RHI

PROJECT ID: 9894-00-72

WITH: N/A

COUNTY: PRICE

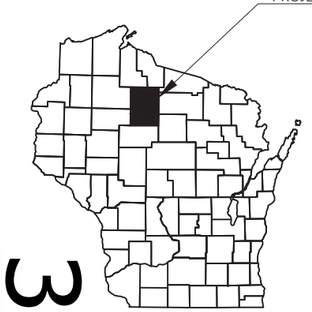
JANUARY 2026

ORDER OF SHEETS



TOTAL SHEETS = 74

PROJECT LOCATION



N

39

DESIGN DESIGNATION

| | | | |
|---|---|---|---|
| A.A.D.T. | 2026 | = | 285 |
| A.A.D.T. | 2046 | = | 290 |
| D.H.V. | | = | 29 |
| D.D. | | = | 50/50 |
| T. | | = | 20% |
| DESIGN SPEED | | = | 30 MPH |
| ESALS | | = | 190,000 |

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 (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

**PLAN OF PROPOSED IMPROVEMENT**

# T WORCESTER, BRIDGE B-50-0096

**AABAJIJIWANI-ZIIBIINSING CRK BRIDGE**

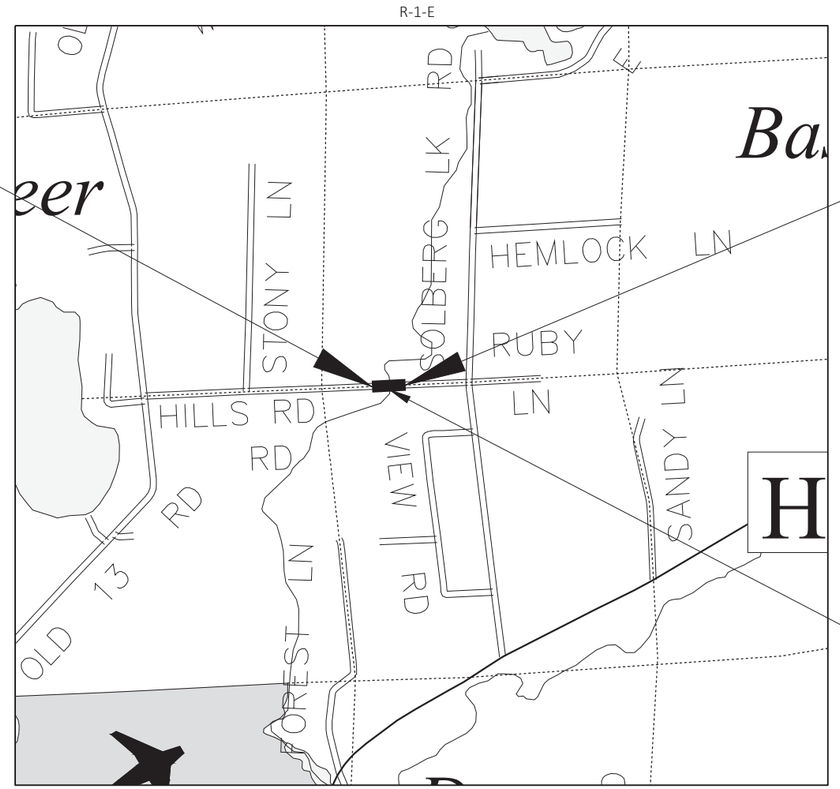
## LOCAL STREET

## PRICE COUNTY

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 9894-00-72 | | |

STATE PROJECT NUMBER

**9894-00-72**




LAYOUT

SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 0.079 MI

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

ELEVATIONS ARE REFERENCED TO NAVD 88 ( 2012 ). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A

ACCEPTED FOR

TOWN of WORCESTER

6-30-2025 (Date)

(Town Chair Signature)

ORIGINAL PLANS PREPARED BY

SEH

WISCONSIN
JUSTIN SHAVLIK
45324-6
CHIPPEWA FALLS
WISCONSIN
06-30-2025
PROFESSIONAL ENGINEER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | SEH |
| Designer | SEH |
| Project Manager | MICHAEL GRAGE, P.E. |
| Regional Examiner | N/A |
| Regional Supervisor | DAN ERVA, P.E. |

APPROVED FOR THE DEPARTMENT

DATE: 7/01/2025 (Signature)

E

FILE NAME : X:\UZ\W\WORCE\178659\5-FINAL-DSGN\C3D_SQUAWCREEK\SHEETS\010101-TI.DWG PLOT DATE : 6/23/2025 9:41 AM PLOT BY : ANNIE JEROME PLOT NAME :

## GENERAL NOTES

1. 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.
2. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
3. ELEVATIONS SHOWN ON THE THE PLAN ARE REFERENCED TO THE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
4. WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, 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.
5. THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.
6. DISTURBED AREAS WITHIN THE RIGHT-OF-RIGHT, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS AND RIPRAPPED LOCATIONS, ARE TO BE 4-INCH TOPSOIL, FERTILIZED, TEMPORARY SEEDED, SEEDED, AND EMATTED.
7. ALL PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.
8. EROSION CONTROL MEASURES ARE TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO EXISTING STRUCTURE REMOVAL.

## RUNOFF COEFFICIENT TABLE

| | HYDROLOGIC SOIL GROUP | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | | | B | | | C | | | D | | |
| | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (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 | | | | | | | | | | | |

TOTAL PROJECT AREA = **0.78** ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = **0.57** ACRES

## UTILITY CONTACT LIST

NORVADO - COMMUNICATION LINE
105 N AVON AVE
PHILLIPS, WI 54555
TELEPHONE: 715.339.7511 EXT 511 (OFFICE), 715.820.0082
ATTENTION: KIRK BOGDANOVIC
EMAIL: KBOGDANOVIC@NORVADO.COM

PRICE ELECTRIC COOPERATIVE - ELECTRICITY
W6803 SPRINGS DRIVE/PO BOX 110
PHILLIPS, WI 54555
TELEPHONE: 715.339.2155
ATTENTION: BEN ORYSEN
EMAIL: BORYSEN@PRICEELECTRIC.COOP

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

## DESIGN CONTACT

SHORT ELLIOTT HENDRICKSON INC (SEH)
10 NORTH BRIDGE STREET
CHIPPEWA FALLS WI 54729-2550
TELEPHONE: 715.720.6279
ATTENTION: JUSTIN SHAVLIK
EMAIL: JSHAVLIK@SEHINC.COM

## MUNICIPALITY CONTACT

TOWN OF WORCESTER
N9538 WESTVIEW RD
PHILLIPS, WI 54555
TELEPHONE: 715.682.5575
ATTENTION: JIM MICHLER
EMAIL: JRMICHLER@GMAIL.COM

## WDNR CONTACT

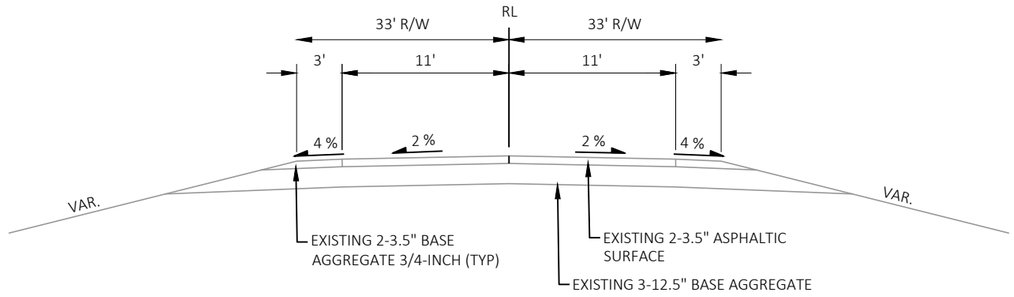
DNR NORTHERN REGIONAL HQ
107 SUTLIFE AVENUE
RHINELANDER, WI 54501
TELEPHONE: 715.365.8916
ATTENTION: WENDY HENNIGES
EMAIL: WENDY.HENNIGES@WISCONSIN.GOV

## WISDOT CONTACT

WISDOT NC REGION - RHINELANDER
510 HANSON LAKE ROAD
RHINELANDER, WI 54501
TELEPHONE: 715.365.5705
ATTENTION: MICHAEL GRAGE
EMAIL: MICHAEL.GRAGE@DOT.WI.GOV

BENCHMARK AND CONRTOL POINT TABLE

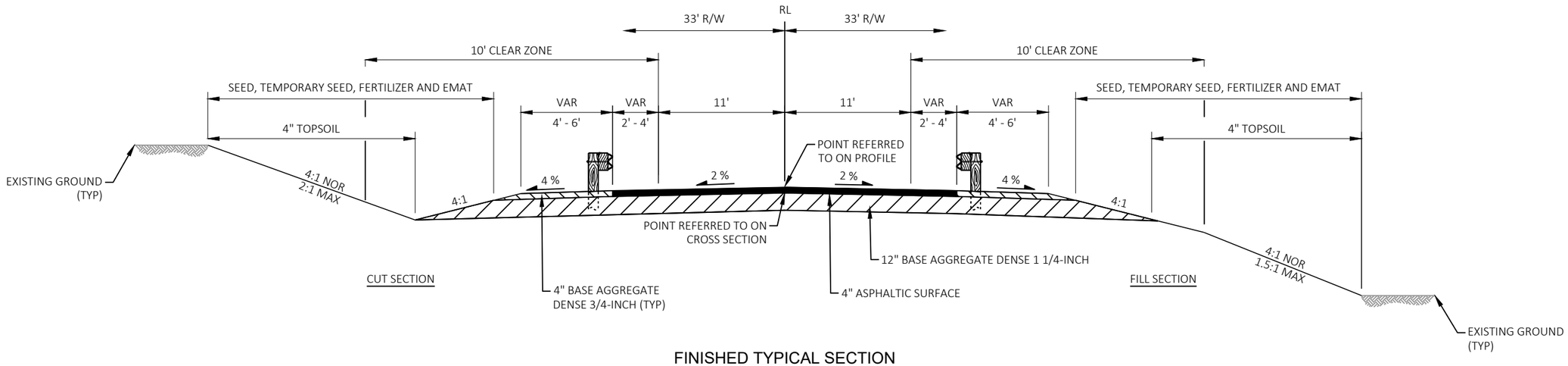
| POINT | NORTHING | EASTING | DESCRIPTION | STATION | OFFSET | ELEVATION |
|---|---|---|---|---|---|---|
| CP 1 | 425,886.626 | 773,754.683 | PK NAIL | 7+17.22 | 0.11' RT | 1471.628' |
| CP 2 | 425,917.455 | 773,918.070 | SPK | 8+81.89 | 22.94' LT | 1469.086' |
| CP 3 | 425,936.620 | 774,266.826 | REBAR | 12+31.16 | 25.56' LT | 1481.531' |
| CP 4 | 425,921.101 | 774,473.540 | PK NAIL | 14+36.91 | 0.44' LT | 1492.213' |
| BM 1 | 425,916.331 | 773,902.786 | SPK IN PP | 8+66.57 | 22.55' LT | 1469.659' |
| BM 2 | 425,926.055 | 774,129.047 | SPK IN PP | 10+93.04 | 21.54' LT | 1465.073' |
| BM 3 | 425,934.388 | 774,302.118 | SPK IN PP | 12+66.31 | 21.66' LT | 1486.528' |




| BORING LOG | | |
|---|---|---|
| NO. | STA | EXISTING MATERIAL |
| B-1 | 9+50, LT | 3.5" ASPHALT OVER 12.5" BASE |
| B-2 | 10+50, RT | 2" ASPHALT OVER 3" BASE |

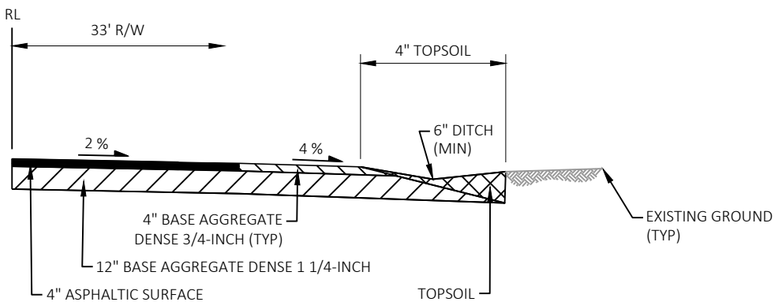
## EXISTING TYPICAL SECTION

STA 8+35 - 9+76
STA 10+24 - 12+50




## FINISHED TYPICAL SECTION

STA 8+35 - 9+65.67
STA 10+34.33 - 12+50




## TOPSOIL DETAIL

STA 8+32 - 8+90 RT

| PROJECT NO: 9894-00-72 | HWY: TWN RD | COUNTY: PRICE | TYPICAL SECTIONS | SHEET 3 | E |
|---|---|---|---|---|---|

## Estimate Of Quantities

9894-00-72

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0002 | 201.0105 | Clearing | STA | 4.000 | 4.000 |
| 0004 | 201.0205 | Grubbing | STA | 4.000 | 4.000 |
| 0006 | 203.0100 | Removing Small Pipe Culverts | EACH | 1.000 | 1.000 |
| 0008 | 203.0260 | Removing Structure Over Waterway Minimal Debris (structure) 01. P-50-0060 | EACH | 1.000 | 1.000 |
| 0010 | 205.0100 | Excavation Common | CY | 667.000 | 667.000 |
| 0012 | 206.1001 | Excavation for Structures Bridges (structure) 01. B-50-0096 | EACH | 1.000 | 1.000 |
| 0014 | 208.0100 | Borrow | CY | 527.000 | 527.000 |
| 0016 | 210.1500 | Backfill Structure Type A | TON | 354.000 | 354.000 |
| 0018 | 213.0100 | Finishing Roadway (project) 01. 9894-00-72 | EACH | 1.000 | 1.000 |
| 0020 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 97.000 | 97.000 |
| 0022 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 1,197.000 | 1,197.000 |
| 0024 | 455.0605 | Tack Coat | GAL | 70.000 | 70.000 |
| 0026 | 465.0105 | Asphaltic Surface | TON | 260.000 | 260.000 |
| 0028 | 502.0100 | Concrete Masonry Bridges | CY | 130.000 | 130.000 |
| 0030 | 502.3200 | Protective Surface Treatment | SY | 269.000 | 269.000 |
| 0032 | 503.0137 | Prestressed Girder Type I 36W-Inch | LF | 268.000 | 268.000 |
| 0034 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 4,230.000 | 4,230.000 |
| 0036 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 17,050.000 | 17,050.000 |
| 0038 | 506.2605 | Bearing Pads Elastomeric Non-Laminated | EACH | 8.000 | 8.000 |
| 0040 | 506.4000 | Steel Diaphragms (structure) 01. B-50-0096 | EACH | 3.000 | 3.000 |
| 0042 | 513.4061 | Railing Tubular Type M | LF | 194.000 | 194.000 |
| 0044 | 516.0500 | Rubberized Membrane Waterproofing | SY | 20.000 | 20.000 |
| 0046 | 520.1012 | Apron Endwalls for Culvert Pipe 12-Inch | EACH | 2.000 | 2.000 |
| 0048 | 520.3312 | Culvert Pipe Class III-A 12-Inch | LF | 62.000 | 62.000 |
| 0050 | 550.1100 | Piling Steel HP 10-Inch X 42 Lb | LF | 760.000 | 760.000 |
| 0052 | 606.0300 | Riprap Heavy | CY | 155.000 | 155.000 |
| 0054 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 190.000 | 190.000 |
| 0056 | 614.2300 | MGS Guardrail 3 | LF | 75.000 | 75.000 |
| 0058 | 614.2500 | MGS Thrie Beam Transition | LF | 157.600 | 157.600 |
| 0060 | 614.2610 | MGS Guardrail Terminal EAT | EACH | 4.000 | 4.000 |
| 0062 | 618.0100 | Maintenance and Repair of Haul Roads (project) 01. 9894-00-72 | EACH | 1.000 | 1.000 |
| 0064 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0066 | 624.0100 | Water | MGAL | 14.000 | 14.000 |
| 0068 | 625.0100 | Topsoil | SY | 1,132.000 | 1,132.000 |
| 0070 | 628.1504 | Silt Fence | LF | 966.000 | 966.000 |
| 0072 | 628.1520 | Silt Fence Maintenance | LF | 966.000 | 966.000 |
| 0074 | 628.1905 | Mobilizations Erosion Control | EACH | 2.000 | 2.000 |
| 0076 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 2.000 | 2.000 |
| 0078 | 628.2027 | Erosion Mat Class II Type C | SY | 1,140.000 | 1,140.000 |
| 0080 | 628.6005 | Turbidity Barriers | SY | 87.000 | 87.000 |
| 0082 | 628.7504 | Temporary Ditch Checks | LF | 40.000 | 40.000 |
| 0084 | 628.7555 | Culvert Pipe Checks | EACH | 1.000 | 1.000 |
| 0086 | 629.0210 | Fertilizer Type B | CWT | 0.900 | 0.900 |
| 0088 | 630.0120 | Seeding Mixture No. 20 | LB | 31.000 | 31.000 |
| 0090 | 630.0200 | Seeding Temporary | LB | 31.000 | 31.000 |
| 0092 | 630.0500 | Seed Water | MGAL | 32.000 | 32.000 |
| 0094 | 634.0612 | Posts Wood 4x6-Inch X 12-FT | EACH | 4.000 | 4.000 |
| 0096 | 637.2230 | Signs Type II Reflective F | SF | 12.000 | 12.000 |
| 0098 | 638.2102 | Moving Signs Type II | EACH | 1.000 | 1.000 |

## Estimate Of Quantities

9894-00-72

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0100 | 638.2602 | Removing Signs Type II | EACH | 4.000 | 4.000 |
| 0102 | 638.3000 | Removing Small Sign Supports | EACH | 4.000 | 4.000 |
| 0104 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0106 | 643.0420 | Traffic Control Barricades Type III | DAY | 1,404.000 | 1,404.000 |
| 0108 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 2,184.000 | 2,184.000 |
| 0110 | 643.0900 | Traffic Control Signs | DAY | 1,404.000 | 1,404.000 |
| 0112 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0114 | 645.0111 | Geotextile Type DF Schedule A | SY | 50.000 | 50.000 |
| 0116 | 645.0120 | Geotextile Type HR | SY | 295.000 | 295.000 |
| 0118 | 646.1020 | Marking Line Epoxy 4-Inch | LF | 830.000 | 830.000 |
| 0120 | 650.4500 | Construction Staking Subgrade | LF | 464.000 | 464.000 |
| 0122 | 650.5000 | Construction Staking Base | LF | 464.000 | 464.000 |
| 0124 | 650.6000 | Construction Staking Pipe Culverts | EACH | 1.000 | 1.000 |
| 0126 | 650.6501 | Construction Staking Structure Layout (structure) 01. B-50-0096 | EACH | 1.000 | 1.000 |
| 0128 | 650.9911 | Construction Staking Supplemental Control (project) 01. 9894-00-72 | EACH | 1.000 | 1.000 |
| 0130 | 650.9920 | Construction Staking Slope Stakes | LF | 464.000 | 464.000 |
| 0132 | 690.0150 | Sawing Asphalt | LF | 222.000 | 222.000 |
| 0134 | 715.0502 | Incentive Strength Concrete Structures | DOL | 780.000 | 780.000 |
| 0136 | 999.2000.S | Installing and Maintaining Bird Deterrent System (station) 01. STA 10+00 | EACH | 1.000 | 1.000 |

## BASE AGGREGATE DENSE

| STATION | LOCATION | 305.0110 INCH TON | 305.0120 INCH TON | 624.0100 WATER MGAL |
|---|---|---|---|---|
| HILLS RD | | | | |
| | LT & RT | 48 | 495 | 6 |
| | LT & RT | 49 | 702 | 8 |
| ITEM TOTALS | | 97 | 1197 | 14 |

## CLEARING & GRUBBING

| STATION | LOCATION | ..... CLEARING STA | 201.0205 GRUBBING STA |
|---|---|---|---|
| HILLS RD | | | |
| | LT & RT | 1 | 1 |
| | LT & RT | 3 | 3 |
| ITEM TOTALS | | 4 | 4 |

## TOPSOIL AND SEEDING

| STATION | LOCATION | 625.0100 TOPSOIL S | 629.0210 FERTILIZER TPE B CWT | 630.0120 SEEDING MIXTURE NO LB | 630.0200 SEEDING TEMPORAR LB | 630.0500 SEED WATER MGAL |
|---|---|---|---|---|---|---|
| HILLS RD | | | | | | |
| | LT & RT | 477 | 0.4 | 12.9 | 12.9 | 13.4 |
| | LT & RT | 655 | 0.5 | 17.7 | 17.7 | 18.4 |
| ITEM TOTALS | | 1132 | 0.9 | 31 | 31 | 32 |

## EXCAVATION

| STATION | LOCATION | 205.0100 EXCAVATION COMMON C | AVAILABLE MATERIAL C | EXPANDED FILL C | 208.0100 BORROW C |
|---|---|---|---|---|---|
| HILLS RD | | | | | |
| | LT & RT | 309 | 182 | 359 | 177 |
| | LT & RT | 358 | 284 | 634 | 350 |
| ITEM TOTALS | | 667 | 466 | 993 | 527 |

NOTES
UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN COMMON EXCAVATION
AVAILABLE MATERIAL DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME
EXPANSION FACTOR

## MOBILIZATIONS EROSION CONTROL

| STATION | 628.1905 EROSION CONTROL EACH | 628.1910 EMERGENC EROSION CONTROL EACH |
|---|---|---|
| HILLS RD | 2 | 2 |
| ITEM TOTALS | 2 | 2 |

## EROSION CONTROL ITEMS

| STATION | LOCATION | 628.1504 SILT FENCE LF | 628.1520 SILT FENCE MAINTENANCE LF | 628.2027 EROSION MAT CLASS II TPE C S | 628.6005 TURBIDIT BARRIERS S | 628.7504 TEMPORAR DITCH CHECK LF | 628.7555 CULVERT PIPE CHECK EACH |
|---|---|---|---|---|---|---|---|
| HILLS RD | | | | | | | |
| | LT & RT | 480 | 480 | 480 | 42 | 20 | - |
| | LT & RT | 486 | 486 | 660 | 46 | 20 | 1 |
| ITEM TOTALS | | 966 | 966 | 1140 | 87 | 40 | 1 |

## ASPHALTIC PAVEMENT ITEMS

| STATION | LOCATION | 455.0605 TACK COAT GAL | 465.0105 ASPHALTIC SURFACE TON |
|---|---|---|---|
| HILLS RD | | | |
| | LT & RT | 26 | 97 |
| | LT & RT | 44 | 163 |
| ITEM TOTALS | | 70 | 260 |

## MGS GUARDRAIL

| STATION | LOCATION | 614.2300 MGS GUARDRAIL LF | 614.2500 MGS THRIE BEAM TRANSISTION LF | 614.2610 MGS GUARDRAIL TERMINAL EAT EACH |
|---|---|---|---|---|
| HILLS RD | | | | |
| | RT | 25 | 39.4 | 1 |
| | LT | 25 | 39.4 | 1 |
| | RT | - | 39.4 | 1 |
| | LT | 25 | 39.4 | 1 |
| ITEM TOTALS | | 75 | 157.6 | 4 |

## PERMANENT SIGNING

| SIGN GROUP CODE | SIGN CODE | SIGN MESSAGE | TPE II SIZE | 637.2230 SIGNS TPE II REFLECTIVE F SF | 634.0612 POSTS WOOD XINCH FT EACH | 638.2102 MOVING SIGNS TPE II EACH | 638.2602 REMOVING SIGNS TPE II EACH | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| HILLS RD | | | | | | | | | |
| 1-1 | WL | CLEARANCE STRIPER | X | 3 | 1 | - | 1 | 1 | REPLACE |
| 1-2 | WR | CLEARANCE STRIPER | X | 3 | 1 | - | 1 | 1 | REPLACE |
| 1-3 | WL | CLEARANCE STRIPER | X | 3 | 1 | - | 1 | 1 | REPLACE |
| 1-4 | WR | CLEARANCE STRIPER | X | 3 | 1 | - | 1 | 1 | REPLACE |
| 1-5 | - | HIDDEN DRIVEWA | X | - | - | 1 | - | - | SALVAGE & REINSTALL |
| ITEM TOTALS | | | | 12 | 4 | 1 | 4 | 4 | |

## TRAFFIC CONTROL

| STATION | 643.0420 BARRICADES TPE III EACH | 643.0420 BARRICADES TPE III DA | 643.0705 WARNING LIGHTS TPE A EACH | 643.0705 WARNING LIGHTS TPE A DA | 643.0900 SIGNS EACH | 643.0900 SIGNS DA | CALENDAR DAS |
|---|---|---|---|---|---|---|---|
| HILLS RD | 18 | 1404 | 28 | 2184 | 18 | 1404 | 78 |
| ITEM TOTALS | | 1404 | | 2184 | | 1404 | |

## MARKING LINE

| STATION | LOCATION | 646.1020 EPOX INCH LF | REMARKS |
|---|---|---|---|
| HILLS RD | | | |
| | CL | 830 | DOUBLE ELLOW CENTERLINE |
| ITEM TOTAL | | 830 | |

## CONSTRUCTION STAKING

| STATION | LOCATION | 650.4500 SUBGRADE LF | 650.5000 BASE LF | 650.6000 PIPE CULVERT EACH | 650.9920 SLOPE STAKES LF |
|---|---|---|---|---|---|
| HILLS RD | | | | | |
| | LT & RT | 225 | 225 | - | 225 |
| | LT & RT | 239 | 239 | 1 | 239 |
| ITEM TOTALS | | 464 | 464 | 1 | 464 |

## SAWING ASPHALT

| STATION | LOCATION | 690.0150 LF |
|---|---|---|
| HILLS RD | | |
| | LT & RT | 176 |
| | LT & RT | 46 |
| ITEM TOTAL | | 222 |

NOTE ALL ITEMS AND UANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGOR UNLESS OTHERWISE NOTED

| PROECT NO 9894-00-72 | HW TWN RD | COUNT PRICE | MISCELLANEOUS UANTITIES | SHEET 6 | E |
|---|---|---|---|---|---|

FILE NAME SEHINCCOMPANZURAPZPROECTSUZWWORCEFINALDSGNCDSUAWCREEKSHEETSMDWG
LAOUT NAME 01
PLOT DATE PM
PLOT B WALE ODUWOLE PLOT NAME PLOT SCALE
WISDOTCADDS SHEET

3

3

## PIPE REMOVAL & PIPE CULVERTS

| STATION | LOCATION | 203.0100 REMOVING SMALL PIPE CULVERTS EACH | 520.1012 APRON ENDWALLS FOR CULVERT PIPE 12-INCH EACH | 520.3312 CULVERT PIPE III-A 12-INCH LF | REMARKS |
|---|---|---|---|---|---|
| HILLS RD | | | | | |
| 12+15 | LT | 1 | 2 | 62 | 0.064-INCH MINIMUM PIPE THICKNESS FOR CORRUGATTED STEEL PIPE CLASS III-A |
| ITEM TOTALS | | 1 | 2 | 62 | |

## BIRD NETTING

| STATION | LOCATION | 999.2000.S INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM EACH |
|---|---|---|
| HILLS RD | | |
| 10+00 | LT & RT | 1 |
| ITEM TOTAL | | 1 |

NOT A ITS AN UANTITIS ON TIS ST AR OR
NGINR STIAT CATGOR  UNSS OTRIS NOT

| | | | | |
|---|---|---|---|---|
| ROCT NO 9894-00-72 | .... TN R | COUNT RIC | ISCANOUS UANTITIS | ST 7 |

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AOUT NA 02

OT AT OT A OUO OT NA OT SCA

WISDOT/CADDS SHEET 42

## CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING
TO BE REMOVED
BRIDGE
CULVERT

SECTION CORNER SYMBOL
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN
R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED)
OFF-PREMISE SIGN

| | COMPENSABLE | NON-COMPENSABLE |
|---|---|---|
| ELECTRIC POLE | | |
| TELEPHONE POLE | | |
| PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.) | | |

ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)

PARCEL NUMBER 25
UTILITY NUMBER 40
PARALLEL OFFSETS

## CONVENTIONAL UTILITY SYMBOLS

| | |
|---|---|
| WATER | W |
| GAS | G |
| TELEPHONE | T |
| OVERHEAD TRANSMISSION LINES | OH |
| ELECTRIC | E |
| CABLE TELEVISION | TV |
| FIBER OPTIC | FO |
| SANITARY SEWER | SAN |
| STORM SEWER | SS |
| ELECTRIC TOWER | ⊠ |

## CONVENTIONAL ABBREVIATIONS

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

## 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 |

## NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), PRICE 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.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY ¾" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

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

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

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.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE TOWN OF WORCESTER.

PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE DETAIL PAGES.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON THE DETAIL PAGES.

| R/W PROJECT NUMBER 9894-00-02 | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| FEDERAL PROJECT NUMBER | 4.01 | 2 |

PLAT OF RIGHT OF WAY REQUIRED FOR

T WORCESTER, BRIDGE B-50-0096

| HILLS ROAD | PRICE COUNTY |
|---|---|

CONSTRUCTION PROJECT NUMBER 9894-00-72

## BEGIN RELOCATION

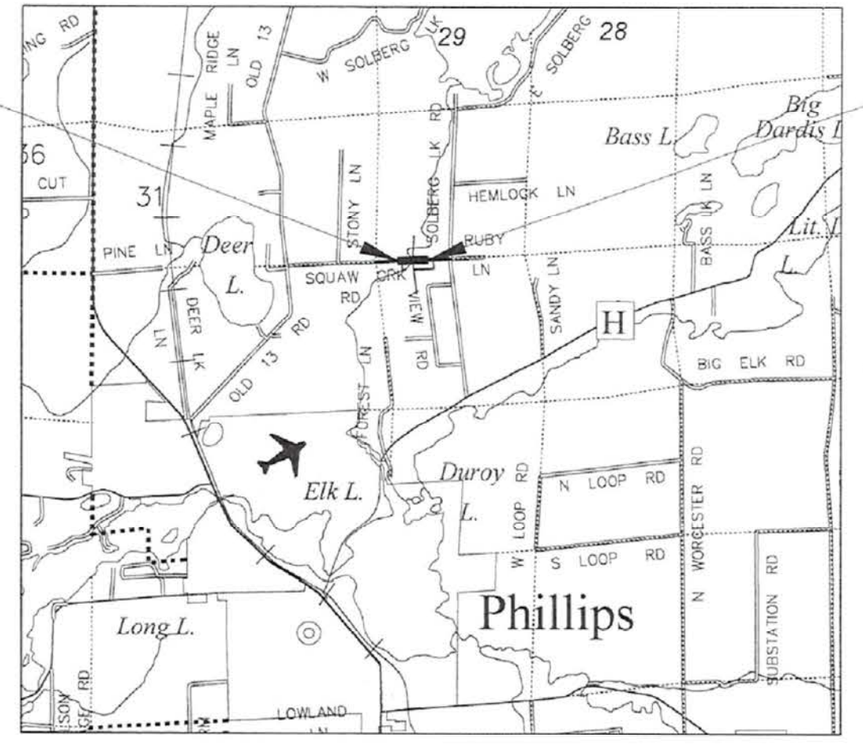
STA 7+00.00
Y = 425885.919
X = 773737.474

40.273 FEET NORTH AND 896.931 FEET EAST OF THE NW CORNER OF SECTION 5, T37N, R1E

## END RELOCATION

STA 13+50.00
Y = 425916.654
X = 774386.747

41.404 FEET SOUTH AND 1031.753 FEET WEST OF THE NORTH QUARTER CORNER OF SECTION 5, T37N, R1E




LAYOUT
SCALE 0 1.0 MILES

TOTAL NET LENGTH OF CENTERLINE = 0.123 MILES

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

Original Plat Prepared by

SEH

WISCONSIN
JASON L. CANCE
S-2688
CHIPPEWA FALLS WI
LAND SURVEYOR

(Signature) 2/6/2025 (Date)

| REVISION DATE |
|---|

ACCEPTED FOR

TOWN OF WORCESTER

DATE: 2-7-2025 (Signature)



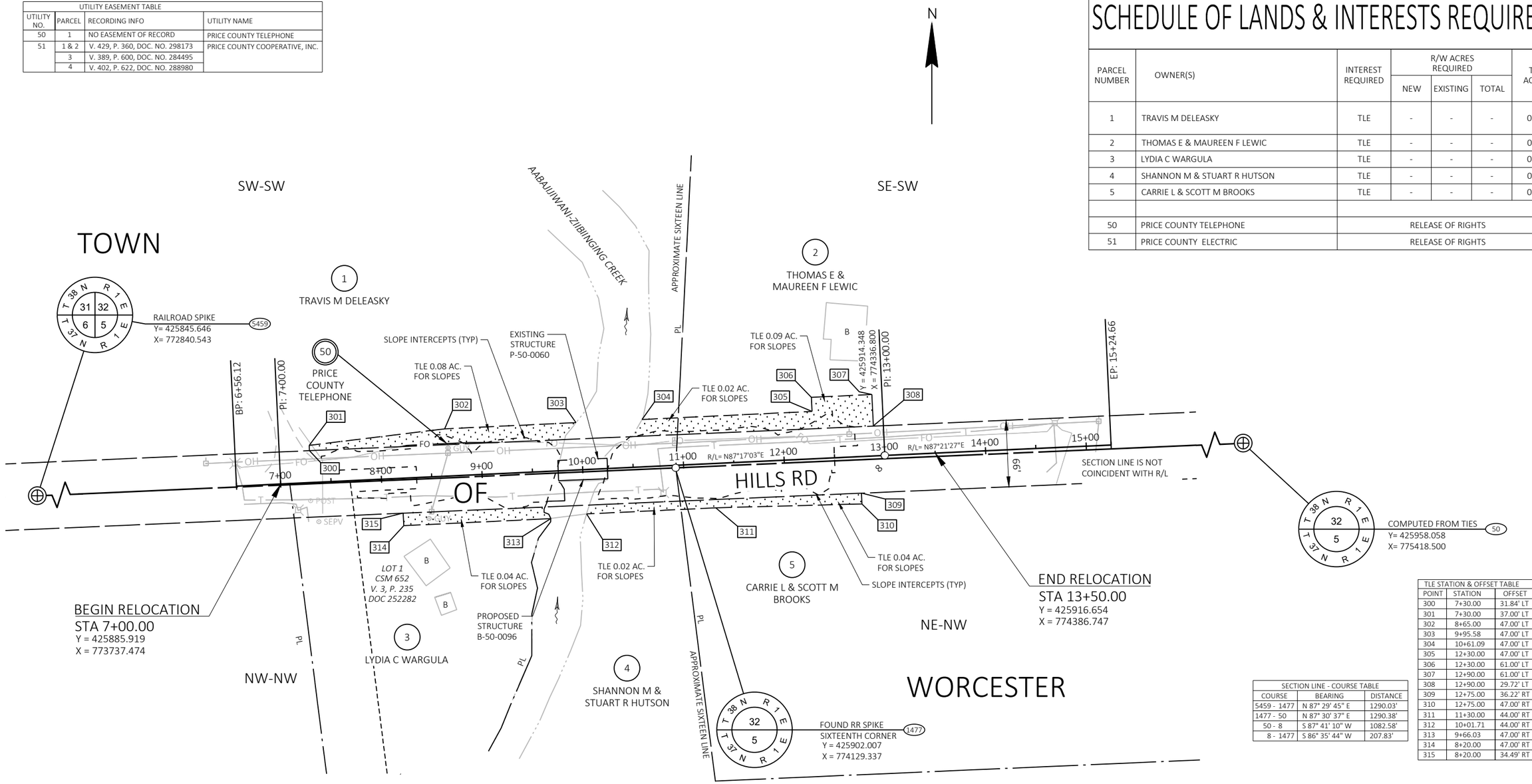
FILE NAME : X:\UZ\W\WORCE\178659\5-FINAL-DSGN\C3D_SQUAWCREEK\RW\DWG\040101-RP-SQUAWCREEK.DWG
PLOT DATE : 2/5/2025 4:28 PM
PLOT BY : TJ LARSON
PLOT NAME :

| UTILITY EASEMENT TABLE | | | |
|---|---|---|---|
| UTILITY NO. | PARCEL | RECORDING INFO | UTILITY NAME |
| 50 | 1 | NO EASEMENT OF RECORD | PRICE COUNTY TELEPHONE |
| 51 | 1 & 2 | V. 429, P. 360, DOC. NO. 298173 | PRICE COUNTY COOPERATIVE, INC. |
| | 3 | V. 389, P. 600, DOC. NO. 284495 | |
| | 4 | V. 402, P. 622, DOC. NO. 288980 | |

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

# SCHEDULE OF LANDS & INTERESTS REQUIRED

| PARCEL NUMBER | OWNER(S) | INTEREST REQUIRED | R/W ACRES REQUIRED | | | TLE ACRES |
|---|---|---|---|---|---|---|
| | | | NEW | EXISTING | TOTAL | |
| 1 | TRAVIS M DELEASKY | TLE | - | - | - | 0.10 |
| 2 | THOMAS E & MAUREEN F LEWIC | TLE | - | - | - | 0.09 |
| 3 | LYDIA C WARGULA | TLE | - | - | - | 0.04 |
| 4 | SHANNON M & STUART R HUTSON | TLE | - | - | - | 0.02 |
| 5 | CARRIE L & SCOTT M BROOKS | TLE | - | - | - | 0.04 |
| | | | | | | |
| 50 | PRICE COUNTY TELEPHONE | RELEASE OF RIGHTS | | | | |
| 51 | PRICE COUNTY ELECTRIC | RELEASE OF RIGHTS | | | | |




| SECTION LINE - COURSE TABLE | | |
|---|---|---|
| COURSE | BEARING | DISTANCE |
| 5459 - 1477 | N 87° 29' 45" E | 1290.03' |
| 1477 - 50 | N 87° 30' 37" E | 1290.38' |
| 50 - 8 | S 87° 41' 10" W | 1082.58' |
| 8 - 1477 | S 86° 35' 44" W | 207.83' |

| TLE STATION & OFFSET TABLE | | |
|---|---|---|
| POINT | STATION | OFFSET |
| 300 | 7+30.00 | 31.84' LT |
| 301 | 7+30.00 | 37.00' LT |
| 302 | 8+65.00 | 47.00' LT |
| 303 | 9+95.58 | 47.00' LT |
| 304 | 10+61.09 | 47.00' LT |
| 305 | 12+30.00 | 47.00' LT |
| 306 | 12+30.00 | 61.00' LT |
| 307 | 12+90.00 | 61.00' LT |
| 308 | 12+90.00 | 29.72' LT |
| 309 | 12+75.00 | 36.22' RT |
| 310 | 12+75.00 | 47.00' RT |
| 311 | 11+30.00 | 44.00' RT |
| 312 | 10+01.71 | 44.00' RT |
| 313 | 9+66.03 | 47.00' RT |
| 314 | 8+20.00 | 47.00' RT |
| 315 | 8+20.00 | 34.49' RT |

| ROAD NAME | BASIS OF EXISTING R/W |
|---|---|
| HILLS ROAD | CSM 652 V.3, P.235 DOC # 252282 (1989) |

| | | | | | |
|---|---|---|---|---|---|
| REVISION DATE | DATE 02/06/2025 | SCALE, FEET 0 50 100 | HWY: HILLS ROAD | R/W PROJECT NUMBER 9894-00-02 | PLAT SHEET 4.02 |
| | GRID FACTOR N/A | | COUNTY: PRICE | CONSTRUCTION PROJECT NUMBER 9894-00-72 | PS&E SHEET 9 E |

FILE NAME : 040101-RP-SQUAWCREEK.DWG PLOT DATE : 6/30/2025 1:35 PM PLOT BY : WALE ODUWOLE PLOT NAME :

WISDOT/CADDS SHEET 75

ALL FACILITIES ARE APPROXIMATE
ACTUAL LOCATION MUST BE FIELD VERIFIED

0.027 ACRES TYPE SS
WETLAND IMPACTS

0.021 ACRES TYPE RPF
WETLAND IMPACTS

SCALE, FEET 0 30 60

N

TRAVIS M DELEASKY
W6812

B-50-0096 PROPOSED STRUCTURE
REMOVE EXISTING STRUCTURE P-50-0060

1-1
W5-52L
12"X36"

1-4
W5-52R
12"X36"

WETLAND BOUNDARY (TYP)

THOMAS E & MAUREEN F LEWIC
W6774

AABAJIJIWANI-ZIIBIINSING CREEK

STA 12+15
62 LF CP CLASS III-A 12-INCH REQUIRED
SKEW 78° RHF
INV START - 1476.96'
INV END - 1470.34'

PRICE ELECTRIC COOPERATIVE
NORVADO

BP: 6+56.12
Y = 425883.841
X = 773693.646

PI: 7+00.00
Y = 425885.919
X = 773737.474

PI: 13+00.00
Y = 425914.348
X = 774336.800

PROP TLE (TYP)
EX R/W (TYP)

MGS GUARDRAIL TERMINAL EAT 53.1'
MGS GUARDRAIL 25.0'
MGS THRIE BEAM TRANSITION 39'

MGS THRIE BEAM TRANSITION 39'
MGS GUARDRAIL 25'
MGS GUARDRAIL TERMINAL EAT 53'

BM 1 - CP 2
BM 2
BM 3
CP 3
CP 4
CP 1

N87°17'09"E 7+00
8+00
9+00
N87°17'03"E
10+00
1+00
12+00
13+00
N87°21'27"E
14+00

27:1
26.2:1
19.9:1
11:1
22'
99'
12"

HILLS RD
NORVADO
BLDG
POST
SERV
GUY

MGS GUARDRAIL TERMINAL EAT 53'
MGS GUARDRAIL 25'
MGS THRIE BEAM TRANSITION 39'

MGS THRIE BEAM TRANSITION 39'
MGS GUARDRAIL TERMINAL EAT 53'

SLOPE INTERCEPT (TYP)

BEGIN PROJECT
STA 8+35.00
Y=425,892.315
X=773,872.322
MATCH EXISTING
SAWCUT REQ'D

STA 8+15
CONSTRUCT ASPH PE
SAWCUT REQ'D

STA 11+84.60, 34.47' RT
APRON ENDWALLS FOR CULVERT PIPE 12-INCH
AEW-1

REMOVE 1-12" CPSP
REMOVE 2-12" AEW'S
SAWCUT REQ'D

END PROJECT
STA 12+50.00
Y=425,911.979
X=774,286.856
MATCH EXISTING
SAWCUT REQ'D

AEW-2
STA 12+45.09, 21.81' RT
APRON ENDWALLS FOR CULVERT PIPE 12-INCH

1-2
W5-52R
12"X36"
LYDIA C WARGULA
W6813

1-5 SALVAGE &
REINSTALL
EXISTING SIGN

SHANNON M &
STUART R HUTSON

1-3
W5-52L
12"X36"

CARRIE L & SCOTT M BROOKS
W6775

STA 12+22 RT
CONSTRUCT ASPH PE

LEGEND

- SILT FENCE
- TURBIDITY BARRIER
- RIP RAP HEAVY
- SURFACE WATER FLOW
- EROSION MAT CLASS II TYPE C
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- XXXXXXX SAWING ASPHALT

EARTHWORK SUMMARY
STA 7+40 - 9+65

| | |
|---|---|
| CUT | 309 CY |
| FILL | 287 CY |
| FILL AT 1.25 EXP | 359 CY |
| BORROW | 177 CY |
| WASTE | 127 CY |

EARTHWORK SUMMARY
STA 10+34 - 12+73

| | |
|---|---|
| CUT | 358 CY |
| FILL | 507 CY |
| FILL AT 1.25 EXP | 634 CY |
| BORROW | 350 CY |
| WASTE | 74 CY |

VCL = 400.00
K = 37.28

STA 8+35.00
EL 1469.39

STA 12+50.00
EL 1480.47

2.50%
8.23%

FINISHED ℄ PROFILE
EXISTING ℄ PROFILE

VPC STA 8+50.00
VPC EL 1469.01

VPT STA 12+50.00
VPT EL 1480.47

HIGH WATER
100 YR EL 1461.07

HIGH WATER
2 YR EL 1459.00

OBSERVED WATER
EL 1458.70

STA 10+00
STRUCTURE B-50-0096 REQ'D
PROPOSED SINGLE-SPAN 36W-INCH PRESTRESSED CONCRETE GIRDER BRIDGE
66' SPAN, 68.66' OVERALL LENGTH, 20° LHF SKEW
26' CLEAR ROADWAY WIDTH

STA 10+00
REMOVE STRUCTURE P-50-0060
SINGLE SPAN STEEL DECK GIRDER BRIDGE
49.1' OVERALL LENGTH
18.9' CLEAR ROADWAY WIDTH

EXISTING ℄ ELEVATIONS
FINISHED ℄ ELEVATIONS

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1471.76 | | 1471.29 | 1470.30 | 1468.89 | 1469.01 | 1467.03 | 1468.10 | 1465.53 | 1467.85 | 1457.71 | 1468.28 | 1466.15 | 1469.38 | 1468.72 | 1471.15 | 1472.21 | 1473.58 | 1476.23 | 1476.69 | 1480.47 | 1480.47 | 1484.46 | 1488.10 | 1491.00 | 1492.24 |
| 5 | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | | | | | |

| | | | |
|---|---|---|---|
| PROJECT NO: 9894-00-72 | HWY: TWN RD | COUNTY: PRICE | PLAN AND PLOT |
| | | | SHEET 10 E |

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WORCE\178659\5-FINAL-DSGN\C3D_SQUAWCREEK\SHEETS\050101-PP.DWG
LAYOUT NAME - 01

