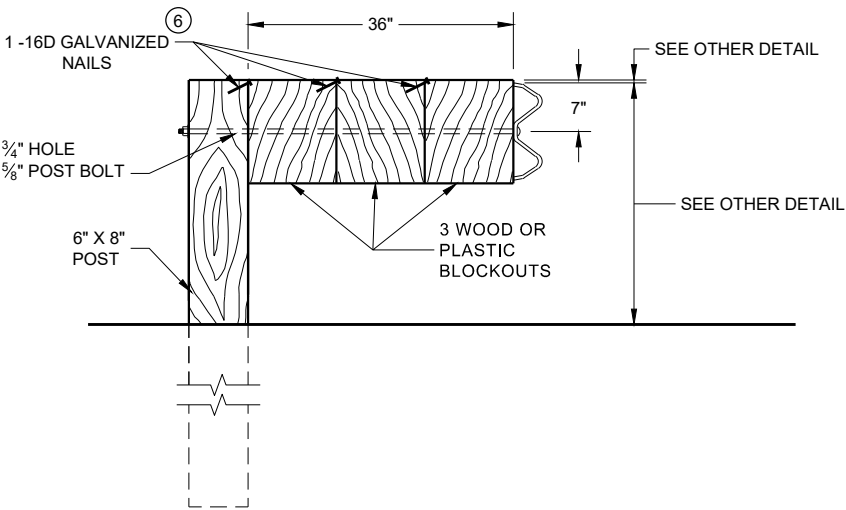
**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

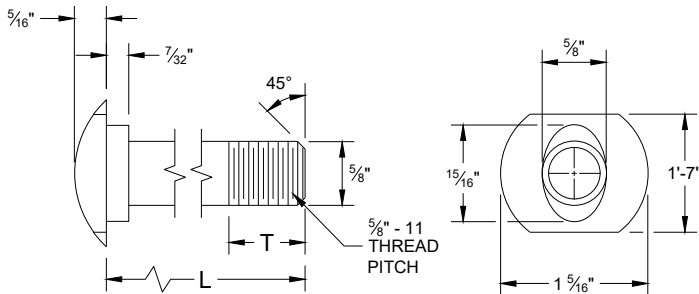
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

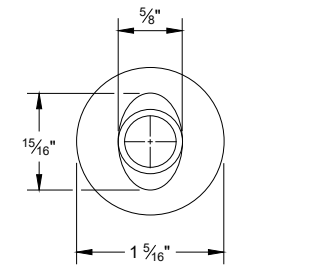
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.  
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE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

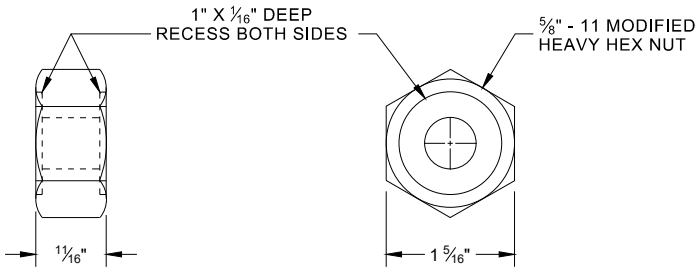


POST BOLT TABLE

| 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"       |

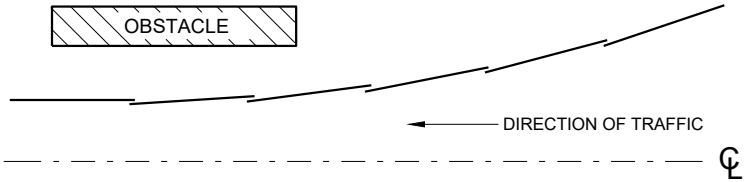


ALTERNATE BOLT HEAD

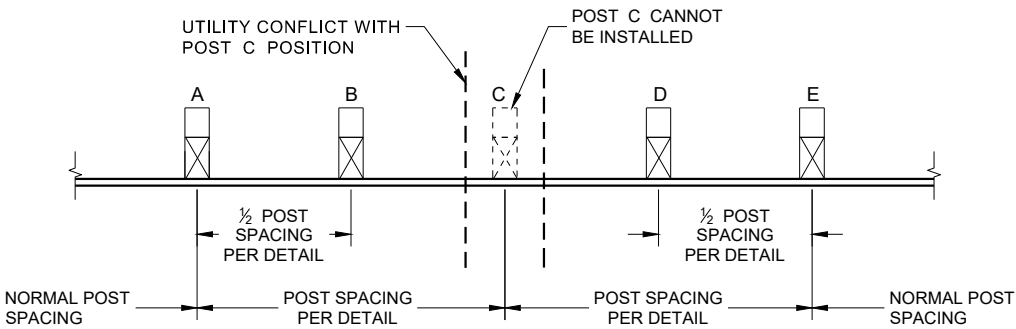


POST BOLT, SPLICE BOLT AND RECESS NUT

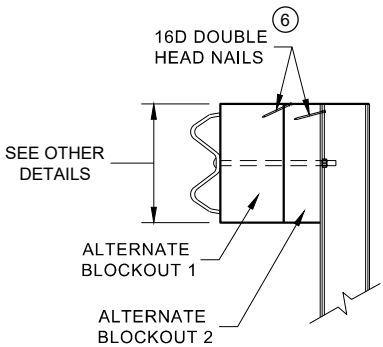
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



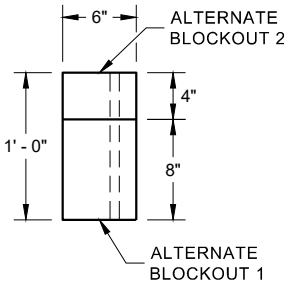
PLAN VIEW  
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION



SIDE VIEW

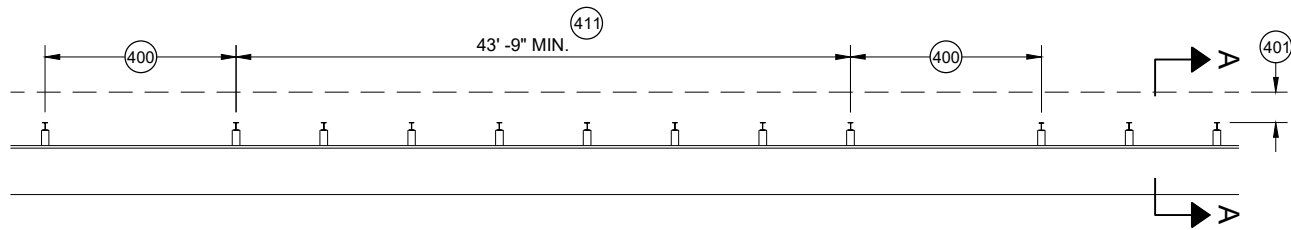


PLAN VIEW

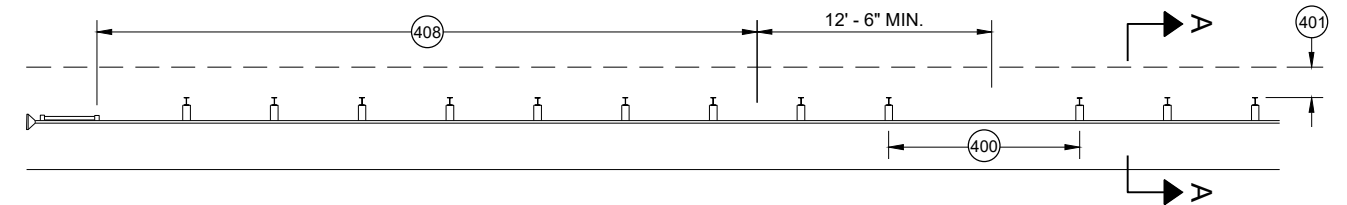
ALTERNATE WOOD  
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL

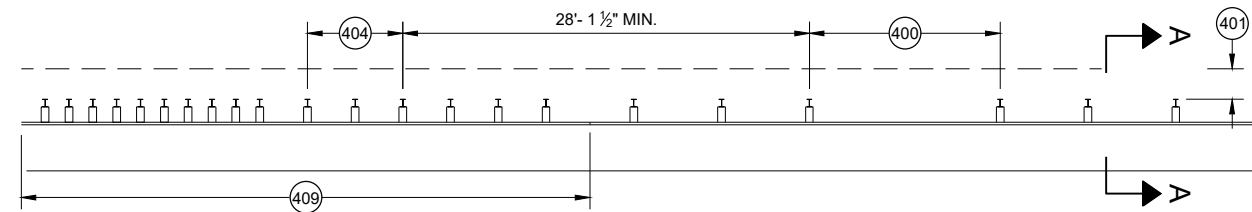
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



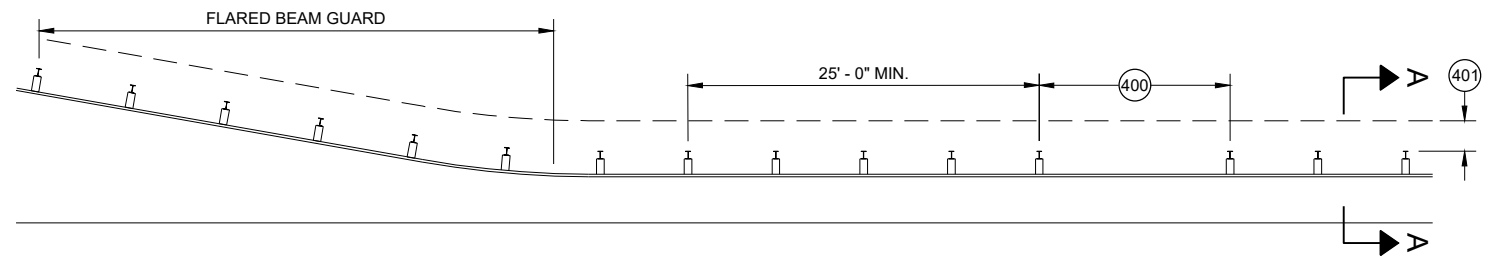
**MISSING POST IN MGS GUARDRAIL**



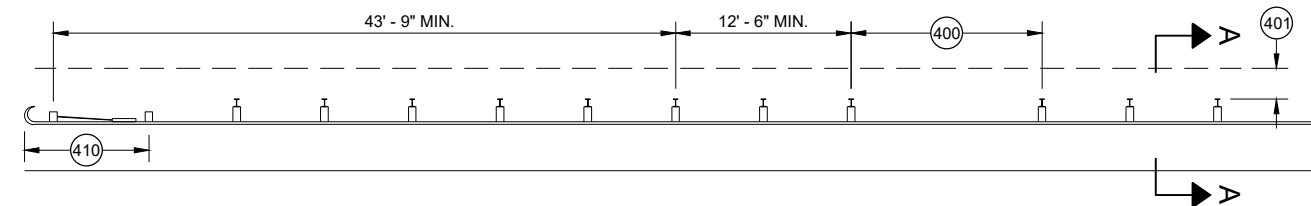
**MISSING POST IN MGS GUARDRAIL NEAR EAT**



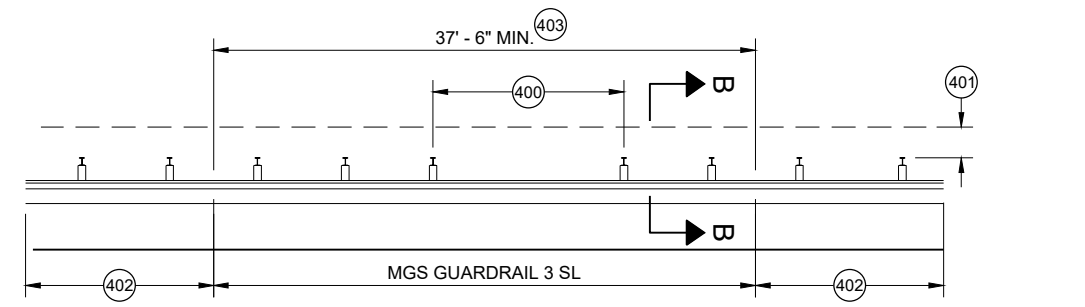
**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**



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

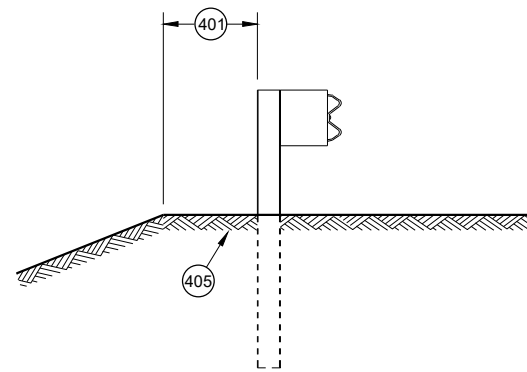


**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

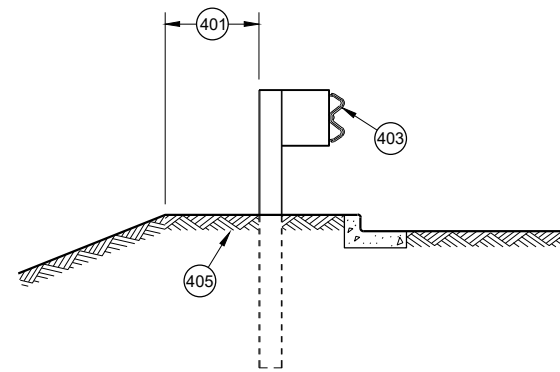


**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)**

- (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

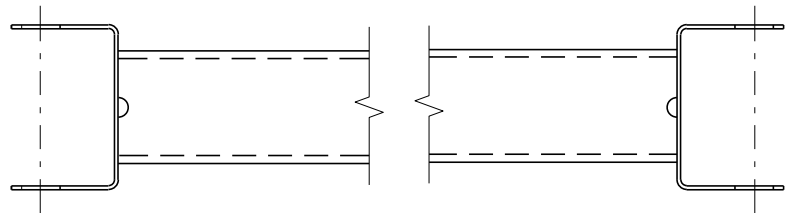
- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. 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 3½" 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.

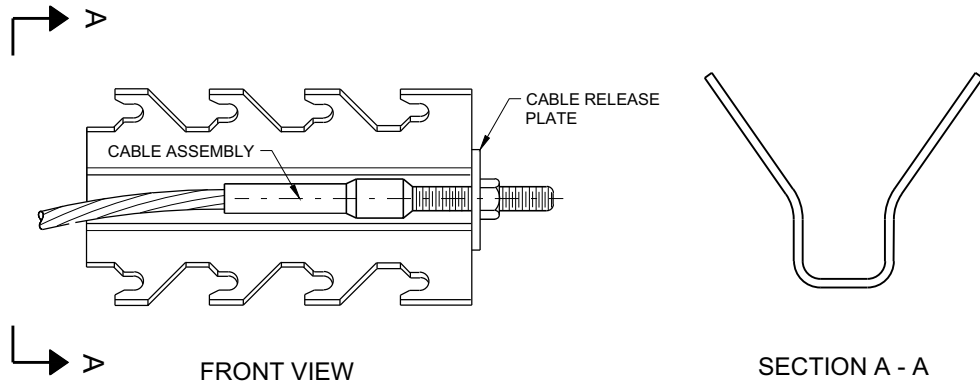


STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

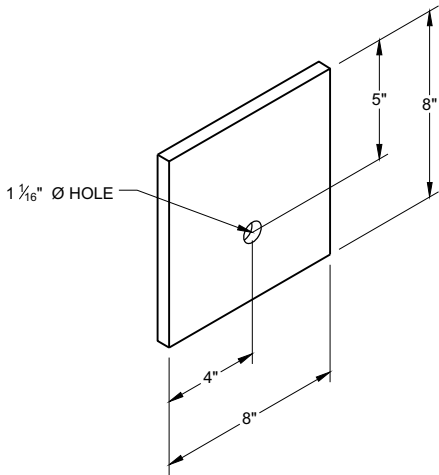


GENERIC GROUND STRUT<sup>9</sup> <sup>E</sup>

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



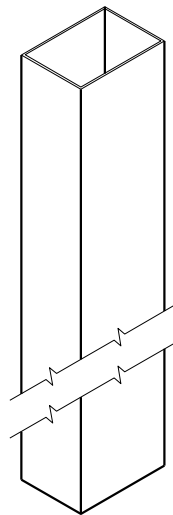
GENERIC ANCHOR CABLE BOX<sup>9</sup> <sup>E</sup>



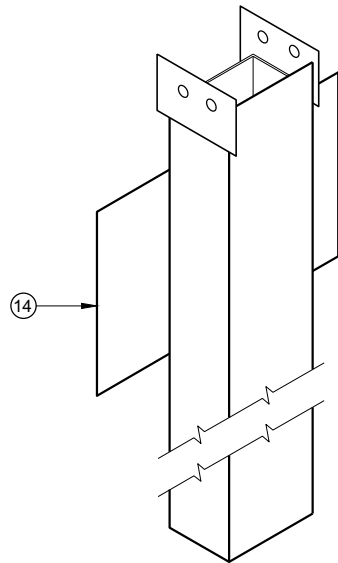
BEARING PLATE<sup>6</sup> <sup>E</sup>

MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)

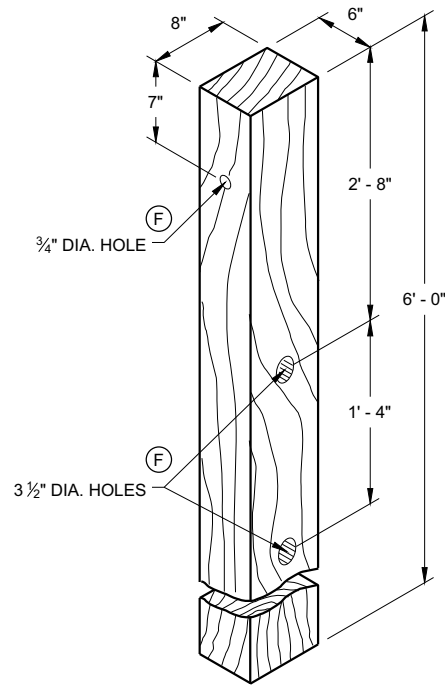
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



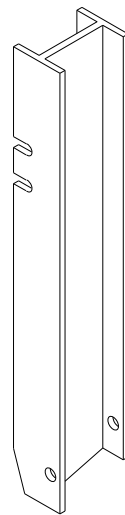
UPPER POST NO. 1 <sup>(1)</sup> (E)



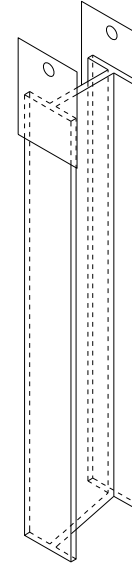
LOWER POST NO. 1 <sup>(2)</sup> (E)



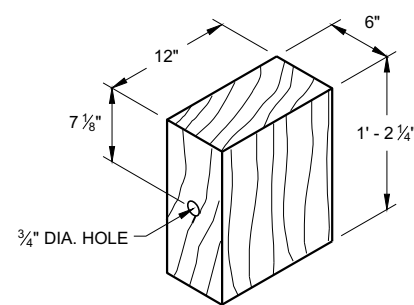
WOOD CRT POST <sup>(3)</sup> (E)  
POSTS NUMBER 3-9



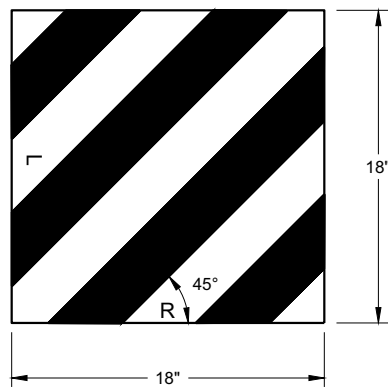
UPPER POST NO. 2 <sup>(15)</sup> (E)



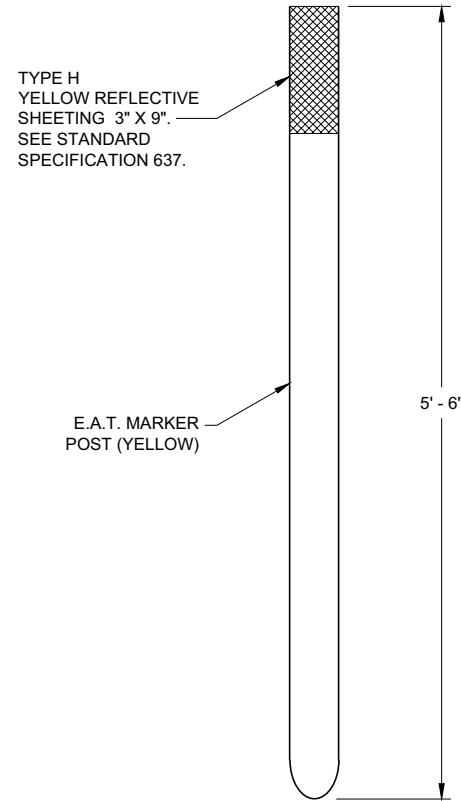
LOWER POST NO. 2 <sup>(16)</sup> (E)



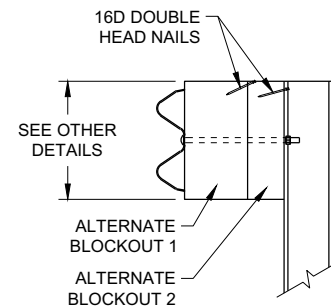
WOOD BLOCKOUT <sup>(4)</sup>  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



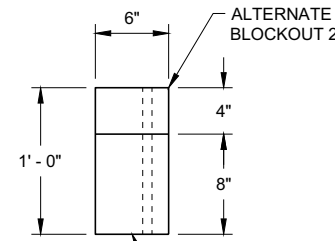
REFLECTIVE SHEETING DETAIL <sup>(E)</sup>



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



SIDE VIEW



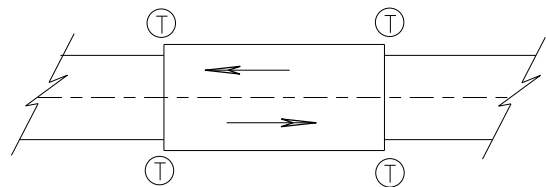
TOP VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

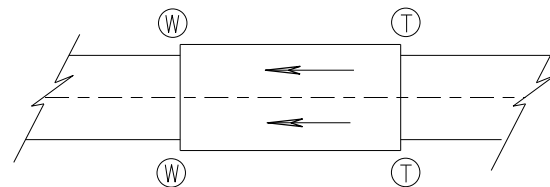
**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

## TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

### GENERAL NOTES

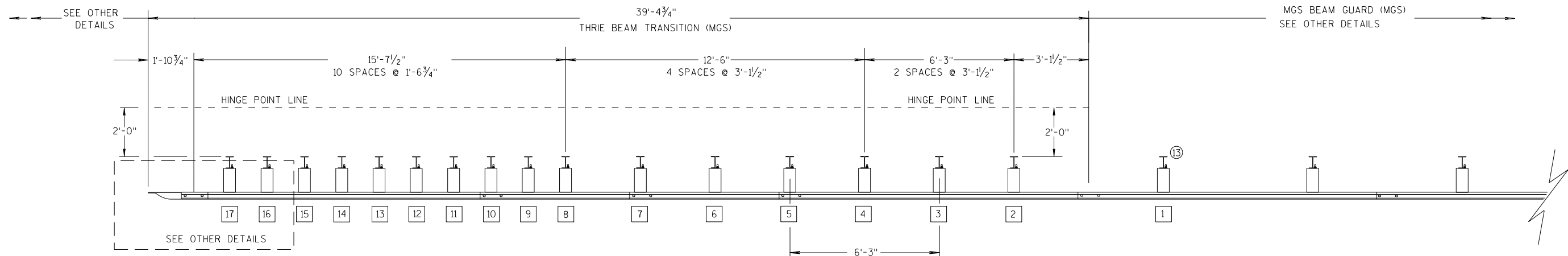
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

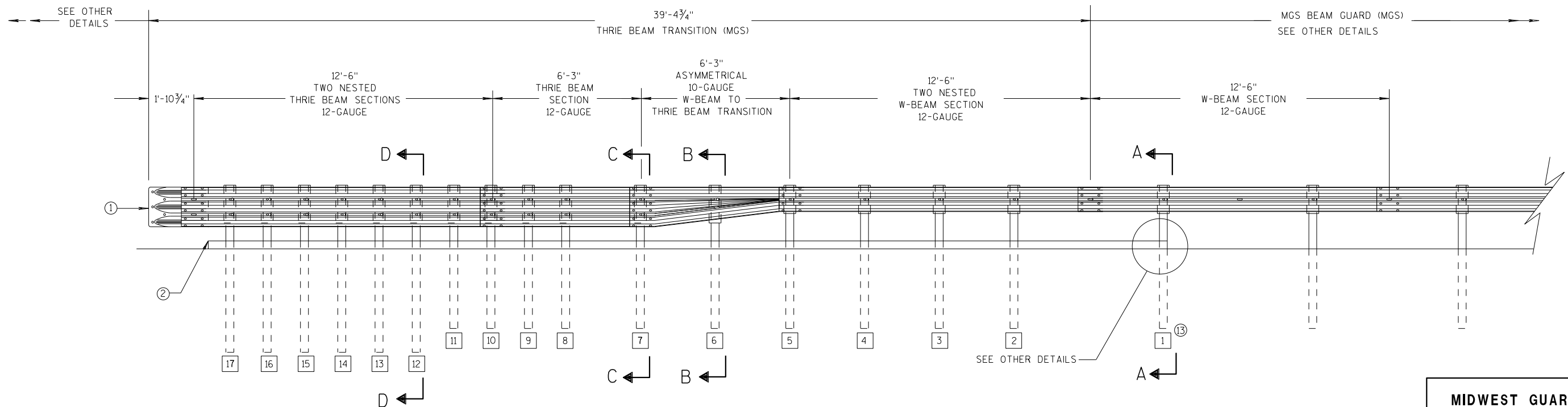
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

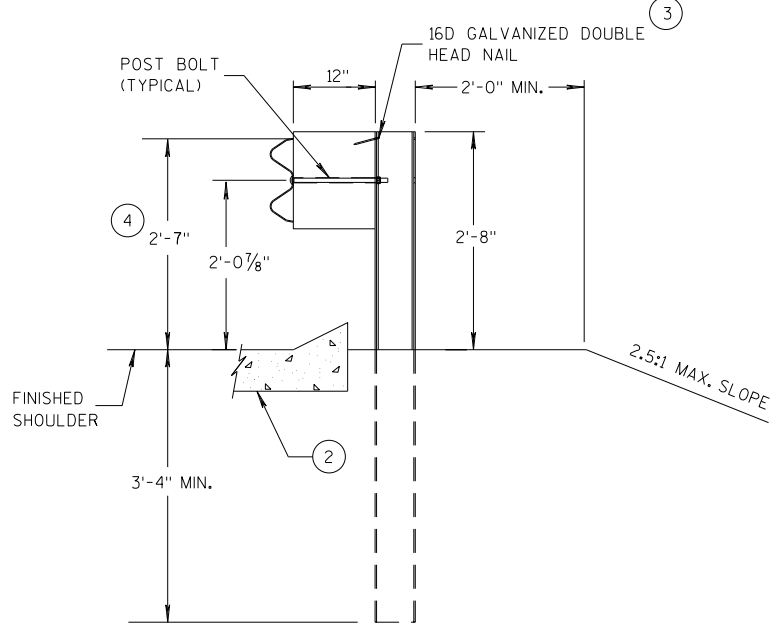
## MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

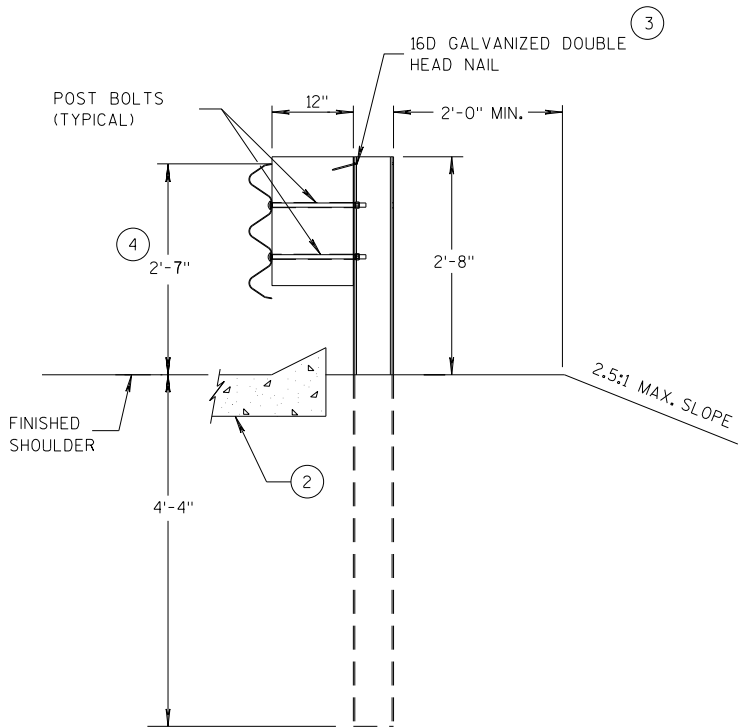
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

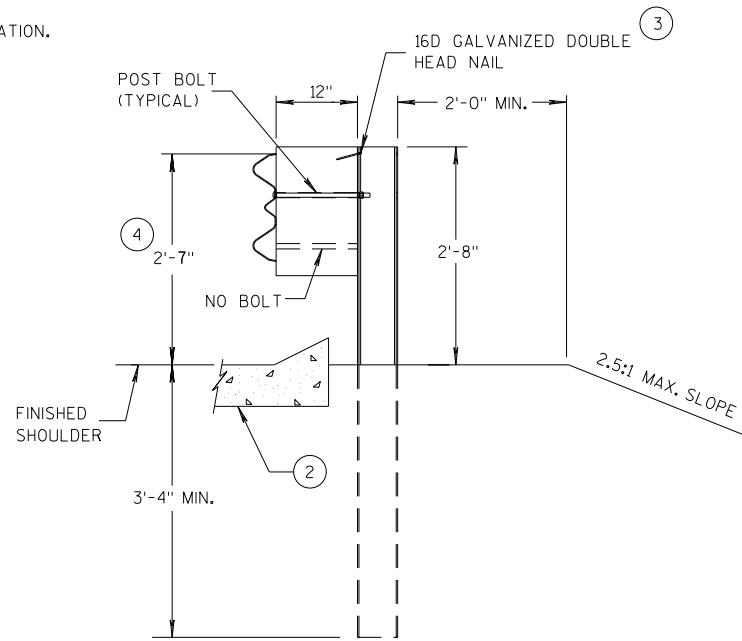
- 2
- OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3
- WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4
- TOLERANCE FOR TOP OF W-BEAM RAIL IS  $\pm 1"$ .
- 13
- STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



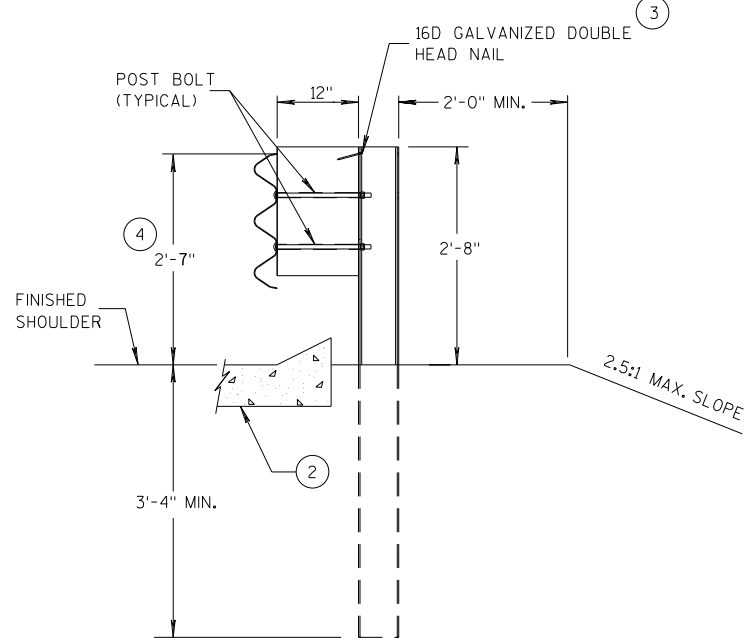
SECTION A-A  
POSTS 1-5



SECTION D-D  
POSTS 12-17



SECTION B-B  
POST 6



SECTION C-C  
POSTS 7-11

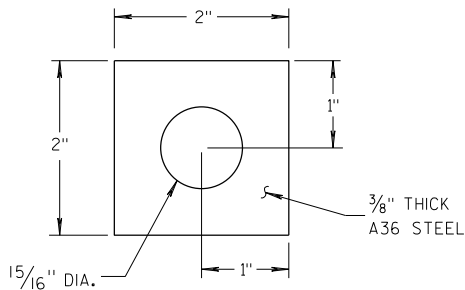
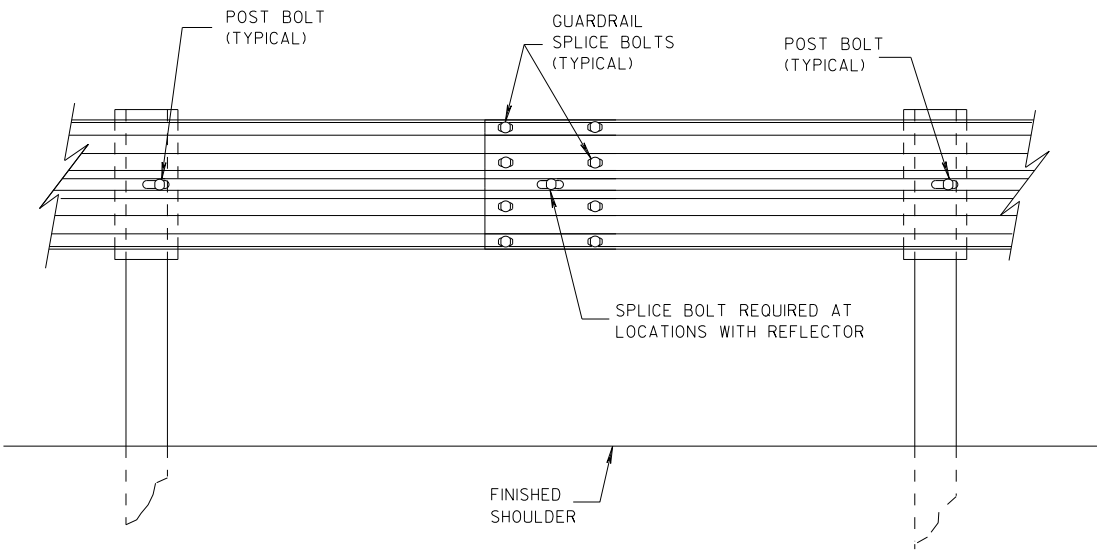
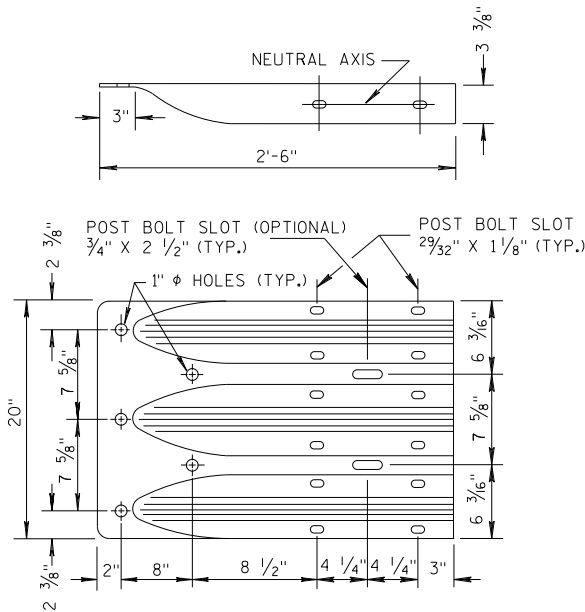