PLOT DATE : 11/20/2025 3:50 PM PLOT BY : WALE ODUWOLE PLOT NAME : PLOT SCALE : 1=60

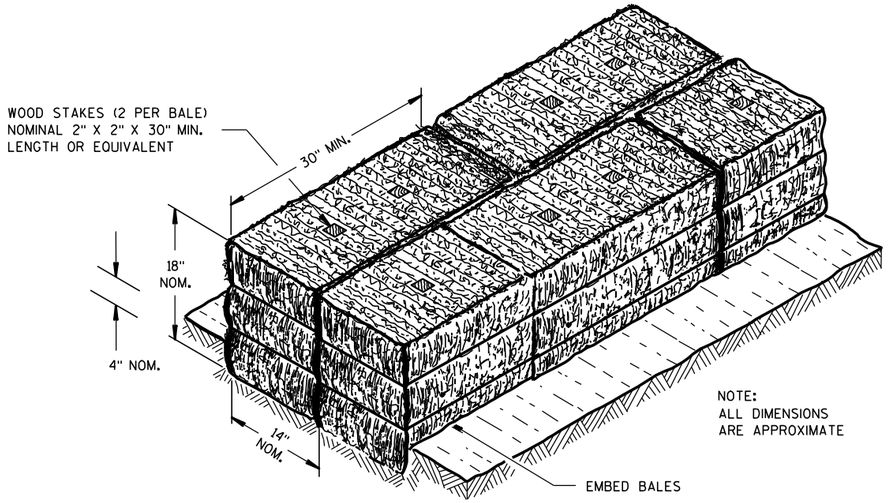
WISDOT/CADDS SHEET 44

# Standard Detail Drawing List

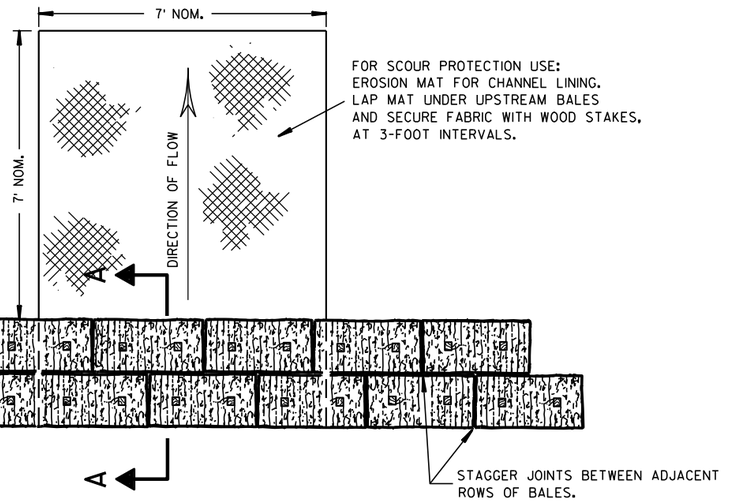
| | |
|---|---|
| 08E08-03 | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06 | SILT FENCE |
| 08E11-02 | TURBIDITY BARRIER |
| 08E15-01 | CULVERT PIPE CHECK |
| 08F01-11 | APRON ENDWALLS FOR CULVERT PIPE |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 13C19-03 | HMA LONGITUDINAL JOINTS |
| 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) |
| 14B45-05E | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05F | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05G | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05H | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05I | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05J | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05K | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05L | 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 |
| 15C08-24A | PERMANENT LONGITUDINAL PAVEMENT MARKINGS |
| 15C11-10B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS |



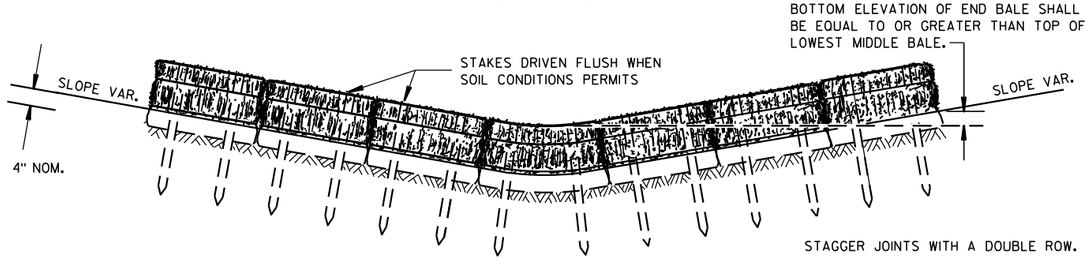
6




**SECTION A-A**




**PLAN VIEW**



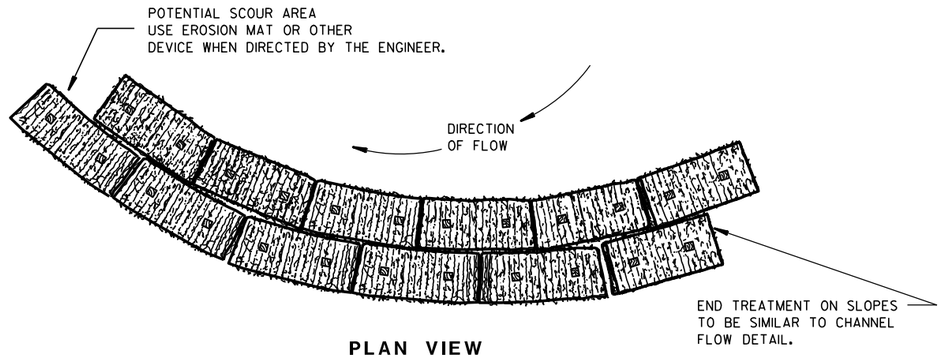

**FRONT ELEVATION**

## TEMPORARY DITCH CHECK USING EROSION BALES (1)

## GENERAL NOTES

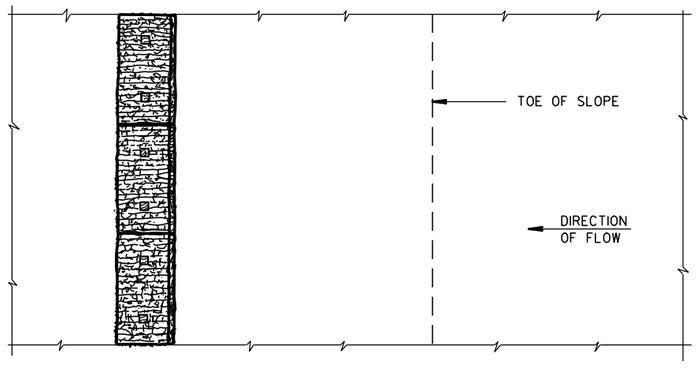
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

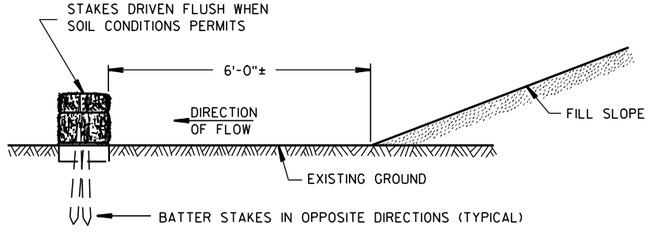



**PLAN VIEW**

WHEN ALTERING THE DIRECTION OF FLOW




**PLAN VIEW**




**FRONT ELEVATION**

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

## EROSION BALES FOR SHEET FLOW

**TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



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S.D.D. 8 E 8-3

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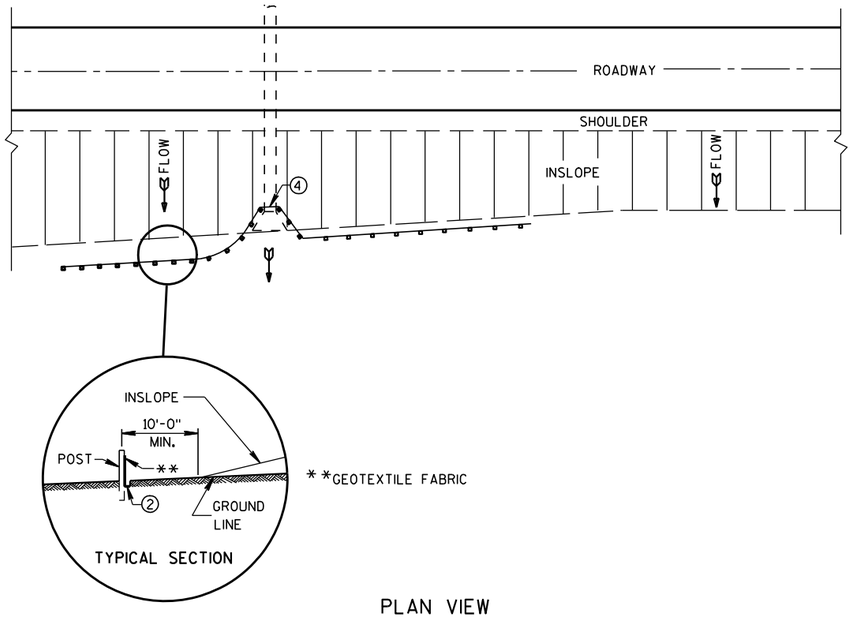
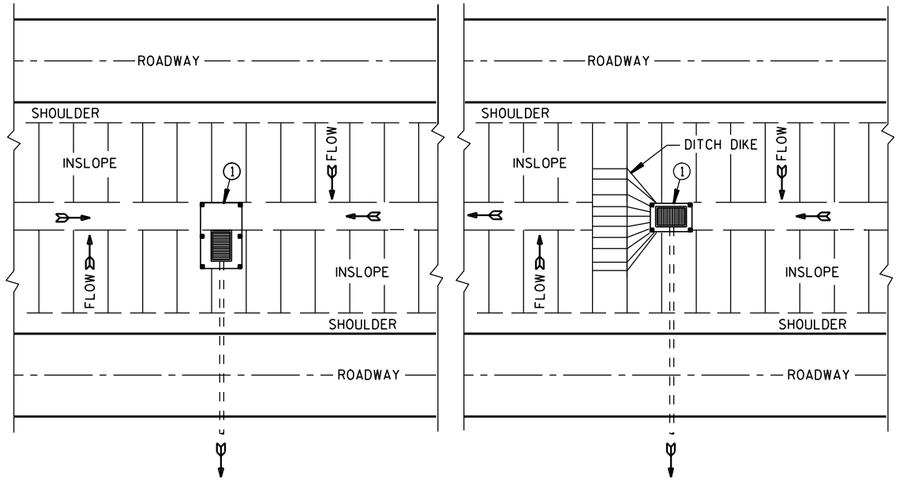



PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE




PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

## GENERAL NOTES

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

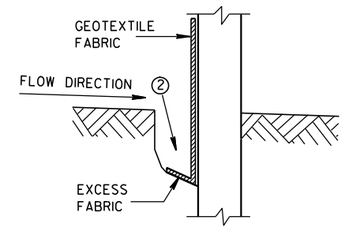
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

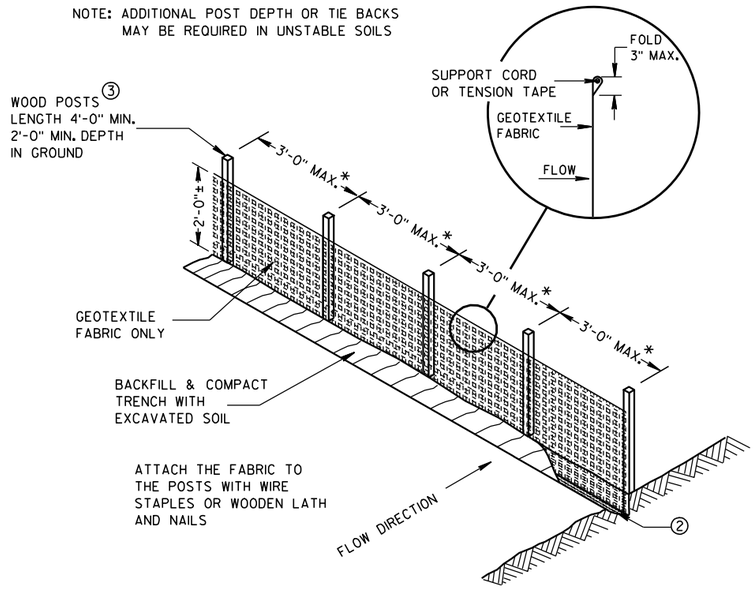
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

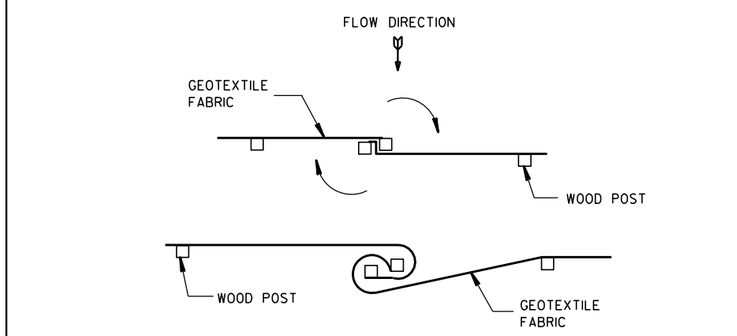
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



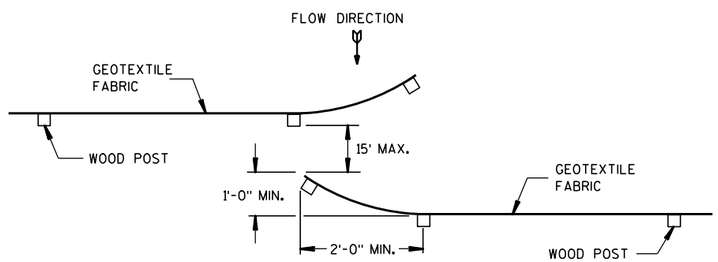

## TRENCH DETAIL




## SILT FENCE

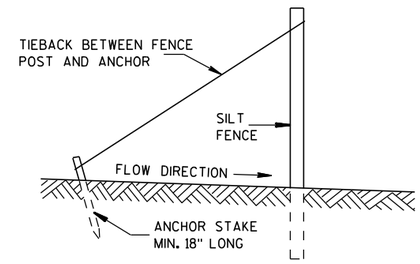



TWIST METHOD




HOOK METHOD

## JOINING TWO LENGTHS OF SILT FENCE ⑤




## SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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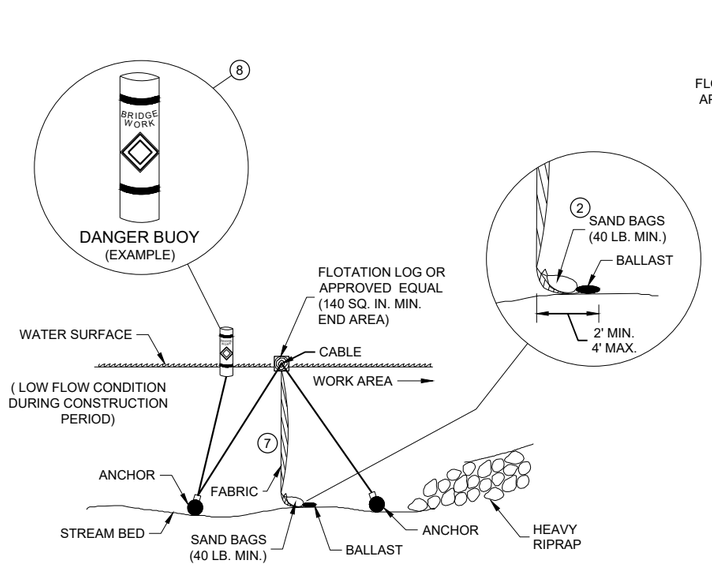
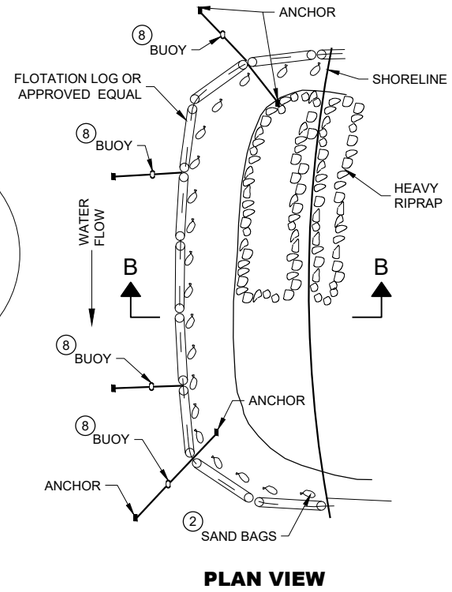
S.D.D. 8 E 9-6

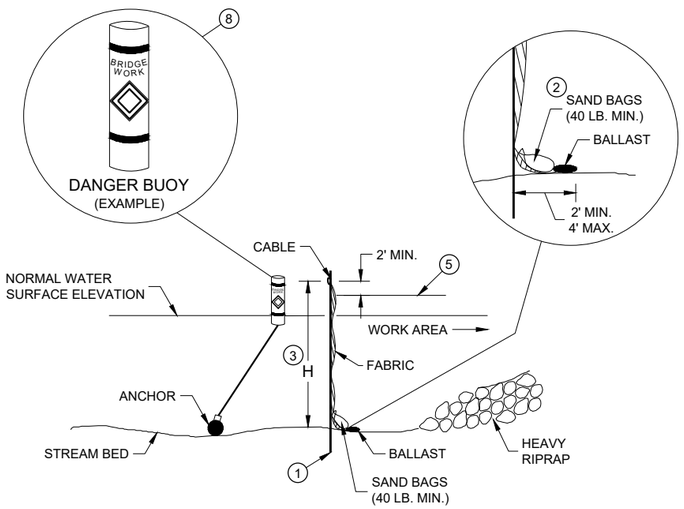



**SECTION B - B**

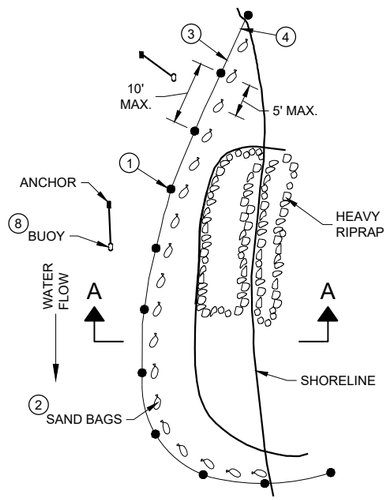



**PLAN VIEW**

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




**SECTION A - A**




**PLAN VIEW**

**TURBIDITY BARRIER - STANDARD POST INSTALLATION**

**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.

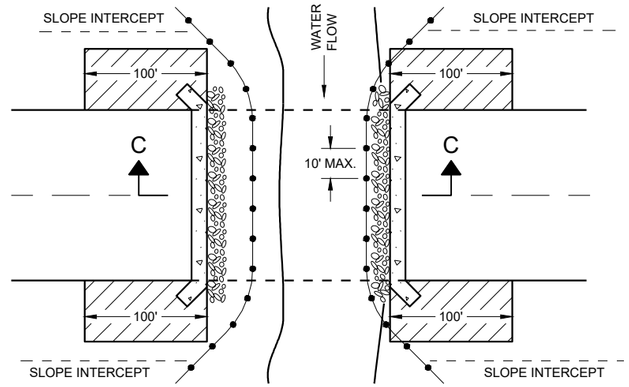
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(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.

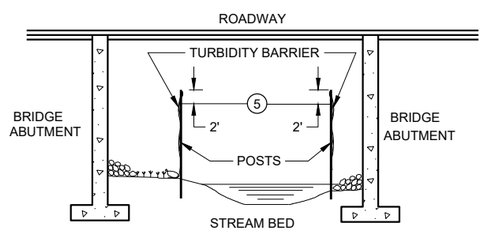
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(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
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA





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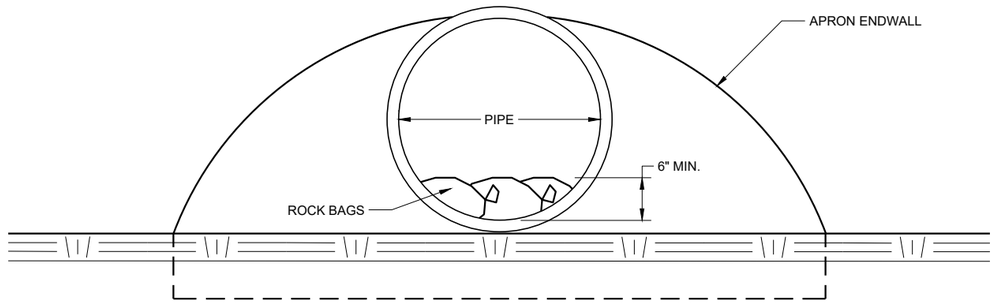
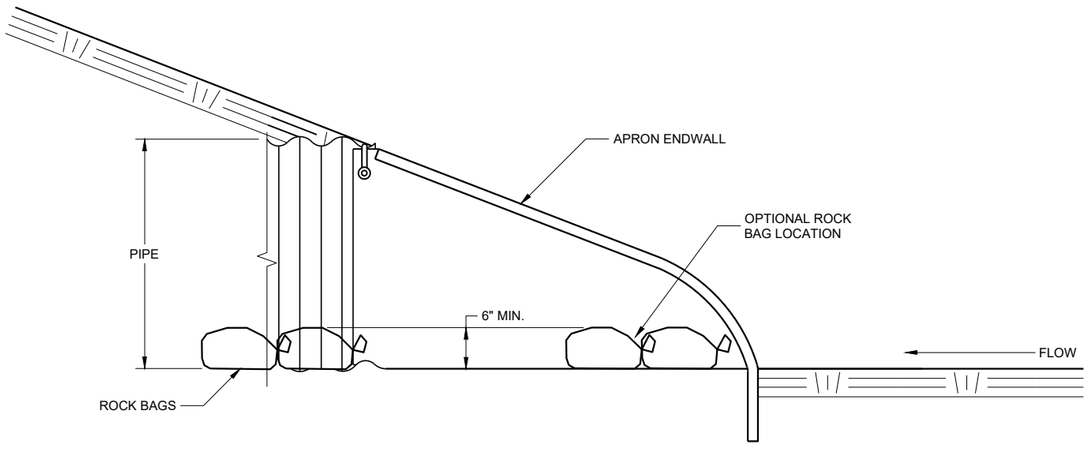
SDD 08E11 - 02




**END VIEW**




**SIDE VIEW**

## CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

**CULVERT PIPE CHECK**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 — DATE
/S/ Daniel Schave — EROSION CONTROL ENGI
FHWA



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SDD 08E15 - 01

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## METAL APRON ENDWALLS

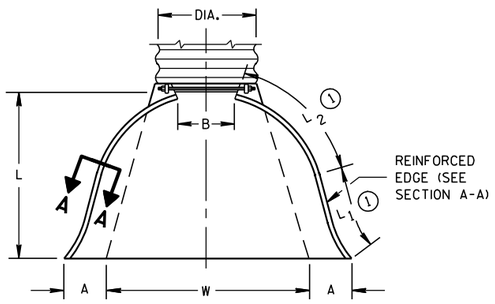
| PIPE DIA. (IN.) | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | .064 | .060 | 6 | 6 | 6 | 21 | 12 | 17 1/2 | 24 | 2 1/2 to 1 | 1 Pc. |
| 15 | .064 | .060 | 7 | 8 | 6 | 26 | 14 | 21 3/4 | 30 | 2 1/2 to 1 | 1 Pc. |
| 18 | .064 | .060 | 8 | 10 | 6 | 31 | 15 | 28 1/4 | 36 | 2 1/2 to 1 | 1 Pc. |
| 21 | .064 | .060 | 9 | 12 | 6 | 36 | 18 | 29 5/8 | 42 | 2 1/2 to 1 | 1 Pc. |
| 24 | .064 | .075 | 10 | 13 | 6 | 41 | 18 | 37 1/4 | 48 | 2 1/2 to 1 | 1 Pc. |
| 30 | .079 | .075 | 12 | 16 | 8 | 51 | 18 | 52 1/4 | 60 | 2 1/2 to 1 | 1 Pc. |
| 36 | .079 | .105 | 14 | 19 | 9 | 60 | 24 | 59 3/4 | 72 | 2 1/2 to 1 | 2 Pc. |
| 42 | .109 | .105 | 16 | 22 | 11 | 69 | 24 | 75 5/8 | 84 | 2 1/2 to 1 | 2 Pc. |
| 48 | .109 | .105 | 18 | 27 | 12 | 78 | 24 | 81 | 90 | 2 1/4 to 1 | 3 Pc. |
| 54 | .109 | .105 | 18 | 30 | 12 | 84 | 30 | 85 1/2 | 102 | 2 1/4 to 1 | 3 Pc. |
| 60 | .109× | .105× | 18 | 33 | 12 | 87 | — | — | 114 | 2 to 1 | 3 Pc. |
| 66 | .109× | .105× | 18 | 36 | 12 | 87 | — | — | 120 | 2 to 1 | 3 Pc. |
| 72 | .109× | .105× | 18 | 39 | 12 | 87 | — | — | 126 | 2 to 1 | 3 Pc. |
| 78 | .109× | .105× | 18 | 42 | 12 | 87 | — | — | 132 | 1 1/2 to 1 | 3 Pc. |
| 84 | .109× | .105× | 18 | 45 | 12 | 87 | — | — | 138 | 1 1/2 to 1 | 3 Pc. |
| 90 | .109× | .105× | 18 | 37 | 12 | 87 | — | — | 144 | 1 1/2 to 1 | 3 Pc. |
| 96 | .109× | .105× | 18 | 35 | 12 | 87 | — | — | 150 | 1 1/2 to 1 | 3 Pc. |

× EXCEPT CENTER PANEL SEE GENERAL NOTES

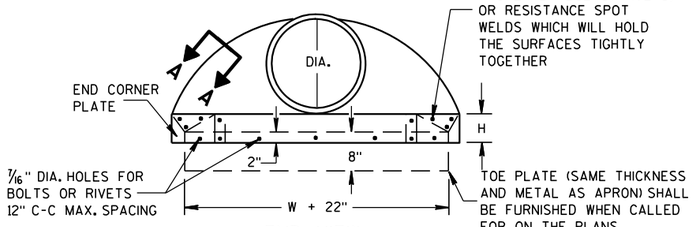
## REINFORCED CONCRETE APRON ENDWALLS

| PIPE DIA. (IN.) | DIMENSIONS (Inches) T | A | B | C | D | E | G | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|
| 12 | 2 | 4 | 24 | 48 7/8 | 72 1/8 | 24 | 2 | 3 to 1 |
| 15 | 2 1/4 | 6 | 27 | 46 | 73 | 30 | 2 1/4 | 3 to 1 |
| 18 | 2 1/2 | 9 | 27 | 46 | 73 | 36 | 2 1/2 | 3 to 1 |
| 21 | 2 3/4 | 9 | 36 | 37 1/2 | 73 1/2 | 42 | 2 3/4 | 3 to 1 |
| 24 | 3 | 9 1/2 | 43 1/2 | 30 | 73 1/2 | 48 | 3 | 3 to 1 |
| 27 | 3 1/4 | 10 1/2 | 49 1/2 | 24 | 73 1/2 | 54 | 3 1/4 | 3 to 1 |
| 30 | 3 1/2 | 12 | 54 | 19 3/4 | 73 1/2 | 60 | 3 1/2 | 3 to 1 |
| 36 | 4 | 15 | 63 | 34 3/4 | 97 3/4 | 72 | 4 | 3 to 1 |
| 42 | 4 1/2 | 21 | 63 | 35 | 98 | 78 | 4 1/2 | 3 to 1 |
| 48 | 5 | 24 | 72 | 26 | 98 | 84 | 5 | 3 to 1 |
| 54 | 5 1/2 | 27 | 65 | * 33 1/4 - ** 35 | * 98 1/4 - ** 100 | 90 | 5 1/2 | 2 2/5 to 1 |
| 60 | 6 | * 30 - ** 35 | 60 | 39 | 99 | 96 | 5 | 2 to 1 |
| 66 | 6 1/2 | * 24 - ** 30 | * 72 - ** 78 | * 21 - ** 27 | 99 | 102 | 5 1/2 | 2 to 1 |
| 72 | 7 | * 24 - ** 36 | 78 | 21 | 99 | 108 | 6 | 2 to 1 |
| 78 | 7 1/2 | * 24 - ** 36 | 78 | 21 | 99 | 114 | 6 1/2 | 2 to 1 |
| 84 | 8 | 36 | 90 1/2 | 21 | 111 1/2 | 120 | 6 1/2 | 1 1/2 to 1 |
| 90 | 8 1/2 | 41 | 87 1/2 | 24 | 111 1/2 | 132 | 6 1/2 | 1 1/2 to 1 |

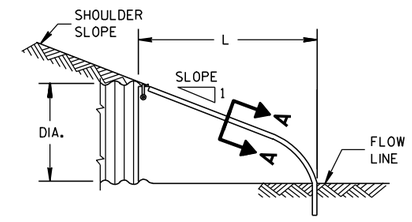
*MINIMUM
**MAXIMUM




PLAN VIEW

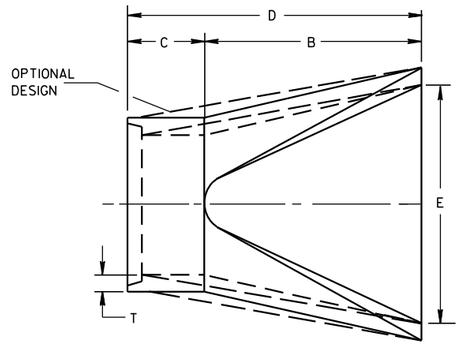



END VIEW

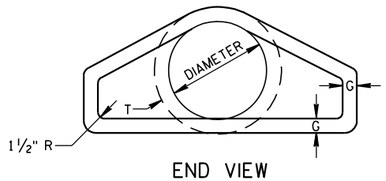



SIDE ELEVATION

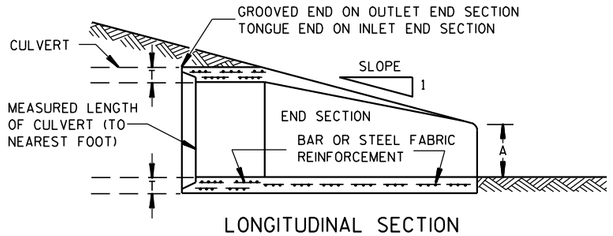
## METAL ENDWALLS




PLAN

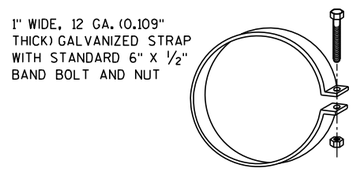



END VIEW



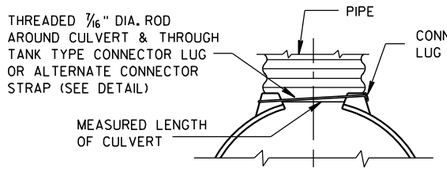

LONGITUDINAL SECTION

## CONCRETE ENDWALLS

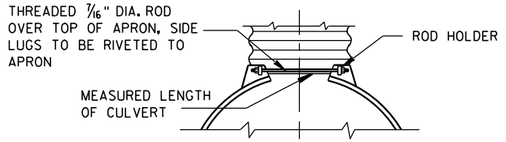



ALTERNATE FOR TYPE 1 CONNECTION

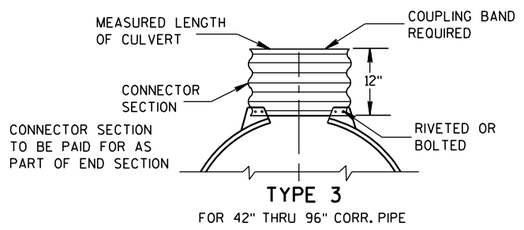
## END SECTION CONNECTOR STRAP



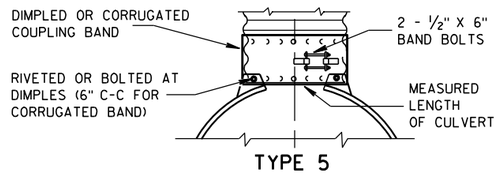

TYPE 1
FOR 12" THRU 24" CORR. PIPE




TYPE 2
FOR 30" THRU 96" CORR. PIPE




TYPE 3
FOR 42" THRU 96" CORR. PIPE




TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

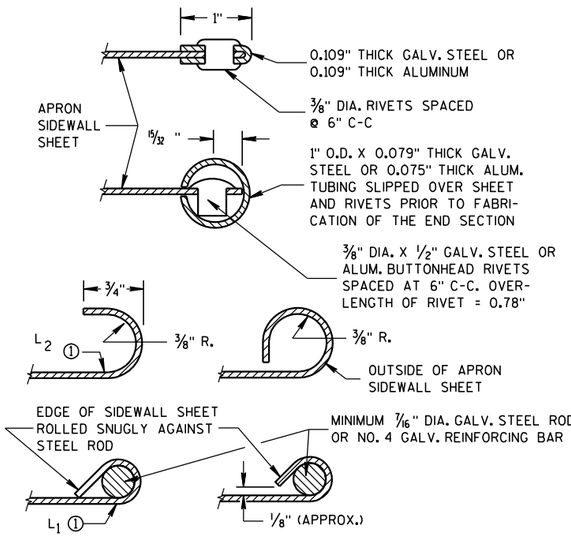
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

## CONNECTION DETAILS




## SECTION A-A

## 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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

# APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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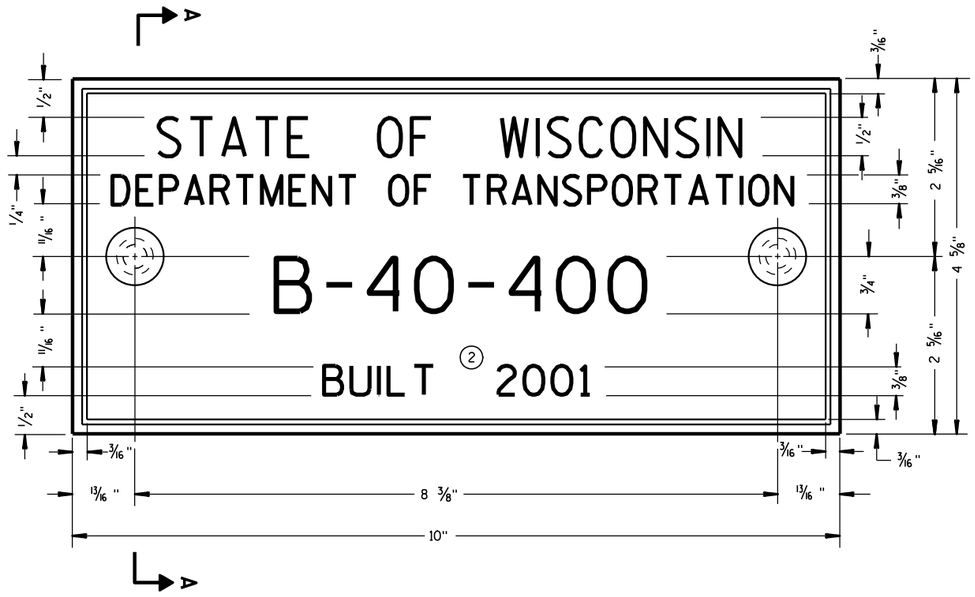
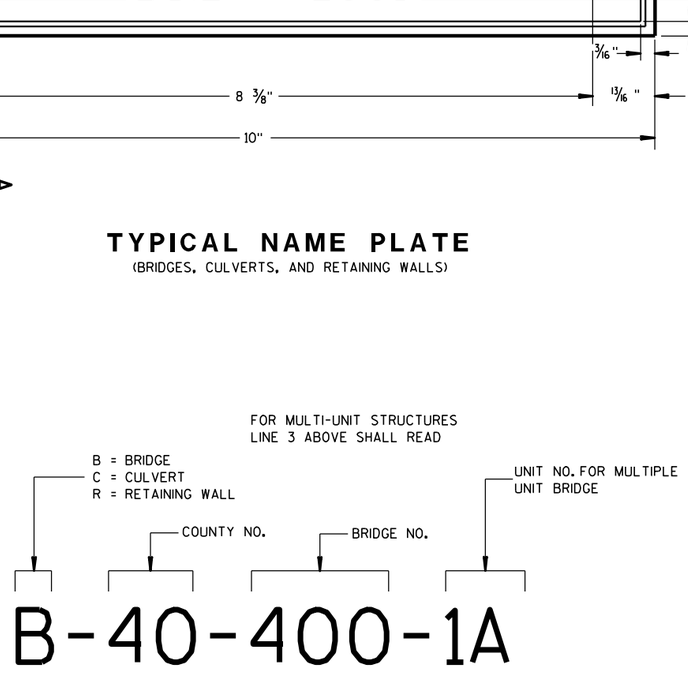



**TYPICAL NAME PLATE**
(BRIDGES, CULVERTS, AND RETAINING WALLS)




**NUMBERING DESIGNATION**
**MULTI-UNIT STRUCTURES**

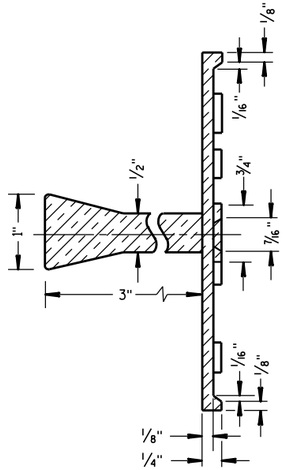
## GENERAL NOTES

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.

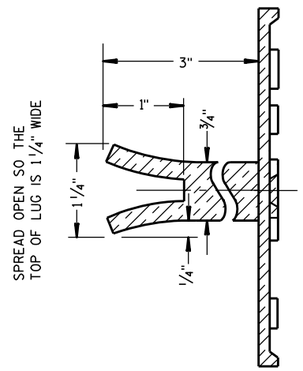
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

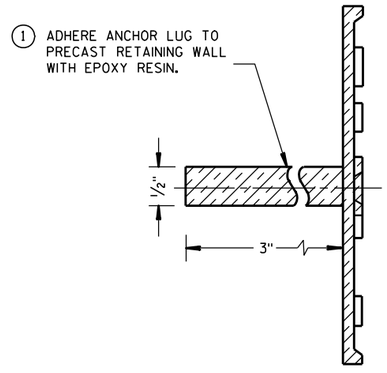
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.




**SECTION A-A**




**ALTERNATE LUG**




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

**NAME PLATE (STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA



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S.D.D. 12 A 3-10

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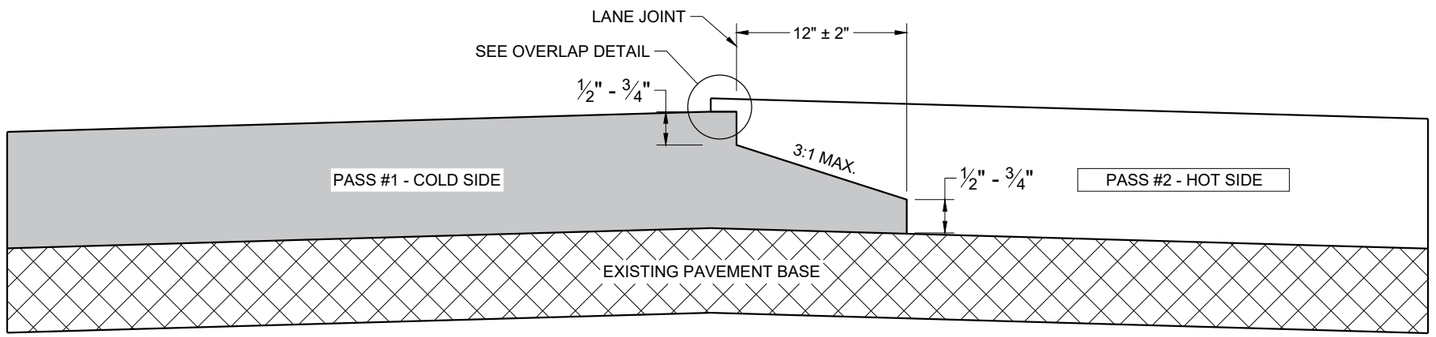
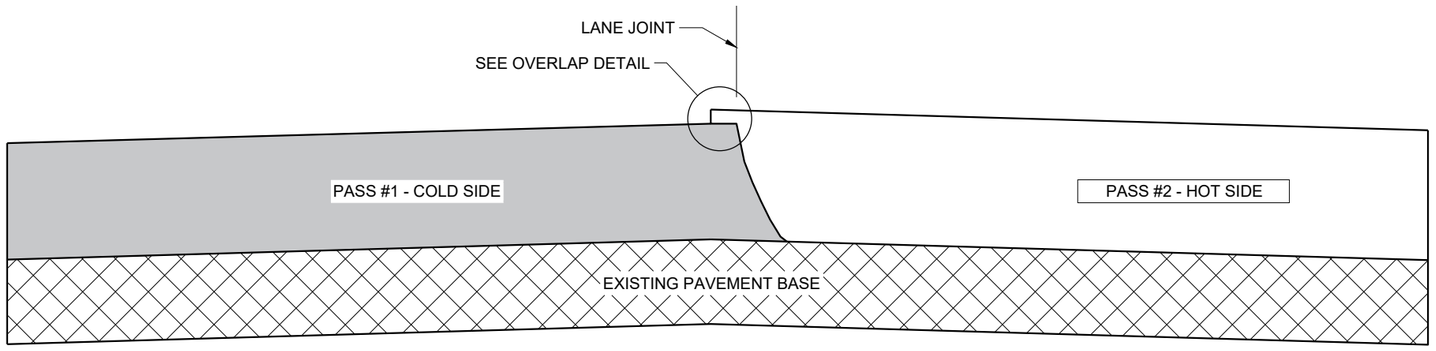
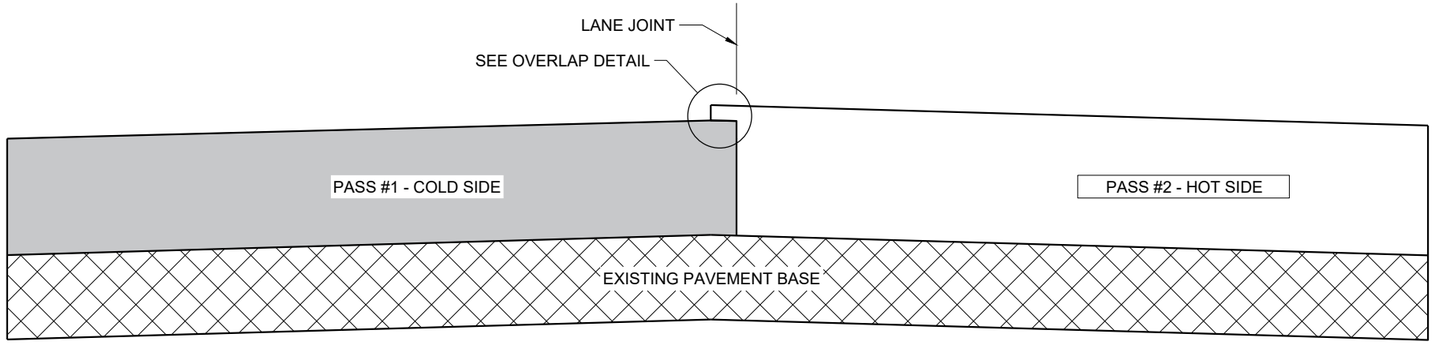
S.D.D. 12 A 3-10




**TYPICAL PAVEMENT CROSS SECTION**
**NOTCHED WEDGE JOINT**




**TYPICAL PAVEMENT CROSS SECTION**
**VERTICAL JOINT**




**TYPICAL PAVEMENT CROSS SECTION**
**VERTICAL JOINT (MILLED)**

## GENERAL NOTES

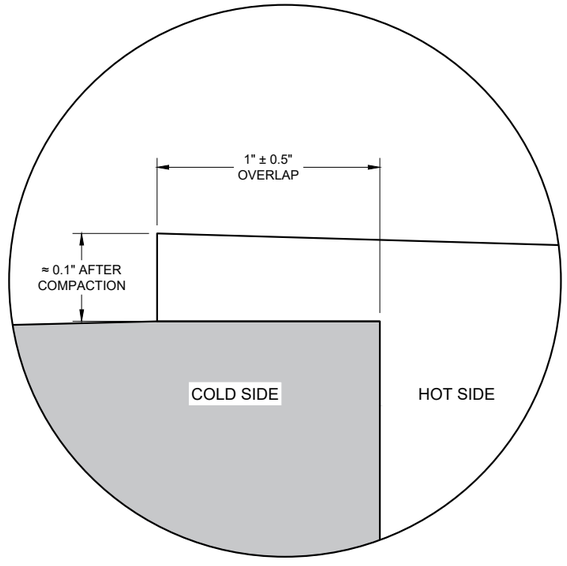
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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




**OVERLAP DETAIL (TYPICAL)**

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SDD 13C19 - 03

SDD 13C19 - 03

**HMA LONGITUDINAL JOINTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

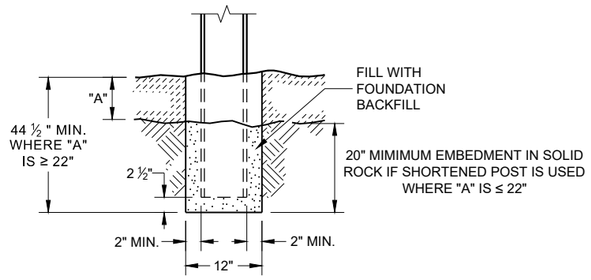
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

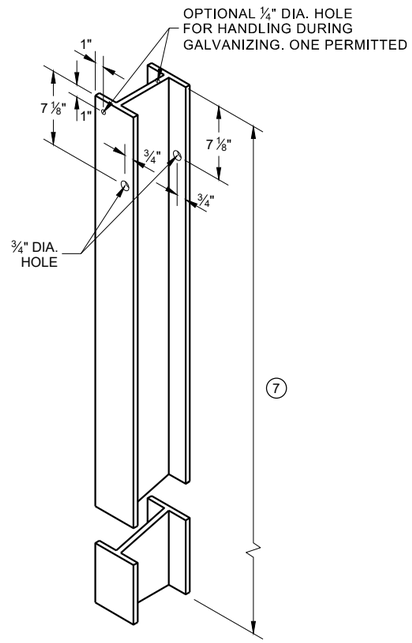
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

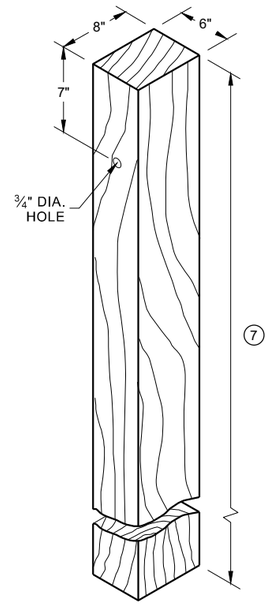
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



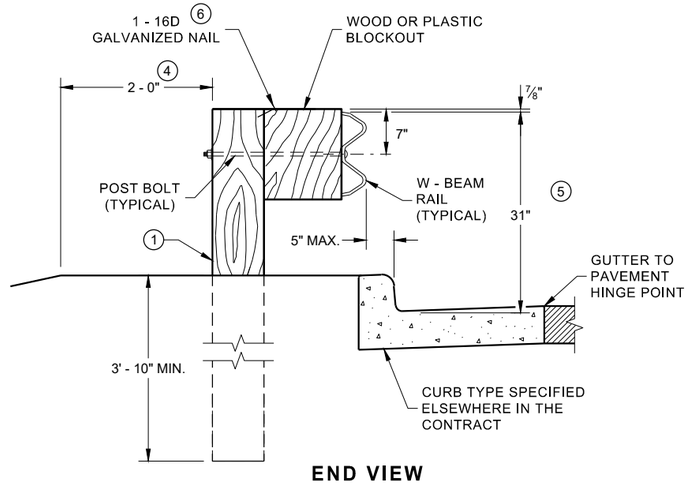

END VIEW
**SETTING STEEL OR WOOD POST IN ROCK** (3)



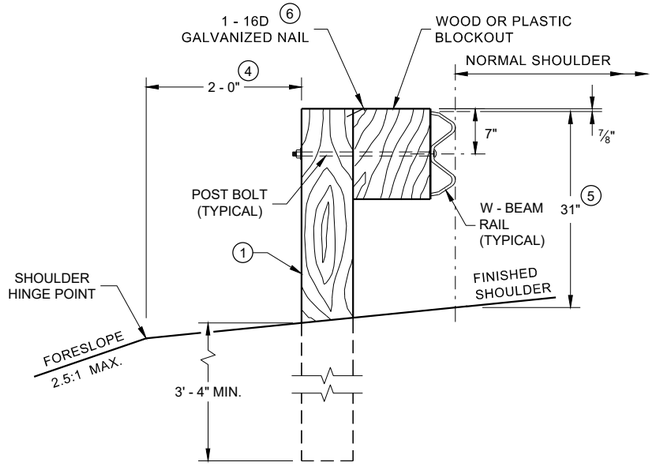

**STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)** (1)



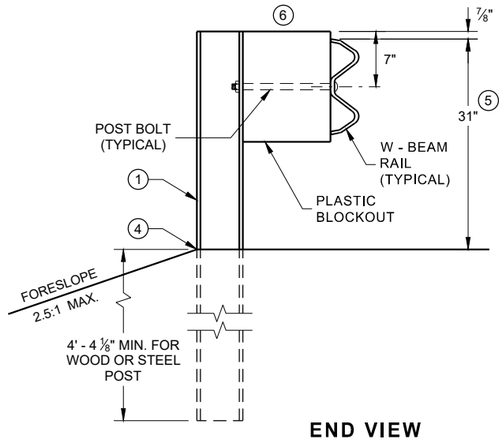

**WOOD POST (6" X 8") NOMINAL** (1)



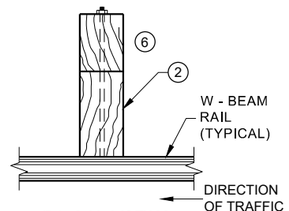

END VIEW
**LOCATED ALONG A CURBED ROADWAY**



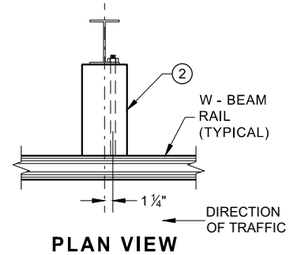

END VIEW
**LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION**



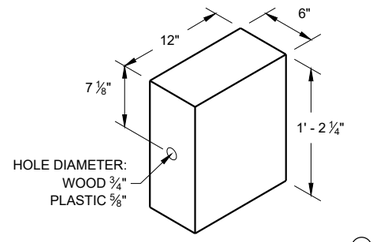

END VIEW
**MGS LONGER POST AT HALFPOST SPACING W BEAM (K)**




PLAN VIEW
**WOOD POST, BLOCKOUT & BEAM**




PLAN VIEW
**STEEL POST, PLASTIC BLOCKOUT & BEAM**




**WOOD OR PLASTIC BLOCKOUT** (2)

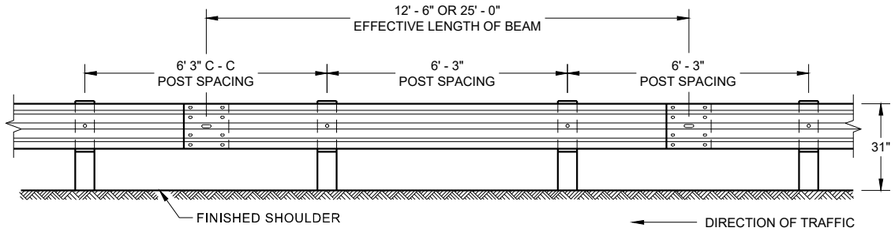
**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

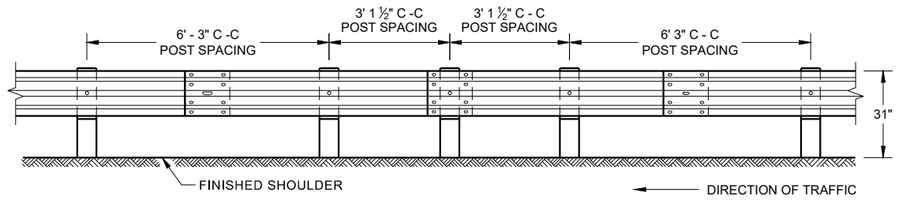


SDD 14B42 - 07a

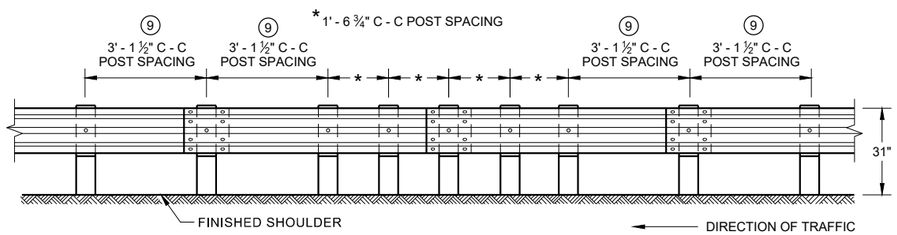
SDD 14B42 - 07a



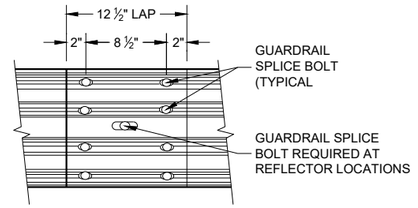

**FRONT VIEW**
## POST SPACING STANDARD INSTALLATION



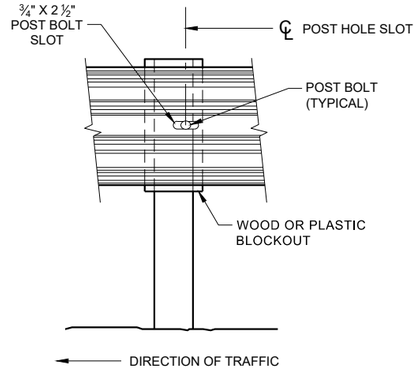

**FRONT VIEW**
## HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



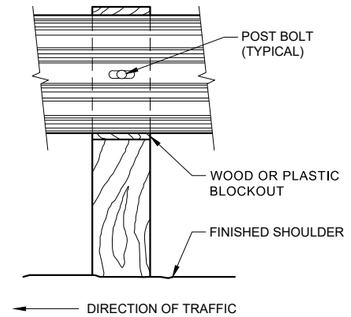

**FRONT VIEW**
## QUARTER POST SPACING (QS)



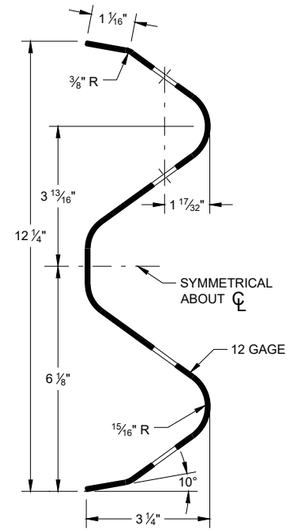

**FRONT VIEW**
## MID-SPAN BEAM SPLICE



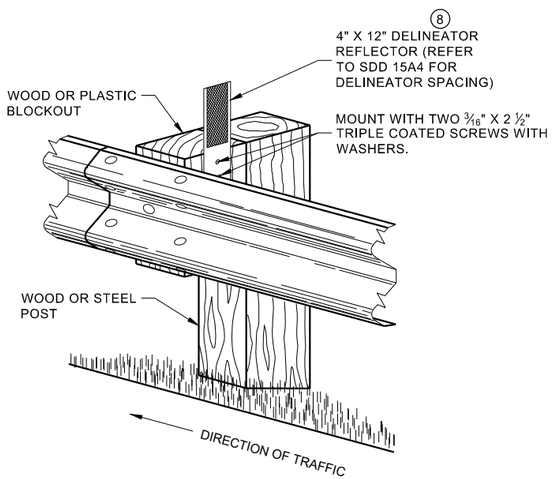

## FRONT VIEW AT STEEL POST




## FRONT VIEW AT WOOD POST




## SECTION THRU W-BEAM RAIL




## ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

## GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION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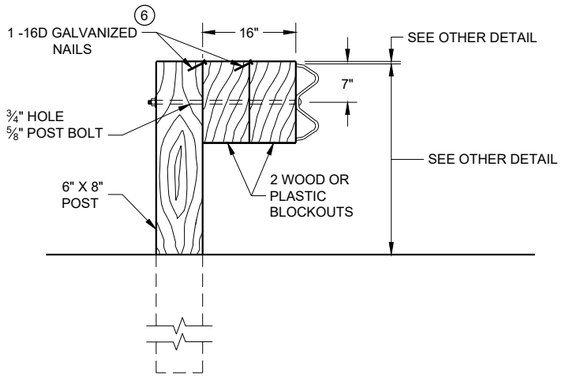
SDD 14B42 - 07b

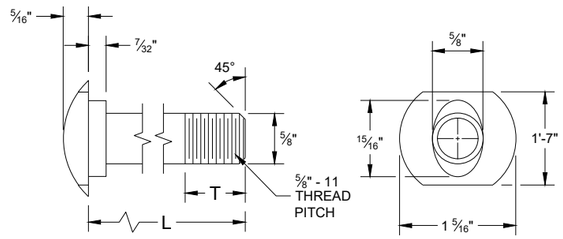



## DETAIL FOR 16" BLOCKOUT DEPTH

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

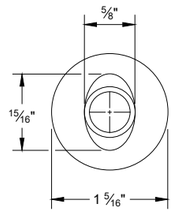
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

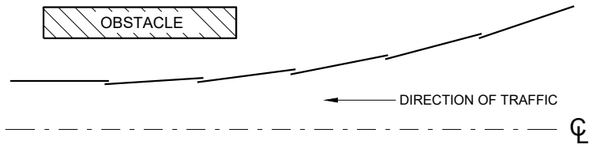



## POST BOLT TABLE

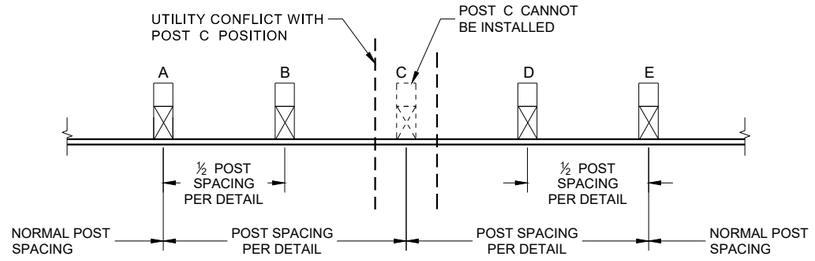
| L | T (MIN.) |
|---|---|
| 1 ¼" | 1 ⅛" |
| 2" | 1 ¾" |
| 10" | 4" |
| 14" | 4 1⁄16" |
| 18" | 4" |
| 21" | 4 1⁄16" |
| 25" | 4" |



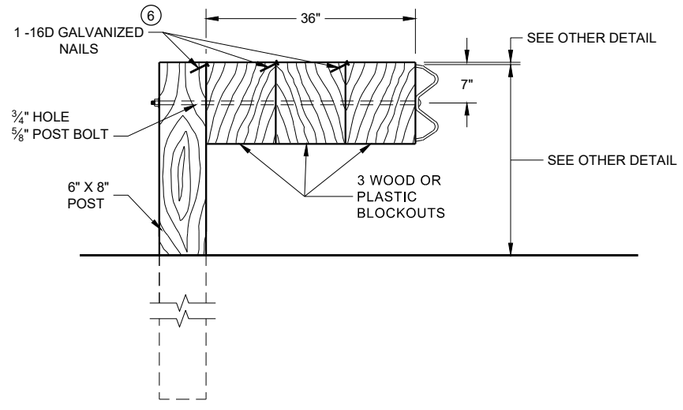

## ALTERNATE BOLT HEAD



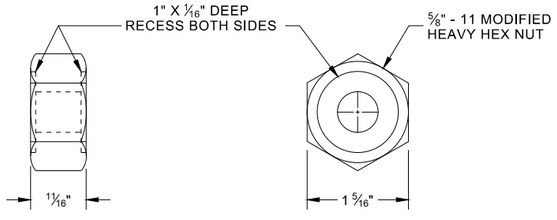

## PLAN VIEW
## BEAM LAPPING DETAIL



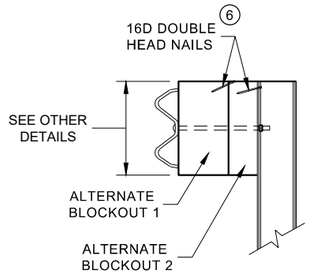

## POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



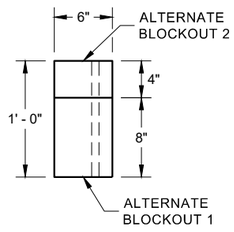

## DETAIL FOR 36" BLOCKOUT DEPTH




## POST BOLT, SPLICE BOLT AND RECESS NUT




SIDE VIEW




PLAN VIEW

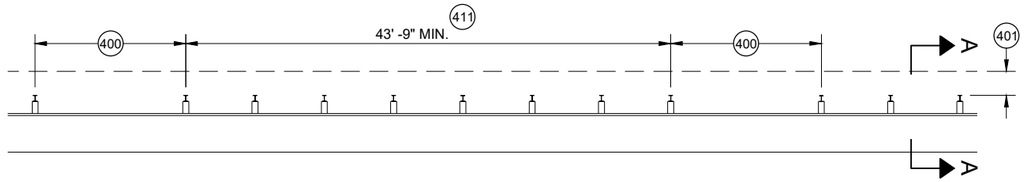
## ALTERNATE WOOD BLOCKOUT DETAIL

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.

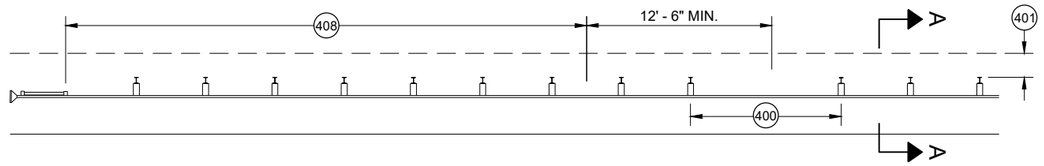
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

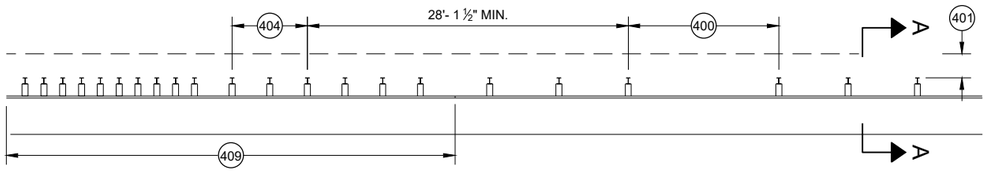
**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**



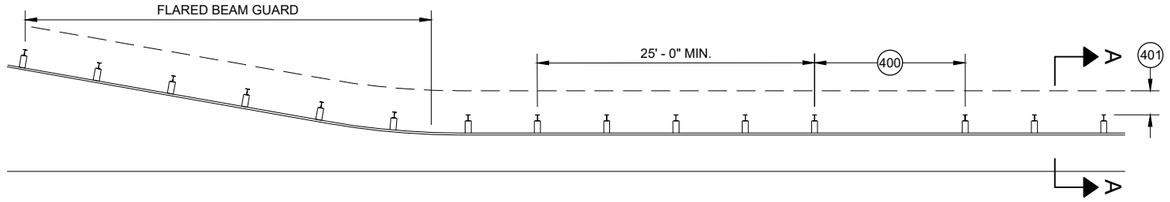

**MISSING POST IN MGS GUARDRAIL**



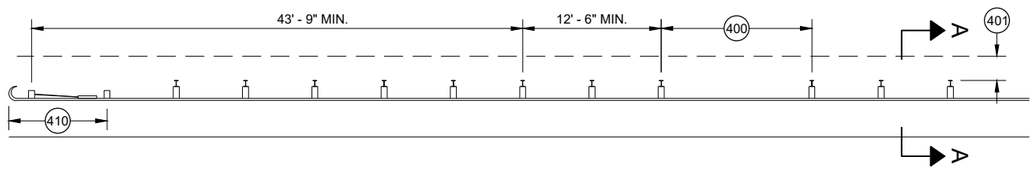

**MISSING POST IN MGS GUARDRAIL NEAR EAT**



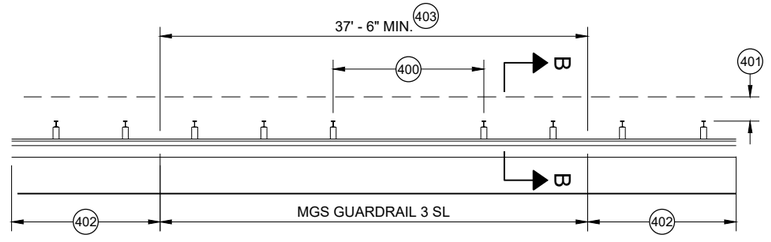

**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**




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

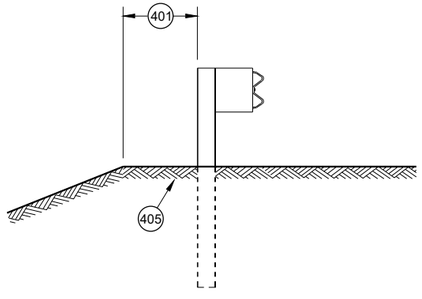



**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

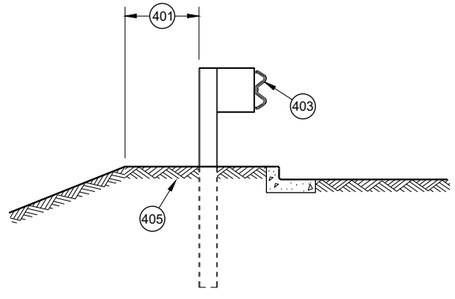



**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)** 407

(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** 406




**SECTION B - B** 406

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA



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SDD 14B42 - 07d

SDD 14B42 - 07d

## GENERAL NOTES

(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.

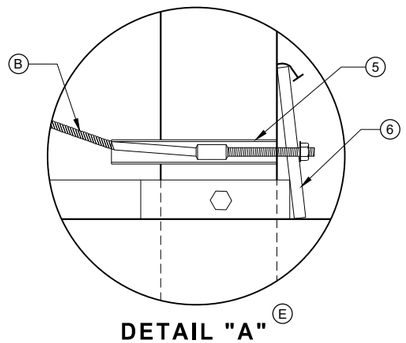
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

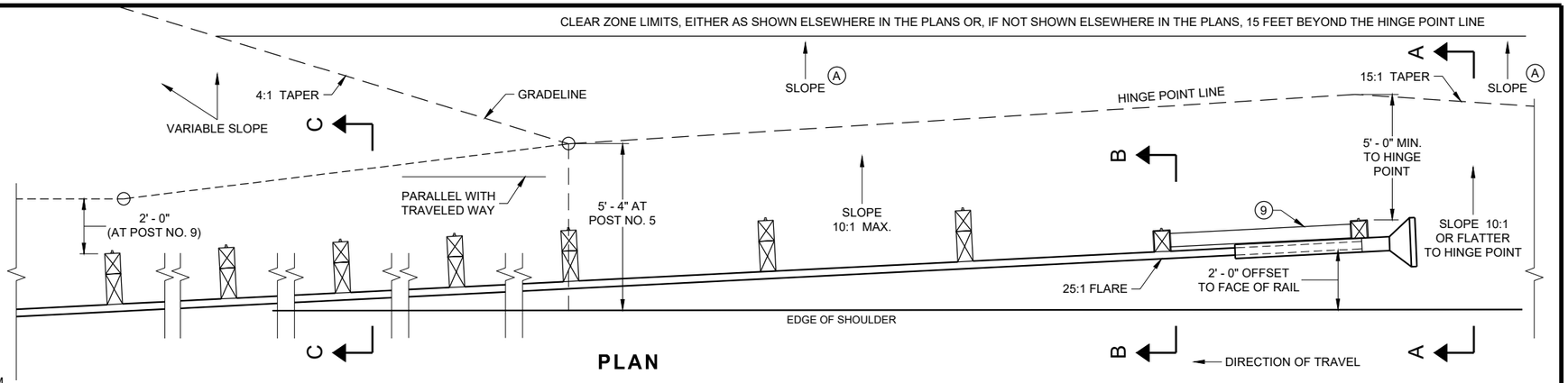
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

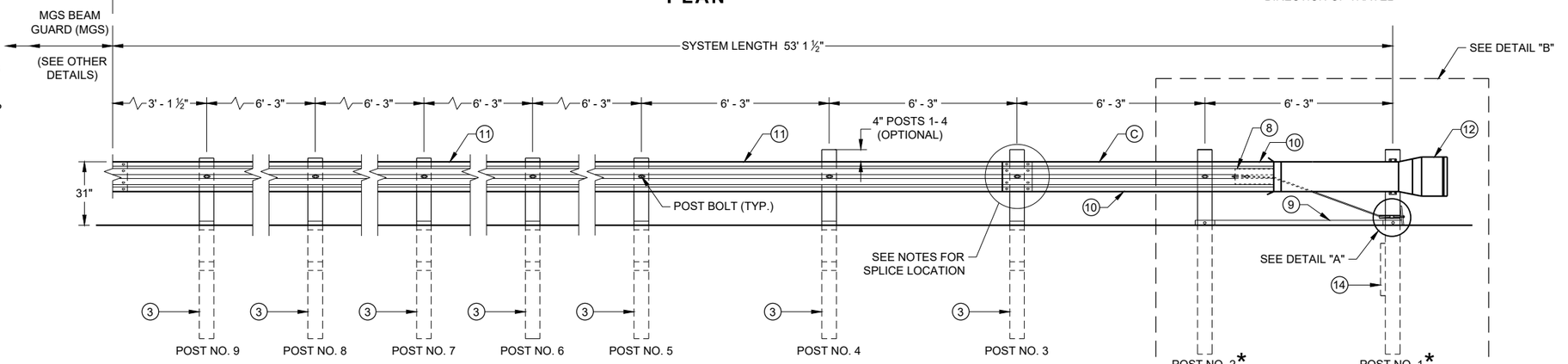
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



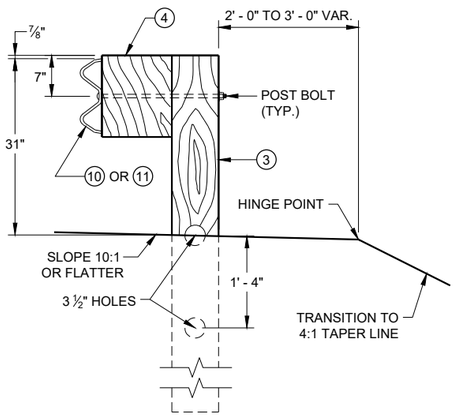

DETAIL "A" (E)



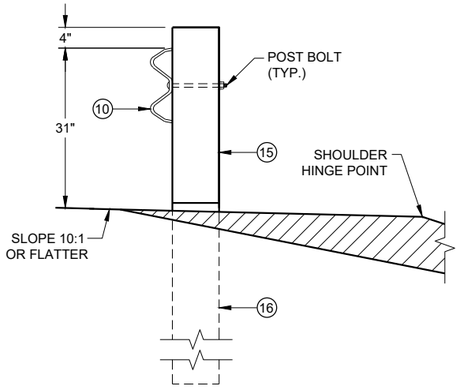

PLAN



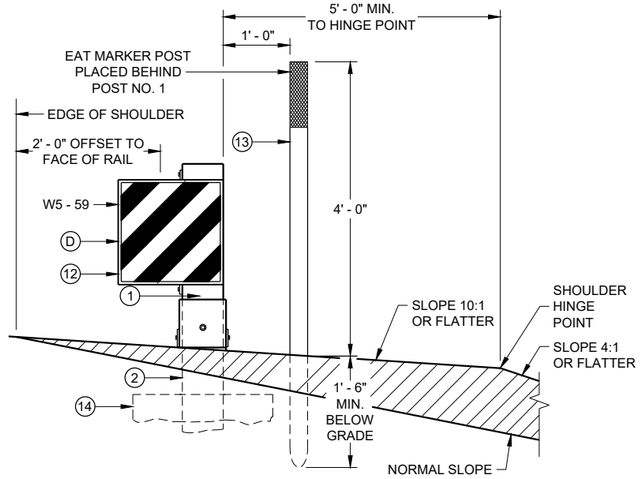

ELEVATION



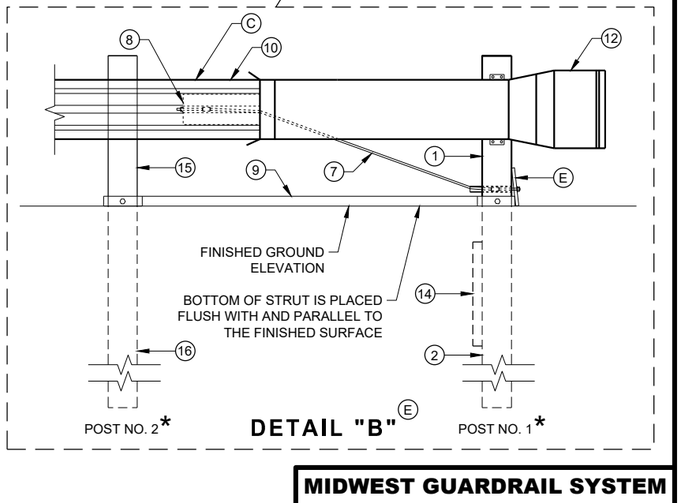

SECTION C - C
TYPICAL AT POST NOS. 3 - 9




SECTION B - B
TYPICAL AT POST NO. 2*




SECTION A - A
TYPICAL AT POST NO. 1*




DETAIL "B" (E)

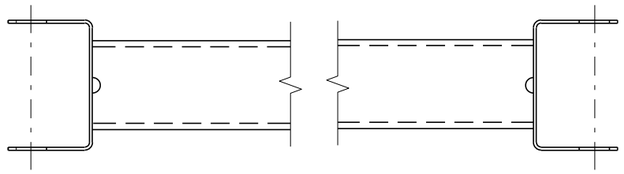
**MIDWEST GUARDRAIL SYSTEM**
**ENERGY ABSORBING TERMINAL (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SDD 14B44 - 04a

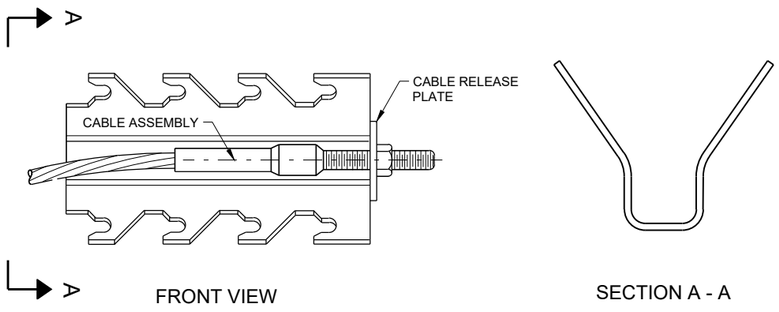
SDD 14B44 - 04a



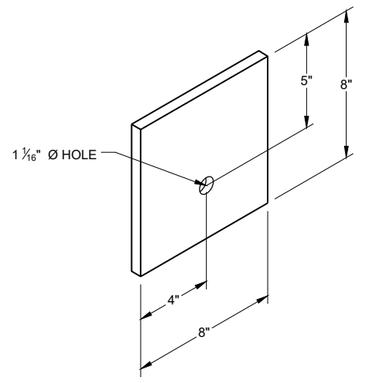
## GENERIC GROUND STRUT ⑨ Ⓔ

## BILL OF MATERIALS

| PART NO. | DESCRIPTION<br>MATERIALS PROVIDED BY MGS EAT MANUFACTURER.<br>SEE MANUGACTURER'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 ⑧ Ⓔ




## BEARING PLATE ⑥ Ⓔ

6

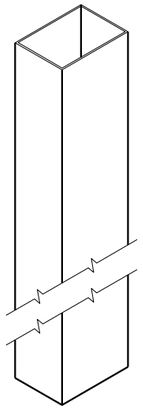
6

SDD 14B44 - 04b

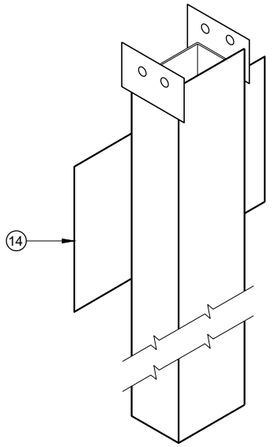
SDD 14B44 - 04b

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

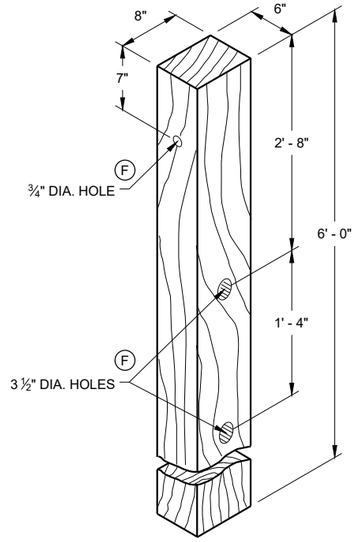
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



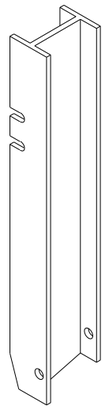
**UPPER POST NO. 1** (1) (E)



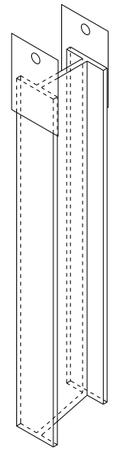

**LOWER POST NO. 1** (2) (E)



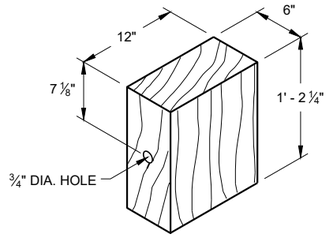

**WOOD CRT POST** (3) (E)
POSTS NUMBER 3-9



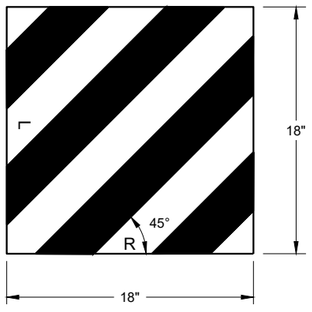
**UPPER POST NO. 2** (15) (E)



**LOWER POST NO. 2** (16) (E)

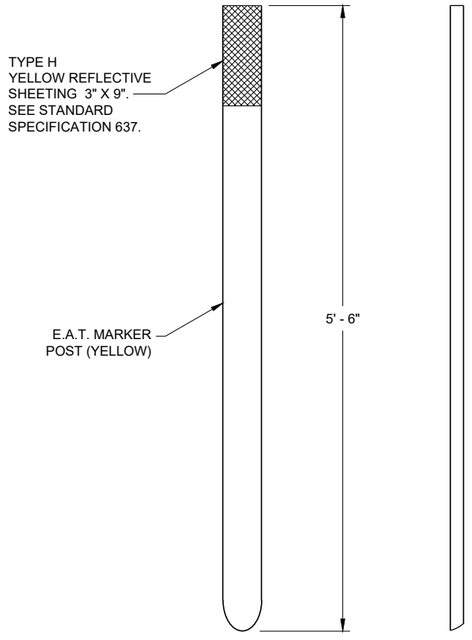



**WOOD BLOCKOUT** (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



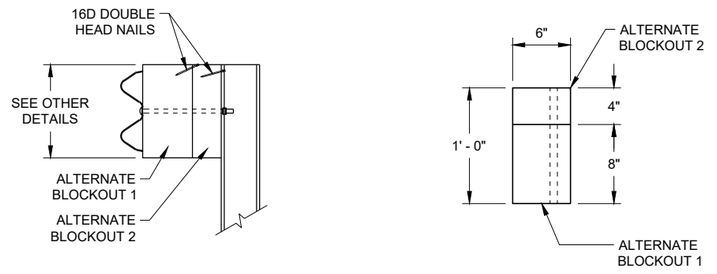

W5 - 59

**REFLECTIVE SHEETING DETAIL** (E)




FRONT VIEW SIDE VIEW

**E.A.T. MARKER POST** (13)




SIDE VIEW TOP VIEW

**ALTERNATE WOOD BLOCKOUT DETAIL**

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

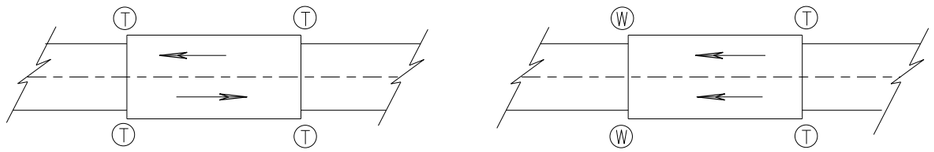
APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA




6


SDD 14B44 - 04c




**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 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

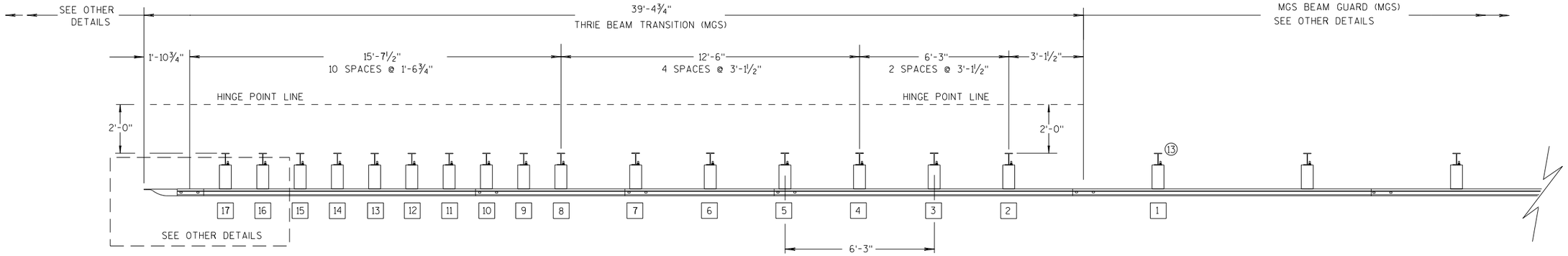
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

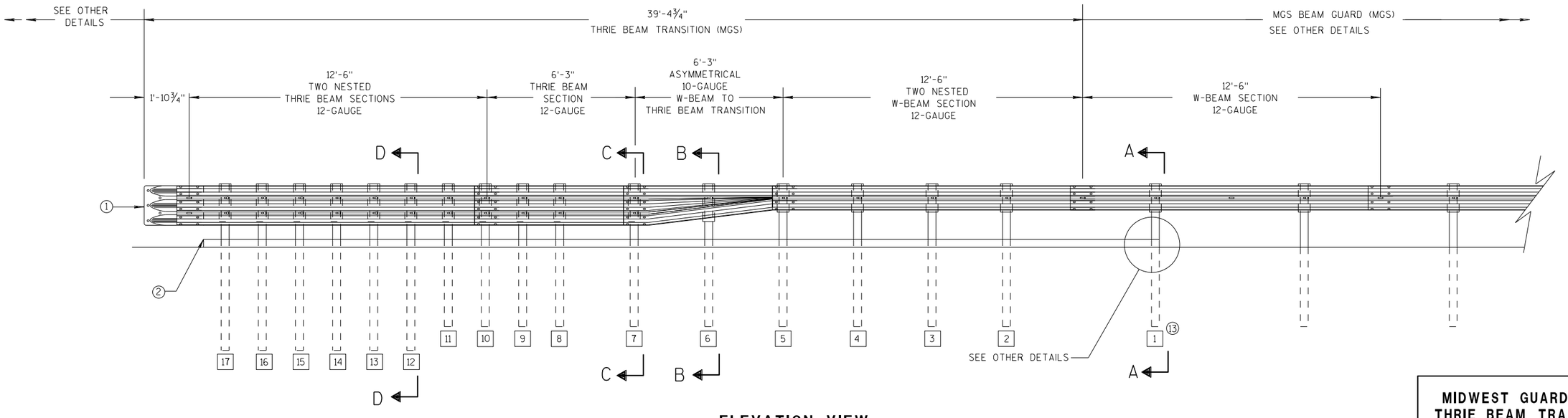
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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 TRANSPOR







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S.D.D. 14 B 45-5a

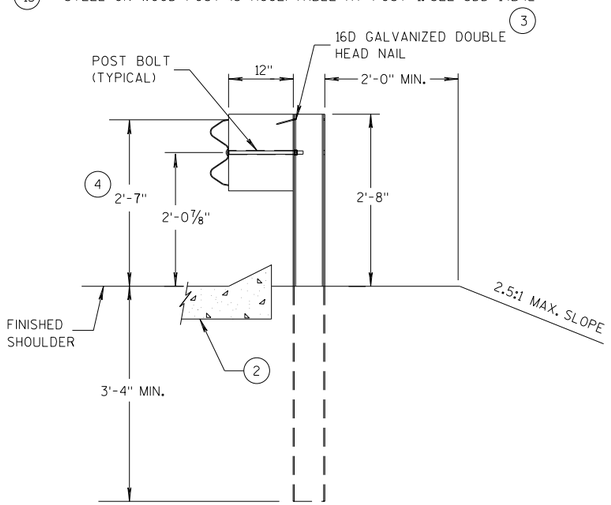
## GENERAL NOTES

(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.

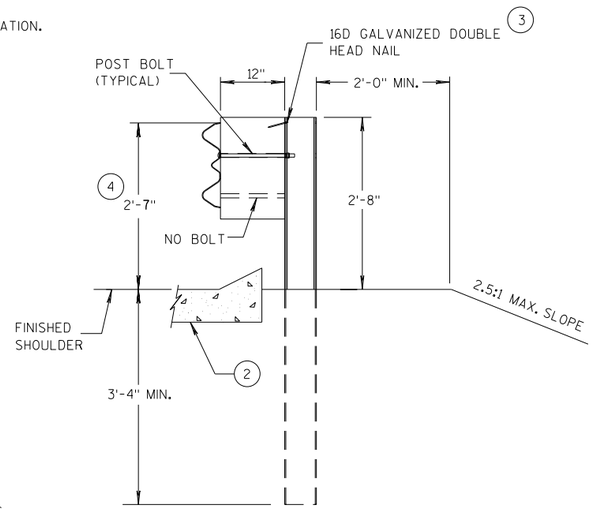
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



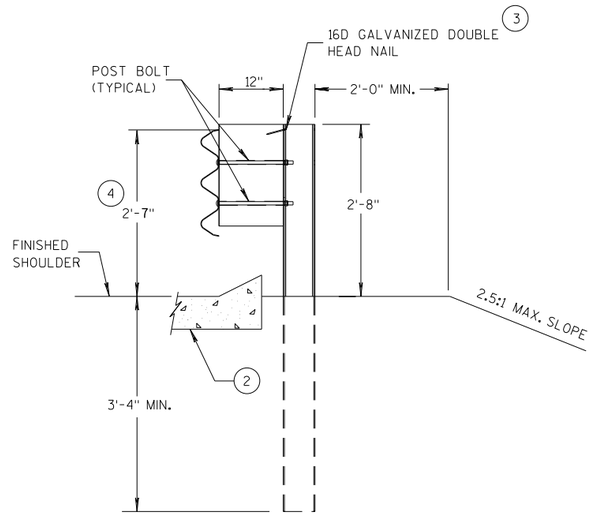

SECTION A-A (13)

**POSTS 1-5**



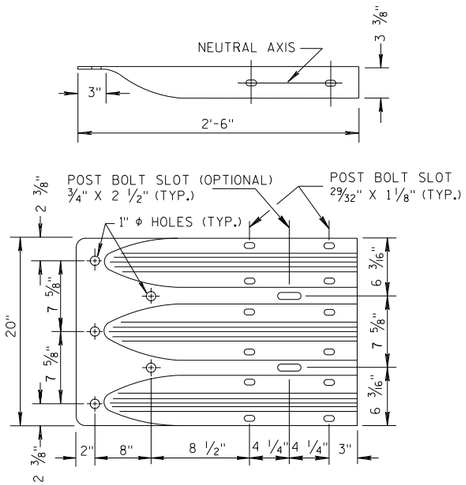

SECTION B-B

**POST 6**

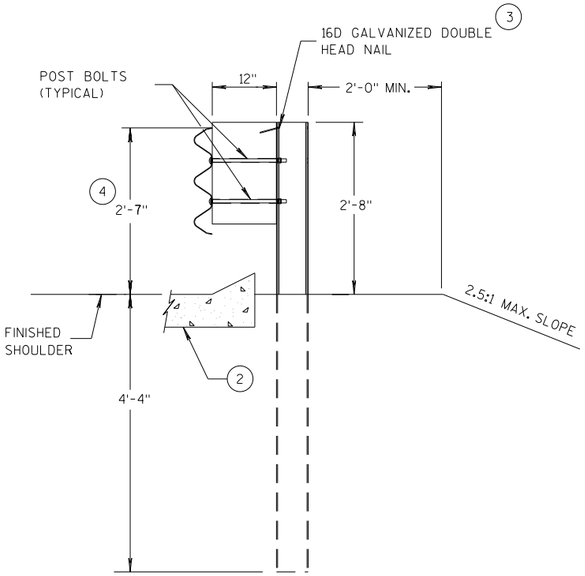



SECTION C-C

**POSTS 7-11**

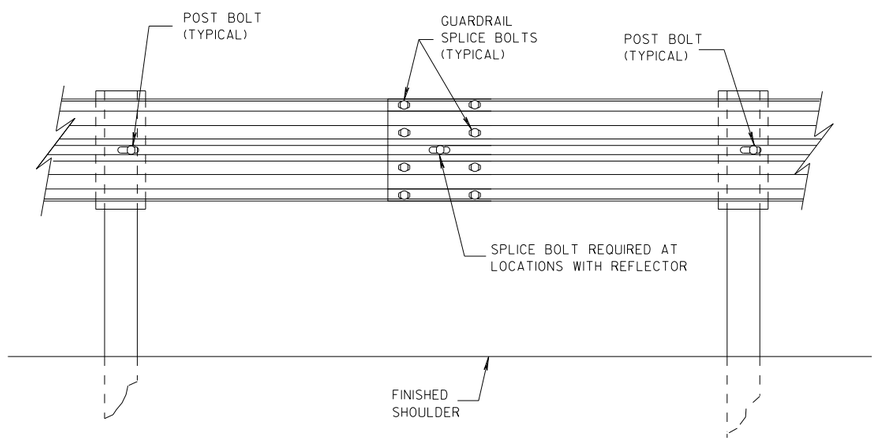



**THRIE BEAM TERMINAL CONNECTOR**




SECTION D-D

**POSTS 12-17**




**SPLICE DETAIL**

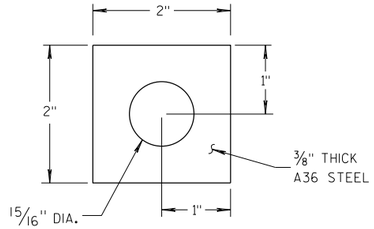
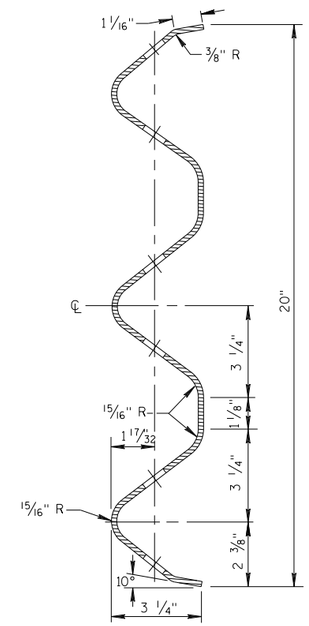



**PLATE WASHER DETAIL**




**SECTION THRU THRIE BEAM RAIL ELEMENT**

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 27

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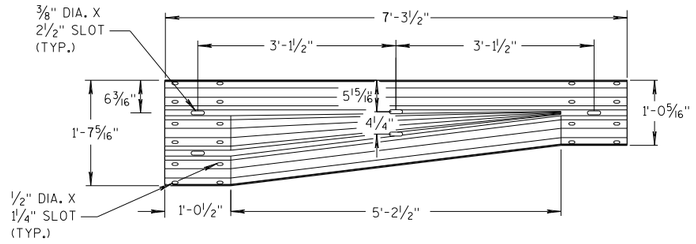
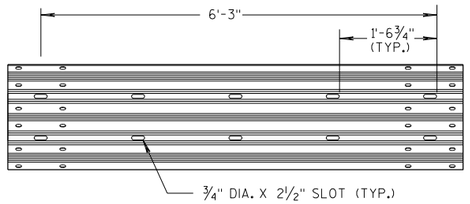
S.D.D. 14 B 45-5b

6

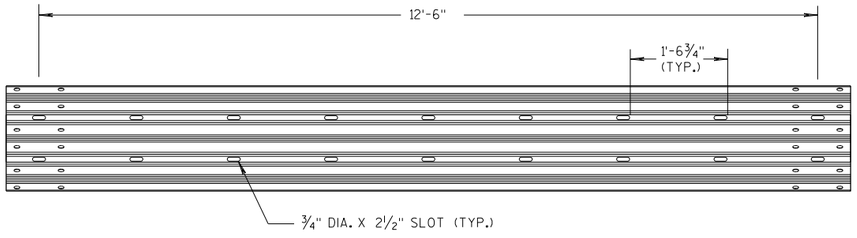
S.D.D. 14 B 45-5b



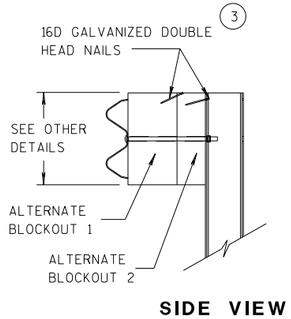

## W-BEAM TO THRIE BEAM TRANSITION SECTION



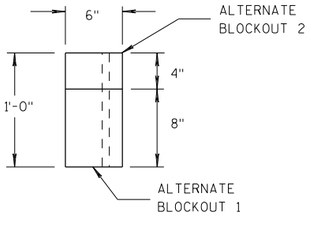

## 6'-3" THRIE BEAM SECTION




## 12'-6" THRIE BEAM SECTION

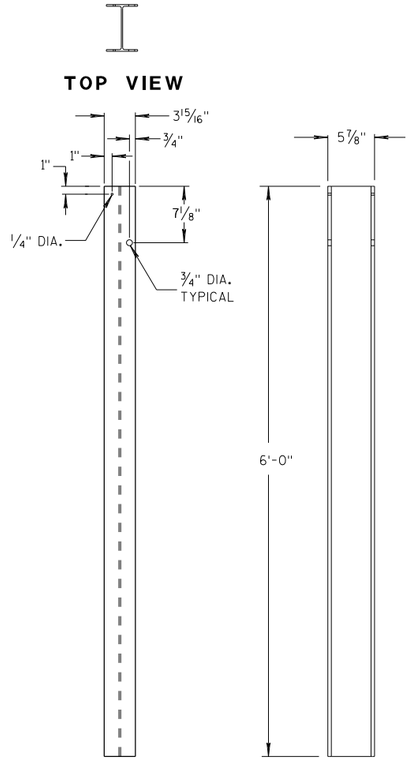



SIDE VIEW



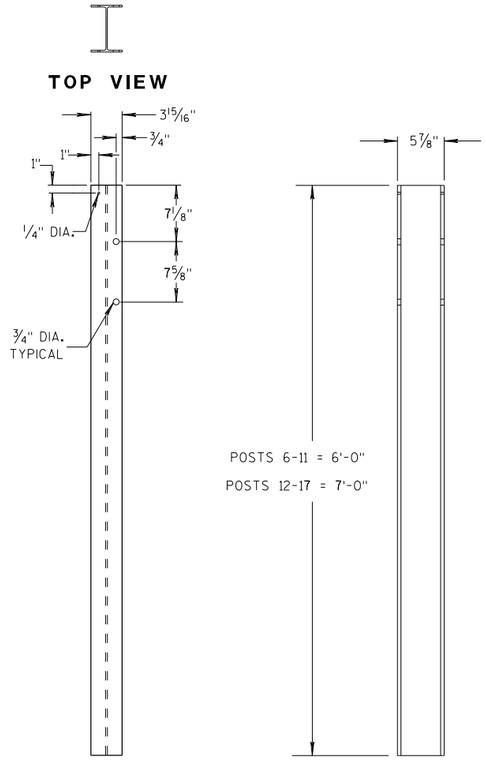

TOP VIEW

## ALTERNATE WOOD BLOCKOUT DETAIL



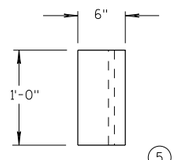

FRONT VIEW SIDE VIEW

## STEEL POSTS 1-5 (13)

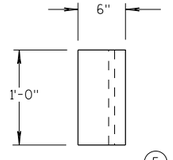



FRONT VIEW SIDE VIEW

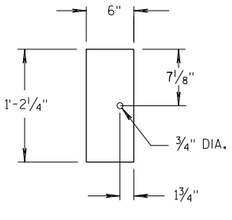
## STEEL POSTS 6-17




TOP VIEW (5)

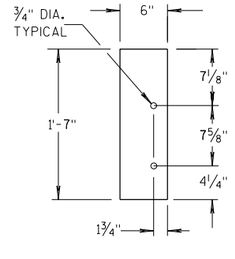



TOP VIEW (5)




FRONT VIEW

## BLOCKOUT POSTS 1-5




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.