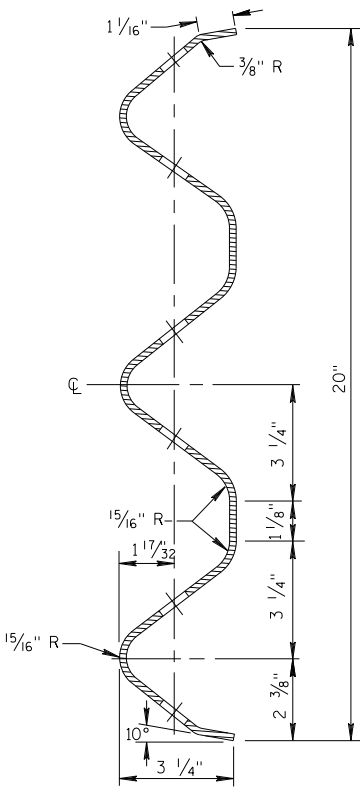
PLATE WASHER DETAIL



SPLICE DETAIL



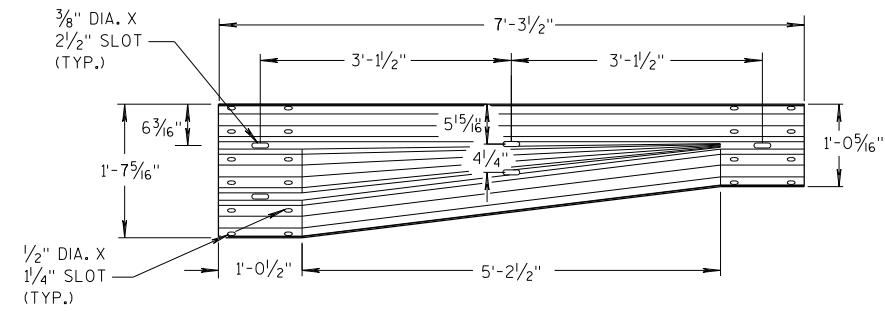
THRIE BEAM  
TERMINAL CONNECTOR



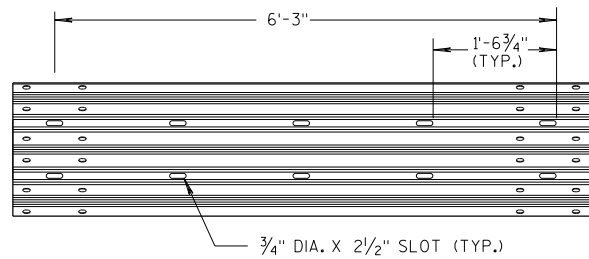
SECTION THRU THRIE  
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

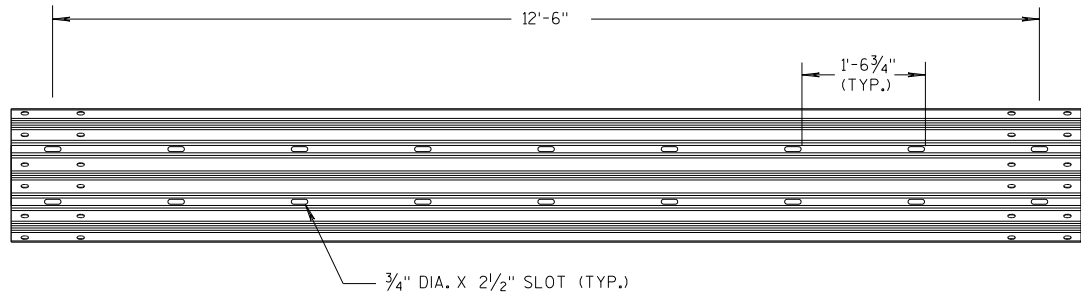
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



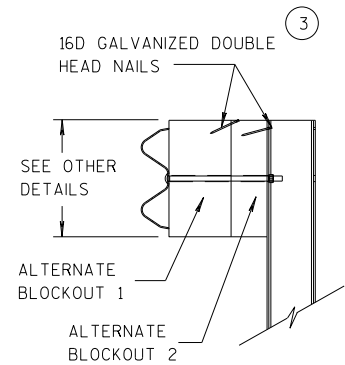
W-BEAM TO THRIE BEAM TRANSITION SECTION



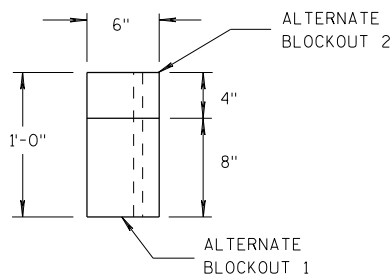
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

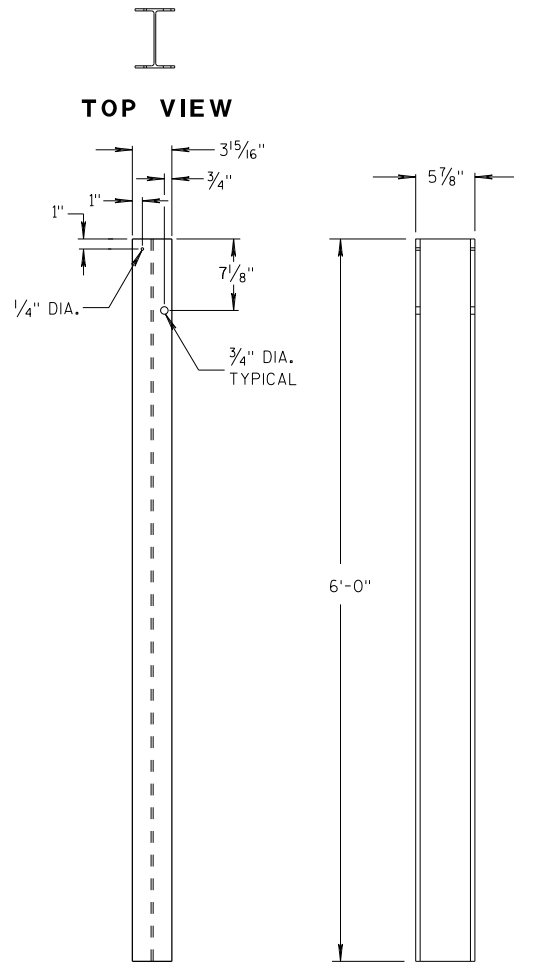


SIDE VIEW



TOP VIEW

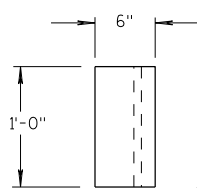
ALTERNATE WOOD BLOCKOUT DETAIL



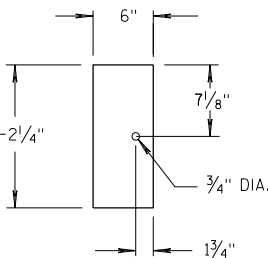
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

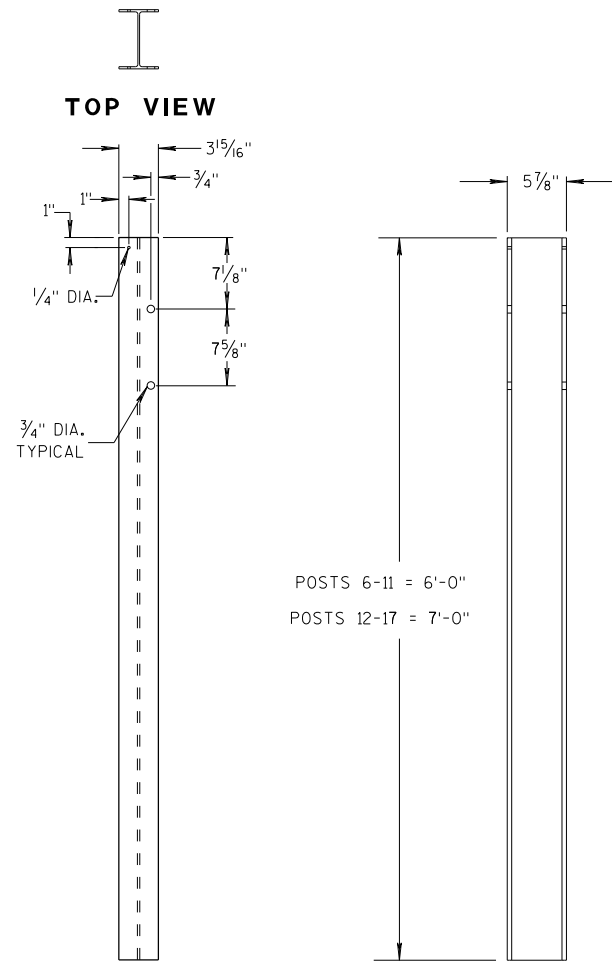


TOP VIEW



FRONT VIEW

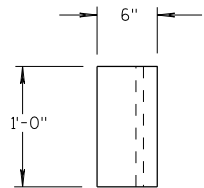
BLOCKOUT POSTS 1-5



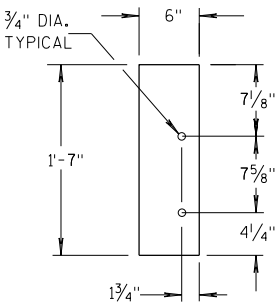
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

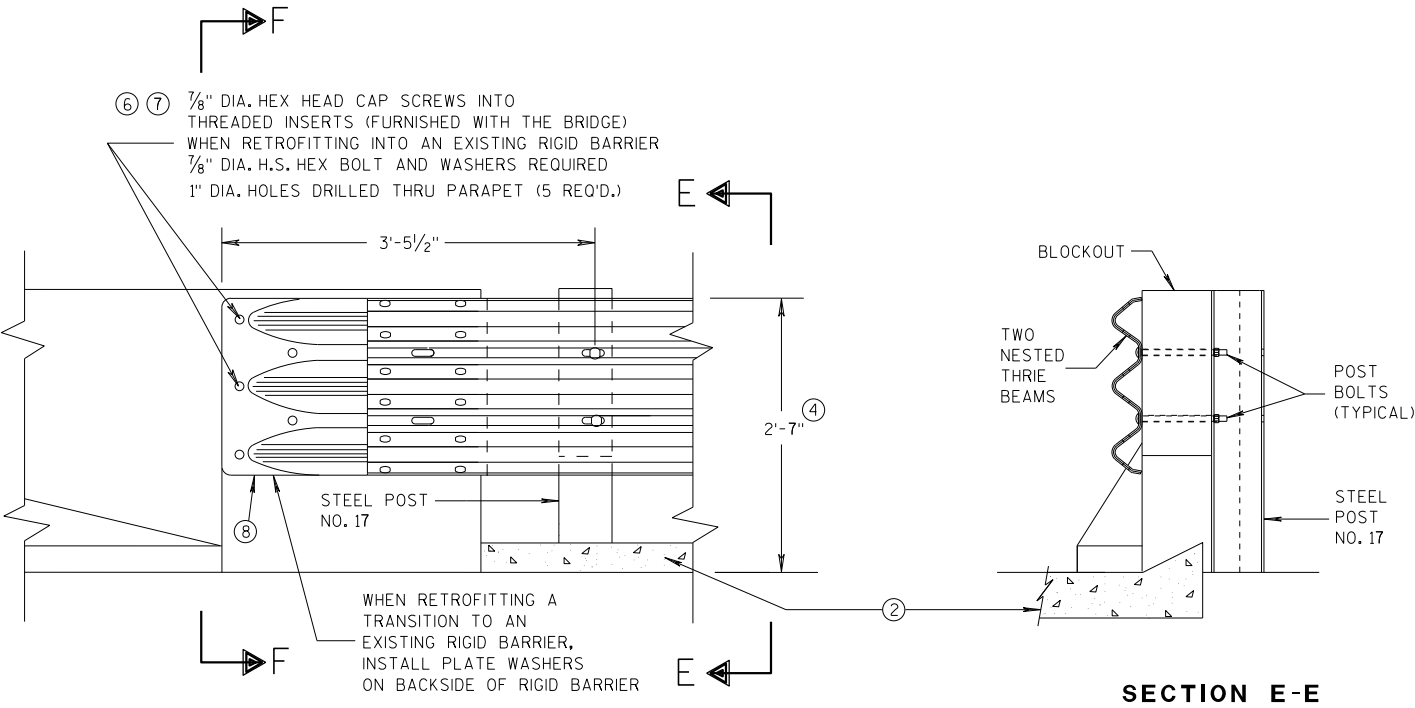
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

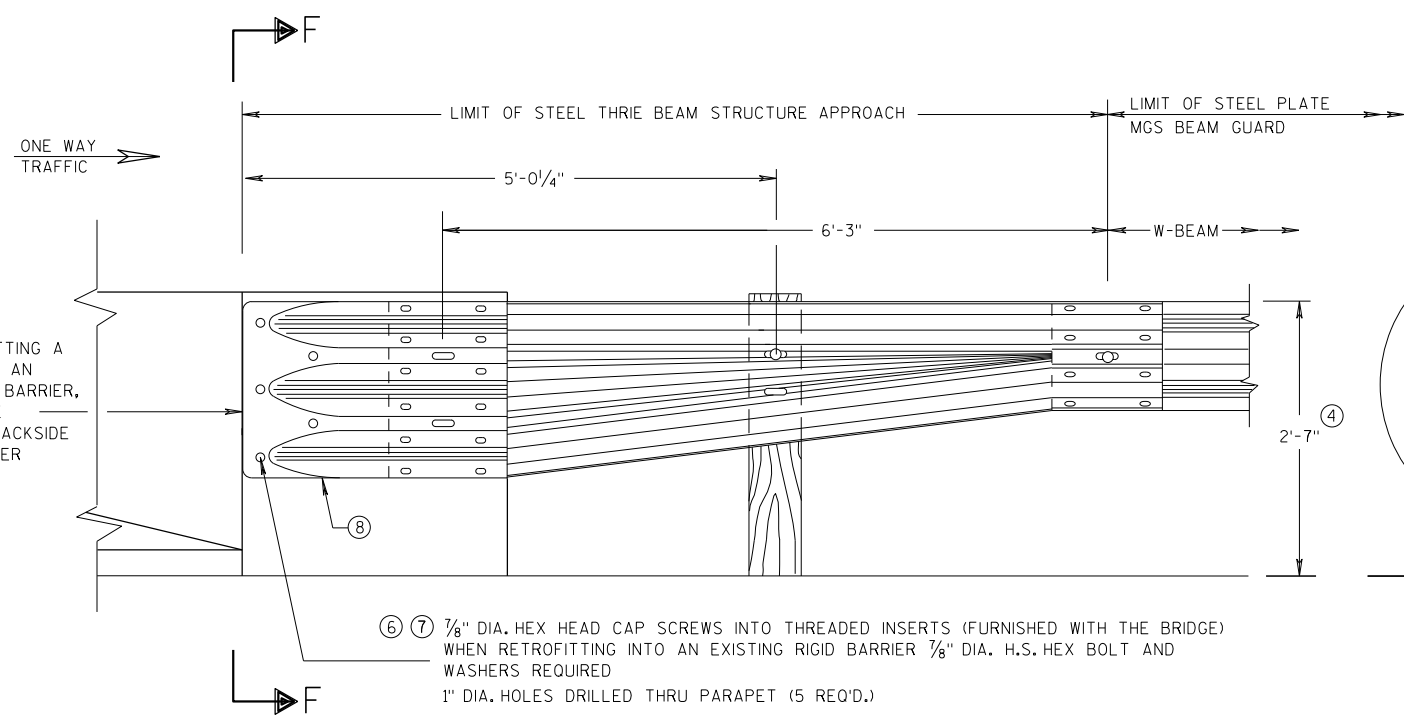
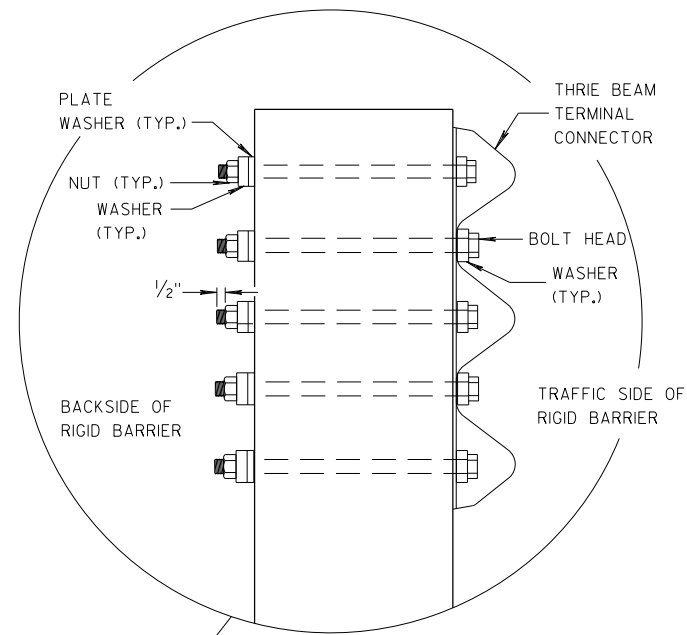
MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

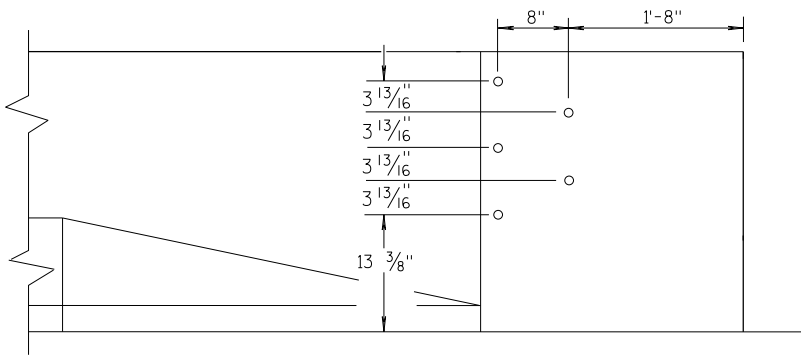


**GENERAL NOTES**

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



**SECTION F-F**

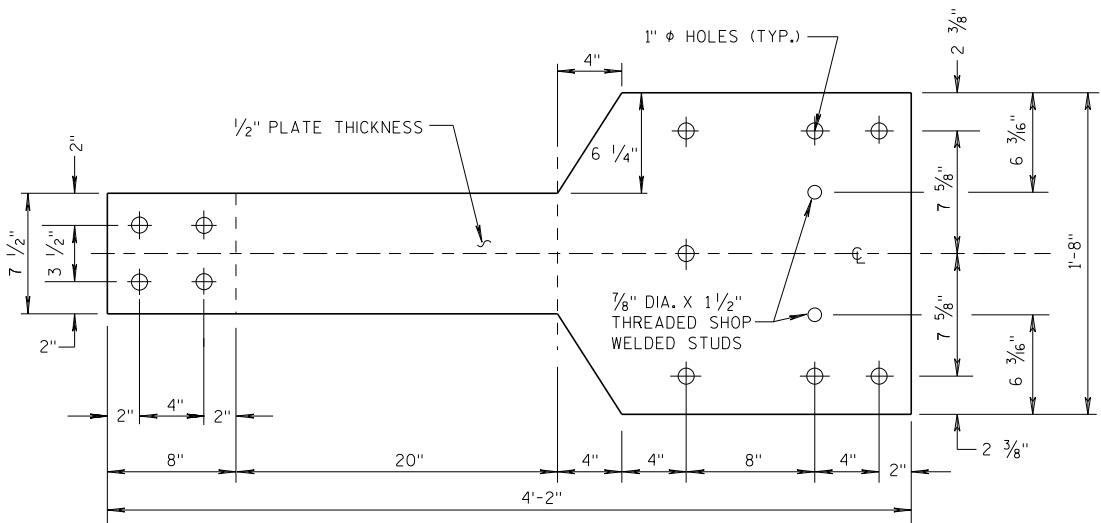


**DRILL HOLE LOCATION**

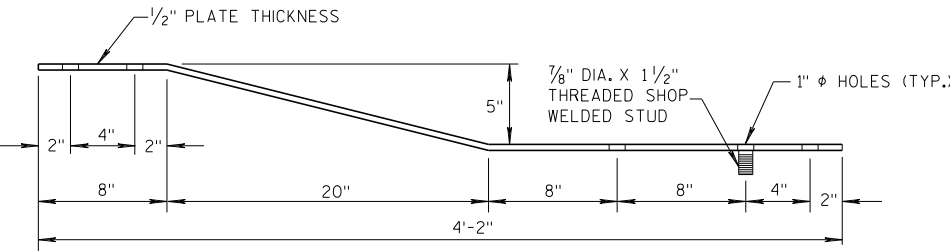
| MIDWEST GUARDRAIL SYSTEM<br>THRIE BEAM TRANSITION (MGS) |                                                                       |
|---------------------------------------------------------|-----------------------------------------------------------------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION      |                                                                       |
| APPROVED<br>07/2018<br>DATE                             | /S/ Rodney Taylor<br>ROADWAY STANDARDS DEVELOPMENT<br>UNIT SUPERVISOR |
| FHWA                                                    |                                                                       |

GENERAL NOTES

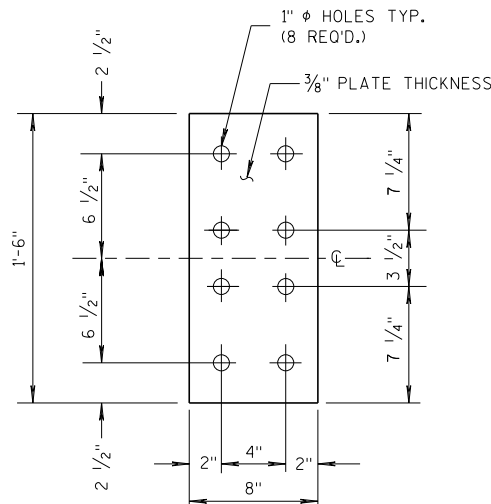
④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



FRONT VIEW

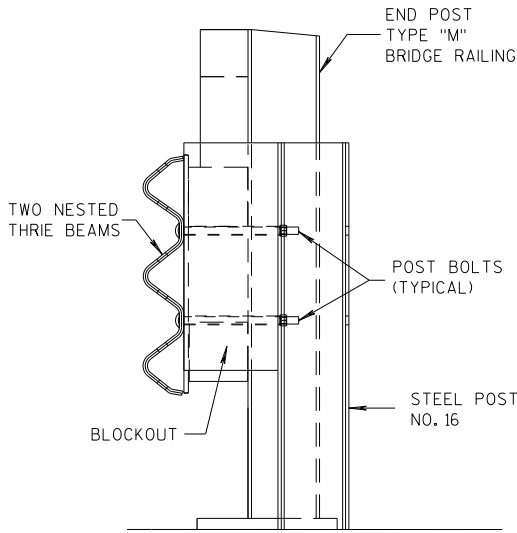


PLAN VIEW  
BACK-UP PLATE DETAIL, TYPE "M"

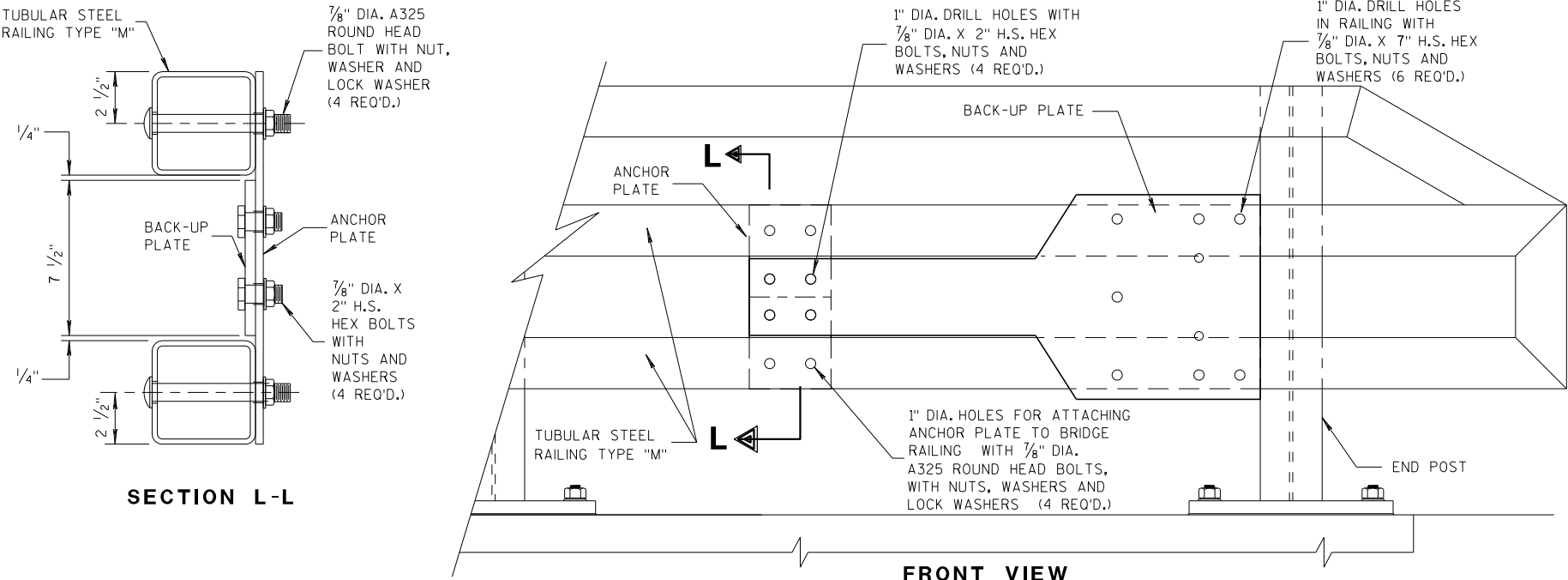


FRONT VIEW

ANCHOR  
PLATE DETAIL,  
TYPE "M"



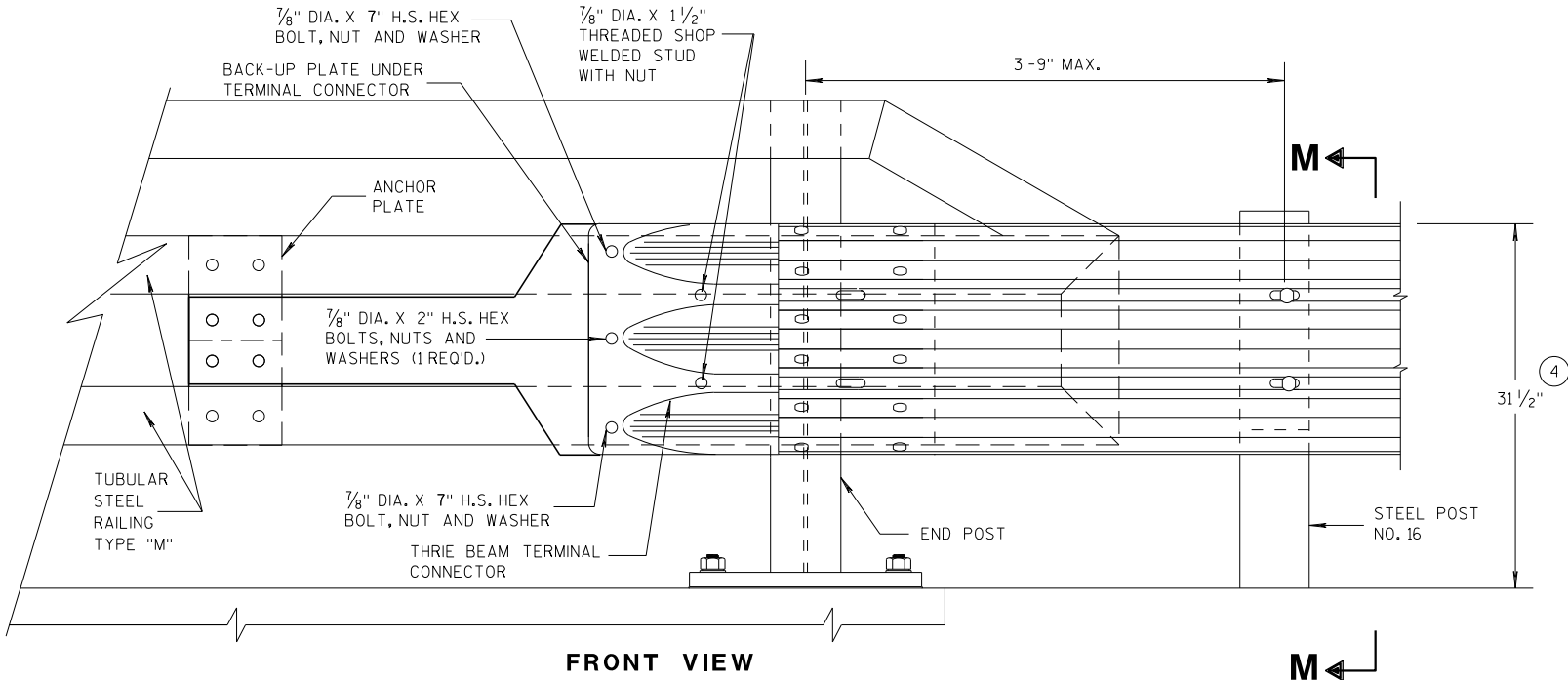
SECTION M-M



SECTION L-L

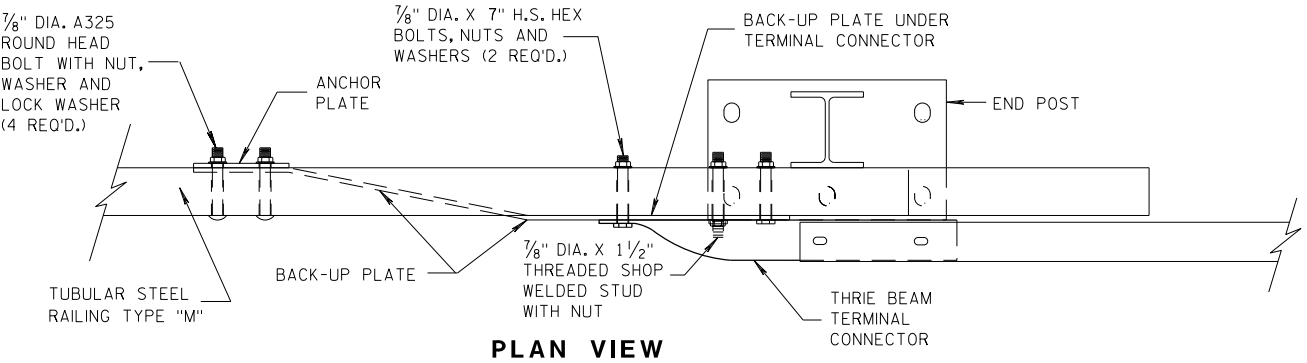
FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW

M



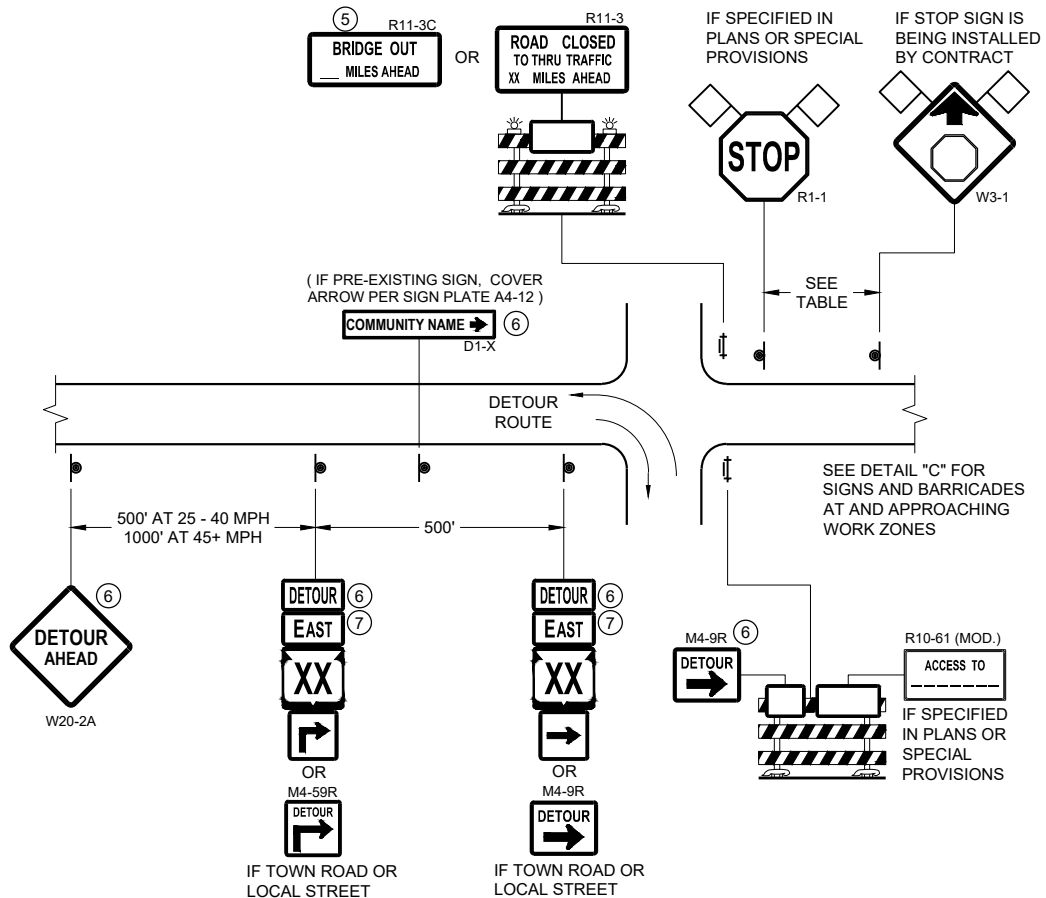
PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