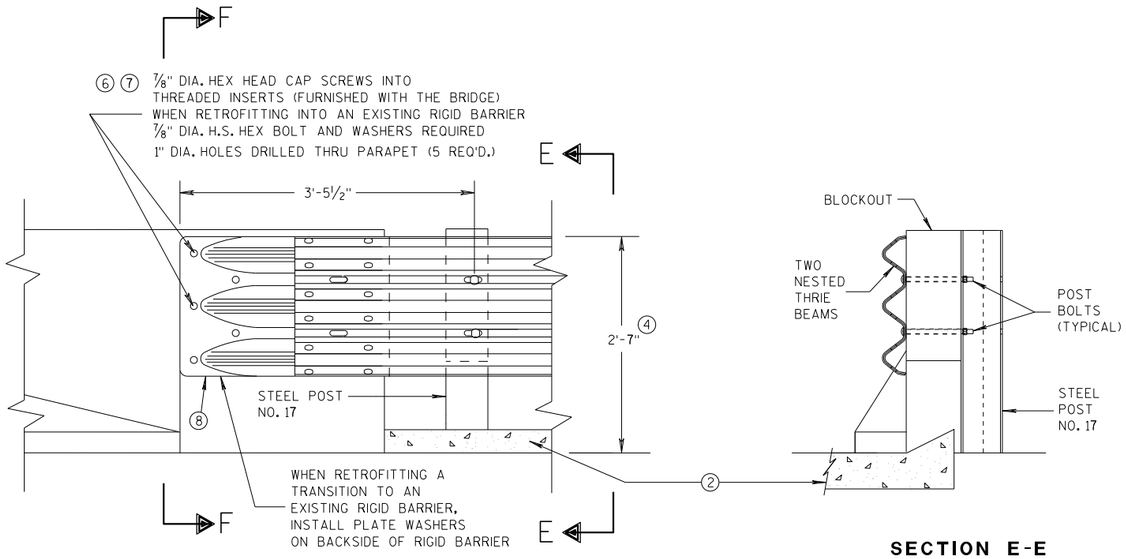
**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR




6

S.D.D. 14 B 45-5c




FRONT VIEW

SECTION E-E

# THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

## GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

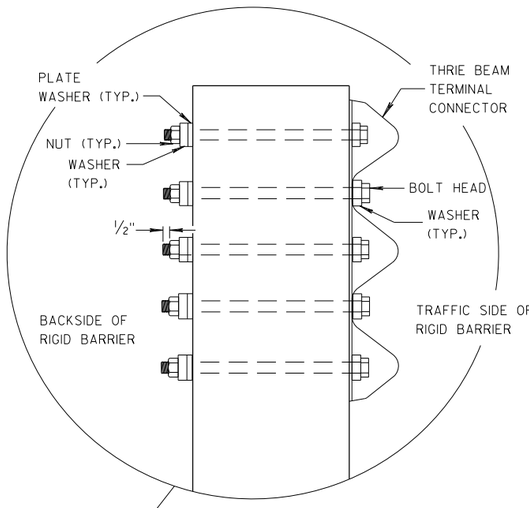
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

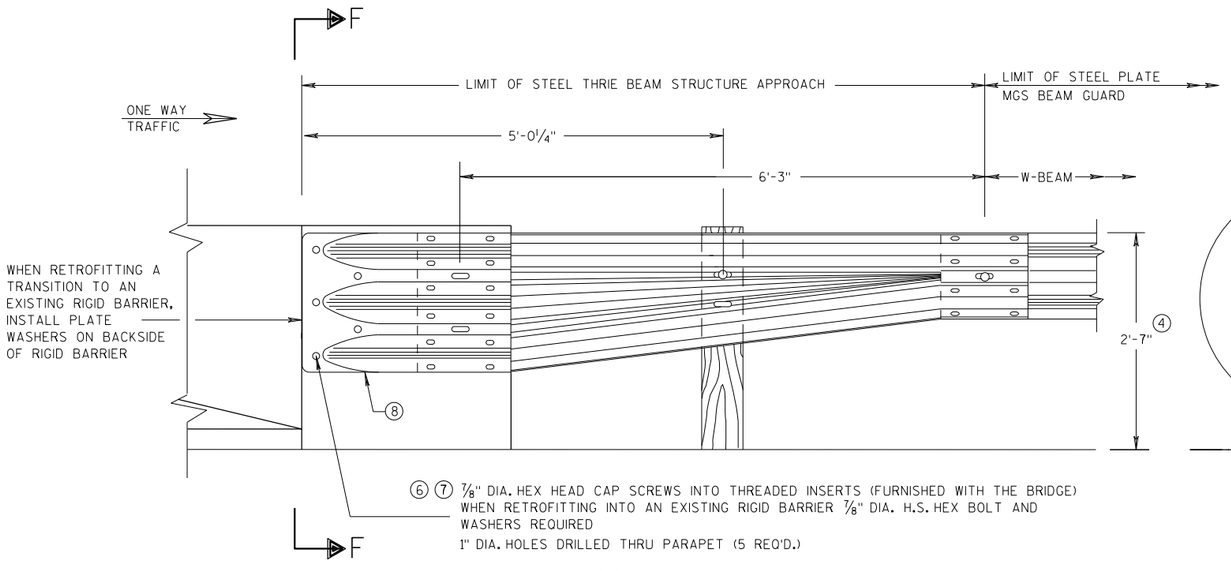
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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.

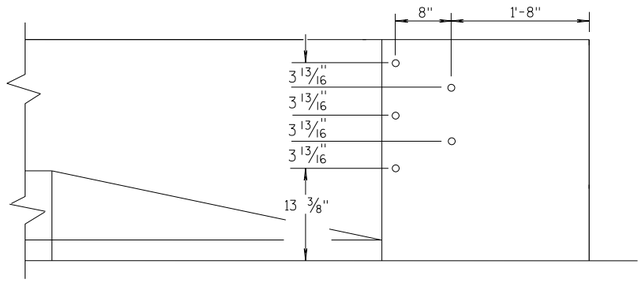
⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".




FRONT VIEW

SECTION F-F




DRILL HOLE LOCATION

# W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

**(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)**

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D UNIT SUPERVI
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# 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.

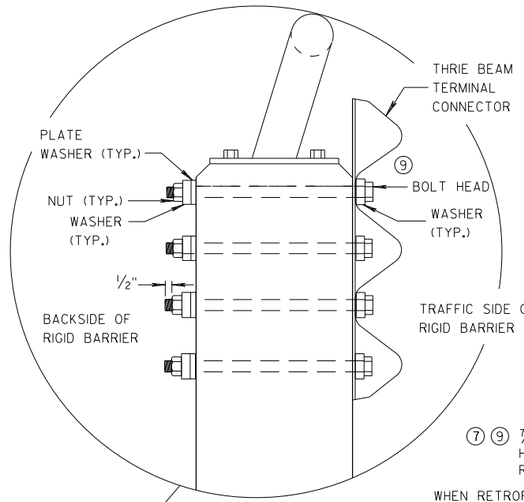
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

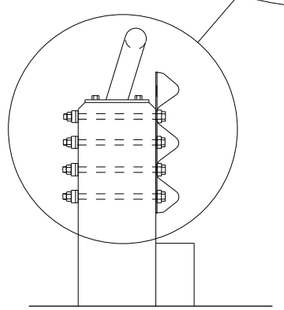
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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.

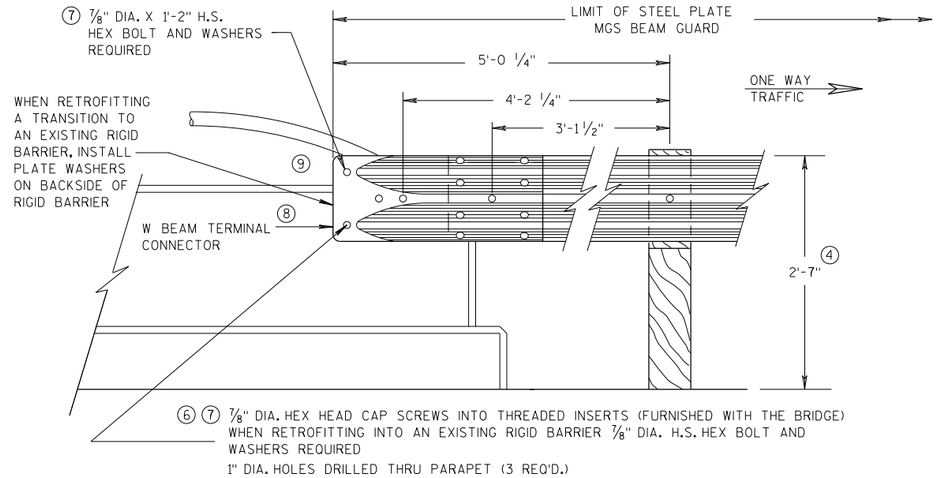
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



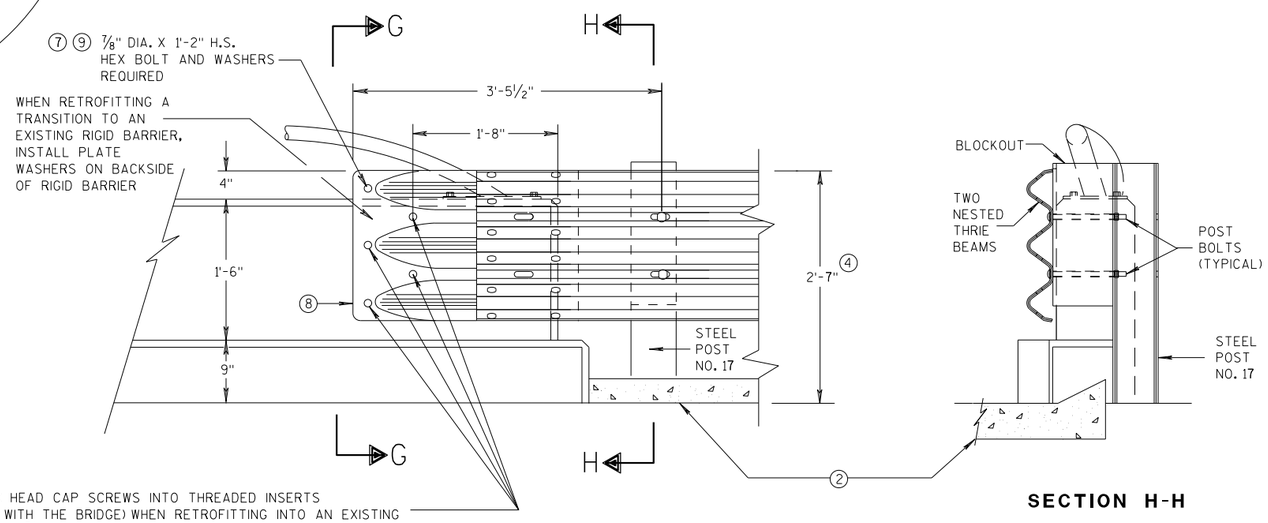
SECTION G-G




FRONT VIEW

## W BEAM CONNECTION TO VERTICAL FACE PARAPET

### (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)




FRONT VIEW




SECTION H-H

## THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
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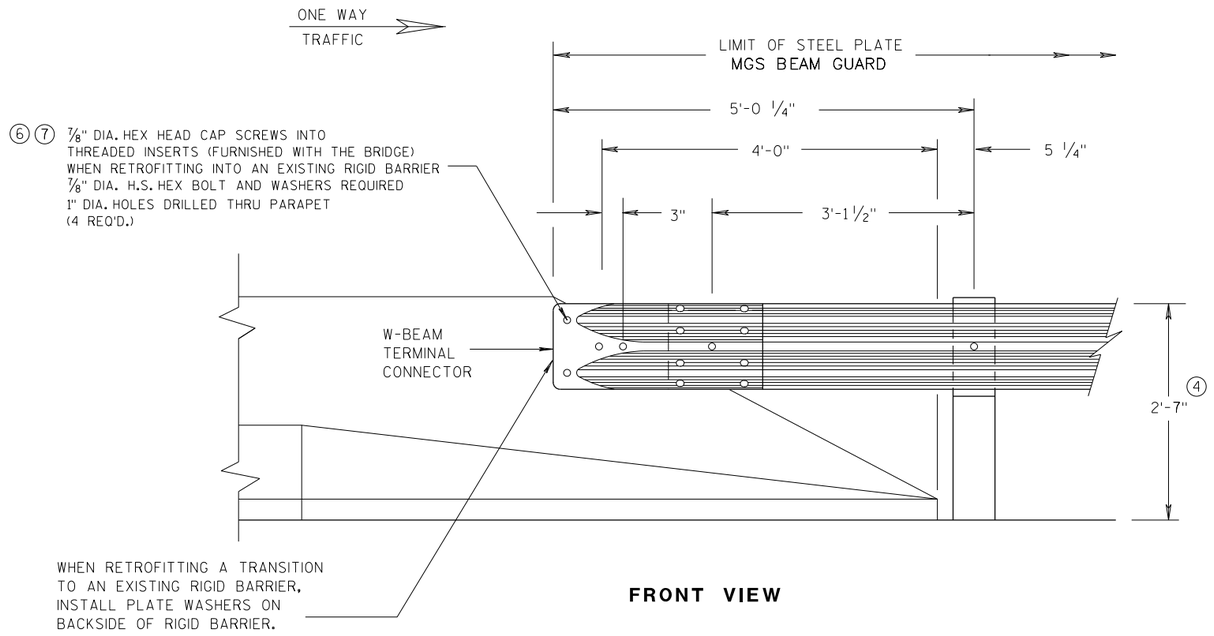



FRONT VIEW

## W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

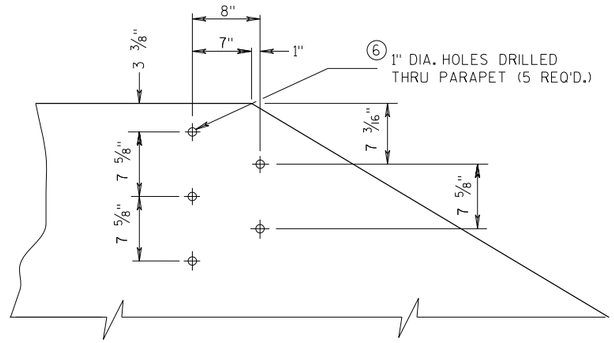
## GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

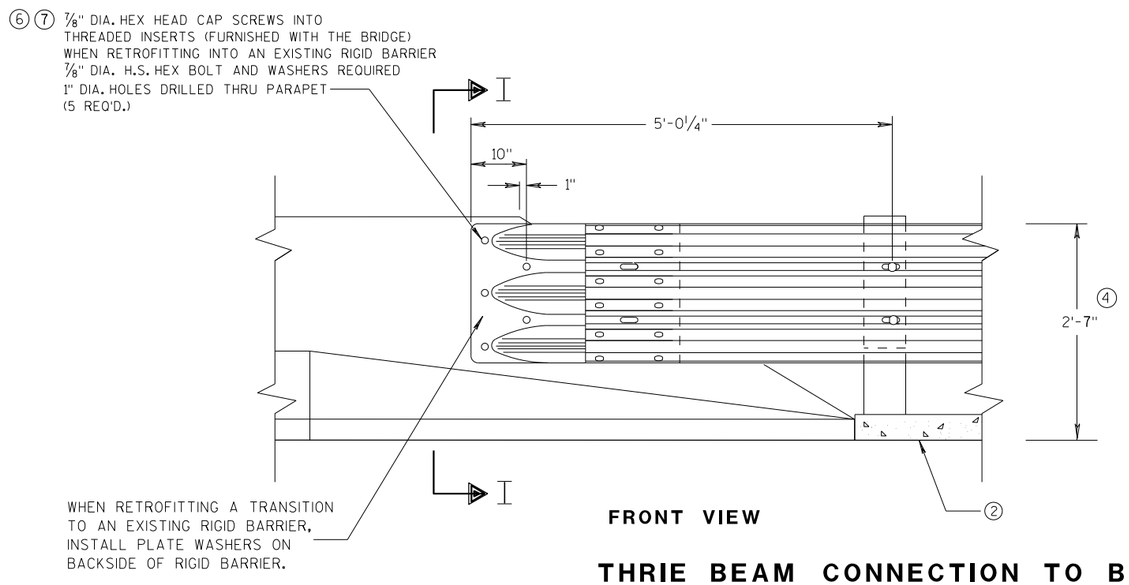
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

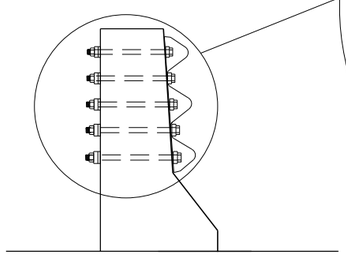
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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.



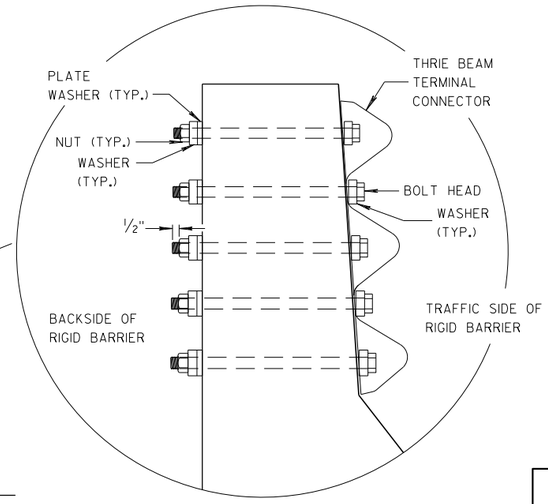

DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION




FRONT VIEW



SECTION I-I




## THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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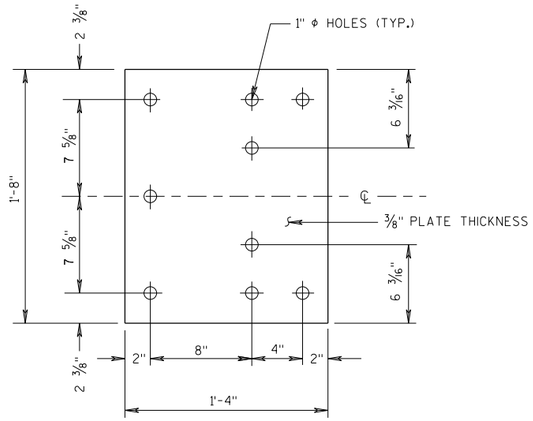
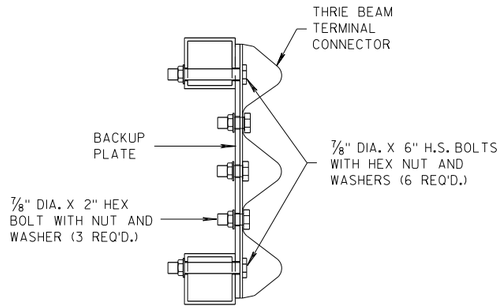
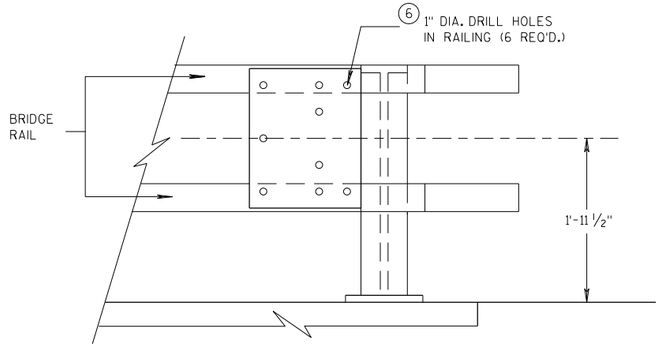



## BACK-UP PLATE DETAIL




## SECTION J-J

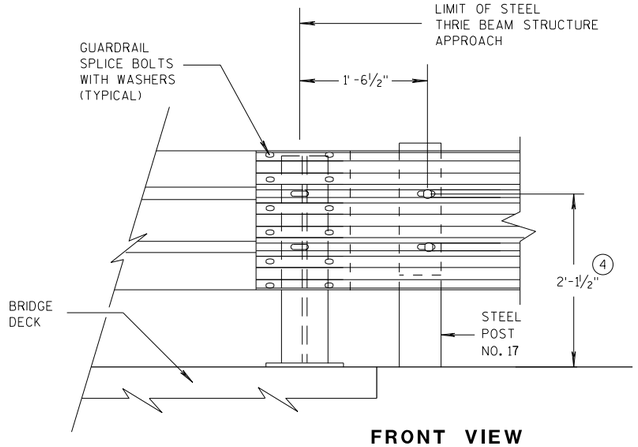



## BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

# GENERAL NOTES

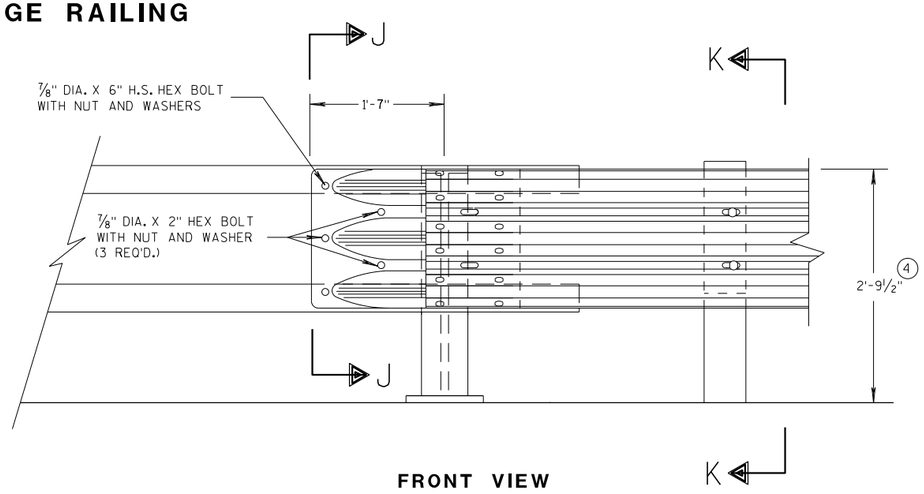
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

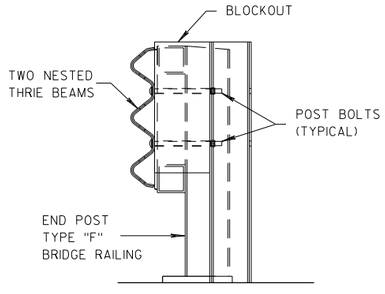



FRONT VIEW

## THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"




FRONT VIEW




SECTION K-K

## THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

## MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE — FHWA

/S/ Rodney Taylor 32
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

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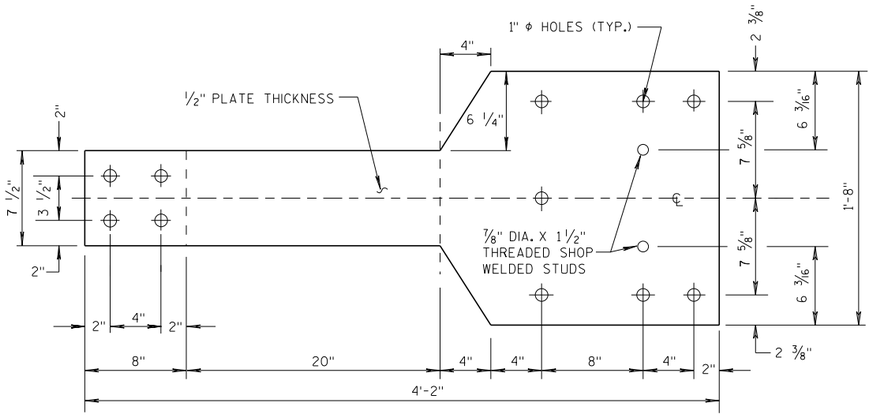
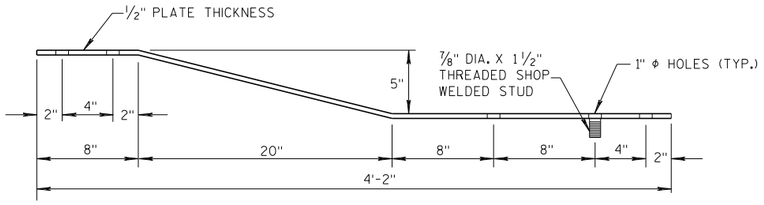
## GENERAL NOTES

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

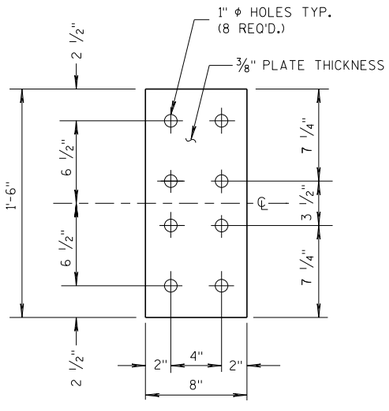



FRONT VIEW



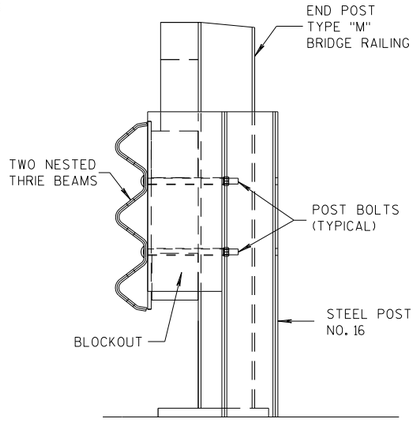

PLAN VIEW

## BACK-UP PLATE DETAIL, TYPE "M"

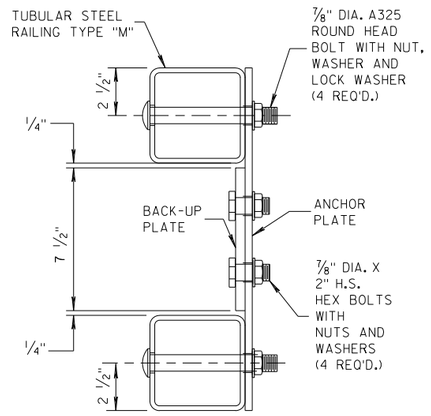



FRONT VIEW

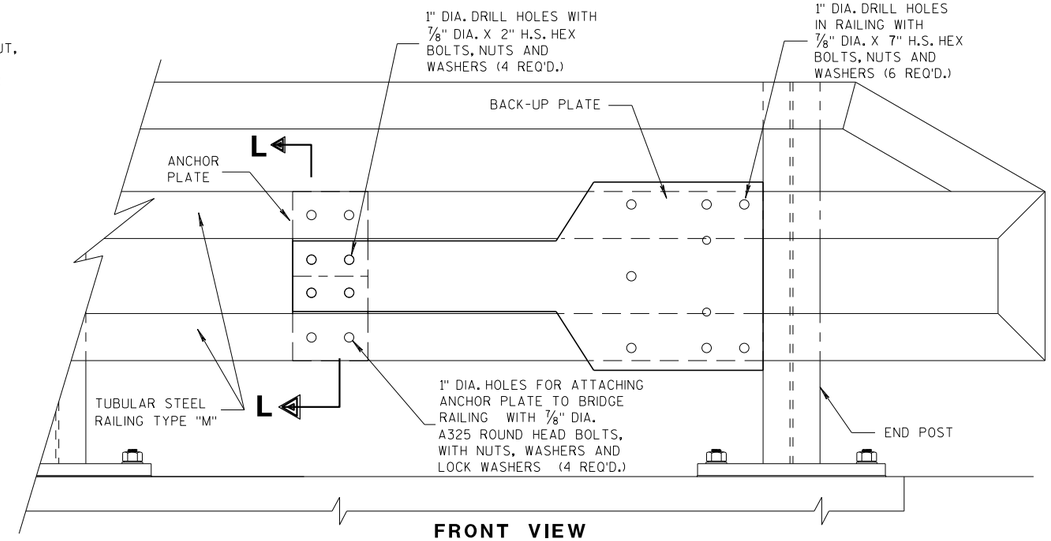
## ANCHOR PLATE DETAIL, TYPE "M"




SECTION M-M

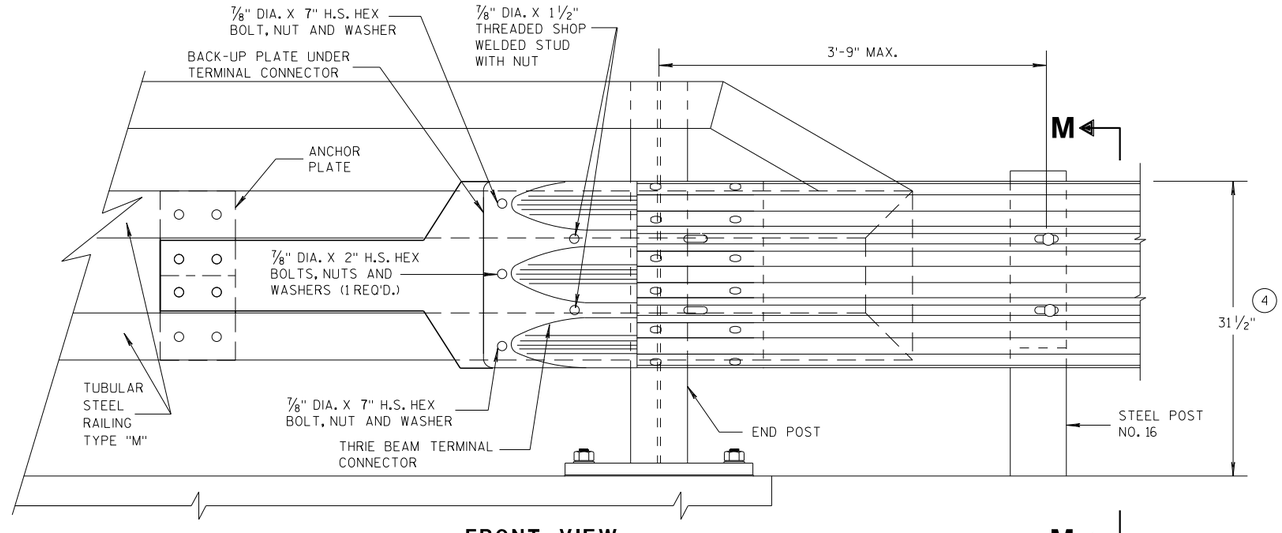



SECTION L-L

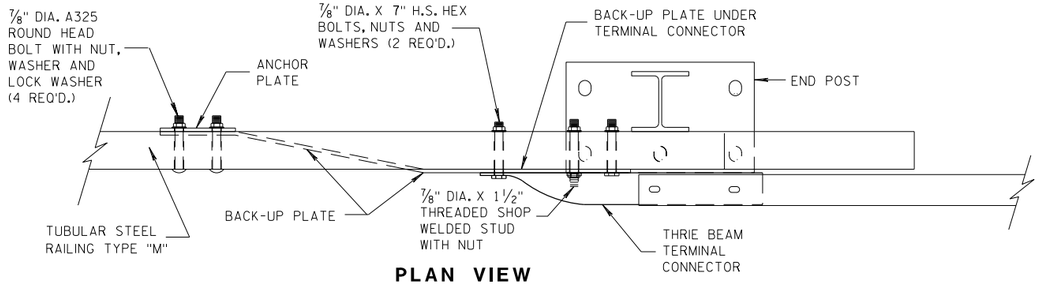



FRONT VIEW

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




FRONT VIEW




PLAN VIEW

## THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
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## GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

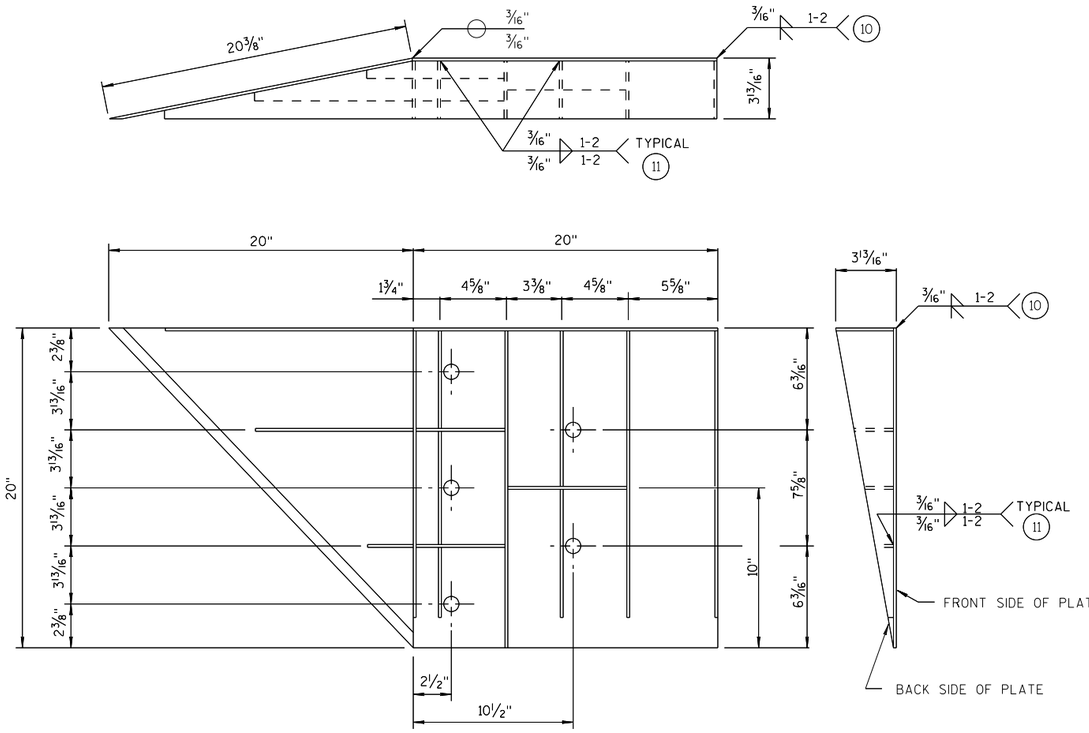
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

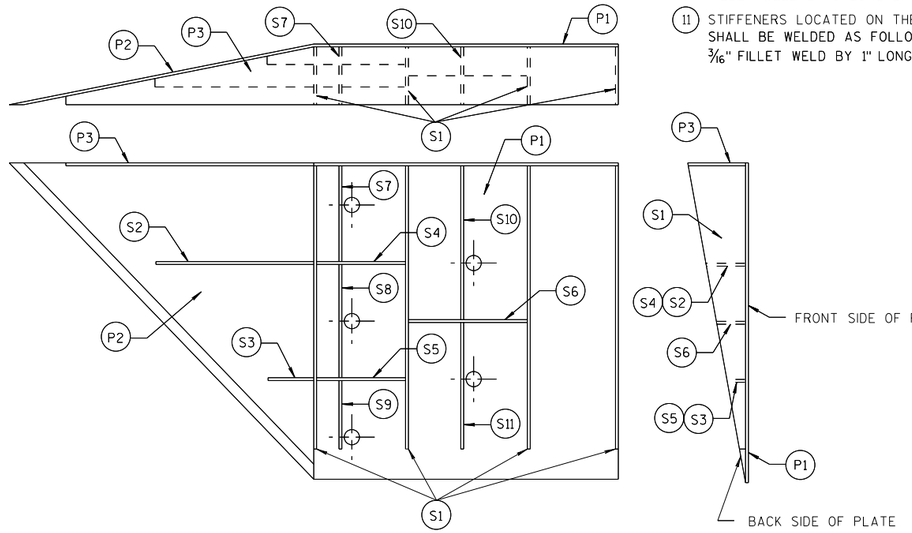
(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".




### WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)




### PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

**CONNECTOR PLATE DIMENSION (PER ASSEMBLY)**

| PLATE | QUANTITY | SHAPE | SIZE (A x B x C x D) | THICKNESS |
|---|---|---|---|---|
| P1 | 1 | | 20" x 20" | 3/16" |
| P2 | 1 | | 20" x 20" x 28 9/16" | 3/16" |
| P3 | 1 | | 39" x 3 5/8" x 20" x 19 5/16" | 3/16" |
| S1 | 4 | | 18 7/16" x 3 5/8" x 18 3/4" | 1/4" |
| S2 | 1 | | 10 1/4" x 2 7/16" x 10 3/8" x 1/2" | 1/4" |
| S3 | 1 | | 3" x 1 1/16" x 3 1/8" x 1/2" | 1/4" |
| S4 | 1 | | 6 1/8" x 2 7/16" | 1/4" |
| S5 | 1 | | 6 1/8" x 1 1/16" | 1/4" |
| S6 | 1 | | 7 3/4" x 1 3/4" | 1/4" |
| S7 | 1 | | 2 9/16" x 6" x 3 5/8" x 5 7/8" | 1/4" |
| S8 | 1 | | 1 5/32" x 7 1/2" x 2 1/2" x 7 3/8" | 1/4" |
| S9 | 1 | | 6 1/16" x 6 3/16" x 1 3/32" | 1/4" |
| S10 | 1 | | 1 7/8" x 9 7/8" x 3 5/8" x 9 11/16" | 1/4" |
| S11 | 1 | | 8 1/2" x 8 3/4" x 1 13/16" | 1/4" |

### SINGLE SLOPE CONNECTION PLATE

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
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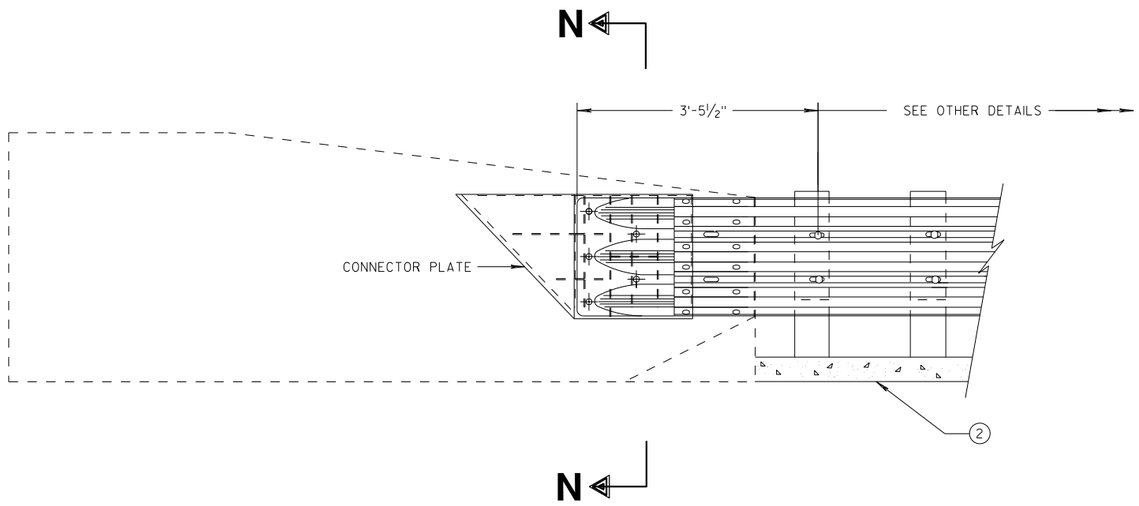
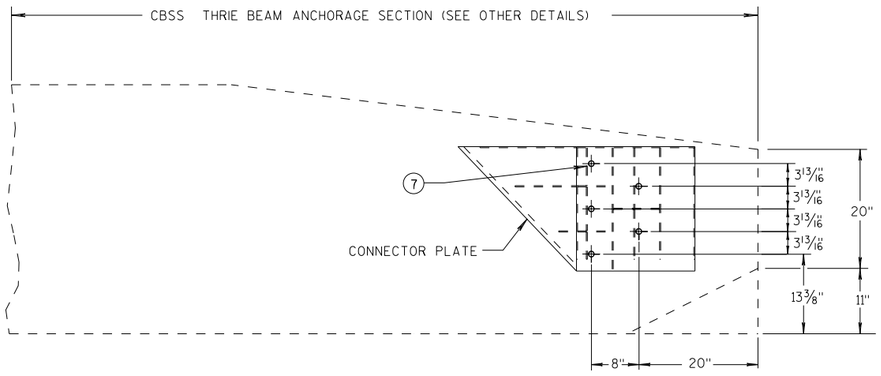



## THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



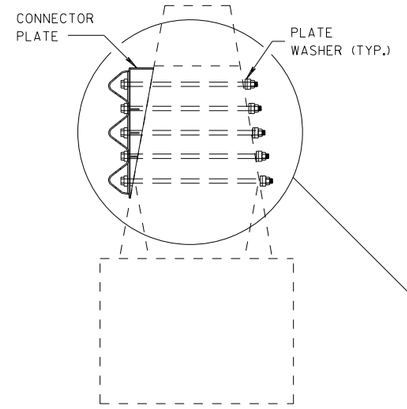

## SINGLE SLOPE CONNECTION PLATE PLACEMENT

## GENERAL NOTES

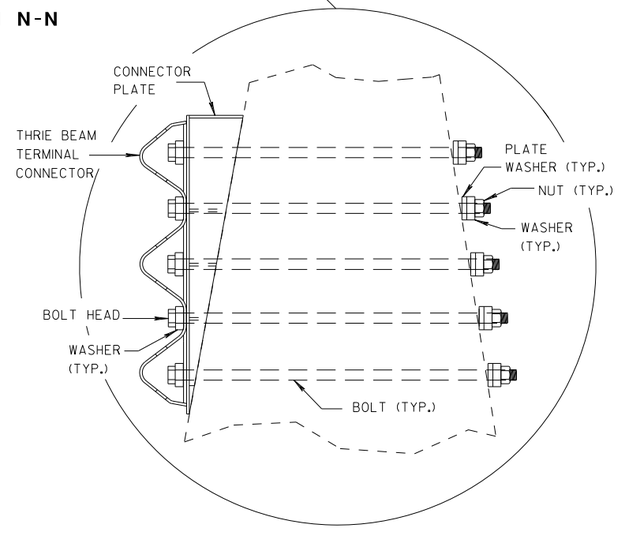
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(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.




SECTION N-N




**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
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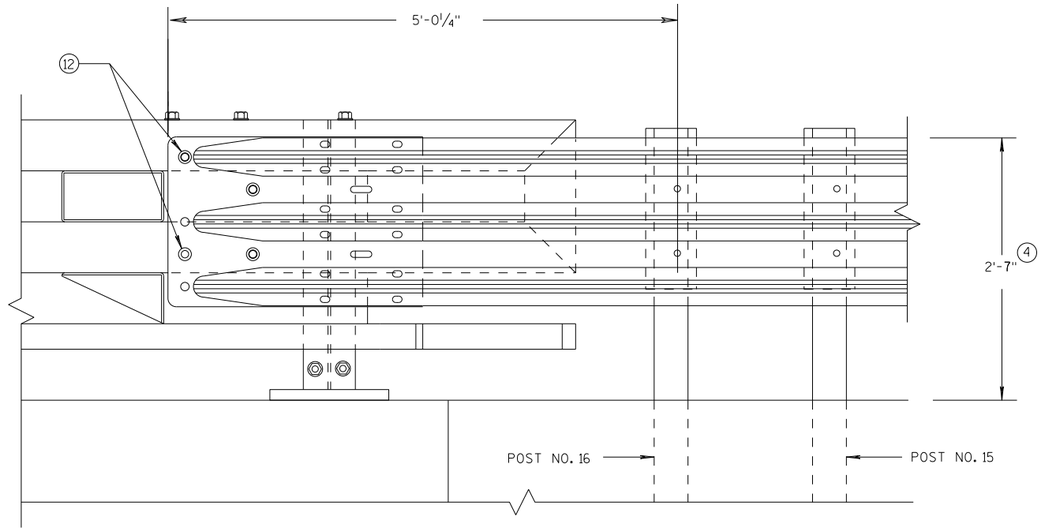
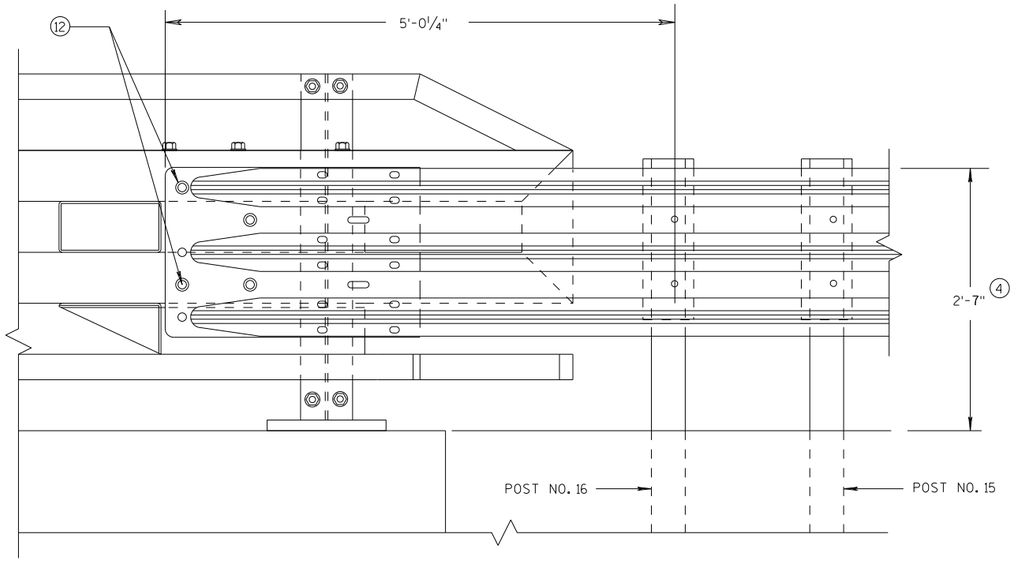



## ELEVATION OF DETAIL AT NY3 END POST

### THRIE BEAM RAIL ATTACHMENT




## ELEVATION OF DETAIL AT NY4 END POST

### THRIE BEAM RAIL ATTACHMENT

## GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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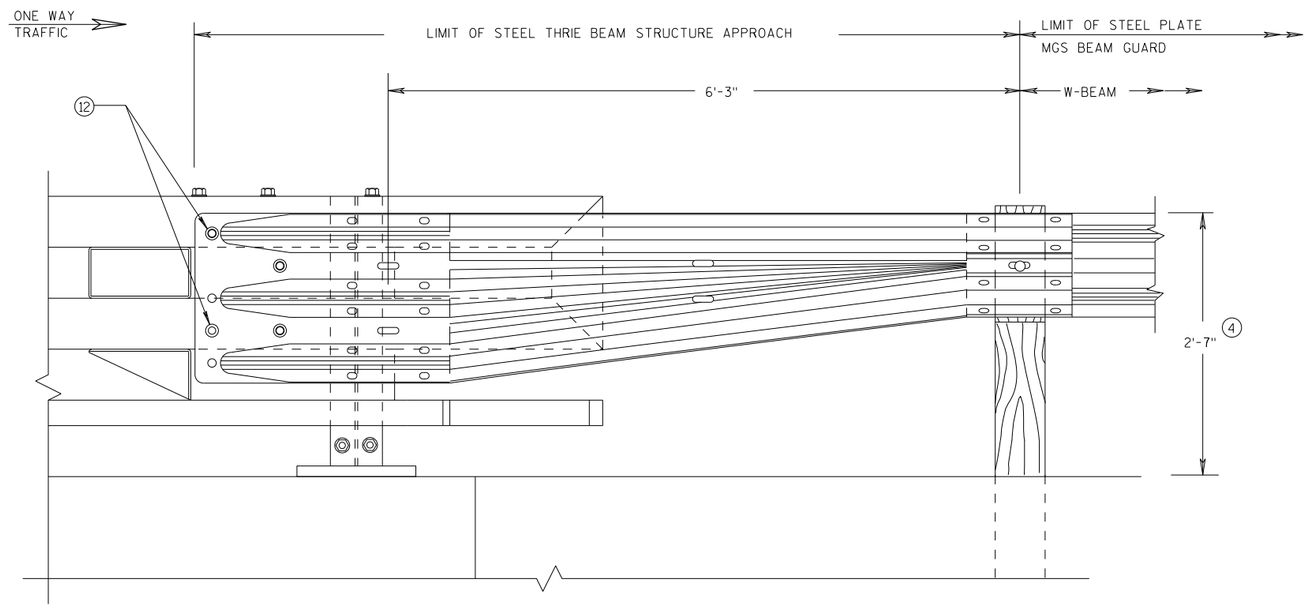



FRONT VIEW

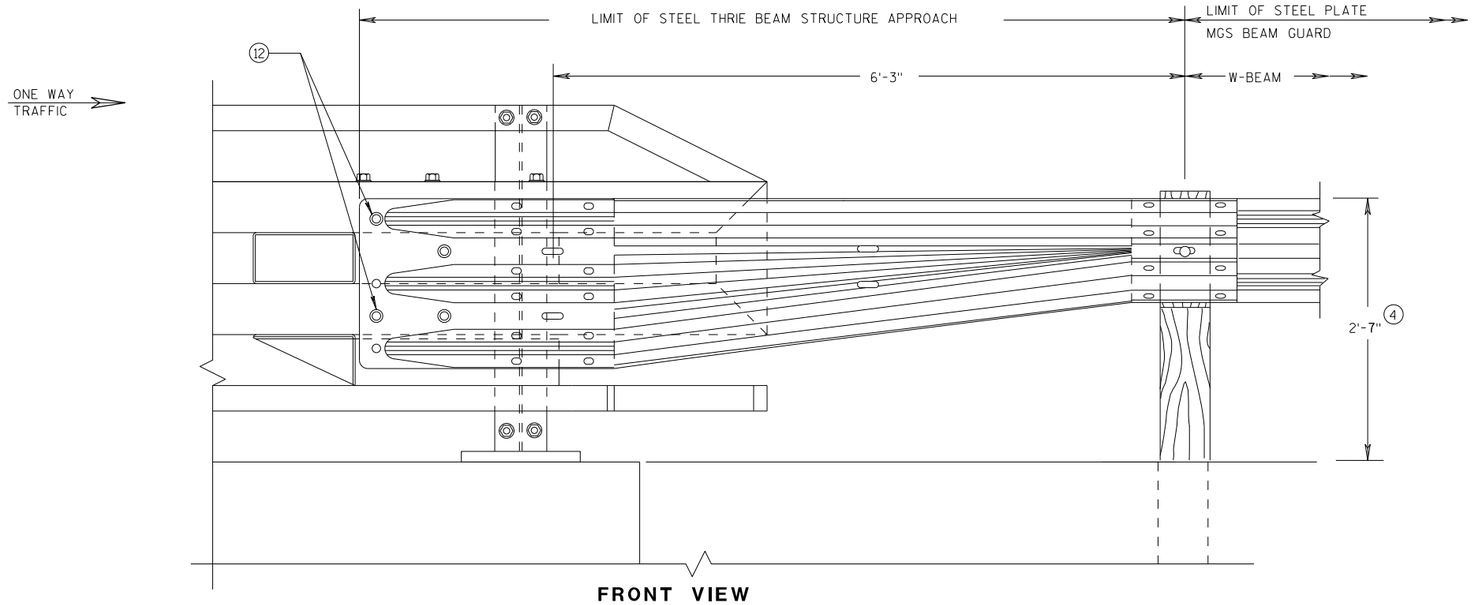
## W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

## GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.




FRONT VIEW

## W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVIS



NT

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S.D.D. 14 B 45-5L

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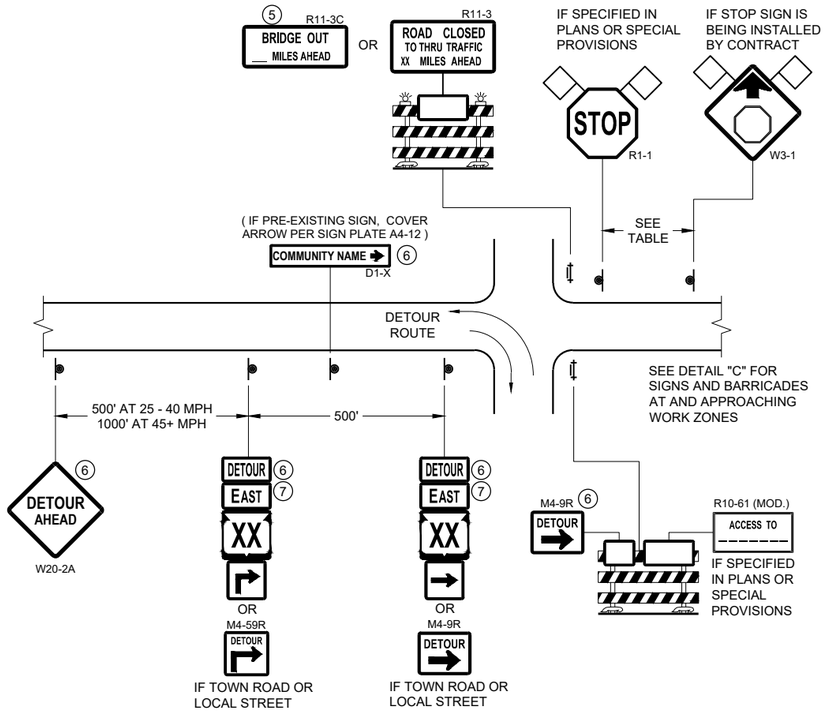
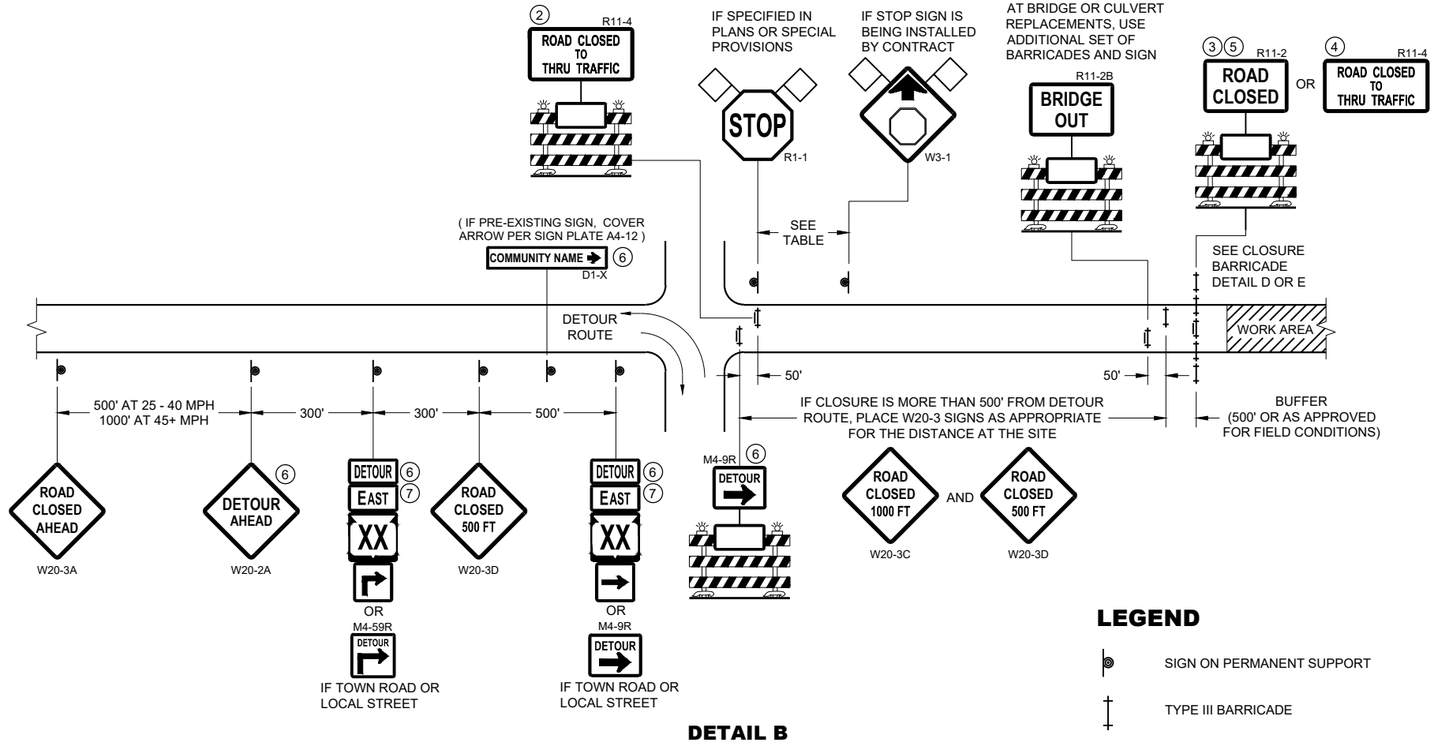
S.D.D. 14 B 45-5L



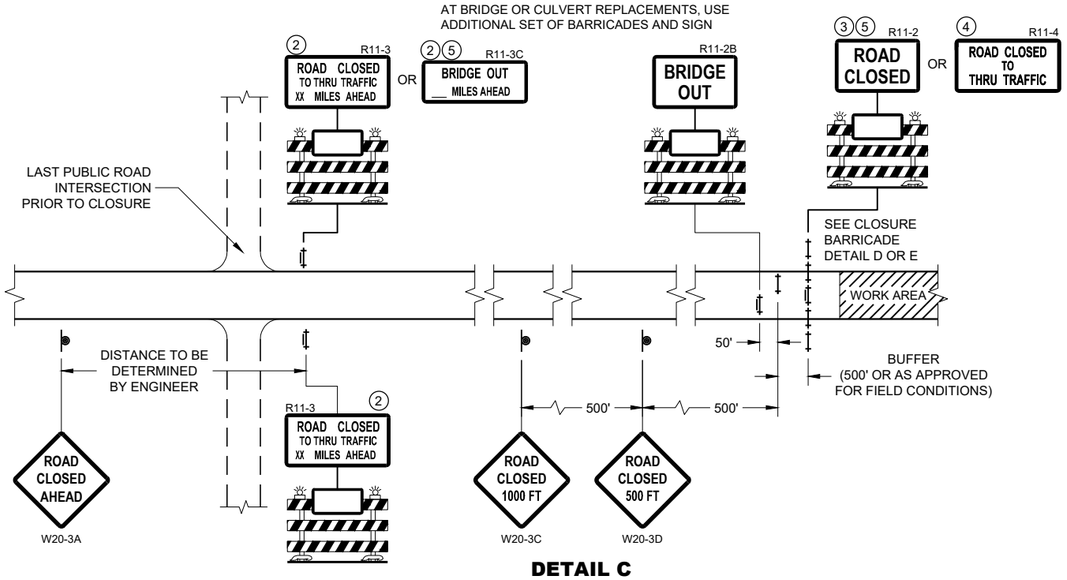

## DETAIL A
## MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )




## DETAIL B
## MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )




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

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

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

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1

## BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



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SDD 15C02 - 09a

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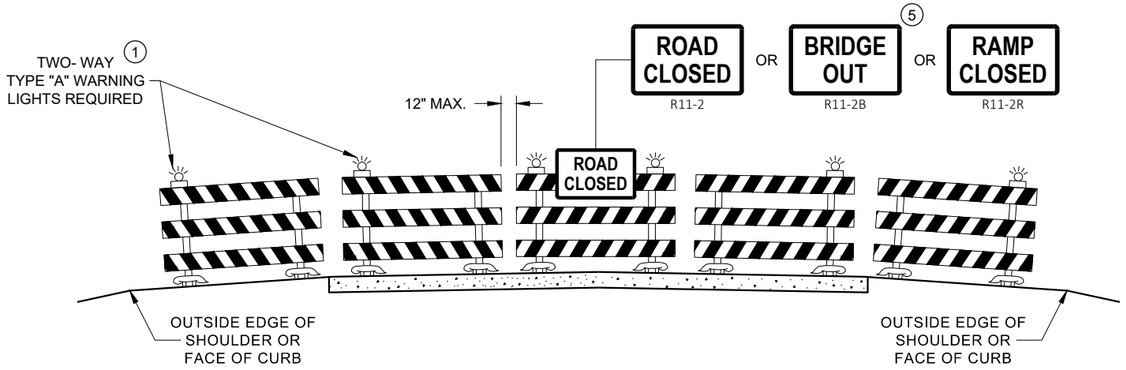
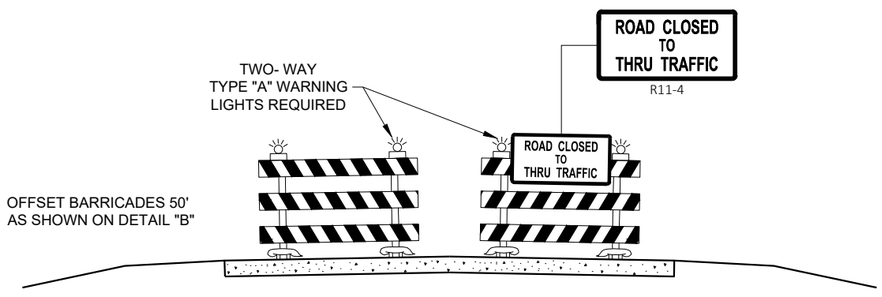
SDD 15C02 - 09a




**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
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA



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SDD 15C02 - 09b

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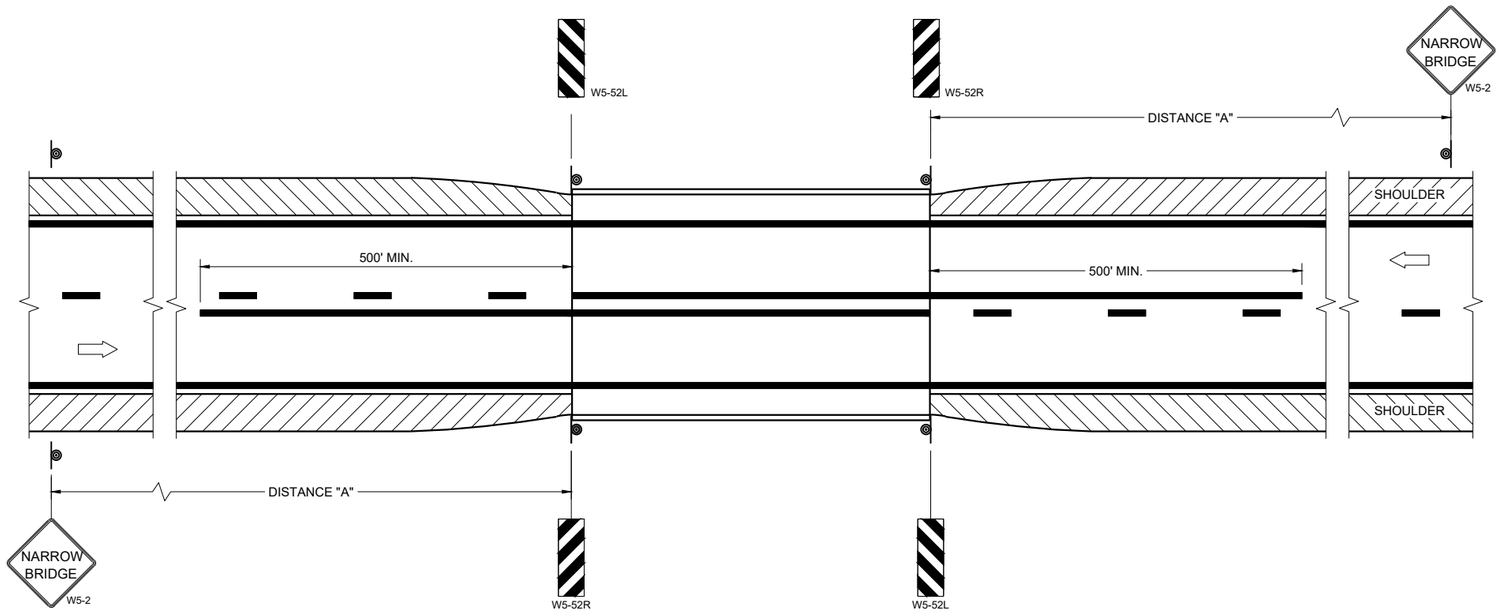
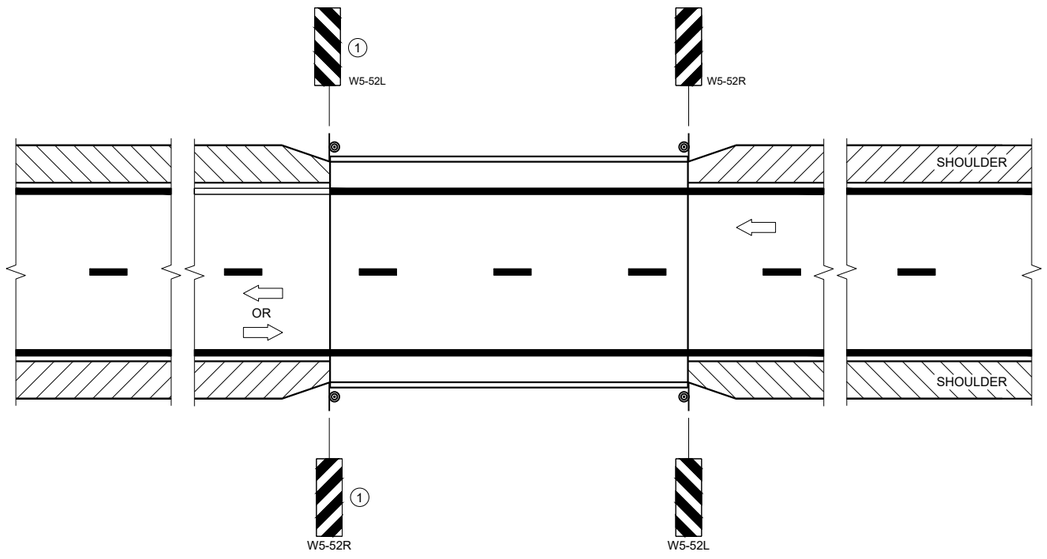
SDD 15C02 - 09b




## 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


6
SDD 15C06-12

## 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.

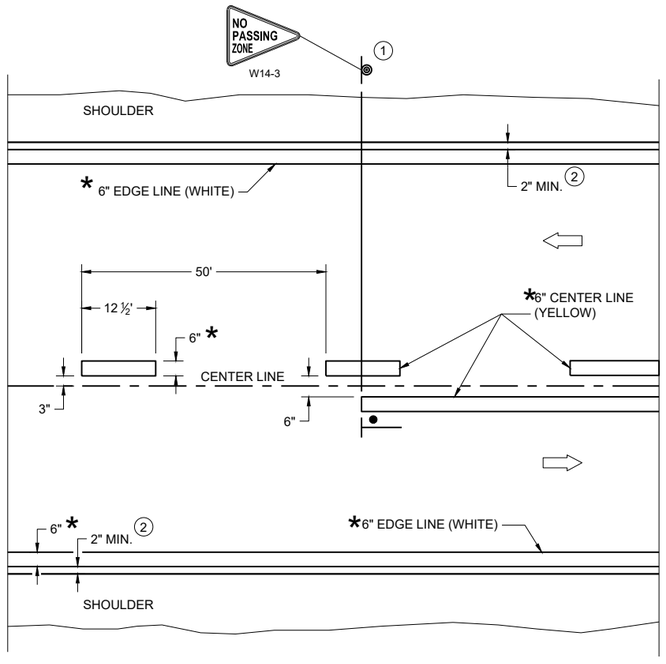
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

## LEGEND

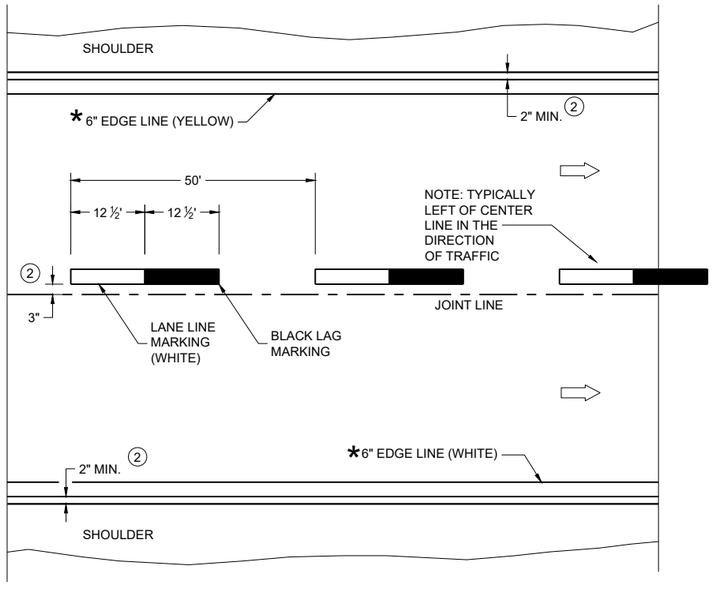
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC




TWO WAY TRAFFIC




ONE WAY TRAFFIC

**PERMANENT PAVEMENT MARKING**

**PERMANENT LONGITUDINAL PAVEMENT MARKINGS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA



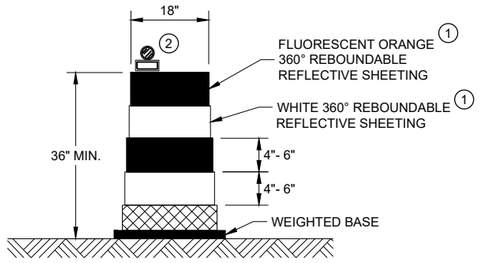
6

SDD 15C08-24a

SDD 15C08-24a

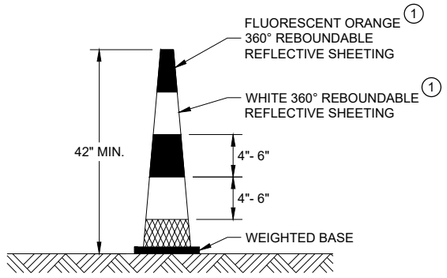
## GENERAL NOTES

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




### DRUM

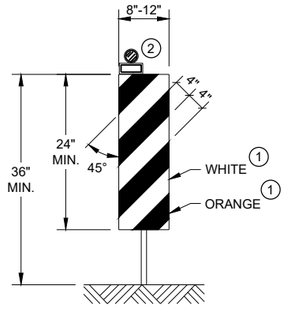
BALLAST WIDTHS
RANGE FROM 24"-36"




### 42" CONE

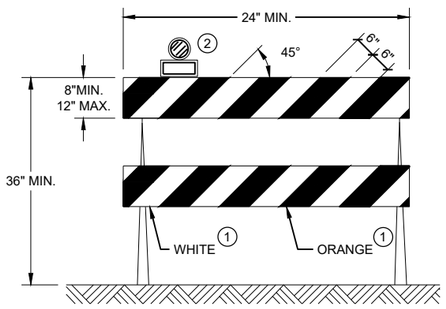
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



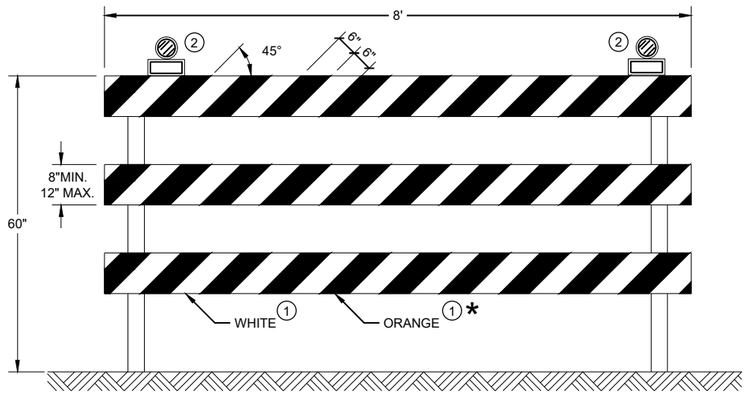

### VERTICAL PANEL

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




### TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.




### TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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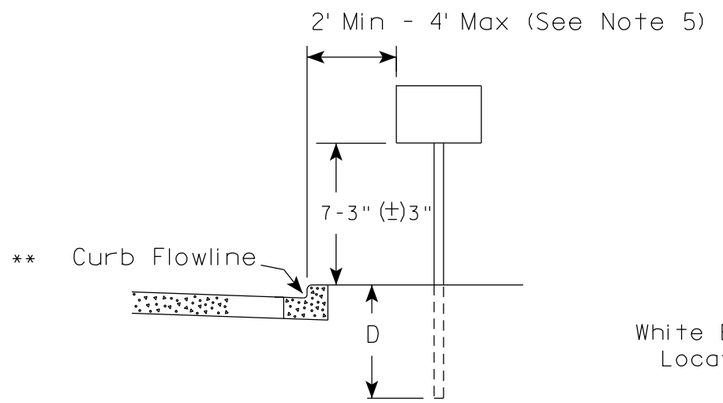
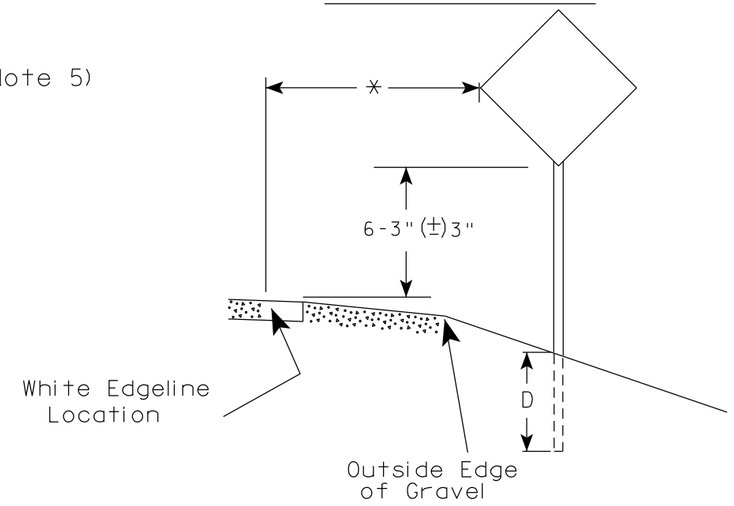
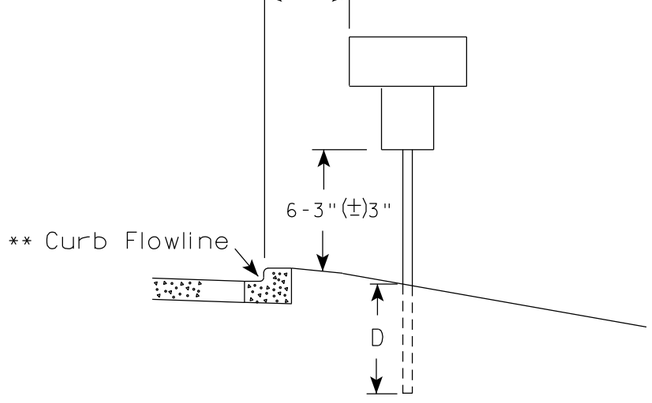
SDD 15C11 - 10b
SDD 15C11 - 10b

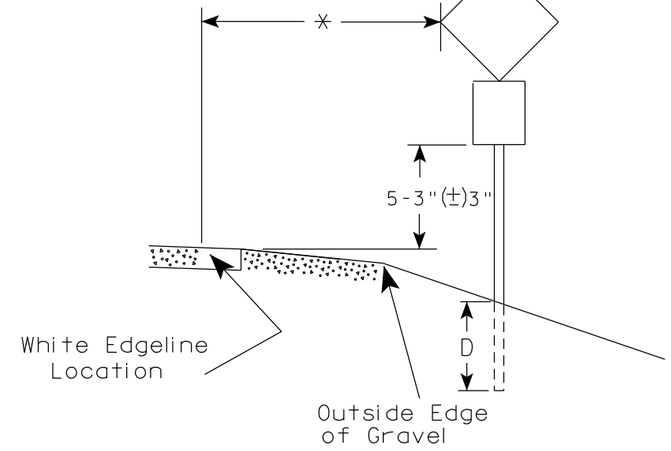
## URBAN AREA




## RURAL AREA (See Note 2)




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

### GENERAL NOTES

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

### POST EMBEDMENT DEPTH

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

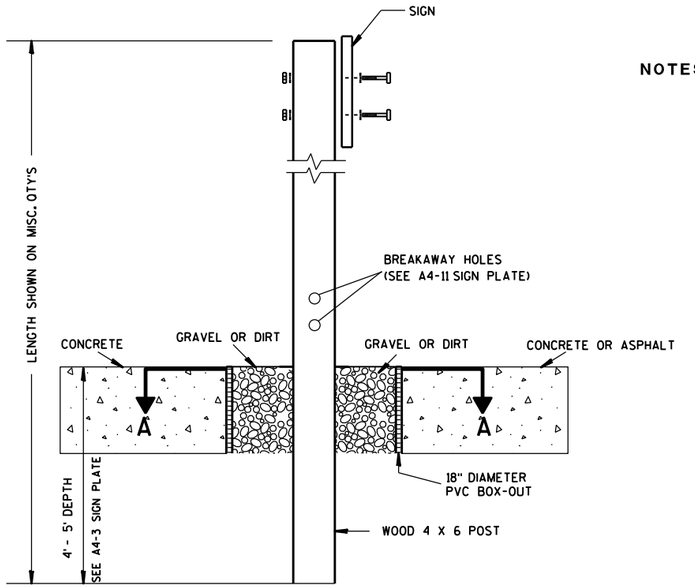
# TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

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

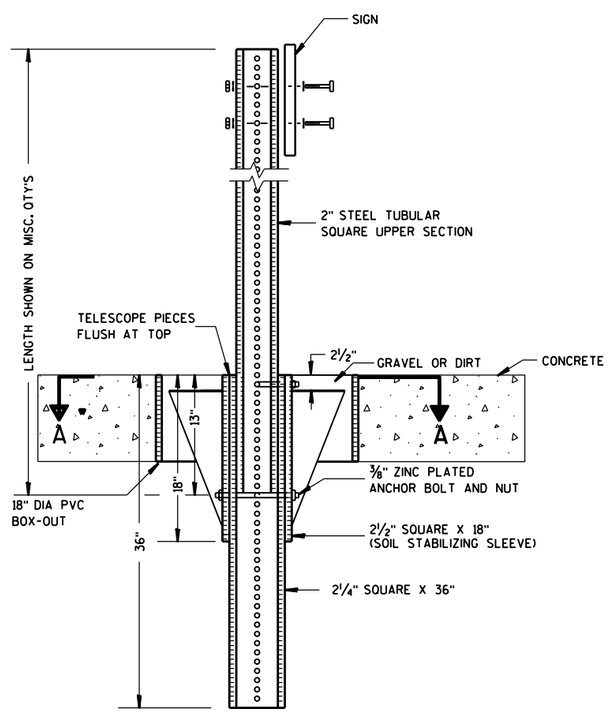
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 43 | E |
|---|---|---|---|---|---|




**ELEVATION VIEW**

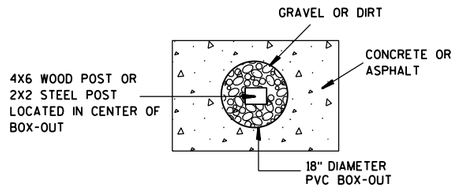
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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




**ELEVATION VIEW**

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




**PLAN VIEW**

**FOR NEW CONCRETE/ASPHALT INSTALLATIONS**

# SIGN POST BOX-OUTS A4-3B

*WISCONSIN DEPT OF TRANSPORTATION*

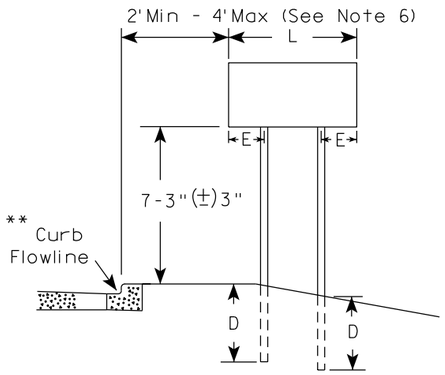
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

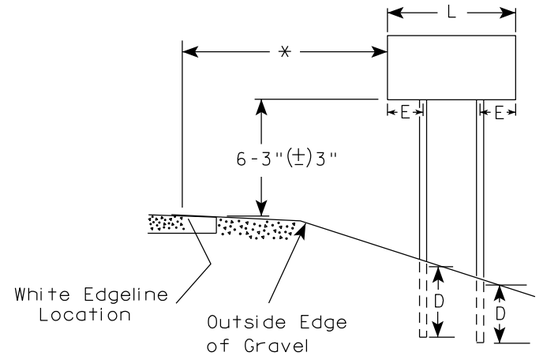


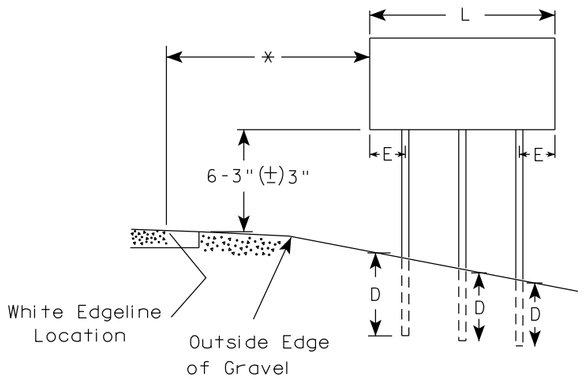
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

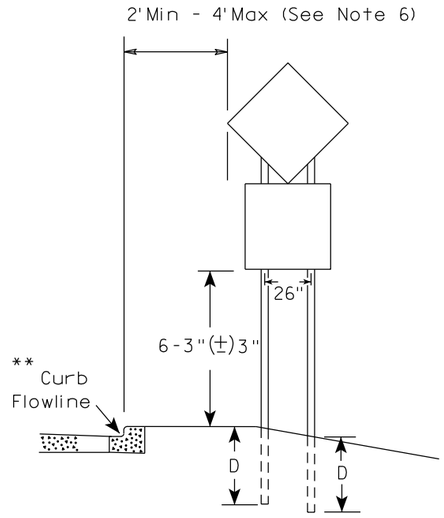
## URBAN AREA



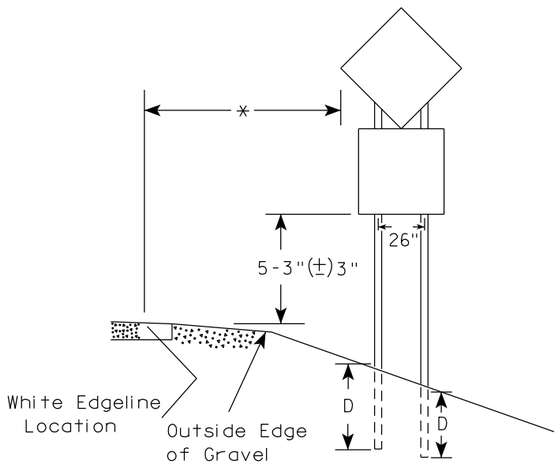

## RURAL AREA (See Note 3)




48" DIAMOND WARNING SIGN




48" DIAMOND WARNING SIGN

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

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

## 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.

## POST EMBEDMENT DEPTH

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

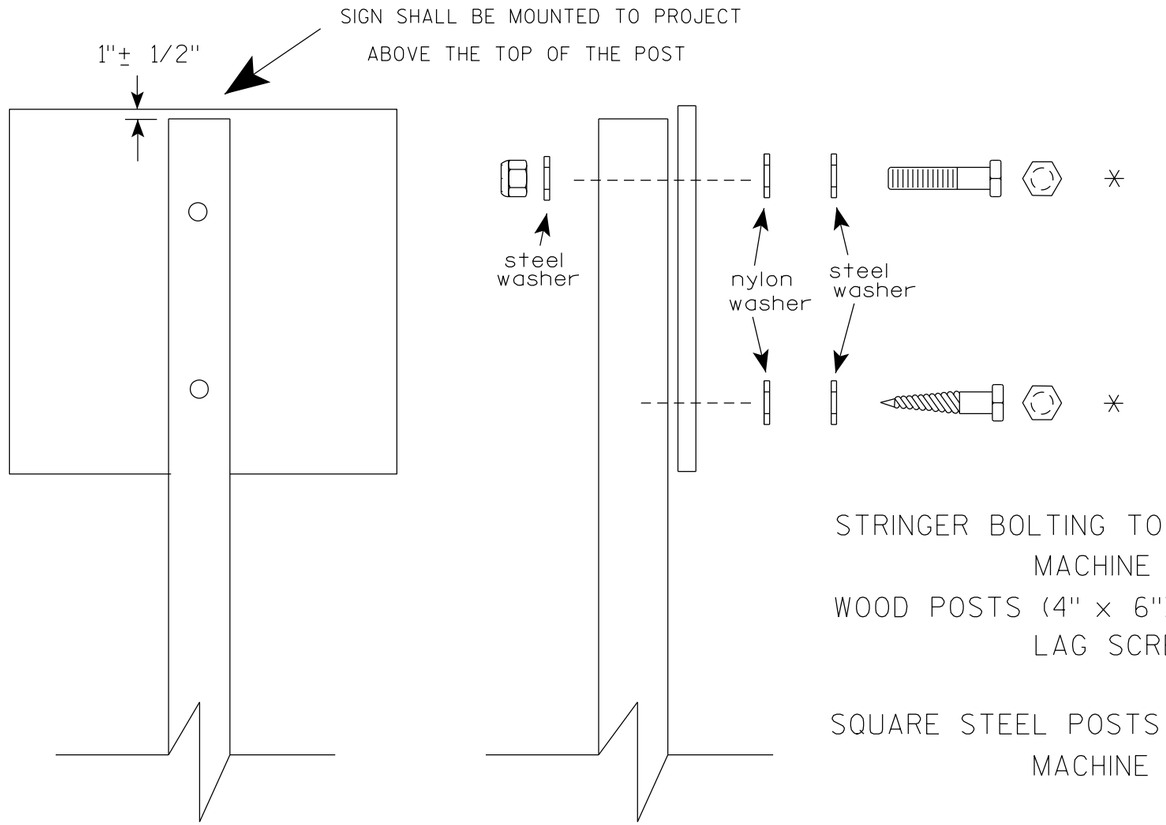
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 45 | E |
|---|---|---|---|---|---|




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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

# ATTACHMENT OF SIGNS TO POSTS

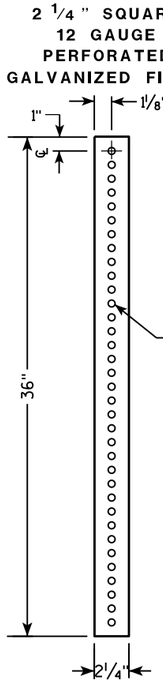
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

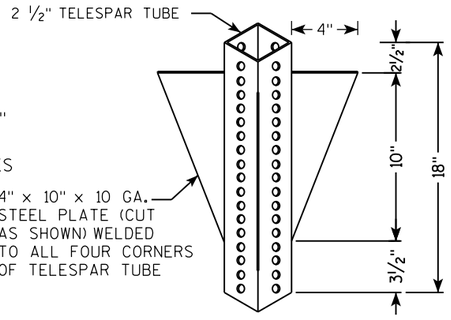
DATE 4/1/2020 PLATE NO. A4-8.9

## TELESCOPIC TUBING ANCHORS
## TWO PIECE SYSTEM

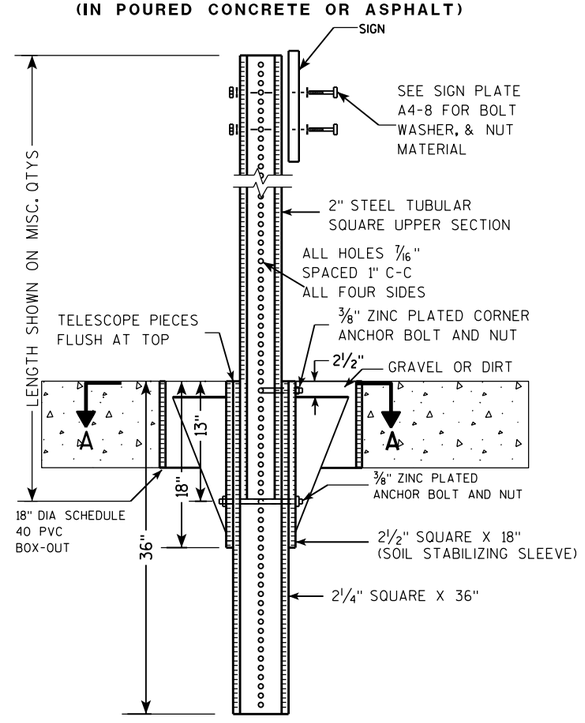
**2 ¼ " SQUARE**
**12 GAUGE**
**PERFORATED**
**GALVANIZED FINISH**



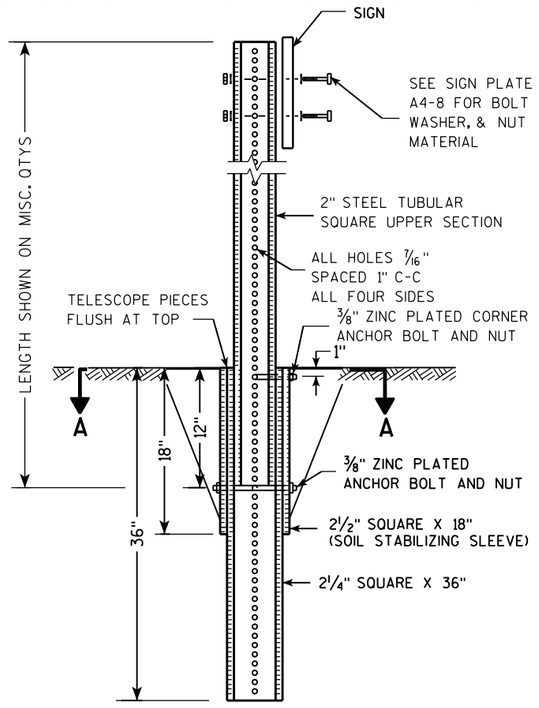

**2 ½ " SQUARE**
**12 GAUGE**
**OMNI-DIRECTIONAL**
**PERFORATED**
**SOIL STABILIZING SLEEVE**
**GALVANIZED FINISH**

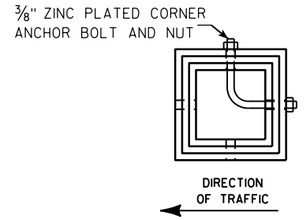



## DETAIL OF TUBULAR STEEL SIGN POST
**(IN POURED CONCRETE OR ASPHALT)**




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




**SECTION A-A**

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

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

TUBULAR STEEL
SIGN POST
A4-9

*WISCONSIN DEPT OF TRANSPORTATION*

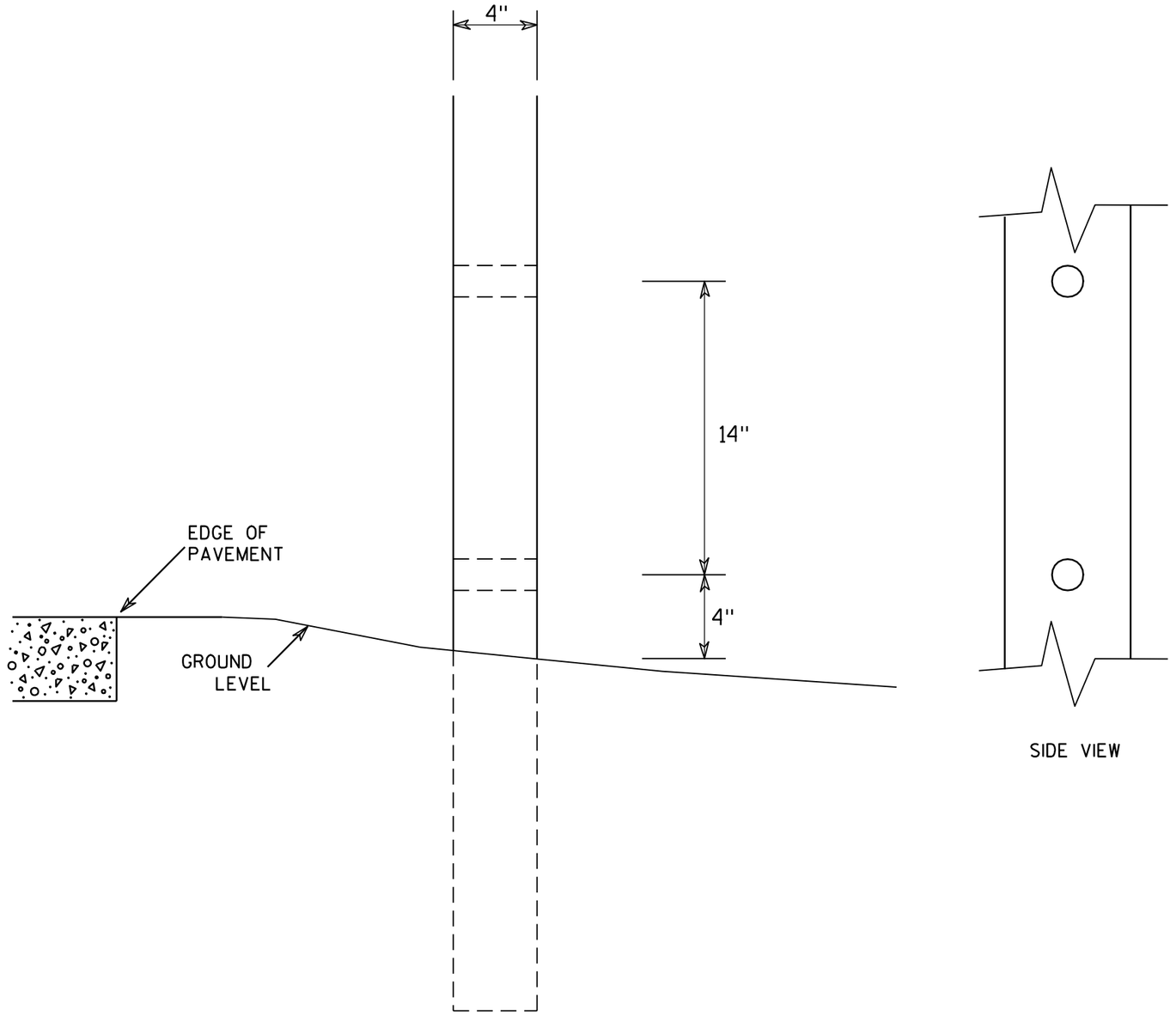
APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 2/05/15 PLATE 47 A4-9.9