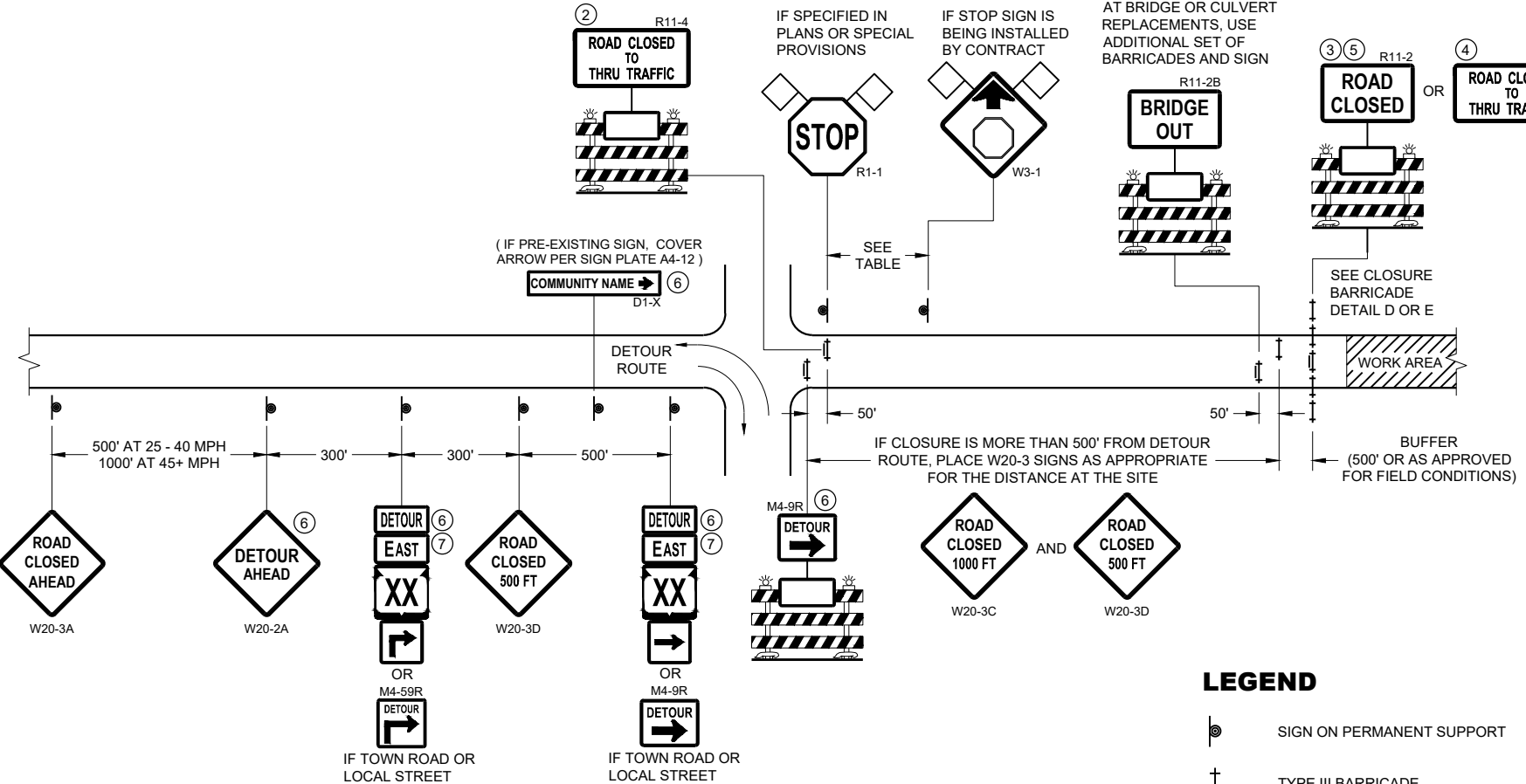
MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
07/2018 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA UNIT SUPERVISOR



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



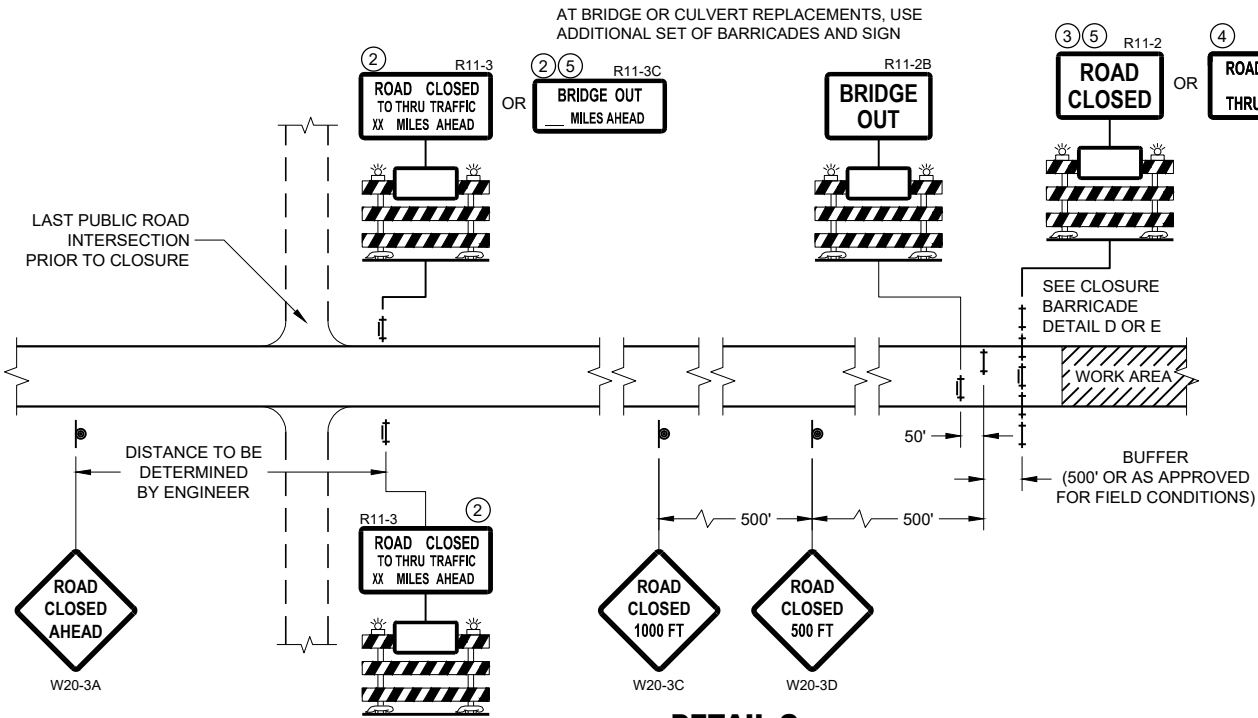
**DETAIL B**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
WORK ZONE LESS THAN ½ MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

- 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)

- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY M1 - 5A
- M05 - 1 OR M06 - 1

| 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



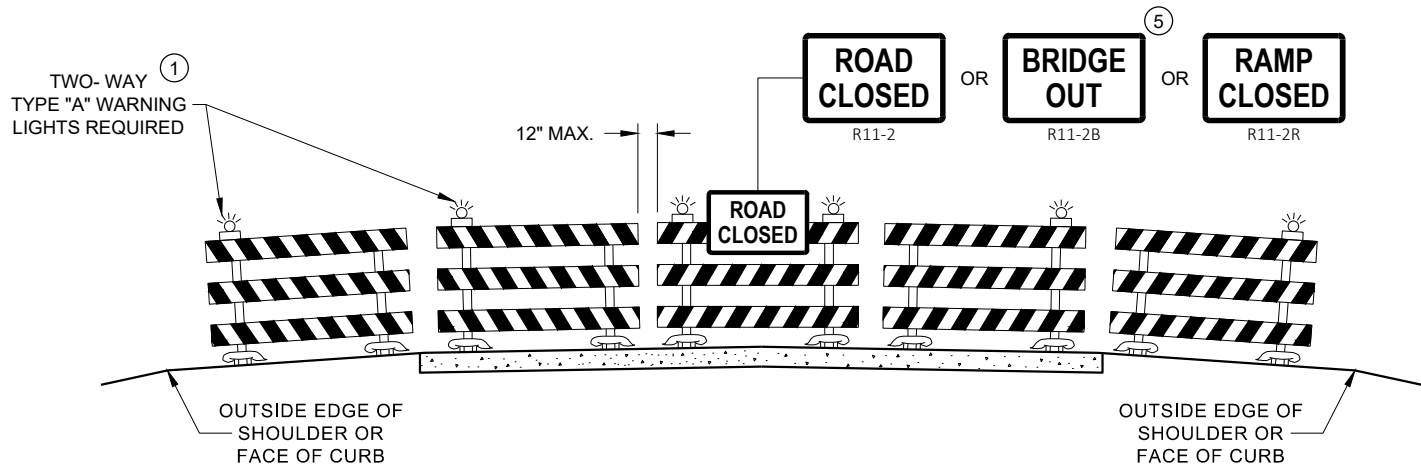
**DETAIL C**  
**MAINLINE CLOSURE, NO POSTED DETOUR**

**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

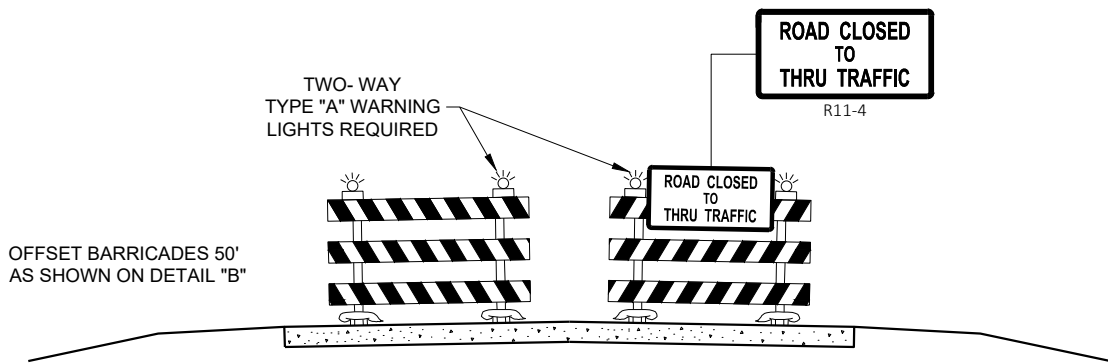
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /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.

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

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

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

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

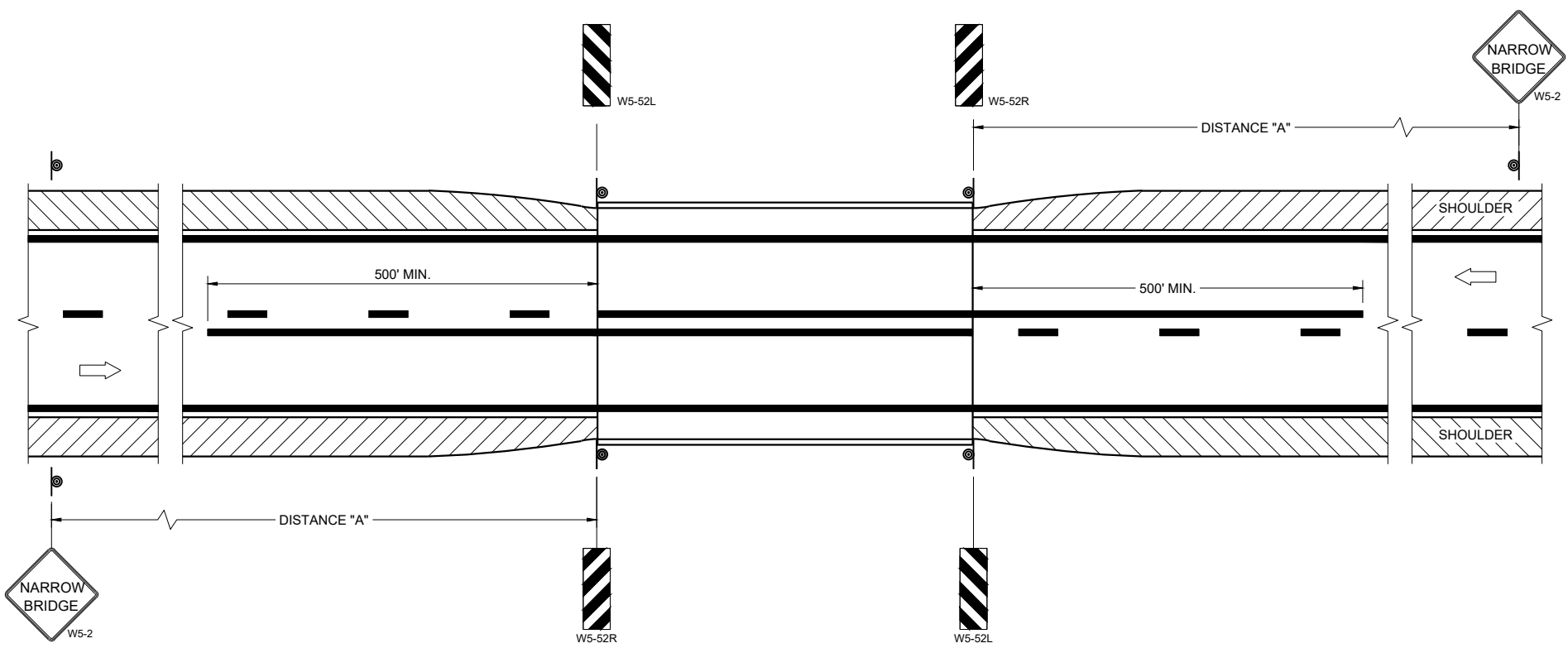
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS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

**BARRICADES AND SIGNS**  
**FOR**  
**VARIOUS CLOSURES**

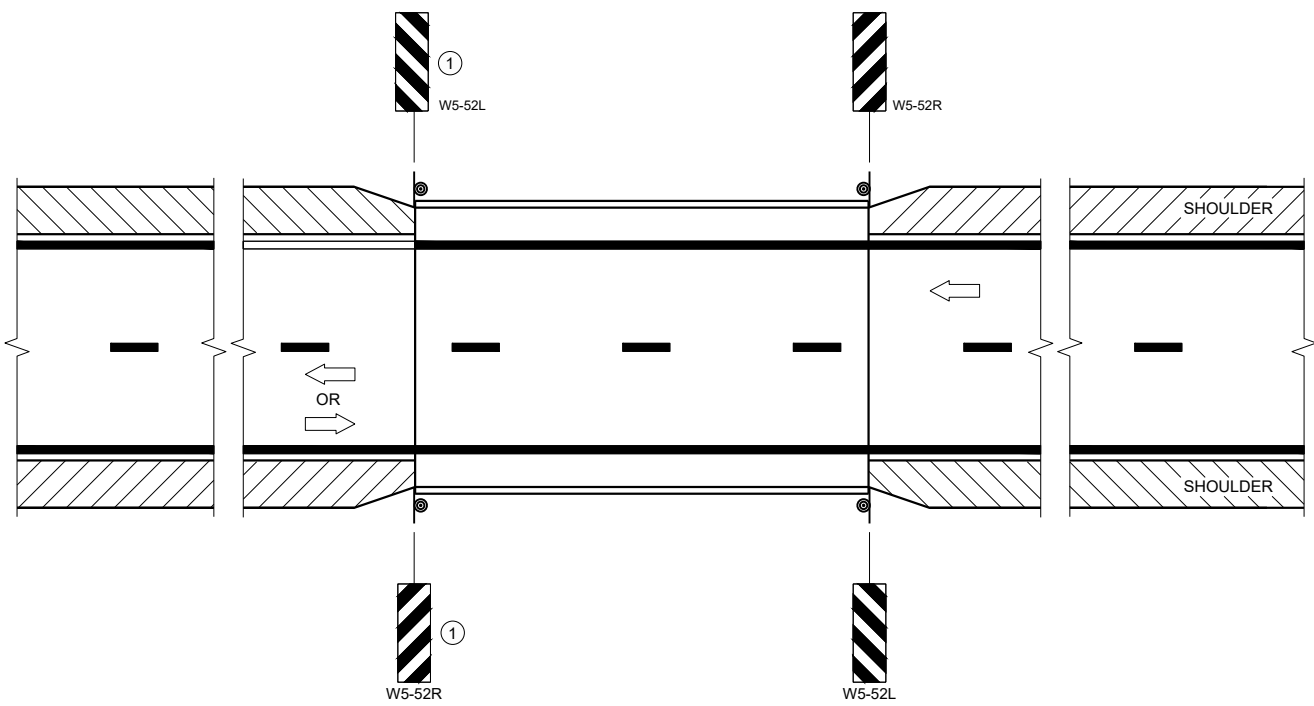
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



**SITUATION 1**  
WARRANTING CRITERIA:  
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



**SITUATION 2**  
WARRANTING CRITERIA:  
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND  
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

**GENERAL NOTES**

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

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

**LEGEND**

⊙ SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

**DISTANCE TABLE**

| POSTED OR 85TH PERCENTILE SPEED | DISTANCE "A" |
|---------------------------------|--------------|
| 25                              | 150'         |
| 30                              | 200'         |
| 35                              | 250'         |
| 40                              | 300'         |
| 45                              | 400'         |
| 50                              | 550'         |
| 55                              | 700'         |

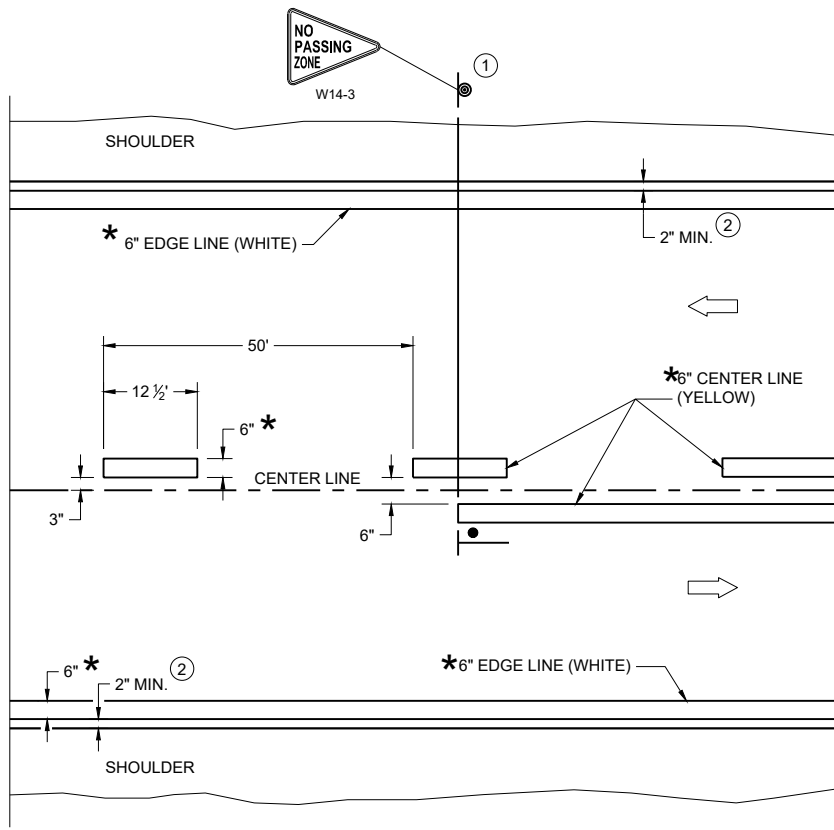
**SIGNING AND MARKING  
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

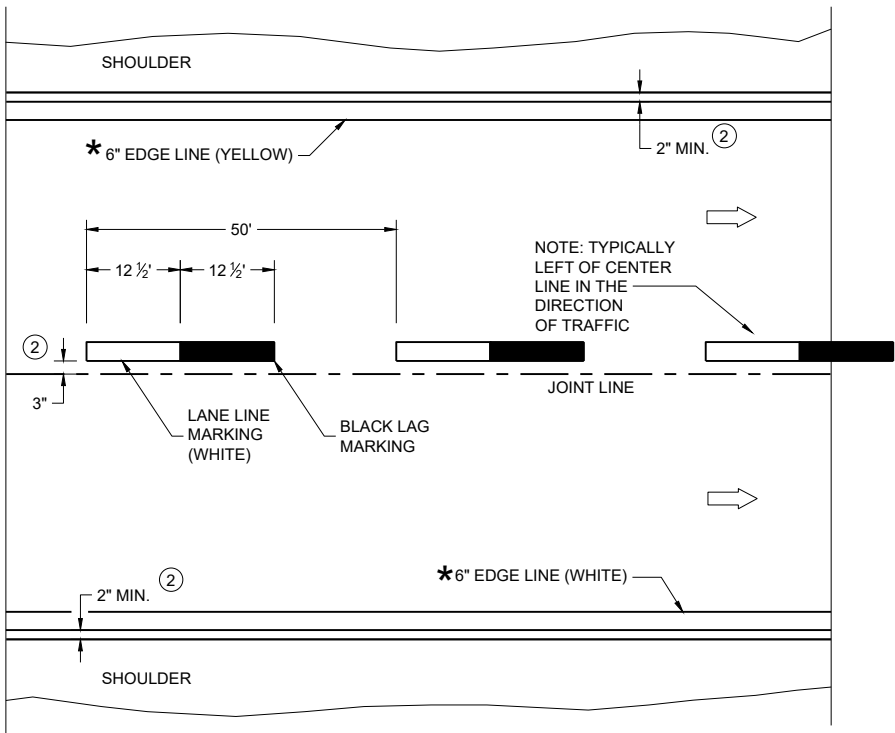
APPROVED  
May 2023  
DATE

/S/ Jeannie Silver  
Statewide Pavement Marking Engineer

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

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

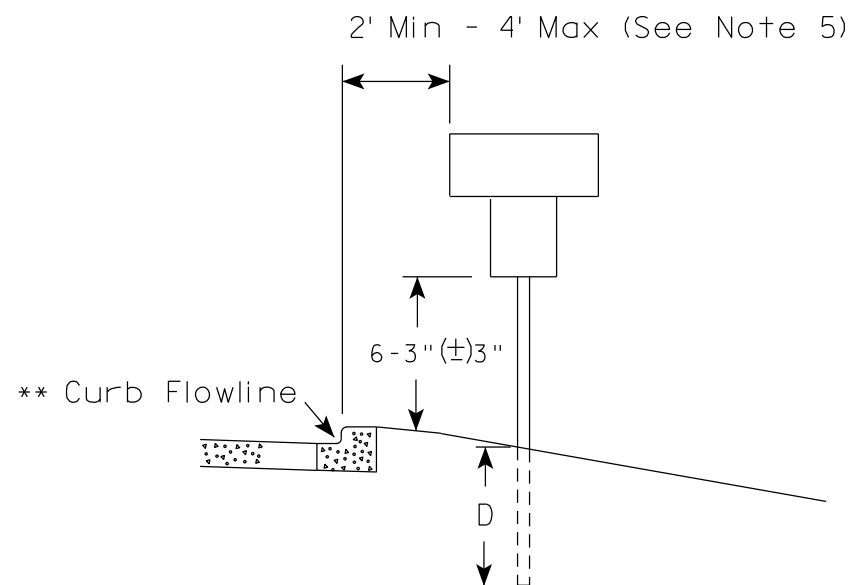
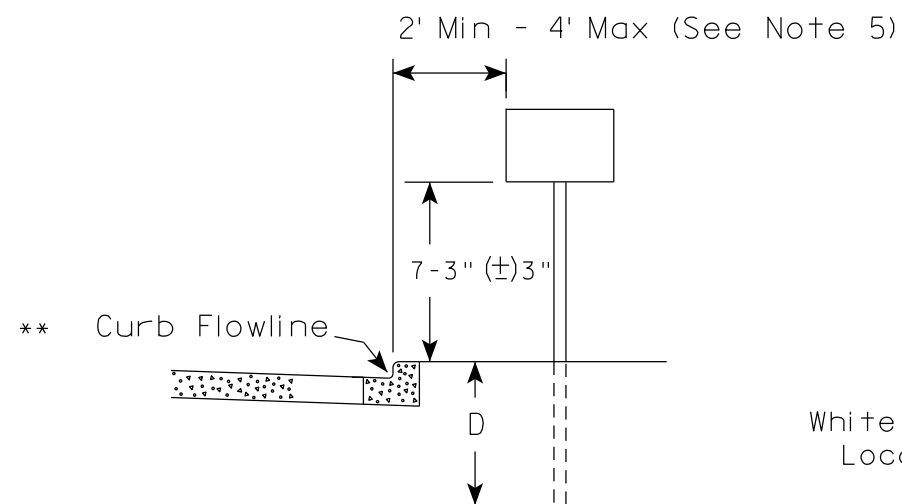
- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

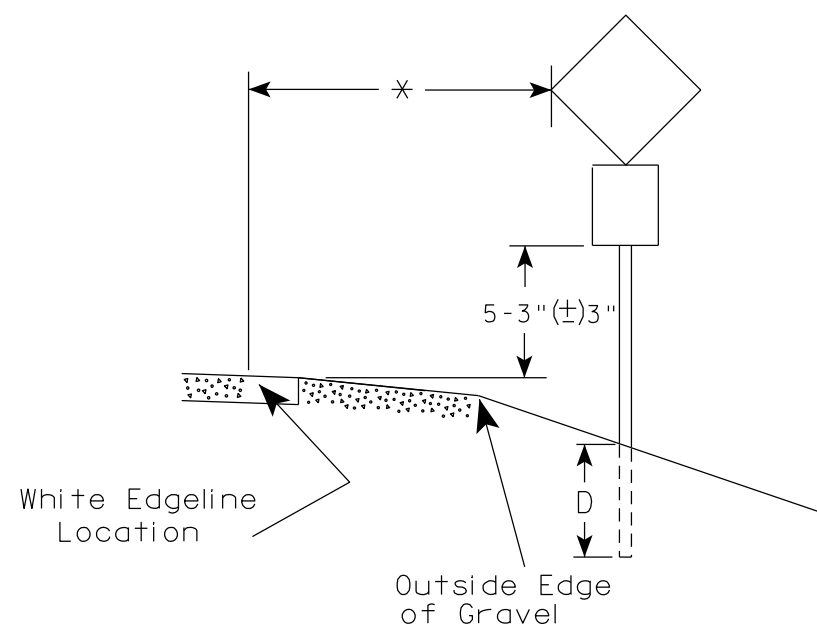
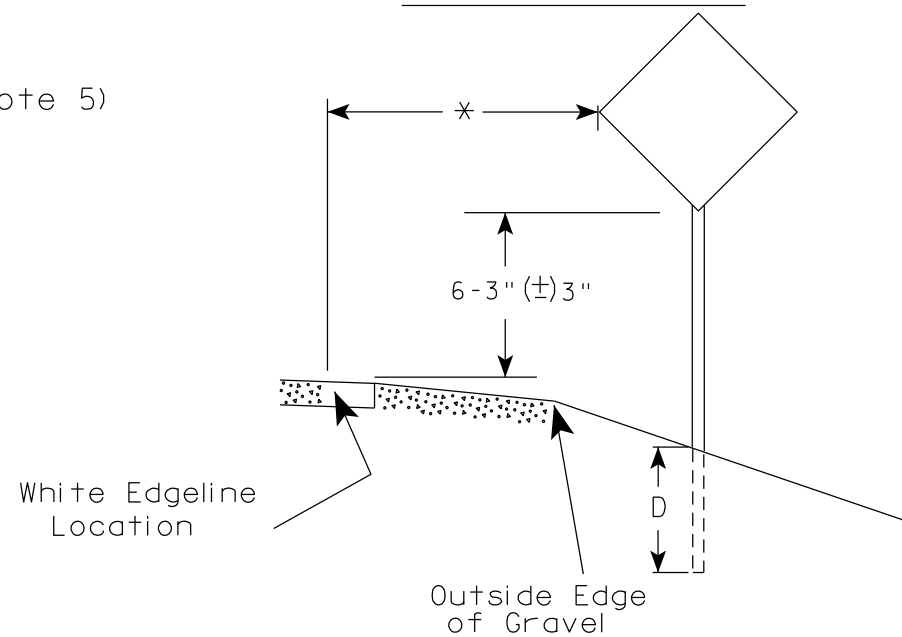
- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

| PERMANENT LONGITUDINAL PAVEMENT MARKINGS           |                                                           |
|----------------------------------------------------|-----------------------------------------------------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                           |
| APPROVED<br>May 2023<br>DATE                       | /S/ Jeannie Silver<br>Statewide Pavement Marking Engineer |
| FHWA                                               |                                                           |

## URBAN AREA



## RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

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.