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42






SIDE VIEW

GENERAL NOTES

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

7

7

# 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

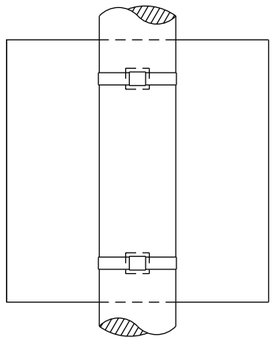
APPROVED Chester J Spang for State Traffic Engineer

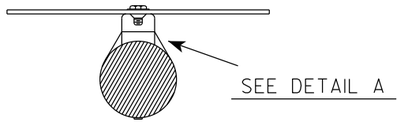
DATE 3/27/97 PLATE NO. A4-11.2

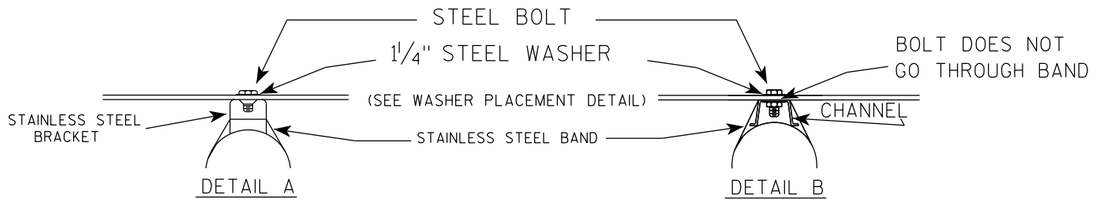
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 48 | E |
|---|---|---|---|---|---|

# BANDING

SINGLE SIGN



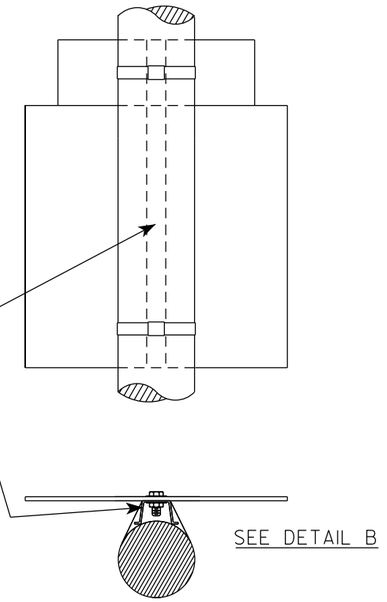


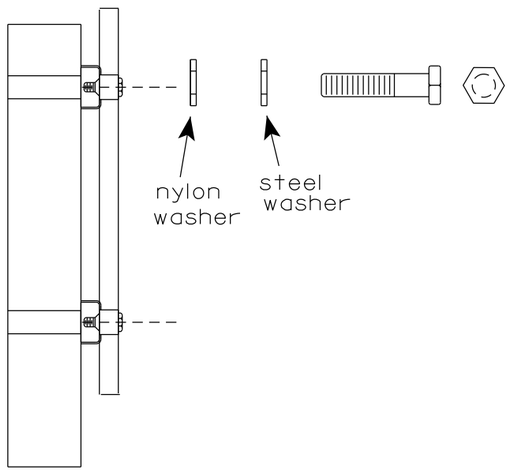

## GENERAL NOTES

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 ¾" 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




WASHER PLACEMENT




WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

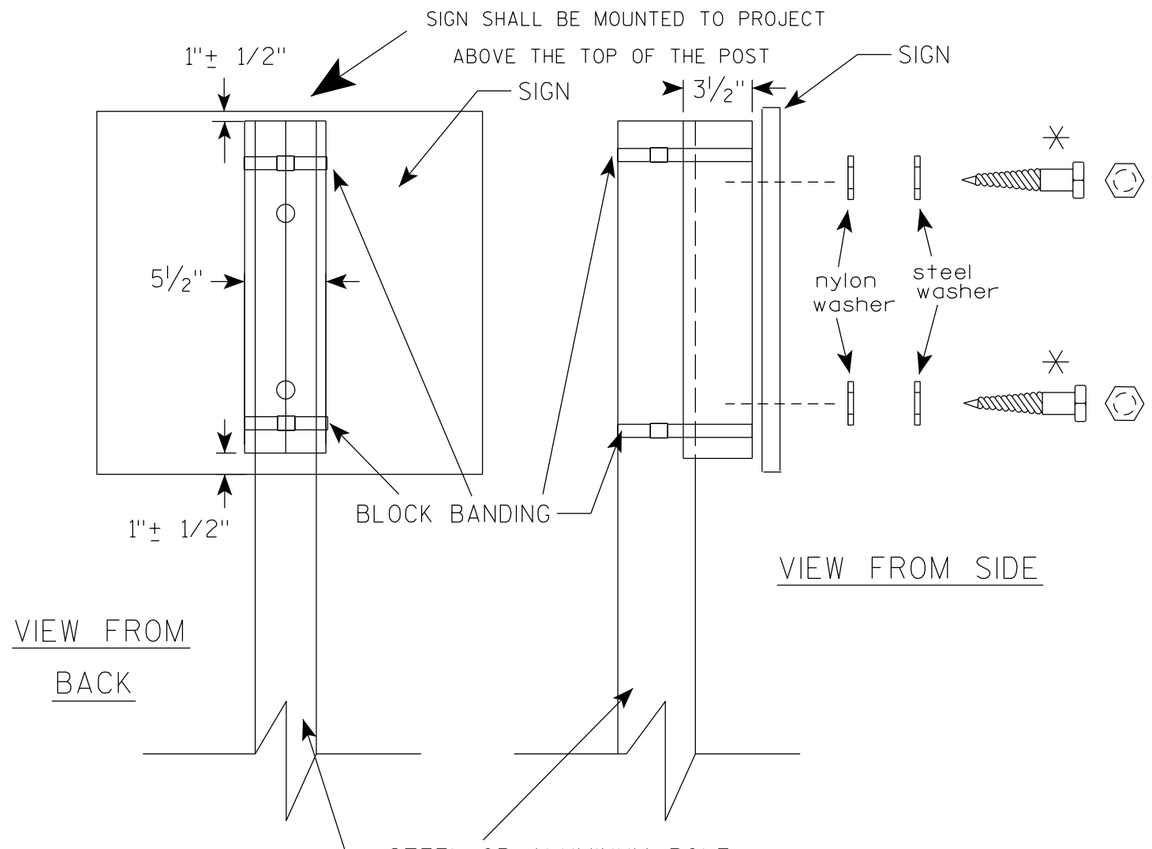
*WISCONSIN DEPT OF TRANSPORTATION*

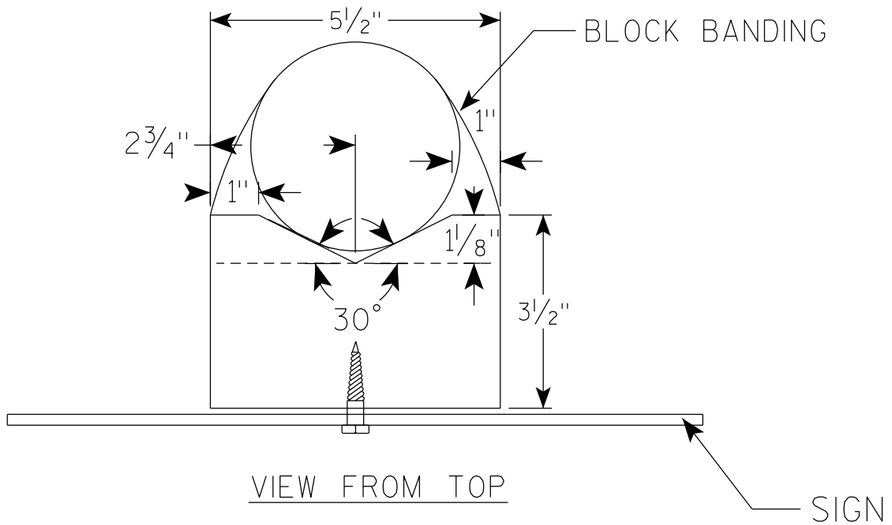
APPROVED Matthew R Rauch
for State Traffic Engineer

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

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 49 | E |
|---|---|---|---|---|---|

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$




## 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, ¾" 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 NORNALLY 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 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

# BLOCK BANDING DETAIL ( V-BLOCK OPTION )

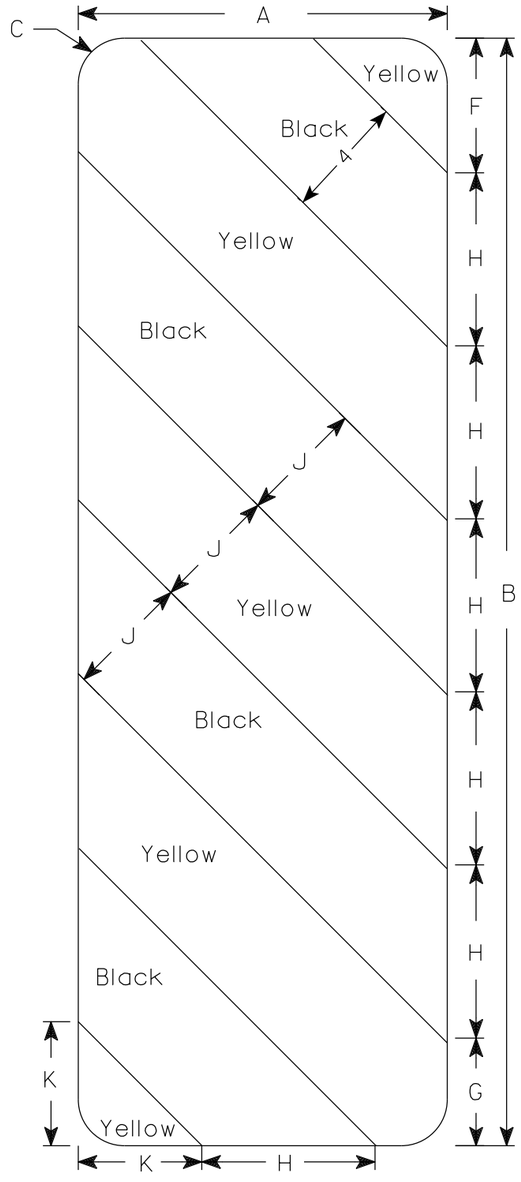
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

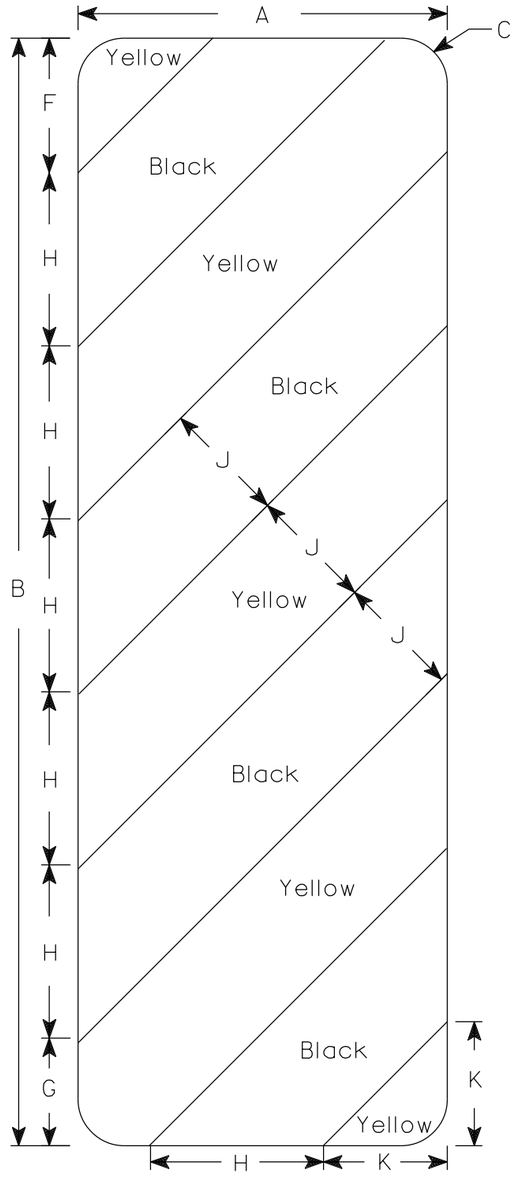
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 50 E




W5-52L




W5-52R

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 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

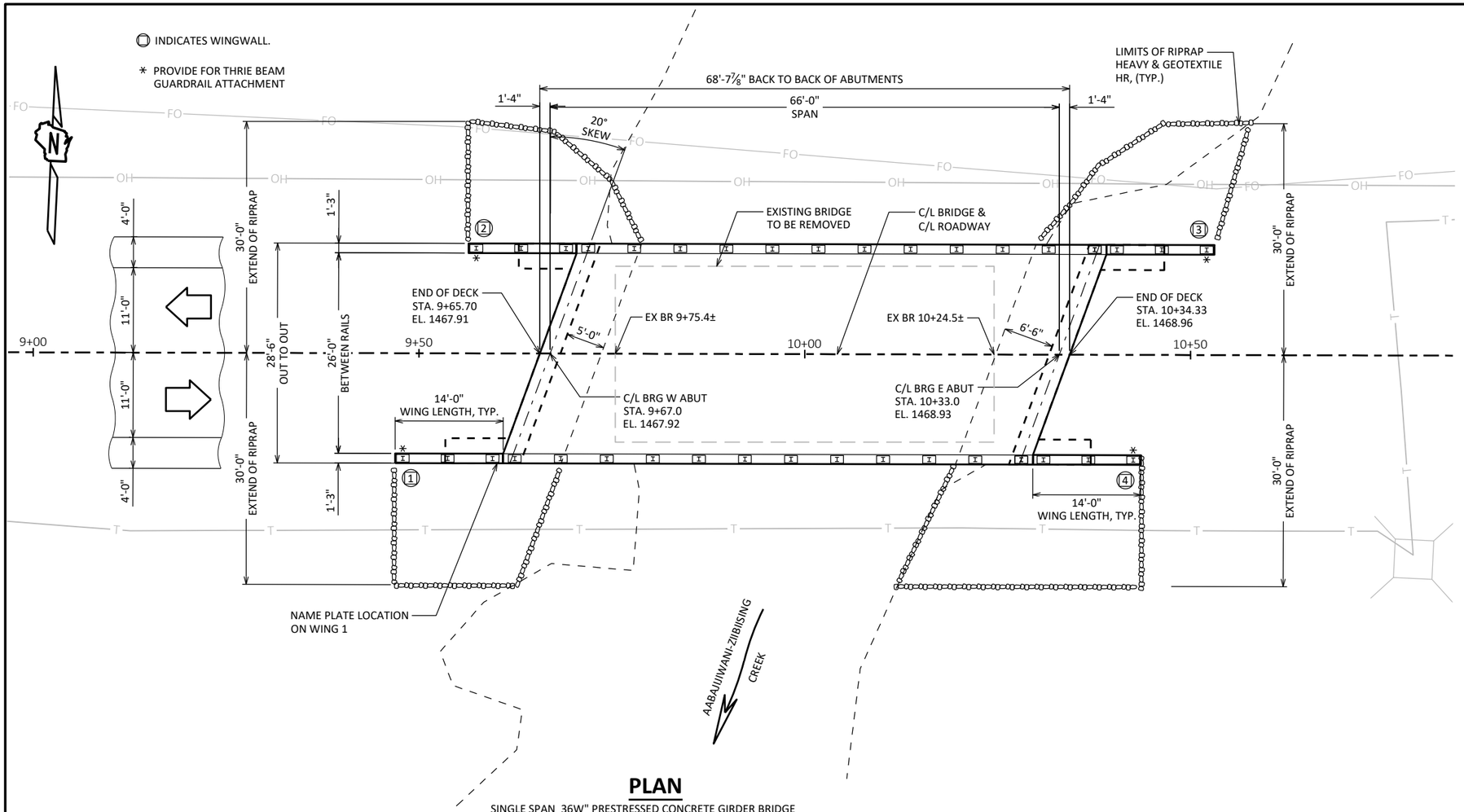
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



FILE NAME : C:\CAEfiles\Projects\tr_stdplate_W552.dgn PLOT DATE : 4-MARCH 2024 11:57 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

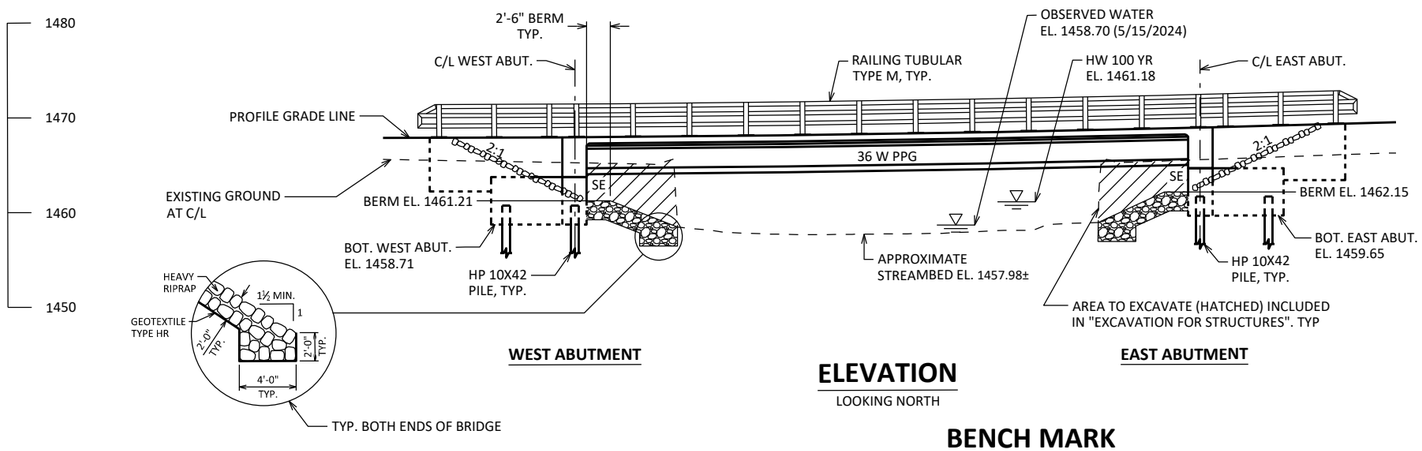
STATE PROJECT NUMBER

**9894-00-72**




## PLAN

SINGLE SPAN 36W" PRESTRESSED CONCRETE GIRDER BRIDGE




**WEST ABUTMENT**

**EAST ABUTMENT**

## ELEVATION

LOOKING NORTH

## BENCH MARK

| NO. | STATION | OFFSET | DESCRIPTION | ELEV. |
|---|---|---|---|---|
| BM 1 | 8+66.57 | 22.55' LT | SPK IN PP | 1469.66' |
| BM 2 | 10+93.04 | 21.54' LT | SPK IN PP | 1465.07' |
| BM 3 | 12+66.31 | 21.66' LT | SPK IN PP | 1486.53' |

## DESIGN DATA

**LIVE LOAD:**

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.14
OPERATING RATING: RF = 1.63
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

**MATERIAL PROPERTIES:**

CONCRETE MASONRY:
SUPERSTRUCTURE — $f'_c$ = 4,000 PSI
ALL OTHER — $f'_c$ = 3,500 PSI

HIGH STRENGTH BAR STEEL REINFORCEMENT
GRADE 60 — $f_y$ = 60,000 PSI

36W" PRESTRESSED GIRDERS:
CONCRETE MASONRY — $f'_c$ = 6,000 PSI

STRANDS: 0.6" DIA. LOW RELAXATION WITH ULTIMATE TENSILE STRENGTH OF $f_y$ = 270,000 P.S.I.

## FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10X42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 50'-0" LONG FOR THE WEST ABUTMENT
ESTIMATED 45'-0" LONG FOR THE EAST ABUTMENT

**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 PILE CAPACITY.

## HYDRAULIC DATA

**100-YEAR FREQUENCY:**

| | |
|---|---|
| $Q_{100}$ | 510 C.F.S. |
| $V_{100}$ | 3.7 F.P.S. |
| $HW_{100}$ | 1,461.18 FT. |
| WATERWAY AREA | 137 SQ. FT. |
| DRAINAGE AREA | 23.50 SQ. MI. |
| ROADWAY OVERTOPPING | N/A |
| SCOUR CRITICAL CODE | 5 |

**2-YEAR FREQUENCY:**

| | |
|---|---|
| $Q_2$ | 177 C.F.S. |
| $V_2$ | 2.3 F.P.S. |
| $HW_2$ | 1,459.74 FT. |

## TRAFFIC DATA

**FEATURE ON:**

| | |
|---|---|
| ADT | = 285 ( 2026 ) |
| ADT | = 290 ( 2046 ) |
| DHV | = 29 |
| DD | = 50/50% |
| T | = 20% |
| DESIGN SPEED | = 30 MPH |

## LIST OF DRAWINGS:

1. GENERAL PLANS
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. ABUTMENT DETAILS
5. ABUTMENT DETAILS
6. WING 1 & 2 DETAILS
7. WING 3 & 4 DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. 36W PS GIRDER
11. STRAND DRAPING & PATTERNS
12. STEEL DIAPHRAGMS
13. TUBULAR STEEL RAILING TYPE M

**STRUCTURE DESIGN CONTACTS:**

SEH CONTACT: CHRIS BLUM, PE, 608.620.6192
WISDOT BRIDGE OFFICE CONTACT: AARON BONK, PE, 608.261.0261

WISCONSIN CHRISTOPHER J. BLUM E-33157 MADISON WI PROFESSIONAL ENGINEER

7/16/2025

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

SEH
SHORT ELLIOTT HENDRICKSON INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED — JLR — 08/22/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

**STRUCTURE B-50-96**

SQUAW CRK RD OVER AABAJIJIWANI-ZIIBIINSING CREEK

| COUNTY | TOWN |
|---|---|
| PRICE | WORCESTER |

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

| DESIGNED BY | DESIGN CK'D | DRAWN BY | PLANS CK'D |
|---|---|---|---|
| DKW | NCK | ZLM | DKW |

**GENERAL PLAN**

SHEET 1 OF 13
52

I.D.

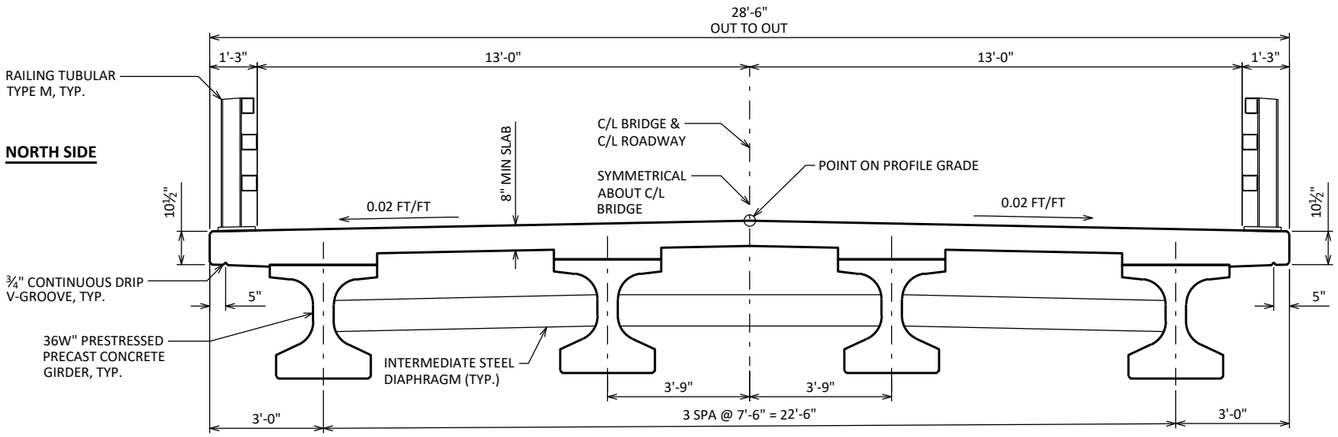
DATE:

8

8

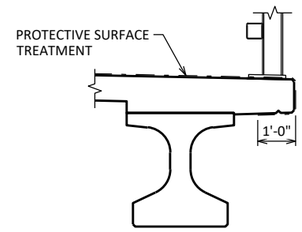
STATE PROJECT NUMBER

**9894-00-72**

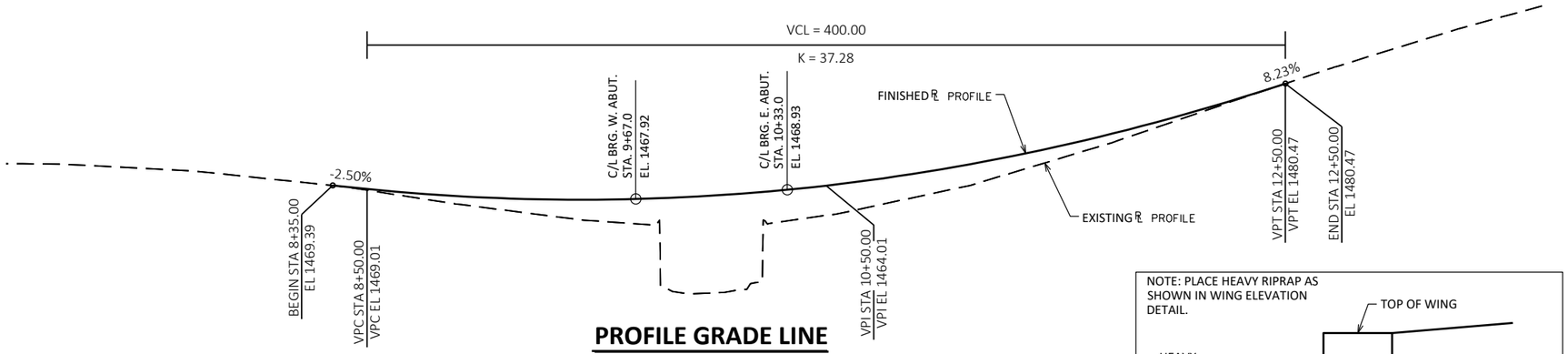



## CROSS SECTION THRU BRIDGE SHOWN IN SPAN

(LOOKING EAST)




## PROTECTIVE SURFACE TREATMENT DETAIL




## PROFILE GRADE LINE

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-50-96" SHALL BE THE EXISTING GROUNDLINE.

AT ABUTMENTS, ALL SPACE EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE UNLESS OTHERWISE NOTED.

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.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

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.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACE OF 1/2" FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)

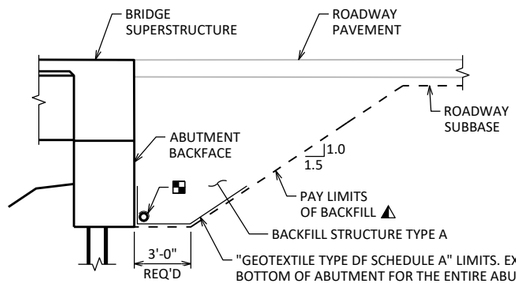
FILLER SHALL CONFORM TO THE REQUIREMENTS OF ASSHTO DESIGNATION :M153 TYPE 1, 2, OR 3 OR ASSHTO DESIGNATION :M213.

REMOVE EXISTING STRUCTURE STA 9+75.4 TO STA 10+24.5, P-50-60, SINGLE SPAN CAST IN PLACE GIRDER BRIDGE, 49.1' LONG 18.9' WIDE

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN IN THE PRESTRESSED GIRDER SHEET.



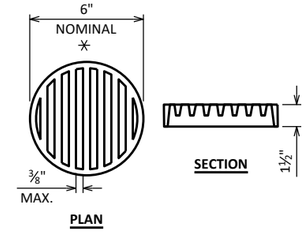

## TYPICAL FILL SECTION AT WING




## TYPICAL SECTION THRU ABUTMENT

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND 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.




## RODENT SHIELD DETAIL

* 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 COMMERCIALLY 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.

## TOTAL ESTIMATED QUANTITIES - B -50-96

| BID ITEM NUMBER | BID ITEMS | UNIT | SUPER | WEST ABUT. | EAST ABUT. | TOTALS |
|---|---|---|---|---|---|---|
| 203.0260 | REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS P-50-60 | EACH | --- | --- | --- | 1 |
| 206.1001 | EXCAVATION FOR STRUCTURES BRIDGES B-50-96 | EACH | --- | --- | --- | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | --- | 166 | 188 | 354 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 58 | 36 | 36 | 130 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 269 | --- | --- | 269 |
| 503.0137 | PRESTRESSED GIRDER TYPE I 36W-INCH | LF | 268 | --- | --- | 268 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | - | 2115 | 2115 | 4230 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 13440 | 1805 | 1805 | 17050 |
| 506.2605 | BEARING PADS ELASTOMERIC NON-LAMINATED | EACH | 8 | --- | --- | 8 |
| 506.4000 | STEEL DIAPHRAGMS B-50-96 | EACH | 3 | --- | --- | 3 |
| 513.4061 | RAILING TUBULAR TYPE M | LF | 194 | --- | --- | 194 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | --- | 10 | 10 | 20 |
| 550.1100 | PILING STEEL HP 10-INCH X 42 LB | LF | --- | 400 | 360 | 760 |
| 606.0300 | RIPRAP HEAVY | CY | --- | 65 | 90 | 155 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | --- | 95 | 95 | 190 |
| 645.0111 | GEOTEXTILE TYPE DF SCHEDULE A | SY | --- | 25 | 25 | 50 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | --- | 125 | 170 | 295 |
| | | | | | | |
| | NON-BID ITEMS | | | | | |
| | FILLER | SIZE | --- | --- | --- | 1/2", 3/4" |
| | NAMEPLATE | EACH | | | | 1 |
| | BENCHMARK | EACH | | | | 1 |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**CROSS SECTION AND QUANTITIES**

SHEET 2 OF 13

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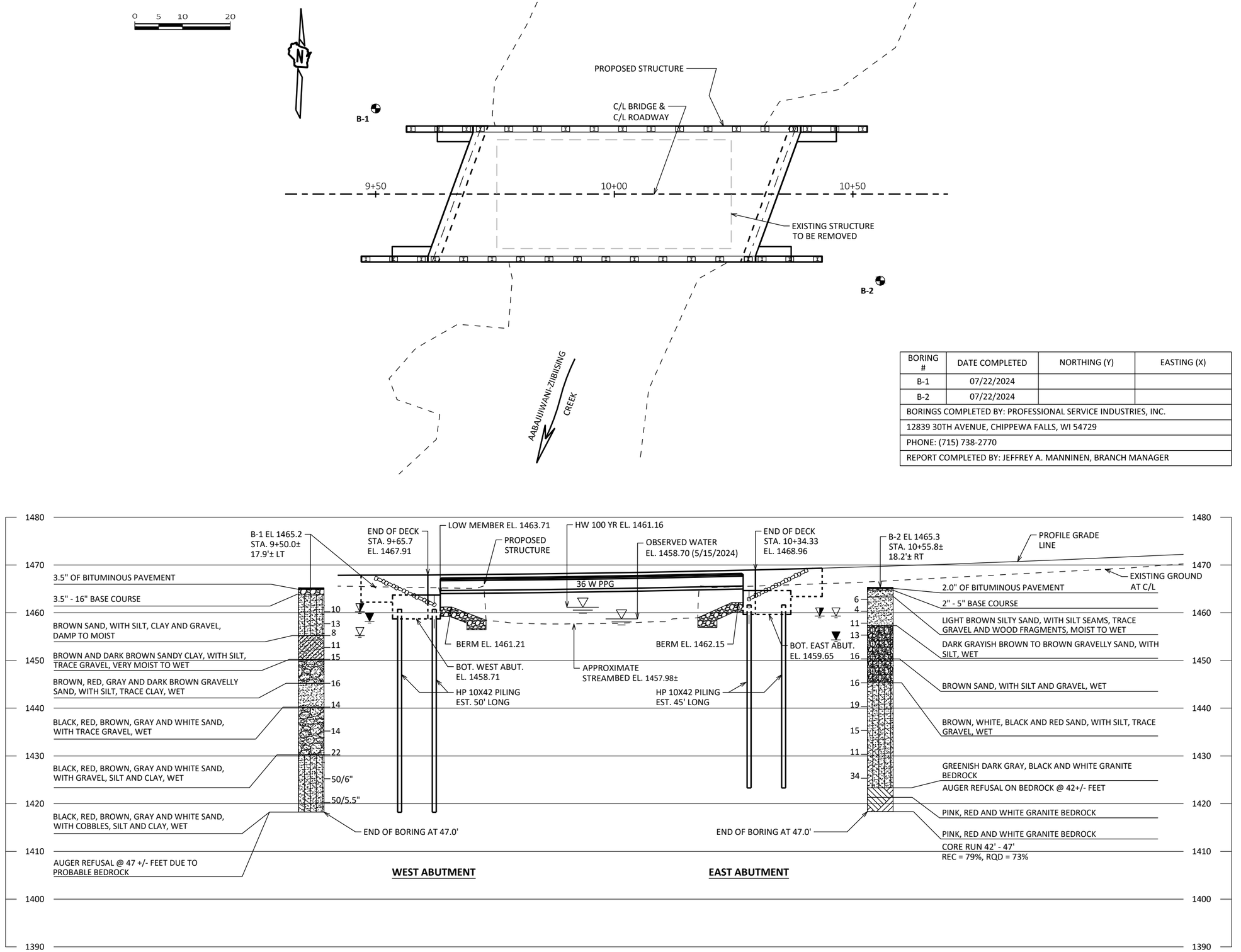
8

STATE PROJECT NUMBER

**9894-00-72**



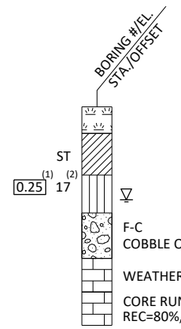

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| B-1 | 07/22/2024 | | |
| B-2 | 07/22/2024 | | |
| BORINGS COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC. | | | |
| 12839 30TH AVENUE, CHIPPEWA FALLS, WI 54729 | | | |
| PHONE: (715) 738-2770 | | | |
| REPORT COMPLETED BY: JEFFREY A. MANNINEN, BRANCH MANAGER | | | |




**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
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**SUBSURFACE EXPLORATION**

SHEET 3 OF 13

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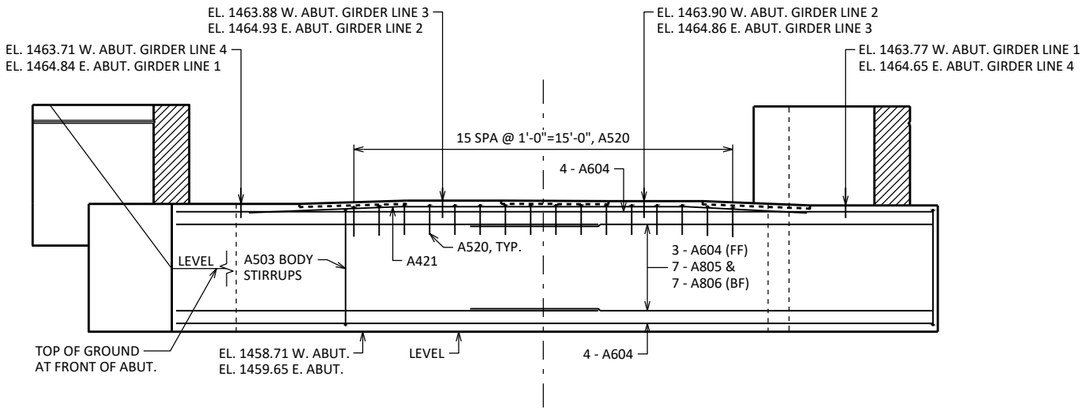
8

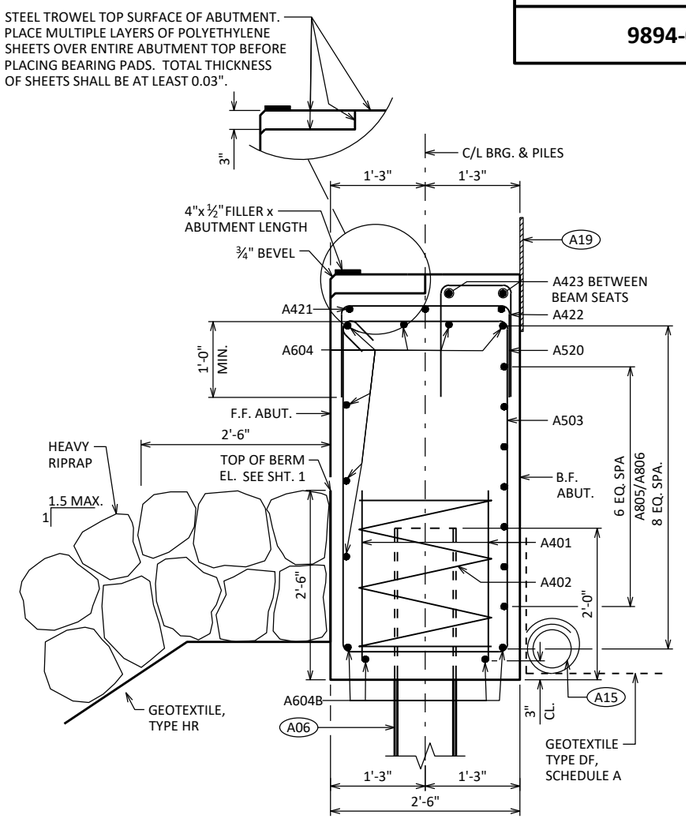
STATE PROJECT NUMBER

**9894-00-72**

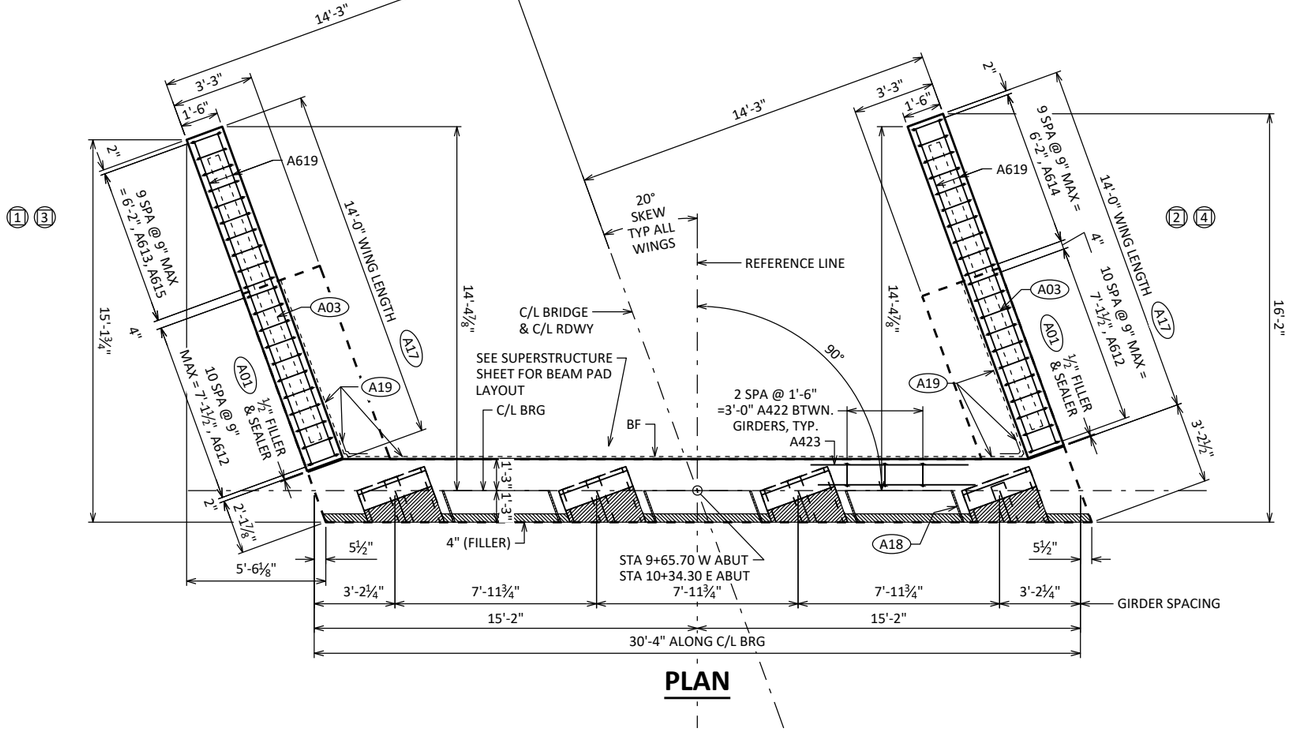



## ELEVATION

(LOOKING AT FRONT FACE)
(PILES NOT SHOWN FOR CLARITY)




## SECTION THRU BODY




## PLAN

## NOTES

- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 50'-0" LONG AT WEST ABUTMENT & 45'-0" LONG EAST ABUTMENT WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- (A14) CONTRACTOR SHALL SUPPLY A NEW NAME PLATE ON WING 1 PER 502.3.11 OF STD. SPEC.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A18) ¾" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**ABUTMENT DETAILS**

SHEET 4 OF 13

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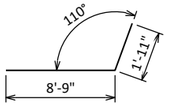
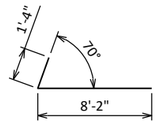
8

STATE PROJECT NUMBER

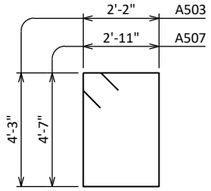
**9894-00-72**



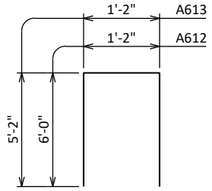

**A708**



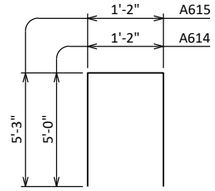

**A710**



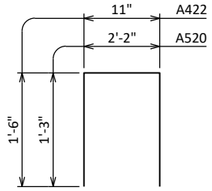

**A503, A507**



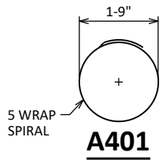

**A612, A613**



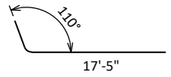

**A614, A615**



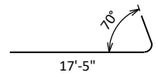

**A520, A422**




**A401**




**A805**

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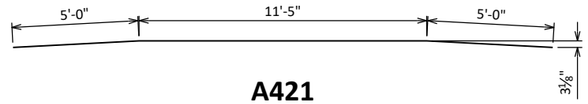



**A421**

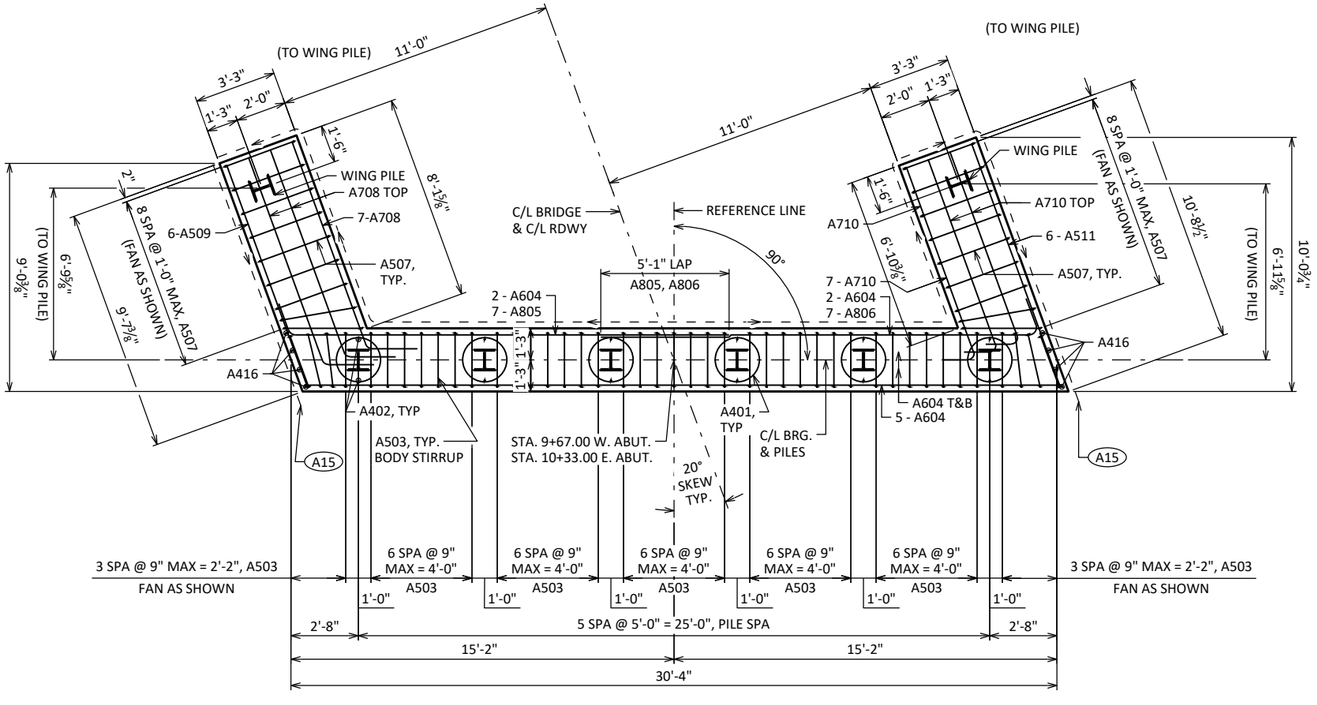
## BILL OF BARS

## ABUTMENTS

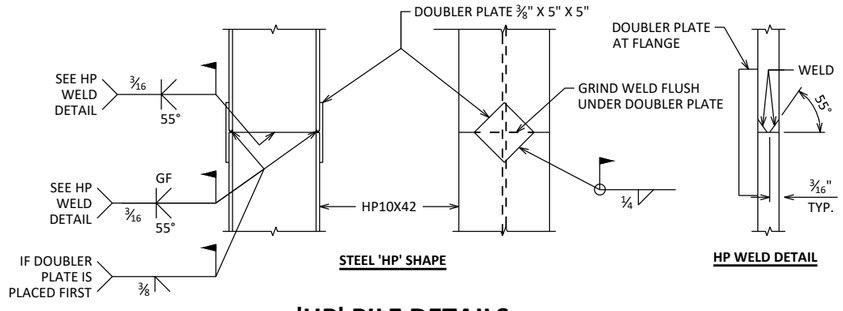
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| A401 | | 12 | 28'-0" | X | | BODY AT PILES |
| A402 | | 24 | 2'-3" | | | BODY AT PILES |
| A503 | | 86 | 13'-6" | X | | BODY STIRRUPS |
| A604 | | 22 | 29'-10" | | | BODY HORIZ |
| A805 | | 14 | 18'-6" | X | | BODY HORIZ |
| A806 | | 14 | 18'-9" | X | | BODY HORIZ |
| A507 | X | 36 | 14'-4" | | | WING STIRRUP |
| A708 | X | 18 | 10'-7" | X | | WING 1 & 3 BF & TOP |
| A509 | X | 12 | 9'-4" | | | WING 1 & 3 FF |
| A710 | X | 18 | 9'-4" | X | | WING 2 & 4 BF & TOP |
| A511 | X | 12 | 10'-3" | | | WING 2 & 4 FF |
| A612 | X | 44 | 12'-10" | X | | WING 1 THRU 4 VERT |
| A613 | X | 10 | 11'-2" | X | | WING 1 VERT |
| A614 | X | 20 | 10'-10" | X | | WING 2 & 4 VERT |
| A615 | X | 10 | 11'-4" | X | | WING 3 VERT |
| A416 | | 16 | 4'-7" | | | BODY VERT |
| A417 | X | 17 | 7'-9" | | | WING HORIZ |
| A418 | X | 36 | 13'-7" | | | WING HORIZ |
| A619 | X | 8 | 13'-7" | | | WING HORIZ TOP |
| A520 | | 32 | 4'-4" | X | | BODY VERT AT TOP |
| A421 | | 6 | 21'-5" | X | | BODY HORIZ AT TOP |
| A422 | | 18 | 3'-9" | X | | BODY VERT BETWEEN BEAM SEATS |
| A423 | | 12 | 6'-3" | | | BODY HORIZ BEWTEEN BEAM SEATS |

NOTE: TABLE INCLUDES TOTAL BARS FOR ALL ABUTMENTS



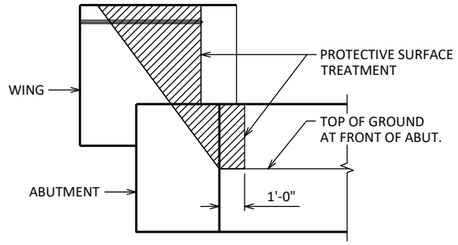

## FOOTING & PILE LAYOUT




**STEEL 'HP' SHAPE**

**HP WELD DETAIL**

## 'HP' PILE DETAILS




## PROTECTIVE SURFACE TREATMENT DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**ABUTMENT DETAILS**

SHEET 5 OF 13

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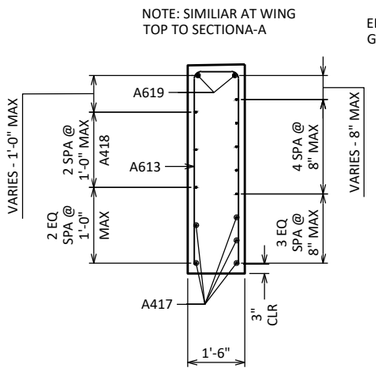
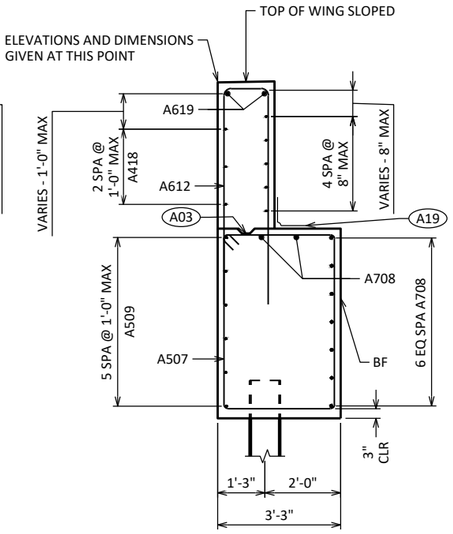
8

STATE PROJECT NUMBER

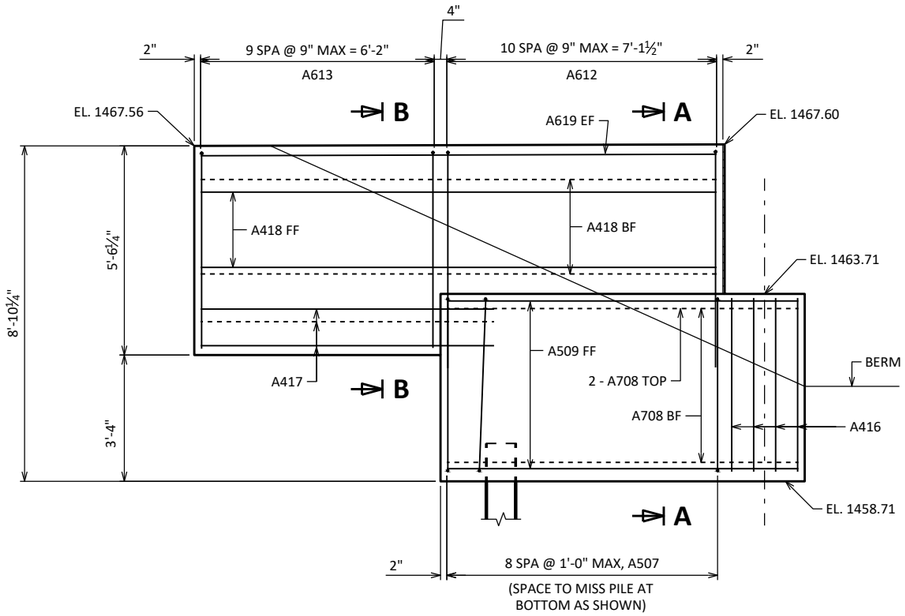
**9894-00-72**




## SECTION B-B



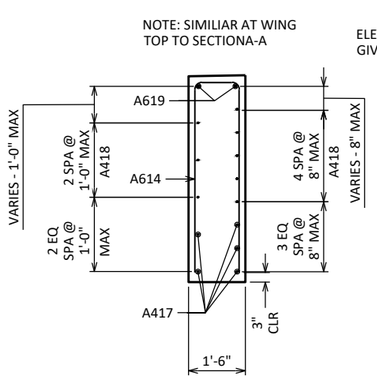

## SECTION A-A



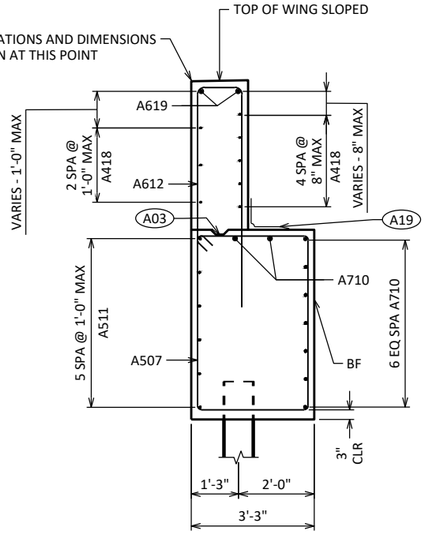

## ELEVATION - WING 1

## NOTES

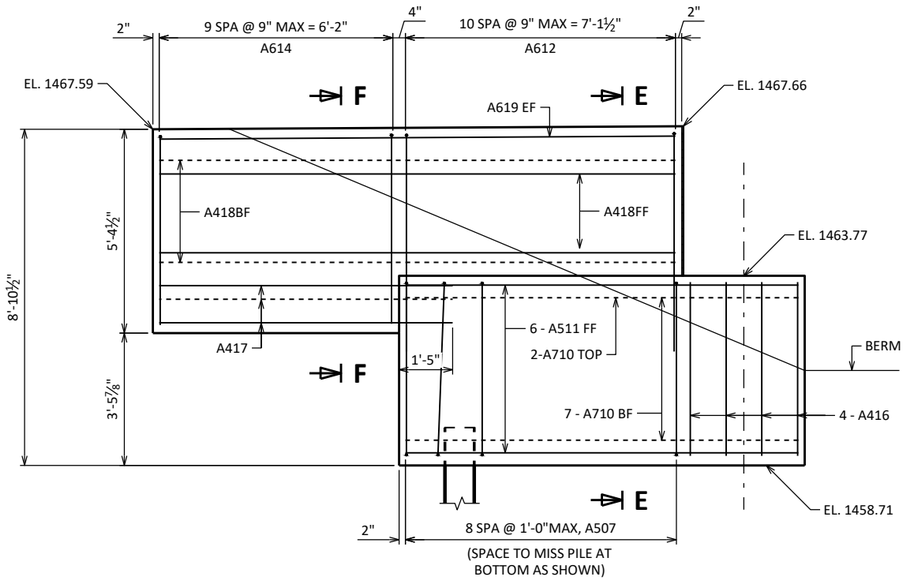
SEE SHEET 4 FOR ABUTMENT NOTES
FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE




## SECTION F-F




## SECTION E-E




## ELEVATION - WING 2

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**WING 1 & 2 DETAILS**

SHEET 6 OF 13



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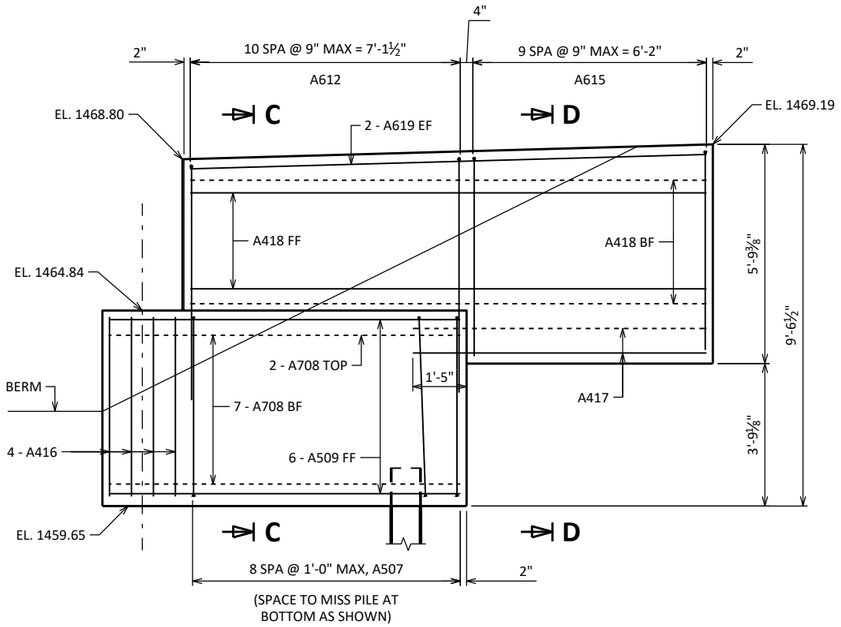
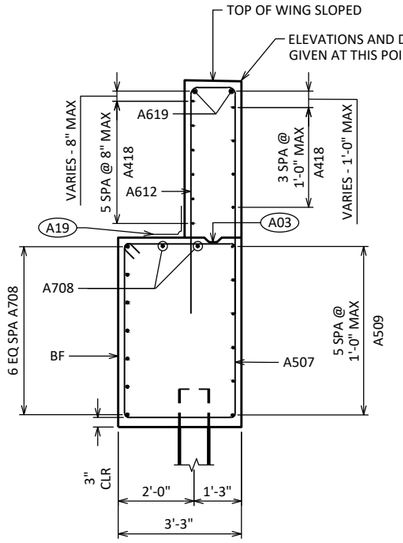
STATE PROJECT NUMBER

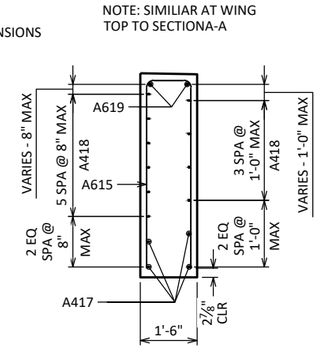
**9894-00-72**




## ELEVATION - WING 3



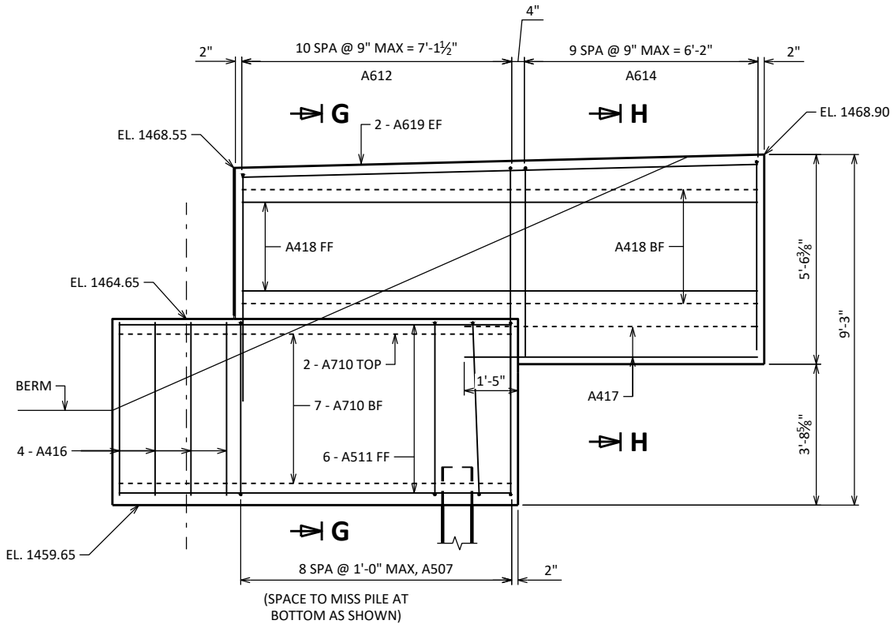

## SECTION C-C



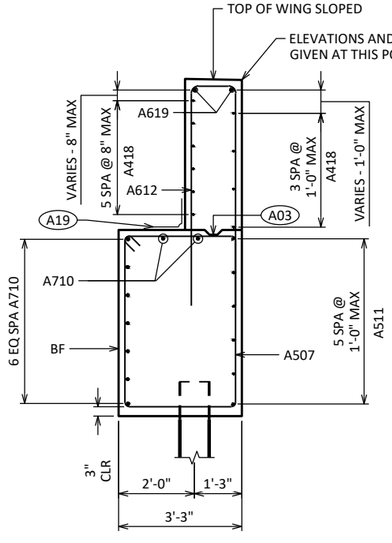

## SECTION D-D

## NOTES

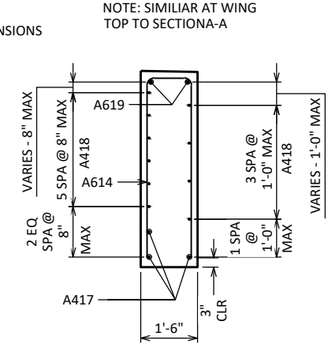
SEE SHEET 4 FOR ABUTMENT NOTES
FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE




## ELEVATION - WING 4




## SECTION G-G




## SECTION H-H

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**WING 3 & 4 DETAILS**

SHEET 7 OF 13



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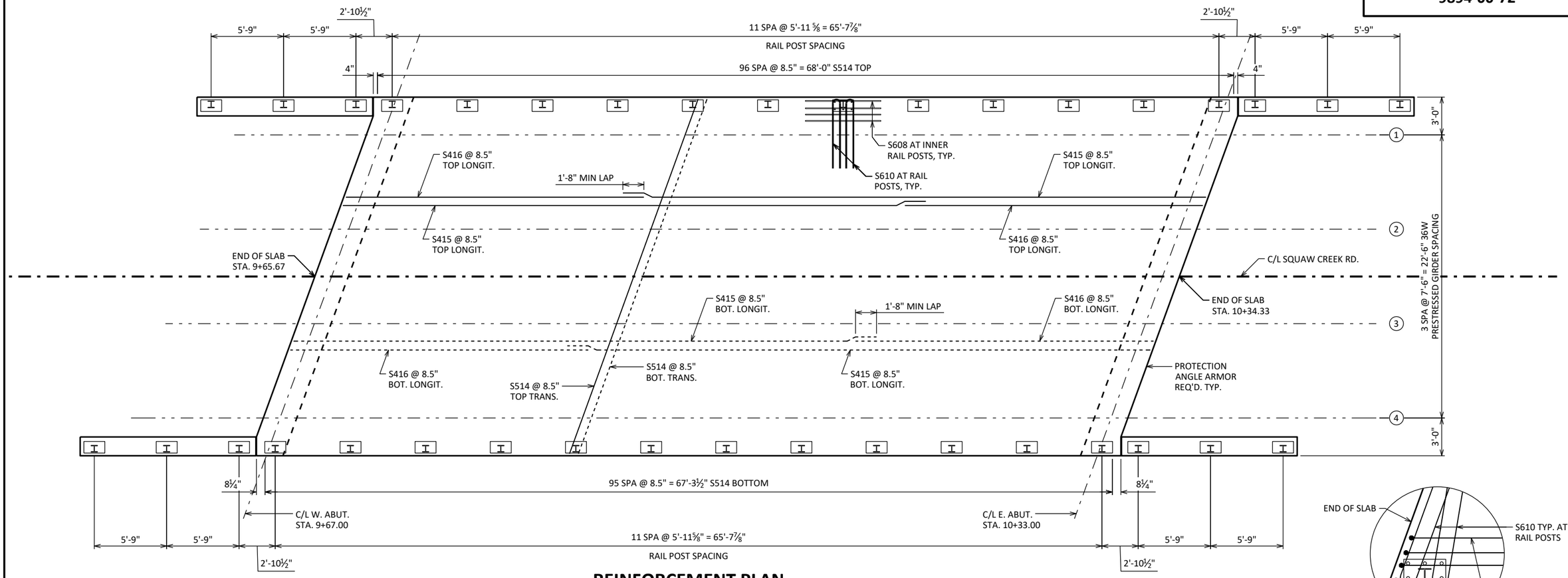
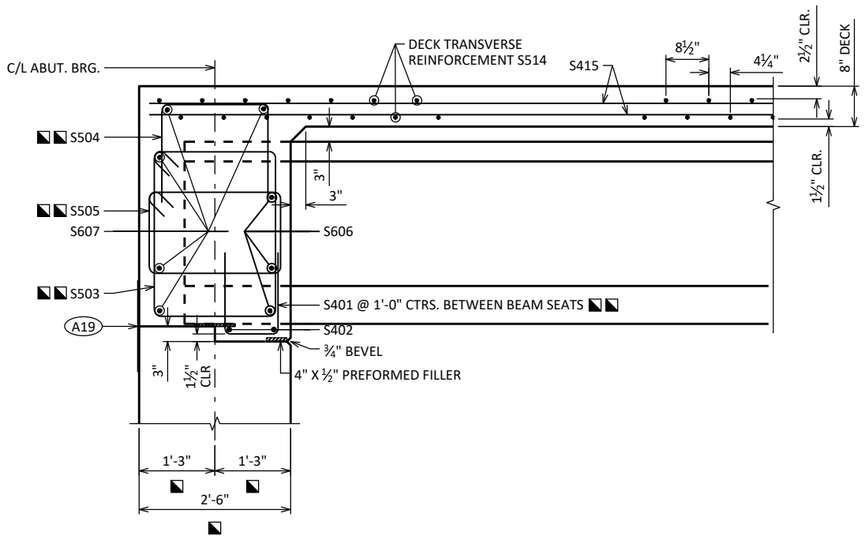
STATE PROJECT NUMBER

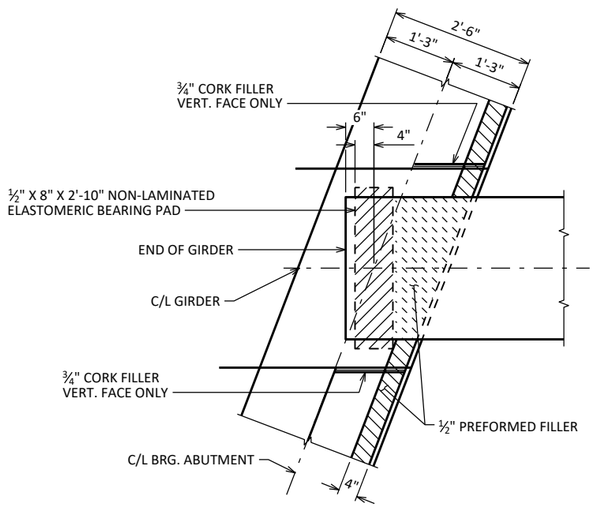
**9894-00-72**




## REINFORCEMENT PLAN

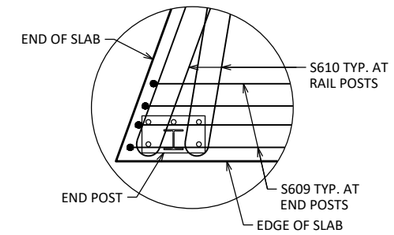



## PARTIAL LONGITUDINAL SECTION




## BEARING PAD DETAIL

AT ABUTMENTS




## END POST DETAILS

## NOTES

- DIMENSION IS TAKEN NORMAL TO C/L OF SUBSTRUCTURE UNITS.
- BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO C/L GIRDERS

FF = FRONT FACE
BF = BACK FACE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**SUPERSTRUCTURE**

SHEET 8 OF 13

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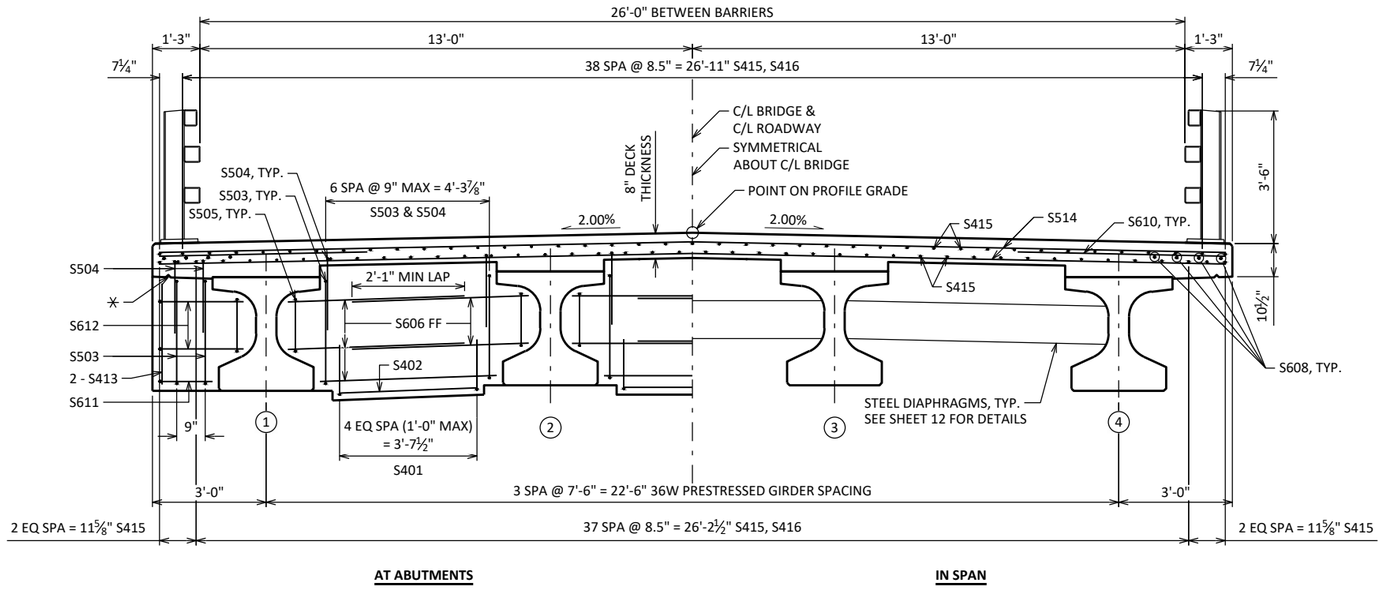
STATE PROJECT NUMBER

**9894-00-72**




**AT ABUTMENTS** **IN SPAN**

## CROSS SECTION THRU DECK

## BILL OF BARS — SUPERSTRUCTRUE

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

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| S401 | X | 30 | 3'-5" | X | | ABUTMENT DIAPHRAGM BETWEEN SEATS VERT |
| S402 | X | 12 | 3'-8" | | | ABUTMENT DIAPHRAGM BETWEEN SEATS HORIZ |
| S503 | X | 50 | 10'-10" | X | | ABBUTMENT DIAPHRAGM STIRRUP VERT |
| S504 | X | 50 | 5'-8" | X | | ABUTMENT DIAPHRAGM TO SLAB TIES |
| S505 | X | 16 | 8'-2" | X | | ABUTMENT DIAPHRAGM STIRRUPS |
| S606 | X | 30 | 4'-8" | | | ABUTMENT DIAPHRAGM FF |
| S607 | X | 10 | 29'-11" | | | ABUT DIAPHRAGM BF |
| S608 | X | 80 | 6'-0" | | | RAIL POST, INT |
| S609 | X | 16 | 4'-8" | X | | RAIL POST, END |
| S610 | X | 48 | 11'-8" | X | | RAIL POST |
| S611 | X | 4 | 4'-2" | X | | ABUTMENT DIAPHRAGM ENDS HORIZ |
| S612 | X | 8 | 5'-10" | X | | ABUTMENT DIAPHRAGM ENDS HORIZ |
| S413 | X | 8 | 2'-8" | | | ABUTMENT DIAPHRAGM SIDES VERT |
| S514 | X | 193 | 29'-11" | | | SLAB TOP AND BOTTOM TRANS |
| S415 | X | 83 | 46'-3" | | | SLAB TOP AND BOTTOM LONGIT |
| S416 | X | 83 | 23'-8" | | | SLAB TOP AND BOTTOM LONGIT |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

## TOP OF DECK ELEVATIONS

| | FINAL TOP OF DECK ELEVATIONS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | WEST ABUT | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | EAST ABUT |
| NORTH EDGE OF DECK | 1467.67 | 1467.73 | 1467.80 | 1467.88 | 1467.97 | 1468.08 | 1468.19 | 1468.32 | 1468.46 | 1468.61 | 1468.77 |
| GIRDER LINE 1 | 1467.72 | 1467.78 | 1467.85 | 1467.93 | 1468.02 | 1468.12 | 1468.23 | 1468.36 | 1468.49 | 1468.64 | 1468.80 |
| GIRDER LINE 2 | 1467.86 | 1467.91 | 1467.97 | 1468.04 | 1468.13 | 1468.22 | 1468.33 | 1468.45 | 1468.59 | 1468.73 | 1468.88 |
| C/L | 1467.92 | 1467.97 | 1468.03 | 1468.10 | 1468.18 | 1468.28 | 1468.38 | 1468.50 | 1468.63 | 1468.77 | 1468.93 |
| GIRDER LINE 3 | 1467.84 | 1467.88 | 1467.94 | 1468.01 | 1468.09 | 1468.18 | 1468.29 | 1468.40 | 1468.53 | 1468.67 | 1468.82 |
| GIRDER LINE 4 | 1467.67 | 1467.71 | 1467.77 | 1467.83 | 1467.91 | 1467.99 | 1468.09 | 1468.20 | 1468.33 | 1468.46 | 1468.61 |
| SOUTH EDGE OF DECK | 1467.61 | 1467.65 | 1467.70 | 1467.76 | 1467.83 | 1467.92 | 1468.01 | 1468.12 | 1468.24 | 1468.38 | 1468.52 |

FF = FRONT FACE
BF = BACK FACE

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS

ALL REINFORCING BARS ARE ENGLISH

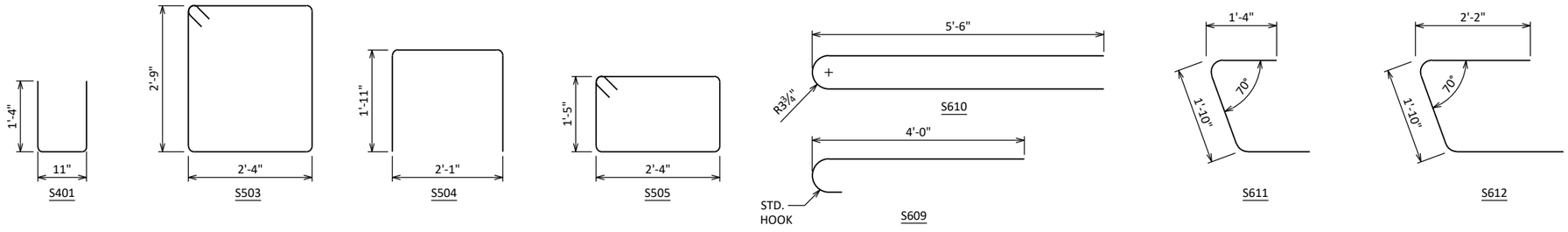
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE

## NOTES

✳ ¾" V-GROOVE. EXTEND V-GROOVE TO 6" FROM F.F. OF ABUT. DIAPHRAGM, TYP.

V-GROOVES ARE REQUIRED.

(X) INDICATES GIRDER NUMBER

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**SUPERSTRUCTURE DETAILS**

SHEET 9 OF 13

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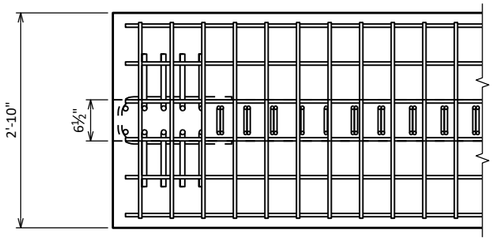
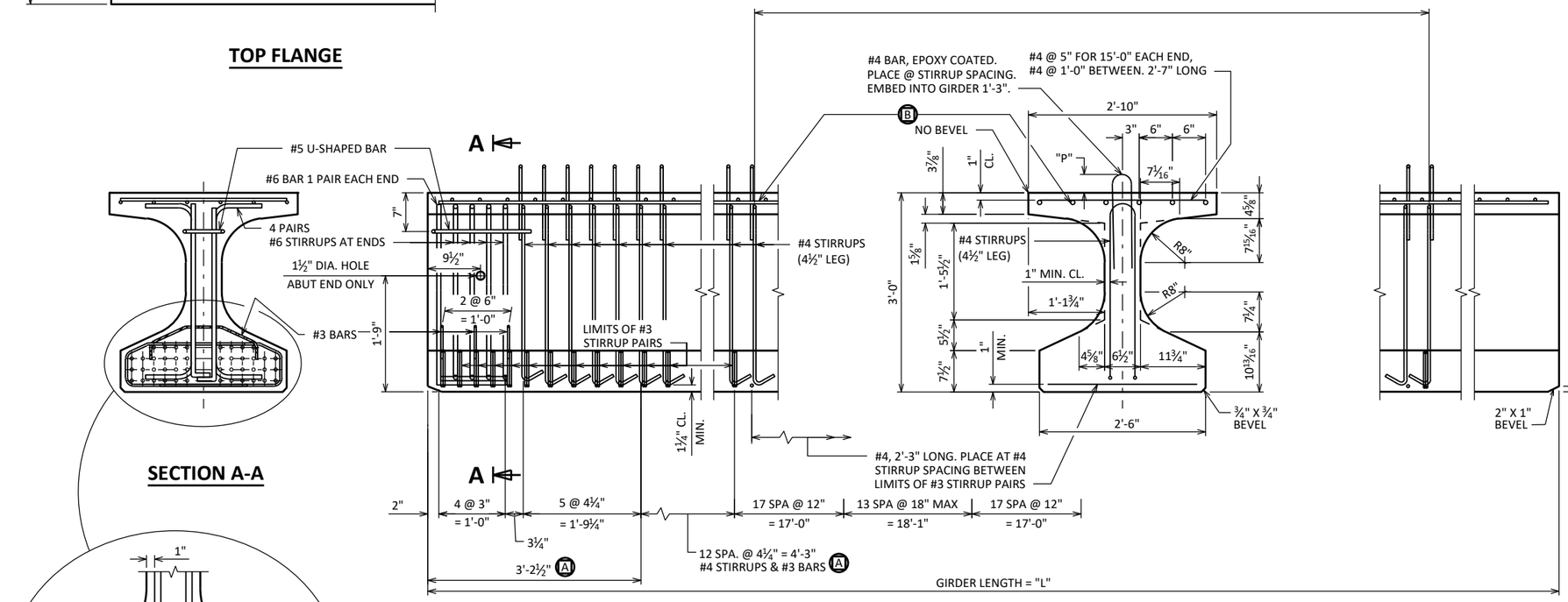
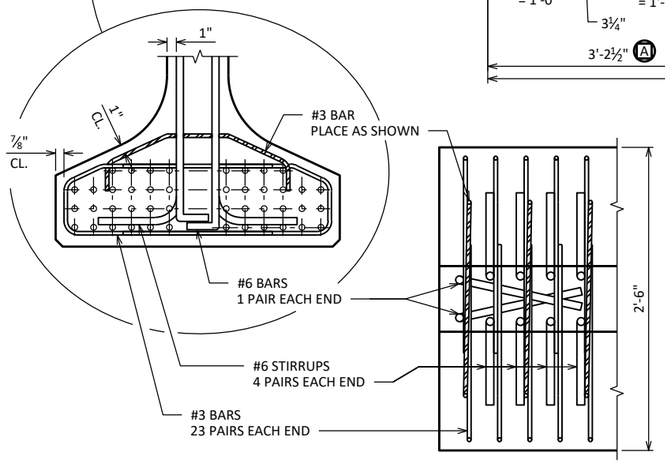



## TOP FLANGE




## SECTION A-A




## SIDE VIEW & TYPICAL SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-9"

## BOTTOM FLANGE

⚹ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

| SPAN | GIRDER | GIRDER LENGTH "L" | DEAD LOAD DEFL. (IN.) 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | CONC. STRGTH. f'c (k.s.i.) | "P" 1ST 1/3 OF GIRDER | "P" MID 1/3 OF GIRDER | "P" END 1/3 OF GIRDER | DIA. OF STRAND (IN.) | DRAPED PATTERN TOTAL NO. OF STRANDS | f'ci (K.S.I.) * | (IN.) "A" | "B" MIN. | "B" MAX. | "C" | UNDRAPED PATTERN TOTAL NO. OF STRANDS | f'ci (K.S.I.) * |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ALL | 67' | 0 2/8 | 0 3/8 | 0 5/8 | 0 5/8 | 0 6/8 | 0 5/8 | 0 5/8 | 0 3/8 | 0 2/8 | 6 | 7 | 6 | 7 | 0.6 | - | - | - | - | - | - | 20 | 4.8 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**36W PS GIRDER**

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## NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.4 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

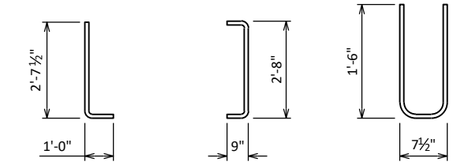
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DESIGN SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

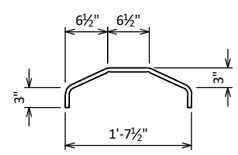
2" MINIMUM "HAUNCH HEIGHT" (AT EDGE OF GIRDER FLANGE) WAS USED FOR DESIGN CALCULATIONS.



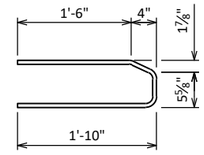

#6 BAR 2 @ EACH END

#6 BAR 8 @ EACH END

#5 BAR 1 @ EACH END




#3 BAR 3 @ EACH END (EPOXY COATED)




#3 BAR 23 PAIRS EACH END (EPOXY COATED)

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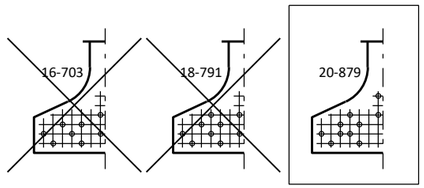
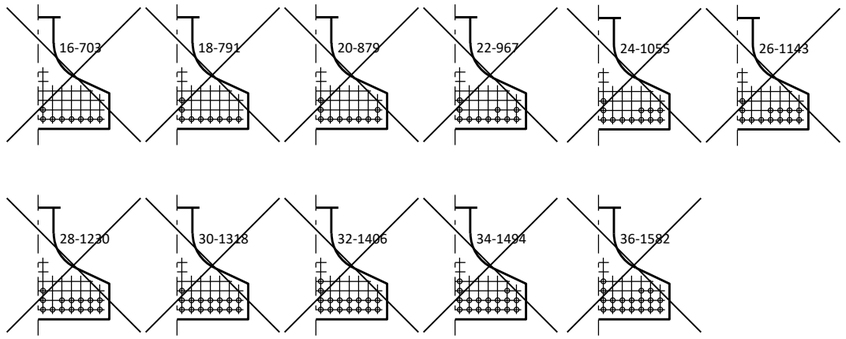


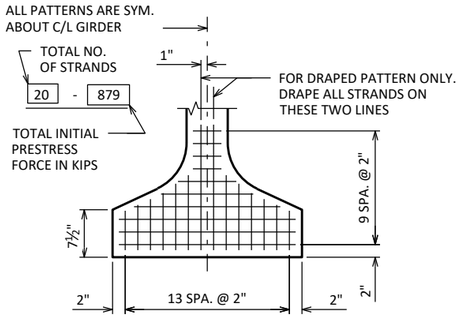

## STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6" DIA. STRANDS

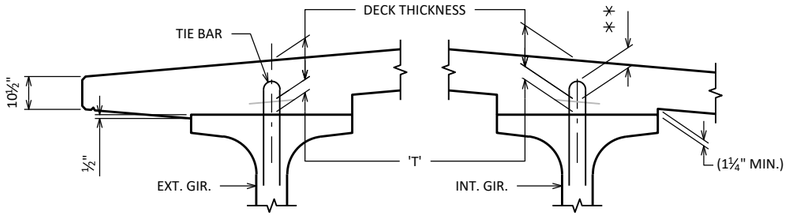



## ARRANGEMENT AT C/L SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6" DIA. STRANDS




## TYP. STRAND PATTERN




## DECK HAUNCH DETAIL

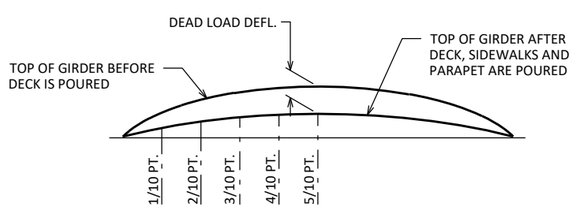
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

⁂ IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

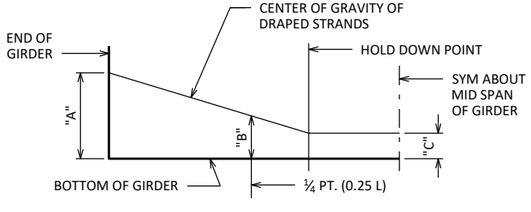
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT C/L OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

| | |
|---|---|
| | TOP OF DECK ELEV. AT FINAL GRADE |
| - | TOP OF GIRDER ELEVATION |
| + | DEAD LOAD DEFLECTION |
| - | DECK THICKNESS |
| = | HAUNCH HEIGHT 'T' |

NOTE: AN AVERAGE HAUNCH ('T') OF HAU WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".




## DEAD LOAD DEFLECTION DIAGRAM




## DRAPED STRAND PROFILE

⁂ THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

| SPAN | CAMBER (IN.) ⁂ |
|---|---|
| 1 | 1 1/2 |
| | |
| | |
| | |
| | |

**THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.**

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

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| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**STRAND DRAPING & PATTERNS**

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STATE PROJECT NUMBER

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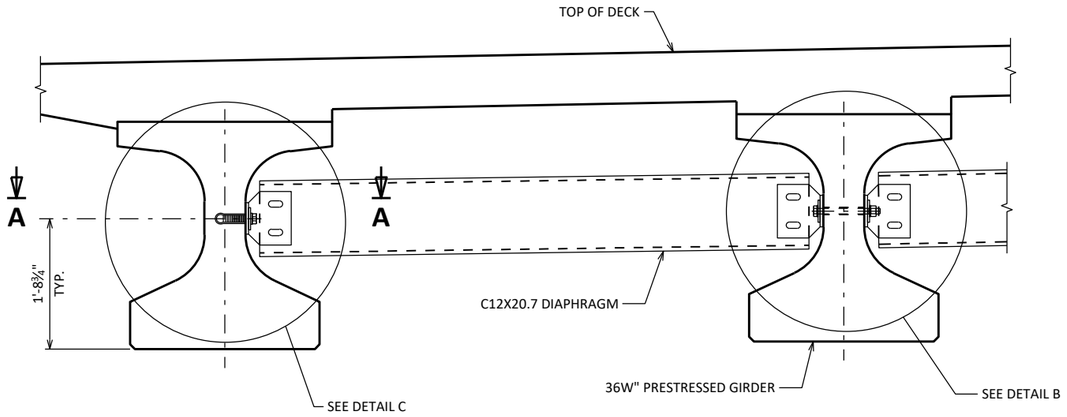
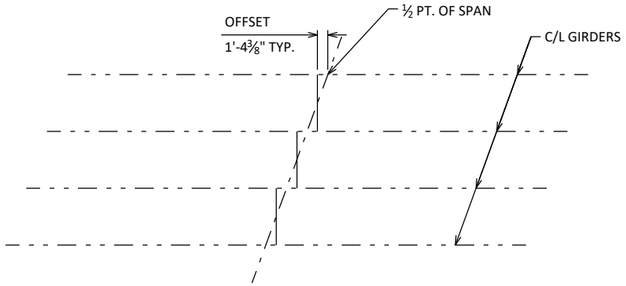



**EXTERIOR GIRDER** **INTERIOR GIRDER**

## PART TRANSVERSE SECTION AT DIAPHRAGM




## PLAN VIEW OF DIAPHRAGM

## NOTES

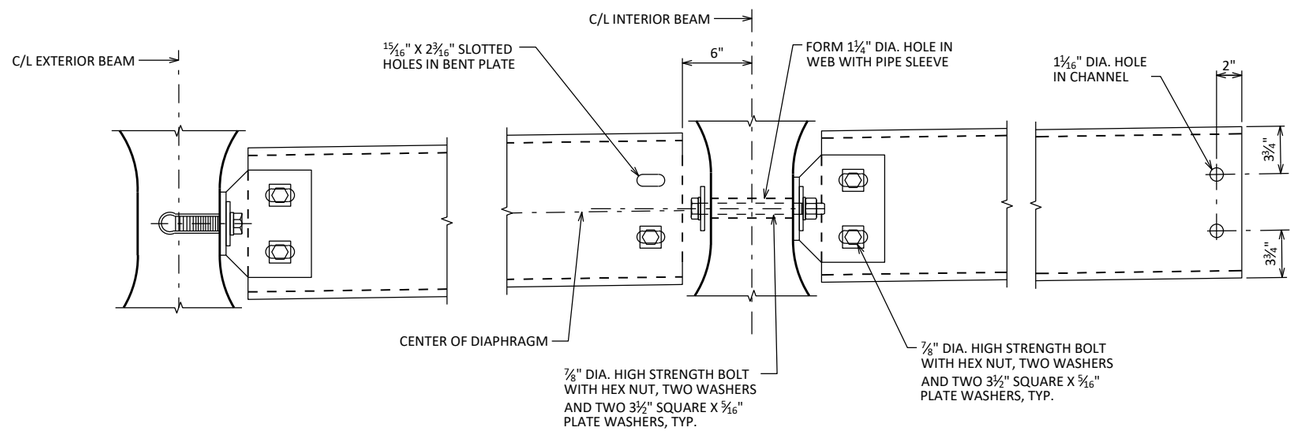
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-50-96", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

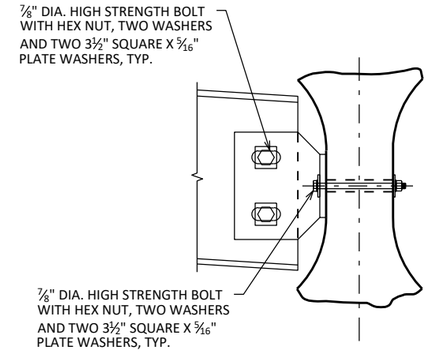
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

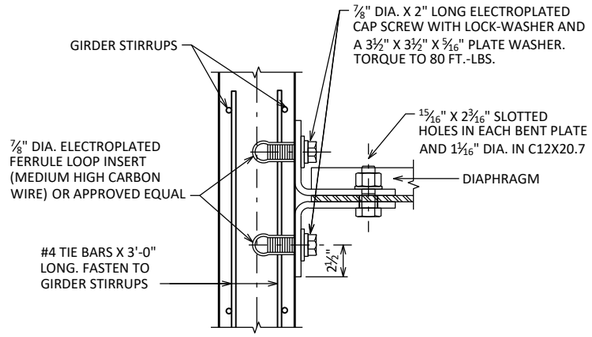



## DETAIL C

## DETAIL B

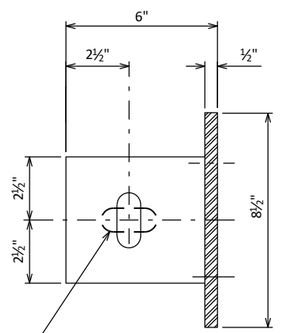



## SECTION AT INTERIOR GIRDERS THRU DIAPHRAGM FOR SKEW ANGLES > 10°

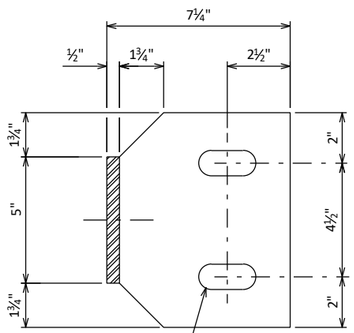



## SECTION A-A

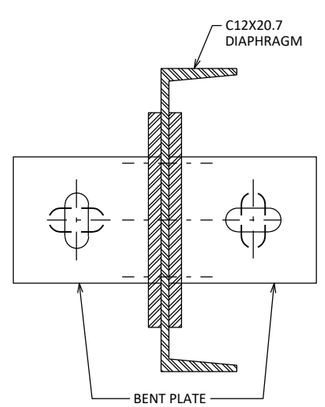
(FOR EXTERIOR ATTACHMENT)




## BEAM FACE




## DIAPHRAGM FACE




## ATTACHMENT TO CHANNEL

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| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**STEEL DIAPHRAGMS**

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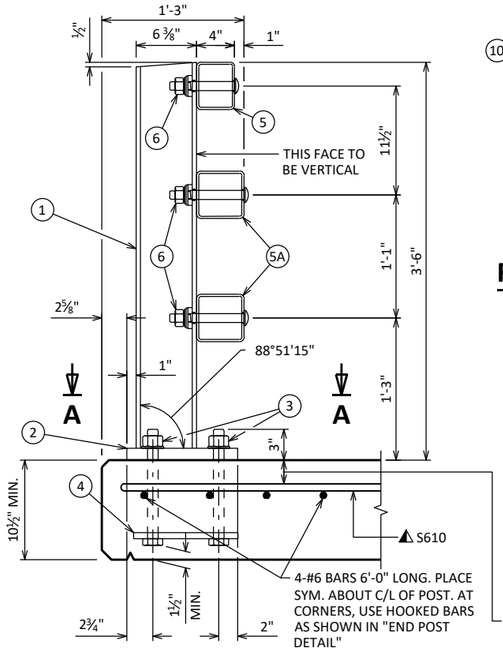
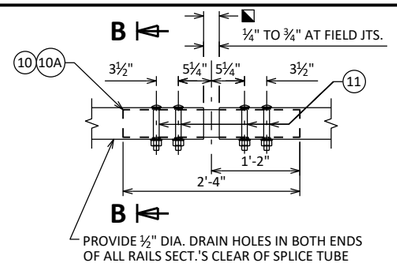
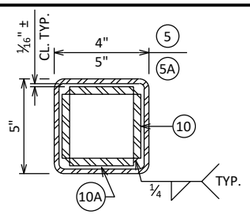


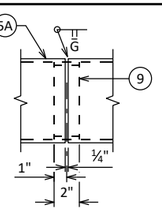

## SECTION THRU RAILING ON DECK




## FIELD ERECTION JOINT DETAIL

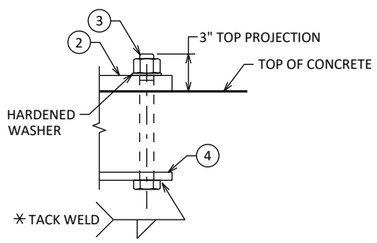



## SECTION B-B

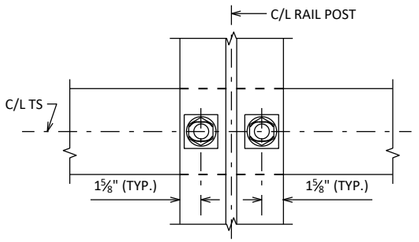



## SHOP RAIL SPLICE DETAIL

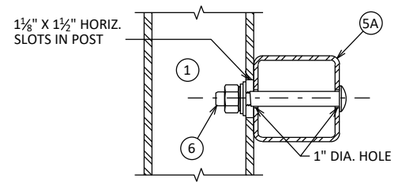
LOCATION MUST BE SHOWN ON SHOP DRAWINGS




## ANCHOR BOLTS



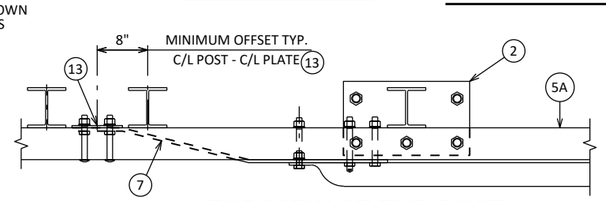

SECTION THRU POST WEB




SECTION THRU RAIL

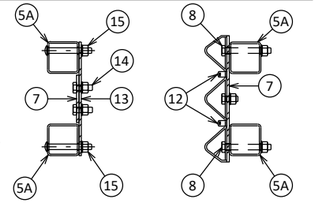
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

## TYPICAL RAIL TO POST CONNECTIONS




## TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT




## SECTION C-C



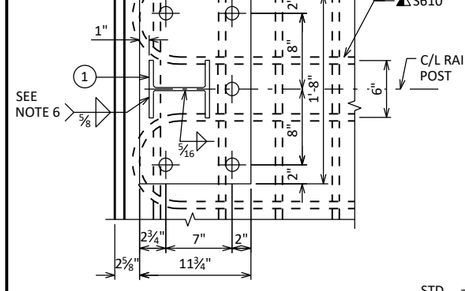

## SECTION D-D

## LEGEND

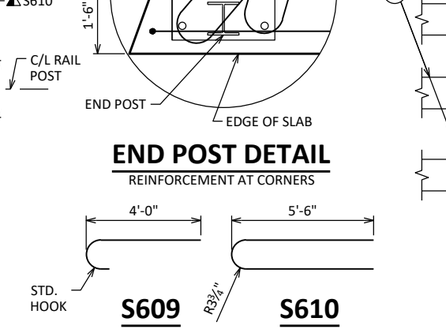
1. W6 X 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" X 11¾" X 1'-8" WITH 1 7/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 - 1⅛" 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 10¾" 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. ⅝" X 11" X 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" 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. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1⅝" X 1⅝" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. ½" THK. BACK-UP PLATE WITH 2 - ⅞" X 1½" 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 ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜" X 3⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16" X 1¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND 15/16" X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 15/16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
12. ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜" 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. ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

## GENERAL 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 ⅛ 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.