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

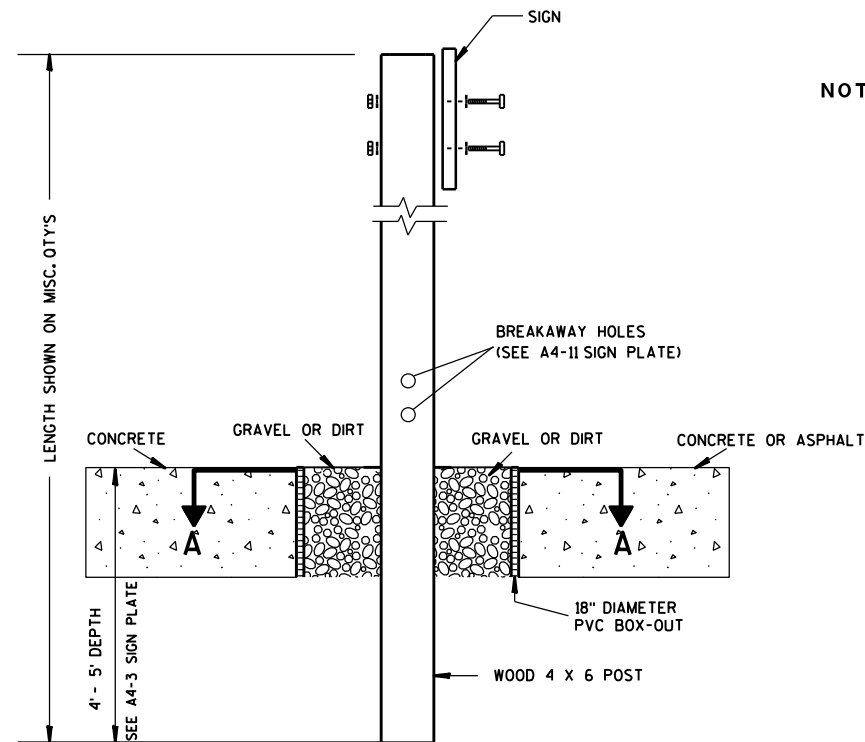
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

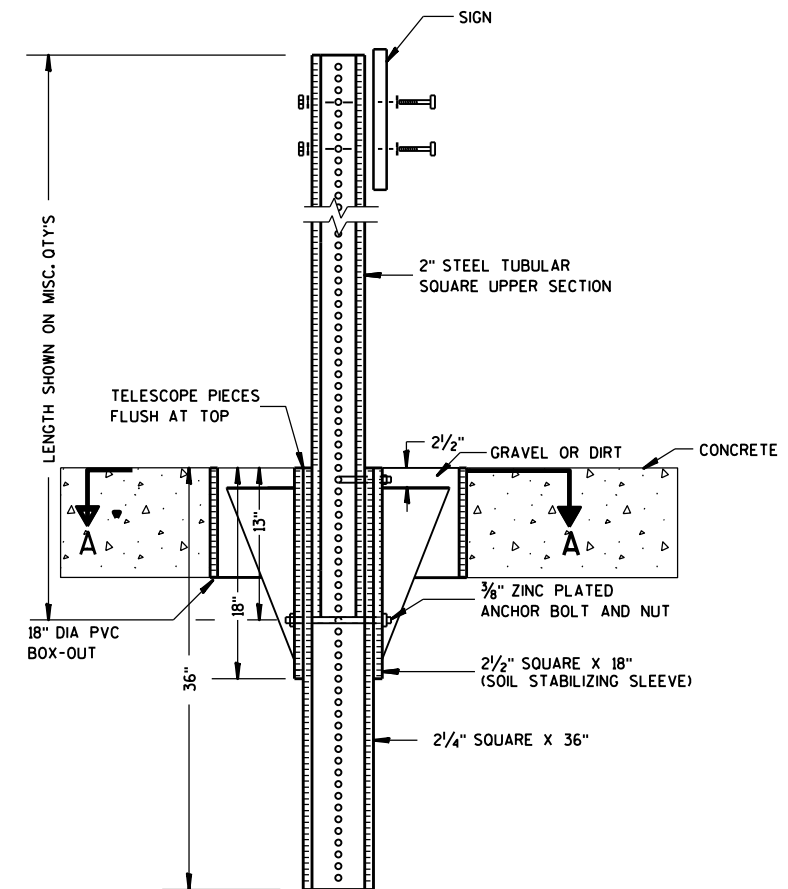
DATE 12/6/23 PLATE NO. A4-3.23



### ELEVATION VIEW

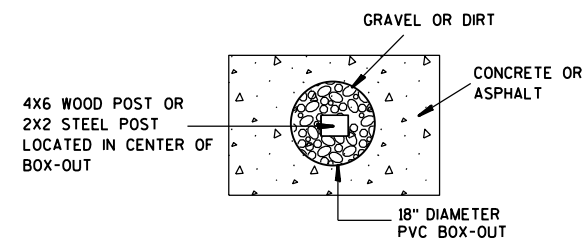
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLATE NO. A4-3B.1

PROJECT NO:

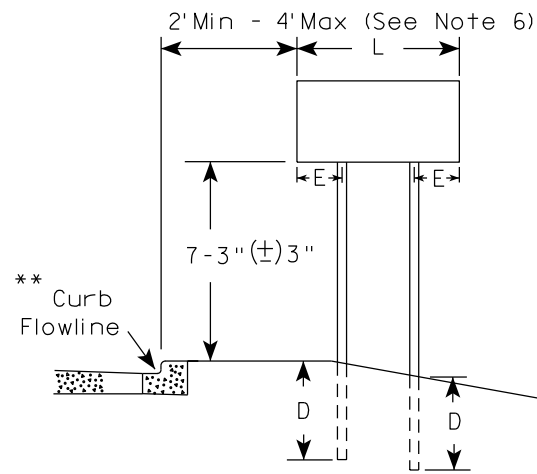
HWY:

COUNTY:

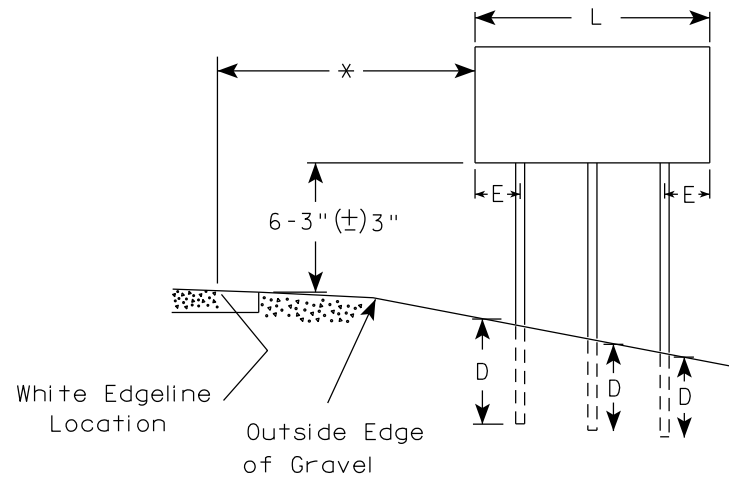
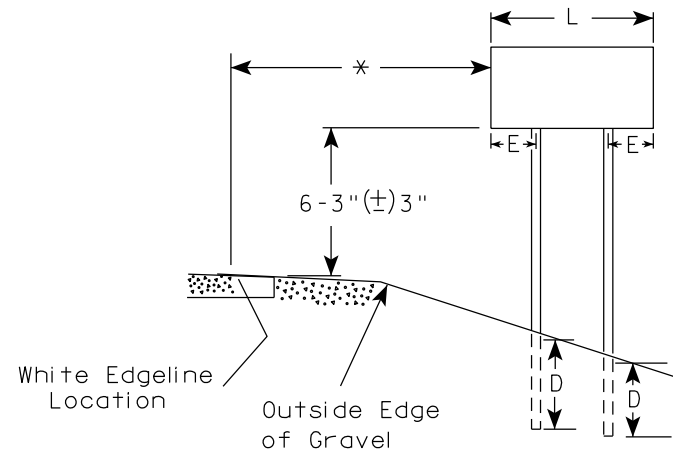
SHEET NO:

E

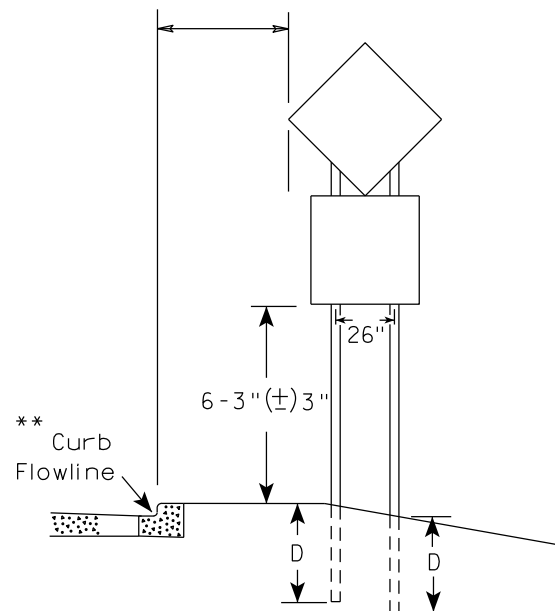
URBAN AREA



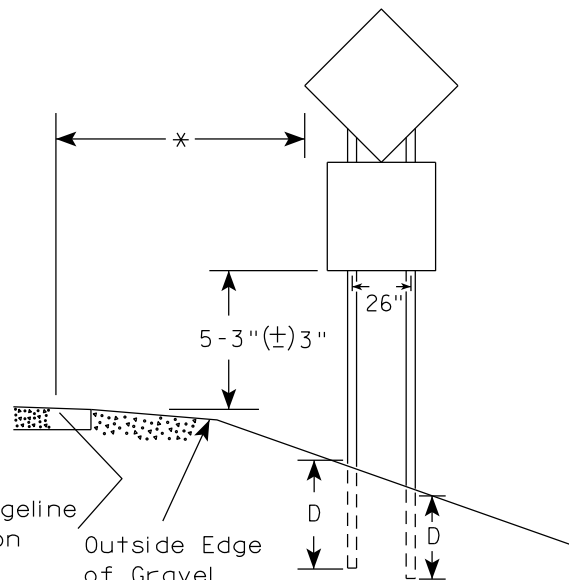
RURAL AREA (See Note 3)



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                         | <i>Matthew R. Rauch</i><br>for State Traffic Engineer |
| DATE 12/6/23                     | PLATE NO. A4-4.16                                     |

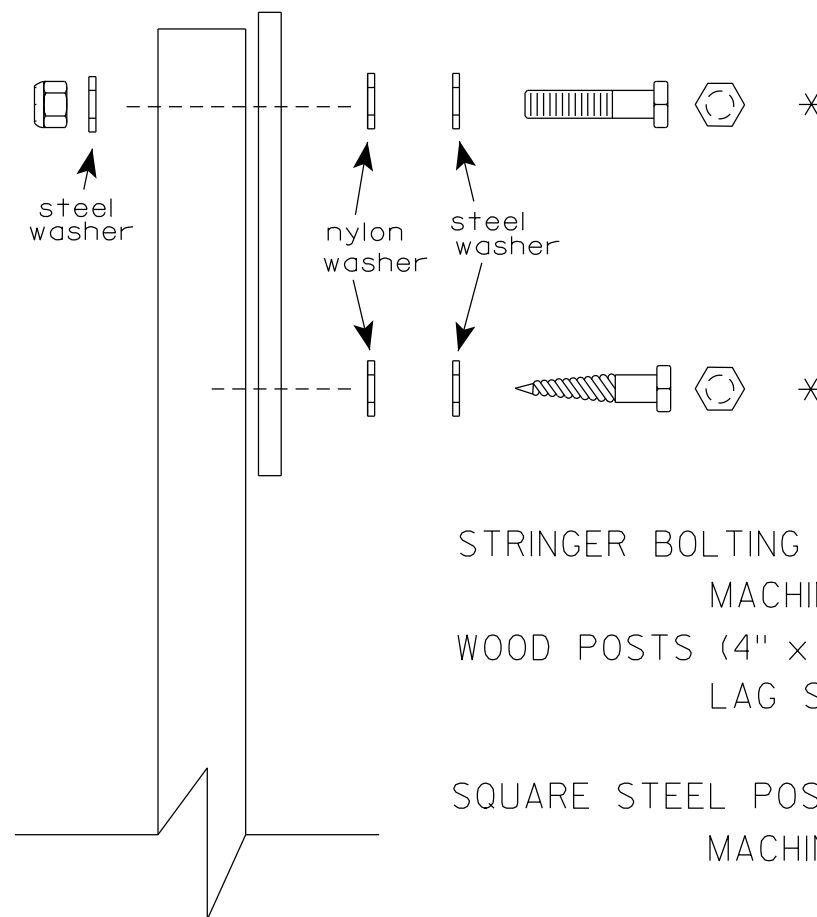
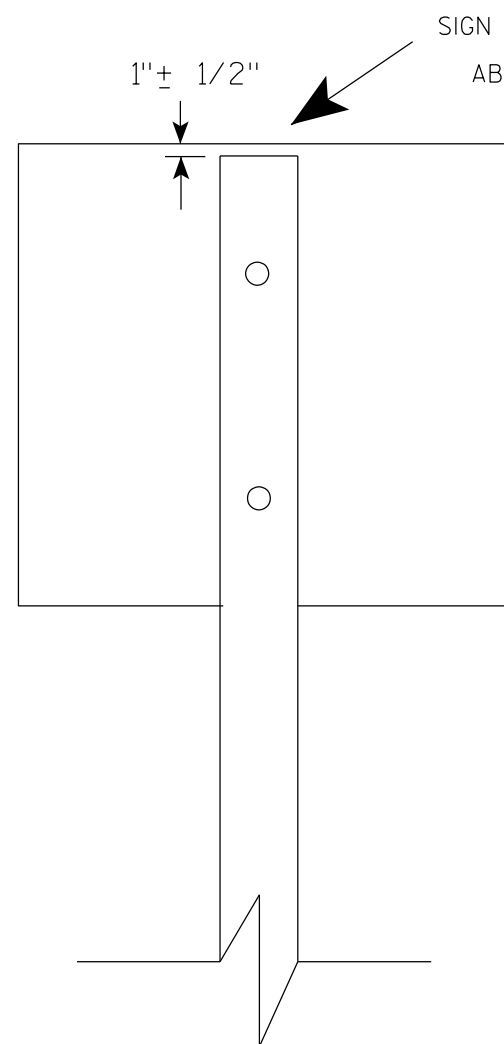
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. 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.



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.

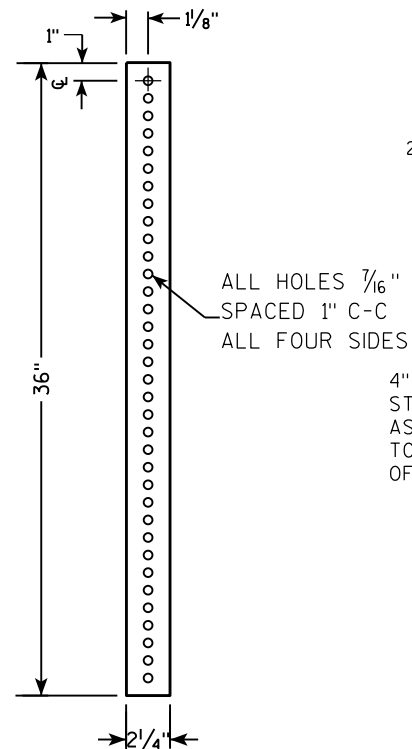
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- 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

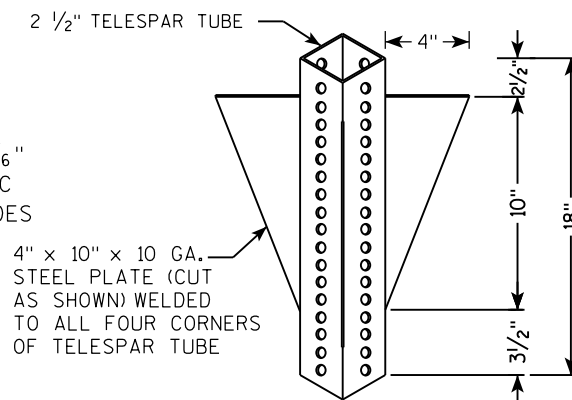
\* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

**2 1/4 " SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH**



**2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH**



LENGTH SHOWN ON MISC. QTY'S  
 18" DIA SCHEDULE 40 PVC BOX-OUT  
 TELESCOPE PIECES FLUSH AT TOP  
 36"  
 18"  
 13"  
 2 1/2"  
 2 1/4" SQUARE X 36"  
 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)  
 3/8" ZINC PLATED ANCHOR BOLT AND NUT  
 2 1/2" GRAVEL OR DIRT  
 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT  
 ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES  
 2" STEEL TUBULAR SQUARE UPPER SECTION  
 SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL  
 SIGN

LENGTH SHOWN ON MISC. QTY'S

TELESCOPE PIECES FLUSH AT TOP

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES  $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

1"

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

18"

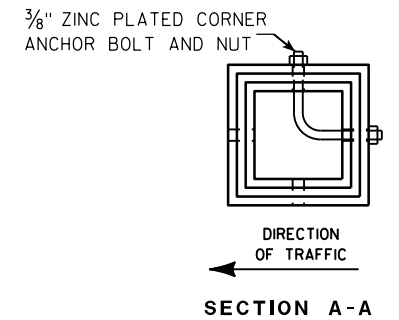
12"

36"

A

B

C



| 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                        |

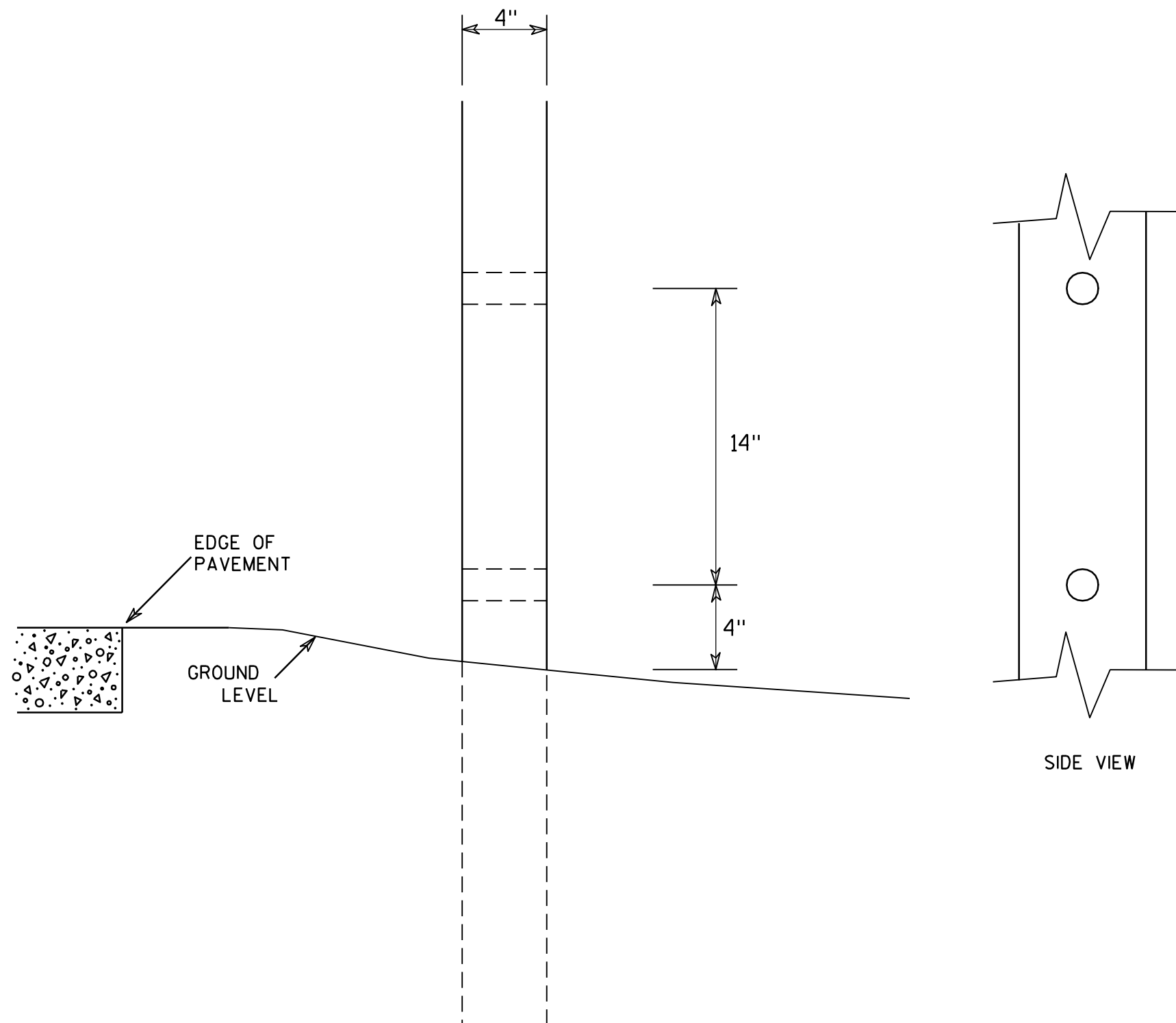
TUBULAR STEEL  
SIGN POST  
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch  
For State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

7



### GENERAL NOTES

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

7

### 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:

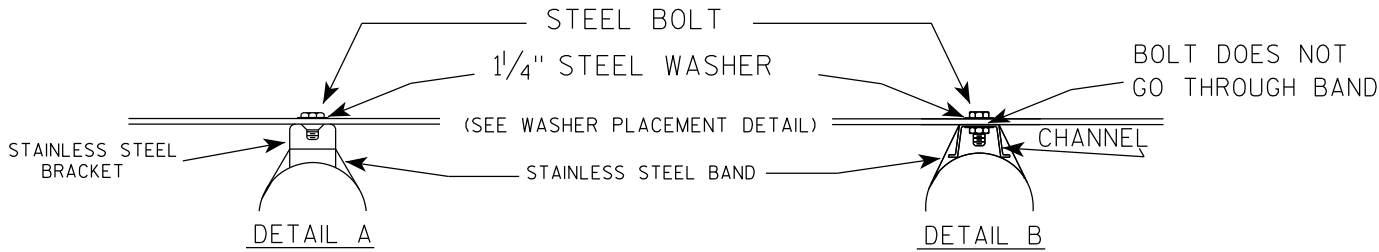
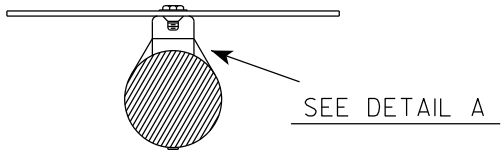
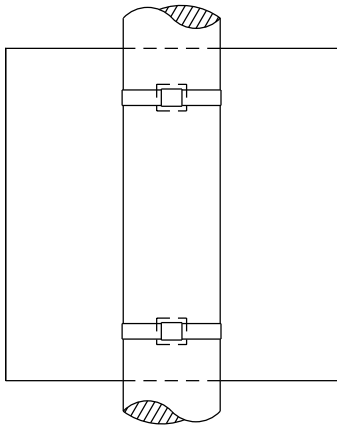
COUNTY:

SHEET NO:

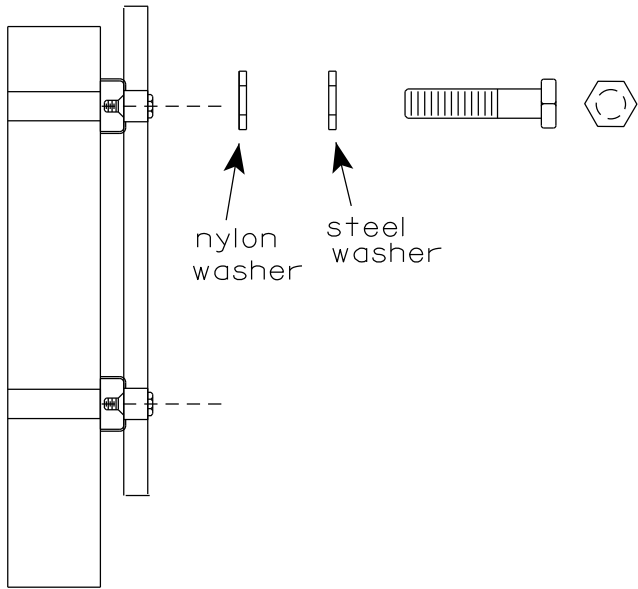
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

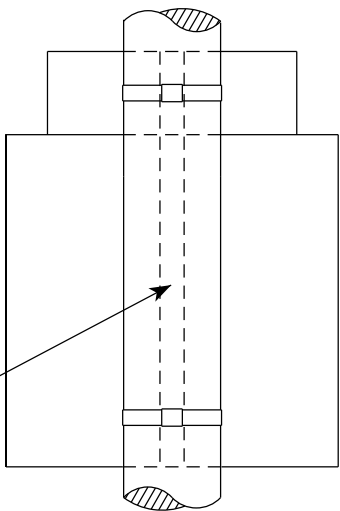


WASHERS (ALL POSTS) -  
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

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



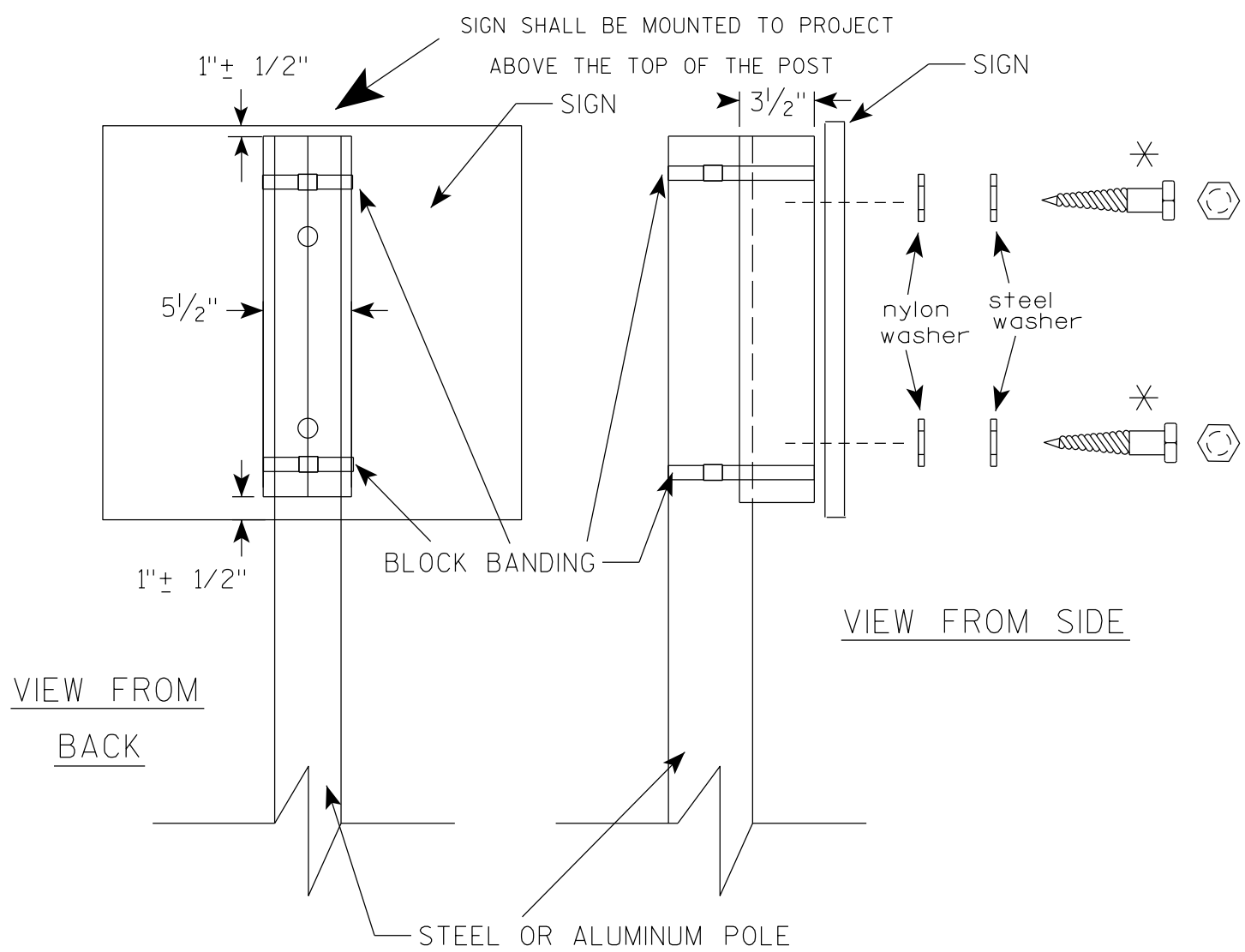
SEE DETAIL B

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

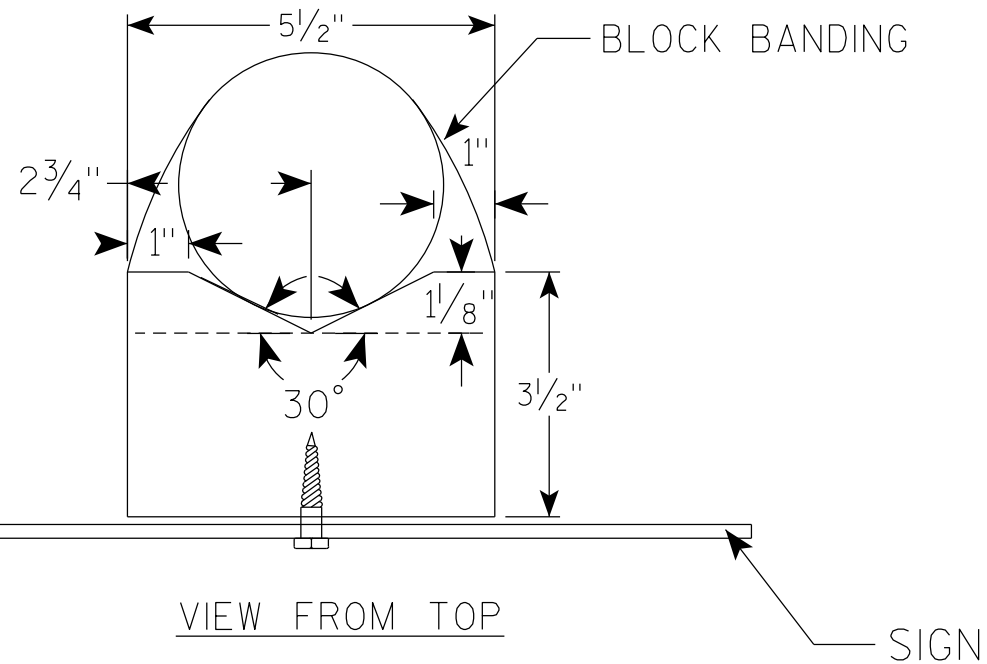
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM  
BACK

VIEW FROM SIDE



VIEW FROM TOP

## 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

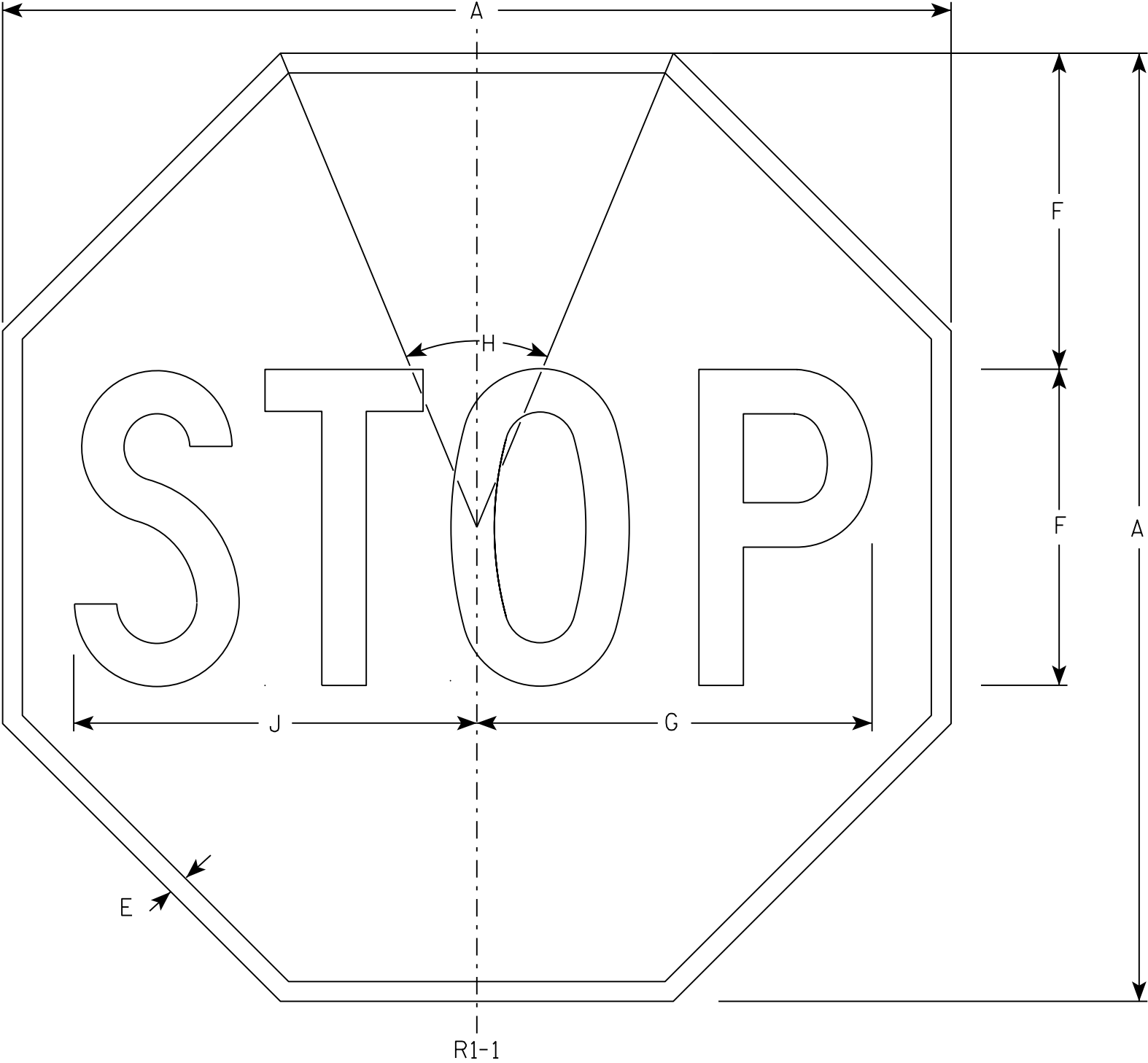
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO:

E

7



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:  
Background - Red  
Message - White
- 3. Message Series - C

7

R1-1

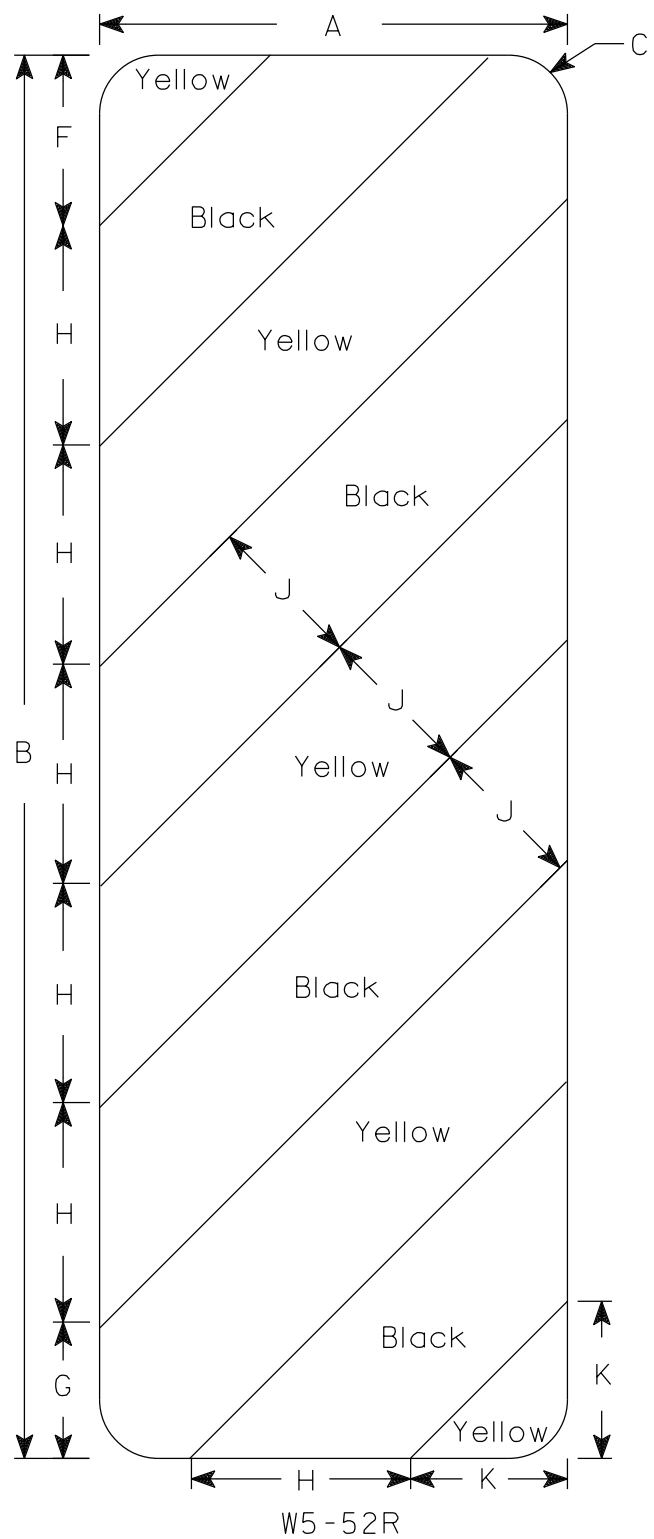
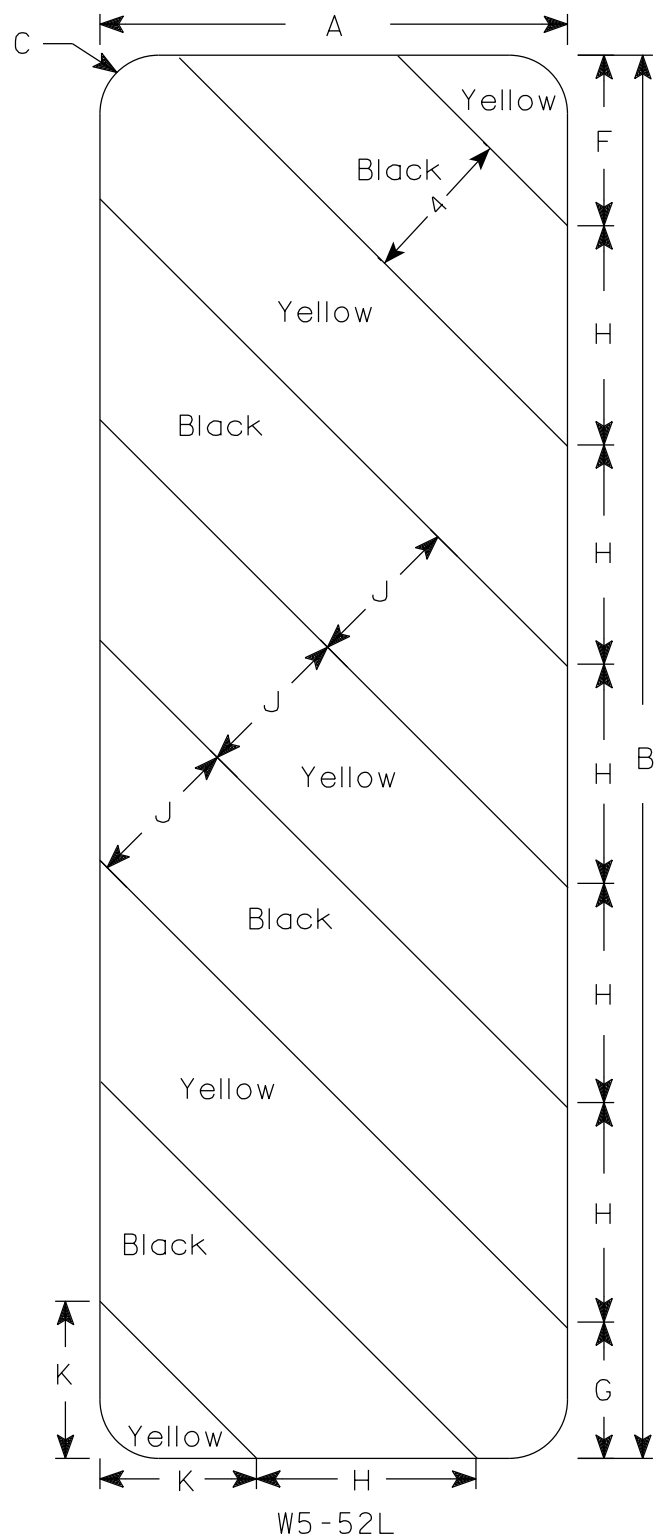
| SIZE | A  | B | C | D | E   | F  | G      | H   | I | J      | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|---|---|-----|----|--------|-----|---|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 30 |   |   |   | 5/8 | 10 | 12 1/2 | 45° |   | 12 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.18            |
| 2S   | 30 |   |   |   | 5/8 | 10 | 12 1/2 | 45° |   | 12 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.18            |
| 2M   | 36 |   |   |   | 3/4 | 12 | 15     | 45° |   | 15 3/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.46            |
| 3    | 36 |   |   |   | 3/4 | 12 | 15     | 45° |   | 15 3/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.46            |
| 4    | 48 |   |   |   | 1   | 16 | 20     | 45° |   | 20 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 13.25           |
| 5    | 48 |   |   |   | 1   | 16 | 20     | 45° |   | 20 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 13.25           |
| 6    | 18 |   |   |   | 3/8 | 6  | 7 3/4  | 45° |   | 7 3/4  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1.86            |
| 7    | 12 |   |   |   | 1/4 | 4  | 5      | 45° |   | 5 1/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 0.78            |

STANDARD SIGN  
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
  - Background - Yellow
  - Message - Black
- 3. Alternate colors of stripes as shown.

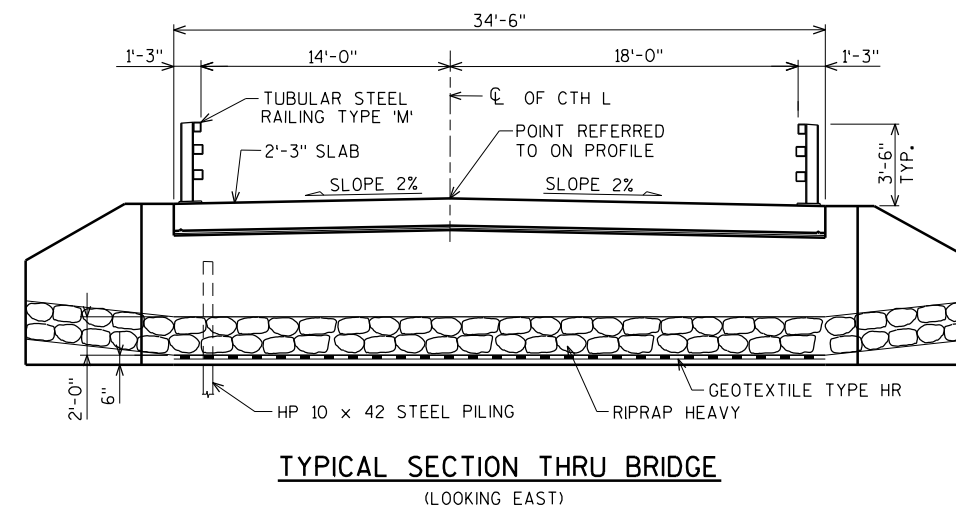
| SIZE | A  | B  | C     | D | E | F     | G     | H     | I   | J | K      | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|---|---|-------|-------|-------|-----|---|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |   |   |       |       |       |     |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 12 | 36 | 1 1/2 |   |   | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 2M   | 12 | 36 | 1 1/2 |   |   | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 3    | 18 | 54 | 1 1/2 |   |   | 6     | 5 1/2 | 8 1/2 | 45° | 6 | 6 9/16 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.75            |
| 4    |    |    |       |   |   |       |       |       |     |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |   |   |       |       |       |     |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
W5-52L & W5-52R

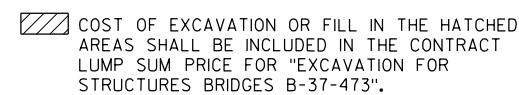
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

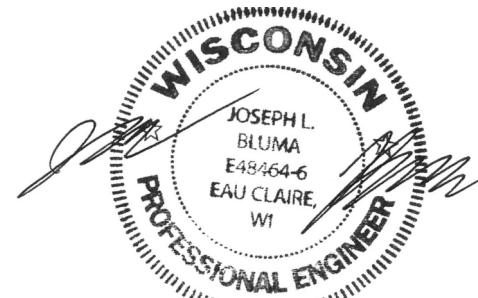
DATE 3/4/2024 PLATE NO. W5-52.10



1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. STRUCTURE DETAILS
4. SUBSURFACE EXPLORATION
5. WEST ABUTMENT
6. WEST ABUTMENT WING 1 DETAILS
7. WEST ABUTMENT WING 2 DETAILS
8. WEST ABUTMENT BILL OF BARS
9. EAST ABUTMENT
10. EAST ABUTMENT WING 3 DETAILS
11. EAST ABUTMENT WING 4 DETAILS
12. EAST ABUTMENT BILL OF BARS
13. SUPERSTRUCTURE
14. SUPERSTRUCTURE DETAILS
15. TUBULAR STEEL RAILING TYPE 'M'



◆ REMOVE EXISTING SUBSTRUCTURE AS NEEDED.  
COST CONSIDERED INCIDENTAL TO "REMOVING  
STRUCTURE" AND "REMOVING PILING" ITEMS.  
TYPICAL AT ALL SUBSTRUCTURES.



08/30/2024

BRIDGE OFFICE CONTACT:  
AARON BONK  
(608)-261-0261

CONSULTANT CONTACT:  
JOE BLUMA  
(715)-834-3161

|                                                                                                                                       |                                                                                              |                   |              |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------|--------------|
| NO.                                                                                                                                   | DATE                                                                                         | REVISION          | BY           |
| <p>ORIGINAL PLANS PREPARED BY</p> <p><b>AYRES</b> 3433 Oakwood Hills Parkway<br/>Eau Claire, WI 54701<br/>www.AyresAssociates.com</p> |                                                                                              |                   |              |
| <p>STATE OF WISCONSIN<br/>DEPARTMENT OF TRANSPORTATION</p>                                                                            |                                                                                              |                   |              |
| ACCEPTED                                                                                                                              | <br>SDR |                   | 12/04/24     |
| CHIEF STRUCTURES DESIGN ENGINEER                                                                                                      |                                                                                              | DATE              |              |
| STRUCTURE B-37-473                                                                                                                    |                                                                                              |                   |              |
| CTH L OVER LITTLE RIB RIVER                                                                                                           |                                                                                              |                   |              |
| COUNTY                                                                                                                                | MARATHON                                                                                     | TOWN/CITY/VILLAGE | BERLIN       |
| DESIGN SPEC.<br>AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS                                                                              |                                                                                              |                   |              |
| DESIGNED BY                                                                                                                           | DRS                                                                                          | DESIGN CK'D.      | NBE          |
| DRAWN BY                                                                                                                              | CLP                                                                                          | PLANS CK'D.       | JLB          |
| GENERAL PLAN                                                                                                                          |                                                                                              |                   | SHEET 1 OF 1 |

8/30/2024  
PENTABLE:Breau\_shd\_util.tbl

STATE PROJECT NUMBER

9478-03-71

TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS                                              | UNIT | W. ABUT. | E. ABUT. | SUPER. | TOTAL       |
|-----------------|--------------------------------------------------------|------|----------|----------|--------|-------------|
| 203.0250        | REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-37-38 | EACH | -----    | -----    | -----  | 1           |
| 206.1001        | EXCAVATION FOR STRUCTURES BRIDGES B-37-473             | EACH | -----    | -----    | -----  | 1           |
| 210.1500        | BACKFILL STRUCTURE TYPE A                              | TON  | 290      | 325      | -----  | 615         |
| 502.0100        | CONCRETE MASONRY BRIDGES                               | CY   | 40.8     | 45.5     | 156.0  | 243         |
| 502.3200        | PROTECTIVE SURFACE TREATMENT                           | SY   | 24       | 28       | 236    | 288         |
| 505.0400        | BAR STEEL REINFORCEMENT HS STRUCTURES                  | LB   | 2,650    | 2,900    | -----  | 5,550       |
| 505.0600        | BAR STEEL REINFORCEMENT HS COATED STRUCTURES           | LB   | 1,650    | 1,930    | 27,160 | 30,740      |
| 513.4061        | RAILING TUBULAR TYPE M                                 | LF   | -----    | -----    | 110    | 110         |
| 516.0500        | RUBBERIZED MEMBRANE WATERPROOFING                      | SY   | 8        | 9        | -----  | 17          |
| 550.0010        | PRE-BORING UNCONSOLIDATED MATERIALS                    | LF   | 152      | 152      | -----  | 304         |
| 550.0500        | PILE POINTS                                            | EACH | 8        | 8        | -----  | 16          |
| 550.1100        | PILING STEEL HP 10-INCH x 42 LB                        | LF   | 240      | 240      | -----  | 480         |
| 606.0300        | RIPRAP HEAVY                                           | CY   | 75       | 50       | -----  | 125         |
| 612.0406        | PIPE UNDERDRAIN WRAPPED 6-INCH                         | LF   | 95       | 100      | -----  | 195         |
| 645.0111        | GEOTEXTILE TYPE DF SCHEDULE A                          | SY   | 60       | 65       | -----  | 125         |
| 645.0120        | GEOTEXTILE TYPE HR                                     | SY   | 155      | 110      | -----  | 265         |
| SPV.0090.01     | REMOVING EXISTING TIMBER PILING                        | LF   | 75       | 75       | -----  | 150         |
|                 | NON-BID ITEMS                                          |      |          |          |        |             |
|                 | FILLER                                                 | SIZE | -----    | -----    | -----  | 1/2" & 3/4" |
|                 |                                                        |      |          |          |        |             |

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93  
INVENTORY RATING FACTOR: 1.20  
OPERATING RATING FACTOR: 1.55  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 #/S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY {SUPERSTRUCTURE \_\_\_\_\_ f'c = 4,000 p.s.i.  
ALL OTHER \_\_\_\_\_ f'c = 3,500 p.s.i.  
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) \_\_\_\_\_ f\_y = 60,000 p.s.i.

HYDRAULIC DATA:

| 100 YEAR FREQUENCY              | 2 YEAR FREQUENCY              |
|---------------------------------|-------------------------------|
| Q <sub>100</sub> = 1,590 c.f.s. | Q <sub>2</sub> = 415 c.f.s.   |
| VEL. = 6.2 f.p.s.               | VEL. = 3.1 f.p.s.             |
| HW <sub>100</sub> = EL. 1287.85 | HW <sub>2</sub> = EL. 1284.77 |
| WATERWAY AREA = 256 sq. ft.     |                               |
| DRAINAGE AREA = 8.7 sq. mi.     |                               |
| SCOUR CRITICAL CODE = 5         |                               |
| DATUM = NAVD88 (2012)           |                               |

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 155 TONS ± PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 30'-0".  
PILES TO BE PRE-BORED 19'-0" PRIOR TO DRIVING.

± THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA:

A.A.D.T. = 635 (2025)  
A.A.D.T. = 855 (2045)  
R.D.S. = 55 M.P.H.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-37-473" SHALL BE THE EXISTING GROUNDLINE.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENTS WINGS FOR 3 FEET.

BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET AND APPLY TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT.

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

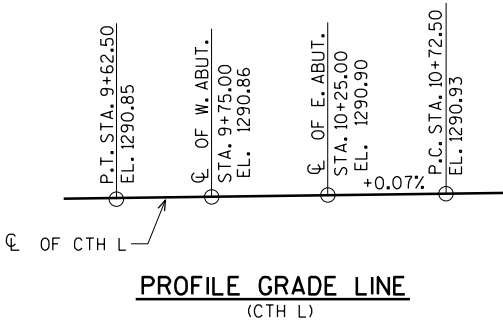
EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

EXISTING SUBSTRUCTURE LOCATIONS ARE BASED ON SURVEY. EXTENT OF BELOW GRADE SUBSTRUCTURES ARE SHOWN ON PLAN. REMOVE EXISTING SUBSTRUCTURES AS NEEDED TO BUILD NEW SUBSTRUCTURES. COST OF SUBSTRUCTURE REMOVAL IS CONSIDERED INCIDENTAL TO "REMOVING STRUCTURE" AND "REMOVING PILING" ITEMS.

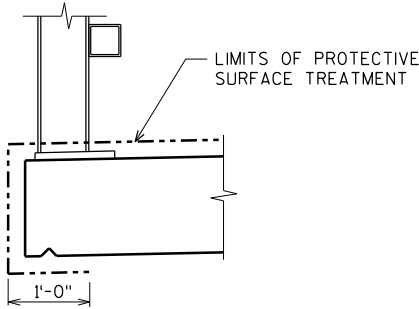
AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF JOINT FILLER WITH NON-STAINNG GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW THE SURFACE OF CONCRETE).



BENCH MARK:  
BM#50 BERNSTEN NAIL IN TOP OF S. END OF E. ABUT.  
STA. 10+22, 15.6' RT.  
EL. 1290.20



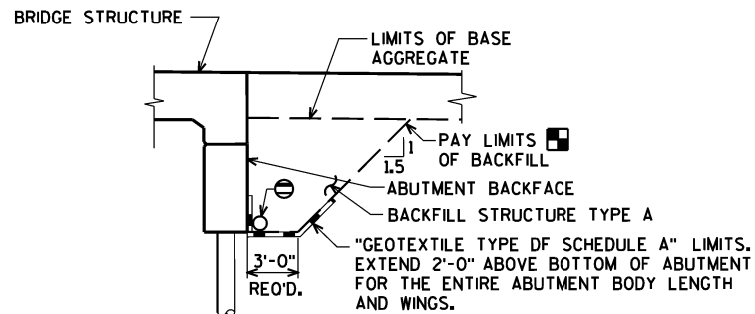
PROTECTIVE SURFACE  
TREATMENT DETAIL

|                                                    |             |               |                    |
|----------------------------------------------------|-------------|---------------|--------------------|
|                                                    |             |               |                    |
| NO.                                                | DATE        | REVISION      | BY                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |             |               |                    |
| STRUCTURE B-37-473                                 |             |               |                    |
|                                                    | DRAWN<br>BY | CLP           | PLANS<br>CK'D. JLB |
| QUANTITIES<br>AND NOTES                            |             | SHEET 2 OF 15 |                    |

8/29/2024  
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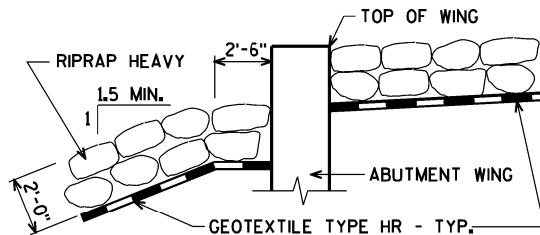
STATE PROJECT NUMBER

9478-03-71



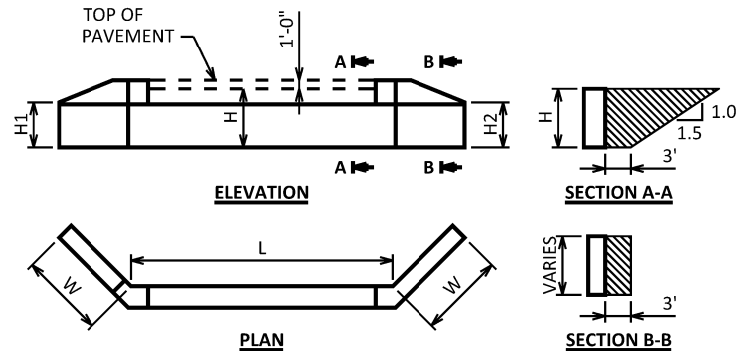
### BACKFILL STRUCTURE LIMITS

- BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET.



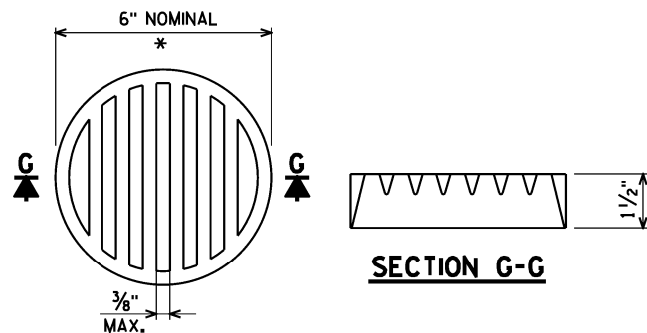
### TYPICAL FILL SECTION AT WING TIPS

NOTE: PLACE RIPRAP HEAVY AS SHOWN ON GENERAL PLAN SHEET



### ABUTMENT BACKFILL DIAGRAM

- L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
- H = AVERAGE ABUTMENT FILL HEIGHT (FT)
- H1 = WING 1 HEIGHT AT TIP (FT)
- H2 = WING 2 HEIGHT AT TIP (FT)
- W = WING LENGTH (FT)
- EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
- $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)$
- $V_{CY} = V_{CF}(EF)/27$
- $V_{TON} = V_{CY}(2.0)$

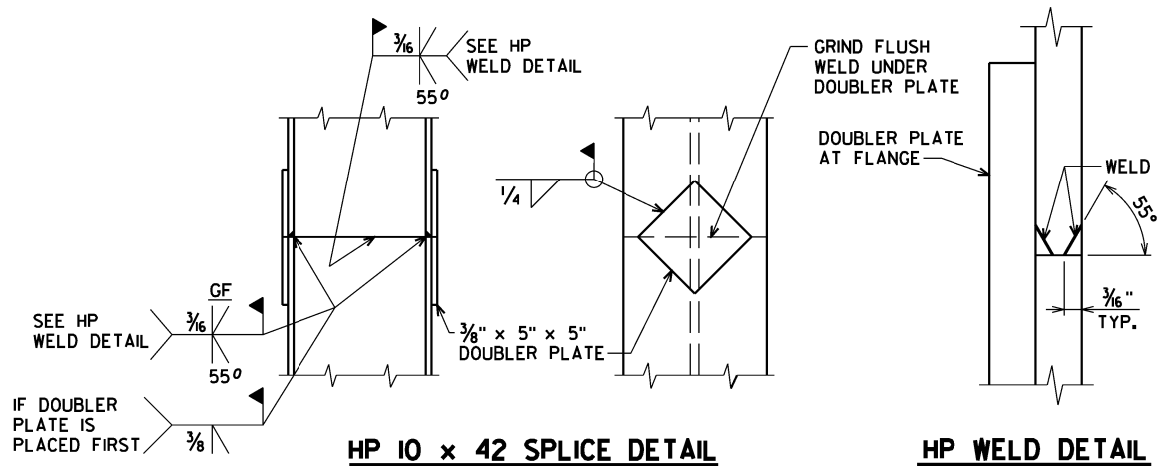


\* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

### RODENT SHIELD DETAIL



### HP 10 x 42 SPLICE DETAIL

### HP WELD DETAIL FLANGE SHOWN, WEB SIMILAR

|                                                    |      |               |     |
|----------------------------------------------------|------|---------------|-----|
| NO.                                                | DATE | REVISION      | BY  |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |               |     |
| STRUCTURE B-37-473                                 |      |               |     |
| DRAWN BY                                           | CLP  | PLANS CK'D.   | JLB |
| STRUCTURE DETAILS                                  |      | SHEET 3 OF 15 |     |

8/28/2024  
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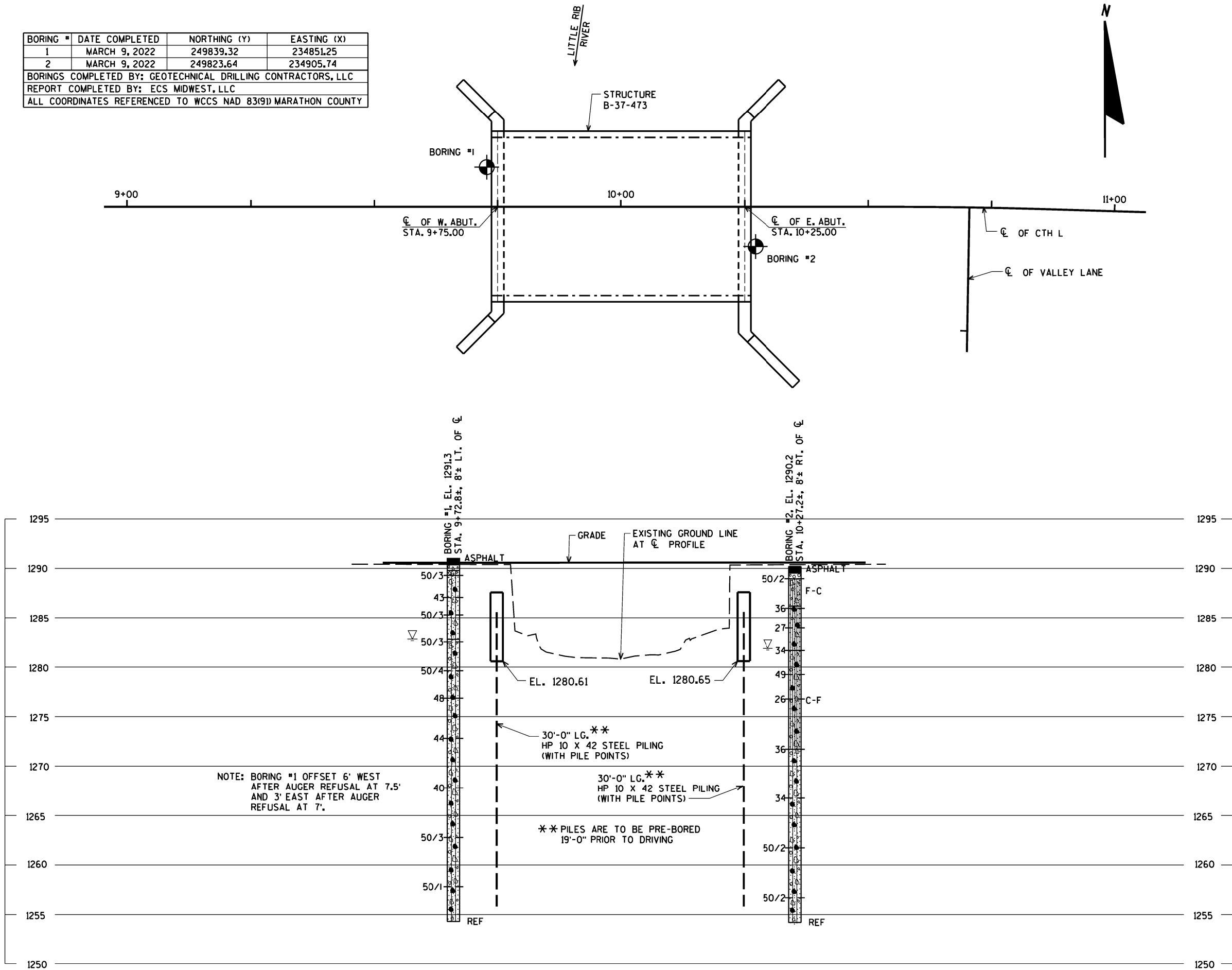
8

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|----------|----------------|--------------|-------------|
| 1        | MARCH 9, 2022  | 249839.32    | 234851.25   |
| 2        | MARCH 9, 2022  | 249823.64    | 234905.74   |

BORINGS COMPLETED BY: GEOTECHNICAL DRILLING CONTRACTORS, LLC

REPORT COMPLETED BY: ECS MIDWEST, LLC

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



I:\42\42-1300.00 - Marathon Co.CTH L\Structures\CADD\Structure\Final\421300 soils.dgn

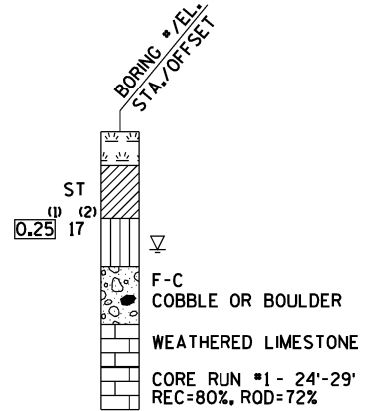
STATE PROJECT NUMBER

9478-03-71

MATERIAL SYMBOLS

|                     |           |                   |
|---------------------|-----------|-------------------|
| ASPHALT             | TOPSOIL   | PEAT              |
| CONCRETE            | FILL      | GRAVEL            |
| SAND                | CLAY      | SILT              |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE               | SANDSTONE | IGNEOUS/META      |

LEGEND OF BORING



(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<br>DEPARTMENT OF TRANSPORTATION |      |               |                 |
| STRUCTURE B-37-473                                 |      |               |                 |
| DRAWN BY                                           |      | CLP           | PLANS CK'D. JLB |
| SUBSURFACE EXPLORATION                             |      | SHEET 4 OF 15 |                 |

9'-10 1/2"

6'-10 1/2"

7'-4 1/2"

7'-5 1/4"

6'-11 1/4"

3'-0"

EL. 1280.61

EL. 1287.47

EL. 1287.86

EL. 1287.55

EL. 1290.47

EL. 1290.55

EL. 1288.05

1/2" FILLER

A505

FINISHED GRADE

A501 E.F.

A803 B.F.

A502 F.F.

9 SPA. @ 4'-0" = 36'-0" A404

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES

39 SPA. @ 1'-0" MAX. = 38'-8"

A501 E.F., A505

SPACE TO MISS PILES

**ELEVATION**  
(LOOKING WEST)

EXCAVATE OR FILL TO  
BOTTOM OF ABUTMENT  
BEFORE DRIVING PILES.

Technical drawing of a pile cap cross-section. The drawing shows a rectangular pile cap with a central pile. Key dimensions and materials are labeled:

- Overall Dimensions:**
  - Width: 2'-6" (split into two 1'-3" sections).
  - Height: VARIES FROM 6'-10 1/2" MIN. TO 7'-3" MAX.
- Materials and Components:**
  - 18" RUBBERIZED MEMBRANE WATERPROOFING
  - A506
  - 4" x 3/4" FILLER
  - 3/4" BEVEL
  - A502
  - A505
  - F.F. OF ABUTMENT
  - A501
  - TOP OF BERM EL. 1283.11
  - 6'-0"
  - 2'-6"
  - 2'-0"
  - GEOTEXTILE TYPE HR RIPRAP HEAVY
  - 3" CL.
  - A404
  - A403
  - TOP OF PILE EL. 1285.70
  - 7 SPA. @ 9 1/2" = 5'-6 1/2"
  - 2 SPA. @ 2'-4 1/2" = 4'-9"
  - A404
  - 3'-0" ±
  - CL. OF W. ABUT.
- Notes:**
  - EXCAVATION TO BOTTOM BEFORE
  - A506 PLACE IS FOR CONC. BARS

NOTE: DO NOT PLACE FILL ABOVE  
THREE FEET FROM BOTTOM OF  
ABUTMENT UNTIL SUPERSTRUCTURE  
IS IN PLACE.

FOR PILE SPLICE DETAIL SEE SHEET 3.

|                                                    |      |               |                 |
|----------------------------------------------------|------|---------------|-----------------|
| NO.                                                | DATE | REVISION      | BY              |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |               |                 |
| STRUCTURE B-37-473                                 |      |               |                 |
| DRAWN BY                                           |      | CLP           | PLANS CK'D. JLB |
| WEST<br>ABUTMENT                                   |      | SHEET 5 OF 15 |                 |
|                                                    |      |               |                 |

8

8



- ▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.
- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
- ▲ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS AT BACK FACE.
- ☐ 18" RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JT. IS USED. (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").



|                                                    |      |               |                 |
|----------------------------------------------------|------|---------------|-----------------|
| NO.                                                | DATE | REVISION      | BY              |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |               |                 |
| STRUCTURE B-37-473                                 |      |               |                 |
| DRAWN BY                                           |      | CLP           | PLANS CK'D. JLB |
| WEST<br>ABUTMENT<br>WING 1 DETAILS                 |      | SHEET 6 OF 15 |                 |



- ▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.
- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
- ▲ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS AT BACK FACE.
- ⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JT. IS USED. (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").



|                                                    |      |          |                 |
|----------------------------------------------------|------|----------|-----------------|
|                                                    |      |          |                 |
| NO.                                                | DATE | REVISION | BY              |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |                 |
| STRUCTURE B-37-473                                 |      |          |                 |
| DRAWN BY                                           |      | CLP      | PLANS CK'D. JLB |
| WEST<br>ABUTMENT<br>WING 2 DETAILS                 |      |          | SHEET 7 OF      |

8/28/2024  
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STATE PROJECT NUMBER

9478-03-71

BILL OF BARS

| BAR NO. | COATED BAR | NO. REQ'D. | LENGTH | BENT BAR BUNDLED | BAR SERIES | LOCATION           |
|---------|------------|------------|--------|------------------|------------|--------------------|
|         |            |            |        |                  |            |                    |
| A501    |            | 80         | 7-11   | X                |            | BODY VERT. E.F.    |
| A502    |            | 9          | 39-0   |                  |            | BODY HORIZ. F.F.   |
| A803    |            | 18         | 25-8   | X                |            | BODY HORIZ. B.F.   |
| A404    |            | 30         | 2-11   | X                |            | BODY TIES          |
| A505    |            | 40         | 7-11   | X                |            | BODY VERT. TOP     |
| A506    | X          | 33         | 2-0    |                  |            | BODY DOWELS        |
| A407    | X          | 26         | 10-8   | X                | ⊗          | WING 1 VERT. E.F.  |
| A408    | X          | 4          | 11-11  | X                |            | WING 1 VERT. E.F.  |
| A509    | X          | 9          | 12-9   | X                |            | WING 1 HORIZ. F.F. |
| A810    | X          | 9          | 14-4   | X                |            | WING 1 HORIZ. B.F. |
| A411    | X          | 2          | 11-4   |                  |            | WING 1 HORIZ. E.F. |
| A412    | X          | 2          | 9-4    |                  |            | WING 1 HORIZ. E.F. |
| A413    | X          | 2          | 7-1    |                  |            | WING 1 HORIZ. E.F. |
| A414    | X          | 2          | 4-10   |                  |            | WING 1 HORIZ. E.F. |
| A415    | X          | 2          | 11-8   | X                |            | WING 1 DIAG. E.F.  |
| A416    | X          | 5          | 7-6    | X                |            | WING 1 HORIZ.      |
| A417    | X          | 6          | 6-3    | X                |            | WING 1 VERT.       |
| A418    | X          | 26         | 10-9   | X                | ⊗          | WING 2 VERT. E.F.  |
| A419    | X          | 4          | 12-0   | X                |            | WING 2 VERT. E.F.  |
| A520    | X          | 9          | 12-9   | X                |            | WING 2 HORIZ. F.F. |
| A821    | X          | 9          | 14-4   | X                |            | WING 2 HORIZ. B.F. |
| A422    | X          | 2          | 11-4   |                  |            | WING 2 HORIZ. E.F. |
| A423    | X          | 2          | 9-4    |                  |            | WING 2 HORIZ. E.F. |
| A424    | X          | 2          | 7-1    |                  |            | WING 2 HORIZ. E.F. |
| A425    | X          | 2          | 4-10   |                  |            | WING 2 HORIZ. E.F. |
| A426    | X          | 2          | 11-8   | X                |            | WING 2 DIAG. E.F.  |
| A427    | X          | 5          | 7-6    | X                |            | WING 2 HORIZ.      |
| A428    | X          | 6          | 6-3    | X                |            | WING 2 VERT.       |
|         |            |            |        |                  |            |                    |
|         |            |            |        |                  |            |                    |
|         |            |            |        |                  |            |                    |
|         |            |            |        |                  |            |                    |

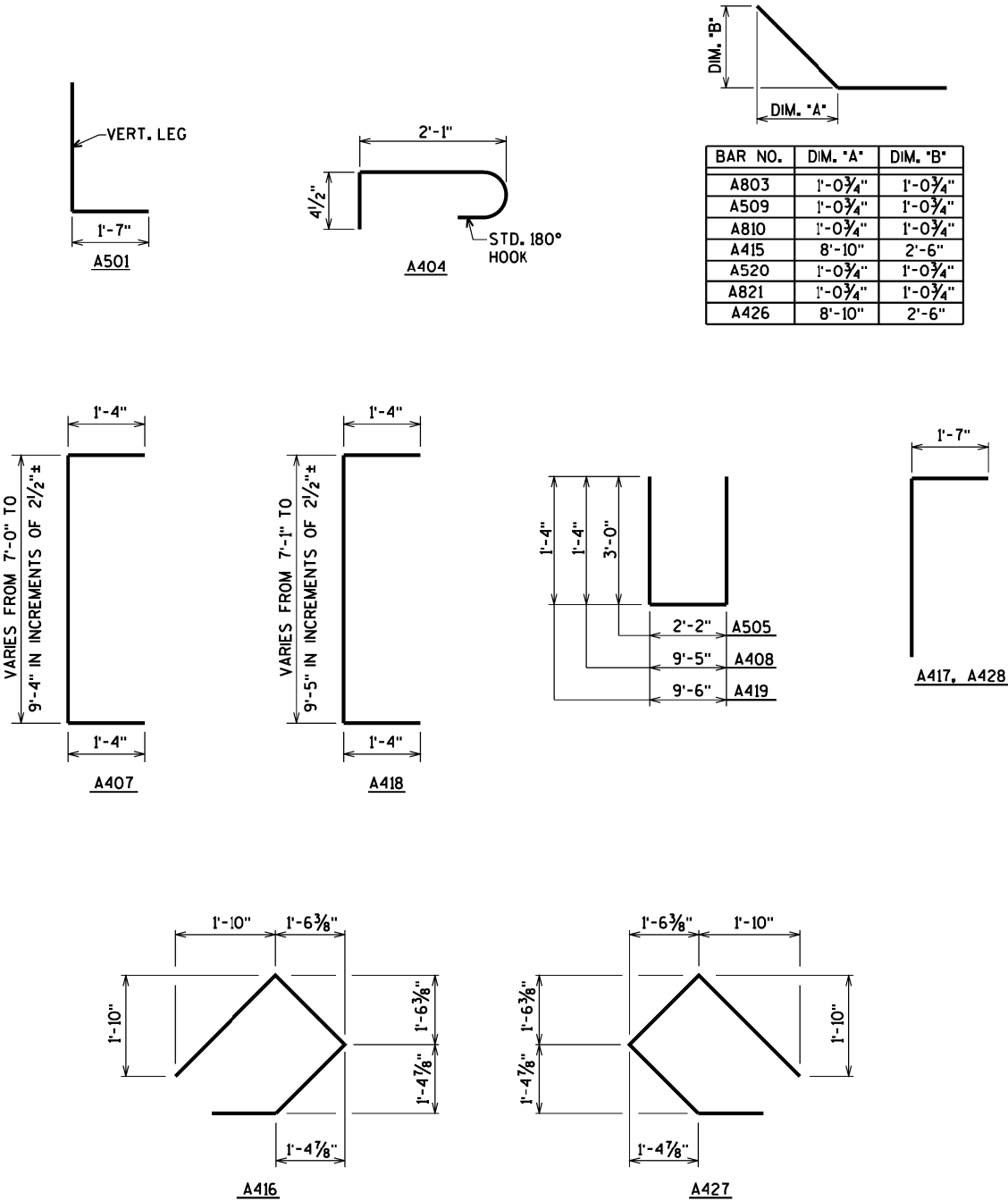
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

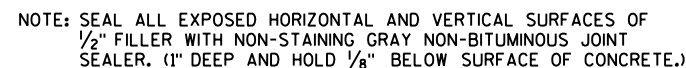
BAR SERIES TABLE

| BAR MARK | NO REQ'D.      | LENGTH           |
|----------|----------------|------------------|
| A407     | 2 SERIES OF 13 | 9'-6" TO 11'-10" |
| A418     | 2 SERIES OF 13 | 9'-7" TO 11'-11" |
|          |                |                  |

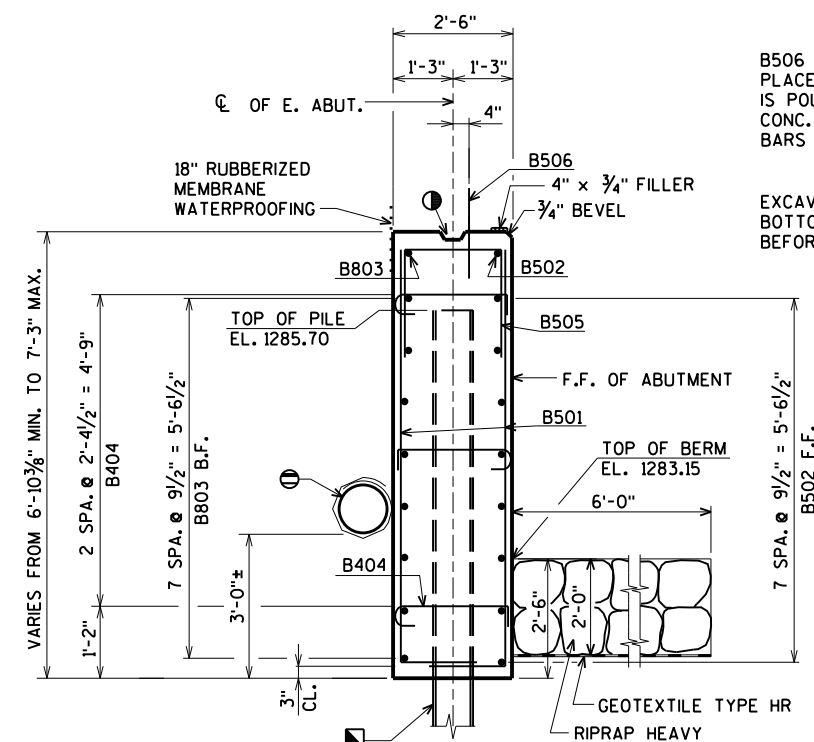
BUNDLE AND TAG EACH SERIES SEPARATELY.



|                                                    |      |          |                 |
|----------------------------------------------------|------|----------|-----------------|
|                                                    |      |          |                 |
| NO.                                                | DATE | REVISION | BY              |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |                 |
| STRUCTURE B-37-473                                 |      |          |                 |
| DRAWN BY                                           |      | CLP      | PLANS CK'D. JLB |
| WEST ABUTMENT<br>BILL OF BARS                      |      |          | SHEET 8 OF 15   |



**ELEVATION**  
(LOOKING EAST)

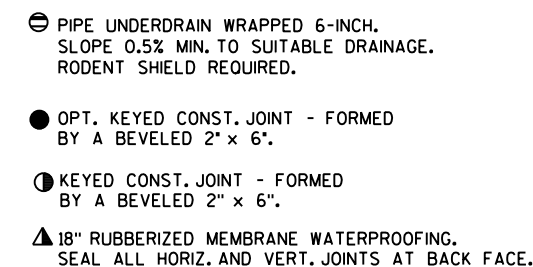


**TYPICAL SECTION THRU BODY**

- ABUTMENT TO BE SUPPORTED ON  
HP 10 x 42 STEEL PILING (WITH PILE POINTS)  
DRIVEN TO A REQUIRED DRIVING RESISTANCE  
OF 155 TONS PER PILE.  
ESTIMATED LENGTH 30'-0".  
PILES TO BE PRE-BORED 19'-0"  
PRIOR TO DRIVING.

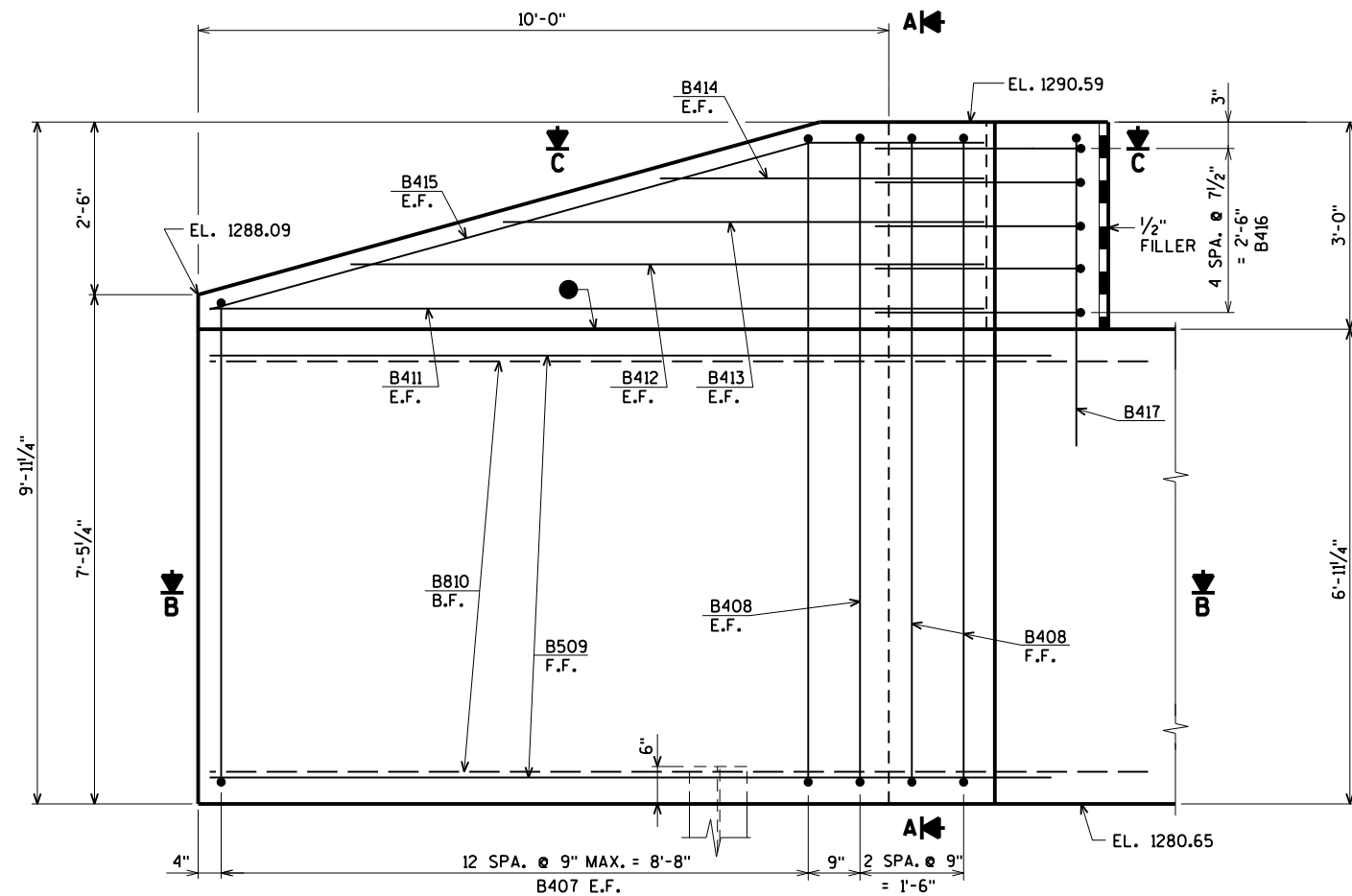
NOTE: DO NOT PLACE FILL ABOVE  
THREE FEET FROM BOTTOM OF  
ABUTMENT UNTIL SUPERSTRUCTURE  
IS IN PLACE.

## PLAN

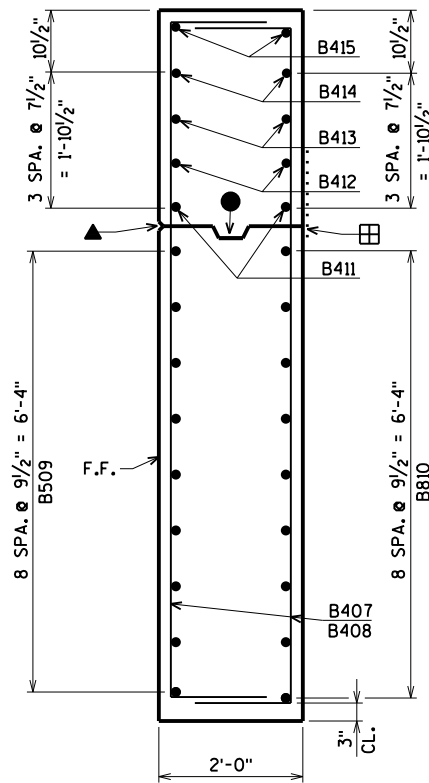


FOR PILE SPLICE DETAIL SEE SHEET 3.

|                                                    |      |               |                 |
|----------------------------------------------------|------|---------------|-----------------|
|                                                    |      |               |                 |
| NO.                                                | DATE | REVISION      | BY              |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |               |                 |
| STRUCTURE B-37-473                                 |      |               |                 |
| DRAWN BY                                           |      | CLP           | PLANS CK'D. JLB |
| EAST<br>ABUTMENT                                   |      | SHEET 9 OF 15 |                 |
|                                                    |      |               |                 |

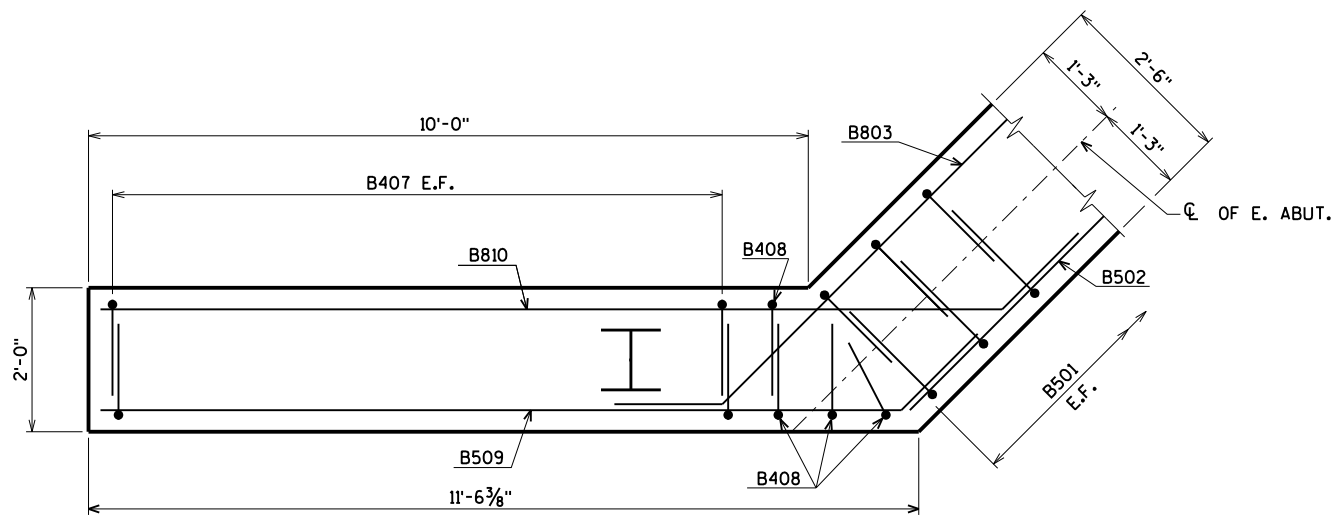


ELEVATION - WING 3

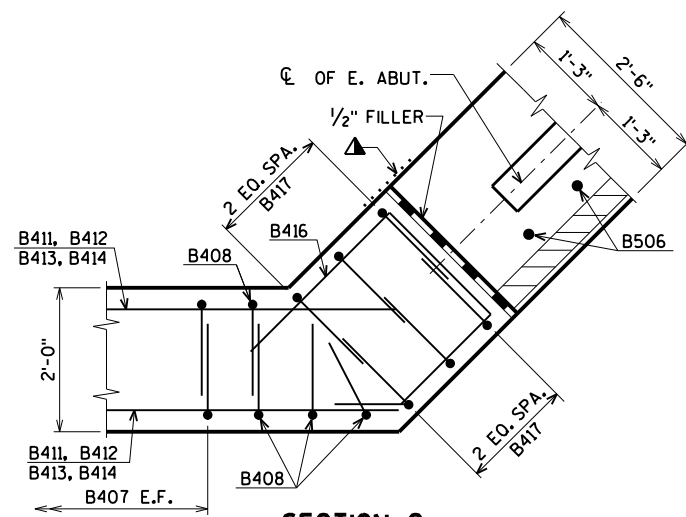


SECTION A

- ▲ 3/4" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.
- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
- ▲ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS AT BACK FACE.
- ▣ 18" RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JT. IS USED. (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

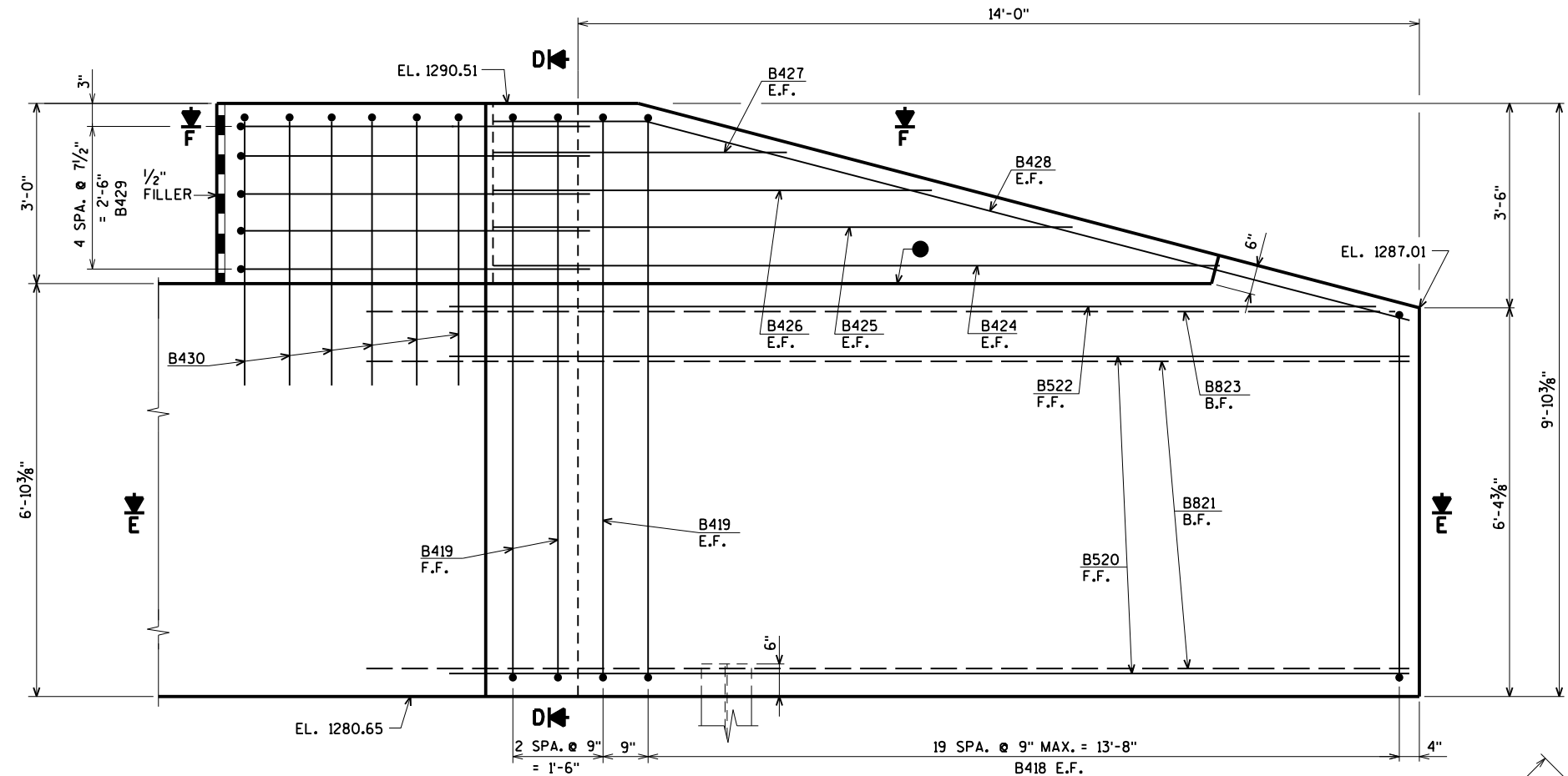


SECTION B

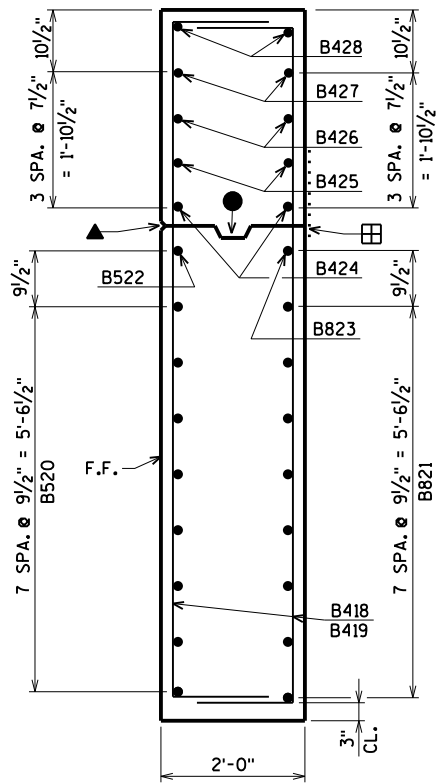


SECTION C

| NO.                                                | DATE | REVISION | BY              |
|----------------------------------------------------|------|----------|-----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |                 |
| STRUCTURE B-37-473                                 |      |          |                 |
| DRAWN BY                                           |      | CLP      | PLANS CK'D. JLB |
| EAST ABUTMENT<br>WING 3 DETAILS                    |      |          | SHEET 10 OF 15  |

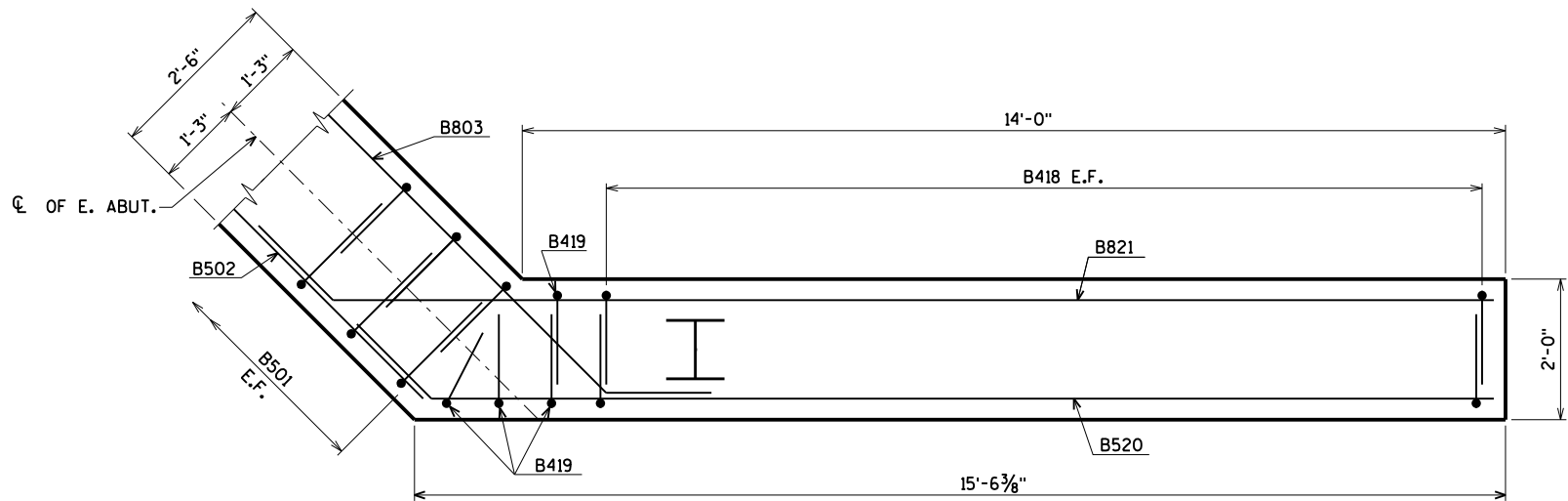


ELEVATION - WING 4

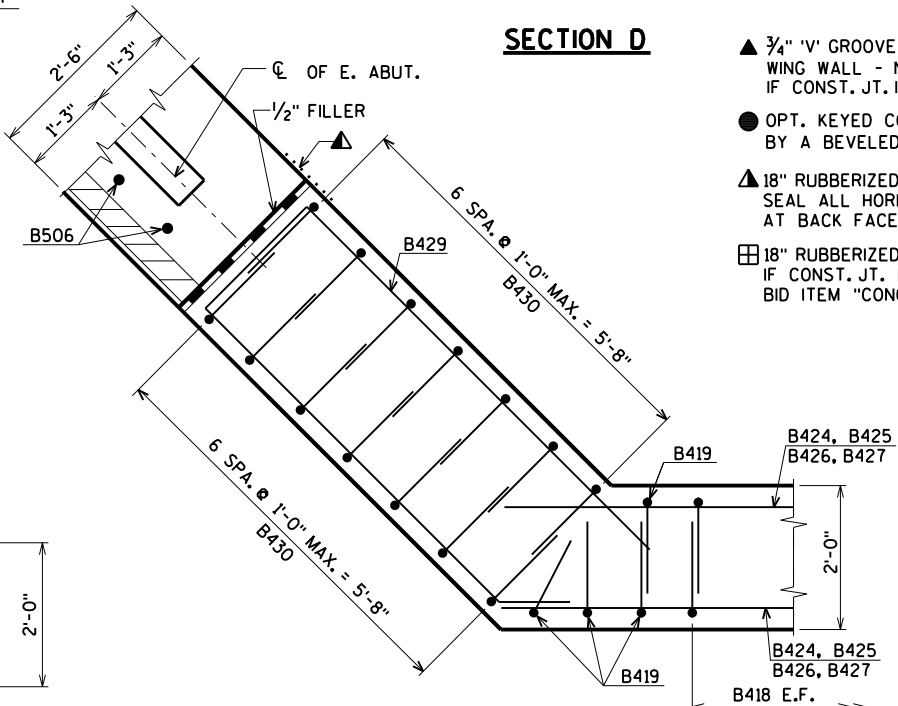


SECTION D

- ▲ 3/4" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.
- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
- ▲ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS AT BACK FACE.
- ▣ 18" RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JT. IS USED. (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").



SECTION E



SECTION F

| NO.                                                | DATE | REVISION | BY              |
|----------------------------------------------------|------|----------|-----------------|
|                                                    |      |          |                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |                 |
| STRUCTURE B-37-473                                 |      |          |                 |
| DRAWN BY                                           |      | CLP      | PLANS CK'D. JLB |
| EAST ABUTMENT<br>WING 4 DETAILS                    |      |          | SHEET 11 OF 15  |

BILL OF BARS

| BAR NO. | COATED BAR | NO. REQ'D. | LENGTH | BENT BAR BUNDLED | BAR SERIES | LOCATION           |
|---------|------------|------------|--------|------------------|------------|--------------------|
|         |            |            |        |                  |            |                    |
| B501    |            | 88         | 7-11   | X                |            | BODY VERT. E.F.    |
| B502    |            | 9          | 43-0   |                  |            | BODY HORIZ. F.F.   |
| B803    |            | 18         | 27-8   | X                |            | BODY HORIZ. B.F.   |
| B404    |            | 33         | 2-11   | X                |            | BODY TIES          |
| B505    |            | 44         | 8-1    | X                |            | BODY VERT. TOP     |
| B506    | X          | 33         | 2-0    |                  |            | BODY DOWELS        |
| B407    | X          | 26         | 10-9   | X                | ⊗          | WING 3 VERT. E.F.  |
| B408    | X          | 4          | 12-0   | X                |            | WING 3 VERT. E.F.  |
| B509    | X          | 9          | 12-9   | X                |            | WING 3 HORIZ. F.F. |
| B810    | X          | 9          | 14-4   | X                |            | WING 3 HORIZ. B.F. |
| B411    | X          | 2          | 11-4   |                  |            | WING 3 HORIZ. E.F. |
| B412    | X          | 2          | 9-4    |                  |            | WING 3 HORIZ. E.F. |
| B413    | X          | 2          | 7-1    |                  |            | WING 3 HORIZ. E.F. |
| B414    | X          | 2          | 4-10   |                  |            | WING 3 HORIZ. E.F. |
| B415    | X          | 2          | 11-8   | X                |            | WING 3 DIAG. E.F.  |
| B416    | X          | 5          | 7-4    | X                |            | WING 3 HORIZ.      |
| B417    | X          | 6          | 6-3    | X                |            | WING 3 VERT.       |
| B418    | X          | 40         | 10-2   | X                | ⊗          | WING 4 VERT. E.F.  |
| B419    | X          | 4          | 11-11  | X                |            | WING 4 VERT. E.F.  |
| B520    | X          | 8          | 16-9   | X                |            | WING 4 HORIZ. F.F. |
| B821    | X          | 8          | 18-4   | X                |            | WING 4 HORIZ. B.F. |
| B522    | X          | 1          | 15-5   | X                |            | WING 4 HORIZ. F.F. |
| B823    | X          | 1          | 17-1   | X                |            | WING 4 HORIZ. B.F. |
| B424    | X          | 2          | 11-0   |                  |            | WING 4 HORIZ. E.F. |
| B425    | X          | 2          | 8-8    |                  |            | WING 4 HORIZ. E.F. |
| B426    | X          | 2          | 6-4    |                  |            | WING 4 HORIZ. E.F. |
| B427    | X          | 2          | 4-0    |                  |            | WING 4 HORIZ. E.F. |
| B428    | X          | 2          | 15-5   | X                |            | WING 4 DIAG. E.F.  |
| B429    | X          | 5          | 15-6   | X                |            | WING 4 HORIZ.      |
| B430    | X          | 14         | 6-3    | X                |            | WING 4 VERT.       |
|         |            |            |        |                  |            |                    |
|         |            |            |        |                  |            |                    |

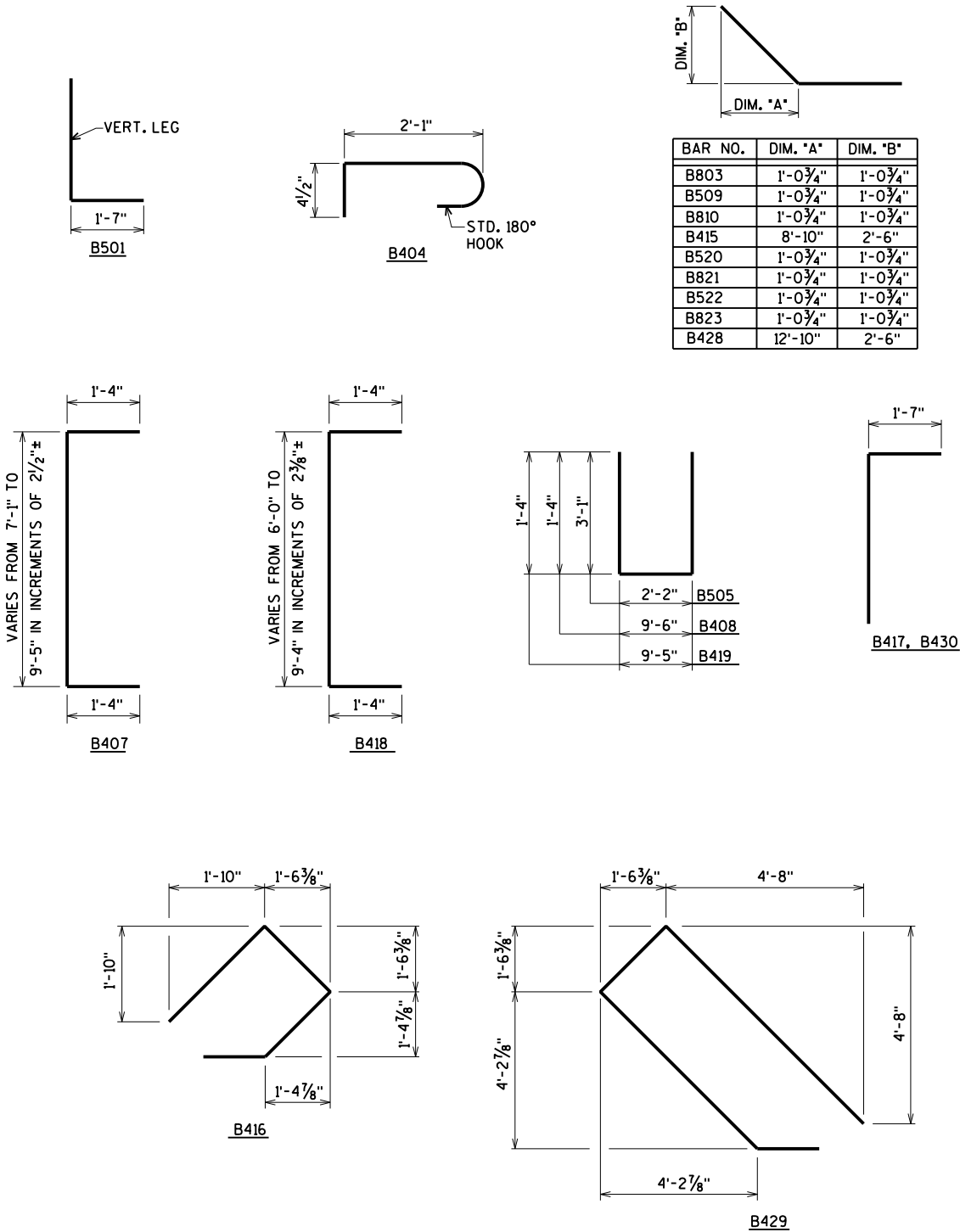
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

BAR SERIES TABLE

| BAR MARK | NO REQ'D.      | LENGTH           |
|----------|----------------|------------------|
| B407     | 2 SERIES OF 13 | 9'-7" TO 11'-11" |
| B418     | 2 SERIES OF 20 | 8'-6" TO 11'-10" |
|          |                |                  |

BUNDLE AND TAG EACH SERIES SEPARATELY.



|                                                    |      |          |                 |
|----------------------------------------------------|------|----------|-----------------|
|                                                    |      |          |                 |
| NO.                                                | DATE | REVISION | BY              |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |                 |
| STRUCTURE B-37-473                                 |      |          |                 |
| DRAWN BY                                           |      | CLP      | PLANS CK'D. JLB |
| EAST ABUTMENT<br>BILL OF BARS                      |      |          | SHEET 12 OF 15  |

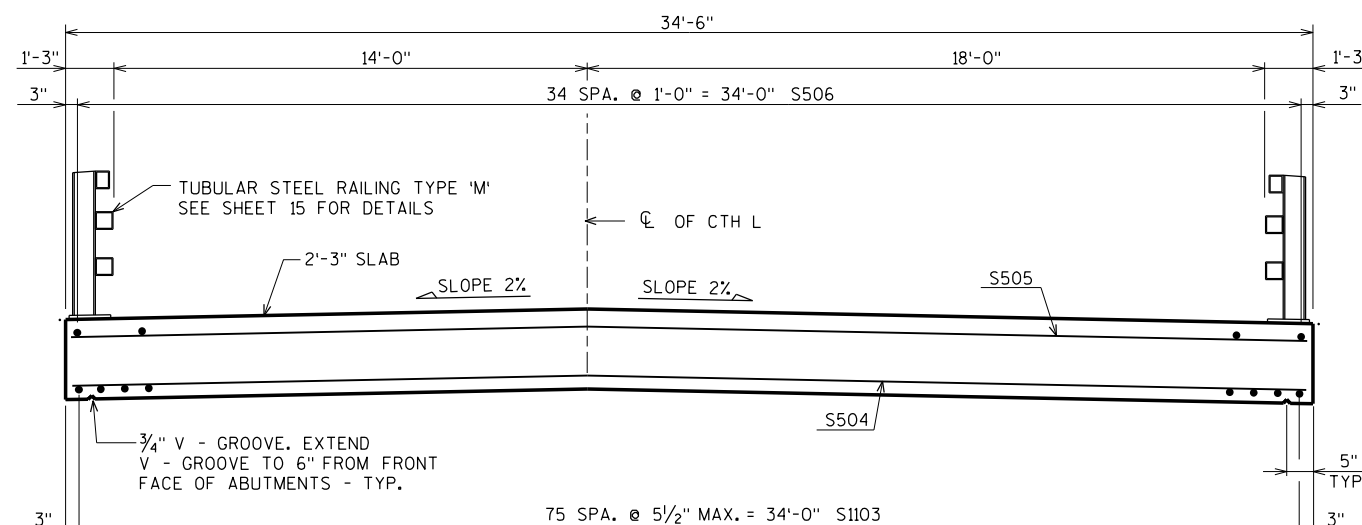
[illegible]

**S501**: A hook with a vertical leg, a horizontal base of 2'-1", and a sloped top section of 1'-9" rising to a height of 1'-6".

**S502**: A hook with a vertical leg and a horizontal top section of 1'-6".

**S607**: A hook with a horizontal base of 5'-6" and a curved end with a radius of R33 1/2".

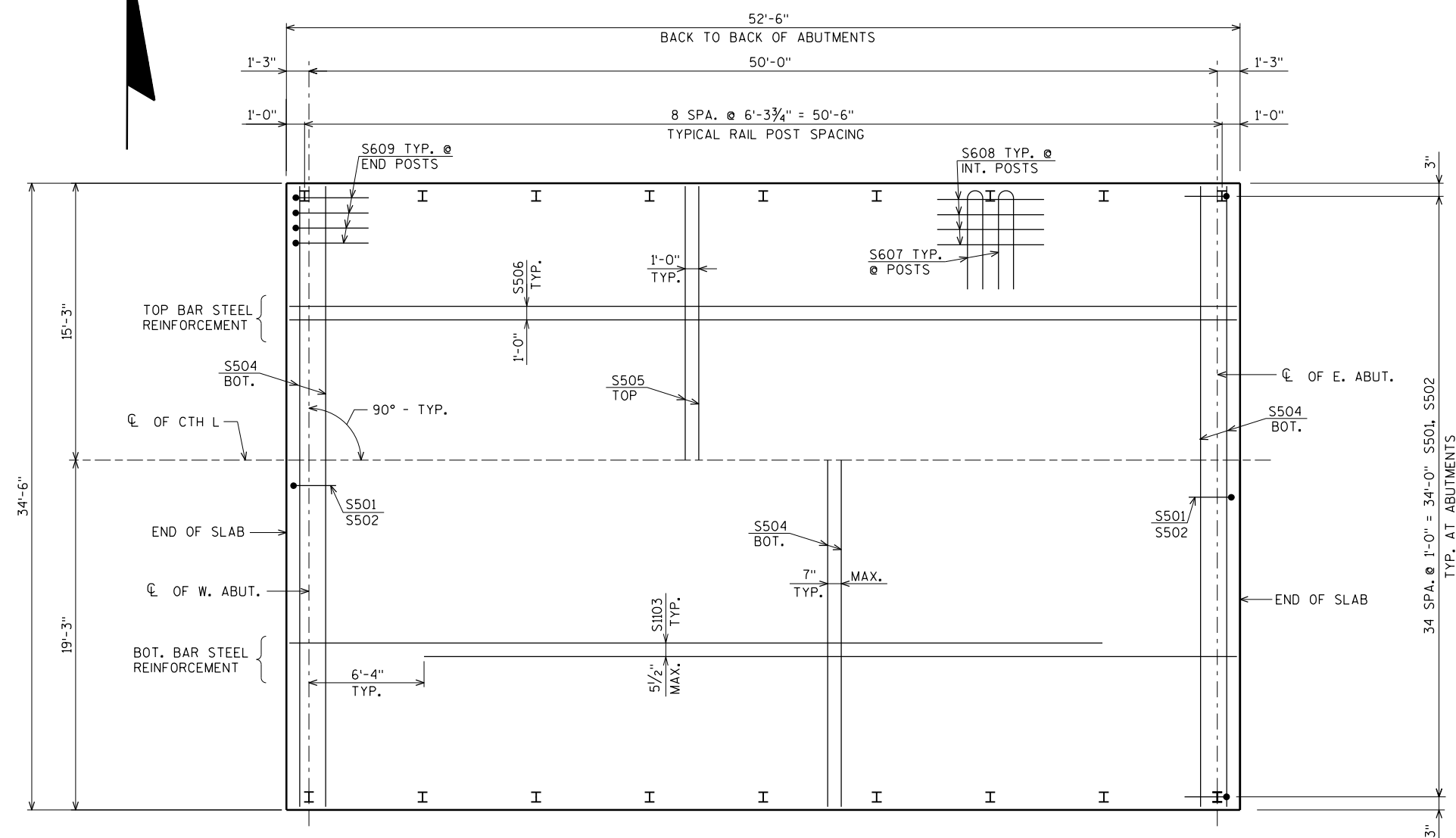
**S609**: A hook with a horizontal base of 4'-0" and a curved end with a radius of R33 1/2". It is labeled "STD. HOOK".



TYPICAL SECTION THRU BRIDGE  
(LOOKING EAST)

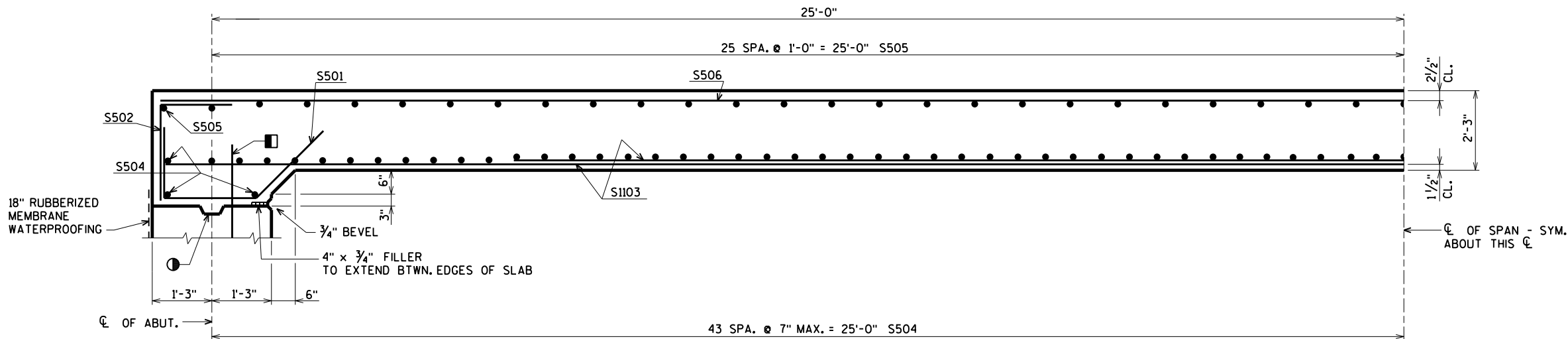
ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM.  
ANY TOLERANCES NECESSARY TO CORRECT  
CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

V - GROOVES ARE REQUIRED.



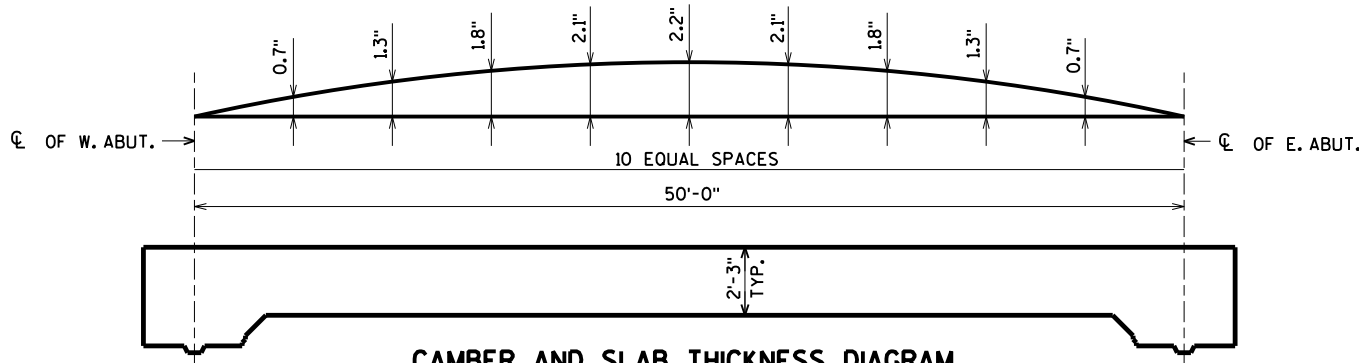
## PLAN

|                                                    |      |               |                    |
|----------------------------------------------------|------|---------------|--------------------|
|                                                    |      |               |                    |
| NO.                                                | DATE | REVISION      | BY                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |               |                    |
| STRUCTURE B-37-473                                 |      |               |                    |
| DRAWN<br>BY                                        |      | CLP           | PLANS<br>CK'D. JLB |
| SUPERSTRUCTURE                                     |      | SHEET 13 OF 1 |                    |
|                                                    |      |               |                    |



- 1 CONST. JOINT KEYWAY FORMED BY BEVELED 2" x 6".
- 2 A506, B506 BARS SPACED AT 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

PART LONGITUDINAL SECTION



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTION.

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE, FOLLOW THIS PROCEDURE:

TOP OF SLAB ELEVATION AT FINAL GRADE  
MINUS..... SLAB THICKNESS  
PLUS..... CAMBER  
PLUS..... FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)  
EQUALS = TOP OF SLAB FLASEWORK ELEVATION

SURVEY TOP OF SLAB ELEVATIONS

| LOCATION        | ℄ OF W. ABUT. | 5/10 PTS. | ℄ OF E. ABUT. |
|-----------------|---------------|-----------|---------------|
| N. EDGE OF SLAB |               |           |               |
| ℄ OF STRUCTURE  |               |           |               |
| S. EDGE OF SLAB |               |           |               |

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 1/2 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR ℄. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

TOP OF SLAB ELEVATIONS

| LOCATION        | ℄ OF W. ABUT. | 0.1     | 0.2     | 0.3     | 0.4     | 0.5     | 0.6     | 0.7     | 0.8     | 0.9     | ℄ OF E. ABUT. |
|-----------------|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------------|
| N. EDGE OF SLAB | 1290.55       | 1290.56 | 1290.56 | 1290.57 | 1290.57 | 1290.57 | 1290.58 | 1290.58 | 1290.58 | 1290.59 | 1290.59       |
| ℄ OF STRUCTURE  | 1290.86       | 1290.86 | 1290.87 | 1290.87 | 1290.87 | 1290.88 | 1290.88 | 1290.88 | 1290.89 | 1290.89 | 1290.90       |
| S. EDGE OF SLAB | 1290.47       | 1290.48 | 1290.48 | 1290.49 | 1290.49 | 1290.49 | 1290.50 | 1290.50 | 1290.50 | 1290.51 | 1290.51       |

|                                                    |      |                |                 |
|----------------------------------------------------|------|----------------|-----------------|
| NO.                                                | DATE | REVISION       | BY              |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |                 |
| STRUCTURE B-37-473                                 |      |                |                 |
| DRAWN BY                                           |      | CLP            | PLANS CK'D. JLB |
| SUPERSTRUCTURE DETAILS                             |      | SHEET 14 OF 15 |                 |

LEGEND

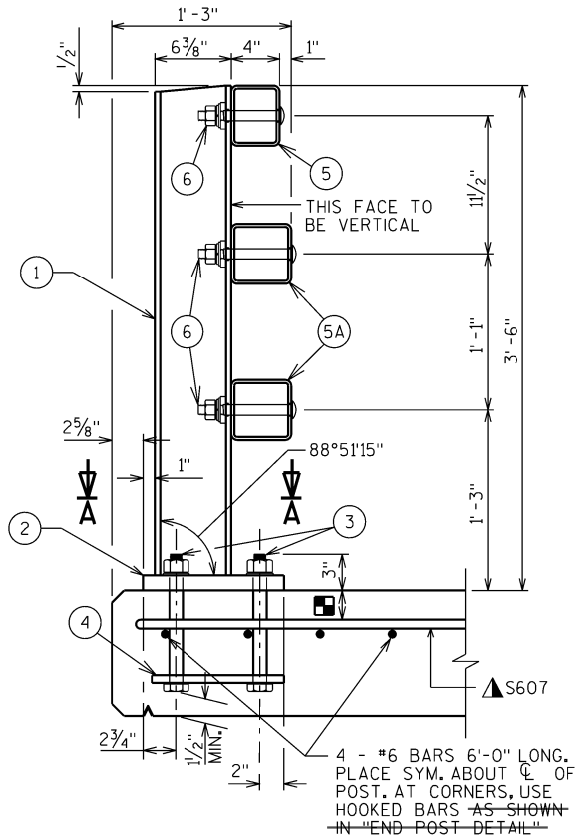
- ① W6 x 25 with 1/8" x 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" x 11 3/4" x 1'-8" WITH 1 1/6" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
- ③ ASTM A449 - 1/6" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED), 5 REQ'D. PER POST, THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. ~~USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)~~
- ④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 1/6" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- ⑤ TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/6" x 1 5/8" x 1 5/8" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5A. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 1/2" x 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1 1/2" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 1/6" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
- ⑫ 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬ 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- ⑭ 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- ⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

NOTES

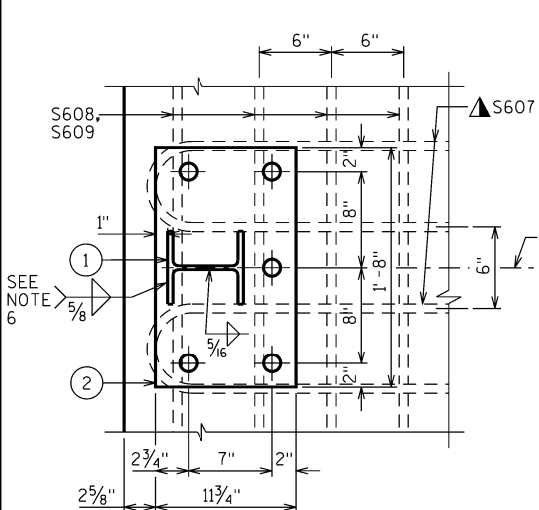
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION, PRIOR TO GALVANIZING. ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.

▲ TIE TO TOP MAT OF STEEL.

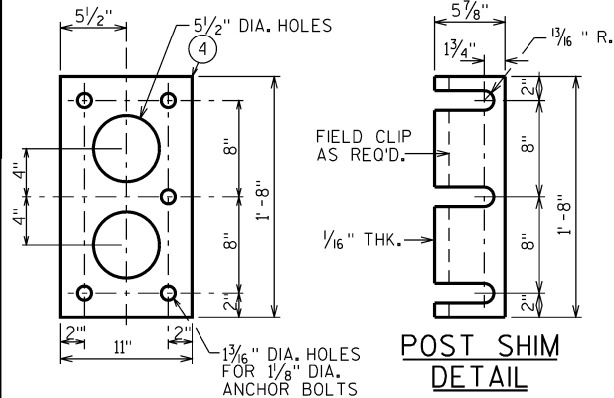
\* ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.



SECTION THRU RAILING ON SLAB

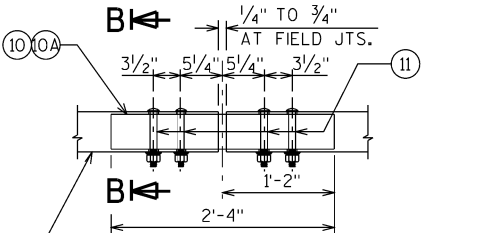


SECTION A-A

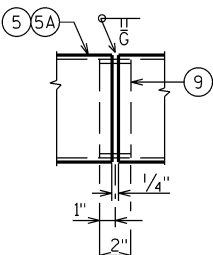


ANCHOR PLATE

AT RAIL TO SLAB CONNECTION



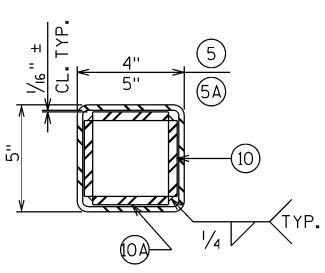
FIELD ERECTION JOINT DETAIL



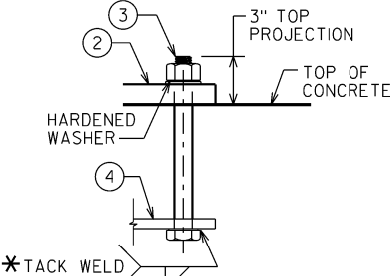
SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS

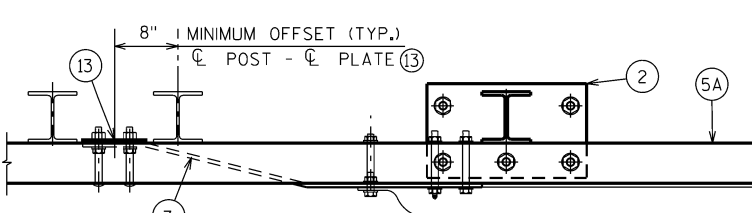
■ PLACE BELOW TOP MAT SLAB REINFORCEMENT



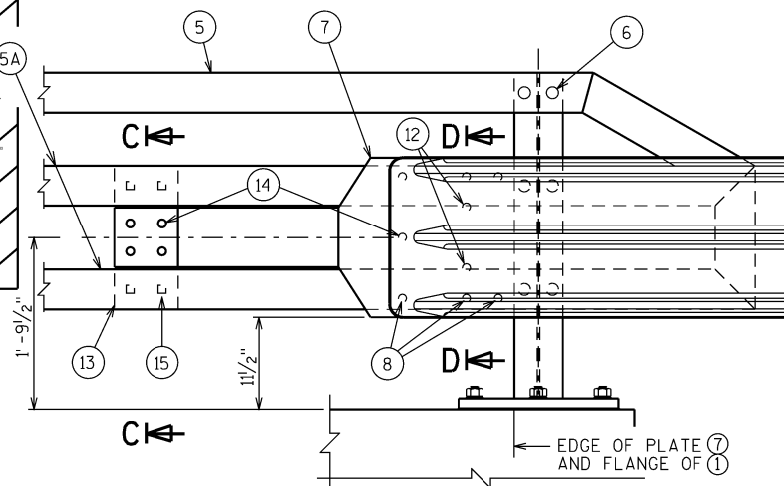
SECTION B-B



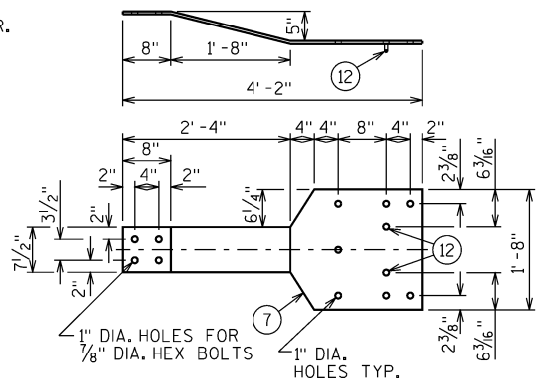
ANCHOR BOLTS



TOP VIEW AT END POST THRIE BEAM RAIL ATTACHMENT

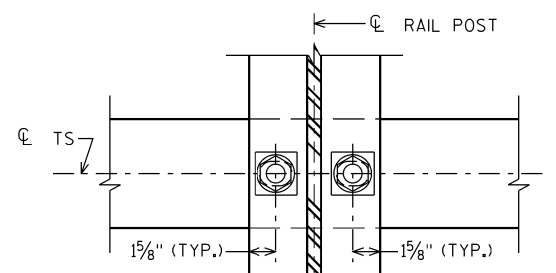


DETAIL AT END POST THRIE BEAM RAIL ATTACHMENT

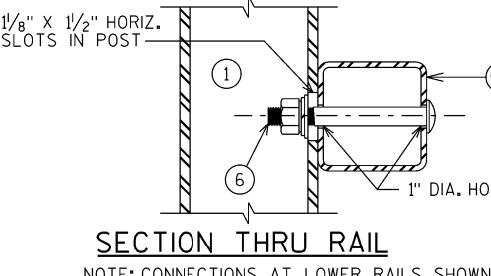


BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



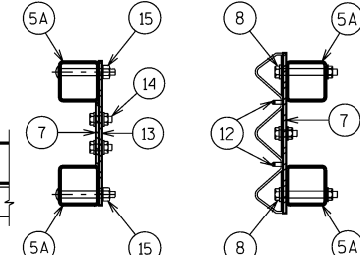
SECTION THRU POST WEB



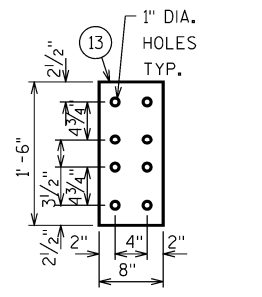
SECTION THRU RAIL

NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

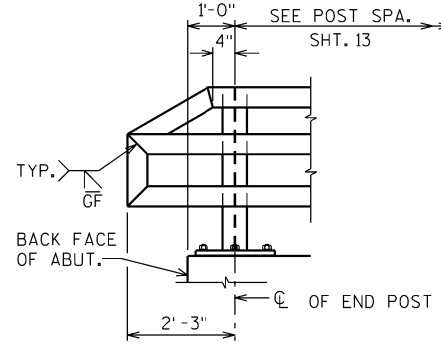


SECTION C-C SECTION D-D



ANCHOR PLATE

AT BEAM GUARD ATTACHMENT



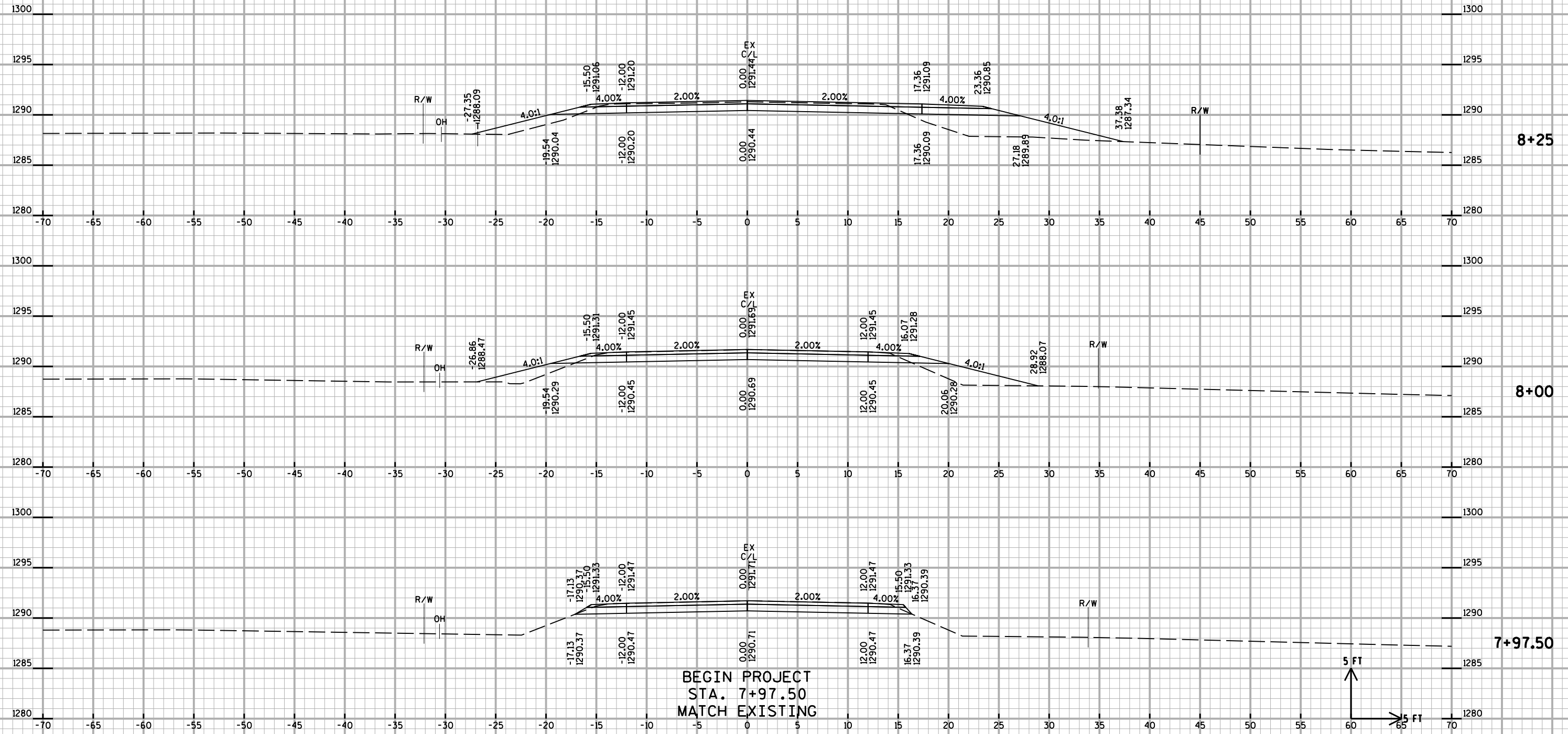
PART ELEVATION OF RAILING

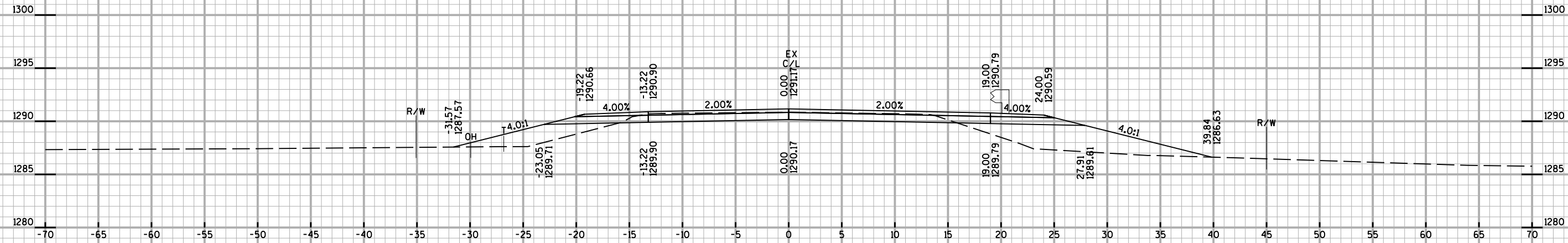
| NO.                                                | DATE | REVISION | BY              |
|----------------------------------------------------|------|----------|-----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |                 |
| STRUCTURE B-37-473                                 |      |          |                 |
| DRAWN BY                                           |      | CLP      | PLANS CK'D. JLB |
| TUBULAR STEEL RAILING TYPE 'M'                     |      |          | SHEET 15 OF 15  |

| CTH L COMPUTER EARTHWORK |          |           |                             |        |                                   |                             |      |                     |           |               |
|--------------------------|----------|-----------|-----------------------------|--------|-----------------------------------|-----------------------------|------|---------------------|-----------|---------------|
| Station                  | Distance | Area (SF) |                             |        | Incremental Vol (CY) (Unadjusted) |                             |      | Cumulative Vol (CY) |           | Mass Ordinate |
|                          |          | Cut       | Unuseable Pavement Material | Fill   | Salvaged /                        |                             |      | Expanded            |           |               |
|                          |          |           |                             |        | Cut                               | Unuseable Pavement Material | Fill | Cut 1.00            | Fill 1.30 |               |
|                          |          |           |                             |        |                                   |                             |      |                     |           |               |
| Note 1                   | Note 4   | Note 2    | Note 5                      | Note 3 |                                   |                             |      |                     |           |               |
| 7+97.5                   | --       | 30.8      | 10.0                        | 0.0    | --                                | --                          | --   |                     |           |               |
| 8+00                     | 2.5      | 30.4      | 10.0                        | 18.9   | 3                                 | 1                           | 1    | 2                   | 1         | 1             |
| 8+25                     | 25.0     | 26.5      | 10.0                        | 35.5   | 26                                | 9                           | 25   | 19                  | 34        | -15           |
| 8+34.06                  | 9.1      | 24.9      | 10.0                        | 43.9   | 9                                 | 3                           | 13   | 24                  | 51        | -27           |
| 8+50                     | 15.9     | 22.4      | 10.0                        | 45.0   | 14                                | 6                           | 26   | 32                  | 85        | -53           |
| 8+59.06                  | 9.1      | 22.0      | 10.0                        | 49.6   | 7                                 | 3                           | 16   | 36                  | 106       | -69           |
| 8+75                     | 15.9     | 21.5      | 10.0                        | 50.3   | 13                                | 6                           | 29   | 43                  | 144       | -101          |
| 8+84.06                  | 9.1      | 20.7      | 10.0                        | 51.7   | 7                                 | 3                           | 17   | 47                  | 166       | -119          |
| 9+00                     | 15.9     | 18.7      | 10.0                        | 54.8   | 12                                | 6                           | 31   | 53                  | 207       | -155          |
| 9+09.06                  | 9.1      | 18.9      | 10.0                        | 49.0   | 6                                 | 3                           | 17   | 56                  | 230       | -174          |
| 9+25                     | 15.9     | 19.2      | 10.0                        | 36.9   | 11                                | 6                           | 25   | 61                  | 263       | -202          |
| 9+34.06                  | 9.1      | 19.1      | 10.0                        | 30.2   | 6                                 | 3                           | 11   | 64                  | 278       | -213          |
| 9+50                     | 15.9     | 19.1      | 10.0                        | 36.8   | 11                                | 6                           | 20   | 69                  | 303       | -234          |
| 9+58.75                  | 8.8      | 18.9      | 10.0                        | 4.2    | 6                                 | 3                           | 7    | 72                  | 312       | -239          |
| 9+73.75                  | 15.0     | 18.9      | 10.0                        | 4.2    | 11                                | 6                           | 2    | 77                  | 315       | -237          |
| B-37-473                 | --       | --        | --                          | --     | --                                | --                          | --   | --                  | --        | --            |
| 10+26.25                 | --       | 17.4      | 10.0                        | 25.6   | --                                | --                          | --   | --                  | --        | --            |
| 10+41.25                 | 15.0     | 17.4      | 10.0                        | 25.6   | 10                                | 6                           | 14   | 81                  | 333       | -252          |
| 10+50                    | 8.8      | 20.8      | 10.0                        | 7.3    | 6                                 | 3                           | 5    | 84                  | 340       | -256          |
| 10+75                    | 25.0     | 23.5      | 10.0                        | 11.5   | 21                                | 9                           | 9    | 96                  | 351       | -256          |
| 11+00                    | 25.0     | 20.4      | 10.0                        | 14.5   | 20                                | 9                           | 12   | 107                 | 367       | -260          |
| 11+25                    | 25.0     | 18.3      | 10.0                        | 39.8   | 18                                | 9                           | 25   | 115                 | 400       | -284          |
| 11+50                    | 25.0     | 19.4      | 10.0                        | 32.1   | 17                                | 9                           | 33   | 124                 | 443       | -319          |
| 11+53.02                 | 3.0      | 19.6      | 10.0                        | 31.0   | 2                                 | 1                           | 4    | 125                 | 448       | -323          |
| 11+75                    | 22.0     | 23.2      | 10.0                        | 34.8   | 17                                | 8                           | 27   | 134                 | 482       | -349          |
| 11+78.02                 | 3.0      | 24.6      | 10.0                        | 36.3   | 3                                 | 1                           | 4    | 135                 | 488       | -352          |
| 12+00                    | 22.0     | 26.6      | 10.0                        | 35.4   | 21                                | 8                           | 29   | 148                 | 526       | -377          |
| 12+03.02                 | 3.0      | 26.9      | 10.0                        | 35.2   | 3                                 | 1                           | 4    | 150                 | 531       | -381          |
| 12+25                    | 22.0     | 29.0      | 10.0                        | 27.4   | 23                                | 8                           | 25   | 165                 | 564       | -399          |
| 12+50                    | 25.0     | 29.8      | 10.0                        | 0.0    | 27                                | 9                           | 13   | 183                 | 580       | -398          |
|                          |          |           |                             |        | 331                               | 148                         | 446  |                     |           |               |

VALLEY LANE COMPUTER EARTHWORK

| Station | Distance | Area (SF) |                                   |      | Incremental Vol (CY) (Unadjusted)               |              |        | Cumulative Vol (CY) |    | Mass Ordinate |
|---------|----------|-----------|-----------------------------------|------|-------------------------------------------------|--------------|--------|---------------------|----|---------------|
|         |          | Cut       | Unuseable<br>Pavement<br>Material | Fill | Salvaged /<br>Unuseable<br>Pavement<br>Material |              |        | Expanded            |    |               |
|         |          |           |                                   |      | Cut<br>1.00                                     | Fill<br>1.30 |        |                     |    |               |
|         |          |           |                                   |      | Note 1                                          | Note 4       | Note 2 | Note 5              |    | Note 3        |
| 19+17   | --       | 27.5      | 0.0                               | 0.0  | --                                              | --           | --     |                     |    |               |
| 19+25   | 7.76     | 20.5      | 0.0                               | 9.9  | 7                                               | 0            | 1      | 7                   | 2  | 5             |
| 19+50   | 25.00    | 12.6      | 0.0                               | 34.8 | 15                                              | 0            | 21     | 22                  | 29 | -7            |
| 19+75   | 25.00    | 30.7      | 15.5                              | 34.3 | 20                                              | 7            | 32     | 35                  | 70 | -35           |
| 19+83.  | 8.00     | 30.7      | 21.6                              | 7.3  | 9                                               | 6            | 6      | 39                  | 78 | -40           |
|         |          |           |                                   |      | 51                                              | 13           | 60     |                     |    |               |

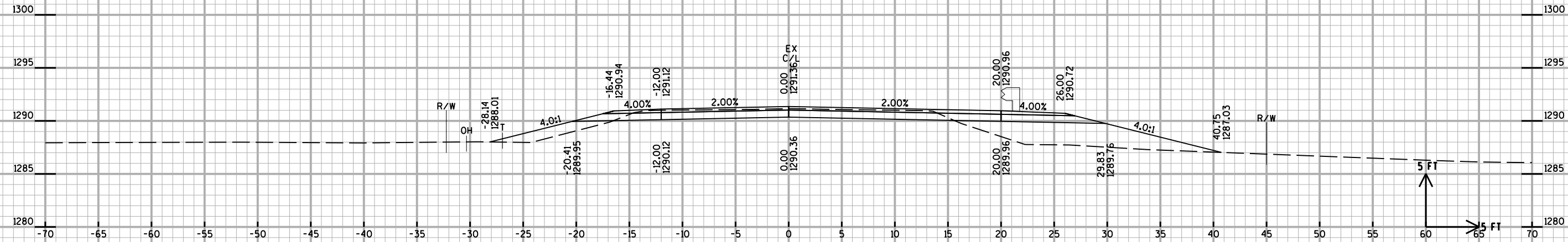




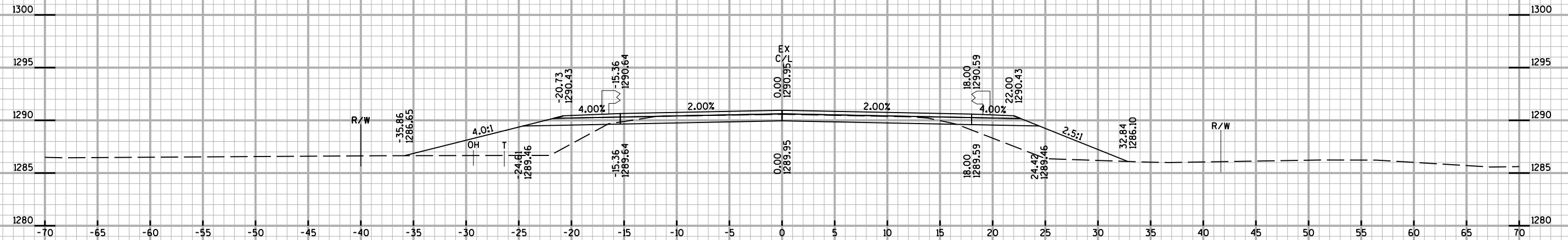
POST 5 RT  
8+59.06



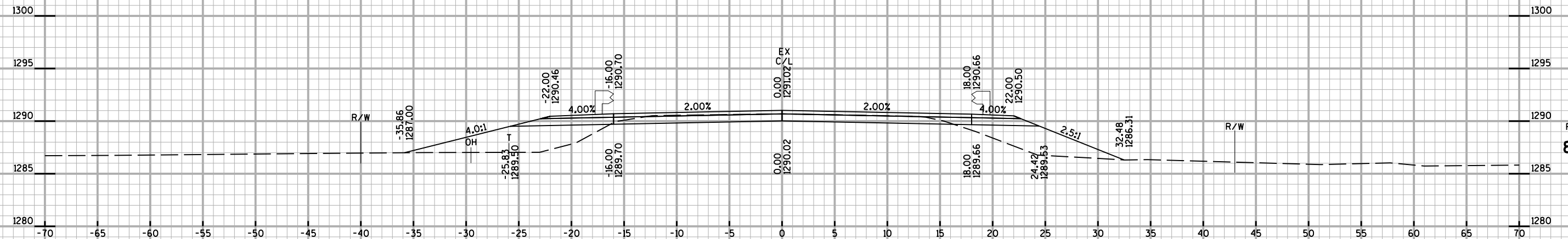
8+50



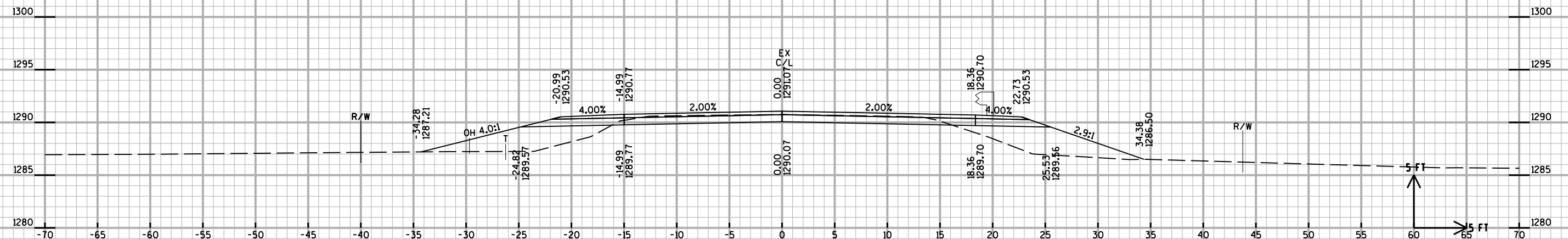
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8+34.06



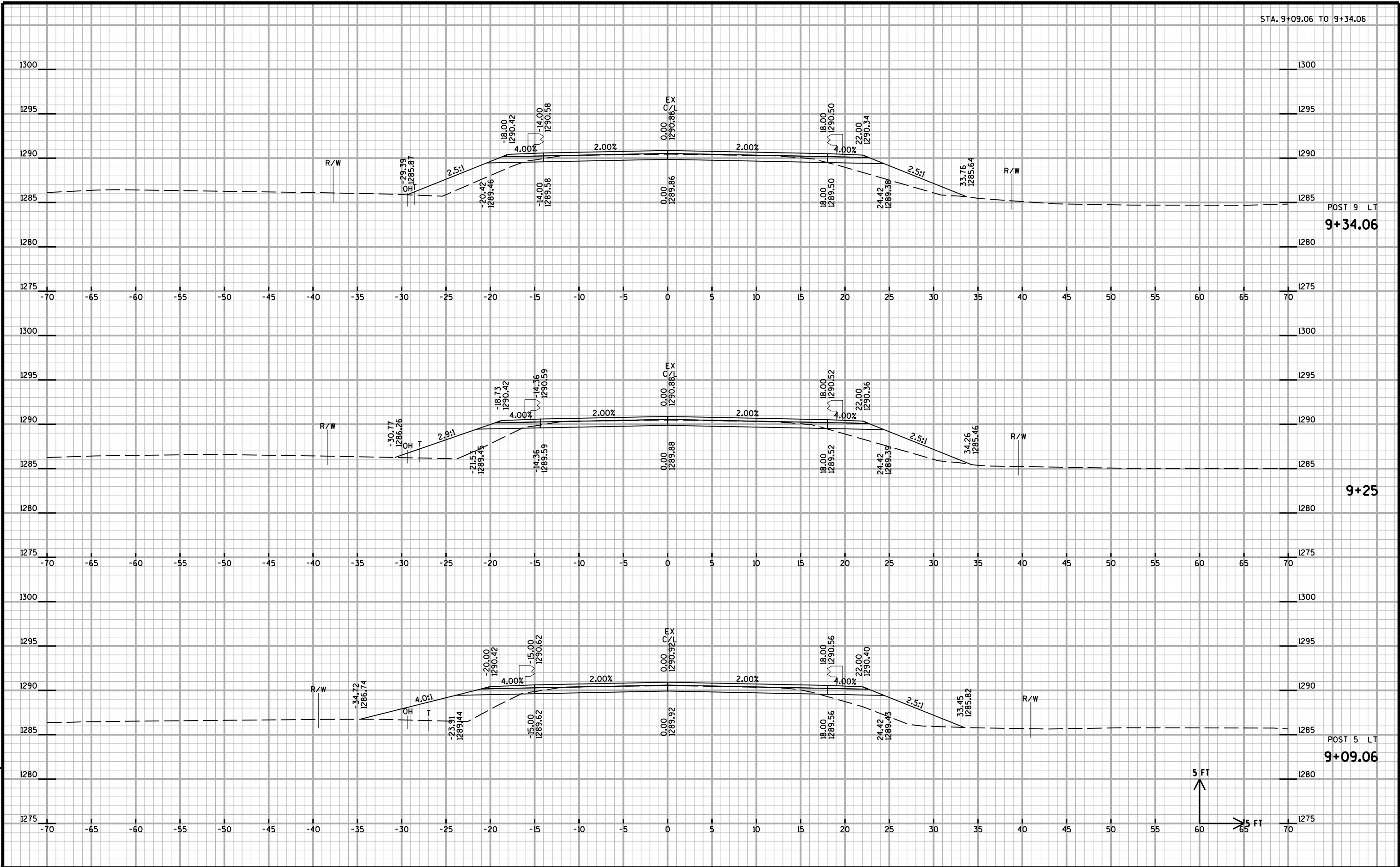
9+00

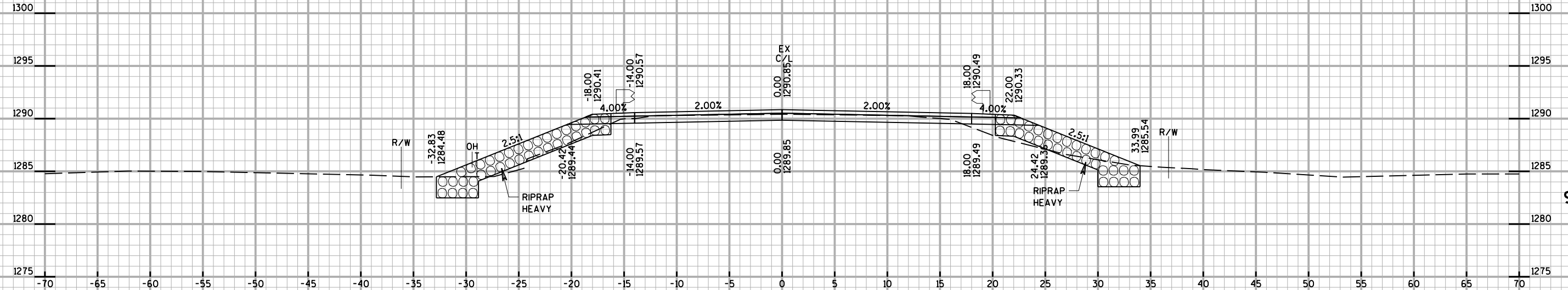


POST 1 LT  
POST 9 RT  
8+84.06

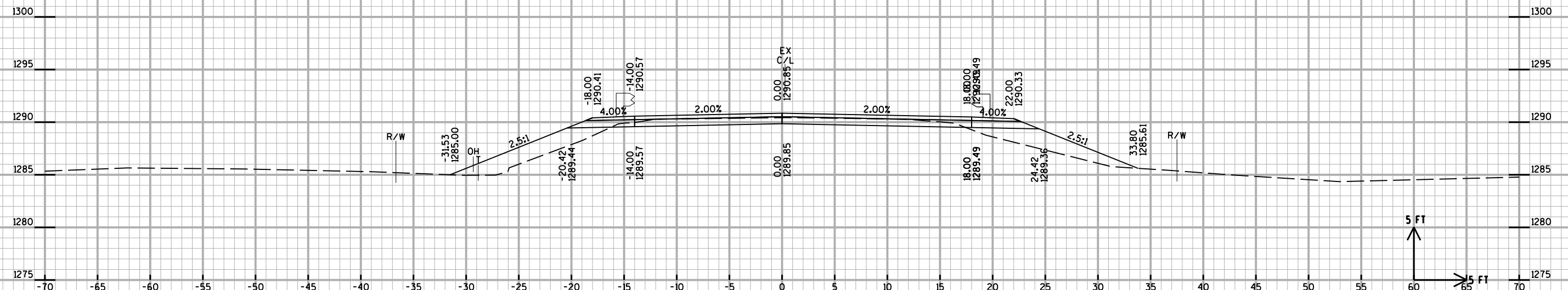


8+75





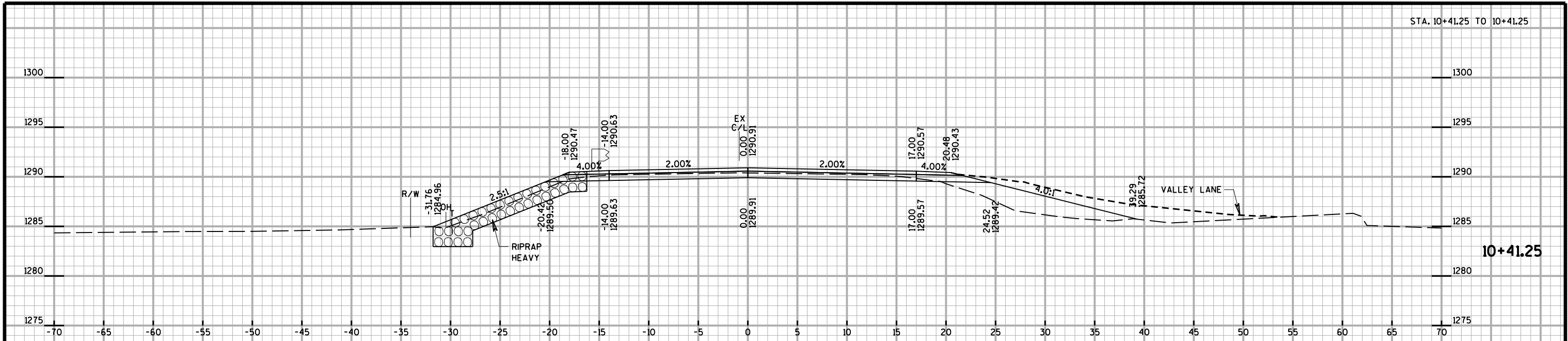
9+58.75



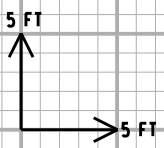
9+50

5 FT

5 FT

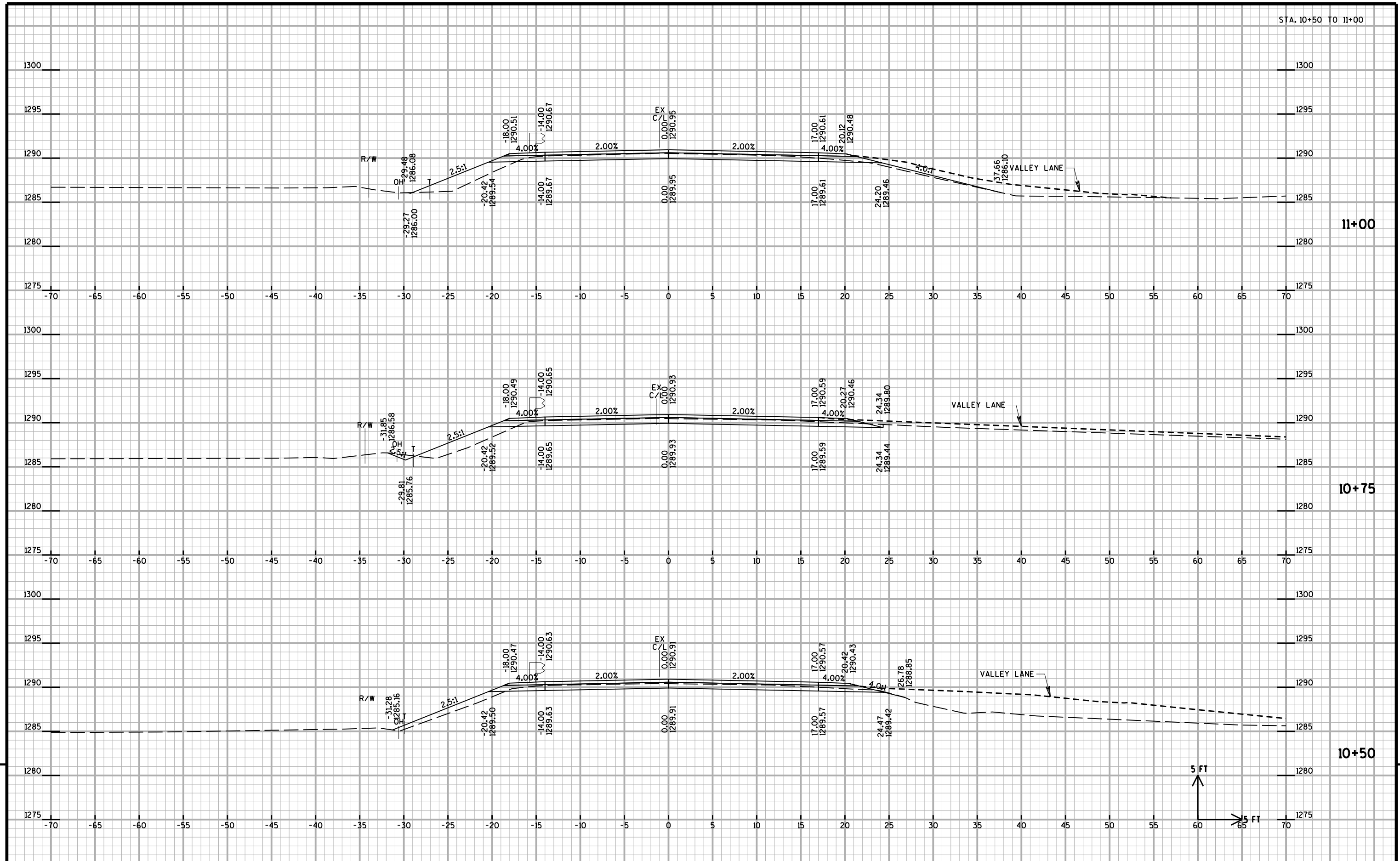


STRUCTURE B-37-473

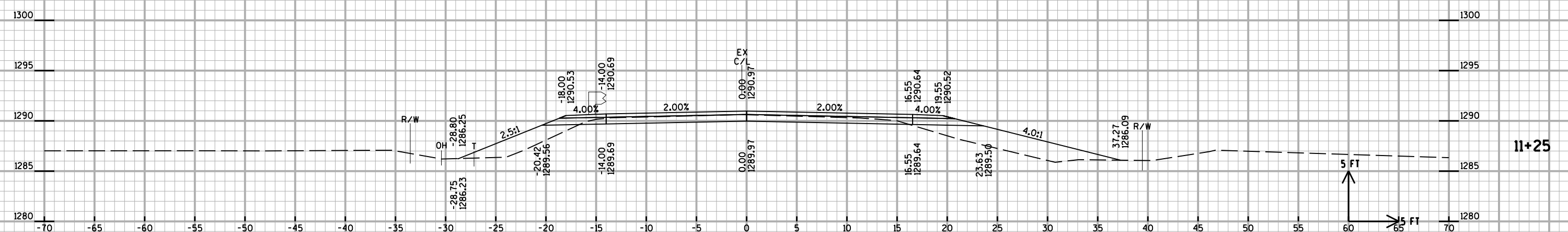
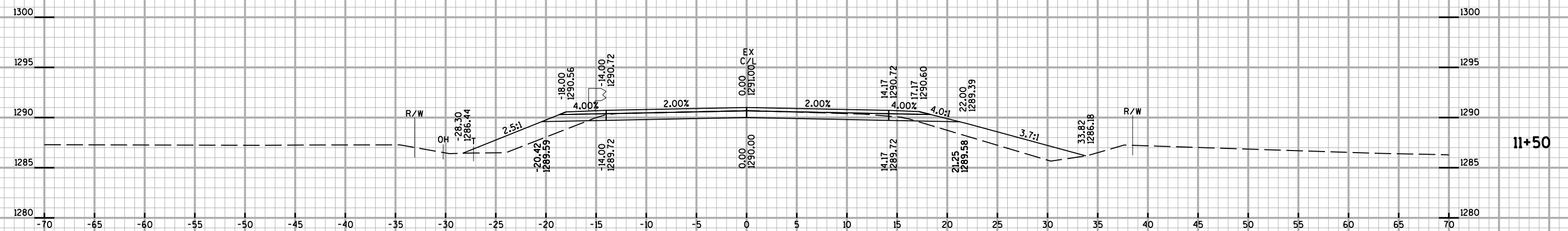
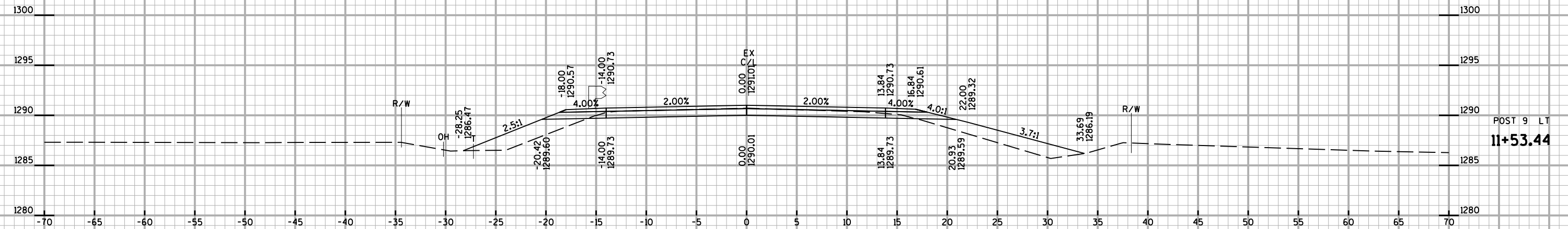


9

9



STA. 11+25 TO 11+53.44



PROJECT NO: 9478-03-71

HWY: CTH L

COUNTY: MARATHON

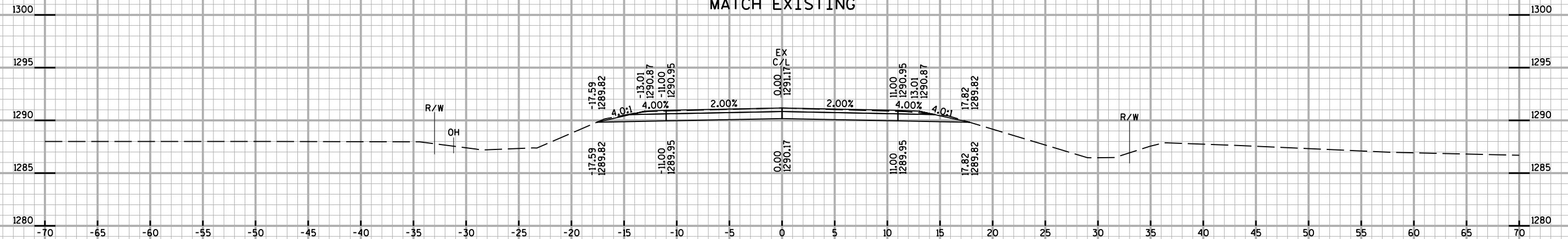
## CROSS SECTIONS

SHEET

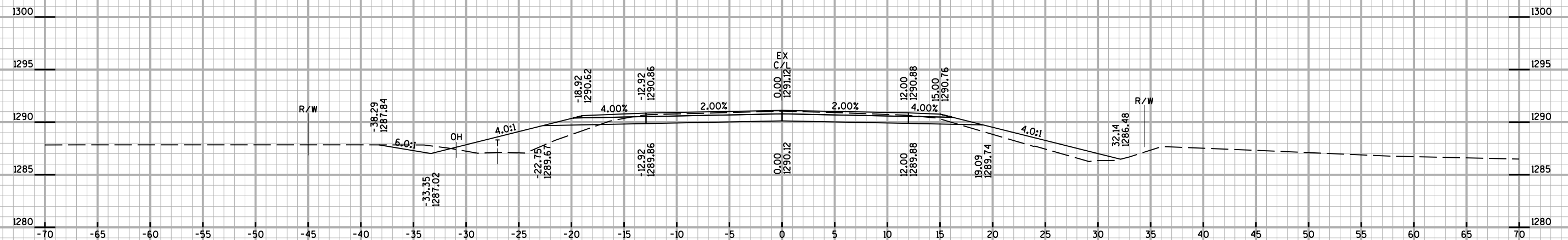
|                                                                                                |                                                                                                |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <p>  </p> | <p>  </p> |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|



END PROJECT  
STA. 12+50  
MATCH EXISTING



12+50



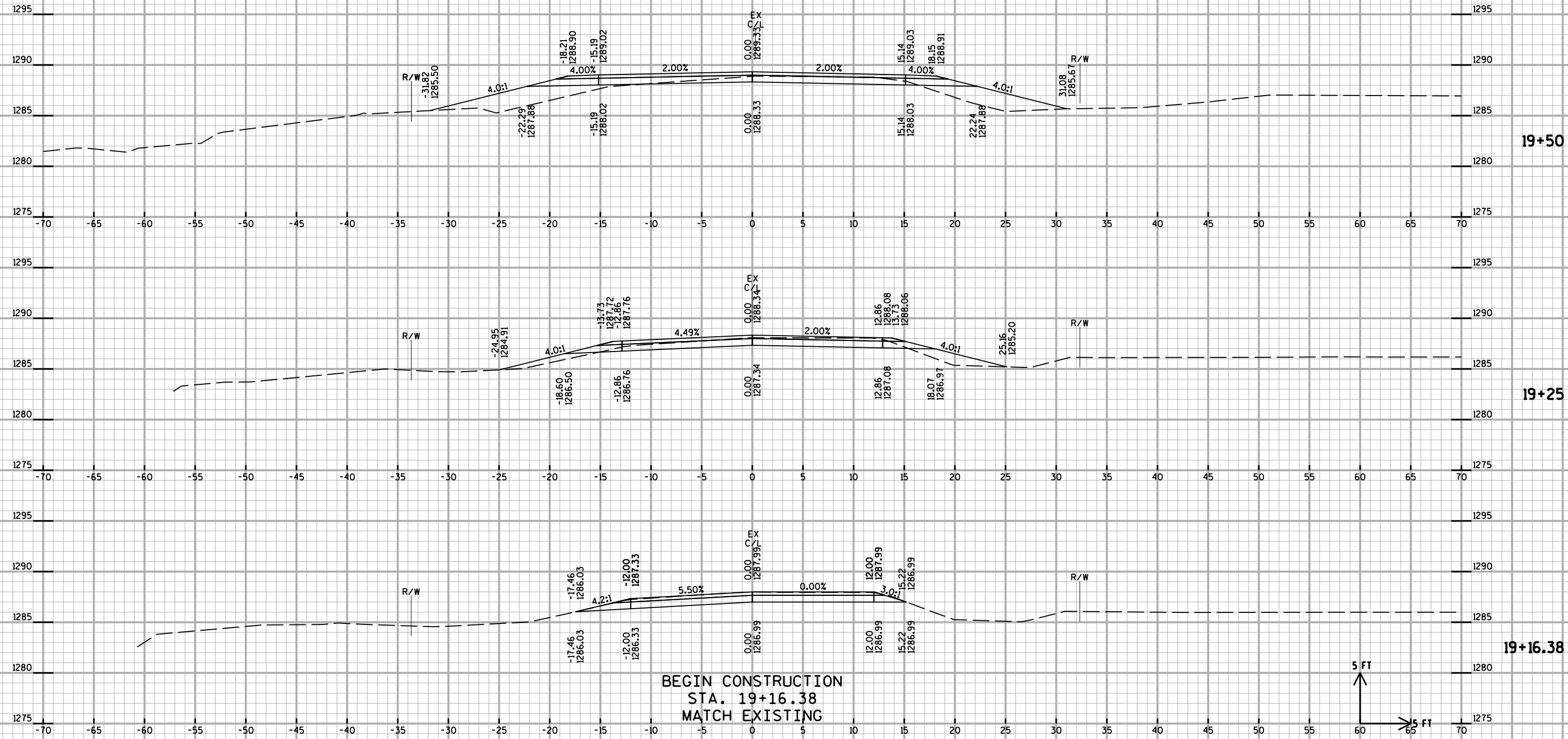
12+25

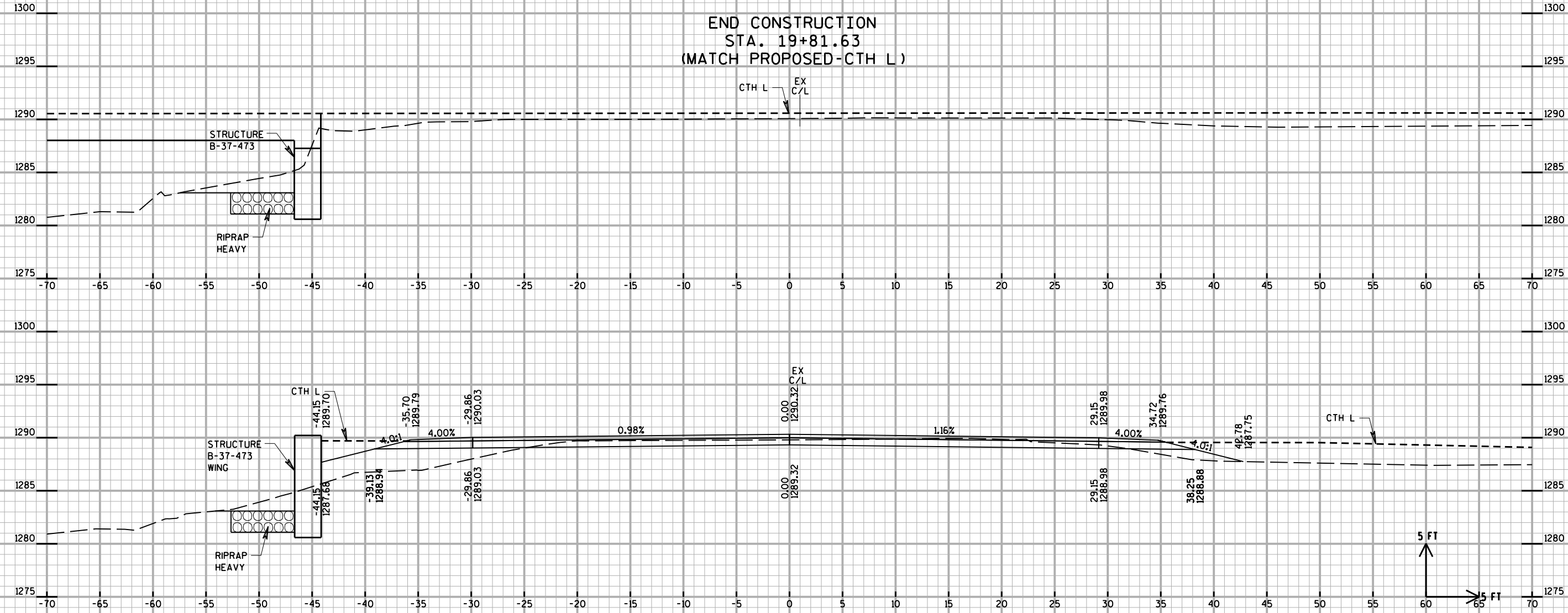


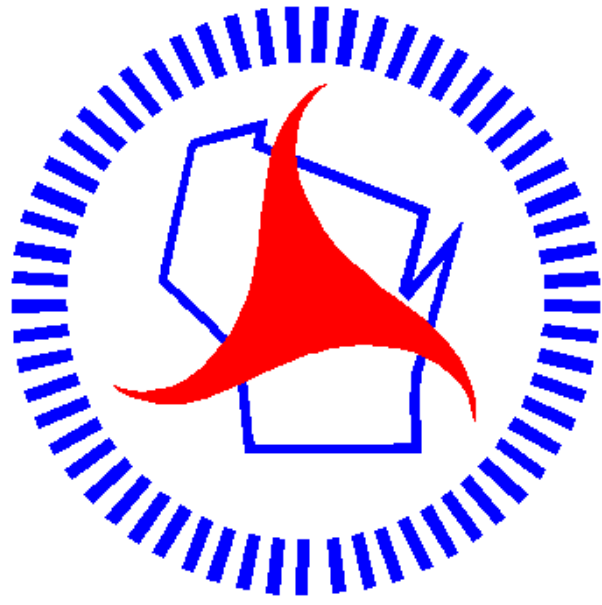
POST 1 LT  
12+03.44

9

9







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