## SECTION A-A

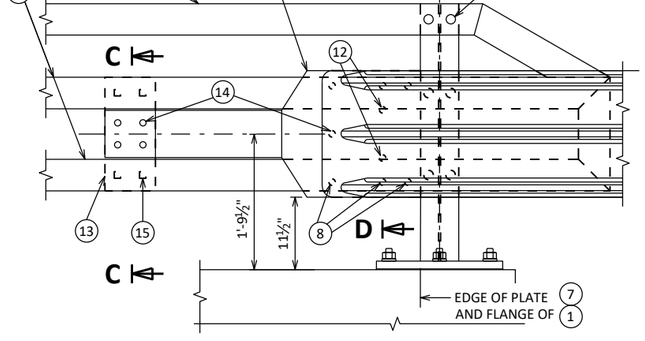


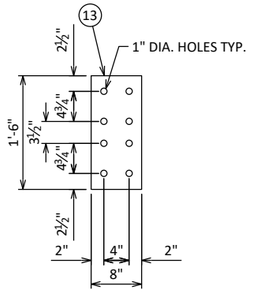

## END POST DETAIL

REINFORCEMENT AT CORNERS



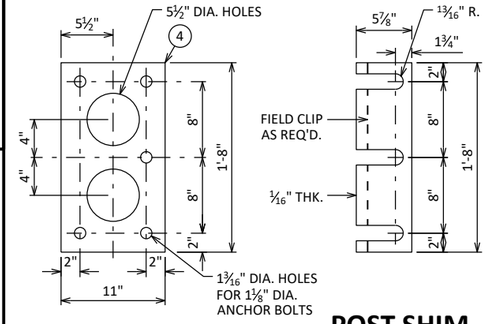

## S609 S610




## ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

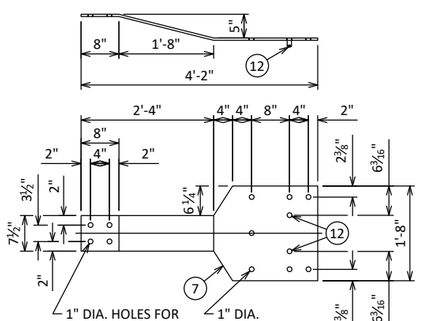



## ANCHOR PLATE

AT RAIL TO DECK CONNECTION

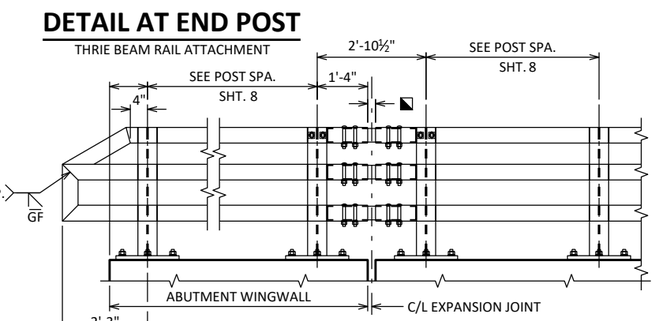



## POST SHIM DETAIL




## BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT




## DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT

## PART ELEVATION OF RAILING

▲ 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.

◥ RDWY. OPENING OR 2½" MIN. FOR STRIP SEAL EXP. JOINT & ( ¼" TO ¾") OPENING FOR A1 ABUTMENT.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-50-96**

DRAWN BY ZLM | PLANS CK'D DKW

**TUBULAR STEEL RAILING TYPE M**

SHEET 13 OF 13

64

8

8

DIVISION 1 - HILLS RD

| STATION | DISTANCE | AREA (SF) | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | CUMULATIVE VOL (CY) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT 1.00 | EXPANDED FILL 1.25 | MASS ORDINATE |
| | | | | | NOTE 1 | NOTE 2 | NOTE 3 | NOTE 1 | | NOTE 4 |
| 7+40 | 0.00 | 4.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| 7+75 | 35.10 | 32.64 | 0.00 | 0.00 | 24.00 | 0.00 | 0.00 | 24 | 0 | 24 |
| 8+15 | 39.61 | 23.17 | 0.00 | 0.00 | 41.00 | 0.00 | 0.00 | 65 | 0 | 65 |
| 8+32 | 16.98 | 44.94 | 0.00 | 0.00 | 21.00 | 0.00 | 0.00 | 86 | 0 | 86 |
| 8+35 | 2.97 | 72.83 | 17.84 | 0.44 | 6.00 | 1.00 | 0.00 | 92 | 0 | 91 |
| 8+42 | 6.50 | 68.96 | 29.47 | 0.67 | 17.00 | 6.00 | 0.00 | 109 | 0 | 102 |
| 8+57 | 15.55 | 73.08 | 29.32 | 4.15 | 41.00 | 17.00 | 1.00 | 150 | 1 | 125 |
| 8+67 | 9.47 | 91.40 | 29.22 | 7.63 | 29.00 | 10.00 | 2.00 | 179 | 4 | 141 |
| 8+82 | 15.52 | 65.04 | 29.07 | 14.82 | 45.00 | 17.00 | 6.00 | 224 | 11 | 162 |
| 8+92 | 9.46 | 34.08 | 28.88 | 19.44 | 17.00 | 10.00 | 6.00 | 241 | 19 | 161 |
| 9+13 | 21.71 | 28.04 | 28.04 | 92.65 | 25.00 | 23.00 | 45.00 | 266 | 75 | 107 |
| 9+23 | 9.46 | 27.67 | 27.67 | 132.62 | 10.00 | 10.00 | 39.00 | 276 | 124 | 58 |
| 9+46 | 23.35 | 26.77 | 26.77 | 179.51 | 24.00 | 24.00 | 135.00 | 300 | 293 | -111 |
| 9+55 | 9.47 | 26.33 | 26.33 | 117.32 | 9.00 | 9.00 | 52.00 | 309 | 358 | -176 |
| 9+56 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 309 | 359 | -177 |
| 10+44 | 88.52 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 309 | 359 | -177 |
| 10+45 | 0.25 | 8.44 | 8.44 | 99.62 | 0.00 | 0.00 | 0.00 | 309 | 359 | -177 |
| 10+54 | 9.47 | 8.63 | 8.63 | 173.30 | 3.00 | 3.00 | 48.00 | 312 | 419 | -237 |
| 10+77 | 23.35 | 8.86 | 8.86 | 132.98 | 8.00 | 8.00 | 132.00 | 320 | 584 | -402 |
| 10+84 | 6.17 | 8.92 | 8.92 | 123.73 | 2.00 | 2.00 | 29.00 | 322 | 620 | -438 |
| 10+87 | 3.29 | 8.95 | 8.95 | 120.07 | 1.00 | 1.00 | 15.00 | 323 | 639 | -457 |
| 11+08 | 21.69 | 9.16 | 9.16 | 104.91 | 7.00 | 7.00 | 90.00 | 330 | 751 | -569 |
| 11+18 | 9.48 | 9.21 | 9.21 | 96.24 | 3.00 | 3.00 | 35.00 | 333 | 795 | -613 |
| 11+34 | 15.54 | 9.25 | 9.25 | 76.54 | 5.00 | 5.00 | 50.00 | 338 | 858 | -676 |
| 11+43 | 9.45 | 9.27 | 9.27 | 61.41 | 3.00 | 3.00 | 24.00 | 341 | 888 | -706 |
| 11+68 | 25.02 | 9.67 | 9.33 | 31.10 | 9.00 | 9.00 | 43.00 | 350 | 941 | -759 |
| 12+39 | 71.13 | 135.02 | 9.37 | 0.00 | 191.00 | 25.00 | 41.00 | 541 | 993 | -645 |
| 12+50 | 10.89 | 151.68 | 9.36 | 0.00 | 58.00 | 4.00 | 0.00 | 599 | 993 | -591 |
| 12+73 | 23.42 | 3.96 | 0.00 | 0.00 | 68.00 | 4.00 | 0.00 | 667 | 993 | -527 |

| NOTES: | |
|---|---|
| 1 - CUT | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL. ITEM NUMBER 205.0100 |
| 2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL | THIS DOES NOT SHOW UP IN CROSS SECTIONS |
| 3 - FILL | DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME |
| 4 - MASS ORDINATE | THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION. BORROW ITEM NUMBER 208.0100 |

9

9

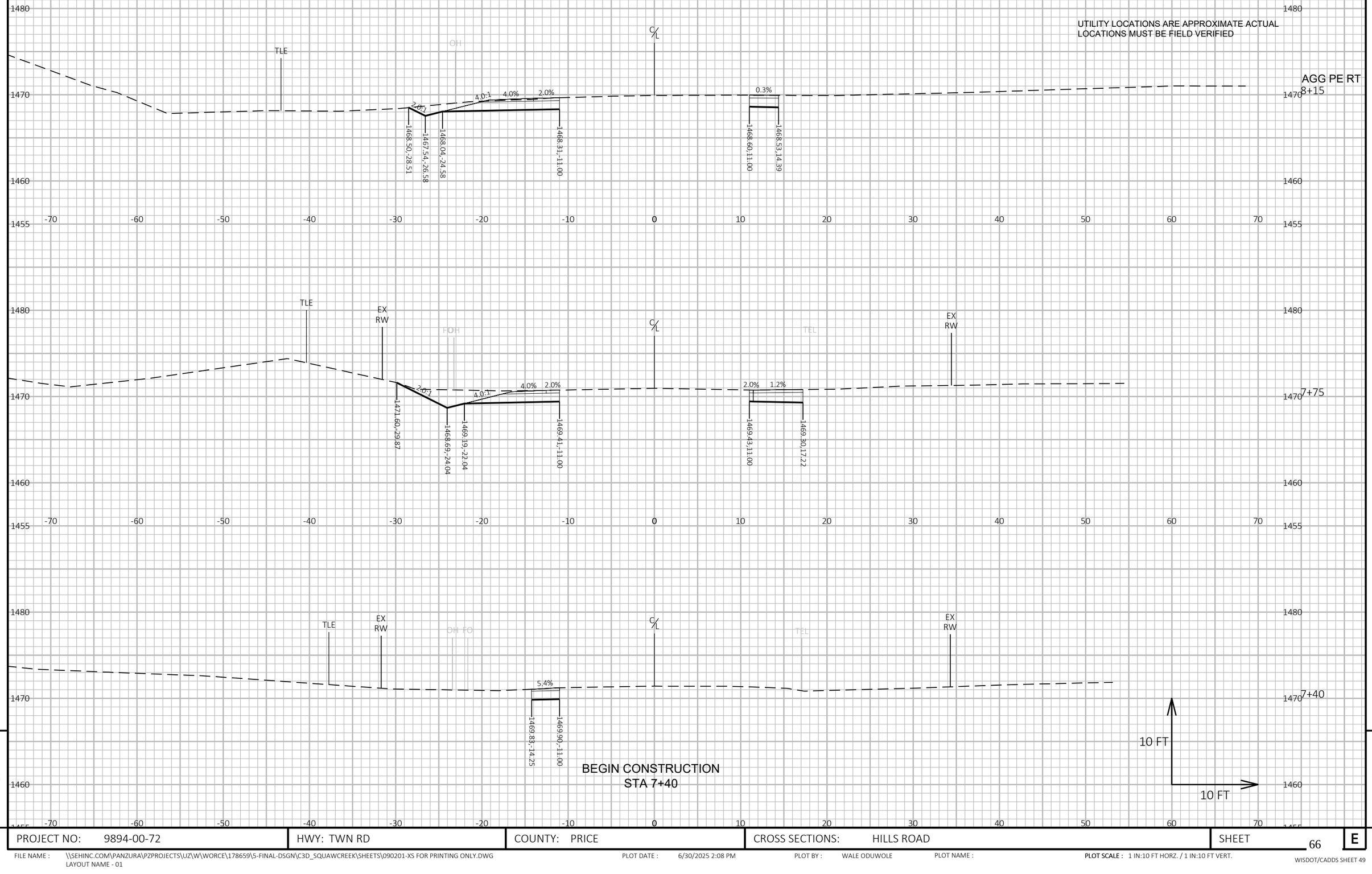
PROJECT NO: 9894-00-72 | HWY: TWN RD | COUNTY: PRICE | EARTHWORK DATA | SHEET 65 | E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WORCE\178659\5-FINAL-DSGN\C3D_SQUAWCREEK\SHEETS\090101-EW.DWG
LAYOUT NAME - 01

PLOT DATE : 6/30/2025 2:08 PM PLOT BY : WALE ODUWOLE PLOT NAME : PLOT SCALE : 1" = 1'

WISDOT/CADDS SHEET 49

UTILITY LOCATIONS ARE APPROXIMATE ACTUAL
LOCATIONS MUST BE FIELD VERIFIED




| PROJECT NO: 9894-00-72 | HWY: TWN RD | COUNTY: PRICE | CROSS SECTIONS: HILLS ROAD | SHEET 66 | E |
|---|---|---|---|---|---|

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WORCE\178659\5-FINAL-DSGN\C3D_SQUAWCREEK\SHEETS\090201-XS FOR PRINTING ONLY.DWG
LAYOUT NAME - 01

PLOT DATE : 6/30/2025 2:08 PM PLOT BY : WALE ODUWOLE PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

MGS GUARDRAIL TERMINAL EAT
POST 1 LT

TLE
EX RW
C/L
TEL
OH
FNCE
EX RW
TLE
8+41
2.0:1
4.0:1
4.0%
2.5%
0.6%
4.0%
4.0:1
1:0.0
1467.57,-29.31
1466.87,-27.92
1467.37,-25.92
1467.67,-11.00
1467.89,0.00
1467.67,11.00
1467.37,26.24
1480
1470
1460
1455
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

TLE
EX RW
C/L
TEL
OH
FNCE
EX RW
FNCE
TLE
8+35
2.0:1
4.0:1
4.0%
2.8%
0.1%
4.0%
4.0:1
1:0.0
1467.69,-28.70
1467.02,-27.36
1467.55,-25.36
1467.84,-11.00
1467.84,11.00
1467.51,27.21
1480
1470
1460
1455
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

BEGIN PROJECT
STA 8+35

MGS GUARDRAIL TERMINAL EAT
POST 1 RT

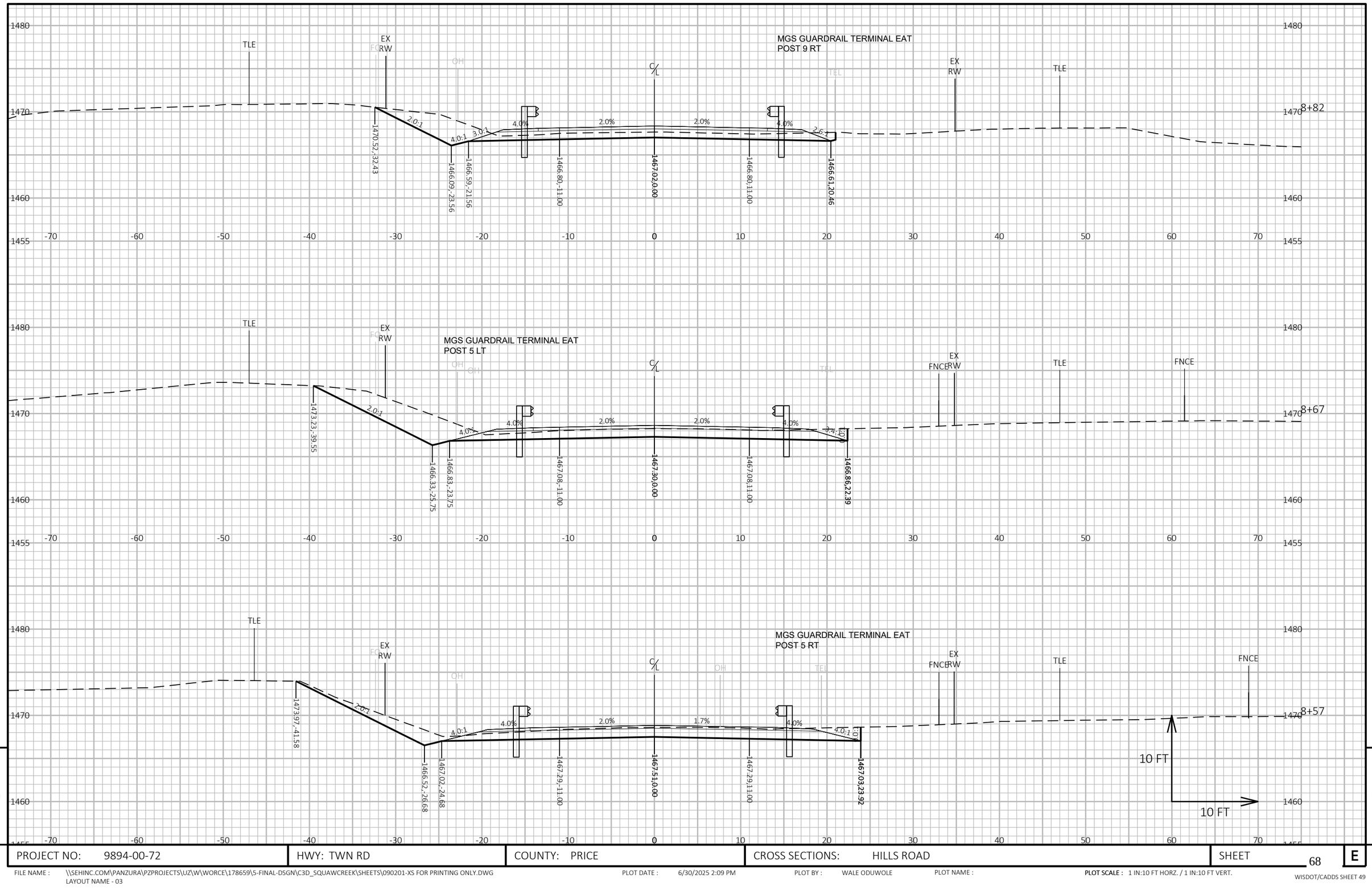
TLE
EX RW
C/L
TEL
OH
EX RW
TLE
8+32
2.0:1
4.0:1
4.0%
2.0%
0.0%
4.0%
4.0:1
1:0.0
10 FT
10 FT
1467.72,-29.03
1467.04,-27.67
1467.83,-11.00
1467.92,11.00
1467.59,27.52
1480
1470
1460
1455
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9 9

| PROJECT NO: 9894-00-72 | HWY: TWN RD | COUNTY: PRICE | CROSS SECTIONS: HILLS ROAD | SHEET 67 | E |
|---|---|---|---|---|---|

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WORCE\178659\5-FINAL-DSGN\C3D_SQUAWCREEK\SHEETS\090201-XS FOR PRINTING ONLY.DWG
LAYOUT NAME - 02

PLOT DATE : 6/30/2025 2:09 PM PLOT BY : WALE ODUWOLE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.




9

9

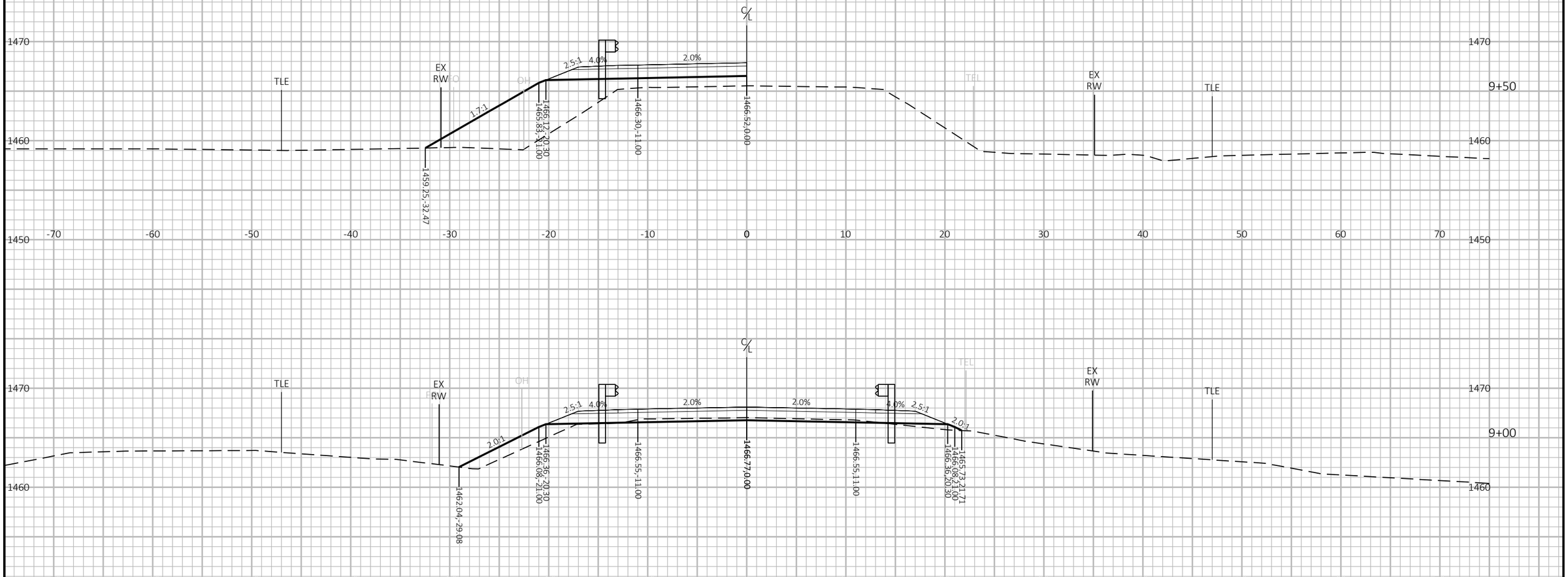
| PROJECT NO: 9894-00-72 | HWY: TWN RD | COUNTY: PRICE | CROSS SECTIONS: HILLS ROAD | SHEET 68 | E |
|---|---|---|---|---|---|

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WORCE\178659\5-FINAL-DSGN\C3D_SQUAWCREEK\SHEETS\090201-XS FOR PRINTING ONLY.DWG
LAYOUT NAME - 03

PLOT DATE : 6/30/2025 2:09 PM PLOT BY : WALE ODUWOLE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

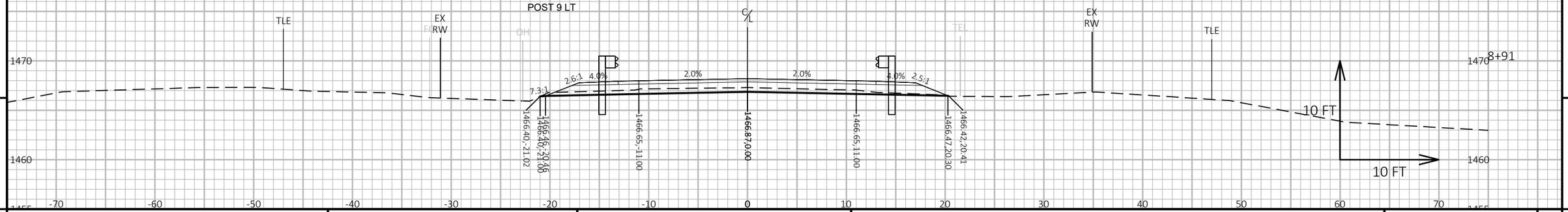
STRUCTURE B-50-0096
STA 10+00







MGS GUARDRAIL TERMINAL EAT
POST 9 LT




9

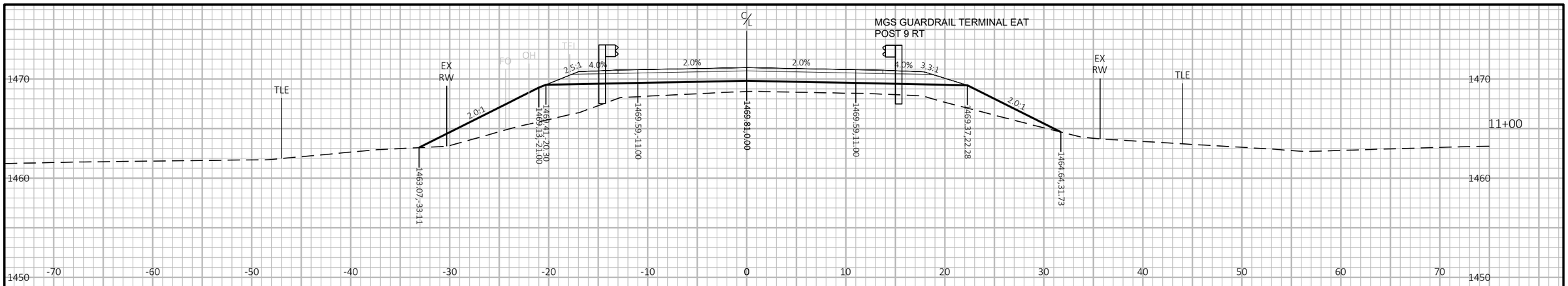
9

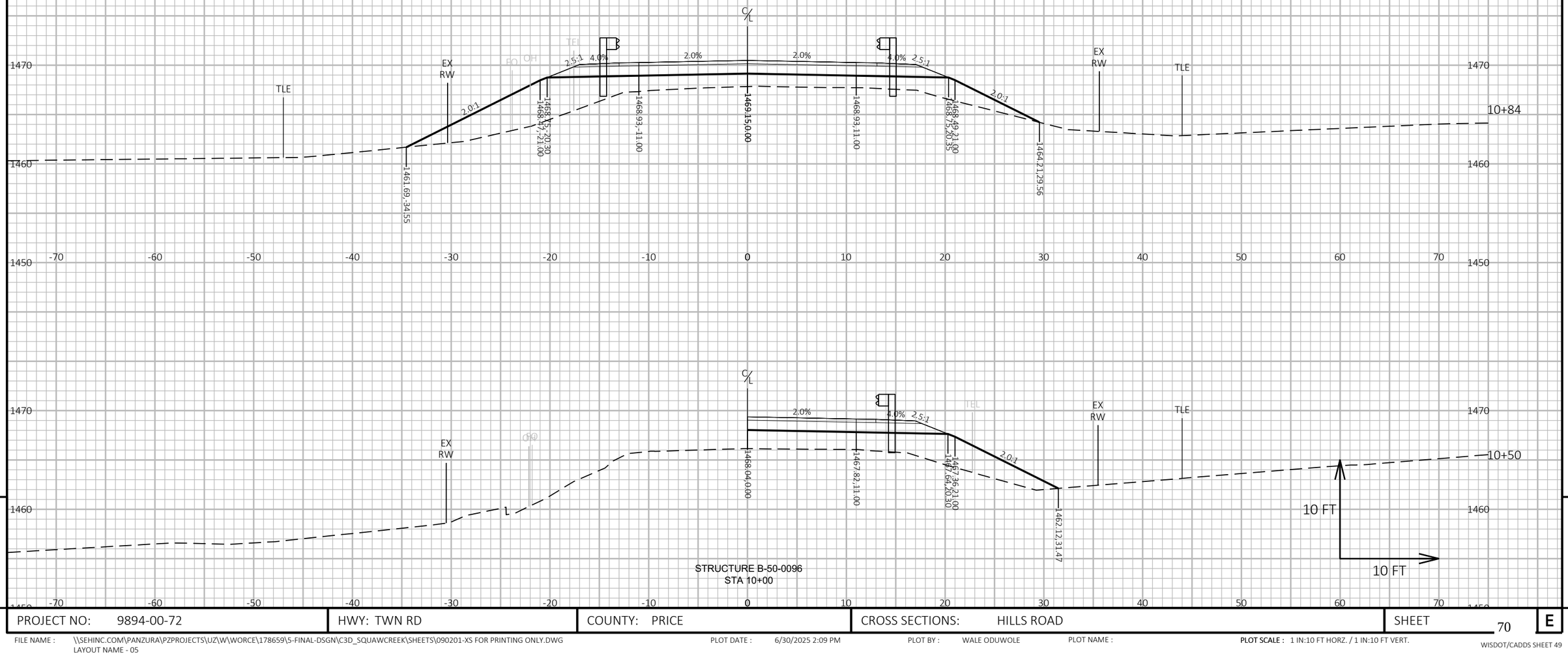
| PROJECT NO: 9894-00-72 | HWY: TWN RD | COUNTY: PRICE | CROSS SECTIONS: HILLS ROAD | SHEET 69 | E |
|---|---|---|---|---|---|

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WORCE\178659\5-FINAL-DSGN\C3D_SQUAWCREEK\SHEETS\090201-XS FOR PRINTING ONLY.DWG
LAYOUT NAME - 04

PLOT DATE : 6/30/2025 2:09 PM PLOT BY : WALE ODUWOLE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

MGS GUARDRAIL TERMINAL EAT
POST 9 RT



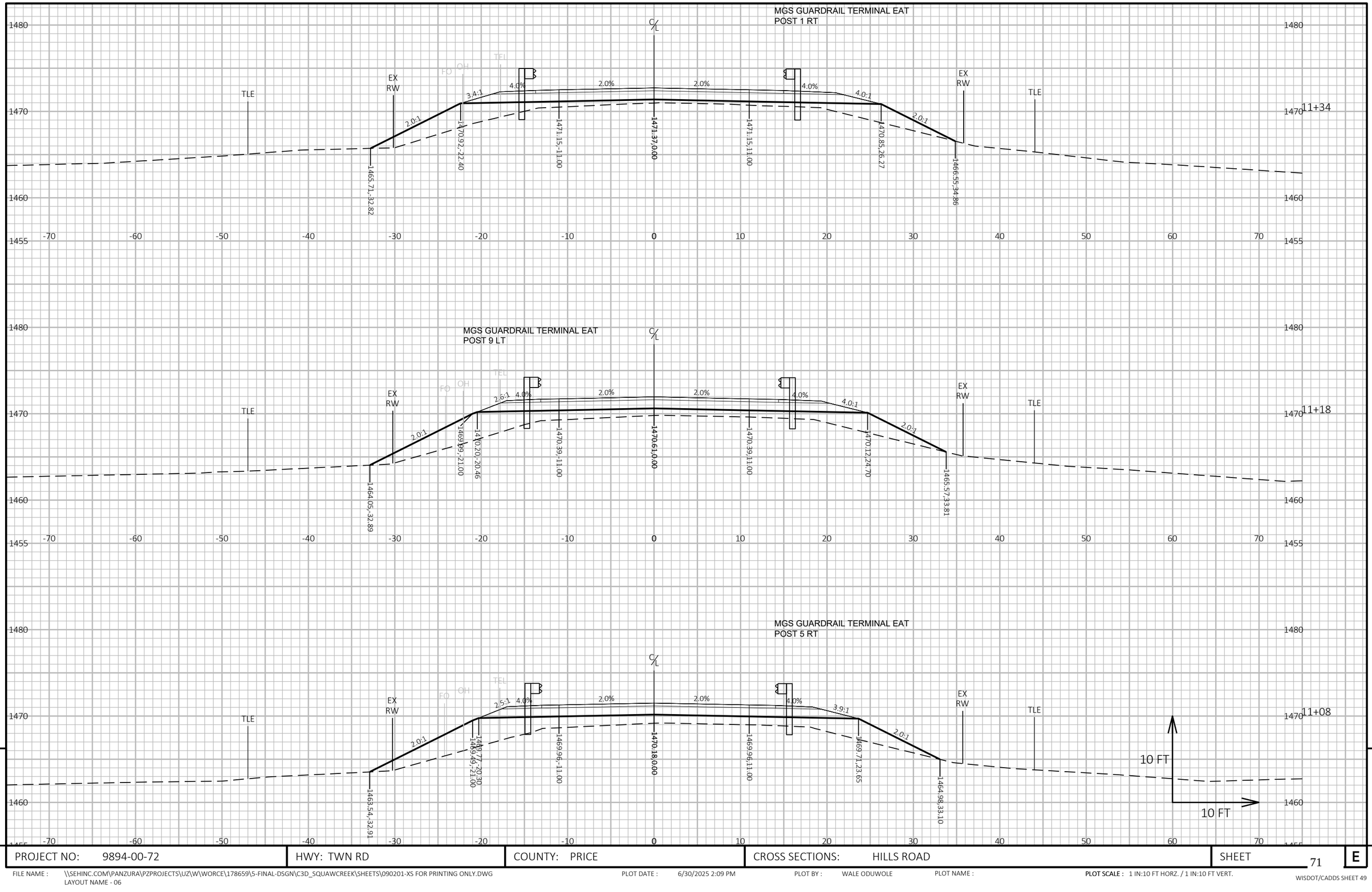




STRUCTURE B-50-0096
STA 10+00

9

9

| PROJECT NO: 9894-00-72 | HWY: TWN RD | COUNTY: PRICE | CROSS SECTIONS: HILLS ROAD | SHEET 70 | E |
|---|---|---|---|---|---|



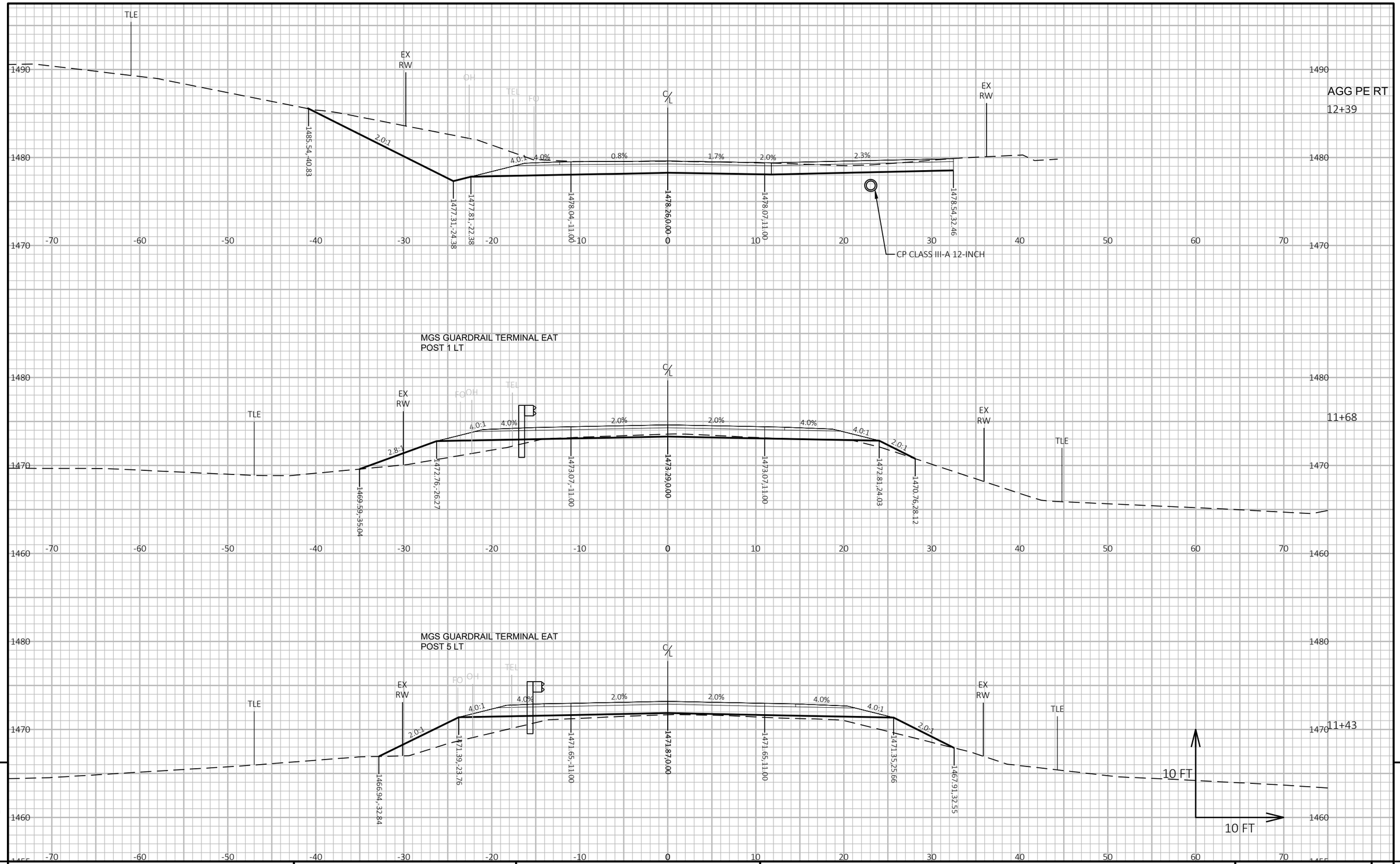

9 9

| PROJECT NO: 9894-00-72 | HWY: TWN RD | COUNTY: PRICE | CROSS SECTIONS: HILLS ROAD | SHEET 71 | E |
|---|---|---|---|---|---|


FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WORCE\178659\5-FINAL-DSGN\C3D_SQUAWCREEK\SHEETS\090201-XS FOR PRINTING ONLY.DWG
LAYOUT NAME - 06

PLOT DATE : 6/30/2025 2:09 PM PLOT BY : WALE ODUWOLE PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




| | | | | |
|---|---|---|---|---|
| PROJECT NO: 9894-00-72 | HWY: TWN RD | COUNTY: PRICE | CROSS SECTIONS: HILLS ROAD | SHEET 72 E |

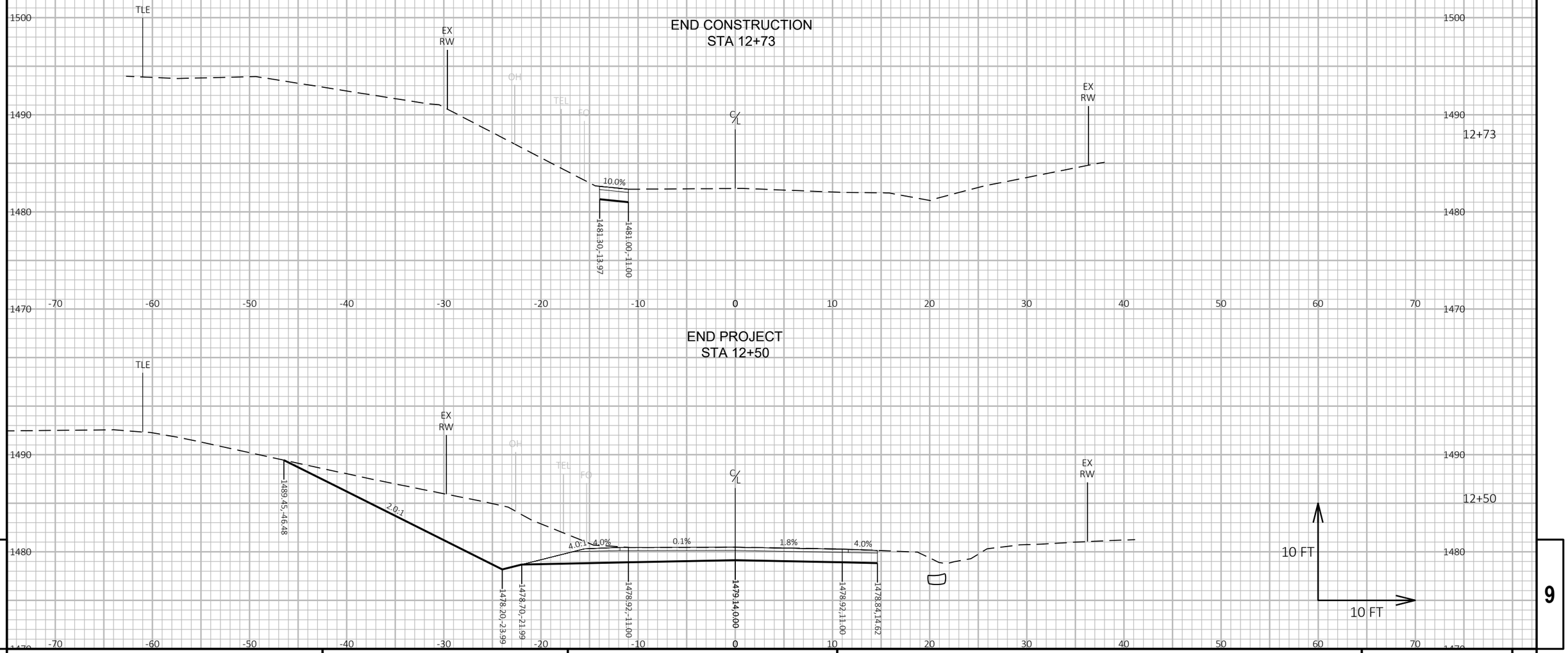
FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WORCE\178659\5-FINAL-DSGN\C3D_SQUAWCREEK\SHEETS\090201-XS FOR PRINTING ONLY.DWG
LAYOUT NAME - 07

PLOT DATE : 6/30/2025 2:09 PM PLOT BY : WALE ODUWOLE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END CONSTRUCTION
STA 12+73

END PROJECT
STA 12+50




9

9

| PROJECT NO: 9894-00-72 | HWY: TWN RD | COUNTY: PRICE | CROSS SECTIONS: HILLS ROAD | SHEET 73 | E |
|---|---|---|---|---|---|

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WORCE\178659\5-FINAL-DSGN\C3D_SQUAWCREEK\SHEETS\090201-XS FOR PRINTING ONLY.DWG
LAYOUT NAME - 08

PLOT DATE : 6/30/2025 2:09 PM PLOT BY : WALE ODUWOLE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

**Wisconsin Department of Transportation**

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov