

WIS  
PROJECT ID:  
WITH: N/A

6626-01-70

COUNTY:

GREEN LAKE

JANUARY 2026  
ORDER OF SHEETS

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

TOTAL SHEETS = 84



28

DESIGN DESIGNATION 6626-01-00

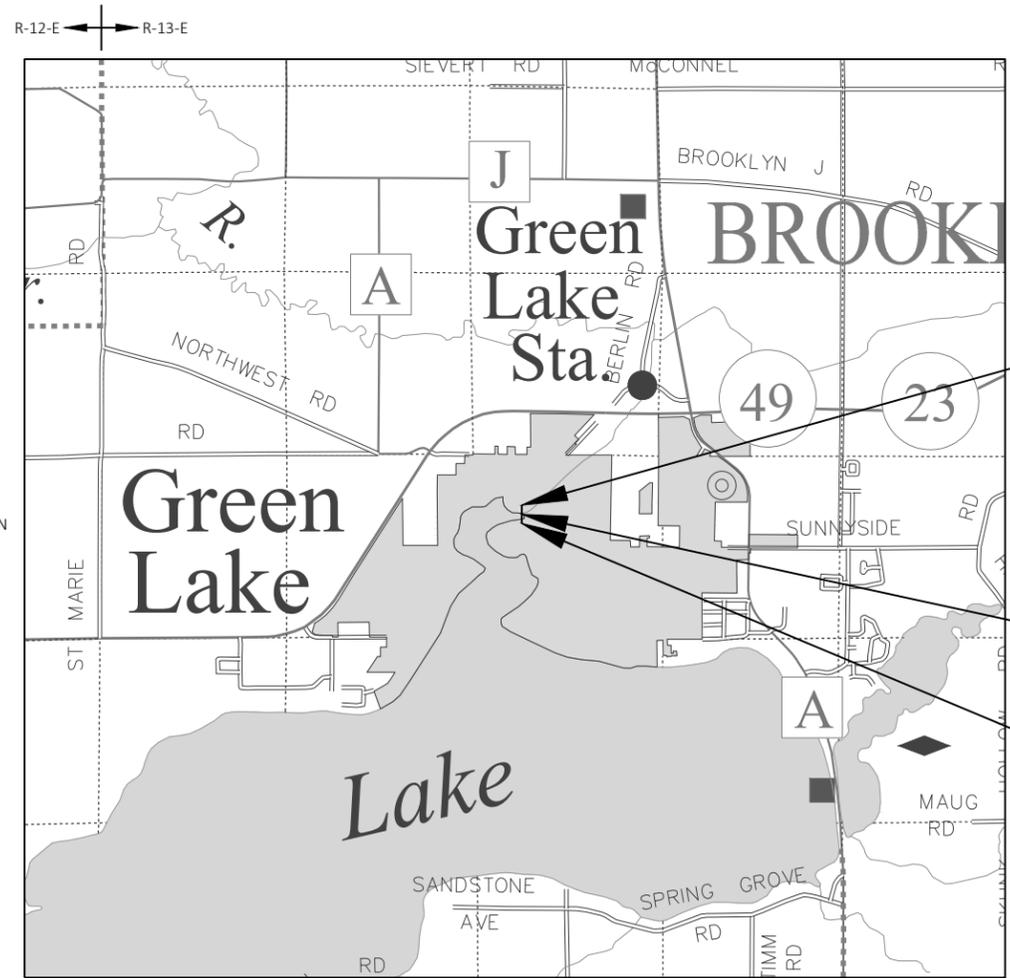
|              |      |   |         |
|--------------|------|---|---------|
| A.A.D.T.     | 2026 | = | 1620    |
| A.A.D.T.     | 2046 | = | 1703    |
| D.H.V.       |      | = | 492     |
| D.D.         |      | = | 60 / 40 |
| T.           |      | = | 7.7 %   |
| DESIGN SPEED |      | = | 30 MPH  |
| ESALS        |      | = | 230,000 |

CONVENTIONAL SYMBOLS

| PLAN                              | PROFILE  |
|-----------------------------------|--|
| CORPORATE LIMITS                  | GRADE LINE                                     |
| PROPERTY LINE                     | ORIGINAL GROUND                                |
| LOT LINE                          | MARSH OR ROCK PROFILE<br>(To be noted as such) |
| LIMITED HIGHWAY EASEMENT          | SPECIAL DITCH                                  |
| EXISTING RIGHT OF WAY             | GRADE ELEVATION                                |
| PROPOSED OR NEW R/W LINE          | CULVERT (Profile View)                         |
| SLOPE INTERCEPT                   | UTILITIES                                      |
| REFERENCE LINE                    | ELECTRIC                                       |
| EXISTING CULVERT                  | FIBER OPTIC                                    |
| PROPOSED CULVERT<br>(Box or Pipe) | GAS  |
| COMBUSTIBLE FLUIDS                | SANITARY SEWER                                 |
| MARSH AREA                        | STORM SEWER                                    |
| WOODED OR SHRUB AREA              | TELEPHONE                                      |
|                                   | WATER  |
|                                   | UTILITY PEDESTAL                               |
|                                   | POWER POLE                                     |
|                                   | TELEPHONE POLE                                 |

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PLAN OF PROPOSED IMPROVEMENT  
**C GREEN LAKE, MILL STREET**  
PUCHYAN RIVER BRIDGE, B-24-0046  
LOC STR  
GREEN LAKE COUNTY

STATE PROJECT NUMBER  
**6626-01-70**



END PROJECT  
STA 12+51.25

STRUCTURE B-24-0046  
STA 11+75

BEGIN PROJECT  
STA 10+85.00  
Y = 274 237.663  
X = 569 282.145

LAYOUT  
SCALE 0 1 MI  
TOTAL NET LENGTH OF CENTERLINE = 0.031 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), GREEN LAKE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.  
ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

| STATE PROJECT | FEDERAL PROJECT |          |
|---------------|-----------------|----------|
|               | PROJECT         | CONTRACT |
| 6626-01-70    | WISC 2026150    | 1        |
|               |                 |          |
|               |                 |          |

ACCEPTED FOR  
CITY OF GREEN LAKE  
7.28.25  
Date  
*(Signature)*  
Mayor  
(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY  
**WESTBROOK**  
Associated Engineers, Inc.  
619 EAST HOXIE STREET  
P.O. BOX 429  
SPRING GREEN, WISCONSIN 53588  
PHONE (608) 588-7866  
FAX (608) 588-7954

WISCONSIN PROFESSIONAL ENGINEER  
AARON B. PALMER  
E-35695  
RICHLAND CENTER, WI  
DATE: 7/17/25  
*(Signature)*  
(Professional Engineer Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY  
Surveyor WESTBROOK ASSOCIATED ENGINEERS, INC.  
Designer WESTBROOK ASSOCIATED ENGINEERS, INC.  
Project Manager JASON SCHAEFFER  
Regional Examiner NORTH CENTRAL REGION  
Regional Supervisor DAN ERVA, P.E.

APPROVED FOR THE DEPARTMENT  
DATE: 7/28/2025  
*(Signature)*  
(Signature)

E

STANDARD ABBREVIATIONS

Table with 4 columns: Abbreviation, Description, Abbreviation, Description. Includes terms like ABUT, AC, AGG, ANGLE, AADT, etc.

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CITY OF GREEN LAKE

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UTILITIES CONTACTS

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CITY OF GREEN LAKE
WATER & SEWER
JASON CARLEY
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GENERAL NOTES

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.
THE CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.
HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.
APPLY TACK COAT BETWEEN LAYERS OF HMA PAVEMENT AT A RATE OF 0.07 GAL/SY.
NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.
THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.
WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE, SUBBASE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYERS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.
THE CONTRACTOR SHALL PREPARE AN EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND SUBMIT THE PLAN TO WISDOT AND WDNR FOR REVIEW AT LEAST 14 DAYS PRIOR TO THE PRECONSTRUCTION CONFERENCE.
EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.
APPLY SEED, EROSION MAT, AND FERTILIZER TO ALL DISTURBED AREAS WITHIN 7 WORKING DAYS AFTER GRADING WORK IS COMPLETE.
SLOPES STEEPER THAN 3:1 REQUIRE EROSION MAT.
THE PROPOSED SHOULDER WIDTH SHOWN IN THE TYPICAL SECTIONS ARE MINIMUM WIDTH. PERPETUATE EXISTING SHOULDERS THAT ARE WIDER THAN WHAT IS SHOWN IN THE TYPICAL SECTIONS.
THE CONTRACTOR'S PAVING OPERATION SHALL BE CONSISTENT WITH THE TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.
SAWCUTS, AS SHOWN ON THE PLANS, ARE SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS.
TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

RUNOFF COEFFICIENT TABLE

Table with columns: LAND USE, HYDROLOGIC SOIL GROUP (A, B, C, D), and sub-columns for slope ranges (0-2, 2-6, 6 & OVER). Includes rows for ROW CROPS, MEDIAN STRIPTURF, SIDE SLOPETURF, PAVEMENT, ASPHALT, CONCRETE, BRICK, DRIVES, WALKS, ROOFS, GRAVEL ROADS, SHOULDERS.

TOTAL PROJECT AREA = 0.252 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.227 ACRES

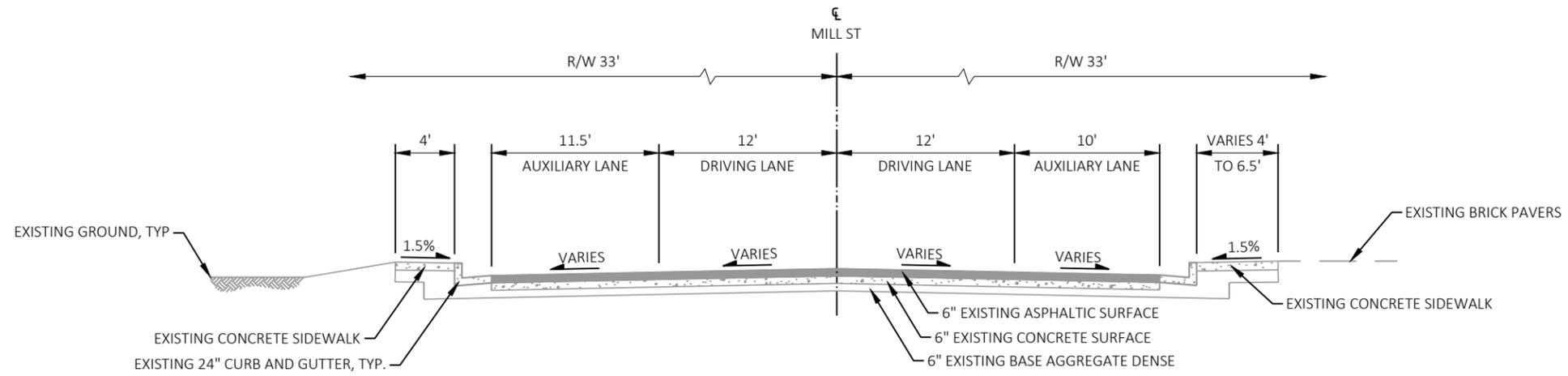
ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
STORM SEWER
DETOUR ROUTE
TRAFFIC CONTROL PLAN
ALIGNMENT DETAILS AND CONTROL POINTS

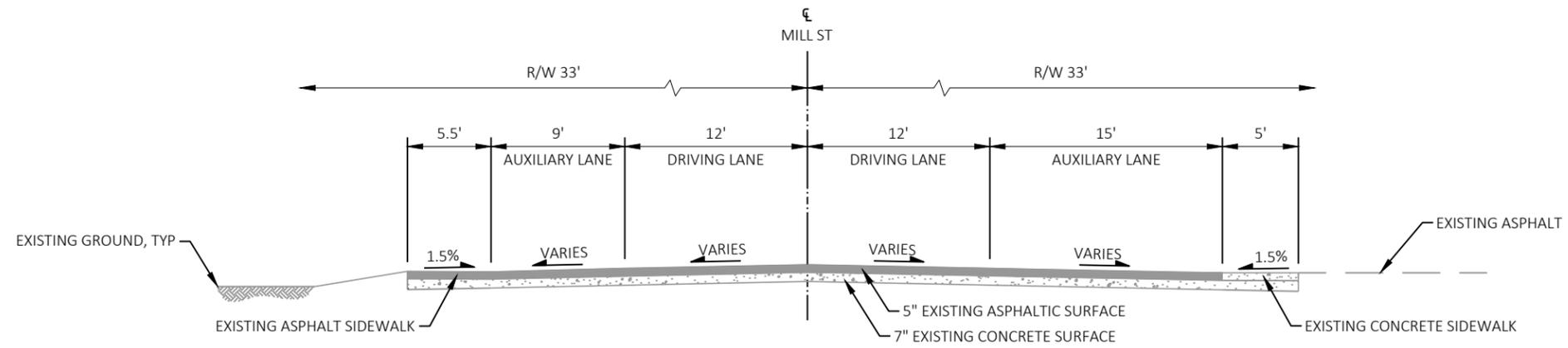


Dial 811 or (800)242-8511

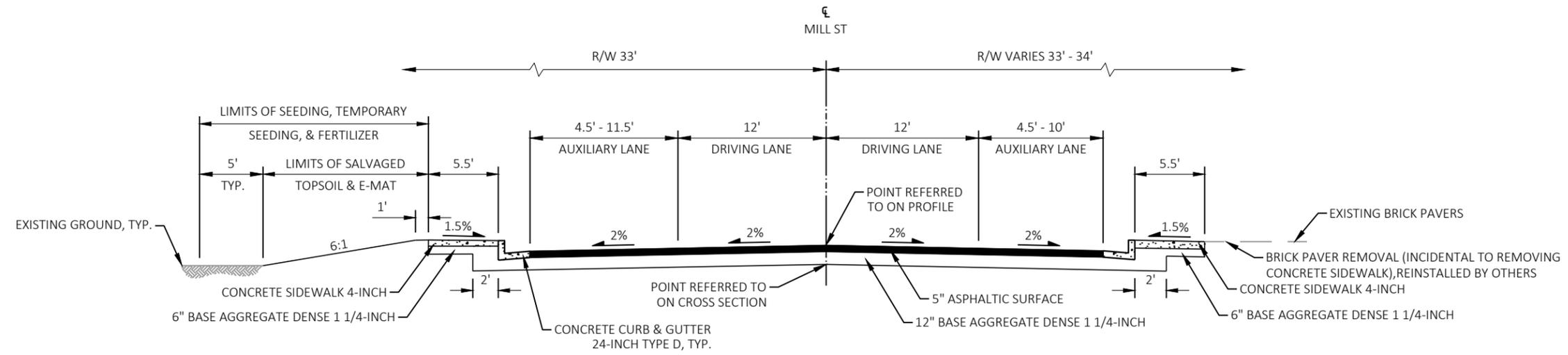
www.DiggersHotline.com



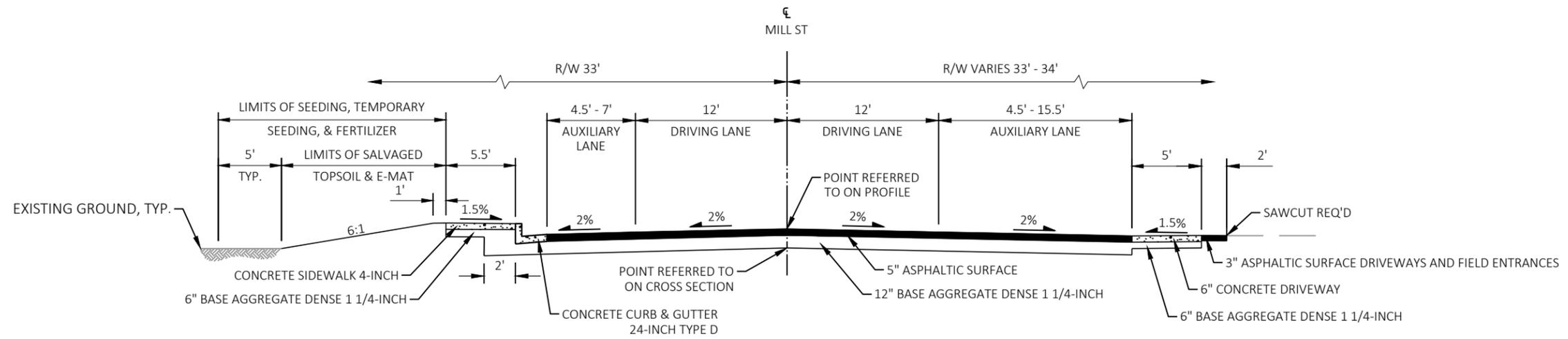
**EXISTING TYPICAL SECTION**  
 STA 10+85.00 - STA 11+48.75



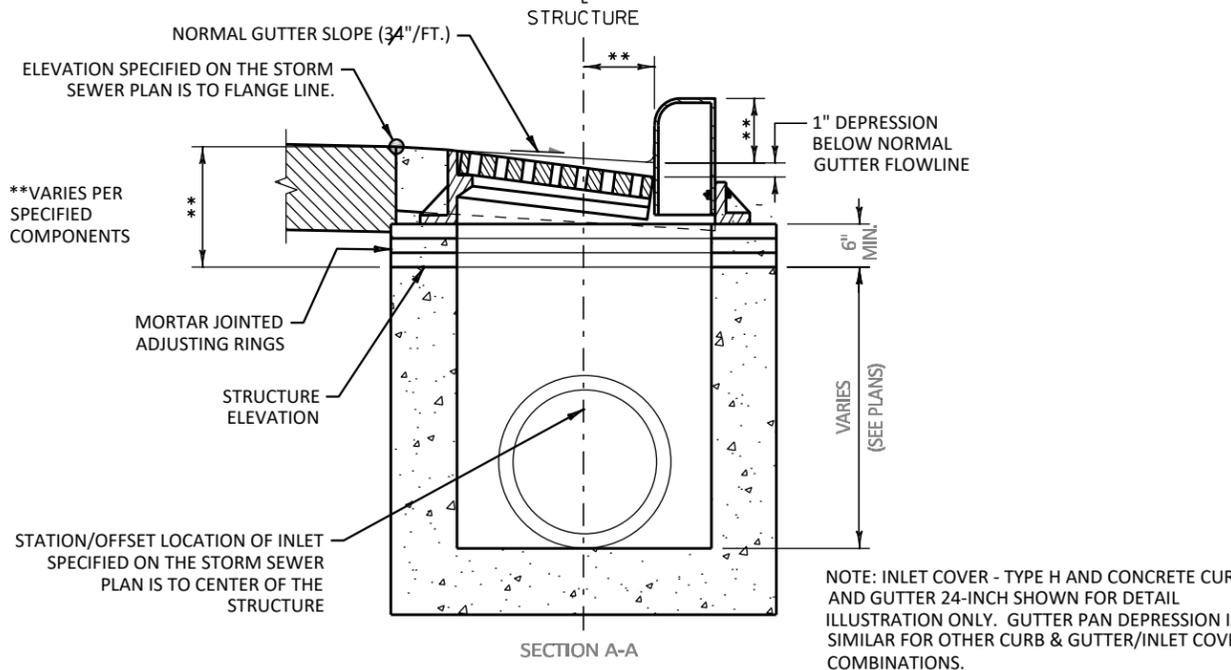
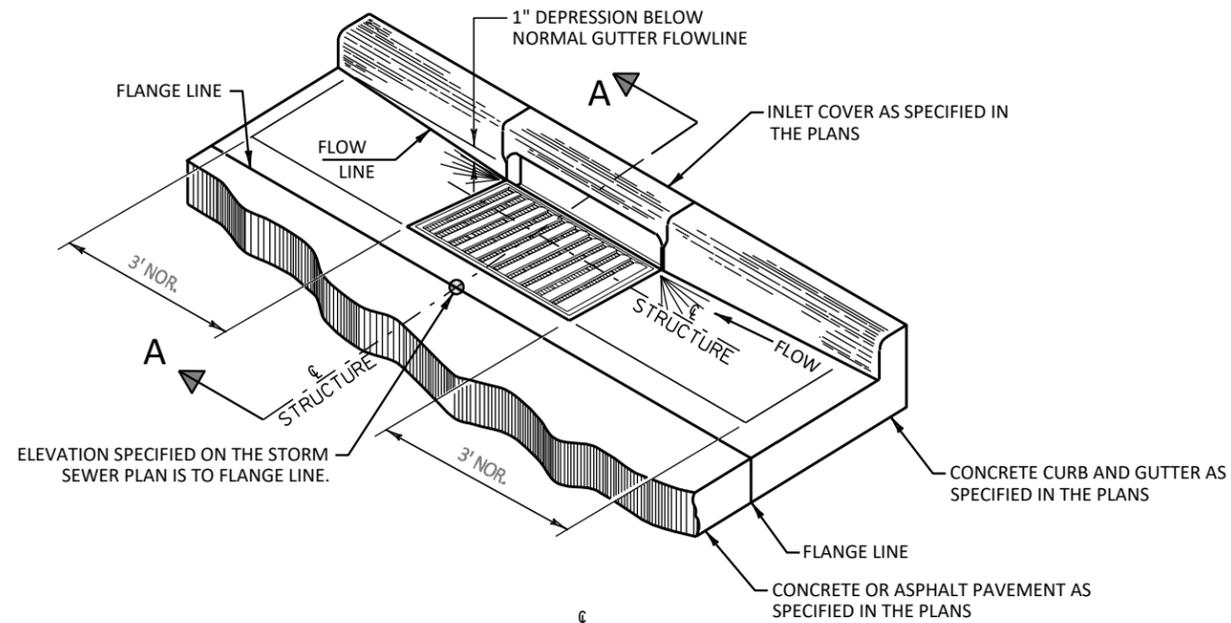
**EXISTING TYPICAL SECTION**  
 STA 12+01.25 - STA 12+51.25



**FINISHED TYPICAL SECTION**  
 STA 10+85.00 - STA 11+48.75

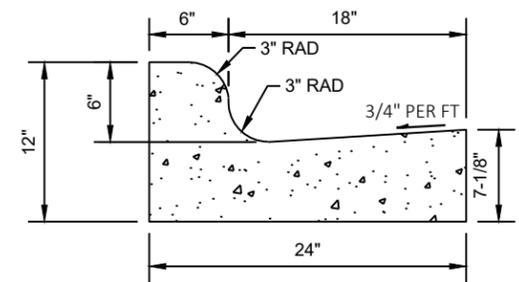
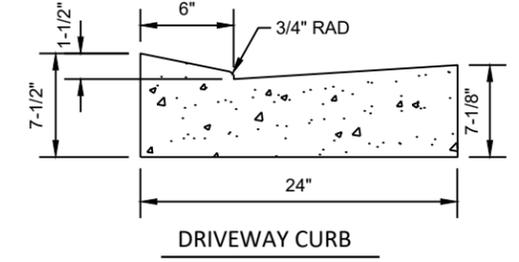
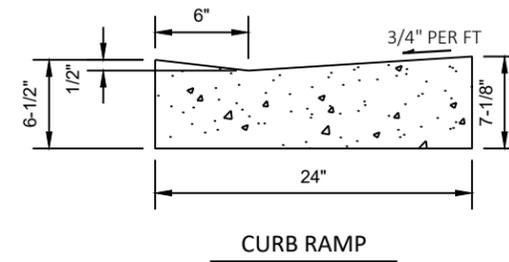


**FINISHED TYPICAL SECTION**  
 STA 12+01.25 - STA 12+51.25

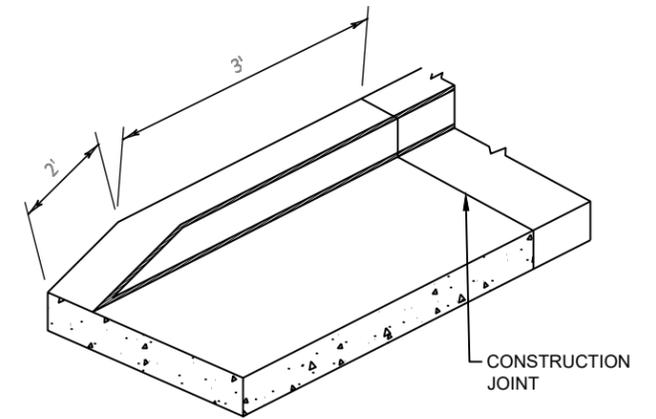


TYPICAL GUTTER PAN DEPRESSION AT INLETS

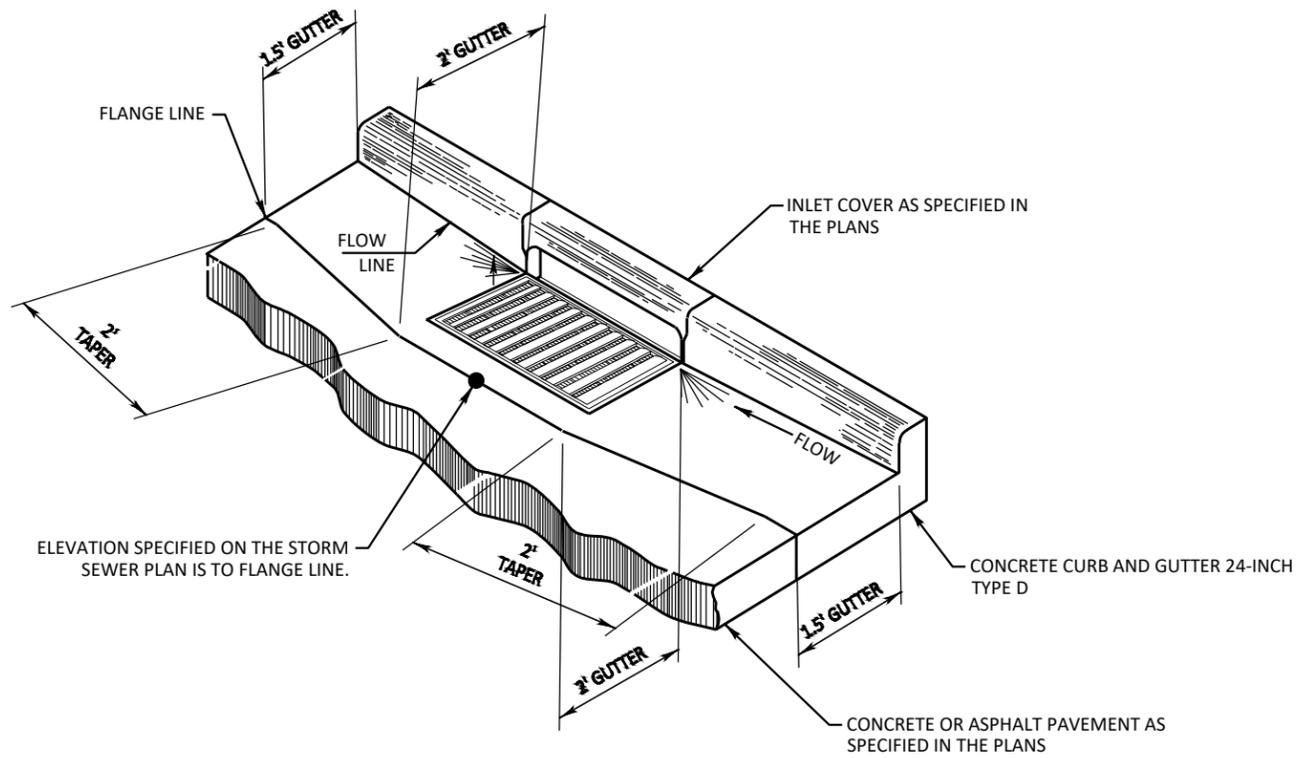
NOTE: INLET COVER - TYPE H AND CONCRETE CURB AND GUTTER 24-INCH SHOWN FOR DETAIL ILLUSTRATION ONLY. GUTTER PAN DEPRESSION IS SIMILAR FOR OTHER CURB & GUTTER/INLET COVER COMBINATIONS.



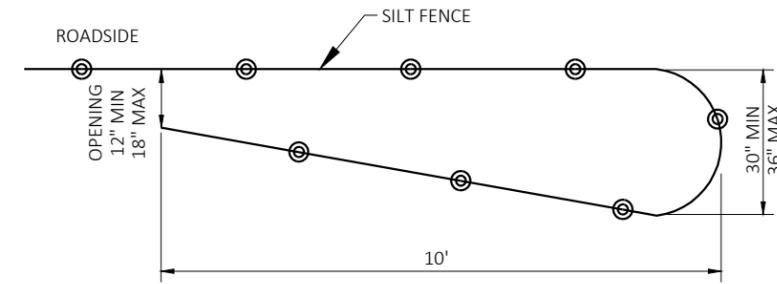
CONCRETE CURB & GUTTER 24-INCH TYPE D



END SECTION CURB AND GUTTER



CURB AND GUTTER 24-INCH TYPE D TRANSITION AT INLETS



NOTES:  
SILT FENCE POSTS SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

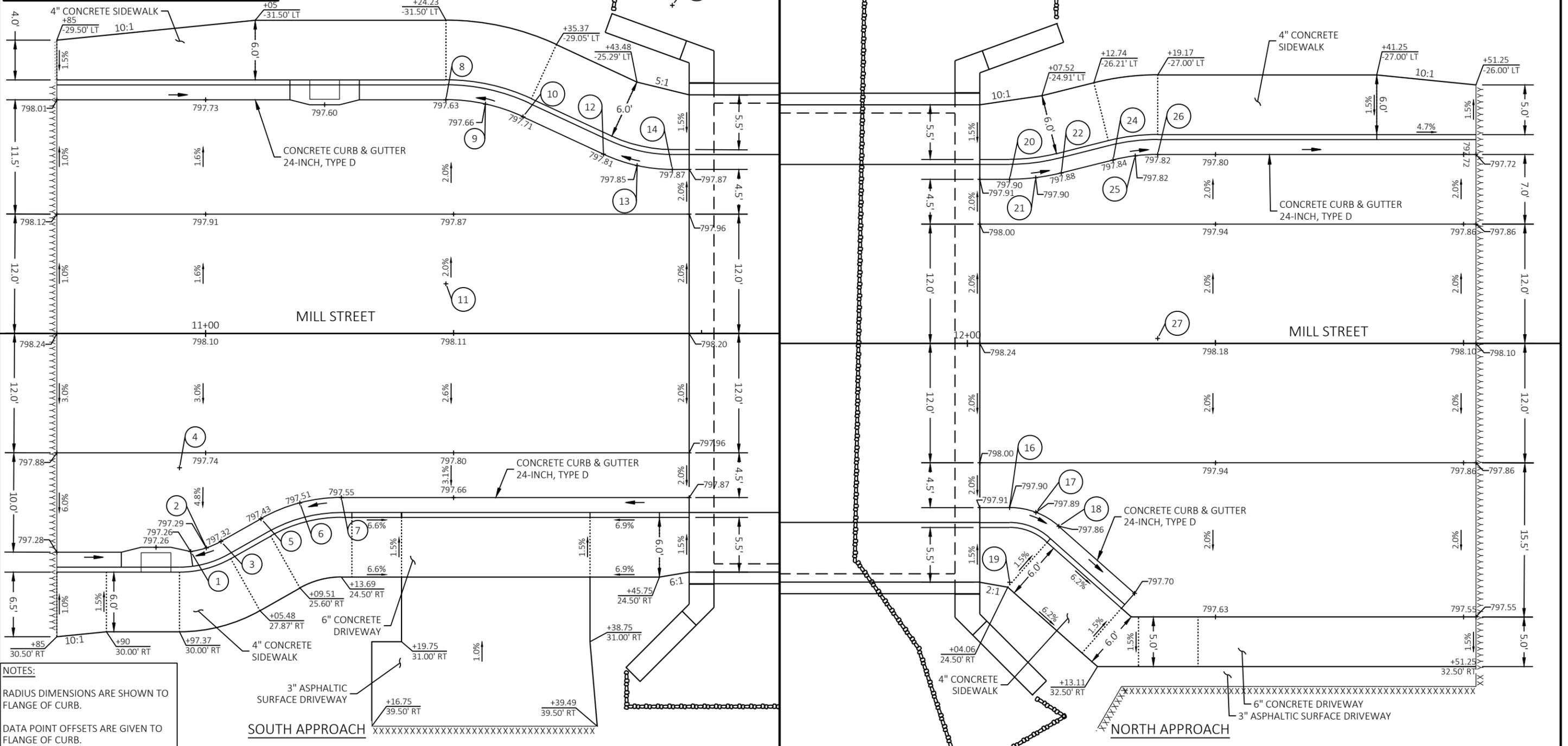
ANIMAL EXCLUSION FENCING TURN-AROUND

| RADIUS TABLE |          |          |        |               |
|--------------|----------|----------|--------|---------------|
| POINT        | STATION  | OFFSET   | RADIUS | DESCRIPTION   |
| 1            | 10+98.50 | 21.93 RT |        | BEGIN RADIUS  |
| 2            | 11+00.07 | 21.56 RT |        | MID RADIUS    |
| 3            | 11+01.55 | 20.90 RT |        | END RADIUS    |
| 4            | 10+97.37 | 13.50 RT | 8      | CENTER RADIUS |
| 5            | 11+05.58 | 18.63 RT |        | BEGIN RADIUS  |
| 6            | 11+09.50 | 17.04 RT |        | MID RADIUS    |
| 7            | 11+13.69 | 16.50 RT |        | END RADIUS    |
| 8            | 11+24.23 | 23.50 LT |        | BEGIN RADIUS  |

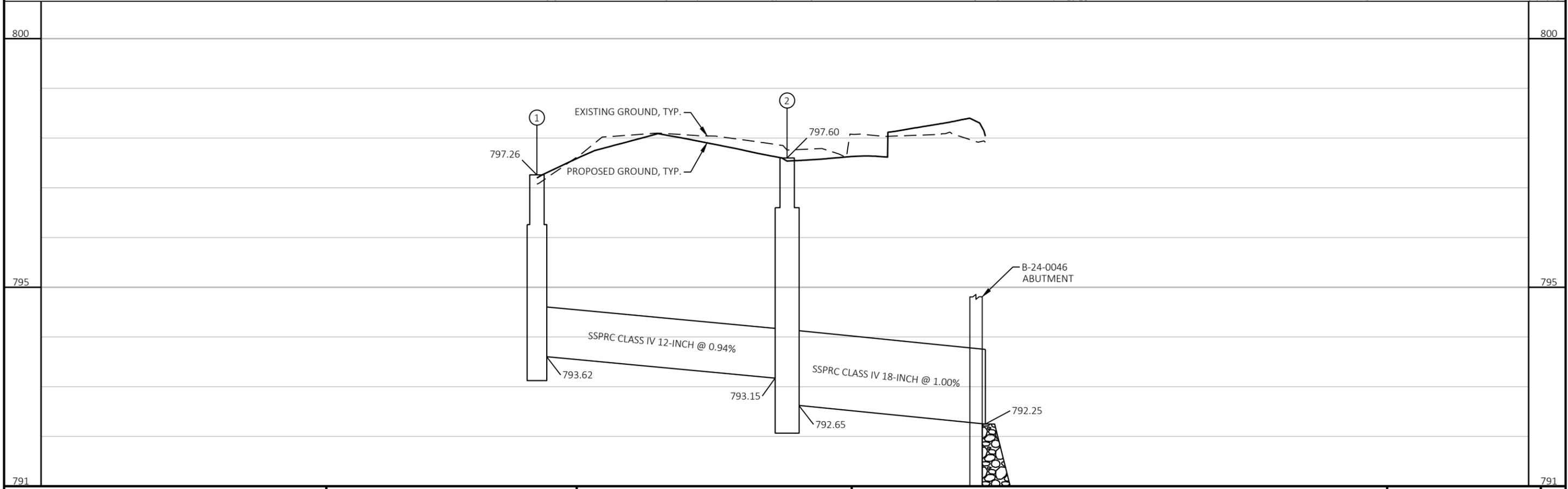
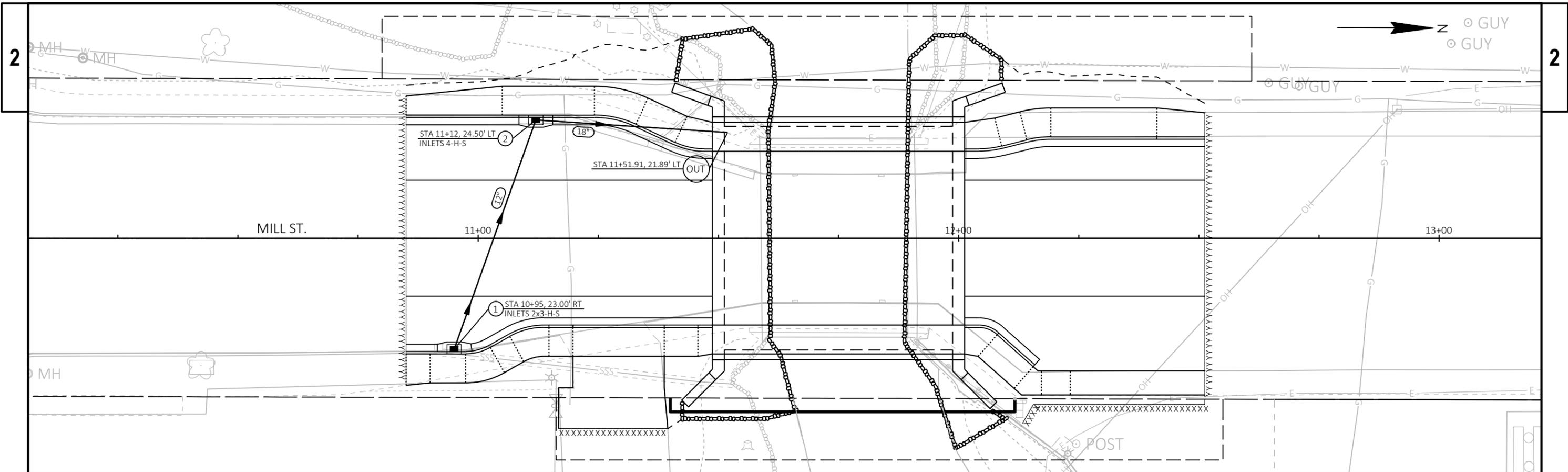
| RADIUS TABLE |          |          |        |               |
|--------------|----------|----------|--------|---------------|
| POINT        | STATION  | OFFSET   | RADIUS | DESCRIPTION   |
| 9            | 11+28.21 | 23.07 LT |        | MID RADIUS    |
| 10           | 11+32.00 | 21.79 LT |        | END RADIUS    |
| 11           | 11+24.23 | 5.00 LT  | 19     | CENTER RADIUS |
| 12           | 11+40.12 | 18.03 LT |        | BEGIN RADIUS  |
| 13           | 11+43.50 | 16.89 LT |        | MID RADIUS    |
| 14           | 11+47.05 | 16.50 LT |        | END RADIUS    |
| 15           | 11+47.05 | 33.00 LT | 16     | CENTER RADIUS |

| RADIUS TABLE |          |          |        |               |
|--------------|----------|----------|--------|---------------|
| POINT        | STATION  | OFFSET   | RADIUS | DESCRIPTION   |
| 16           | 12+04.25 | 16.50 RT |        | BEGIN RADIUS  |
| 17           | 12+06.90 | 16.99 RT |        | MID RADIUS    |
| 18           | 12+09.21 | 18.38 RT |        | END RADIUS    |
| 19           | 12+04.25 | 24.00 RT | 8      | CENTER RADIUS |
| 20           | 12+04.25 | 16.50 LT |        | BEGIN RADIUS  |
| 21           | 12+06.87 | 16.67 LT |        | MID RADIUS    |

| RADIUS TABLE |          |          |        |               |
|--------------|----------|----------|--------|---------------|
| POINT        | STATION  | OFFSET   | RADIUS | DESCRIPTION   |
| 22           | 12+09.46 | 17.15 LT |        | END RADIUS    |
| 23           | 12+04.25 | 38.00 LT | 21     | CENTER RADIUS |
| 24           | 12+14.68 | 18.45 LT |        | BEGIN RADIUS  |
| 25           | 12+16.91 | 18.87 LT |        | MID RADIUS    |
| 26           | 12+19.17 | 19.00 LT |        | END RADIUS    |
| 27           | 12+19.17 | 0.50 LT  | 18     | CENTER RADIUS |



NOTES:  
 RADIUS DIMENSIONS ARE SHOWN TO FLANGE OF CURB.  
 DATA POINT OFFSETS ARE GIVEN TO FLANGE OF CURB.



|                        |                  |                    |             |       |   |
|------------------------|------------------|--------------------|-------------|-------|---|
| PROJECT NO: 6626-01-70 | HWY: MILL STREET | COUNTY: GREEN LAKE | STORM SEWER | SHEET | E |
|------------------------|------------------|--------------------|-------------|-------|---|



# 2 DETAIL 1

2

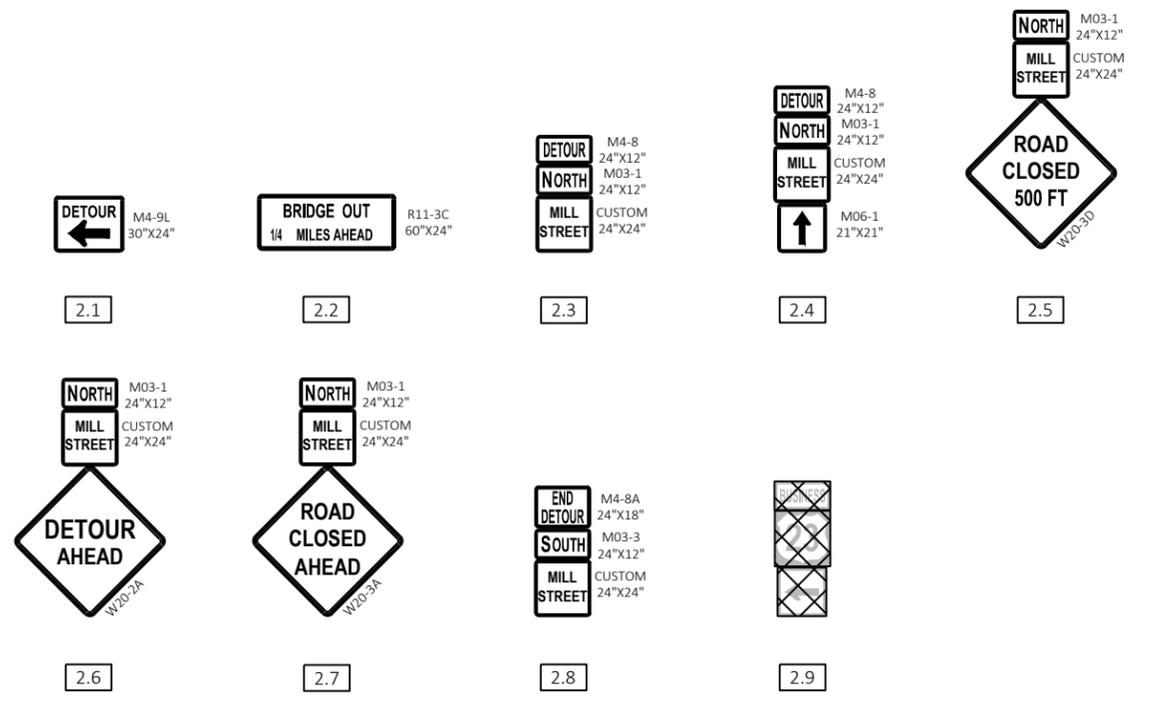


### NOTES

- SEE THE FOLLOWING STANDARD DETAIL DRAWINGS FOR ADDITIONAL INFORMATION NOT SHOWN ON DETOUR SHEETS, INCLUDING SIGN CODES, SIGN SIZES AND SPACING REQUIREMENTS:
  - SDD 15C2-A "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
  - SDD 15C2-B "BARRICADES AND SIGNS FOR VARIOUS MAINLINE CLOSURES"
  - SDD 15C2-C "DETOUR SIGNING FOR MAINLINE CLOSURES"
- EXACT NUMBER, LOCATION AND SPACING OF SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS, UNLESS OTHERWISE PROVIDED IN THE PLAN.
- SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM 'TRAFFIC CONTROL COVERING SIGNS.'
- USE SIGN SIZE 2 ON LOCAL HIGHWAYS AND RAMP.
- IF THERE ARE EXISTING ROUTE MARKERS THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE.

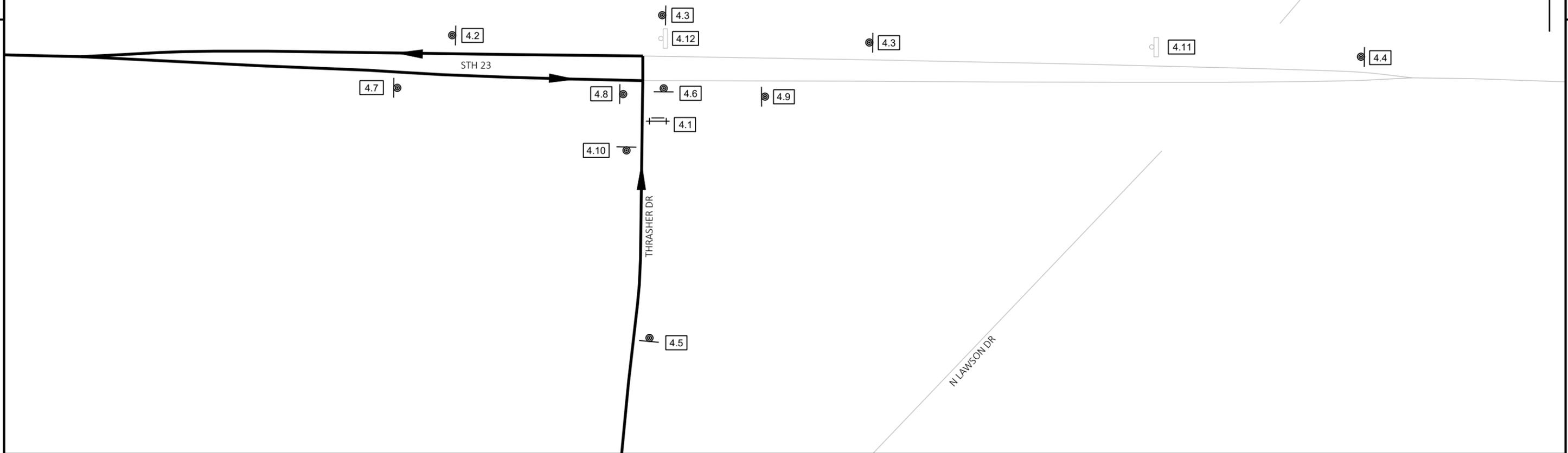
### LEGEND

- WORK ZONE
- DETOUR ROUTE
- SIGN NUMBER
- PROPOSED SIGN MOUNTED ON TEMPORARY POSTS
- BARRICADE TYPE III WITH SIGN
- PCMS BOARD
- EXISTING SIGN





# 2 DETAIL 3

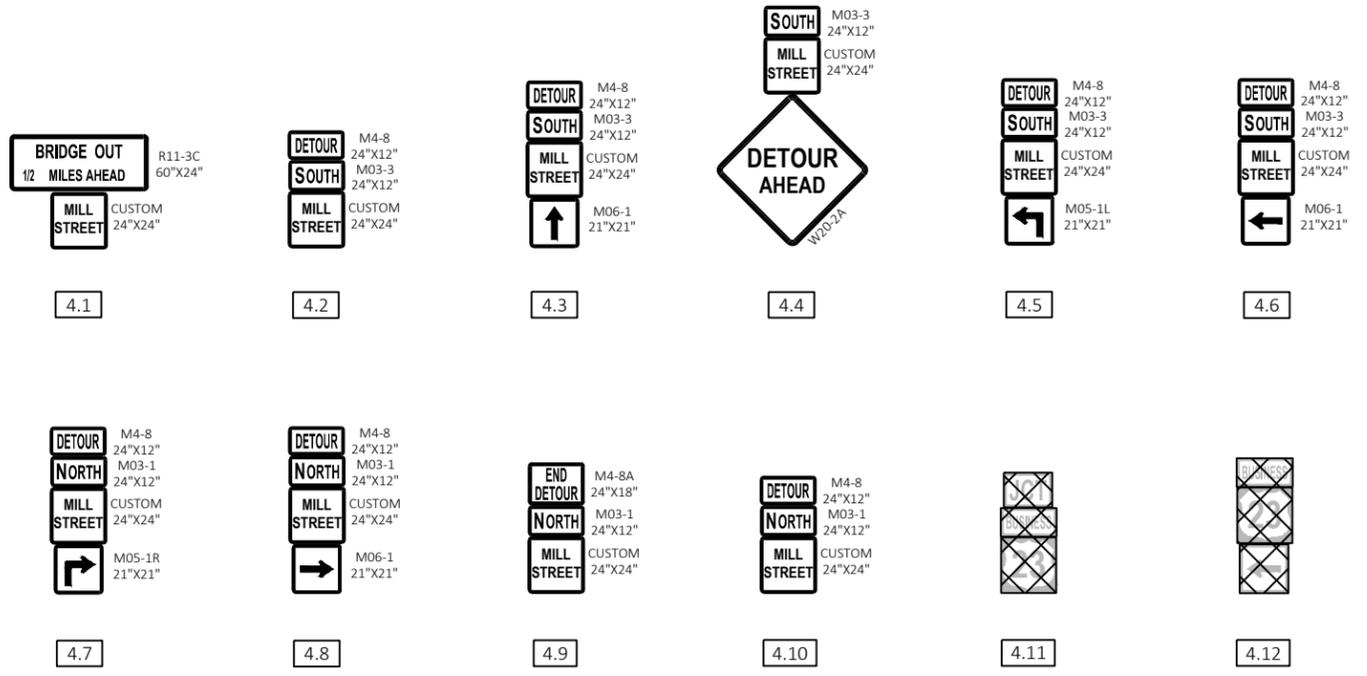


### LEGEND

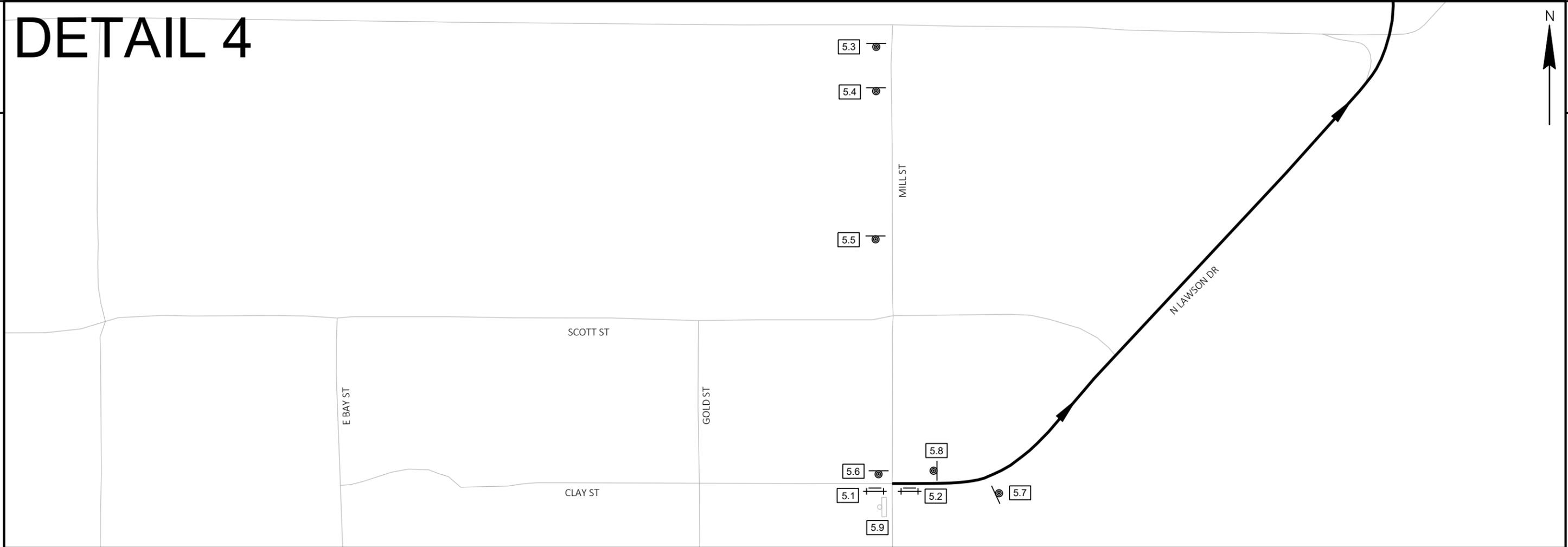
-  WORK ZONE
-  DETOUR ROUTE
-  SIGN NUMBER
-  PROPOSED SIGN MOUNTED ON TEMPORARY POSTS
-  BARRICADE TYPE III WITH SIGN
-  PCMS BOARD
-  EXISTING SIGN

### NOTES

- SEE THE FOLLOWING STANDARD DETAIL DRAWINGS FOR ADDITIONAL INFORMATION NOT SHOWN ON DETOUR SHEETS, INCLUDING SIGN CODES, SIGN SIZES AND SPACING REQUIREMENTS:
  - SDD 15C2-A "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
  - SDD 15C2-B "BARRICADES AND SIGNS FOR VARIOUS MAINLINE CLOSURES"
  - SDD 15C2-C "DETOUR SIGNING FOR MAINLINE CLOSURES"
- EXACT NUMBER, LOCATION AND SPACING OF SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS, UNLESS OTHERWISE PROVIDED IN THE PLAN.
- SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM "TRAFFIC CONTROL COVERING SIGNS."
- USE SIGN SIZE 2 ON LOCAL HIGHWAYS AND RAMPS.
- IF THERE ARE EXISTING ROUTE MARKERS THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE.



# 2 DETAIL 4

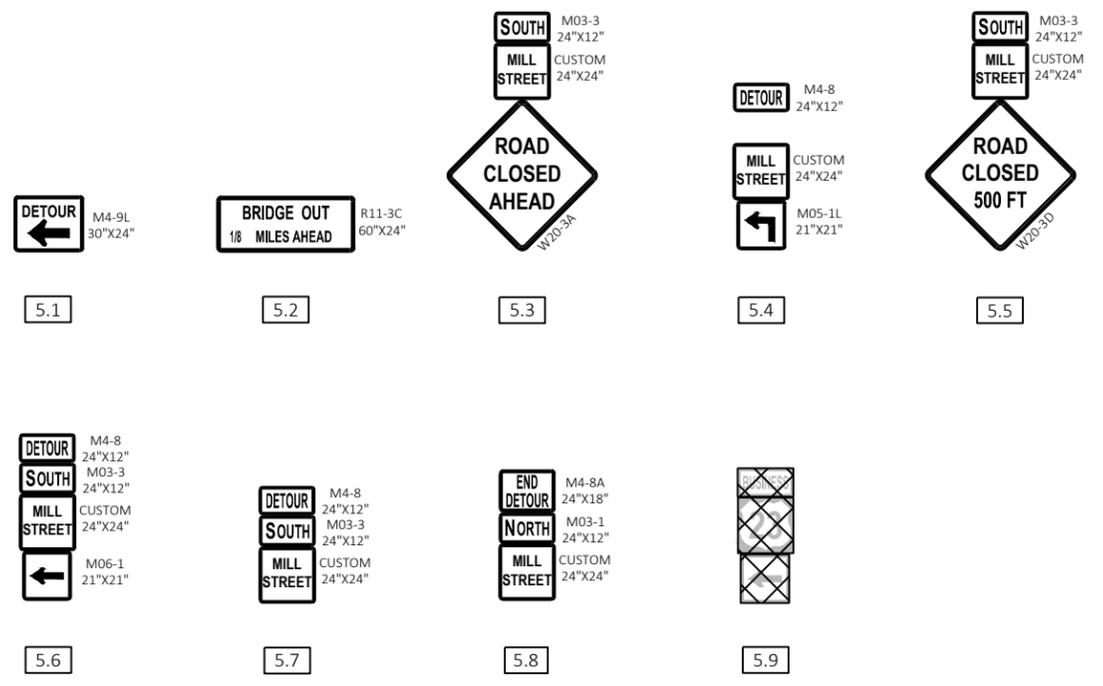


### NOTES

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  - SDD 15C2-A "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
  - SDD 15C2-B "BARRICADES AND SIGNS FOR VARIOUS MAINLINE CLOSURES"
  - SDD 15C2-C "DETOUR SIGNING FOR MAINLINE CLOSURES"
- EXACT NUMBER, LOCATION AND SPACING OF SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS, UNLESS OTHERWISE PROVIDED IN THE PLAN.
- SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM "TRAFFIC CONTROL COVERING SIGNS."
- USE SIGN SIZE 2 ON LOCAL HIGHWAYS AND RAMP.
- IF THERE ARE EXISTING ROUTE MARKERS THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE.

### LEGEND

- WORK ZONE
- DETOUR ROUTE
- SIGN NUMBER
- PROPOSED SIGN MOUNTED ON TEMPORARY POSTS
- BARRICADE TYPE III WITH SIGN
- PCMS BOARD
- EXISTING SIGN



**LEGEND**

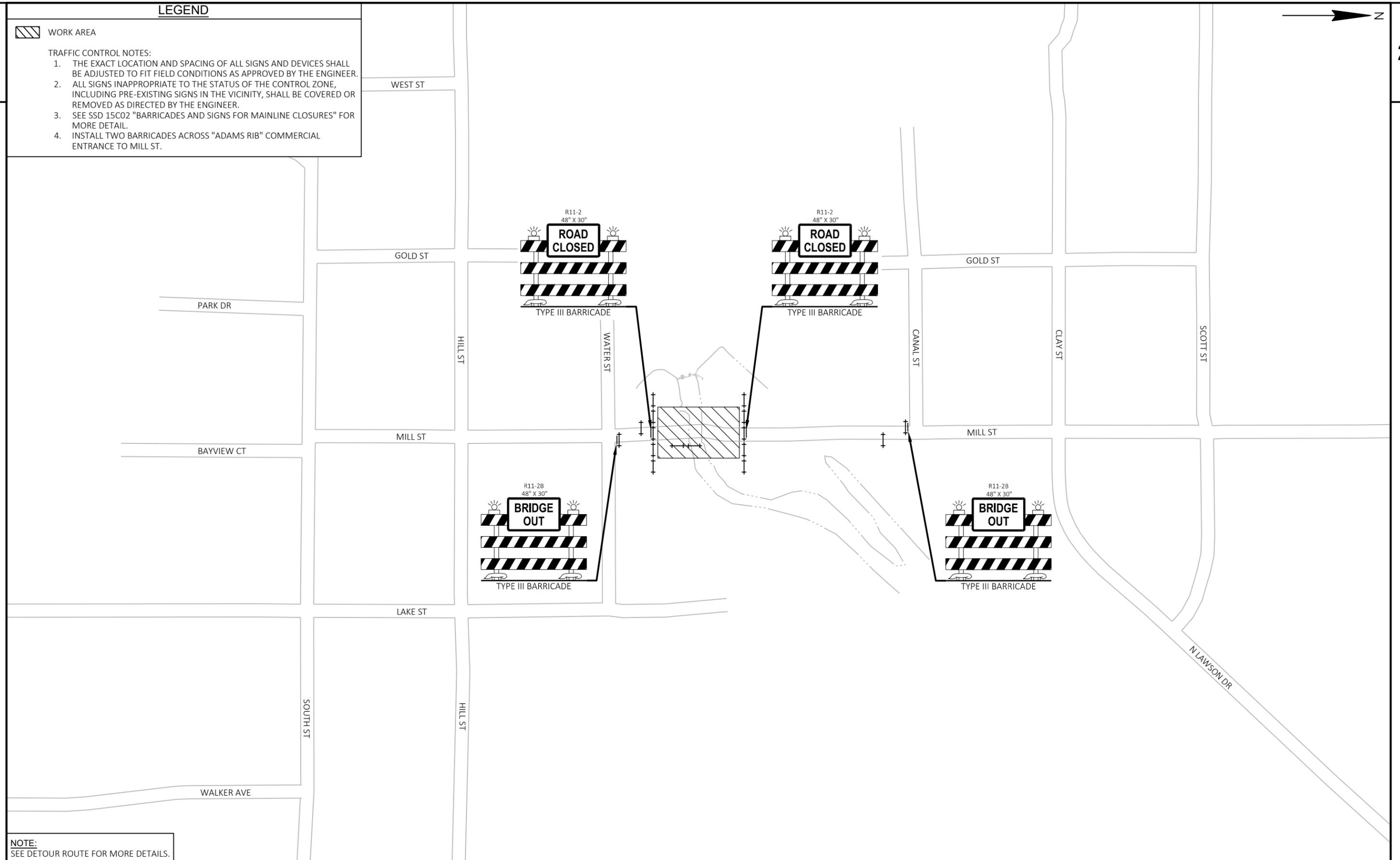
WORK AREA

**TRAFFIC CONTROL NOTES:**

1. THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
2. ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.
3. SEE SSD 15C02 "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR MORE DETAIL.
4. INSTALL TWO BARRICADES ACROSS "ADAMS RIB" COMMERCIAL ENTRANCE TO MILL ST.

2

2



**NOTE:**  
SEE DETOUR ROUTE FOR MORE DETAILS.

PROJECT NO: 6626-01-70

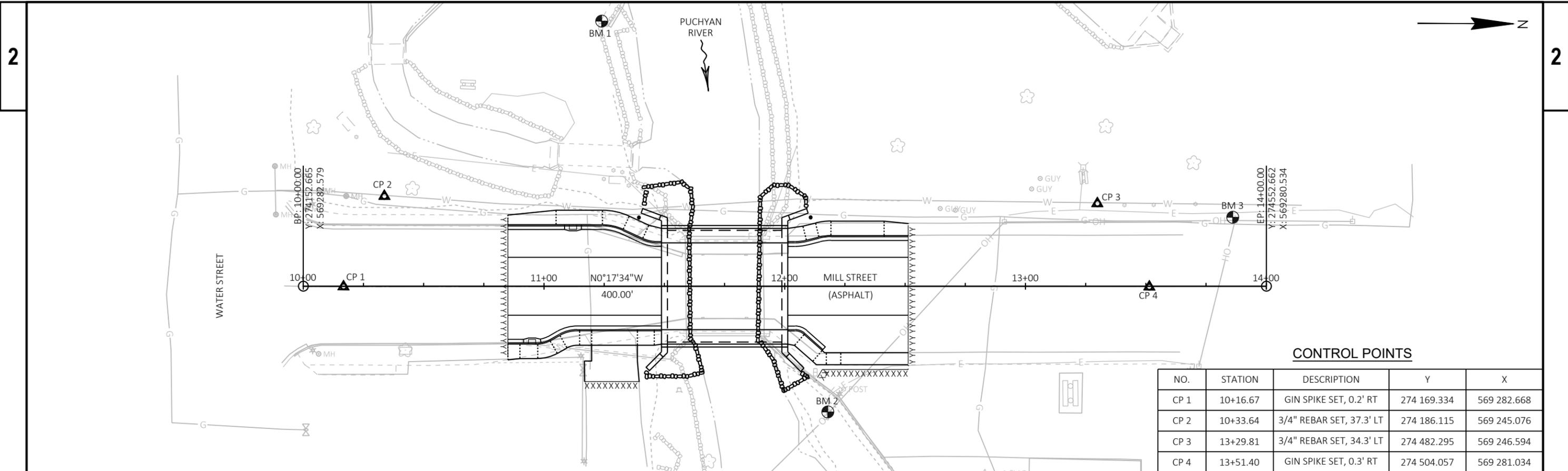
HWY: MILL STREET

COUNTY: GREEN LAKE

TRAFFIC CONTROL PLAN

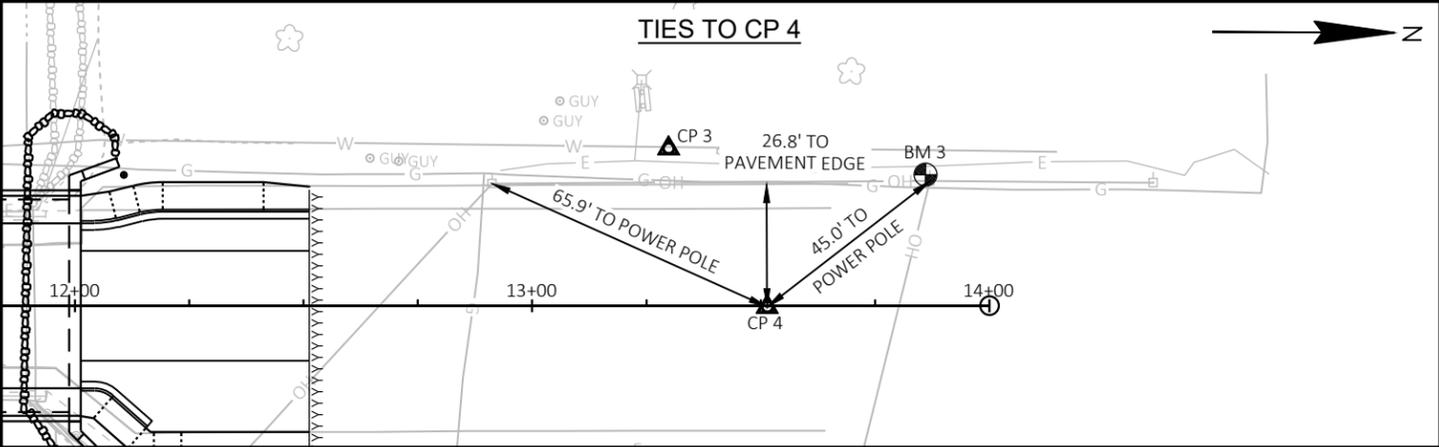
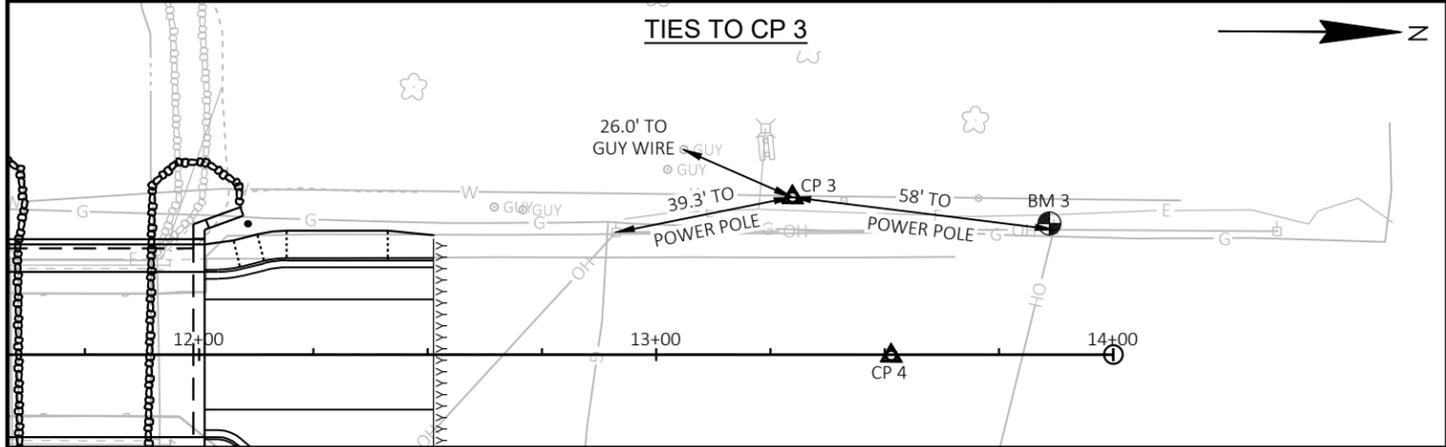
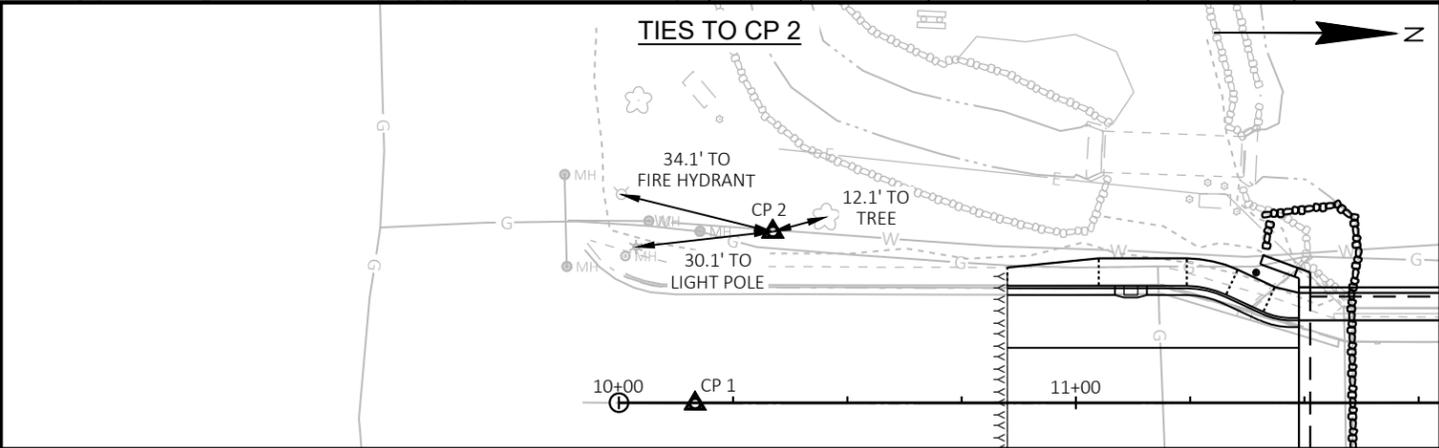
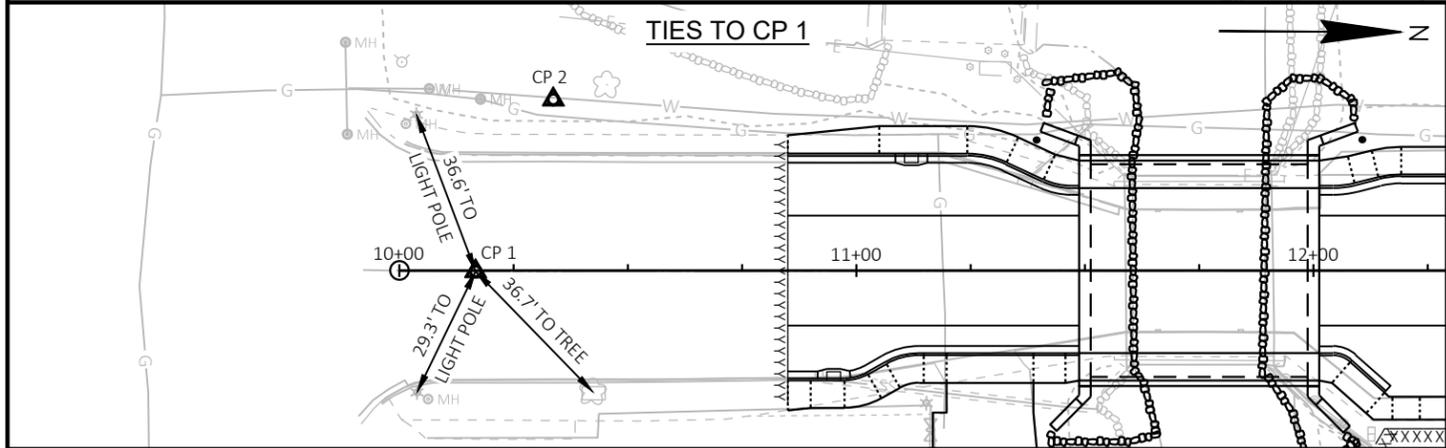
SHEET

E



**CONTROL POINTS**

| NO.  | STATION  | DESCRIPTION              | Y           | X           |
|------|----------|--------------------------|-------------|-------------|
| CP 1 | 10+16.67 | GIN SPIKE SET, 0.2' RT   | 274 169.334 | 569 282.668 |
| CP 2 | 10+33.64 | 3/4" REBAR SET, 37.3' LT | 274 186.115 | 569 245.076 |
| CP 3 | 13+29.81 | 3/4" REBAR SET, 34.3' LT | 274 482.295 | 569 246.594 |
| CP 4 | 13+51.40 | GIN SPIKE SET, 0.3' RT   | 274 504.057 | 569 281.034 |



Estimate Of Quantities

6626-01-70

| Line | Item       | Item Description  | Unit | Total      | Qty        |
|------|------------|---|------|------------|------------|
| 0002 | 203.0250   | Removing Structure Over Waterway Remove Debris (structure) 01. B-24-437 | EACH | 1.000      | 1.000      |
| 0004 | 204.0100   | Removing Concrete Pavement  | SY   | 720.000    | 720.000    |
| 0006 | 204.0110   | Removing Asphaltic Surface  | SY   | 38.000     | 38.000     |
| 0008 | 204.0155   | Removing Concrete Sidewalk  | SY   | 119.000    | 119.000    |
| 0010 | 204.0165   | Removing Guardrail  | LF   | 28.000     | 28.000     |
| 0012 | 204.0220   | Removing Inlets   | EACH | 2.000      | 2.000      |
| 0014 | 204.0245   | Removing Storm Sewer (size) 01. 12-Inch                                 | LF   | 19.000     | 19.000     |
| 0016 | 204.0245   | Removing Storm Sewer (size) 02. 18-Inch                                 | LF   | 61.000     | 61.000     |
| 0018 | 205.0100   | Excavation Common   | CY   | 306.000    | 306.000    |
| 0020 | 206.1001   | Excavation for Structures Bridges (structure) 01. B-24-46               | EACH | 1.000      | 1.000      |
| 0022 | 210.1500   | Backfill Structure Type A   | TON  | 560.000    | 560.000    |
| 0024 | 213.0100   | Finishing Roadway (project) 01. 6626-01-70                              | EACH | 1.000      | 1.000      |
| 0026 | 305.0120   | Base Aggregate Dense 1 1/4-Inch   | TON  | 479.000    | 479.000    |
| 0028 | 455.0605   | Tack Coat   | GAL  | 37.000     | 37.000     |
| 0030 | 465.0105   | Asphaltic Surface   | TON  | 148.000    | 148.000    |
| 0032 | 465.0120   | Asphaltic Surface Driveways and Field Entrances                         | TON  | 9.000      | 9.000      |
| 0034 | 502.0100   | Concrete Masonry Bridges  | CY   | 309.000    | 309.000    |
| 0036 | 502.3200   | Protective Surface Treatment  | SY   | 286.000    | 286.000    |
| 0038 | 502.3210   | Pigmented Surface Sealer  | SY   | 57.000     | 57.000     |
| 0040 | 505.0400   | Bar Steel Reinforcement HS Structures                                   | LB   | 7,200.000  | 7,200.000  |
| 0042 | 505.0600   | Bar Steel Reinforcement HS Coated Structures                            | LB   | 46,340.000 | 46,340.000 |
| 0044 | 513.8021   | Railing Steel Pedestrian Type C4  | LF   | 48.000     | 48.000     |
| 0046 | 516.0500   | Rubberized Membrane Waterproofing                                       | SY   | 23.000     | 23.000     |
| 0048 | 550.0020   | Pre-Boring Rock or Consolidated Materials                               | LF   | 240.000    | 240.000    |
| 0050 | 550.1100   | Piling Steel HP 10-Inch X 42 Lb   | LF   | 300.000    | 300.000    |
| 0052 | 602.0405   | Concrete Sidewalk 4-Inch  | SF   | 1,040.000  | 1,040.000  |
| 0054 | 602.0810   | Concrete Driveway 6-Inch  | SY   | 35.000     | 35.000     |
| 0056 | 608.0412   | Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch                   | LF   | 51.000     | 51.000     |
| 0058 | 608.0418   | Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch                   | LF   | 40.000     | 40.000     |
| 0060 | 611.0639   | Inlet Covers Type H-S   | EACH | 2.000      | 2.000      |
| 0062 | 611.3004   | Inlets 4-FT Diameter  | EACH | 1.000      | 1.000      |
| 0064 | 611.3230   | Inlets 2x3-FT   | EACH | 1.000      | 1.000      |
| 0066 | 611.8120.S | Cover Plates Temporary  | EACH | 2.000      | 2.000      |
| 0068 | 612.0406   | Pipe Underdrain Wrapped 6-Inch  | LF   | 200.000    | 200.000    |
| 0070 | 618.0100   | Maintenance and Repair of Haul Roads (project) 01. 6626-01-70           | EACH | 1.000      | 1.000      |
| 0072 | 619.1000   | Mobilization  | EACH | 1.000      | 1.000      |
| 0074 | 624.0100   | Water   | MGAL | 12.400     | 12.400     |
| 0076 | 625.0500   | Salvaged Topsoil  | SY   | 100.000    | 100.000    |
| 0078 | 628.1504   | Silt Fence  | LF   | 190.000    | 190.000    |
| 0080 | 628.1520   | Silt Fence Maintenance  | LF   | 300.000    | 300.000    |
| 0082 | 628.1905   | Mobilizations Erosion Control   | EACH | 5.000      | 5.000      |
| 0084 | 628.1910   | Mobilizations Emergency Erosion Control                                 | EACH | 4.000      | 4.000      |
| 0086 | 628.2008   | Erosion Mat Urban Class I Type B  | SY   | 100.000    | 100.000    |
| 0088 | 628.6005   | Turbidity Barriers  | SY   | 175.000    | 175.000    |
| 0090 | 628.7015   | Inlet Protection Type C   | EACH | 6.000      | 6.000      |
| 0092 | 629.0210   | Fertilizer Type B   | CWT  | 0.100      | 0.100      |
| 0094 | 630.0140   | Seeding Mixture No. 40  | LB   | 10.000     | 10.000     |
| 0096 | 630.0200   | Seeding Temporary   | LB   | 10.000     | 10.000     |
| 0098 | 630.0500   | Seed Water  | MGAL | 3.900      | 3.900      |

Estimate Of Quantities

6626-01-70

| Line | Item     | Item Description   | Unit | Total      | Qty        |
|------|----------|--|------|------------|------------|
| 0100 | 633.5100 | Markers ROW  | EACH | 3.000      | 3.000      |
| 0102 | 642.5001 | Field Office Type B  | EACH | 1.000      | 1.000      |
| 0104 | 643.0300 | Traffic Control Drums  | DAY  | 555.000    | 555.000    |
| 0106 | 643.0420 | Traffic Control Barricades Type III                                    | DAY  | 2,619.000  | 2,619.000  |
| 0108 | 643.0705 | Traffic Control Warning Lights Type A                                  | DAY  | 5,238.000  | 5,238.000  |
| 0110 | 643.0900 | Traffic Control Signs  | DAY  | 16,005.000 | 16,005.000 |
| 0112 | 643.0920 | Traffic Control Covering Signs Type II                                 | EACH | 25.000     | 25.000     |
| 0114 | 643.1050 | Traffic Control Signs PCMS   | DAY  | 14.000     | 14.000     |
| 0116 | 643.5000 | Traffic Control  | EACH | 1.000      | 1.000      |
| 0118 | 645.0111 | Geotextile Type DF Schedule A  | SY   | 104.000    | 104.000    |
| 0120 | 645.0120 | Geotextile Type HR   | SY   | 301.000    | 301.000    |
| 0122 | 650.4000 | Construction Staking Storm Sewer                                       | EACH | 2.000      | 2.000      |
| 0124 | 650.4500 | Construction Staking Subgrade  | LF   | 114.000    | 114.000    |
| 0126 | 650.5000 | Construction Staking Base  | LF   | 114.000    | 114.000    |
| 0128 | 650.5500 | Construction Staking Curb Gutter and Curb & Gutter                     | LF   | 198.000    | 198.000    |
| 0130 | 650.6501 | Construction Staking Structure Layout (structure) 01. B-24-0046        | EACH | 1.000      | 1.000      |
| 0132 | 650.8501 | Construction Staking Electrical Installations (project) 01. 6626-01-70 | EACH | 1.000      | 1.000      |
| 0134 | 650.9500 | Construction Staking Sidewalk (project) 01. 6626-01-70                 | EACH | 1.000      | 1.000      |
| 0136 | 650.9911 | Construction Staking Supplemental Control (project) 01. 6626-01-70     | EACH | 1.000      | 1.000      |
| 0138 | 650.9920 | Construction Staking Slope Stakes                                      | LF   | 114.000    | 114.000    |
| 0140 | 652.0125 | Conduit Rigid Metallic 2-Inch  | LF   | 8.000      | 8.000      |
| 0142 | 652.0225 | Conduit Rigid Nonmetallic Schedule 40 2-Inch                           | LF   | 67.000     | 67.000     |
| 0144 | 653.0105 | Pull Boxes Steel 12x24-Inch  | EACH | 2.000      | 2.000      |
| 0146 | 680.0100 | Public Land Reference Monument Verify and Reset                        | EACH | 1.000      | 1.000      |
| 0148 | 690.0150 | Sawing Asphalt   | LF   | 66.000     | 66.000     |
| 0150 | 690.0250 | Sawing Concrete  | LF   | 120.000    | 120.000    |
| 0152 | 715.0502 | Incentive Strength Concrete Structures                                 | DOL  | 1,854.000  | 1,854.000  |
| 0154 | ASP.1T0A | On-the-Job Training Apprentice at \$5.00/HR                            | HRS  | 300.000    | 300.000    |
| 0156 | ASP.1T0G | On-the-Job Training Graduate at \$5.00/HR                              | HRS  | 600.000    | 600.000    |
| 0158 | SPV.0035 | Special 01. Rounded River Rock   | CY   | 170.000    | 170.000    |
| 0160 | SPV.0090 | Special 01. Concrete Curb & Gutter 24-Inch Type D                      | LF   | 198.000    | 198.000    |
| 0162 | SPV.0090 | Special 02. Parapet Concrete Type "TX"                                 | LF   | 105.000    | 105.000    |

ALL ITEMS CATEGORY 0010 UNLESS NOTED OTHERWISE

REMOVING CONCRETE PAVEMENT

| STATION | TO | STATION | LOCATION       | 204.0100<br>SY |
|---------|----|---------|----------------|----------------|
| 10+85   | -  | 11+59   | SOUTH APPROACH | 350            |
| 11+91   | -  | 12+51   | NORTH APPROACH | 370            |
| TOTAL   |    |         |                | 720            |

NOTE: INCLUDES CURB AND GUTTER REMOVAL ADJACENT TO CONCRETE PAVEMENT.

REMOVING ASPHALTIC SURFACE

| STATION | LOCATION | 204.0110<br>SY |
|---------|----------|----------------|
| 11+28   | C.E., RT | 38             |
| TOTAL   |          | 38             |

REMOVING CONCRETE SIDEWALK

| STATION | TO | STATION | LOCATION           | 204.0155<br>SY |
|---------|----|---------|--------------------|----------------|
| 10+85   | -  | 11+59   | SOUTH APPROACH, LT | 34             |
| 10+85   | -  | 11+59   | SOUTH APPROACH, RT | 41             |
| 11+91   | -  | 12+02   | NORTH APPROACH, LT | 8              |
| 11+91   | -  | 12+51   | NORTH APPROACH, RT | 36             |
| TOTAL   |    |         |                    | 119            |

REMOVING GUARDRAIL

| STATION | TO | STATION | LOCATION           | 204.0165<br>LF |
|---------|----|---------|--------------------|----------------|
| 11+91   | -  | 12+13   | NORTH APPROACH, RT | 28             |
| TOTAL   |    |         |                    | 28             |

3

3

REMOVING INLETS

| STATION | LOCATION           | 204.0220<br>EACH |
|---------|--------------------|------------------|
| 10+92   | SOUTH APPROACH, RT | 1                |
| 11+37   | SOUTH APPROACH, LT | 1                |
| TOTAL   |                    | 2                |

REMOVING STORM SEWER

| STATION | TO | STATION | LOCATION           | 204.0245.01<br>REMOVING<br>STORM SEWER<br>01. 12-INCH<br>LF | 204.0245.02<br>REMOVING<br>STORM SEWER<br>02. 18-INCH<br>LF |
|---------|----|---------|--------------------|---|---|
| 10+93   | -  | 11+53   | SOUTH APPROACH, RT | ---   | 61  |
| 11+37   | -  | 11+51   | SOUTH APPROACH, LT | 19  | ---   |
| TOTAL   |    |         |                    | 19  | 61  |

EARTHWORK

| DIVISION       | FROM/TO<br>STATION | 205.0100<br>EXCAVATION<br>COMMON<br>(1) | SALVAGED/UNUSABLE<br>PAVEMENT MATERIAL<br>(3) | AVAILABLE<br>MATERIAL<br>(4) | UNEXPANDED<br>FILL | EXPANDED FILL<br>(5) | MASS ORDINATE +/-<br>(6) | WASTE<br>(7) |
|----------------|--------------------|---|---|------------------------------|--------------------|----------------------|--------------------------|--------------|
|                |                    | CUT<br>(2)                              |   |                              |                    | FACTOR<br>1.25       |                          |              |
| SOUTH APPROACH | 10+85.00/11+48.75  | 184                                     | 96  | 88                           | 10                 | 13                   | 76                       |              |
| NORTH APPROACH | 12+01.25/12+51.25  | 122                                     | 81  | 41                           | 7                  | 9                    | 32                       |              |
| SUBTOTAL       |                    | 306                                     | 177   | 129                          | 17                 | 21                   | 108                      | 108          |
| GRAND TOTAL    |                    | 306                                     | 177   | 129                          | 17                 | 21                   | 108                      | 108          |

NOTES:

- (1) EXCAVATION COMMON IS THE SUM OF THE CUT.
- (2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (3) SALVAGED/UNUSABLE PAVEMENT MATERIAL CONSISTS OF EXISTING ASPHALTIC PAVEMENT.
- (4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (5) EXPANDED FILL FACTOR = 1.25, EXPANDED FILL = UNEXPANDED FILL \* FILL FACTOR
- (6) 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.
- (7) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

BASE AGGREGATE DENSE

| STATION | TO | STATION | LOCATION       | 305.0120<br>BASE<br>AGGREGATE<br>DENSE<br>1 1/4-INCH<br>TON | 624.0100<br>WATER<br>MGAL |
|---------|----|---------|----------------|---|---------------------------|
| 10+85   | -  | 11+49   | SOUTH APPROACH | 255   | 2.6                       |
| 12+01   | -  | 12+51   | NORTH APPROACH | 195   | 2.0                       |
| TOTAL   |    |         |                | 450   | 4.6                       |

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

DRIVEWAYS

| STATION | TO | STATION | LOCATION           | 305.0120<br>BASE<br>AGGREGATE<br>DENSE<br>1 1/4-INCH<br>TON | 465.0120<br>ASPHALTIC SURFACE<br>DRIVEWAYS AND<br>FIELD ENTRANCES<br>TON | 602.0810<br>CONCRETE<br>DRIVEWAY<br>6-INCH<br>SY | 624.0100<br>WATER<br>MGAL |
|---------|----|---------|--------------------|---|--|--|---------------------------|
|         |    | 11+28   | SOUTH APPROACH, RT | 16  | 6  | 13   | 4.3                       |
| 12+16   | -  | 12+51   | NORTH APPROACH, RT | 13  | 3  | 22   | 3.5                       |
| TOTAL   |    |         |                    | 29  | 9  | 35   | 7.8                       |

\* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ASPHALTIC SURFACE

| STATION | TO | STATION | LOCATION       | 455.0605<br>TACK COAT<br>GAL | 465.0105<br>ASPHALTIC SURFACE<br>TON |
|---------|----|---------|----------------|------------------------------|--------------------------------------|
| 10+85   | -  | 11+49   | SOUTH APPROACH | 20                           | 80                                   |
| 12+01   | -  | 12+51   | NORTH APPROACH | 17                           | 68                                   |
| TOTAL   |    |         |                | 37                           | 148                                  |

CONCRETE SIDEWALK 4-INCH

| STATION | TO | STATION | LOCATION           | 602.0405<br>SF |
|---------|----|---------|--------------------|----------------|
| 10+85   | -  | 11+49   | SOUTH APPROACH, LT | 370            |
| 10+85   | -  | 11+20   | SOUTH APPROACH, RT | 220            |
| 11+39   | -  | 11+49   | SOUTH APPROACH, RT | 60             |
| 12+01   | -  | 12+51   | NORTH APPROACH, LT | 300            |
| 12+01   | -  | 12+16   | NORTH APPROACH, RT | 90             |
| TOTAL   |    |         |                    | 1,040          |

PROJECT NO: 6626-01-70

HWY: MILL STREET

COUNTY: GREEN LAKE

MISCELLANEOUS QUANTITIES

SHEET

E

ALL ITEMS CATEGORY 0010 UNLESS NOTED OTHERWISE

STORM SEWER SUMMARY

| FROM STRUCTURE | TO STRUCTURE | LOCATION       | 608.0412<br>STORM SEWER PIPE<br>REINFORCED CONCRETE<br>CLASS IV 12-INCH<br>LF | 608.0418<br>STORM SEWER PIPE<br>REINFORCED CONCRETE<br>CLASS IV 18-INCH<br>LF | *<br>JOINT<br>TIES<br>EACH | INLET<br>ELEVATION | OUTLET<br>ELEVATION | SLOPE<br>FT/FT |
|----------------|--------------|----------------|---|---|----------------------------|--------------------|---------------------|----------------|
| 1              | - 2          | SOUTH APPROACH | 51  | ---   | ---                        | 793.62             | 793.15              | 0.0094         |
| 2              | -            | OUTFALL        | ---   | 40  | 3                          | 792.65             | 792.25              | 0.0100         |
| TOTAL          |              |                | 51  | 40  |                            |                    |                     |                |

\*NON-BID ITEM: FOR INFORMATION ONLY  
PIPE LENGTHS INDICATED ARE TO THE CENTER OF STRUCTURE TO THE NEAREST FOOT.  
SLOPES AND ELEVATIONS ARE BASED ON ACTUAL PIPE LENGTH BETWEEN STRUCTURE WALLS OR OUTFALL AS APPLICABLE.

STORM SEWER STRUCTURES

| STRUCTURE | STATION | OFFSET    | LOCATION       | 611.0639<br>INLET<br>COVERS<br>TYPE H-S<br>EACH | 611.3004<br>INLETS<br>4-FT<br>DIAMETER<br>EACH | 611.3230<br>INLETS<br>2X3-FT<br>EACH | 611.8120.S<br>COVER<br>PLATES<br>TEMPORARY<br>EACH | 650.4000<br>CONSTRUCTION<br>STAKING<br>STORM SEWER<br>EACH | RIM<br>**<br>ELEVATION | INVERT<br>***<br>ELEVATION | DEPTH<br>****<br>FT |
|-----------|---------|-----------|----------------|---|--|--------------------------------------|--|--|------------------------|----------------------------|---------------------|
| 1         | 10+95   | 23.00' RT | SOUTH APPROACH | 1   | ---  | 1                                    | 1  | 1  | 797.26                 | 793.54                     | 4.14                |
| 2         | 11+12   | 24.50' LT | SOUTH APPROACH | 1   | 1  | ---                                  | 1  | 1  | 797.60                 | 792.57                     | 5.53                |
| TOTAL     |         |           |                | 2   | 1  | 1                                    | 2  | 2  |                        |                            |                     |

\*STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE.  
\*\*RIM ELEVATION IS AT THE INLET COVER FLANGE LOCATION.  
\*\*\*FOR STRUCTURES WITH SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE SUMP. FOR STRUCTURES WITHOUT SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLOW LINE.  
\*\*\*\* DEPTH = RIM ELEVATION - TOP OF STRUCTURE BASE ELEVATION - COVER HEIGHT - 6-INCH ADJUSTMENT RING HEIGHT.

FINISHING ITEMS

PUBLIC LAND REFERENCE MONUMENT VERIFY AND RESET

| POINT NO. | STATION  | OFFSET    | 680.0100<br>EACH |
|-----------|----------|-----------|------------------|
| 105       | 12+11.72 | 33.28' RT | 1                |
| TOTAL     |          |           | 1                |

| STATION       | TO | STATION | LOCATION           | 625.0500<br>SALVAGED<br>TOPSOIL<br>SY | 628.2008<br>EROSION MAT<br>URBAN<br>CLASS I<br>TYPE B<br>SY | 629.0210<br>FERTILIZER<br>TYPE B<br>CWT | 630.0140<br>SEEDING<br>MIXTURE<br>NO. 40<br>LB | 630.0200<br>SEEDING<br>TEMPORARY<br>LB | 630.0500<br>SEED<br>WATER<br>MGAL |
|---------------|----|---------|--------------------|---------------------------------------|---|---|--|--|-----------------------------------|
| 10+85         | -  | 11+49   | SOUTH APPROACH, LT | 36                                    | 36  | 0.04                                    | 3  | 2                                      | 1.4                               |
| 11+39         | -  | 11+49   | SOUTH APPROACH, RT | 10                                    | 10  | 0.01                                    | 1  | 1                                      | 0.3                               |
| 12+01         | -  | 12+51   | NORTH APPROACH, LT | 35                                    | 35  | 0.04                                    | 3  | 2                                      | 1.4                               |
| UNDISTRIBUTED |    |         |                    | 19                                    | 19  | 0.01                                    | 3  | 5                                      | 0.8                               |
| TOTAL         |    |         |                    | 100                                   | 100   | 0.10                                    | 10   | 10                                     | 3.9                               |

SILT FENCE

| STATION       | TO | STATION | LOCATION           | 628.1504<br>SILT FENCE<br>LF | 628.1520<br>SILT FENCE<br>MAINTENANCE<br>LF |
|---------------|----|---------|--------------------|------------------------------|---|
| 10+80         | -  | 11+38   | SOUTH APPROACH, LT | 75                           | 150   |
| 12+02         | -  | 12+61   | NORTH APPROACH, LT | 75                           | 150   |
| UNDISTRIBUTED |    |         |                    | 40                           | ---   |
| TOTAL         |    |         |                    | 190                          | 300   |

MOBILIZATION EROSION CONTROL

| LOCATION | 628.1905<br>MOBILIZATIONS<br>EROSION CONTROL<br>EACH | 628.1910<br>MOBILIZATIONS<br>EMERGENCY<br>EROSION CONTROL<br>EACH |
|----------|--|---|
| PROJECT  | 5  | 4   |
| TOTAL    | 5  | 4   |

TURBIDITY BARRIERS

| LOCATION       | 628.6005<br>SY |
|----------------|----------------|
| SOUTH APPROACH | 72             |
| NORTH APPROACH | 77             |
| UNDISTRIBUTED  | 26             |
| TOTAL          | 175            |

INLET PROTECTION TYPE C

| STATION       | LOCATION | 628.7015<br>EACH | REMARKS        |
|---------------|----------|------------------|----------------|
| 10+92         | RT       | 1                | EXISTING INLET |
| 10+95         | RT       | 1                | PROPOSED INLET |
| 11+12         | LT       | 1                | PROPOSED INLET |
| 11+37         | LT       | 1                | EXISTING INLET |
| UNDISTRIBUTED |          | 2                |                |
| TOTAL         |          | 6                |                |

MARKERS ROW

| POINT NO. | STATION  | OFFSET    | 633.5100<br>EACH |
|-----------|----------|-----------|------------------|
| 102       | 11+40.00 | 33.11' RT | 1                |
| 103       | 11+40.00 | 36.00' RT | 1                |
| 104       | 12+11.72 | 36.00' RT | 1                |
| TOTAL     |          |           | 3                |

TRAFFIC CONTROL

| LOCATION      | DURATION<br>DAY | 643.0300<br>TRAFFIC<br>CONTROL<br>DRUMS<br>NO. | 643.0420<br>TRAFFIC<br>CONTROL<br>BARRICADES<br>TYPE III<br>NO. | 643.0705<br>TRAFFIC<br>CONTROL<br>WARNING LIGHTS<br>TYPE A<br>NO. | 643.0900<br>TRAFFIC<br>CONTROL<br>SIGNS<br>NO. | 643.0920<br>TRAFFIC<br>CONTROL<br>COVERING SIGNS<br>TYPE II<br>EACH | 643.1050<br>TRAFFIC<br>CONTROL<br>SIGNS<br>PCMS<br>NO. | 643.5000<br>TRAFFIC<br>CONTROL<br>EACH |
|---------------|-----------------|--|---|---|--|---|--|--|
| CLOSURE       | 97              | ---  | 18  | 1746  | 36   | 3492  | 18   | 1746                                   |
| DETOUR        | 97              | 10   | 70  | 4   | 388  | 8   | 776  | 114                                    |
| UNDISTRIBUTED | 97              | 5  | 485   | 5   | 485  | 10  | 970  | 33                                     |
| PROJECT       | ---             | ---  | ---   | ---   | ---  | ---   | ---  | ---                                    |
| TOTAL         |                 | 15   | 555   | 27  | 2,619  | 54  | 5,238  | 165                                    |
|               |                 |  |   |   |  |   |  | 16,005                                 |
|               |                 |  |   |   |  |   |  | 25                                     |
|               |                 |  |   |   |  |   |  | 2                                      |
|               |                 |  |   |   |  |   |  | 14                                     |
|               |                 |  |   |   |  |   |  | 1                                      |

PLACE TRAFFIC CONTROL IN ACCORDANCE WITH SDD 15C2 "BARRICADES AND SIGNS FOR MAINLINE, BARRICADES AND SIGNS FOR VARIOUS CLOSURES, DETOUR SIGNING FOR MAINLINE CLOSURES".  
PLACEMENT SUBJECT TO ENGINEER APPROVAL.

CONSTRUCTION STAKING

| STATION | TO | STATION | LOCATION       | 650.4500<br>CONSTRUCTION<br>STAKING<br>SUBGRADE<br>LF | 650.5000<br>CONSTRUCTION<br>STAKING<br>BASE<br>LF | 650.6501.01<br>CONSTRUCTION<br>STAKING<br>STRUCTURE<br>LAYOUT<br>01. B-24-0046<br>EACH | 650.8501.01<br>CONSTRUCTION<br>STAKING<br>ELECTRICAL<br>INSTALLATIONS<br>01. 6626-01-70<br>EACH | 650.9500.01<br>CONSTRUCTION<br>STAKING<br>SIDEWALK<br>01. 6626-01-70<br>EACH | 650.9911.01<br>CONSTRUCTION<br>STAKING<br>SUPPLEMENTAL<br>CONTROL<br>01. 6626-01-70<br>EACH | 650.9920<br>CONSTRUCTION<br>STAKING<br>SLOPE STAKES<br>LF |
|---------|----|---------|----------------|---|---|--|---|--|---|---|
| 10+85   | -  | 11+49   | SOUTH APPROACH | 64  | 64  | ---  | ---   | ---  | ---   | 64  |
| 12+01   | -  | 12+51   | NORTH APPROACH | 50  | 50  | ---  | ---   | ---  | ---   | 50  |
| PROJECT |    |         |                | ---   | ---   | 1  | 1   | 1  | 1   | ---   |
| TOTAL   |    |         |                | 114   | 114   | 1*   | 1   | 1  | 1   | 114   |

\* CATEGORY 0020

PROJECT NO: 6626-01-70

HWY: MILL STREET

COUNTY: GREEN LAKE

MISCELLANEOUS QUANTITIES

SHEET

E

PULL BOXES STEEL 12X24-INCH

| STATION  | OFFSET    | LOCATION       | 653.0105<br>EACH |
|----------|-----------|----------------|------------------|
| 11+39.39 | 28.43' LT | SOUTH APPROACH | 1                |
| 12+10.68 | 28.51' LT | NORTH APPROACH | 1                |
| TOTAL    |           |                | 2                |

SAWING

| STATION | LOCATION           | 690.0150<br>SAWING ASPHALT<br>LF | 690.0250<br>SAWING CONCRETE<br>LF |
|---------|--------------------|----------------------------------|-----------------------------------|
| 10+85   | SOUTH APPROACH     | ---                              | 60                                |
| 12+28   | SOUTH APPROACH, RT | 23                               | ---                               |
| 12+33   | NORTH APPROACH, RT | 43                               | ---                               |
| 12+51   | NORTH APPROACH     | ---                              | 60                                |
| TOTAL   |                    | 66                               | 120                               |

CONCRETE CURB AND GUTTER

| STATION | TO | STATION | LOCATION           | 650.5500<br>CONSTRUCTION<br>STAKING<br>CURB GUTTER<br>AND CURB & GUTTER<br>LF | SPV.0090.01<br>CONCRETE CURB &<br>GUTTER<br>24-INCH<br>TYPE D<br>LF |
|---------|----|---------|--------------------|---|---|
| 10+85   | -  | 11+49   | SOUTH APPROACH, LT | 65  | 65  |
| 10+85   | -  | 11+49   | SOUTH APPROACH, RT | 65  | 65  |
| 12+01   | -  | 12+51   | NORTH APPROACH, LT | 50  | 50  |
| 12+01   | -  | 12+16   | NORTH APPROACH, RT | 18  | 18  |
| TOTAL   |    |         |                    | 198   | 198   |

**CONVENTIONAL SYMBOLS**

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| SECTION LINE  |  | SECTION CORNER SYMBOL                      |  | R/W MONUMENT (TO BE SET)                         |  |
| QUARTER LINE  |  | SECTION CORNER MONUMENT                    |  | NON-MONUMENTED R/W POINT                         |  |
| SIXTEENTH LINE  |  | GEODETIC SURVEY MONUMENT                   |  | FOUND SURVEY MONUMENT (SEE FOUND MONUMENT TABLE) |  |
| NEW REFERENCE LINE  |  | SIGN                                       |  | PERMITTED SIGN                                   |  |
| NEW R/W LINE  |  | ACCESS RESTRICTED BY ACQUISITION           |  | NO ACCESS (BY STATUTORY AUTHORITY)               |  |
| EXISTING R/W OR HE LINE                                     |  | NO ACCESS (BY PREVIOUS PROJECT OR CONTROL) |  | NO ACCESS (NEW HIGHWAY)                          |  |
| PROPERTY LINE   |  | PARCEL NUMBER                              |  | UTILITY NUMBER                                   |  |
| LOT, TIE & OTHER MINOR LINES                                |  | PARALLEL OFFSETS                           |  |  |  |
| EXISTING CENTERLINE   |  |  |  |  |  |
| CORPORATE LIMITS  |  |  |  |  |  |
| NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)              |  |  |  |  |  |
| TEMPORARY LIMITED EASEMENT AREA                             |  |  |  |  |  |
| EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT) |  |  |  |  |  |
| BUILDING TO BE REMOVED                                      |  |  |  |  |  |
| BRIDGE  |  |  |  |  |  |
| CULVERT   |  |  |  |  |  |

**CONVENTIONAL UTILITY SYMBOLS**

|                             |  |
|-----------------------------|--|
| WATER                       |  |
| GAS                         |  |
| TELEPHONE                   |  |
| OVERHEAD TRANSMISSION LINES |  |
| ELECTRIC                    |  |
| CABLE TELEVISION            |  |
| FIBER OPTIC                 |  |
| SANITARY SEWER              |  |
| STORM SEWER                 |  |
| 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')          | R/I  |
| AND OTHERS                      | ET AL | REEL / IMAGE                | R/L  |
| BACK                            | BK    | REFERENCE LINE              | REM  |
| BLOCK                           | BLK   | REMAINING                   | RDE  |
| CENTERLINE                      | C/L   | RESTRICTIVE DEVELOPMENT     | RT   |
| CERTIFIED SURVEY MAP            | CSM   | EASEMENT                    | R/W  |
| CONCRETE                        | CONC  | RIGHT                       | SEC  |
| COUNTY                          | CO    | RIGHT OF WAY                | SEPV |
| COUNTY TRUNK HIGHWAY            | CTH   | SECTION                     | SF   |
| DISTANCE                        | DIST  | SEPTIC VENT                 | STH  |
| CORNER                          | COR   | SQUARE FEET                 | STA  |
| DOCUMENT NUMBER                 | DOC   | STATE TRUNK HIGHWAY         | TP   |
| EASEMENT                        | EASE  | STATION                     | TLE  |
| EXISTING                        | EX    | TELEPHONE PEDESTAL          |      |
| GAS VALVE                       | GV    | TEMPORARY LIMITED EASEMENT  |      |
| GRID NORTH                      | GN    | TRANSPORTATION PROJECT PLAT | TPP  |
| HIGHWAY EASEMENT                | HE    | UNITED STATES HIGHWAY       | USH  |
| IDENTIFICATION                  | ID    | VOLUME                      | V    |
| LAND CONTRACT                   | LC    |                             |      |
| LEFT                            | LT    |                             |      |
| MONUMENT                        | MON   |                             |      |
| NATIONAL GEODETIC SURVEY NUMBER | NGS   |                             |      |
| 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), GREEN LAKE 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 AND PERMANENT EASEMENT MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

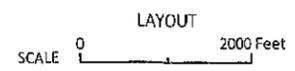
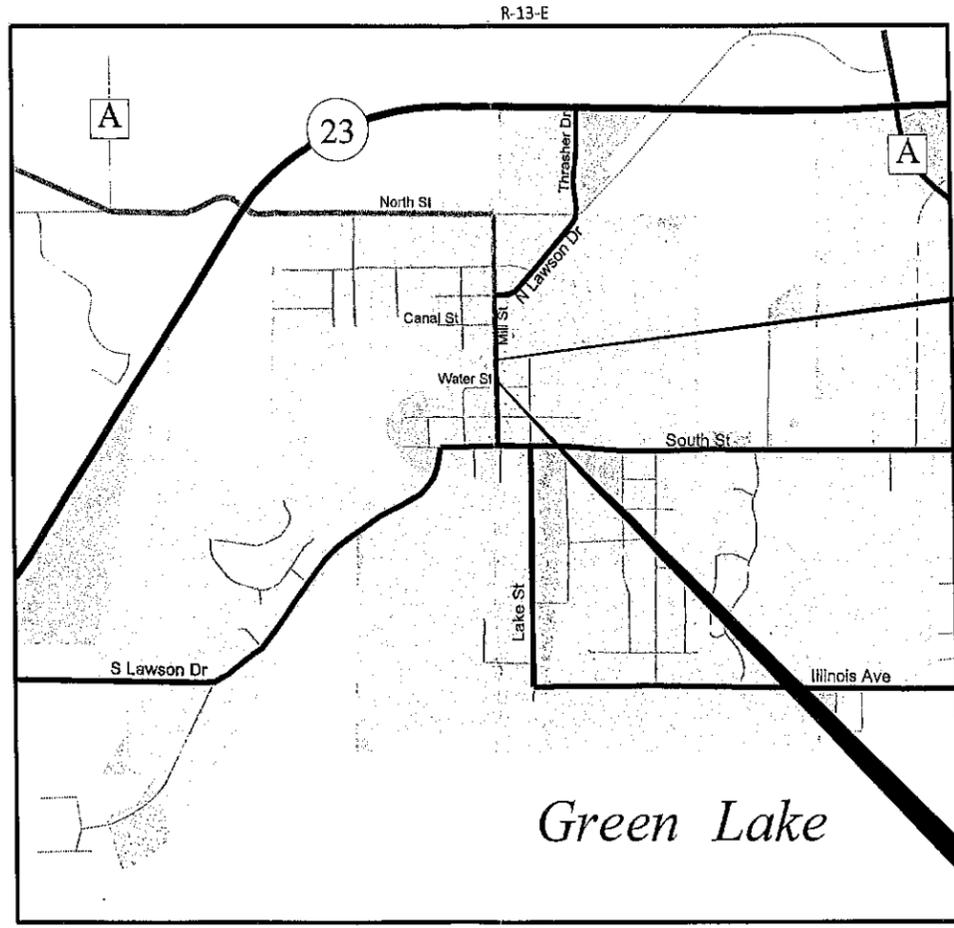
DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

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.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE CITY OF GREEN LAKE.

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.



TOTAL NET LENGTH OF CENTERLINE = 0.034 MI

|   |                      |                   |
|---|----------------------|-------------------|
| R/W PROJECT NUMBER<br>6626-01-00  | SHEET NUMBER<br>4.01 | TOTAL SHEETS<br>2 |
| FEDERAL PROJECT NUMBER  |                      |                   |
| PLAT OF RIGHT OF WAY REQUIRED FOR<br>C GREEN LAKE, MILL STREET<br>PUCHYAN RIVER BRIDGE, B-24-0437 |                      |                   |
| LOC STR   | GREEN LAKE COUNTY    |                   |
| CONSTRUCTION PROJECT NUMBER<br>6626-01-70   |                      |                   |

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

ACCEPTED FOR CITY OF GREEN LAKE

DATE: 5/14/25   
[SIGNATURE AND TITLE OF OFFICIAL]

ORIGINAL PLANS PREPARED BY

**WESTBROOK**  
Associated Engineers, Inc.

619 East Boxle St. | P.O. Box 429 | Spring Green, WI 53588  
P: (608) 568-7866 | F: (608) 568-7954 | www.westbrookeng.com

WISCONSIN  
LAND SURVEYOR  
NICHOLAS J. BREY  
S-3145  
LA VALLE  
WI

REVISION DATE

DATE: 04-18-2025   
[Professional Land Surveyor Signature]

| SCHEDULE OF LANDS AND INTERESTS REQUIRED |  |                   |                    |          |       |                    |
|--|--|-------------------|--------------------|----------|-------|--------------------|
| PARCEL NUMBER                            | OWNER(S)                               | INTEREST REQUIRED | R/W REQUIRED ACRES |          |       | TLE ACRES REQUIRED |
|  |  |                   | NEW                | EXISTING | TOTAL |                    |
| 1  | CITY OF GREEN LAKE                     | TLE               | ---                | ---      | ---   | 0.055              |
| 2  | RACHEL NITZ                            | FEE & TLE         | 0.002              | ---      | 0.002 | 0.013              |
| 3  | GREEN LAKE CHAMBER OF COMMERCE         | FEE & TLE         | 0.001              | ---      | 0.001 | 0.016              |
| 100                                      | CITY OF GREEN LAKE (ELECTRIC)          | RELEASE OF RIGHTS | ---                | ---      | ---   | ---                |
| 200                                      | CITY OF GREEN LAKE (WATER)             | RELEASE OF RIGHTS | ---                | ---      | ---   | ---                |
| 300                                      | ALLIANT ENERGY (ELECTRIC)              | RELEASE OF RIGHTS | ---                | ---      | ---   | ---                |
| 400                                      | CHARTER COMMUNICATIONS (COMMUNICATION) | RELEASE OF RIGHTS | ---                | ---      | ---   | ---                |

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO CITY OF GREEN LAKE.

| TLE TABLE |          |          |
|-----------|----------|----------|
| TLE POINT | STATION  | OFFSET   |
| T1        | 10+80.00 | 33.02 LT |
| T2        | 10+80.00 | 46.00 LT |
| T3        | 12+61.00 | 46.00 LT |
| T4        | 12+61.00 | 32.61 LT |
| T5        | 11+16.25 | 33.06 RT |
| T6        | 11+16.25 | 46.00 RT |
| T7        | 12+55.00 | 46.00 RT |
| T8        | 12+55.00 | 33.38 RT |

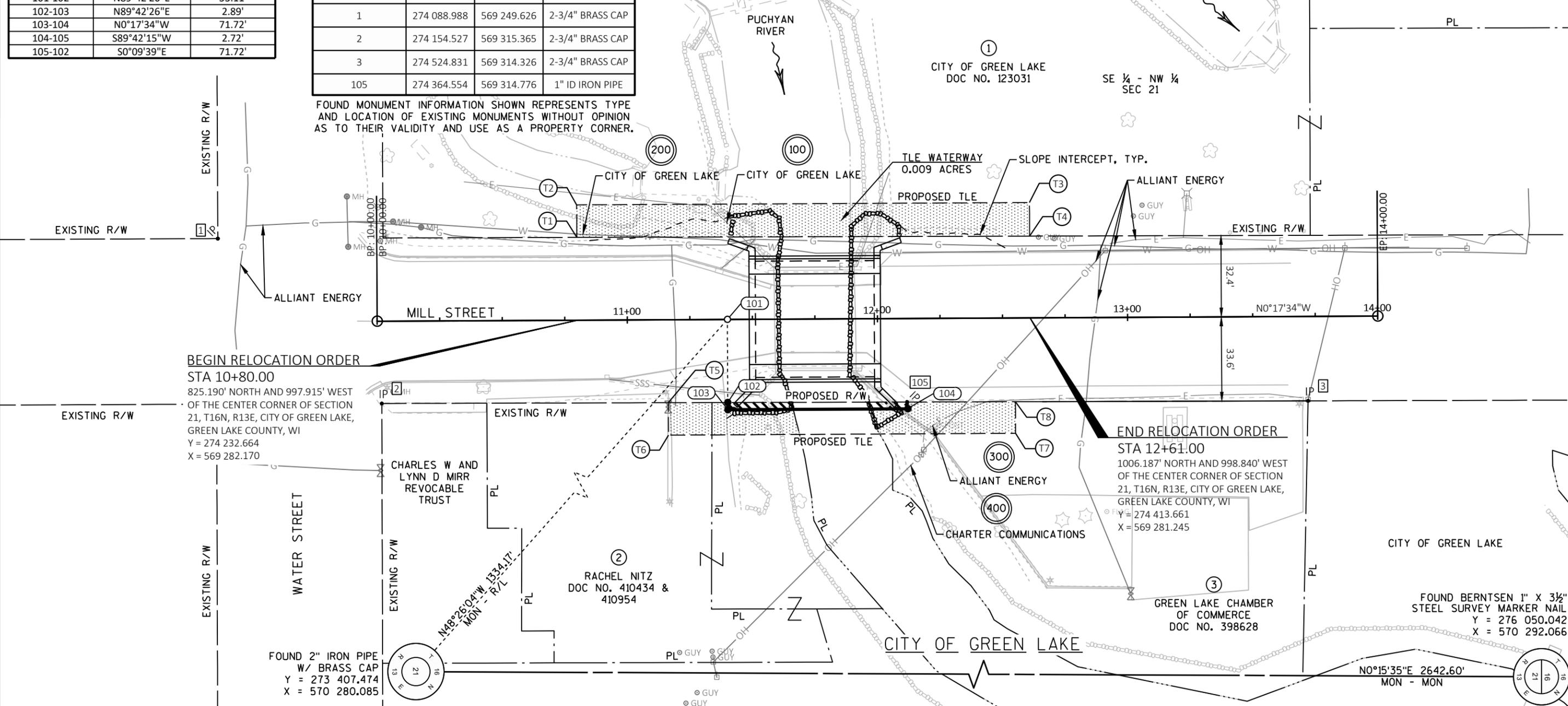
| POINT TABLE  |          |          |             |             |
|--------------|----------|----------|-------------|-------------|
| POINT NUMBER | STATION  | OFFSET   | Y           | X           |
| 101          | 11+40.00 | 0.00 RT  | 274 292.663 | 569 281.863 |
| 102          | 11+40.00 | 33.11 RT | 274 292.832 | 569 314.977 |
| 103          | 11+40.00 | 36.00 RT | 274 292.847 | 569 317.863 |
| 104          | 12+11.72 | 36.00 RT | 274 364.568 | 569 317.496 |
| 105          | 12+11.72 | 33.28 RT | 274 364.554 | 569 314.776 |

EXISTING RIGHT-OF-WAY FOR MILL STREET IS BASED ON CSM 99, CSM 1974, CSM 2476, AND THE ORIGINAL PLAT OF THE VILLAGE OF GREEN LAKE.

| R/W COURSE TABLE |             |          |
|------------------|-------------|----------|
| COURSE           | BEARING     | DISTANCE |
| 101-102          | N89°42'26"E | 33.11'   |
| 102-103          | N89°42'26"E | 2.89'    |
| 103-104          | N0°17'34"W  | 71.72'   |
| 104-105          | S89°42'15"W | 2.72'    |
| 105-102          | S0°09'39"E  | 71.72'   |

| FOUND EXISTING MONUMENT TABLE |             |             |                  |
|-------------------------------|-------------|-------------|------------------|
| POINT NUMBER                  | Y           | X           | DESCRIPTION      |
| 1                             | 274 088.988 | 569 249.626 | 2-3/4" BRASS CAP |
| 2                             | 274 154.527 | 569 315.365 | 2-3/4" BRASS CAP |
| 3                             | 274 524.831 | 569 314.326 | 2-3/4" BRASS CAP |
| 105                           | 274 364.554 | 569 314.776 | 1" ID IRON PIPE  |

FOUND MONUMENT INFORMATION SHOWN REPRESENTS TYPE AND LOCATION OF EXISTING MONUMENTS WITHOUT OPINION AS TO THEIR VALIDITY AND USE AS A PROPERTY CORNER.



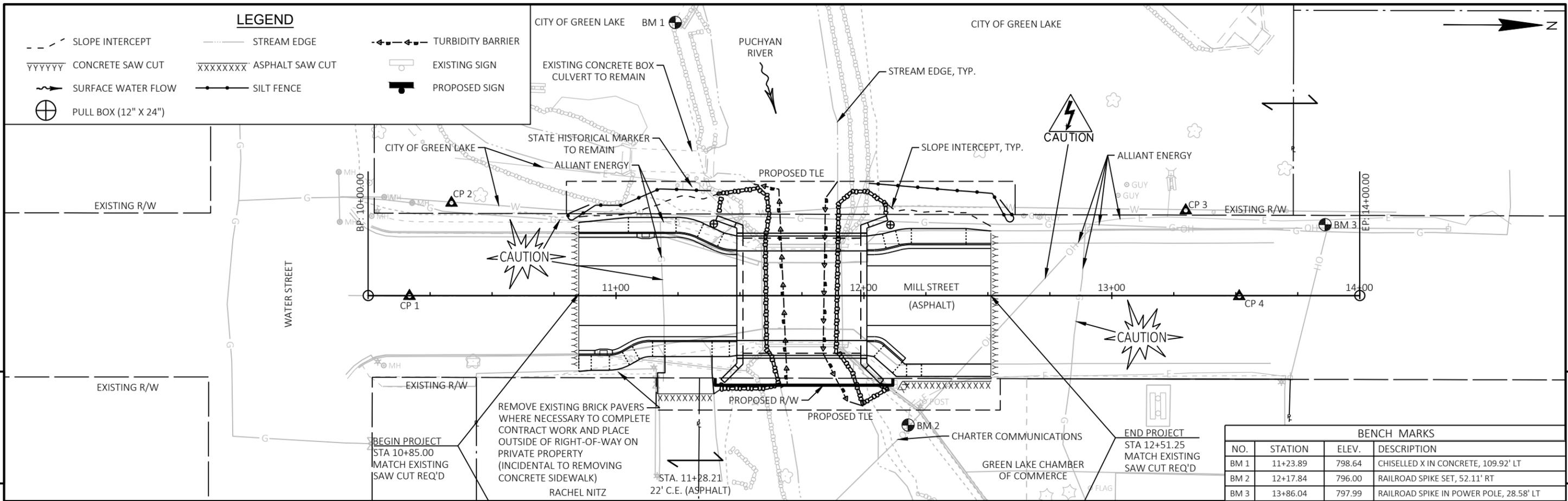
BEGIN RELOCATION ORDER  
 STA 10+80.00  
 825.190' NORTH AND 997.915' WEST  
 OF THE CENTER CORNER OF SECTION  
 21, T16N, R13E, CITY OF GREEN LAKE,  
 GREEN LAKE COUNTY, WI  
 Y = 274 232.664  
 X = 569 282.170

END RELOCATION ORDER  
 STA 12+61.00  
 1006.187' NORTH AND 998.840' WEST  
 OF THE CENTER CORNER OF SECTION  
 21, T16N, R13E, CITY OF GREEN LAKE,  
 GREEN LAKE COUNTY, WI  
 Y = 274 413.661  
 X = 569 281.245

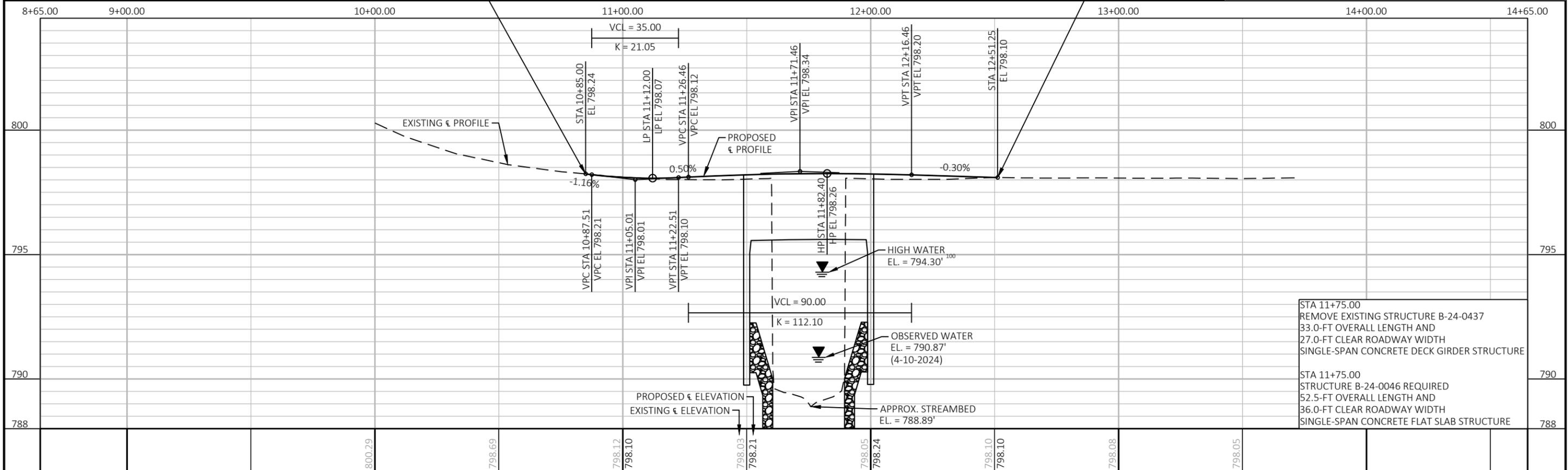
FOUND 2" IRON PIPE  
 W/ BRASS CAP  
 Y = 273 407.474  
 X = 570 280.085

FOUND BERNTSEN 1" X 3/2"  
 STEEL SURVEY MARKER NAIL  
 Y = 276 050.042  
 X = 570 292.066

|               |                 |             |                    |  |                 |
|---------------|-----------------|-------------|--------------------|--|-----------------|
| REVISION DATE | DATE 04/16/2025 | SCALE, FEET | HWY: MILL STREET   | STATE R/W PROJECT NUMBER 6626-01-00    | PLAT SHEET 4.02 |
|               | GRID FACTOR N/A | 0 20 40     | COUNTY: GREEN LAKE | CONSTRUCTION PROJECT NUMBER 6626-01-70 | PS&E SHEET      |



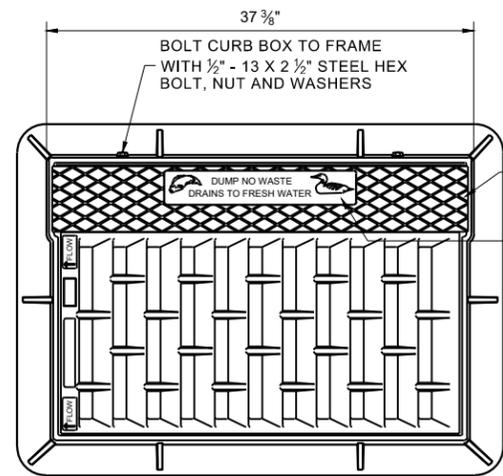
| BENCH MARKS |          |        |   |
|-------------|----------|--------|---|
| NO.         | STATION  | ELEV.  | DESCRIPTION                             |
| BM 1        | 11+23.89 | 798.64 | CHISELLED X IN CONCRETE, 109.92' LT     |
| BM 2        | 12+17.84 | 796.00 | RAILROAD SPIKE SET, 52.11' RT           |
| BM 3        | 13+86.04 | 797.99 | RAILROAD SPIKE IN POWER POLE, 28.58' LT |



STA 11+75.00  
 REMOVE EXISTING STRUCTURE B-24-0437  
 33.0-FT OVERALL LENGTH AND  
 27.0-FT CLEAR ROADWAY WIDTH  
 SINGLE-SPAN CONCRETE DECK GIRDER STRUCTURE  
  
 STA 11+75.00  
 STRUCTURE B-24-0046 REQUIRED  
 52.5-FT OVERALL LENGTH AND  
 36.0-FT CLEAR ROADWAY WIDTH  
 SINGLE-SPAN CONCRETE FLAT SLAB STRUCTURE

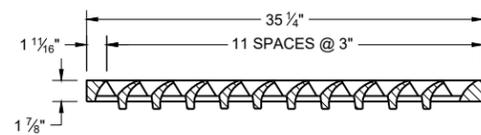
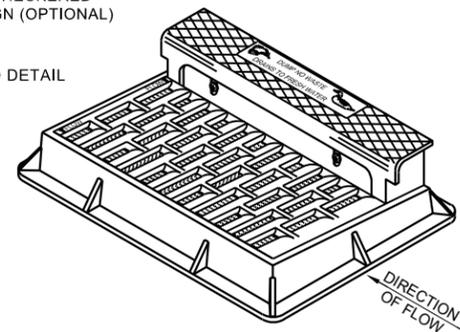
## Standard Detail Drawing List

|           |   |
|-----------|---|
| 08A05-21A | INLET COVERS TYPE A, H, A-S, H-S & Z                              |
| 08C06-03  | INLETS 3-FT AND 4-FT DIAMETER                                     |
| 08C07-03  | INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT              |
| 08D01-24A | CONCRETE CURB & GUTTER  |
| 08D01-24B | CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS              |
| 08D18-05  | DRIVEWAY AND SIDEWALK RAMPS TYPES X & Y                           |
| 08E09-06  | SILT FENCE  |
| 08E10-02  | INLET PROTECTION TYPE A, B, C AND D                               |
| 08E11-02  | TURBIDITY BARRIER   |
| 08F04-08  | JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL           |
| 09B02-10  | CONDUIT   |
| 09B04-13  | PULL BOX  |
| 12A03-10  | NAME PLATE (STRUCTURES)   |
| 13C19-03  | HMA LONGITUDINAL JOINTS   |
| 15A01-13A | MARKER POST FOR RIGHT-OF-WAY                                      |
| 15C02-09A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES                        |
| 15C02-09B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES                         |
| 15C02-09C | DETOUR SIGNING FOR MAINLINE CLOSURES                              |
| 15C11-10B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS |

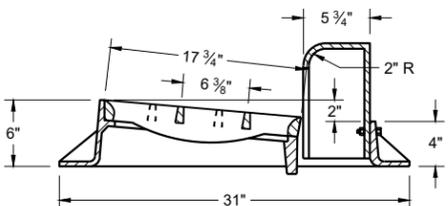
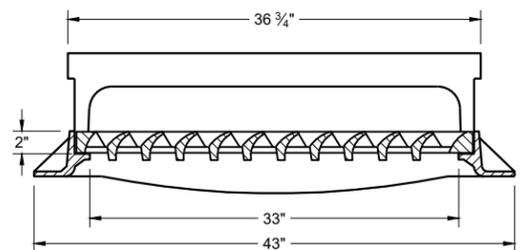
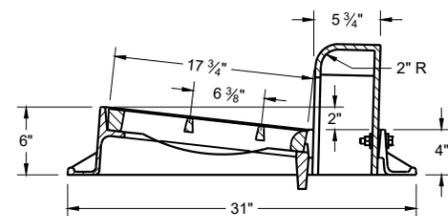
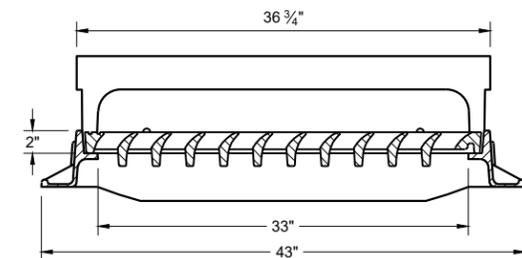


NOTE: EITHER CASTING IS ACCEPTABLE

TYPE "C" CHECKERED TOP DESIGN (OPTIONAL)  
SEE LOGO DETAIL



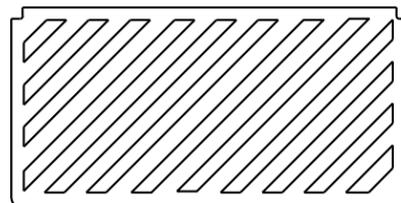
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"



**TYPE "H"**

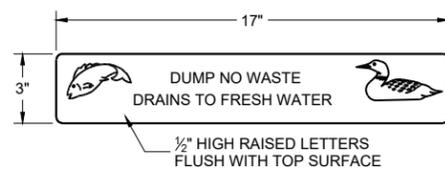
NOTE: EITHER CASTING IS ACCEPTABLE

1 1/8" DIAGONAL BARS WITH 1 5/8" OPENINGS



**SPECIAL GRATE FOR TYPE "H" COVER**

(MEASURES 35" X 17 3/4" X 2")  
(NOTED AS TYPE H-S ON DRAINAGE TABLE)



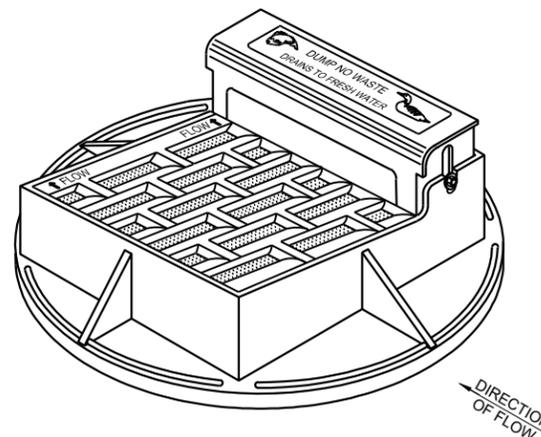
**LOGO DETAIL**

**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.

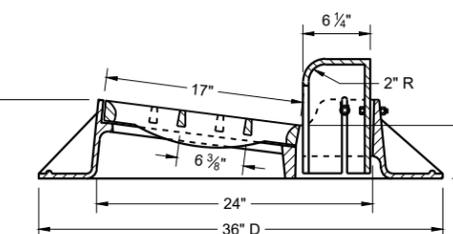
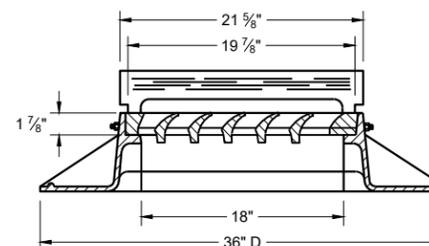
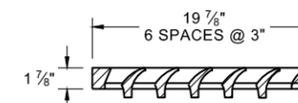
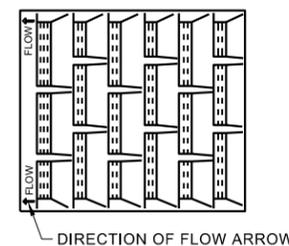
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

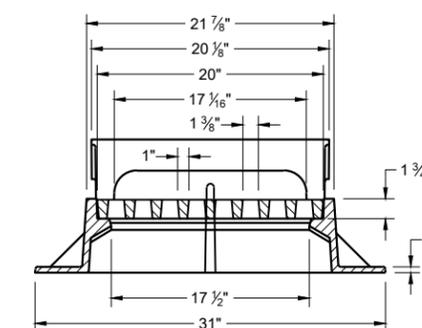
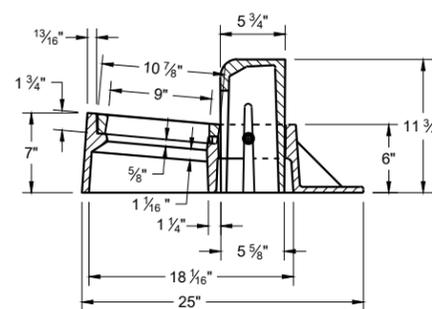


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

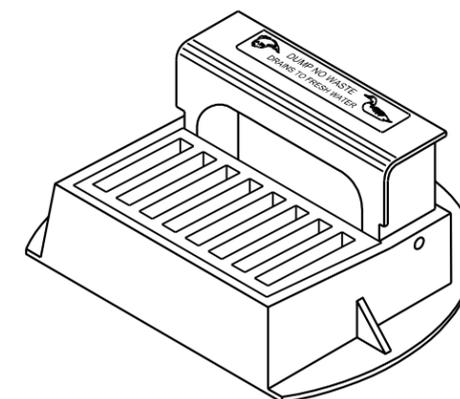
NOTE: EITHER CASTING IS ACCEPTABLE



**TYPE "A"**



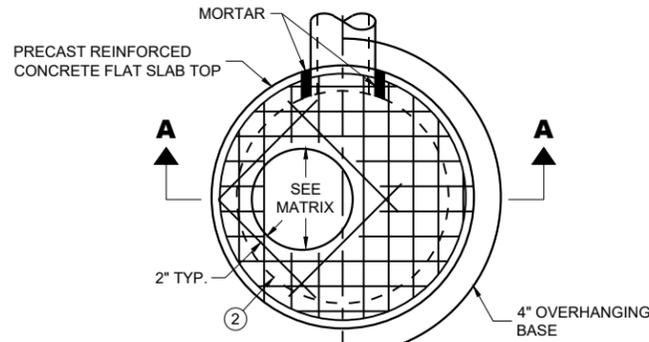
**TYPE "Z"**



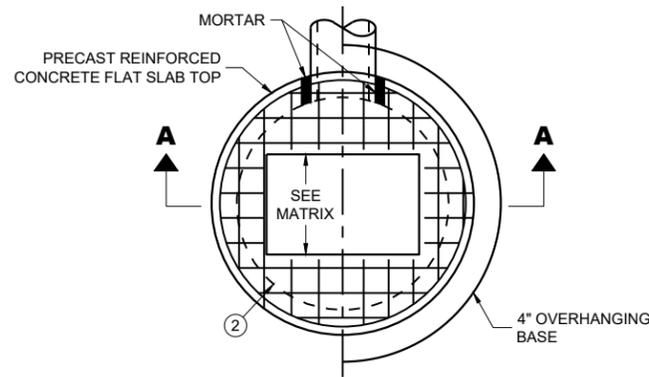
**INLET COVERS TYPES A, H, A-S, H-S AND Z**

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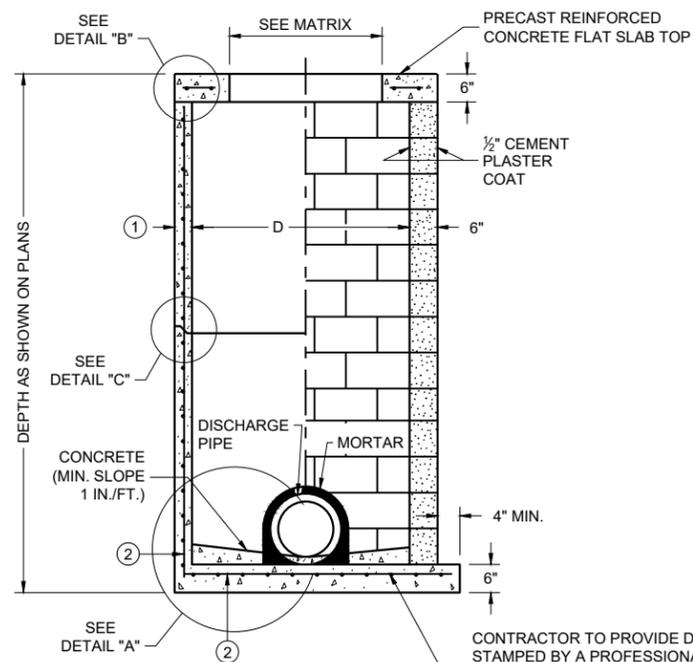
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December 2023 DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR  
FHWA



**PLAN VIEW CIRCULAR OPENING**



**PLAN VIEW RECTANGULAR OPENING**



**SECTION A - A**

**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**

**CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE**

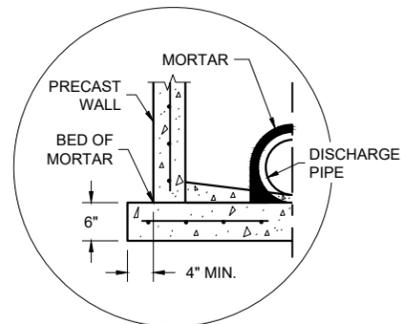
**CIRCULAR INLETS WITH FLAT TOP**

**CATCH BASIN COVER OPENING MATRIX**

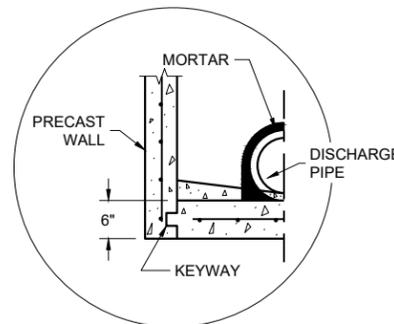
| INLET SIZE | INLET COVER TYPE | ALL A'S            | ALL B'S | BW | C | F | ALL H'S | S | T | V | WM | Z |
|------------|------------------|--------------------|---------|----|---|---|---------|---|---|---|----|---|
|            |                  | OPENING SIZE (FT.) |         |    |   |   |         |   |   |   |    |   |
| 3-FT       | 2 DIA.           |                    |         |    | X |   |         |   |   |   |    | X |
|            | 2 X 2            | X                  | X       |    |   |   |         | X |   | X |    |   |
| 4-FT       | 2 DIA.           |                    |         |    | X |   |         |   |   |   |    | X |
|            | 2 X 2            | X                  | X       |    |   |   |         | X |   | X |    |   |
|            | 2 X 2.5          |                    |         | X  |   |   |         | X | X | X | X  |   |
|            | 2 X 3            |                    |         |    |   |   | X       |   |   |   |    |   |
|            | 2.5 X 3          |                    |         |    |   | X |         |   |   |   |    |   |

**PIPE MATRIX**

| INLET SIZE | MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES |                     |
|------------|--|---------------------|
|            | 180° SEPARATION (IN)                       | 90° SEPARATION (IN) |
| 3-FT       | 15   | 12                  |
| 4-FT       | 24   | 18                  |

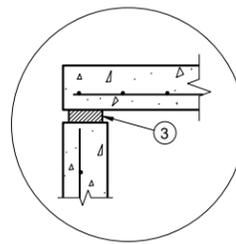


**SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION**

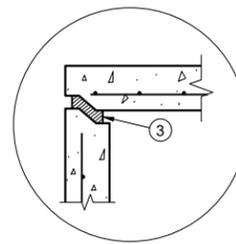


**PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION**

**DETAIL "A"**

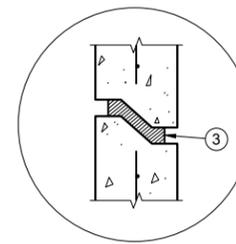


**TOP WITH PLAIN END JOINT**



**TOP WITH TONGUE AND GROOVE JOINT**

**DETAIL "B"**



**RISER WITH TONGUE AND GROOVE JOINT**

**DETAIL "C"**

**INLETS 3-FT AND 4-FT DIAMETER**

**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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

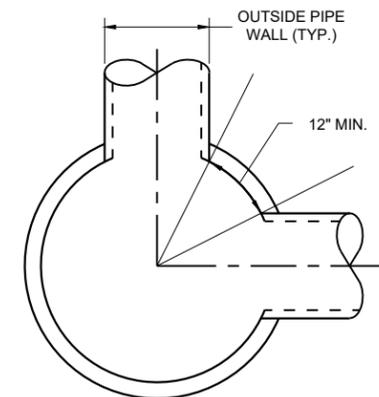
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "D".

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT DIAMETER AND 5 INCHES FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFORMING TO ASTM C443.

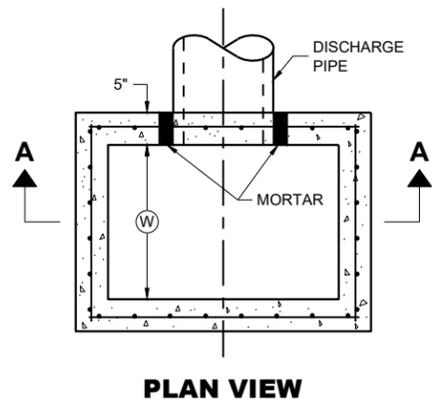


**MINIMUM HORIZONTAL PIPE SEPARATION  
DETAIL "D"**

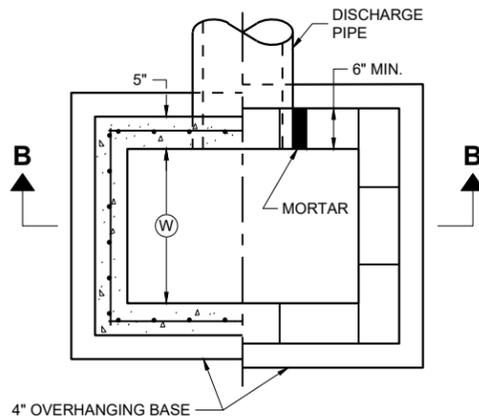
**INLETS 3-FT AND 4-FT DIAMETER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
December 2023 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA UNIT SUPERVISOR



**PLAN VIEW**



**PLAN VIEW**

**GENERAL NOTES**

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

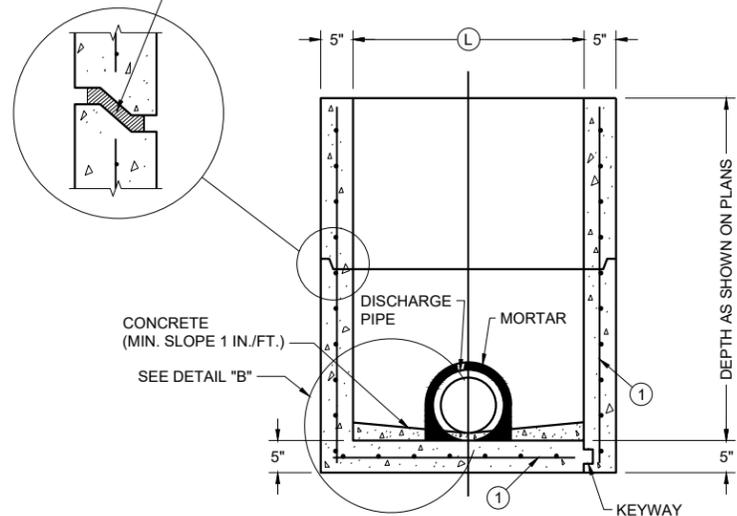
PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

- ① FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

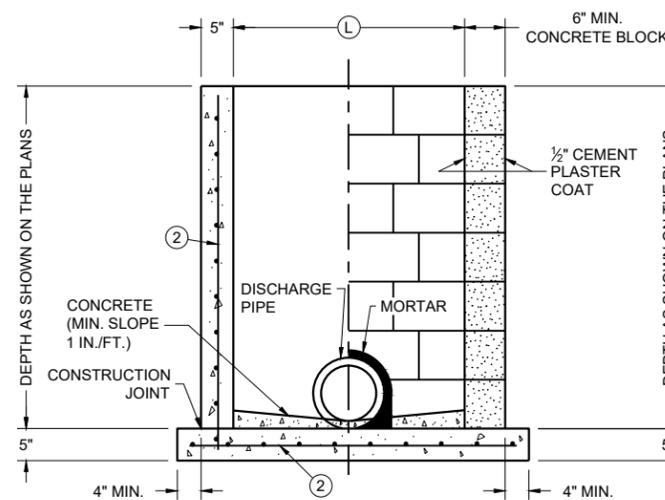
RISER JOINT TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP.)



**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**

**SECTION A - A**

**PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE**



**CAST IN PLACE REINFORCED CONCRETE**

**SECTION B - B**

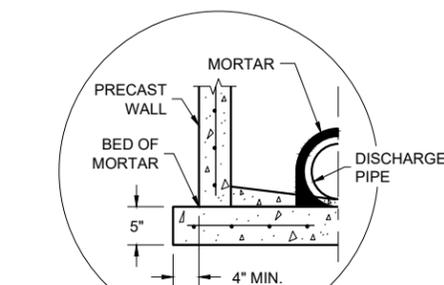
**CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE ①**

**CATCH BASIN COVER MATRIX**

| INLET SIZE | WIDTH (W) (FT.) | LENGTH (L) (FT.) | INLET COVER TYPE |         |    |   |         |   |   |   |    |       |  |   |
|------------|-----------------|------------------|------------------|---------|----|---|---------|---|---|---|----|-------|--|---|
|            |                 |                  | ALL A'S          | ALL B'S | BW | F | ALL H'S | S | T | V | WM | V V-B |  |   |
| 2 X 2-FT   | 2               | 2                | X                | X       |    |   |         | X |   |   |    |       |  |   |
| 2 X 2.5-FT | 2               | 2.5              |                  |         | X  |   |         | X | X | X | X  |       |  |   |
| 2 X 3-FT   | 2               | 3                |                  |         |    |   | X       |   |   |   |    |       |  |   |
| 2.5 X 3-FT | 2.5             | 3                |                  |         |    | X |         |   |   |   |    |       |  |   |
| 2 X 3.5-FT | 2               | 3.5              |                  |         |    |   |         |   |   |   |    |       |  | X |

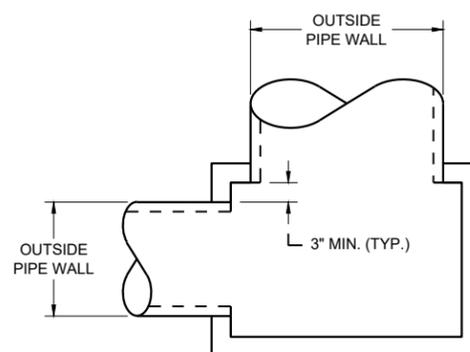
**PIPE MATRIX**

| CATCH BASIN SIZE | MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES |             |
|------------------|--|-------------|
|                  | WIDTH (IN)                                 | LENGTH (IN) |
| 2 X 2-FT         | 12   | 12          |
| 2 X 2.5-FT       | 12   | 18          |
| 2 X 3-FT         | 12   | 24          |
| 2.5 X 3-FT       | 18   | 24          |
| 2 X 3.5-FT       | 12   | 30          |



**SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION**

**DETAIL "B"**



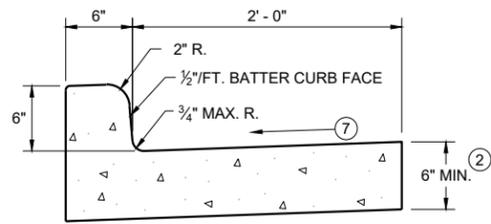
**DETAIL "A"**

**INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2X3.5-FT**

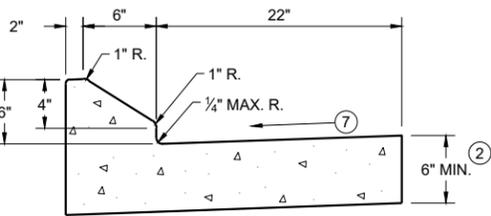
**INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2 X 3.5-FT**

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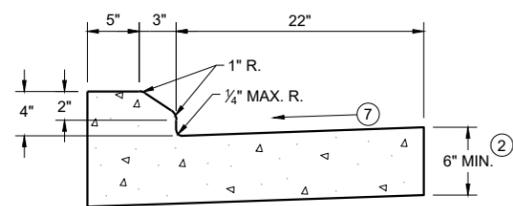
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FHWA



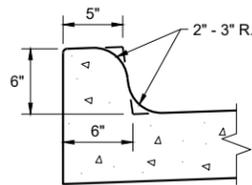
**TYPES A<sup>1</sup> & D**



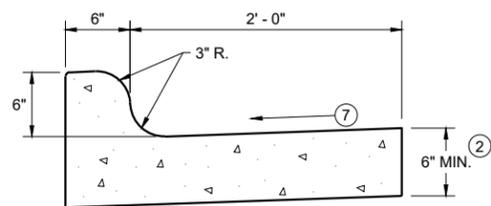
**6" SLOPED CURB TYPES G<sup>1</sup> & J**



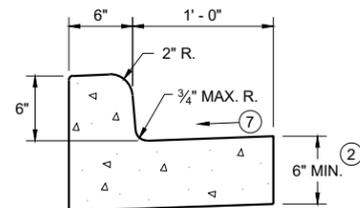
**4" SLOPED CURB TYPES G<sup>1</sup> & J**



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

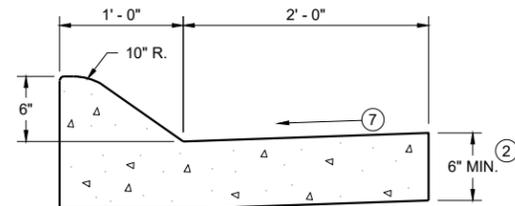


**TYPES K<sup>1</sup> & L**  
**CONCRETE CURB AND GUTTER 30"**

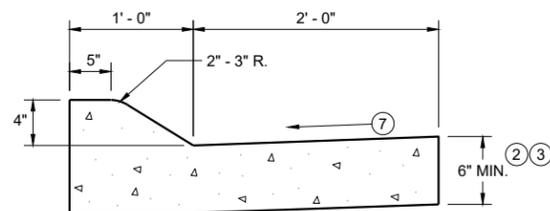


**TYPES A<sup>1</sup> & D**

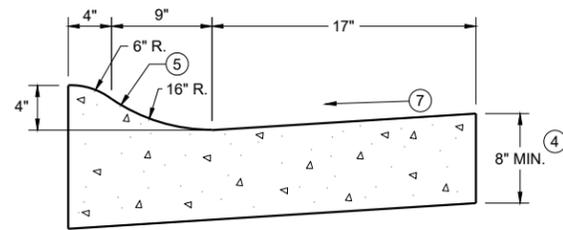
**CONCRETE CURB AND GUTTER 18"**



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

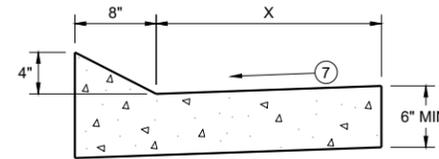


**4" SLOPED CURB TYPES A<sup>1</sup> & D**  
**CONCRETE CURB AND GUTTER 36"**



**4" SLOPED CURB TYPES R<sup>1</sup> & T**  
**CONCRETE CURB AND GUTTER 30"**

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

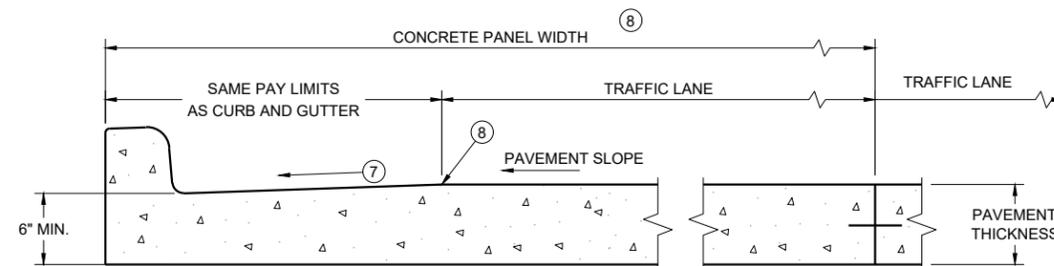


**TYPES TBT & TBTT<sup>1</sup>**

**CONCRETE CURB AND GUTTER**

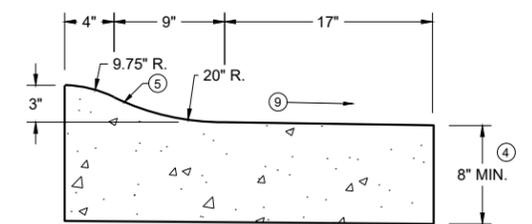
**PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE**

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

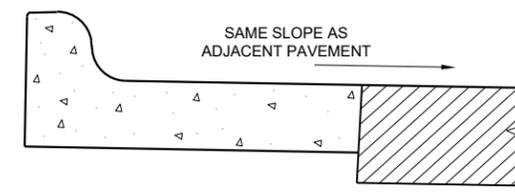


**PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER \***

\* BIKE LANE IS NOT SHOWN



**3" SLOPED CURB TYPES R<sup>1</sup> & T**



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

**GENERAL NOTES**

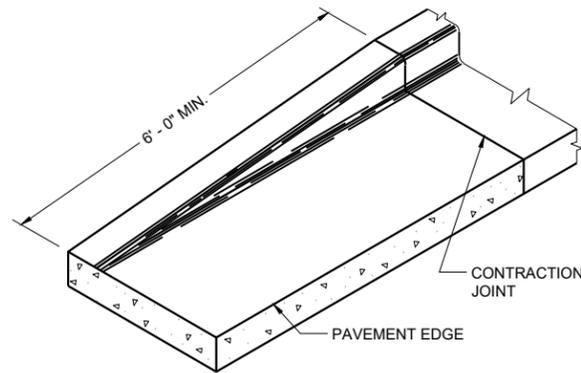
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

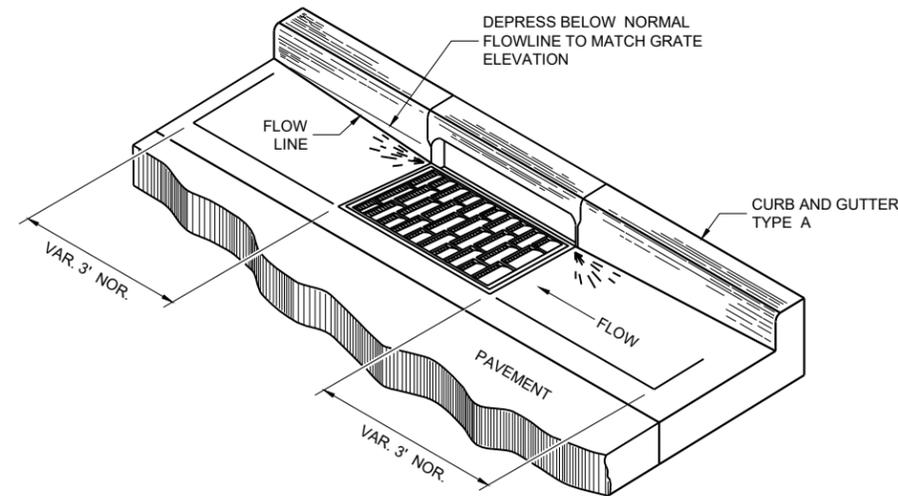
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY



**END SECTION CURB AND GUTTER**



**DETAIL OF CURB AND GUTTER AT INLETS**

(TYPICAL H INLET COVER SHOWN)

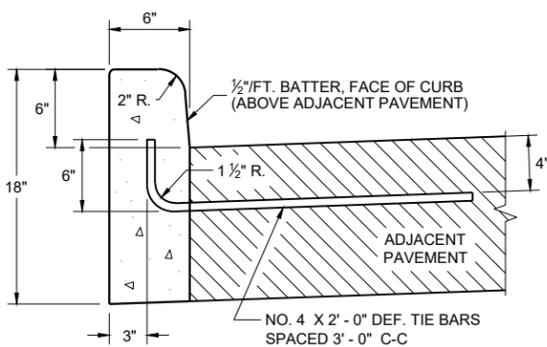
**GENERAL NOTES**

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

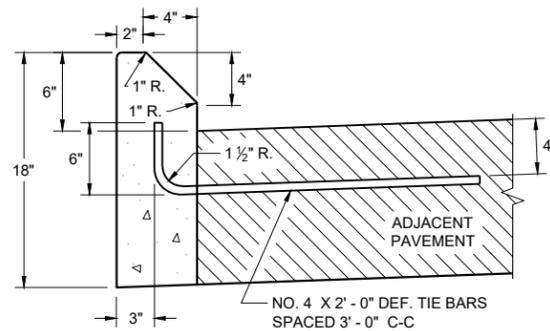
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

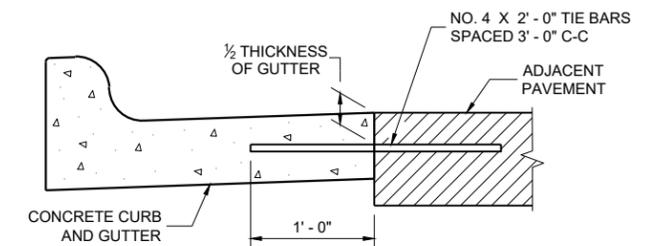
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



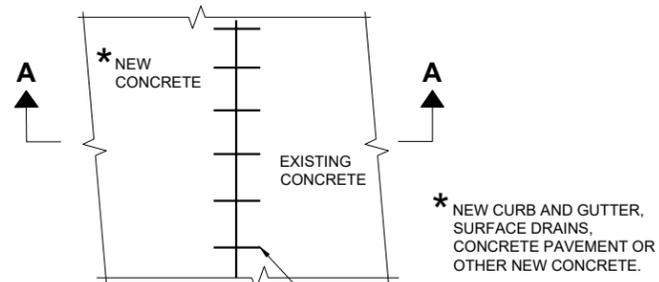
**TYPES A ① & D**



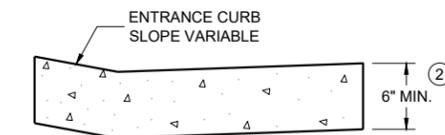
**TYPES G ① & J  
CONCRETE CURB**



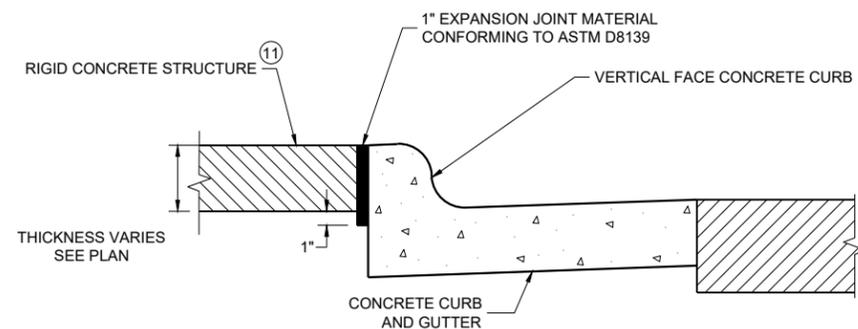
**TYPICAL TIE BAR LOCATION ①**



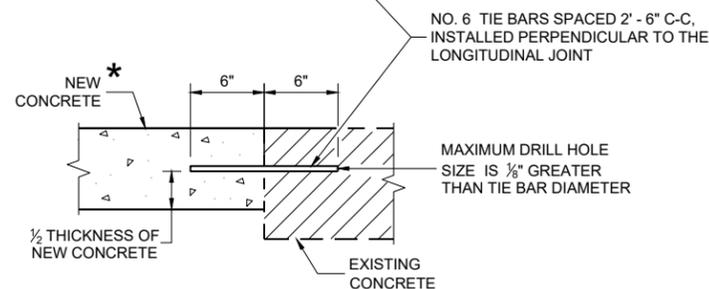
**PLAN VIEW**



**DRIVEWAY ENTRANCE CURB ⑩  
(WHEN DIRECTED BY THE ENGINEER)**



**EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE ⑪**

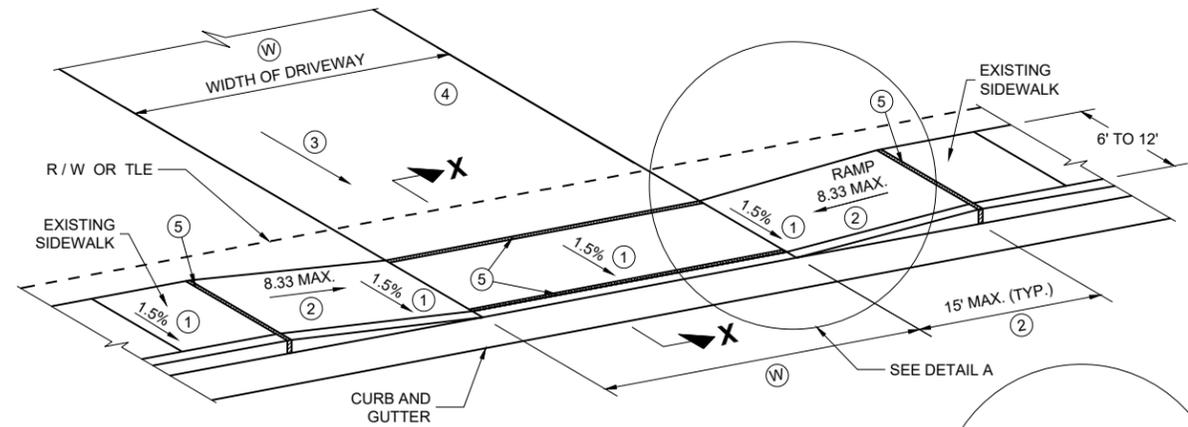


**SECTION A - A  
TIE BARS DRILLED INTO EXISTING PAVEMENT**

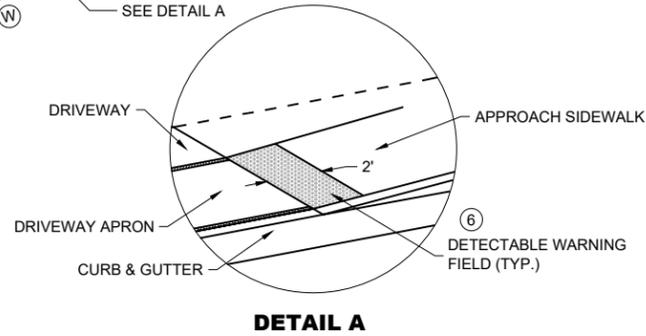
**CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2025 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

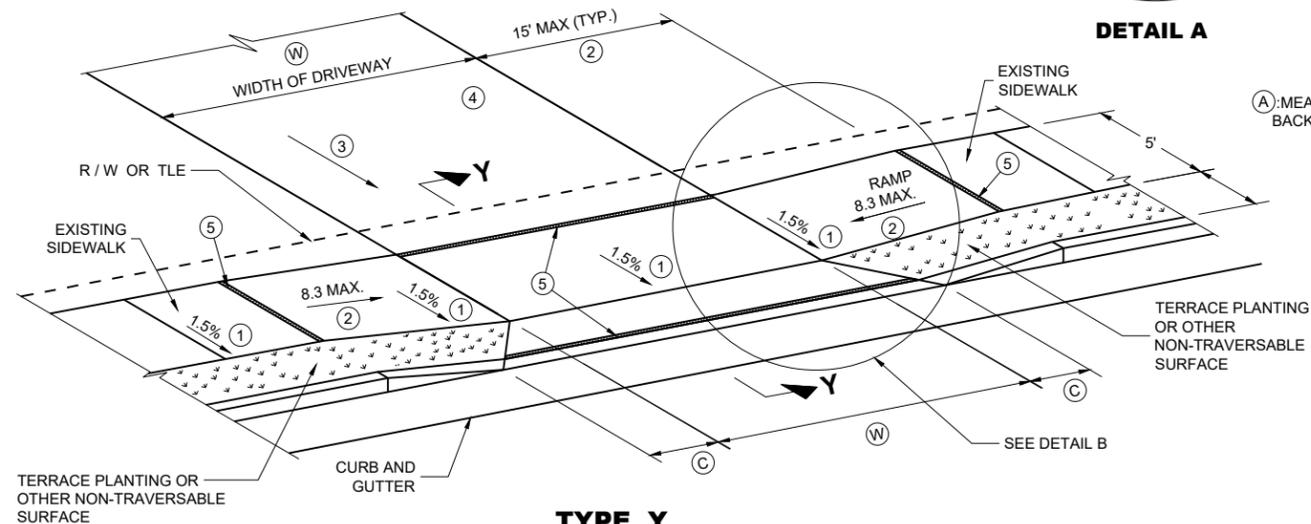


**TYPE X**  
**SIDEWALK ABUTS CURB AND GUTTER**  
**TERRACE VARIES 0 TO 3 FEET**



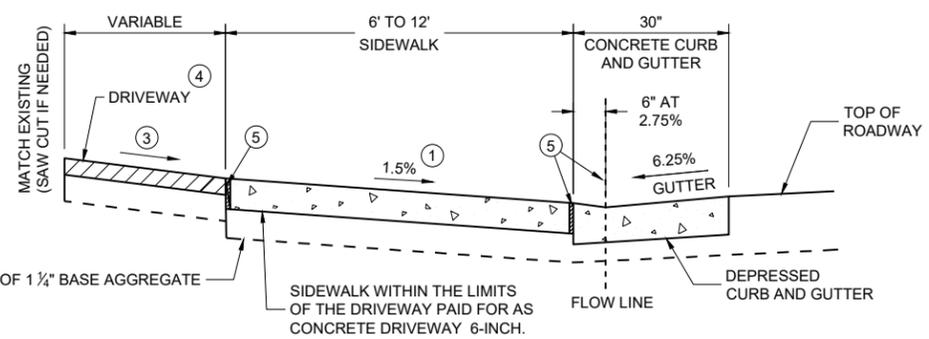
**DETAIL A**

(A): MEASURE FROM BACK OF CURB

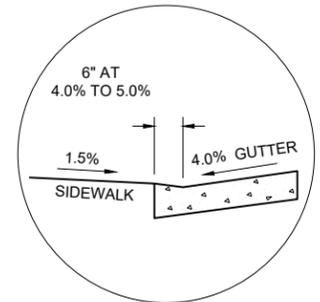


**TYPE Y**  
**SIDEWALK WITH NARROWER TERRACE**  
**TERRACE VARIES 4 TO 6 FEET**

TERRACE PLANTING OR OTHER NON-TRAVERSABLE SURFACE



**SECTION X - X**

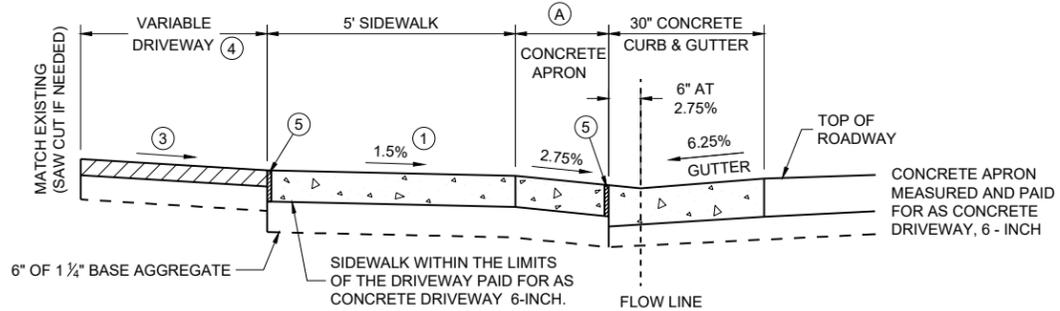


**SECTION X - X**  
**4% GUTTER SLOPE**

**TABLE Y**

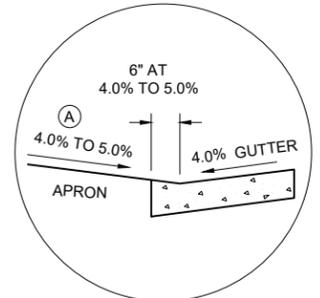
| (A) FEET | (C) FEET |
|----------|----------|
| 3.5'     | 2.0'     |
| 4.5'     | 3.0'     |
| 5.5'     | 3.5'     |

(W): 12' MIN. - 24' MAX. RESIDENTIAL AND NON-COMMERCIAL (PE & FE)  
 16' MIN. - 35' MAX. COMMERCIAL (CE)



NOTE: SIDEWALK MAY BE DEPRESSED IN DRIVEWAY AREAS

**SECTION Y - Y**  
**DRIVEWAY DETAIL WITH CONCRETE CURB AND GUTTER**  
**(URBAN AND SUBURBAN)**



**SECTION Y - Y**  
**4% GUTTER SLOPE**

**GENERAL NOTES**

PROVIDE CONSTRUCTION JOINTS ALONG THE CENTER OF THE CONCRETE FOR DRIVEWAYS UNDER 20 FEET IN WIDTH AND AT THE THIRD POINTS OVER 20 FEET IN WIDTH.

(W) IS SHOWN ON PLAN AND PROFILE SHEETS.

OFFSETS, ELEVATIONS, AND PERCENT GRADE ARE SHOWN ON THE CROSS SECTIONS.

① CONSTRUCTION TOLERANCE OF 0.5%± FOR SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1%.

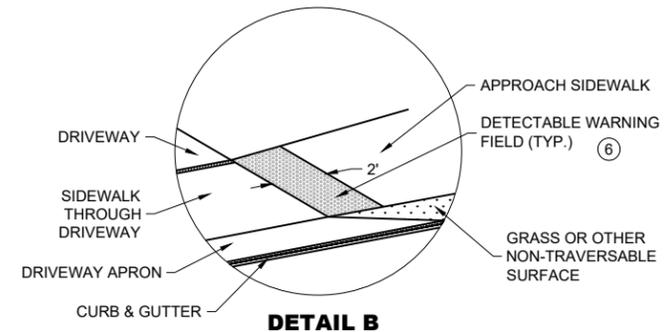
② THE SIDEWALK RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAXIMUM LENGTH, THE RUNNING SLOPE OF THE SIDEWALK SHALL BE AS FLAT AS FEASIBLE AND NOT EXCEED THE LONGITUDINAL GRADE OF THE ROADWAY. SLOPE SIDEWALK RAMP TOWARD APRON AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

③ **DRIVEWAY SLOPES: DESIRABLE MAXIMUM**  
 10.5% UP AWAY FROM SIDEWALK (SAG)  
 8.5% DOWN AWAY FROM SIDEWALK (CREST)  
 ABSOLUTE MAXIMUM 15% FOR BOTH CREST AND SAG

④ **DRIVEWAY TYPES**  
 \* 6-INCH CONCRETE DRIVEWAY PAVEMENT OVER 6-INCH BASE AGGREGATE  
 \* 2-INCH TO 3-INCH ASPHALTIC SURFACE OVER 6-INCH BASE AGGREGATE  
 \* 6-INCH BASE AGGREGATE (MAY BE INCREASED FOR CLAY SUBGRADES.)

⑤ 1/2" EXPANSION JOINT FILLER

⑥ DETECABLE WARNING FIELDS ARE REQUIRED WHEN A PEDESTRIAN CIRCULATION ROUTE CROSSES A DRIVEWAY THAT IS TRAFFIC SIGNAL, STOP, OR YIELD SIGN CONTROLLED. DETECABLE WARNING FIELDS TO BE 2 FT DEEP AND EXTEND THE WIDTH OF THE PEDESTRIAN CIRCULATION ROUTE.



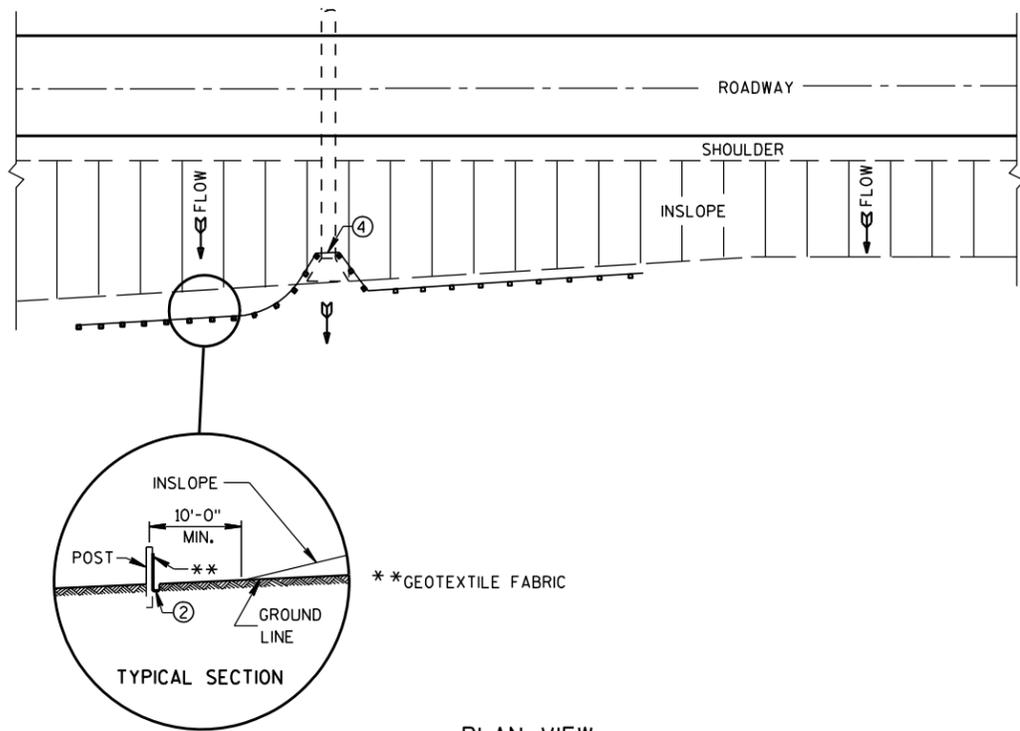
**DETAIL B**

**DRIVEWAY AND SIDEWALK RAMPS**  
**TYPES X AND Y**

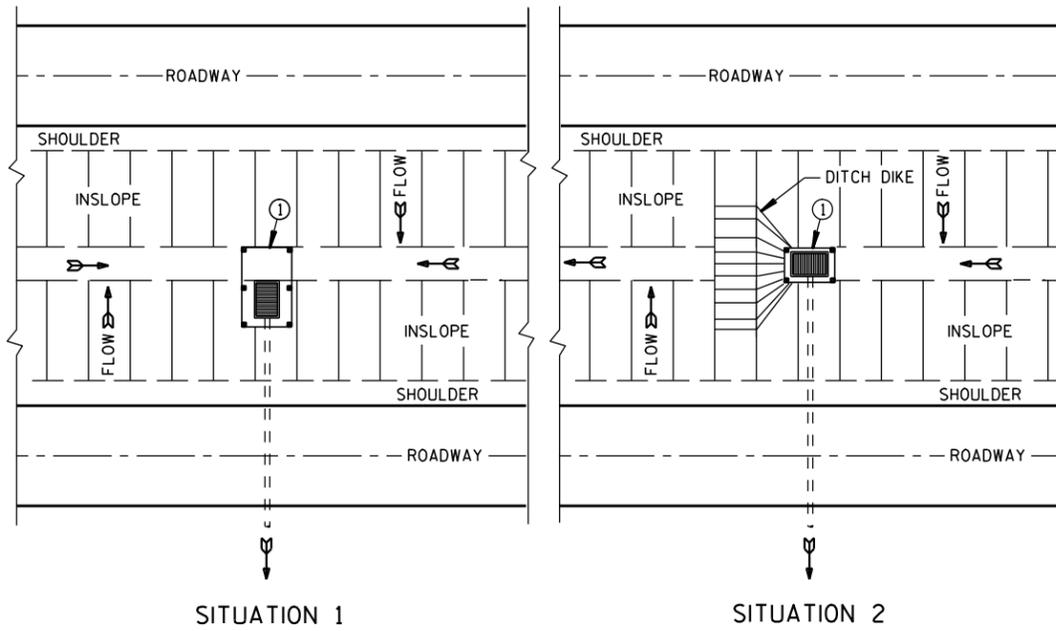
STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 February 2025 /S/ Rodney Taylor  
 DATE

FHWA



PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

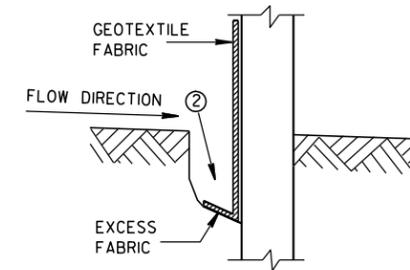


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

**GENERAL NOTES**

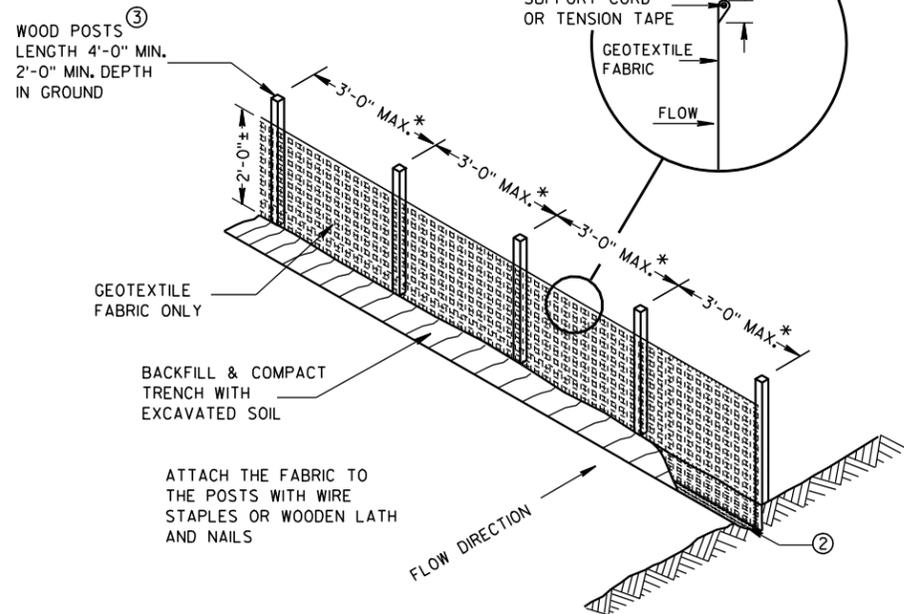
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



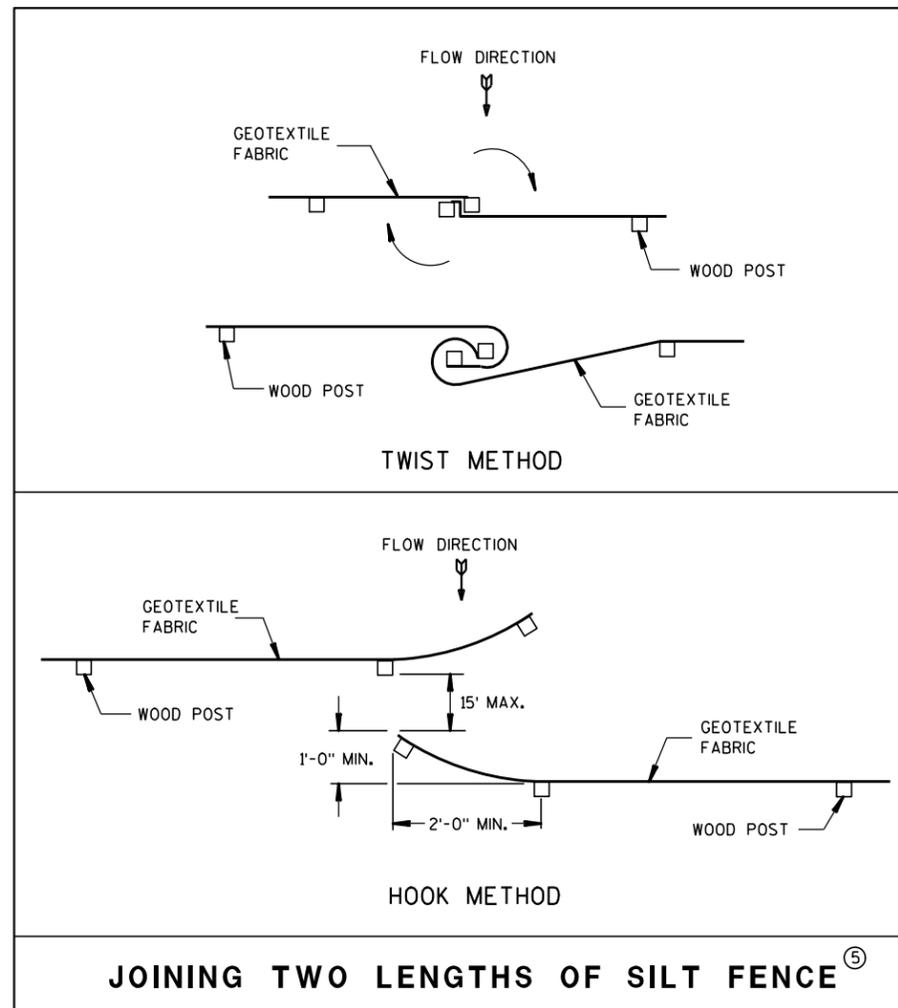
TRENCH DETAIL

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

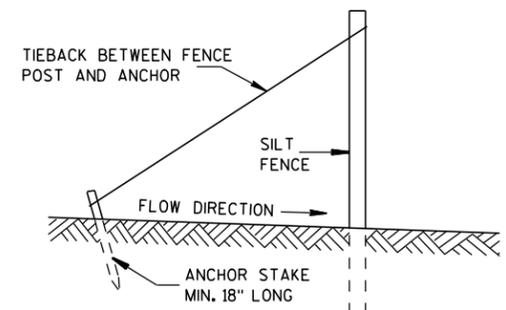


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

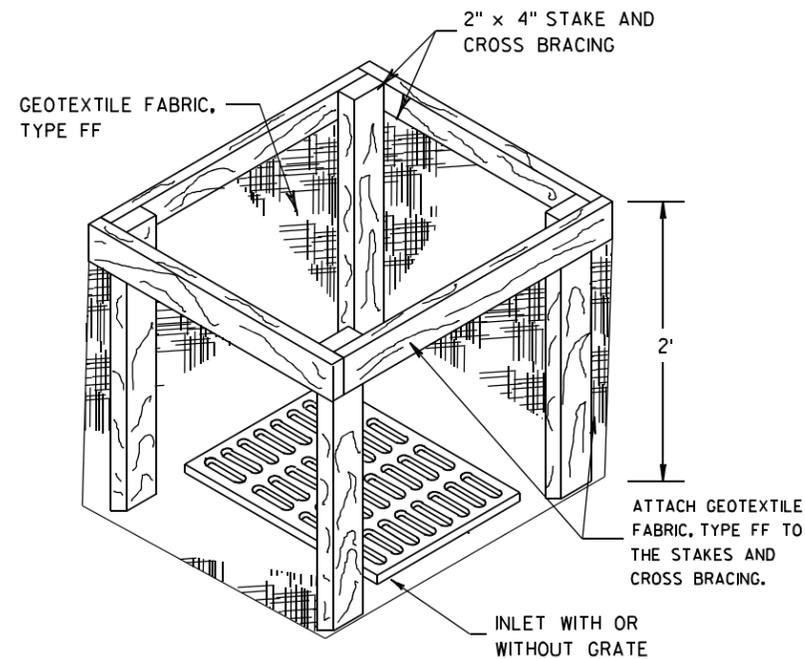
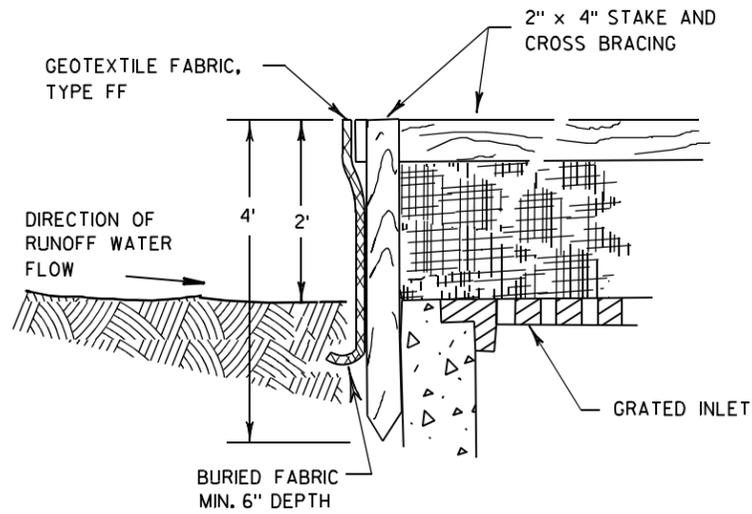


SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**INLET PROTECTION, TYPE A**

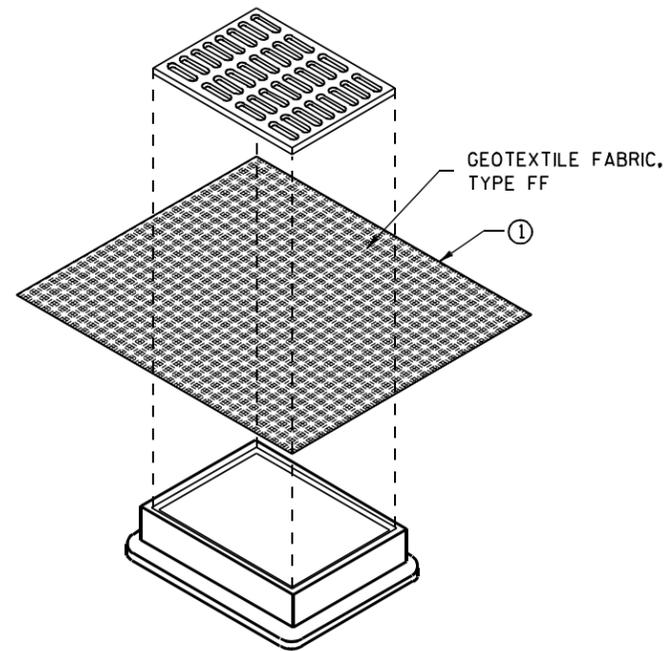
**GENERAL NOTES**

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

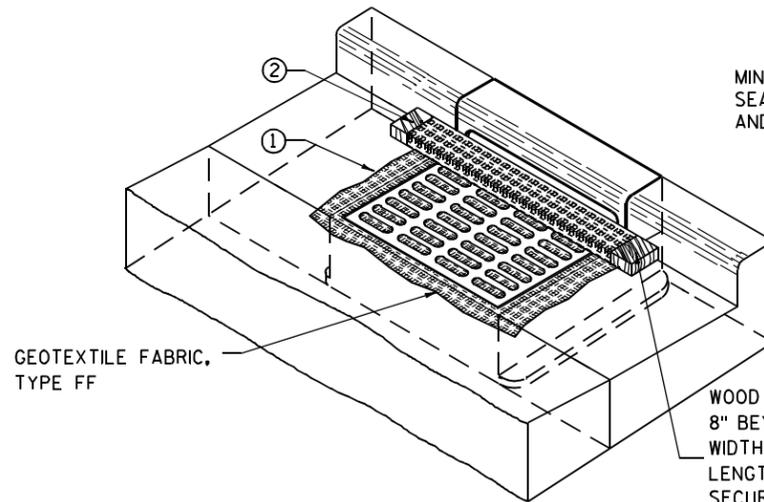
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B  
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

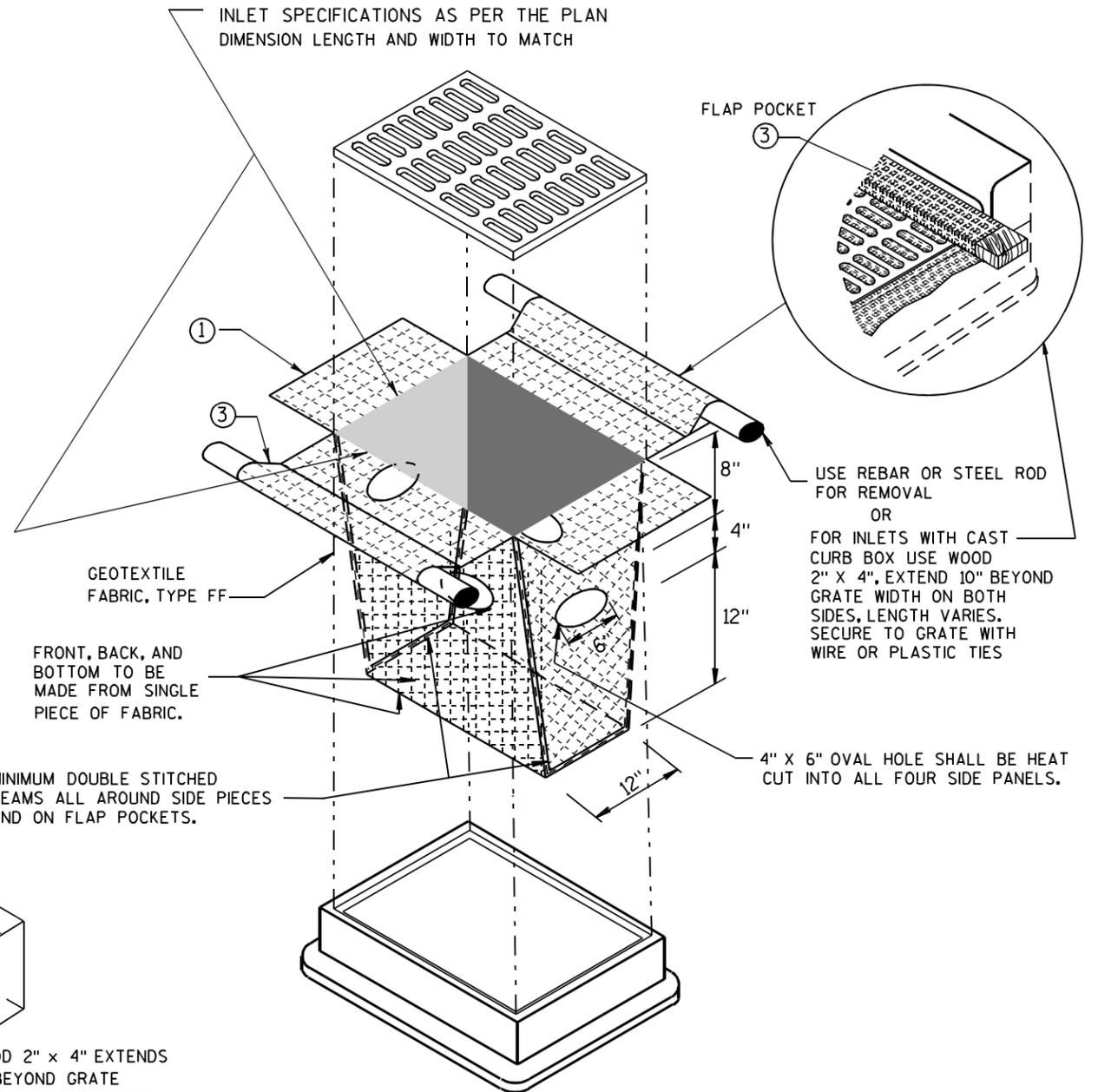
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

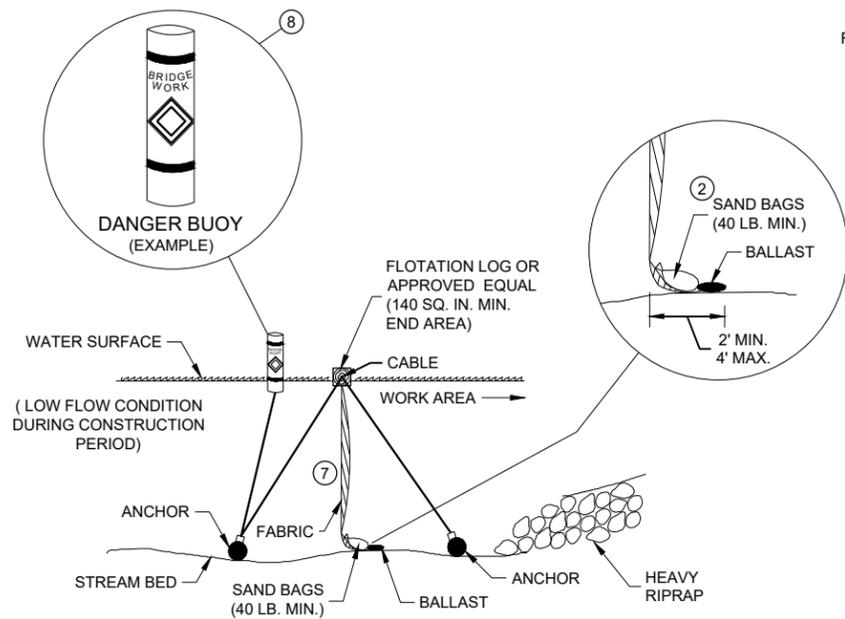
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



**INLET PROTECTION, TYPE D**

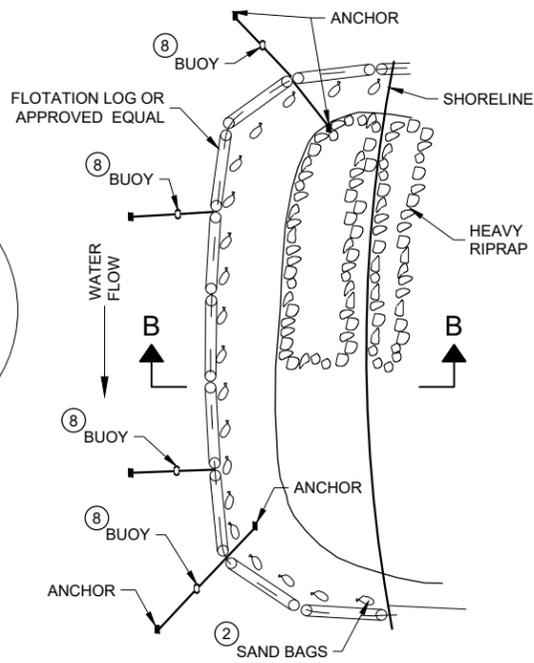
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

|  |   |
|--|---|
| <b>INLET PROTECTION<br/>TYPE A, B, C, AND D</b>    |   |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |   |
| APPROVED<br>10/16/02<br>DATE                       | /s/ Beth Conestra<br>CHIEF ROADWAY DEVELOPMENT ENGINEER |
| FHWA   |   |

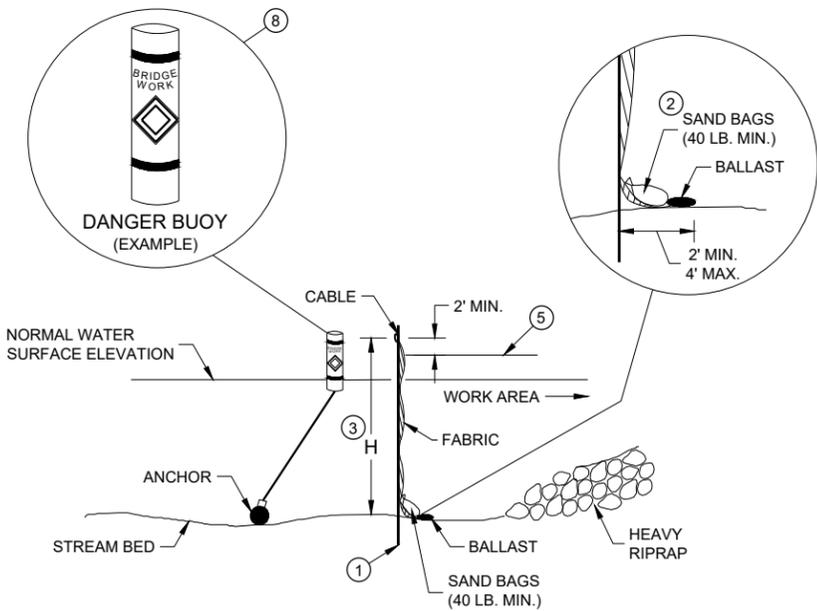


**SECTION B - B**

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

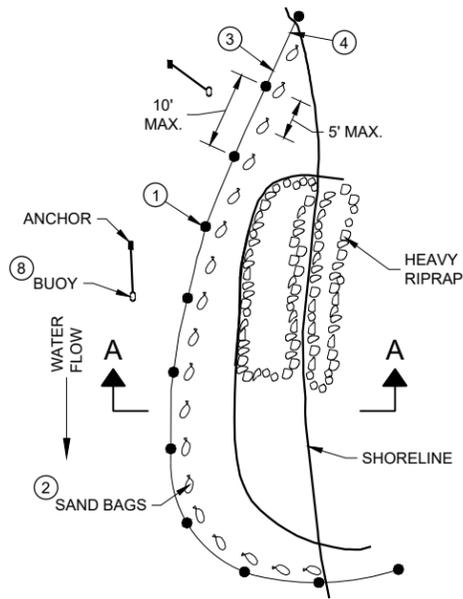


**PLAN VIEW**



**SECTION A - A**

**TURBIDITY BARRIER - STANDARD POST INSTALLATION**



**PLAN VIEW**

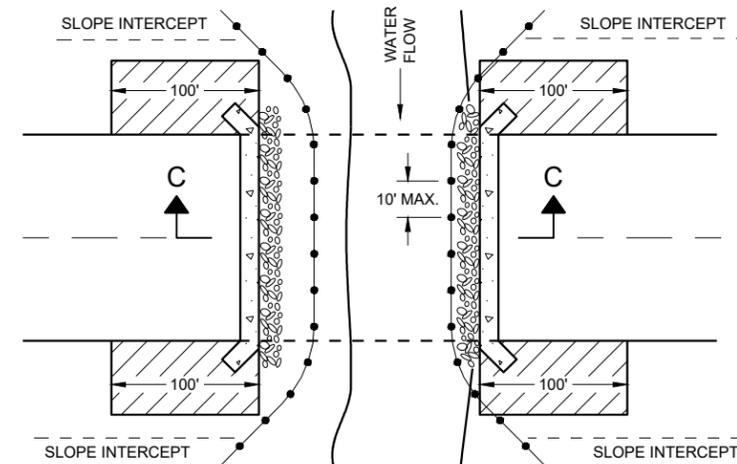
**TURBIDITY BARRIER PLACEMENT DETAILS**

**GENERAL NOTES**

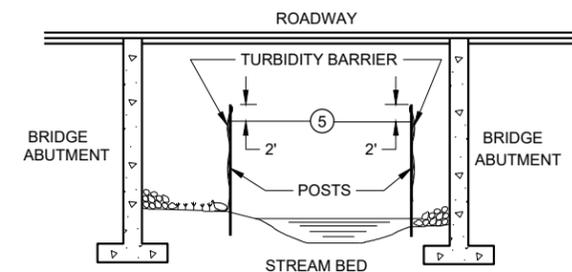
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

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



**PLAN VIEW**



**SECTION C - C**

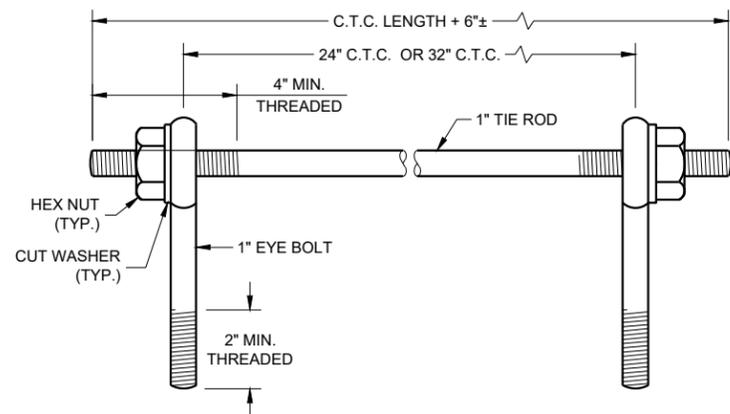
**TURBIDITY BARRIER DETAIL SHOWING  
TYPICAL PLACEMENT AT STRUCTURES**

**TURBIDITY BARRIER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

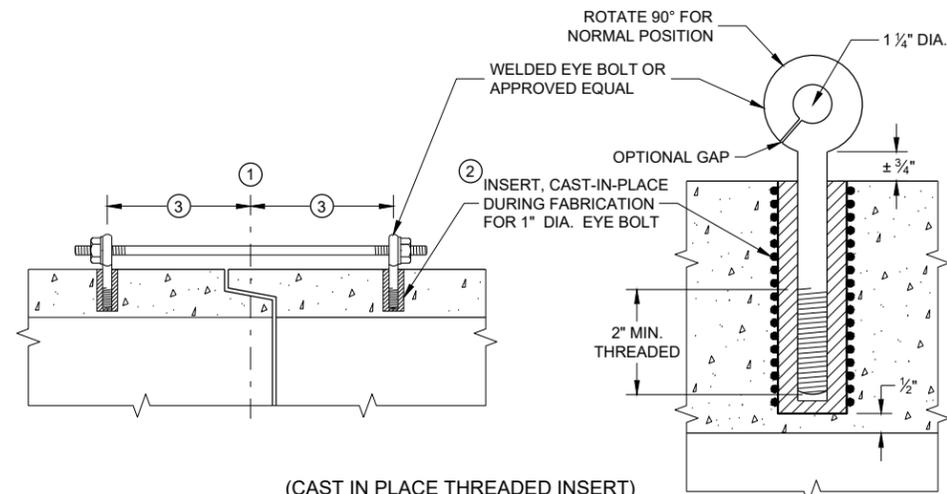
APPROVED  
6/4/02 DATE /S/ Beth Cannestra  
DATE CHIEF ROADWAY DEVELOPMENT  
ENGINEER

FHWA



**EYE BOLTS AND TIE ROD**

**EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)**



(CAST IN PLACE THREADED INSERT)  
**LONGITUDINAL SECTIONS**

**GENERAL NOTES**

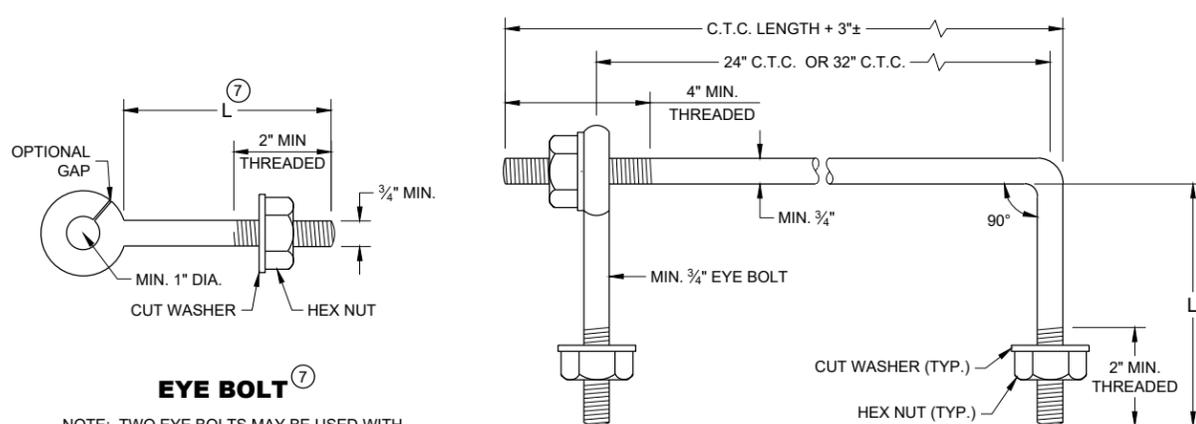
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

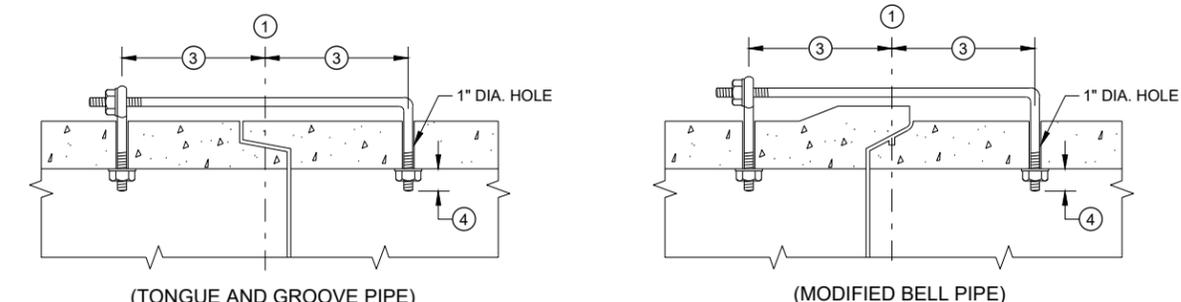
- ① CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- ⑦ EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.



**EYE BOLT** ⑦

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30\"/>

**EYE BOLT AND TIE ROD**



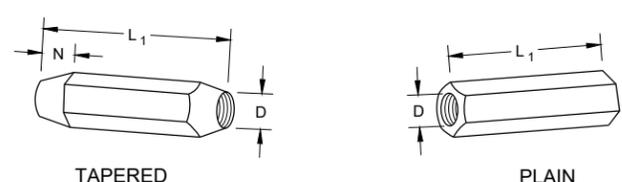
**LONGITUDINAL SECTION**  
(JOINT TIES FOR 18\"/>

**EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)**

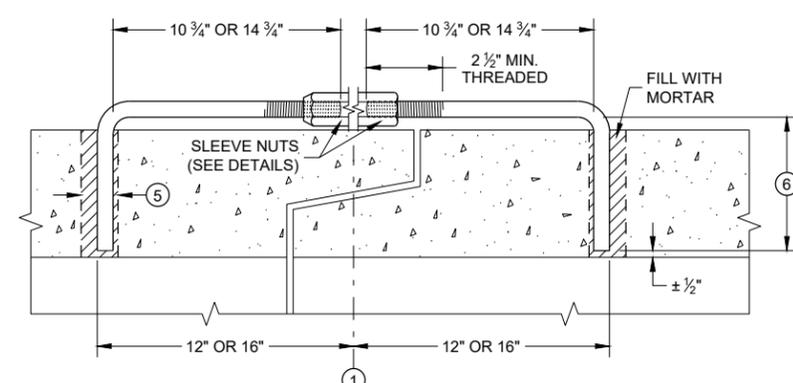
**ADJUSTABLE TIE ROD TABLE**

| PIPE DIAMETER | TIE ROD DIAMETER | D   | L <sub>1</sub> | N      |
|---------------|------------------|-----|----------------|--------|
| 12 - 60       | 5/8              | 5/8 | 5              | 1/2    |
| 66 - 84       | 3/4              | 3/4 | 5              | 1/2    |
| 90 - 144      | 1                | 1   | 7              | 1 7/16 |

DIMENSIONS SHOWN ARE IN INCHES

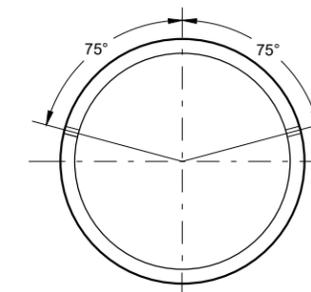


**RIGHT AND LEFT THREADS SLEEVE NUTS**



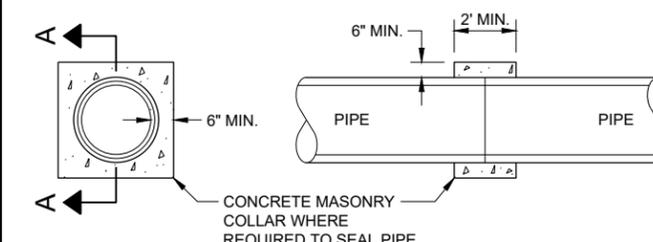
**LONGITUDINAL SECTION**

**ADJUSTABLE TIE ROD (ALTERNATE NO. 3)**



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

**TRANSVERSE SECTION**



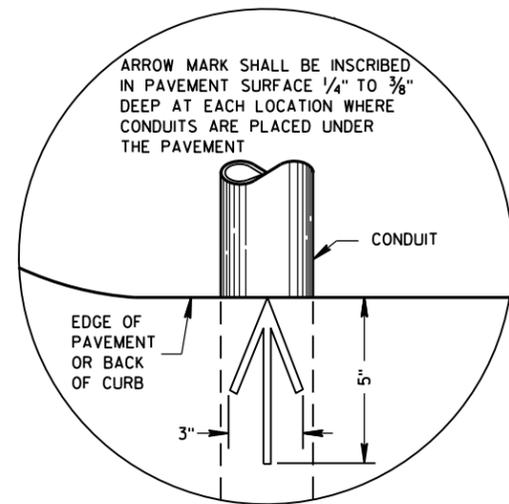
**SECTION A - A**  
**CONCRETE COLLAR DETAIL**

**JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL**

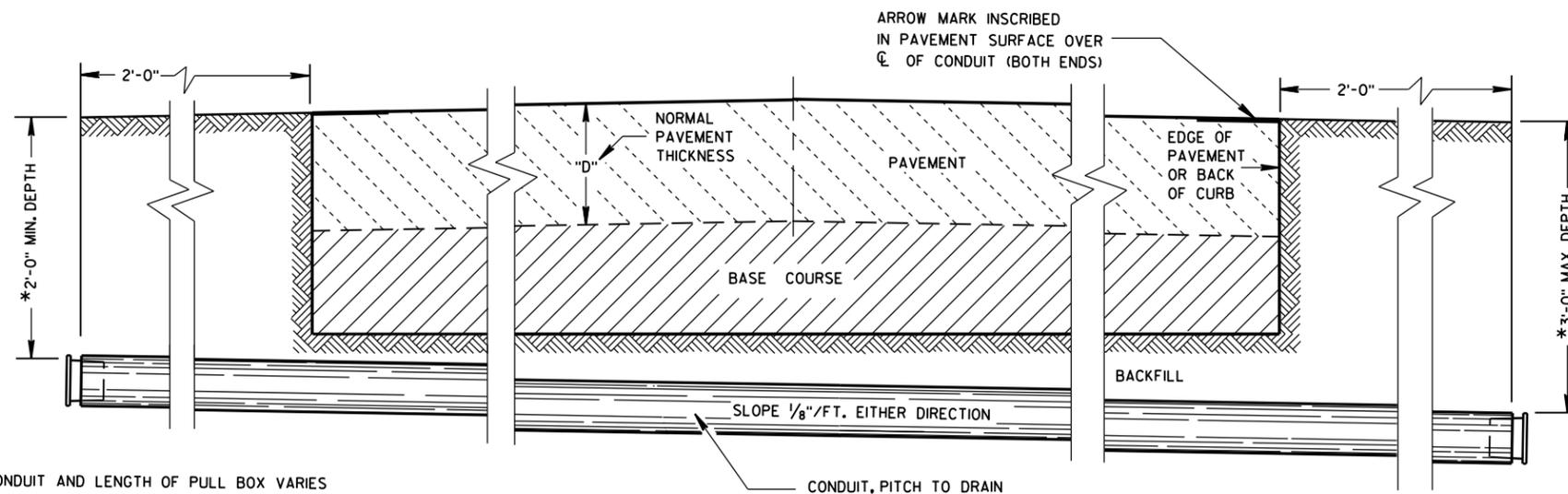
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2021 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

FHWA



**PLAN VIEW  
ARROW MARK**



**SIDE ELEVATION  
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS**

\*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

**GENERAL NOTES**

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSON TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

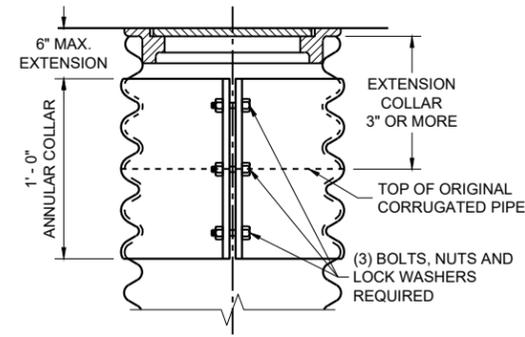
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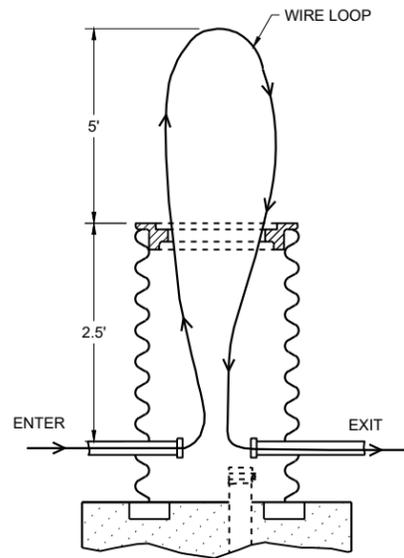
S.D.D. 9 B 2-10

S.D.D. 9 B 2-10

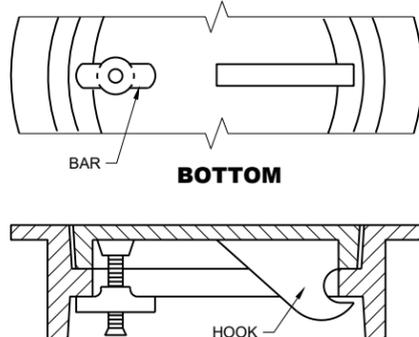
|  |   |
|--|---|
| <b>CONDUIT</b>                                     |   |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |   |
| APPROVED<br>March, 2017<br>DATE                    | /S/ Ahmet Demirbilek<br>STATE ELECTRICAL ENGINEER |
| FHWA   |   |



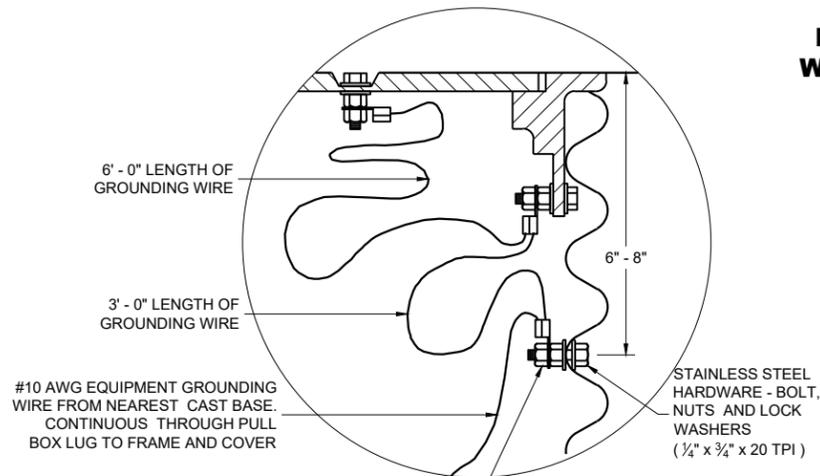
**CORRUGATED PIPE EXTENDER**



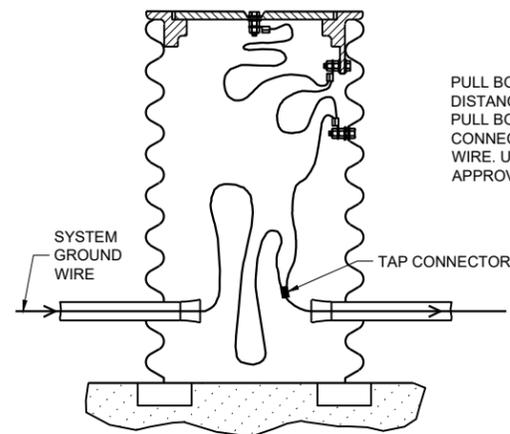
**MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX**



**ALTERNATE COVER (LOCKING)**  
TIGHTENING BAR TYPE

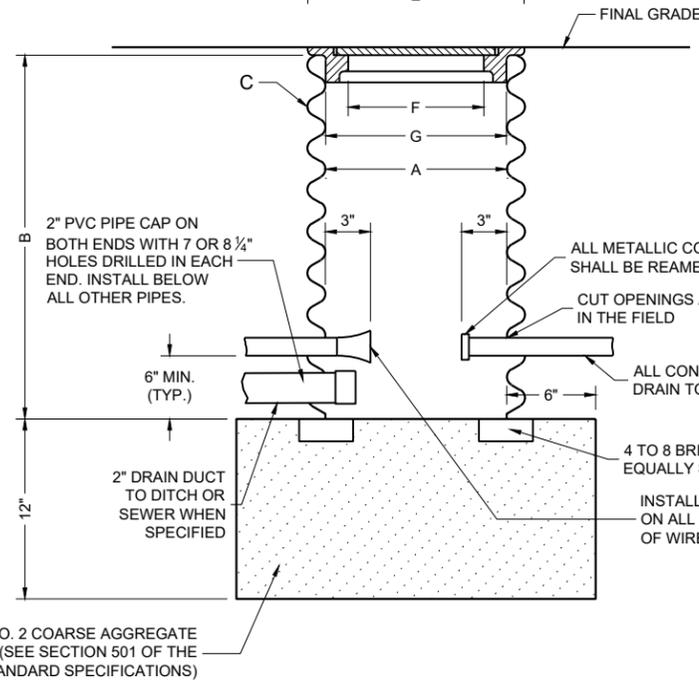
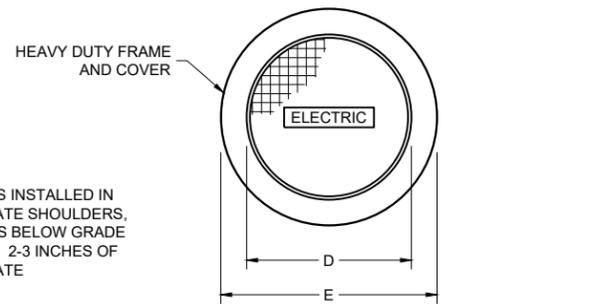


**EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES**



**EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES**

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE



**PULL BOX**

**GENERAL NOTES**

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/8".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

**TABLE OF NOMINAL DIMENSIONS AND WEIGHTS**

| DIMENSION IN INCHES    |   | CORRUGATED STEEL PIPE    |        |        |        |        |        |        |        |        |
|------------------------|---|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
|                        |   | 12                       | 12     | 12     | 18     | 18     | 18     | 24     | 24     | 24     |
| PIPE DIAMETER (INSIDE) | A | 12                       | 12     | 12     | 18     | 18     | 18     | 24     | 24     | 24     |
| PIPE LENGTH **         | B | 24                       | 30     | 36     | 24     | 30     | 36     | 36     | 42     | 48     |
| WALL THICKNESS         | C | 0.064                    | 0.064  | 0.064  | 0.064  | 0.064  | 0.064  | 0.064  | 0.064  | 0.064  |
| COVER                  | D | 10 1/4                   | 10 1/4 | 10 1/4 | 16 1/4 | 16 1/4 | 16 1/4 | 22 1/4 | 22 1/4 | 22 1/4 |
| FRAME                  | E | 14 1/2                   | 14 1/2 | 14 1/2 | 20 1/2 | 20 1/2 | 20 1/2 | 26 1/2 | 26 1/2 | 26 1/2 |
| FRAME                  | F | 8 1/2                    | 8 1/2  | 8 1/2  | 14 1/2 | 14 1/2 | 14 1/2 | 20 1/2 | 20 1/2 | 20 1/2 |
| FRAME                  | G | 11 1/2                   | 11 1/2 | 11 1/2 | 17 1/2 | 17 1/2 | 17 1/2 | 23 1/2 | 23 1/2 | 23 1/2 |
|                        |   | <b>WEIGHT IN POUNDS*</b> |        |        |        |        |        |        |        |        |
| FRAME AND COVER        |   | 60                       | 60     | 60     | 110    | 110    | 110    | 155    | 155    | 155    |

\*THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

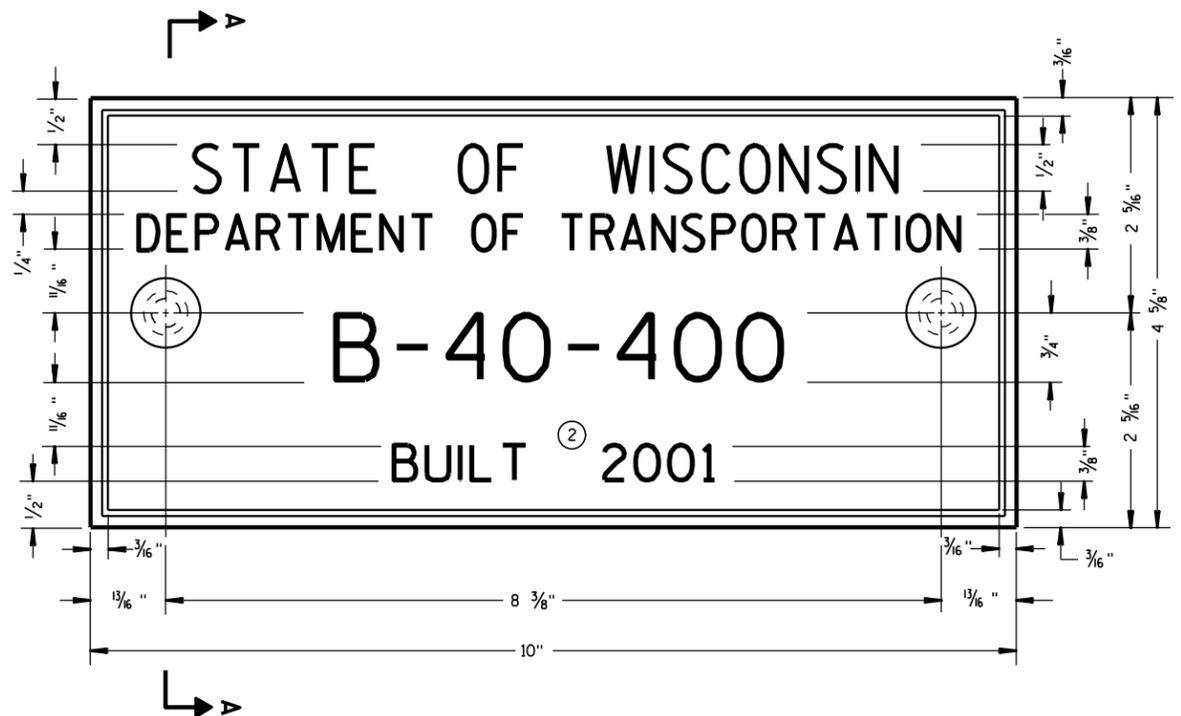
\*\* NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

**PULL BOX**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2024 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL ENGINEER

FHWA



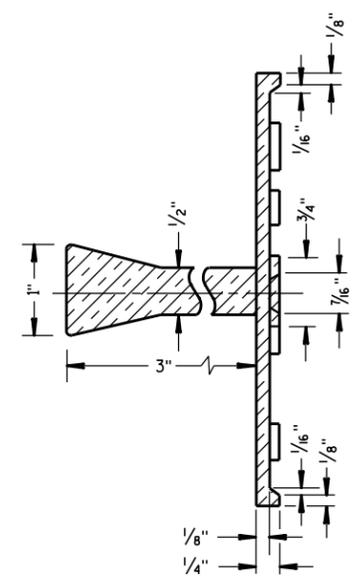
**TYPICAL NAME PLATE**  
(BRIDGES, CULVERTS, AND RETAINING WALLS)

**GENERAL NOTES**

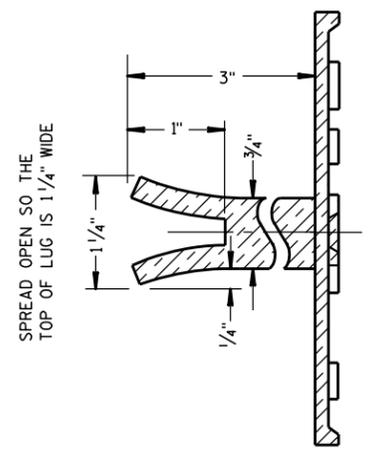
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

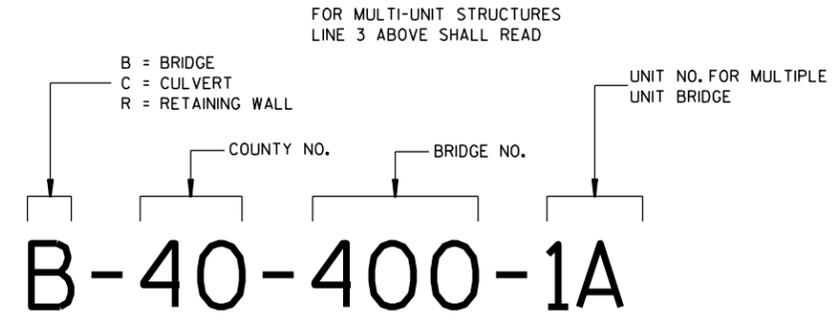
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



**SECTION A-A**

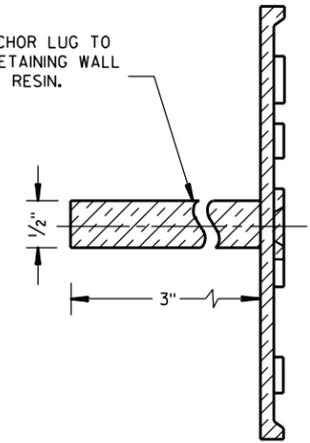


**ALTERNATE LUG**



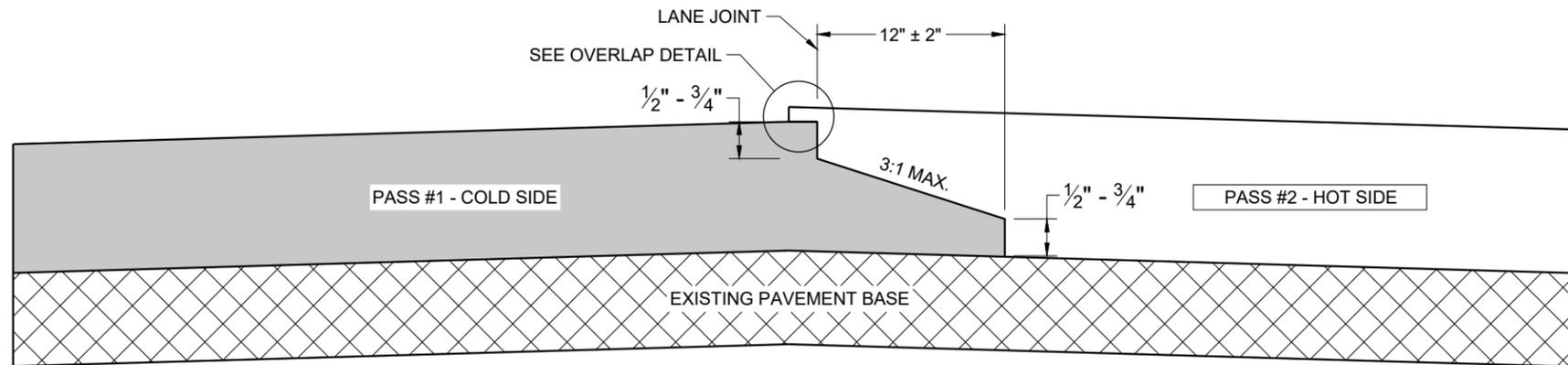
**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

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

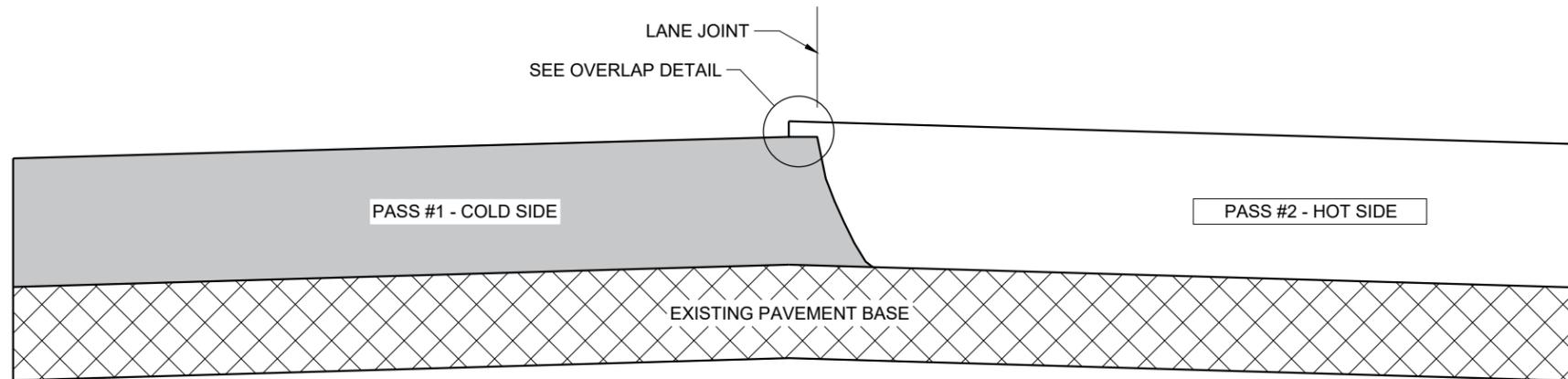


**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

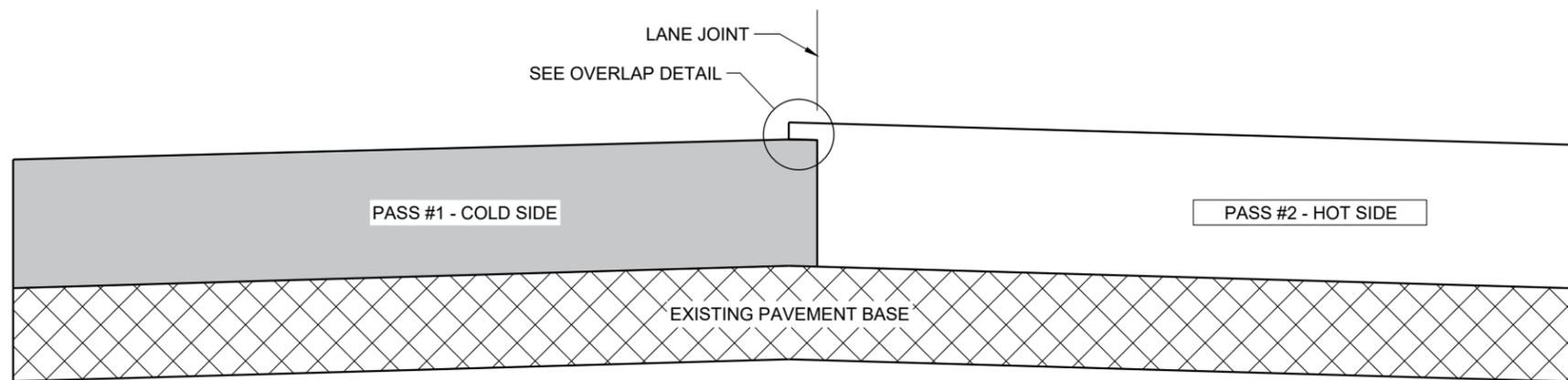
|  |  |
|--|--|
| <b>NAME PLATE<br/>(STRUCTURES)</b>                 |  |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |  |
| APPROVED<br>DATE<br>3/26/10                        | /S/ Scot Becker<br>CHIEF STRUCTURAL DEVELOPMENT ENGINEER |
| FHWA   |  |



**TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT**



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

**GENERAL NOTES**

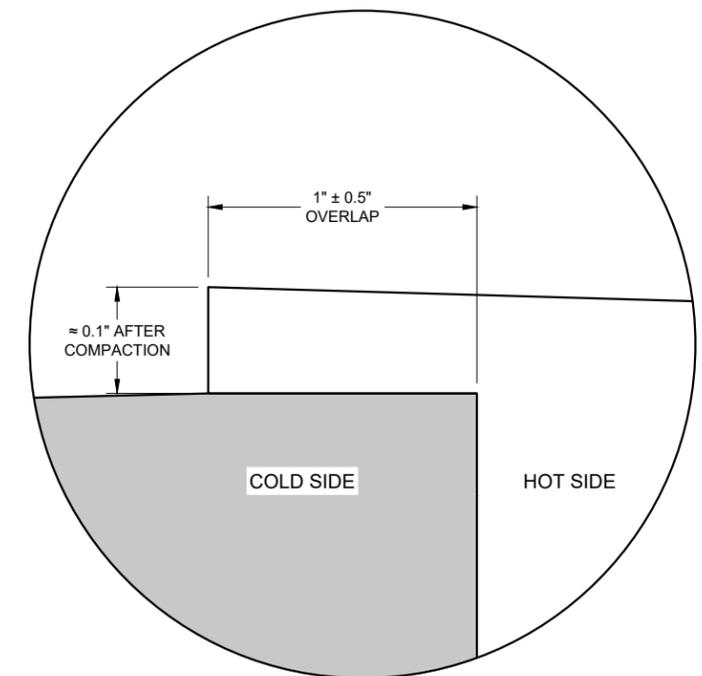
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



**OVERLAP DETAIL (TYPICAL)**

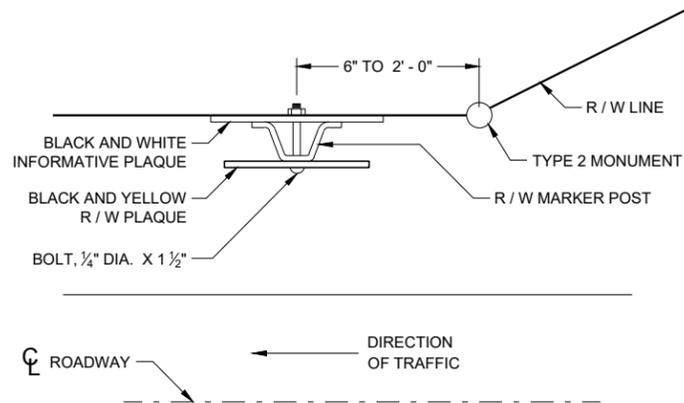
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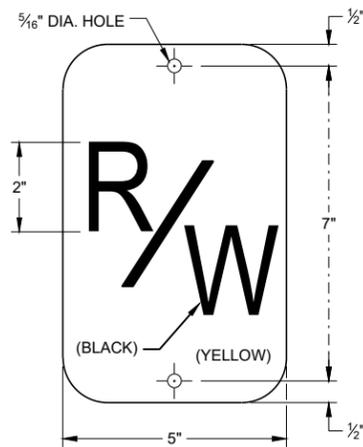
SDD 13C19 - 03

SDD 13C19 - 03

|  |   |
|--|---|
| <b>HMA LONGITUDINAL JOINTS</b>                     |   |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |   |
| APPROVED<br>November 2020<br>DATE                  | /S/ Steven Hefel<br>HMA PAVEMENT ENGINEER |
| FHWA   |   |

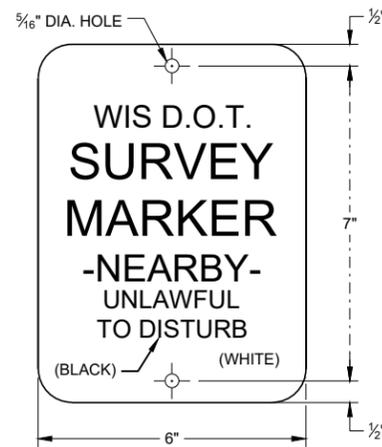


**PLAN VIEW  
STEEL MARKER POST**



**R / W PLAQUE**

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



**INFORMATIVE PLAQUE**

**GENERAL NOTES**

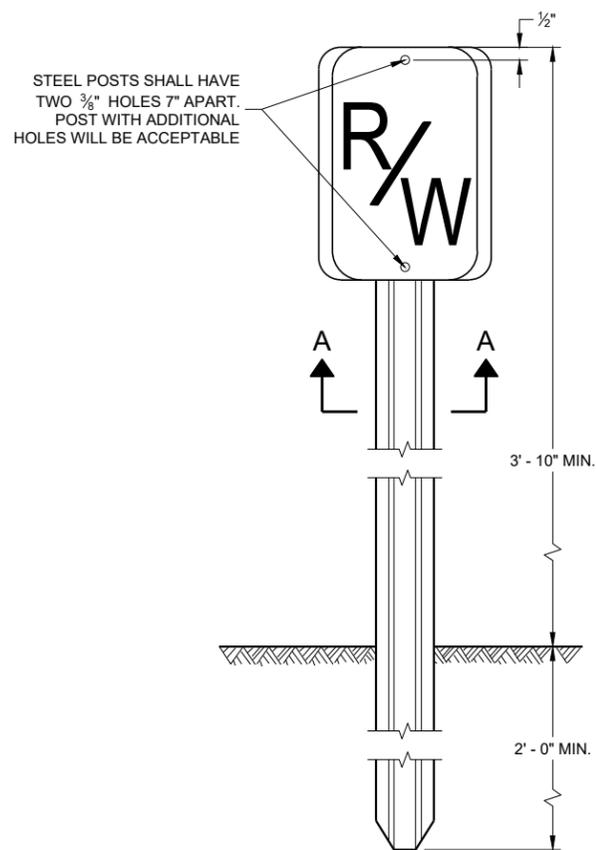
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT -OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

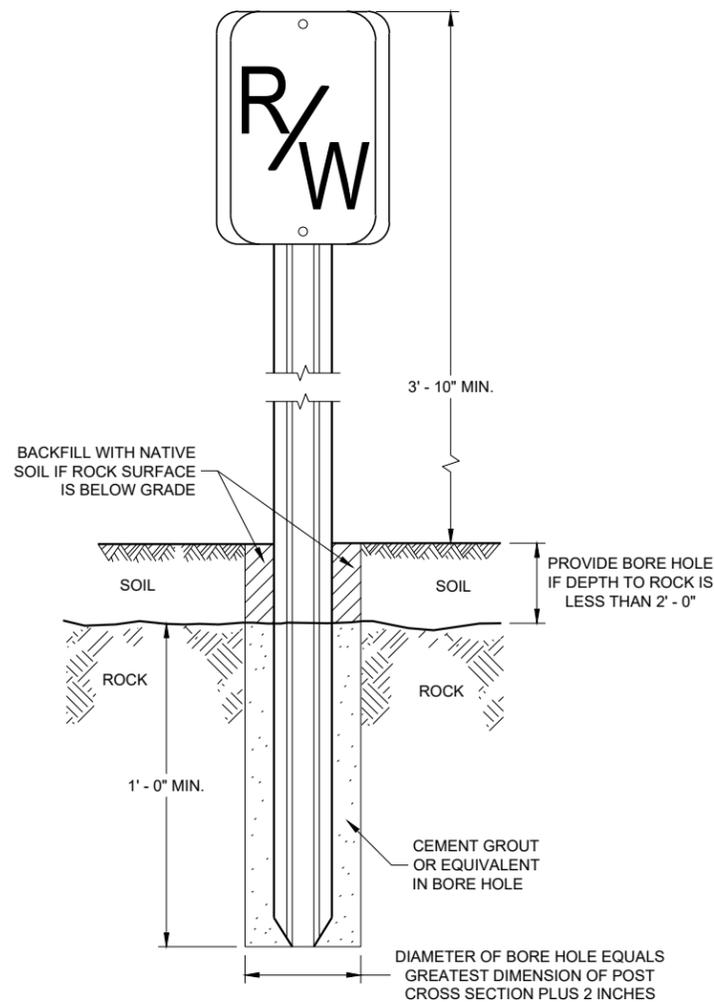
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. "R/W" AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

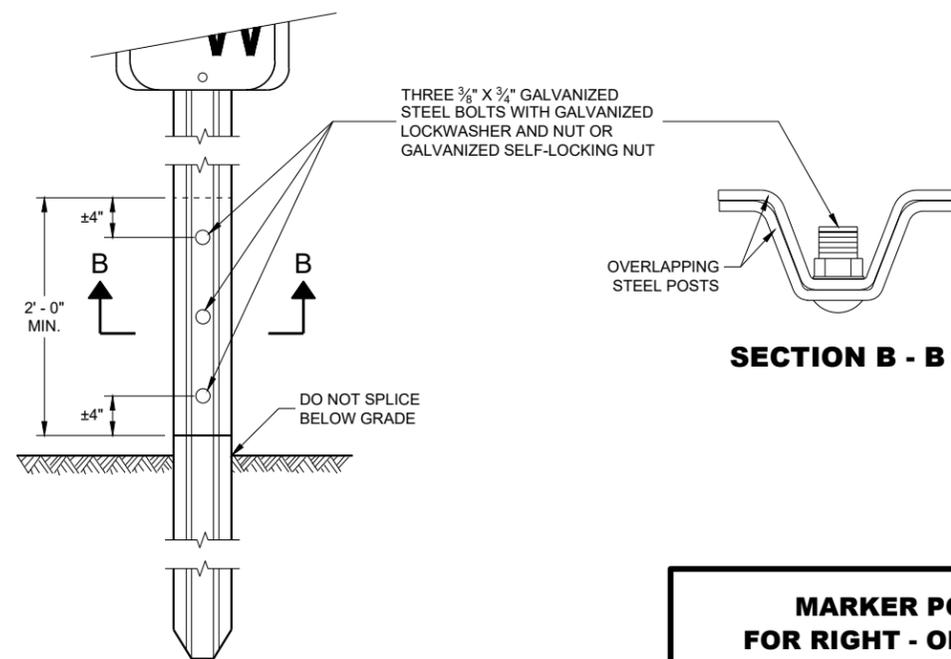
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' - 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



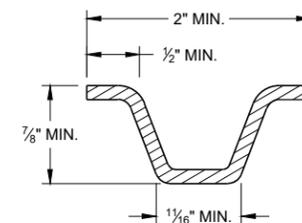
**FRONT VIEW  
STEEL MARKER POST**



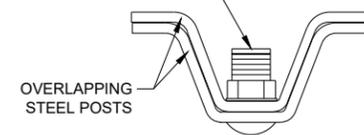
**FRONT VIEW  
ROCK INSTALLATION** ①



**FRONT VIEW  
SPLICE DETAIL**



MIN. WEIGHT 1.12 LB./FT.  
**SECTION A - A**



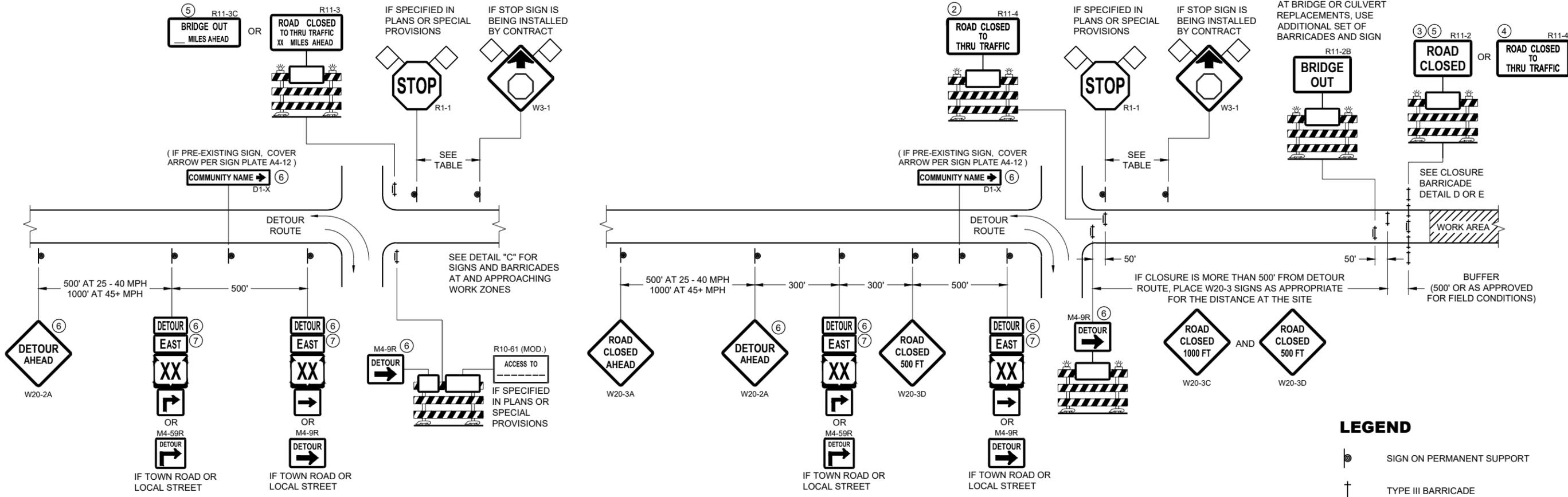
**SECTION B - B**

**MARKER POST  
FOR RIGHT - OF - WAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
2/18/2016 DATE /S/ Ray Kumapayi  
DATE CHIEF SURVEYING AND MAPPING ENGINEER

FHWA



**DETAIL A  
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**DETAIL B  
MAINLINE CLOSURE WITH POSTED DETOUR**

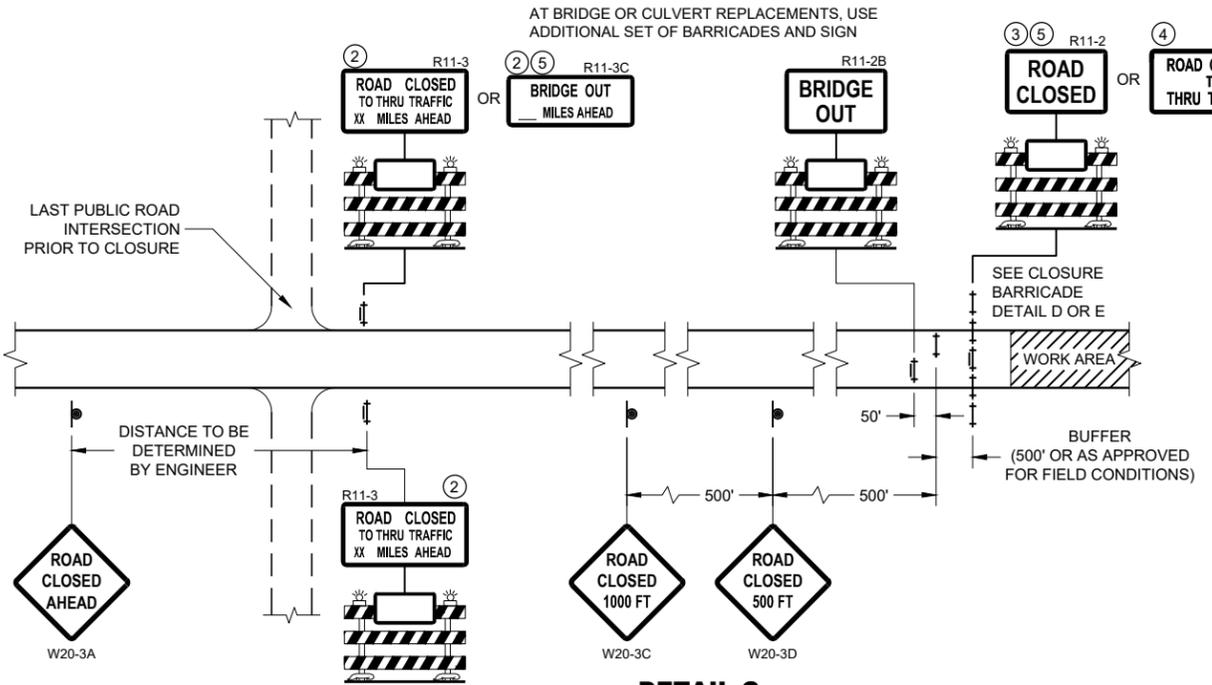
WORK ZONE LESS THAN 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**LEGEND**

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

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

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



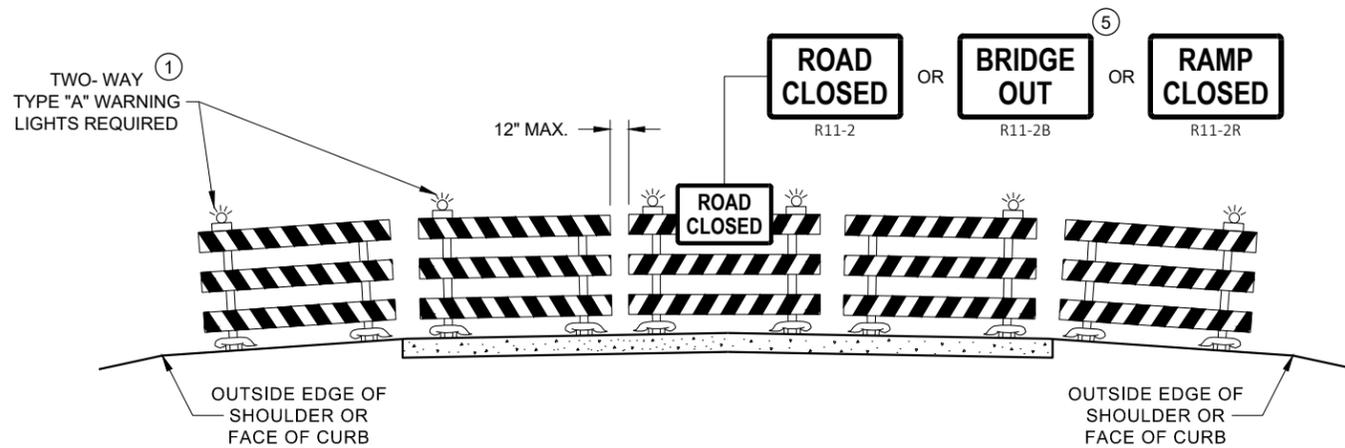
**DETAIL C  
MAINLINE CLOSURE, NO POSTED DETOUR**

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

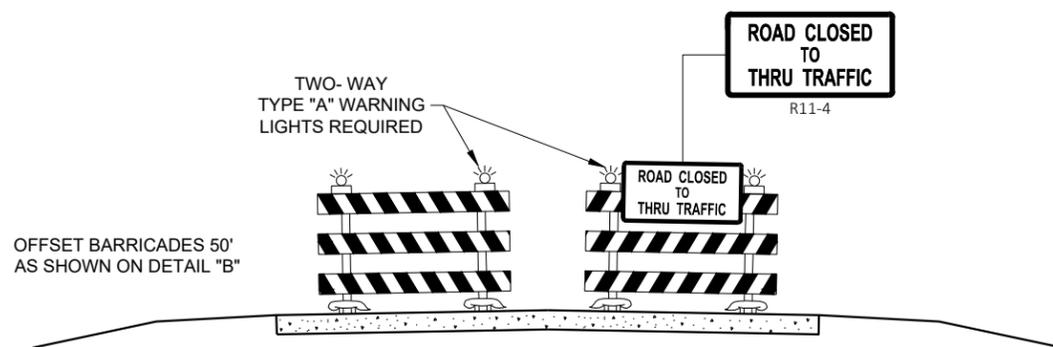
**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



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



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

SEE SDD 15C2 - SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

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

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

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

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

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

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

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

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

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

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

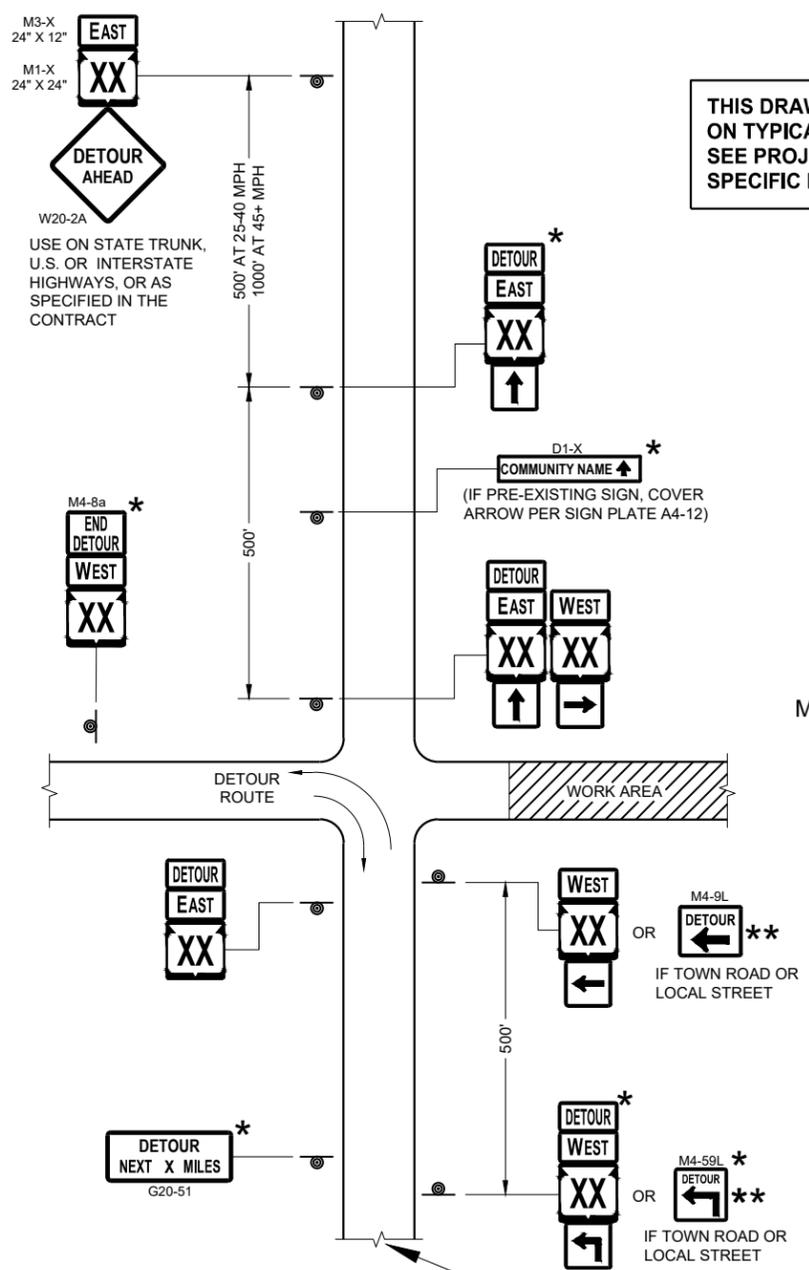
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS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

**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



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

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

**GENERAL NOTES**

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

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

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

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

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

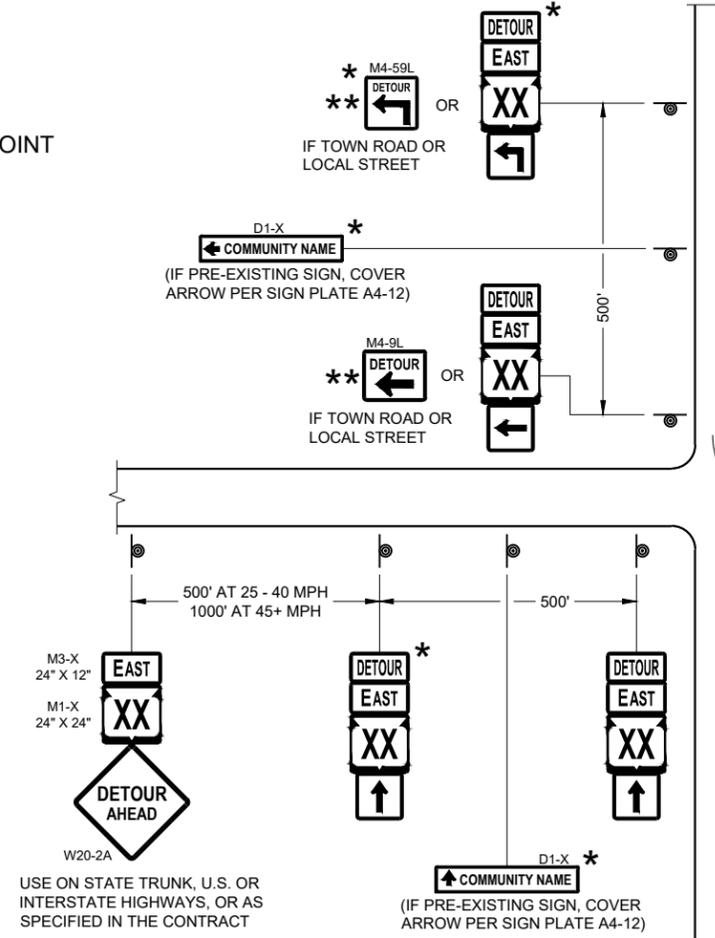
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

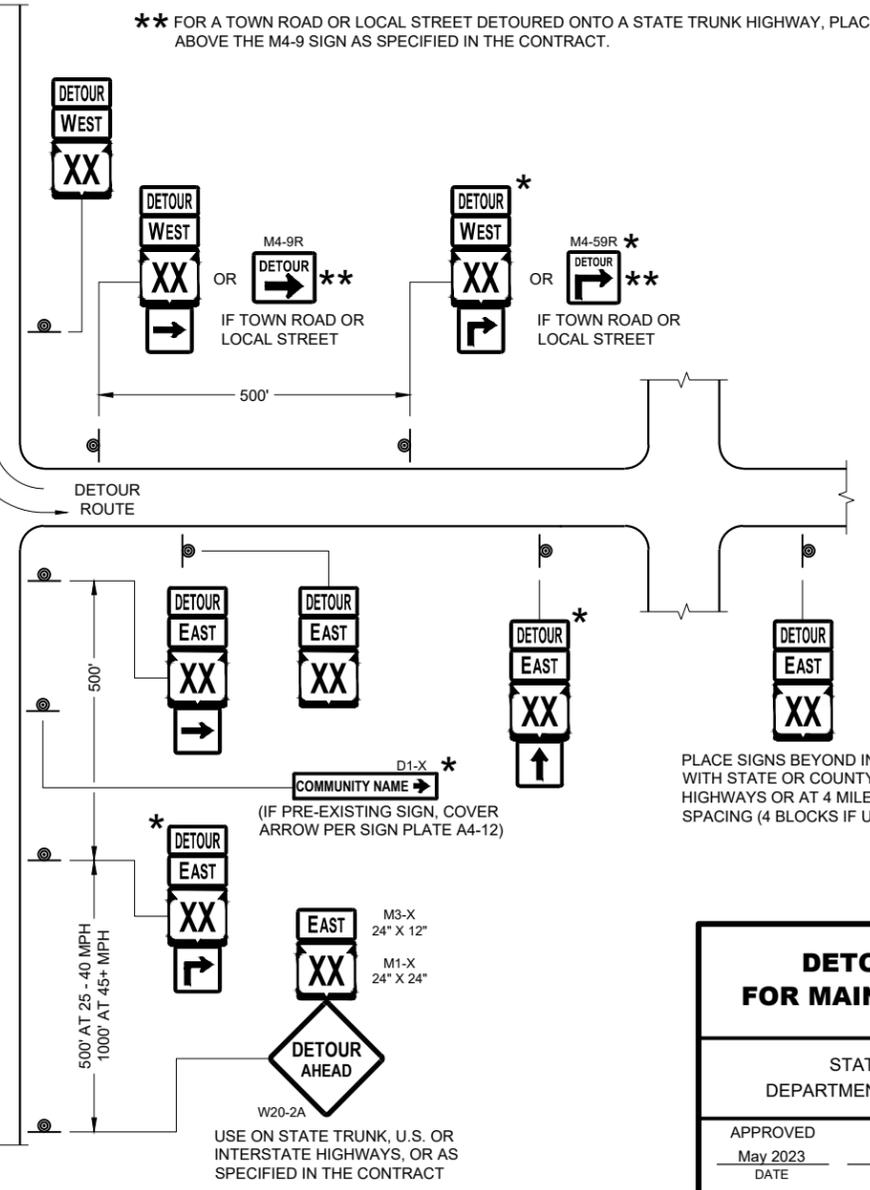
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-9R SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

- \* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- \*\* FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

MATCH POINT



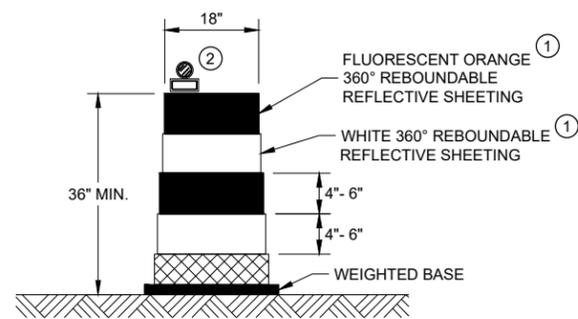
**DETAIL F  
DETOUR SIGNING**



PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA)

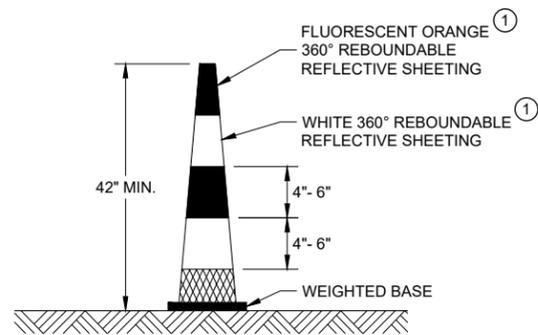
SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

| DETOUR SIGNING FOR MAINLINE CLOSURES               |  |
|--|--|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |  |
| APPROVED<br>May 2023<br>DATE                       | /S/ Andrew Heidtke<br>WORK ZONE ENGINEER |
| FHWA   |  |



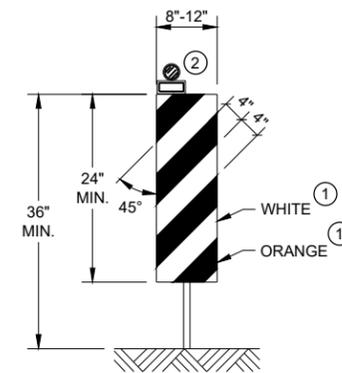
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



**42" CONE**

DO NOT USE IN TAPERS  
½ SPACING OF DRUMS  
BALLAST WIDTHS  
RANGE FROM 14"-20"

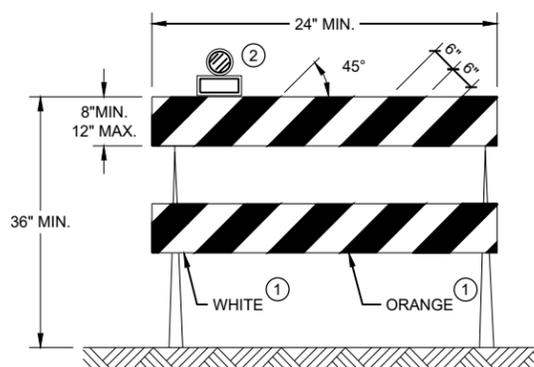


**VERTICAL PANEL**

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

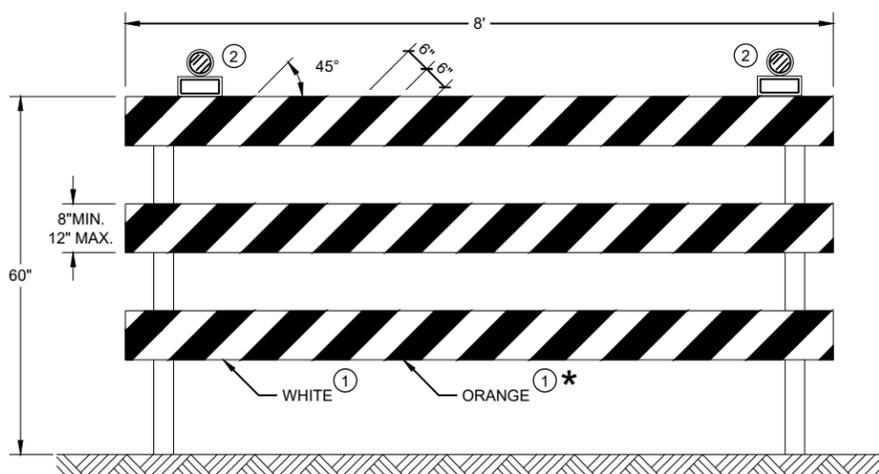
**GENERAL NOTES**

- 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.



**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**

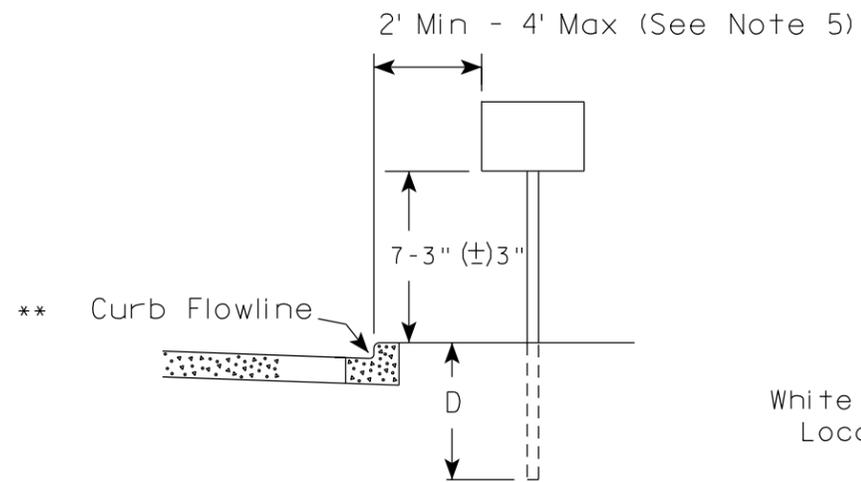
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

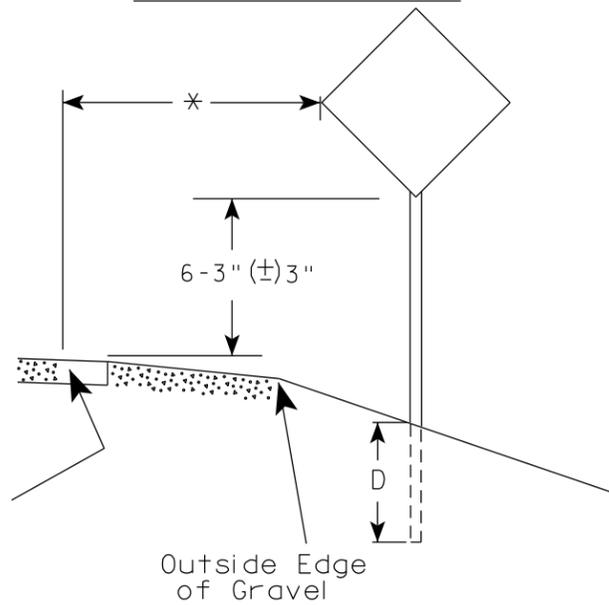
FHWA

URBAN AREA

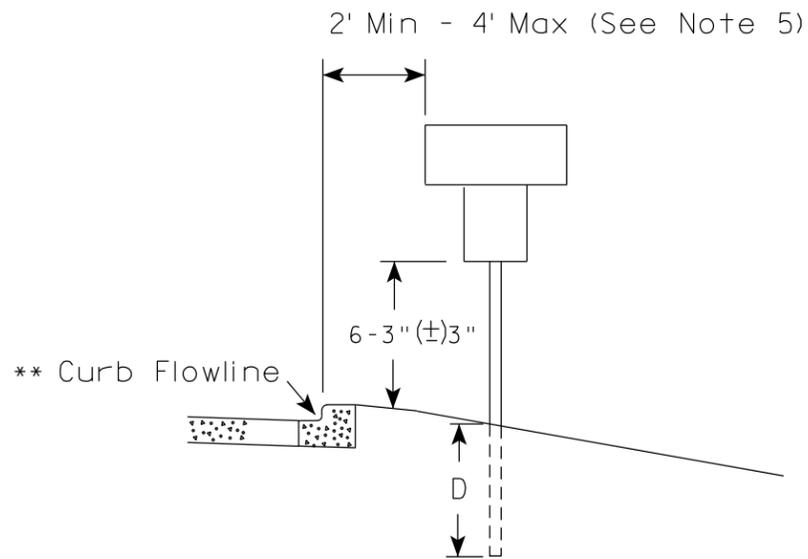
RURAL AREA (See Note 2)



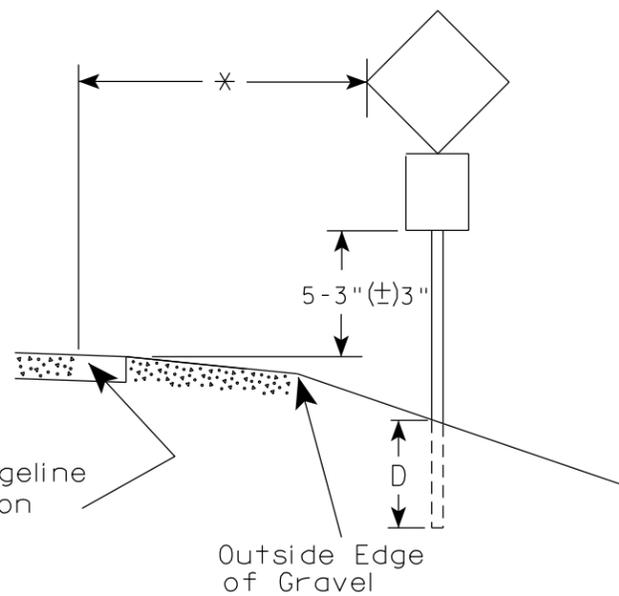
White Edgeline Location



Outside Edge of Gravel



White Edgeline Location



Outside Edge of Gravel

GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

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

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

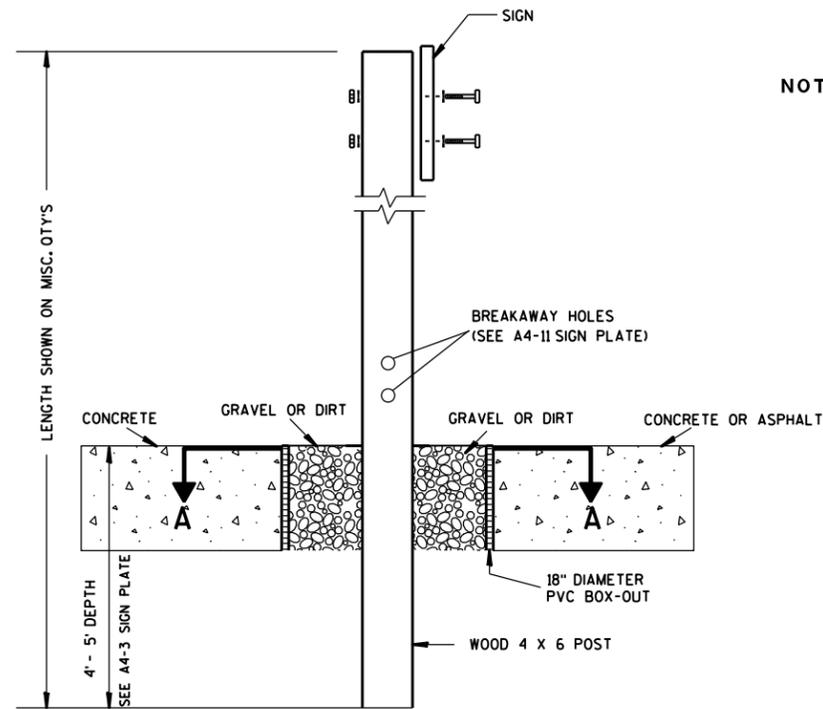
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Matthew R. Raub*  
for State Traffic Engineer

DATE 12/6/23

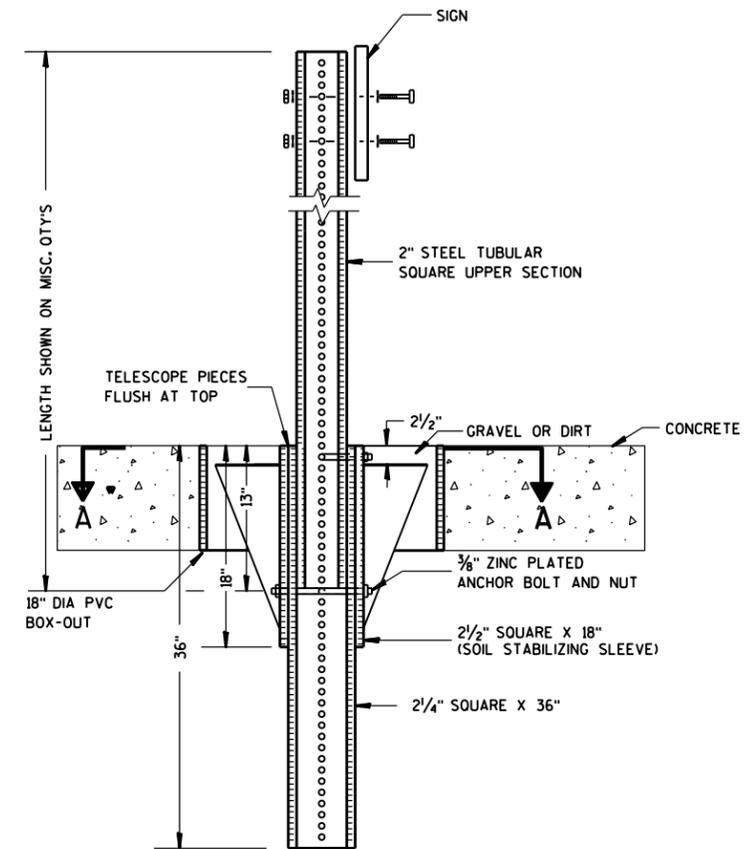
PLATE NO. A4-3.23



**ELEVATION VIEW**

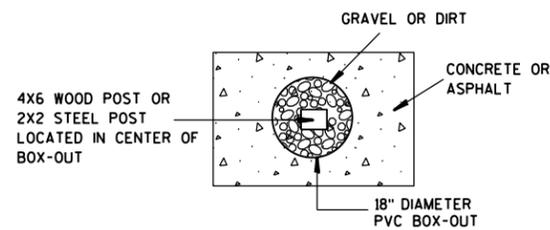
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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



**ELEVATION VIEW**

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



**PLAN VIEW**

**FOR NEW CONCRETE/ASPHALT INSTALLATIONS**

|   |                                  |
|---|----------------------------------|
| <b>SIGN POST<br/>BOX-OUTS<br/>A4-3B</b>                                       |                                  |
| <small>WISCONSIN DEPT OF TRANSPORTATION</small>                               |                                  |
| APPROVED <i>Matthew R. Rauch</i><br><small>for State Traffic Engineer</small> |                                  |
| <small>DATE 1/27/14</small>   | <small>PLATE NO. A4-3B.1</small> |

GENERAL NOTES

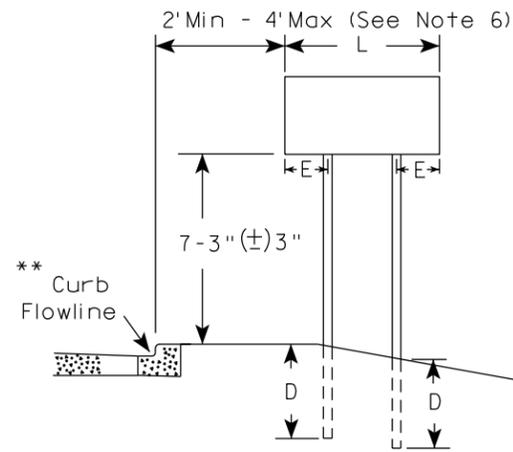
- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.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

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

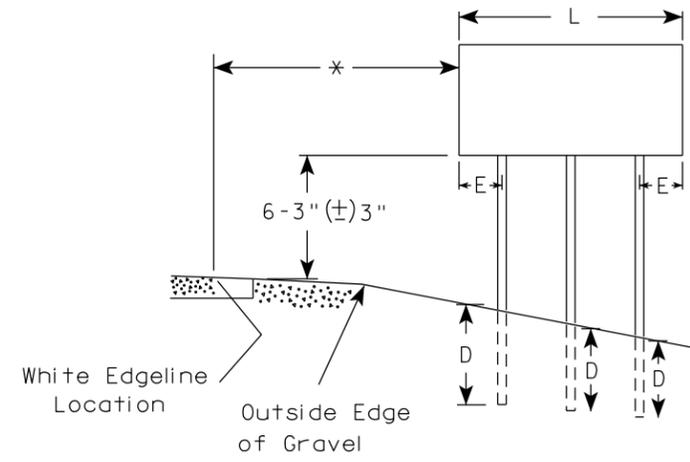
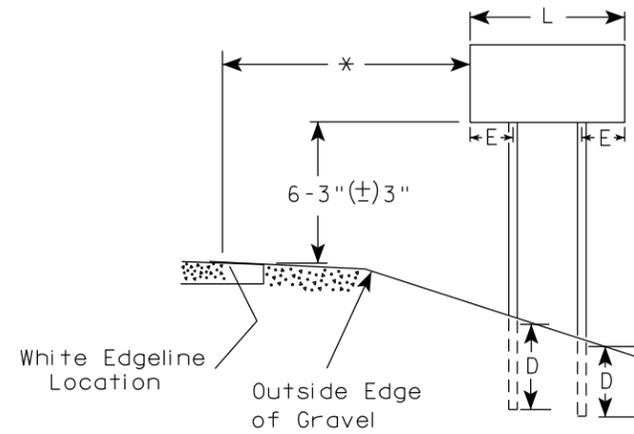
\*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of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

\*\*\* See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

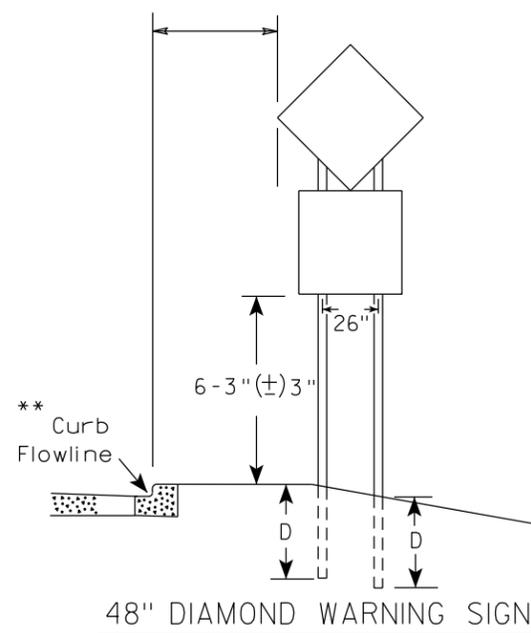
URBAN AREA



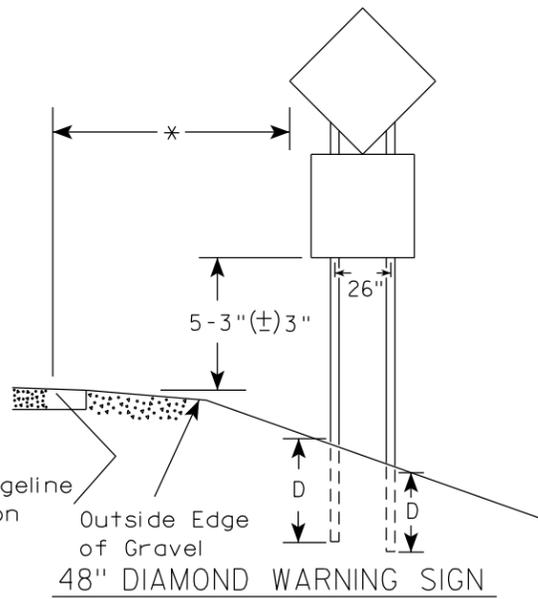
RURAL AREA (See Note 3)



URBAN AREA



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

\*\*\*

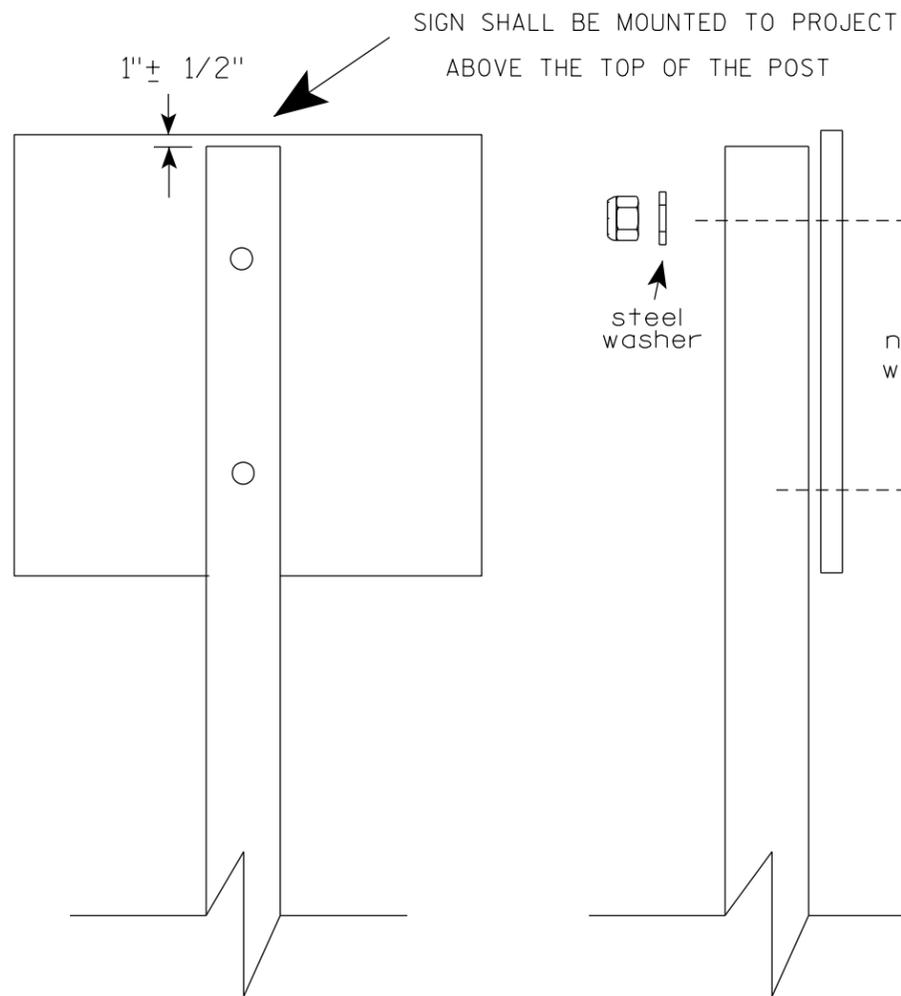
| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) |     |
|--|-----|
| L  | E   |
| Greater than 108"<br>to 144"                         | 12" |

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



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

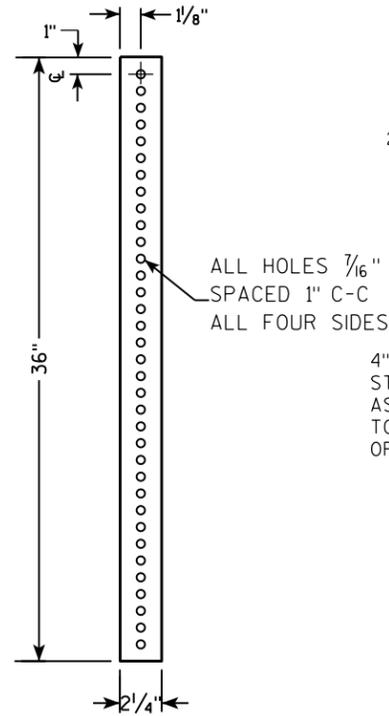
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

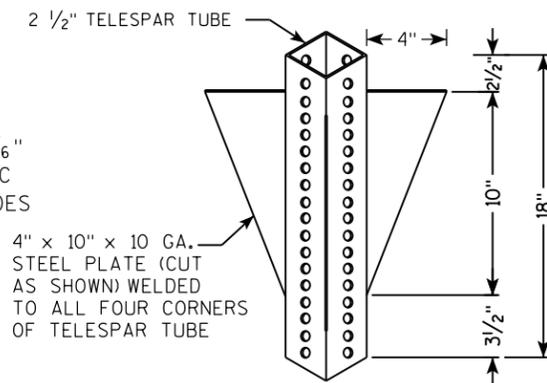
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

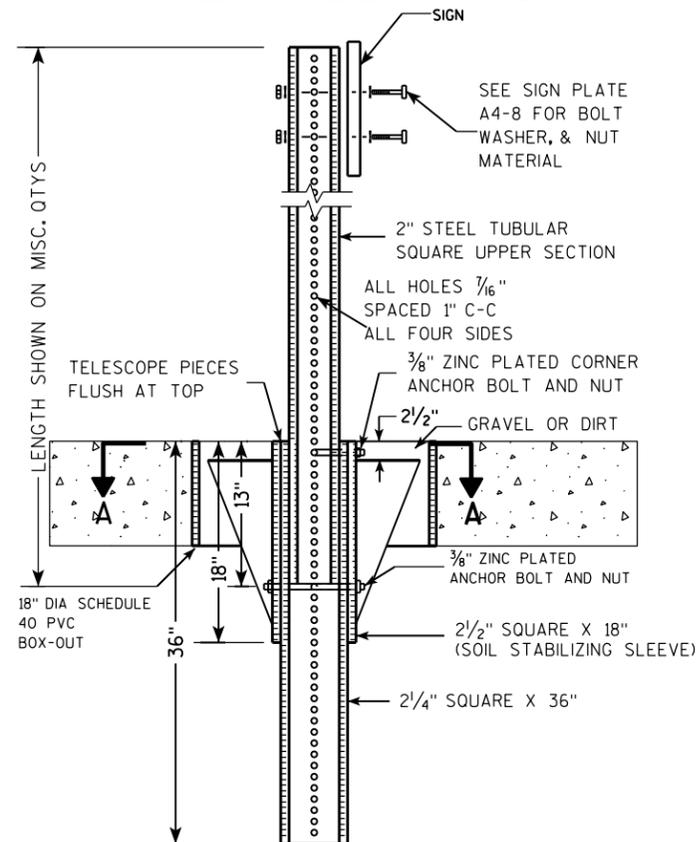
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



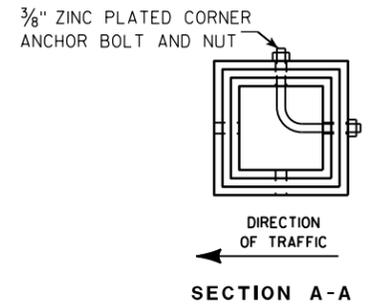
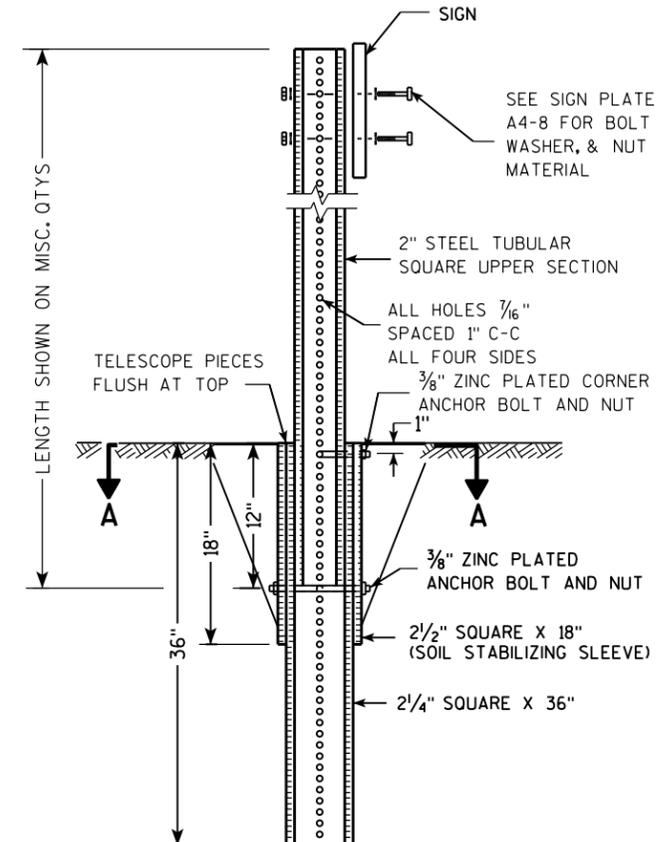
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



**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)**



| 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 NO. A4-9.9

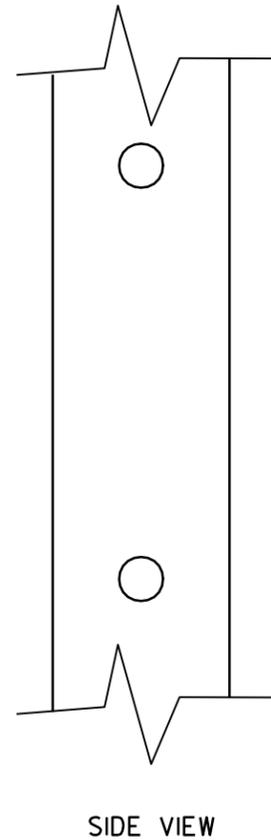
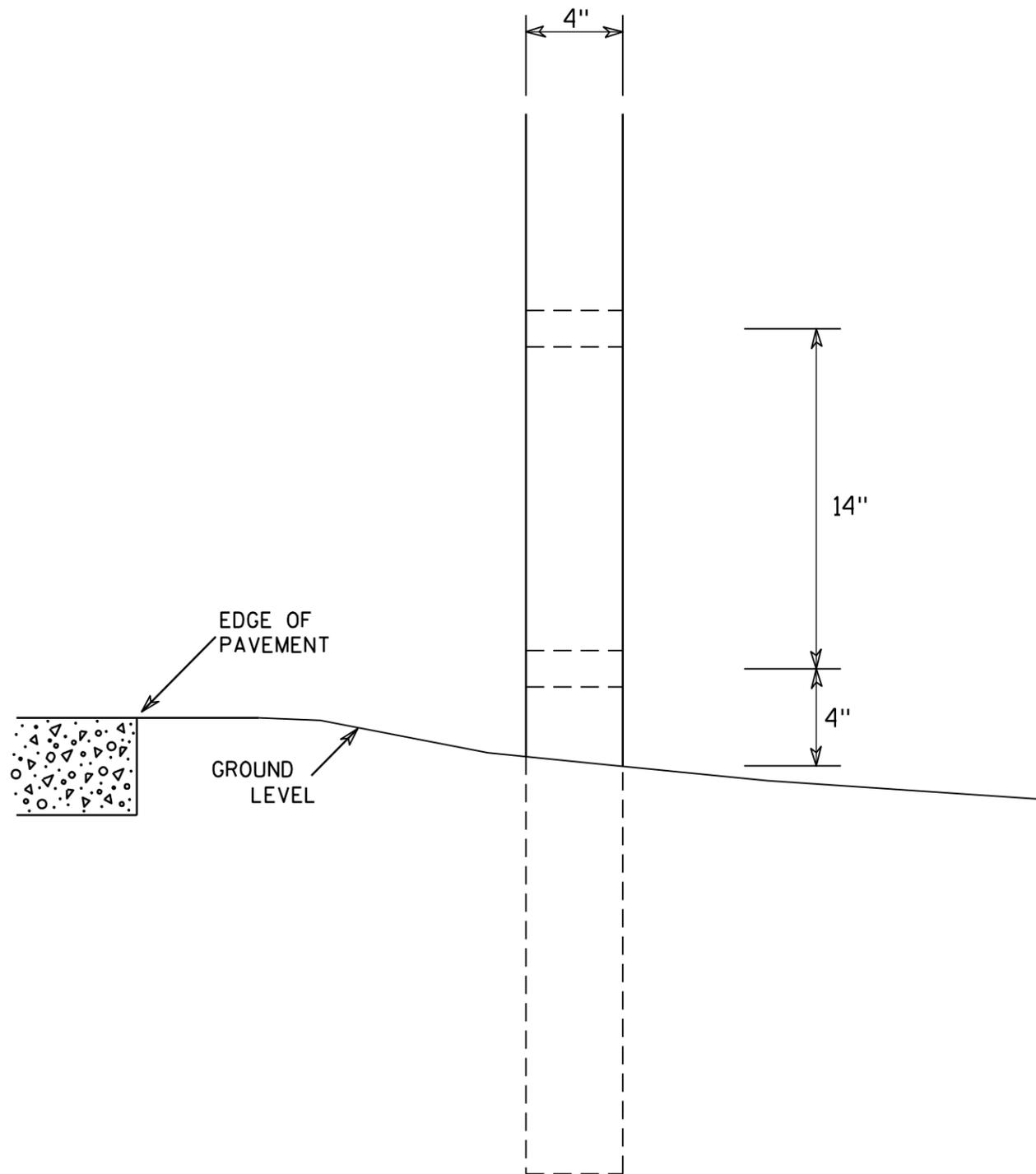
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

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

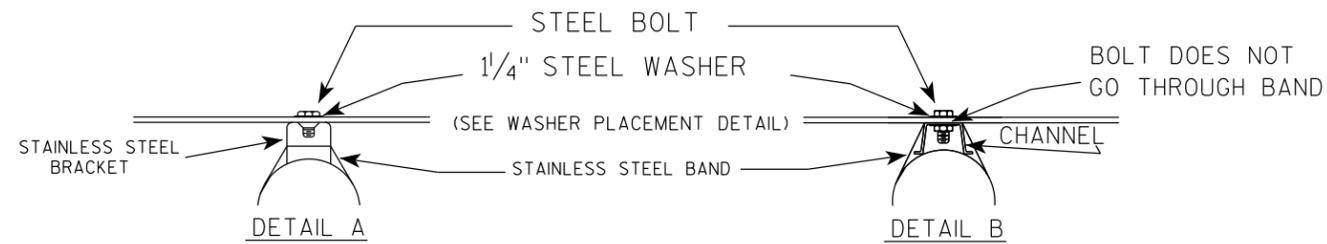
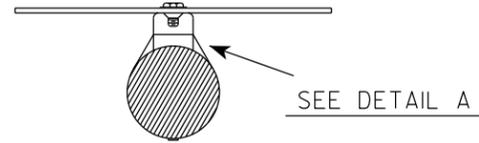
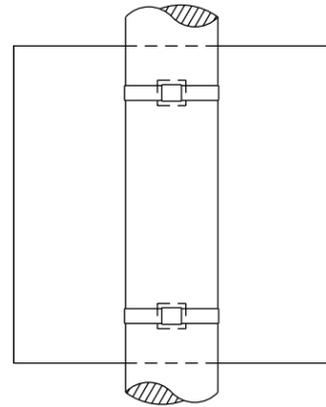
7

7

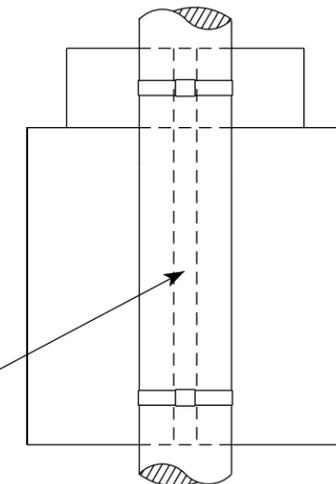
|  |  |
|--|--|
| <b>4 X 6 WOOD POST<br/>MODIFICATIONS</b> |  |
| <i>WISCONSIN DEPT OF TRANSPORTATION</i>  |  |
| APPROVED                                 | <i>Chester J Spang</i><br>for State Traffic Engineer |
| DATE <u>3/27/97</u>                      | PLATE NO. <u>A4-11.2</u>                             |

# BANDING

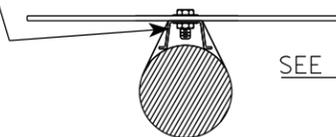
SINGLE SIGN



"J" ASSEMBLY

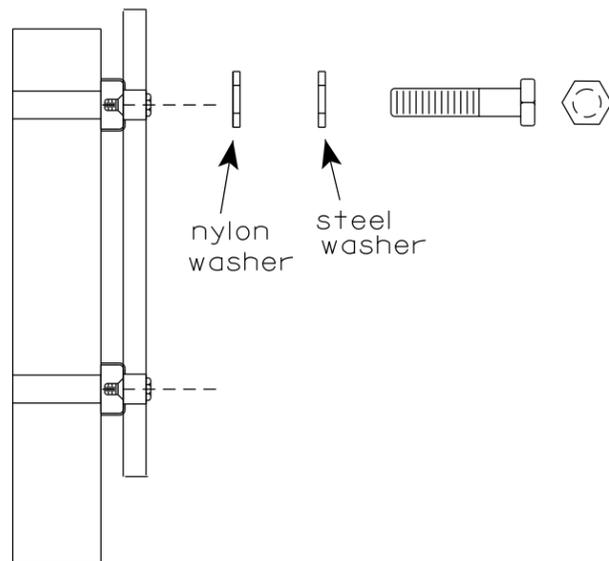


CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



- 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  $\frac{3}{4}$ " in width and 0.025" thickness.
  4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
    - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
    - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

WASHER PLACEMENT



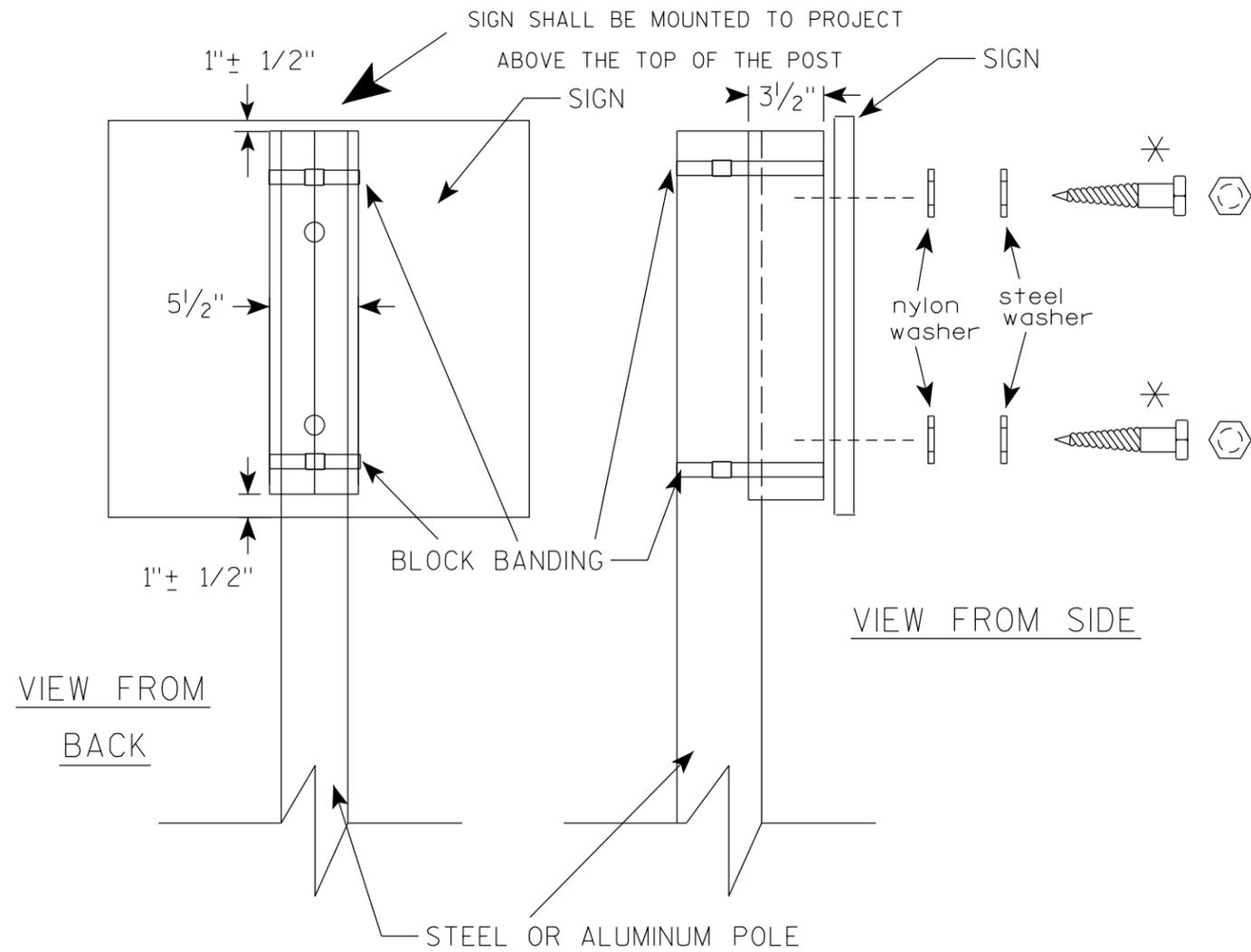
WASHERS (ALL POSTS) -  
 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
 FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

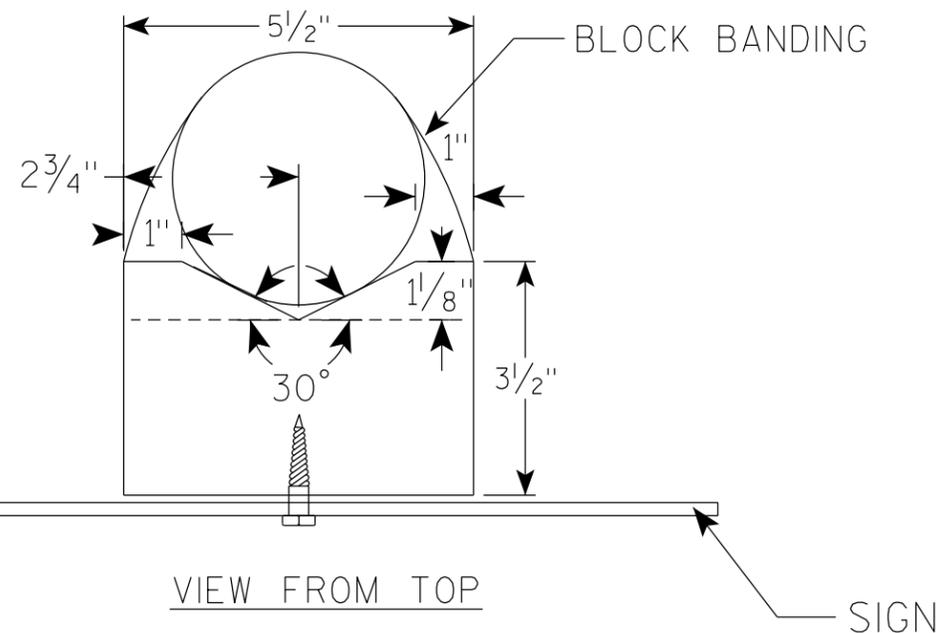
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM  
BACK

VIEW FROM SIDE

STEEL OR ALUMINUM POLE



VIEW FROM TOP

SIGN

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

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"

BLOCK BANDING DETAIL  
( V-BLOCK OPTION )

WISCONSIN DEPT OF TRANSPORTATION

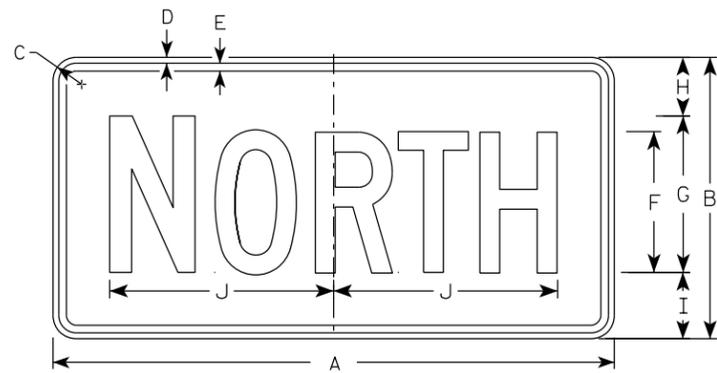
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

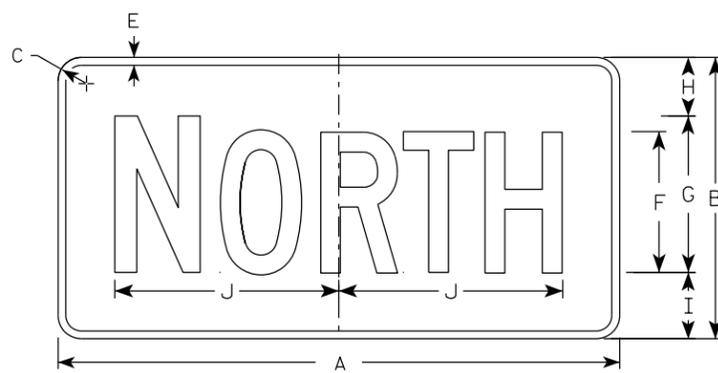
PROJECT NO:

SHEET NO:

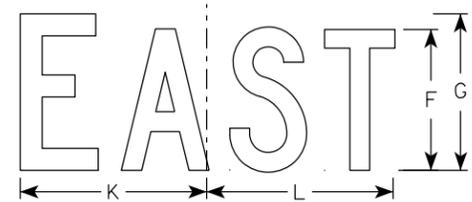
E



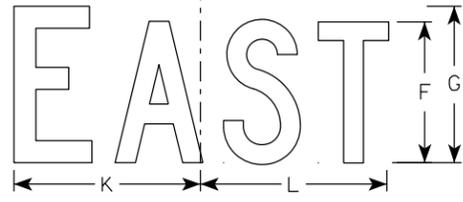
M3-1  
MM3-1  
MP3-1



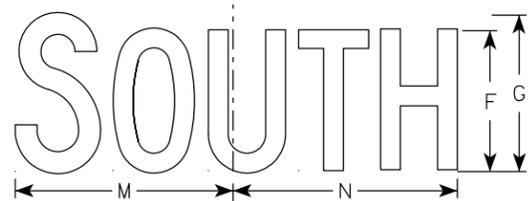
MB3-1  
MK3-1  
MN3-1



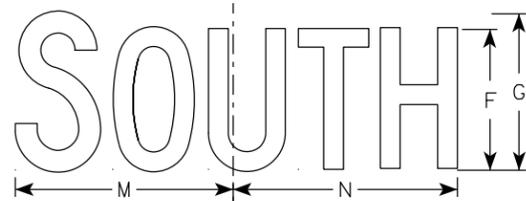
M3-2  
MM3-2  
MP3-2



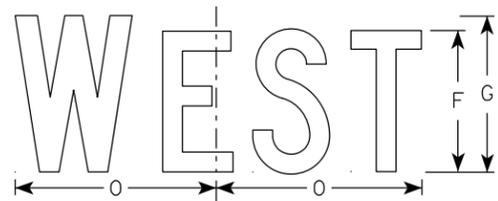
MB3-2  
MK3-2  
MN3-2



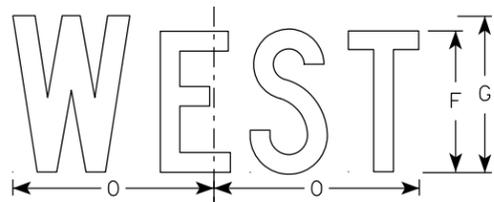
M3-3  
MM3-3  
MP3-3



MB3-3  
MK3-3  
MN3-3



M3-4  
MM3-4  
MP3-4



MB3-4  
MK3-4  
MN3-4

NOTES

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

7

7

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

STANDARD SIGNS  
M3-1 THRU M3-4  
SERIES

WISCONSIN DEPT OF TRANSPORTATION

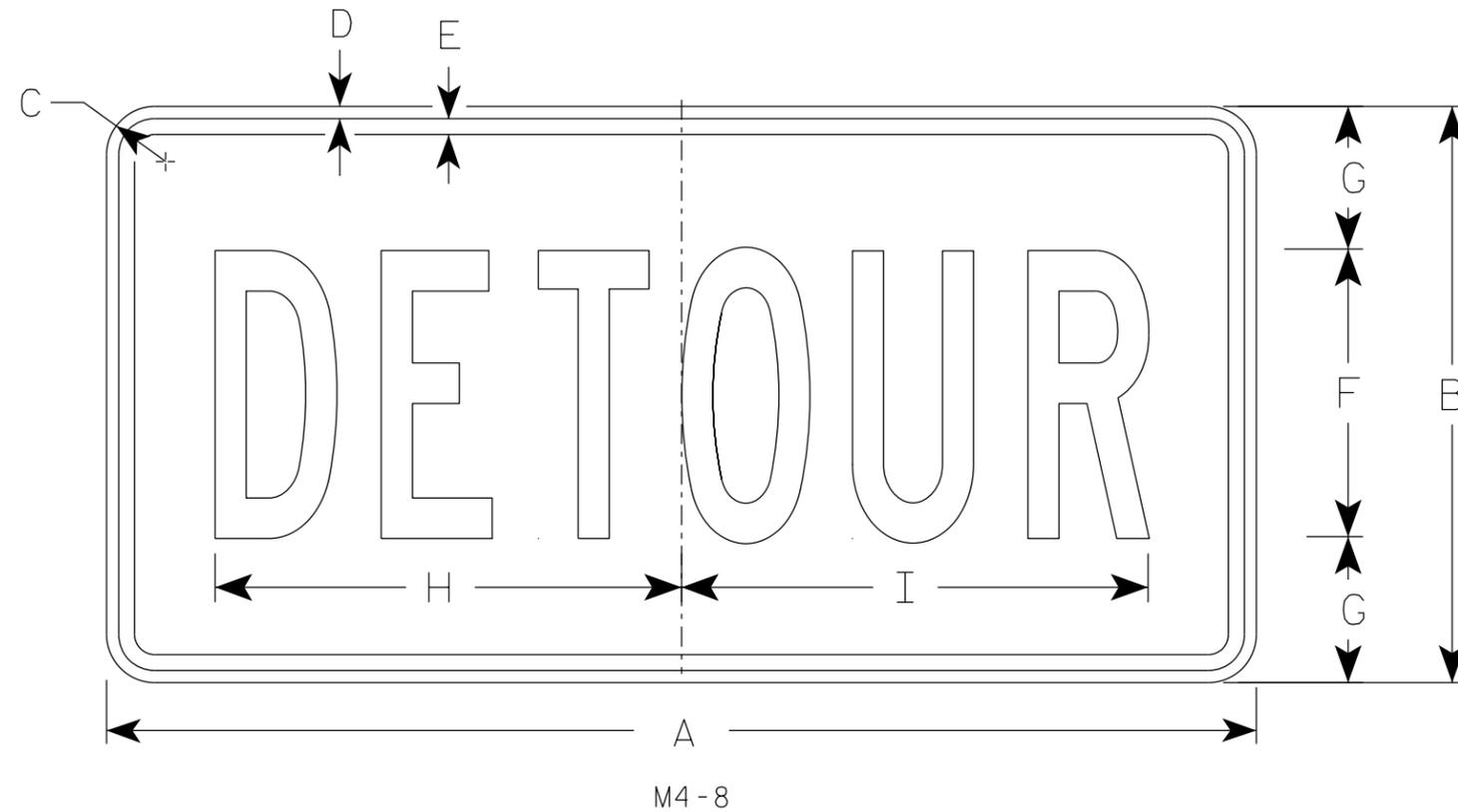
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

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



7

7

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

STANDARD SIGN  
M4-8

*WISCONSIN DEPT OF TRANSPORTATION*

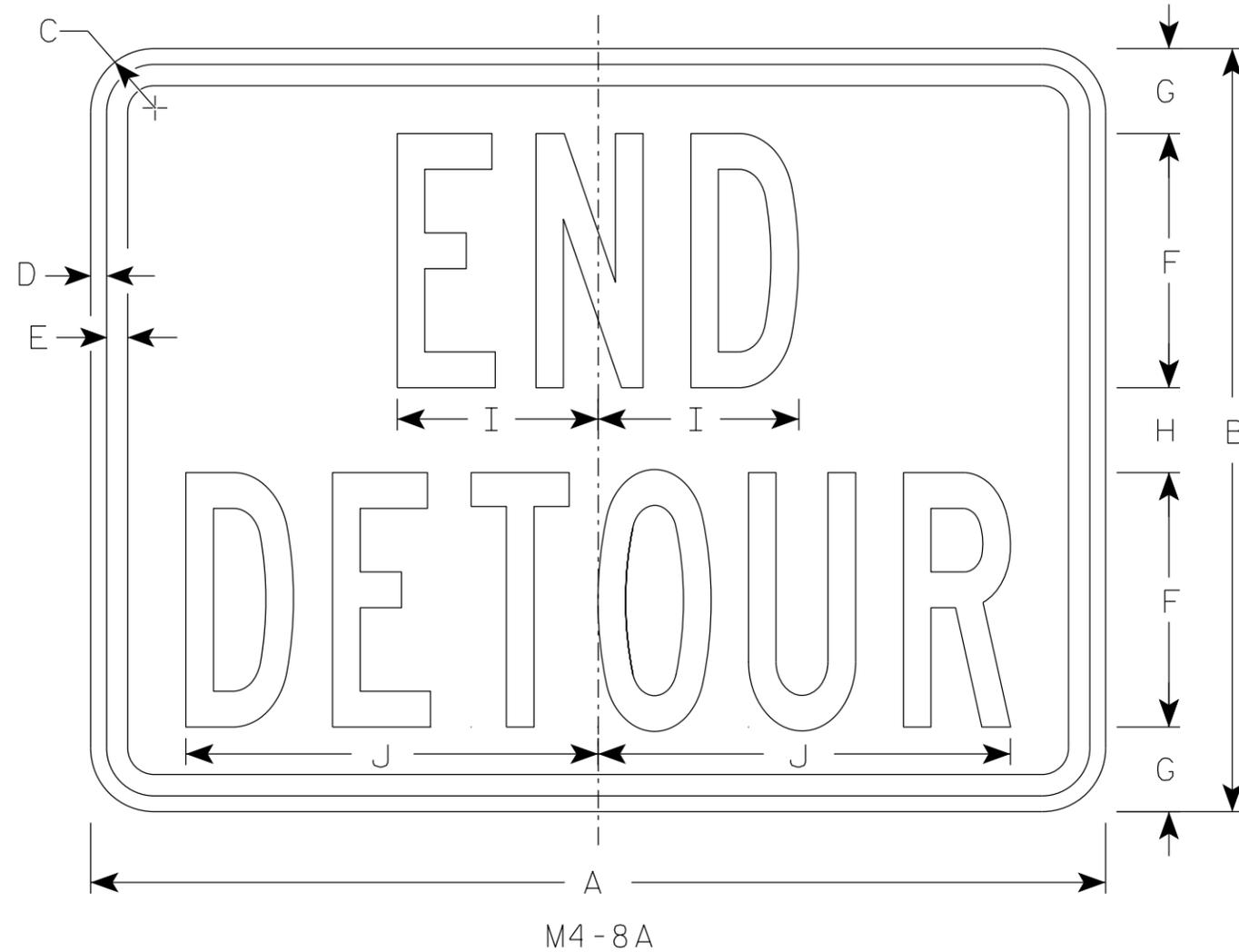
APPROVED *Matthew R Rauch*  
For State Traffic Engineer

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

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**

NOTES

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



M4-8A

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

STANDARD SIGN  
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

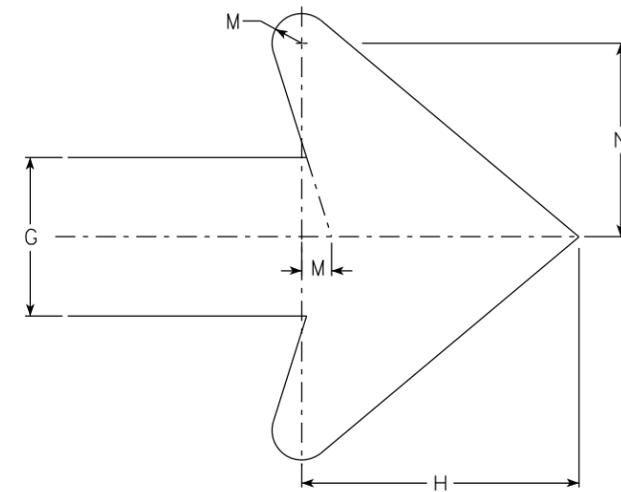
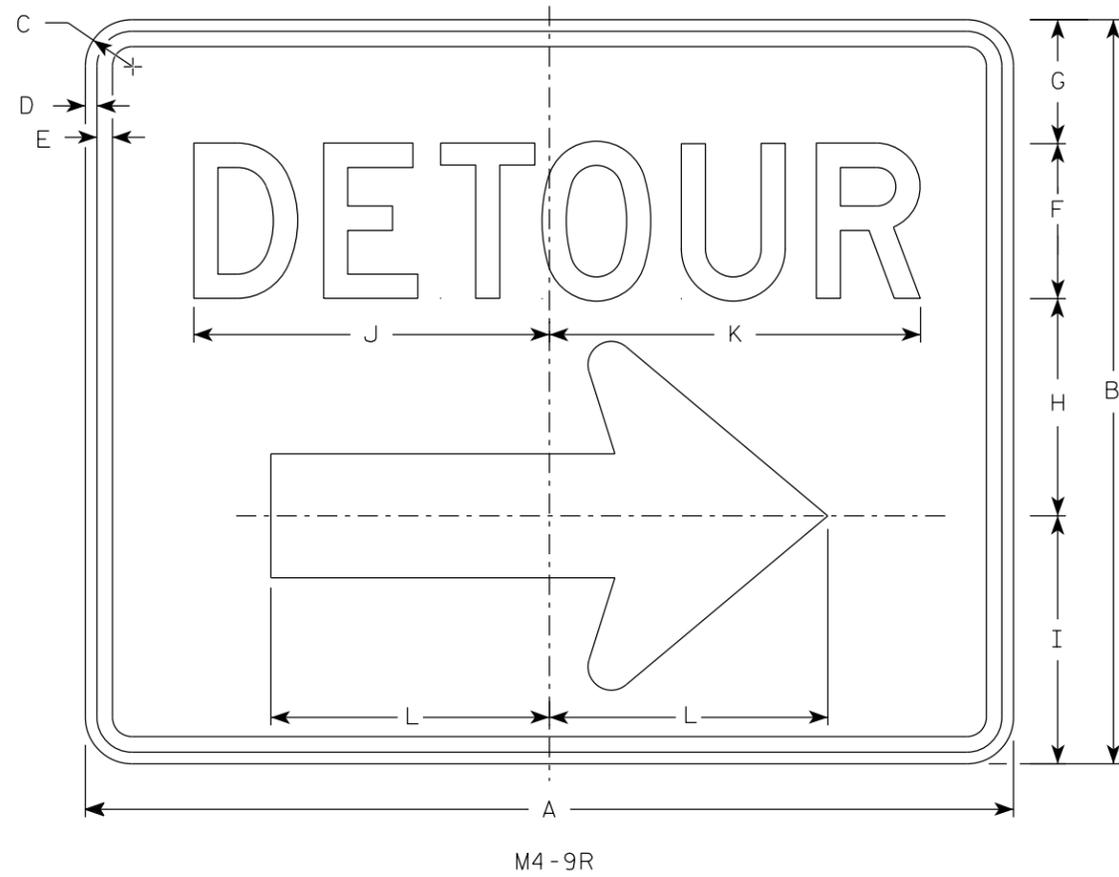
APPROVED *Matthew R Rauch*  
For State Traffic Engineer

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

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**

NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

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

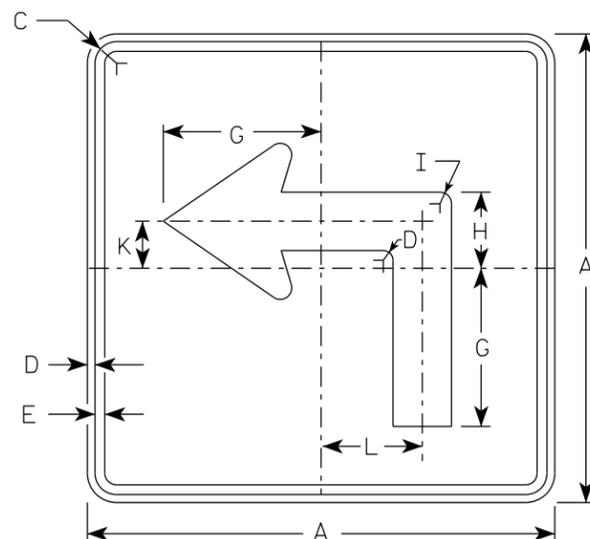
STANDARD SIGN  
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

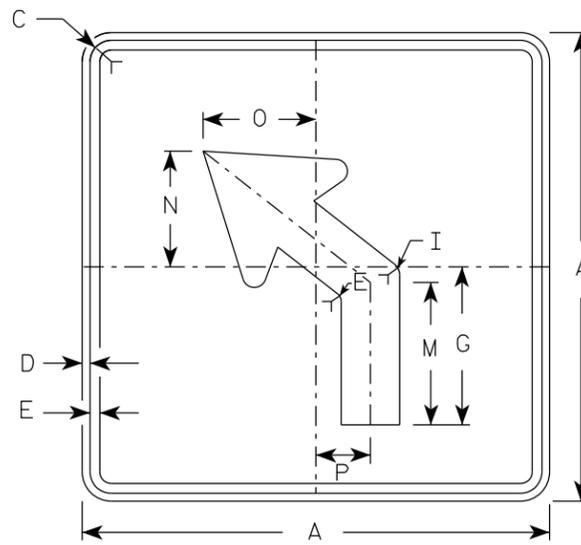
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

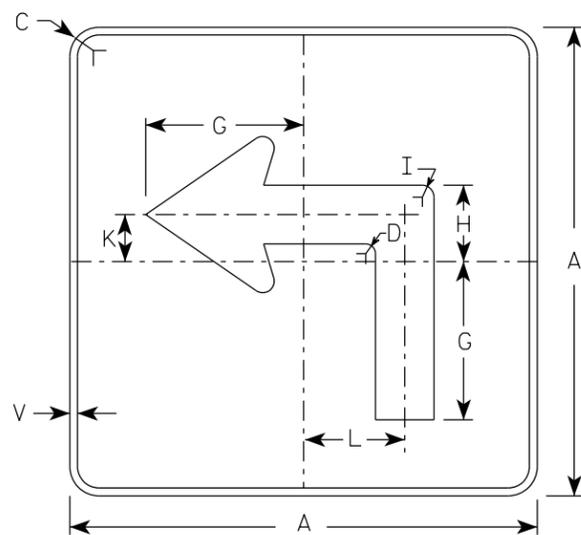
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



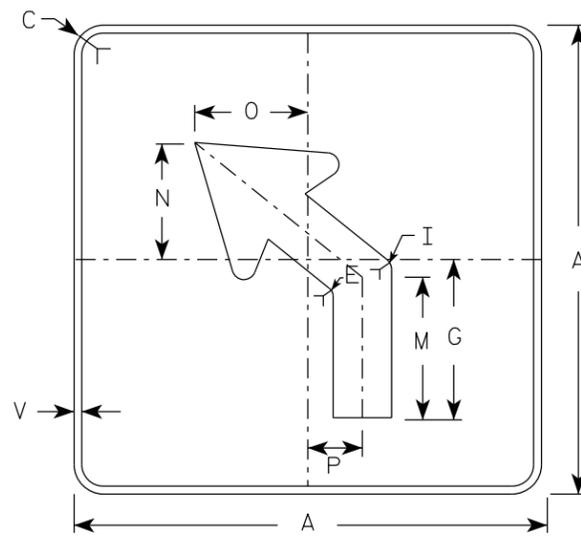
M5-1L  
MM5-1L  
M05-1L  
MP5-1L



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

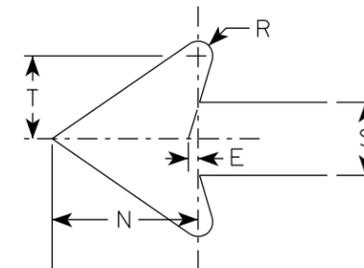


MB5-1L  
MK5-1L  
MN5-1L  
MR5-1L



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

ARROW DETAIL



NOTES

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

7

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| 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   | 21 |   | 1 1/2 | 3/8 | 3/8 |   | 7      | 3 3/8 | 5/8 |   | 2 1/8 | 4 1/2 | 6 3/8 | 5 1/4 | 5     | 2 1/2 |   | 1/2 | 2 5/8 | 3     |   | 1/2 |   |   |   |   | 3.06         |
| 2M   | 21 |   | 1 1/2 | 3/8 | 3/8 |   | 7      | 3 3/8 | 5/8 |   | 2 1/8 | 4 1/2 | 6 3/8 | 5 1/4 | 5     | 2 1/2 |   | 1/2 | 2 5/8 | 3     |   | 1/2 |   |   |   |   | 3.06         |
| 3    | 30 |   | 1 7/8 | 1/2 | 5/8 |   | 10 1/8 | 4 7/8 | 7/8 |   | 3     | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 |   | 3/4 | 3 3/4 | 4 1/4 |   | 1/2 |   |   |   |   | 6.25         |
| 4    | 30 |   | 1 7/8 | 1/2 | 5/8 |   | 10 1/8 | 4 7/8 | 7/8 |   | 3     | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 |   | 3/4 | 3 3/4 | 4 1/4 |   | 1/2 |   |   |   |   | 6.25         |
| 5    | 30 |   | 1 7/8 | 1/2 | 5/8 |   | 10 1/8 | 4 7/8 | 7/8 |   | 3     | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 |   | 3/4 | 3 3/4 | 4 1/4 |   | 1/2 |   |   |   |   | 6.25         |

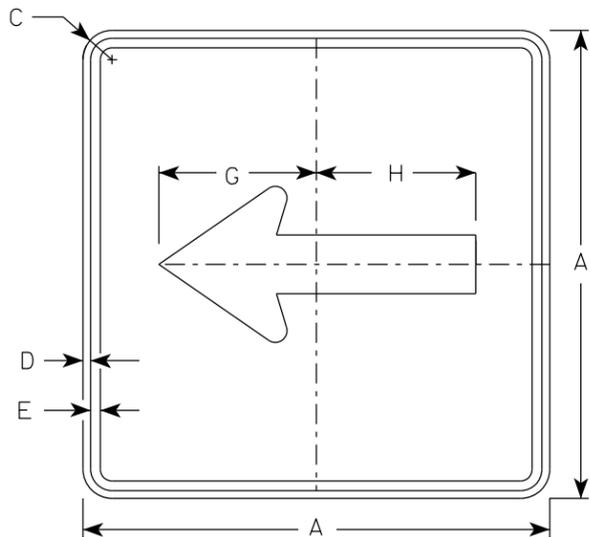
STANDARD SIGN  
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

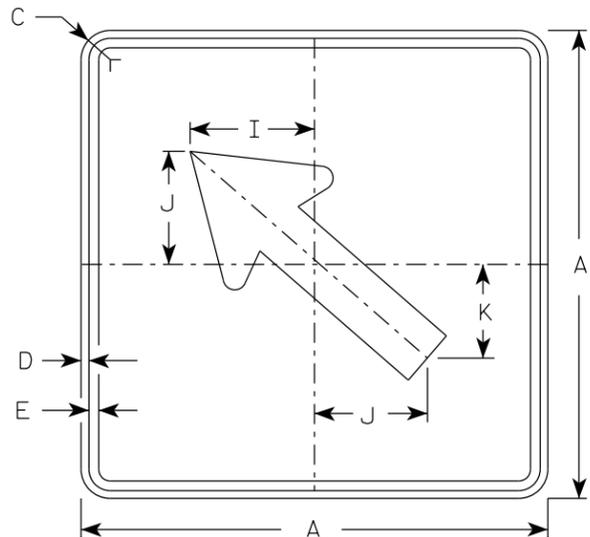
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

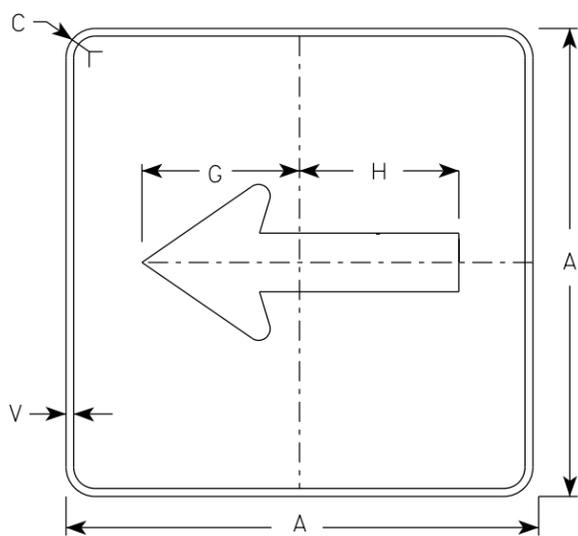
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



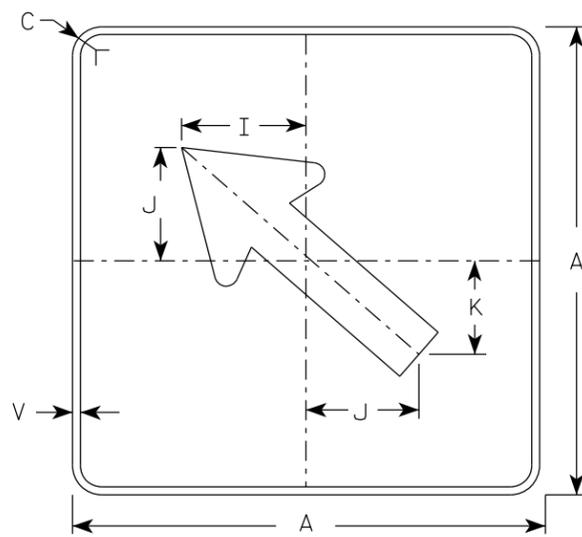
M6-1  
MM6-1  
M06-1  
MP6-1



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



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

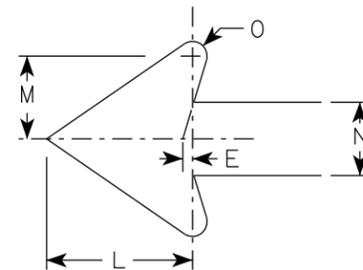


MB6-2  
MK6-2  
MN6-2  
MR6-2

**NOTES**

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

**ARROW DETAIL**



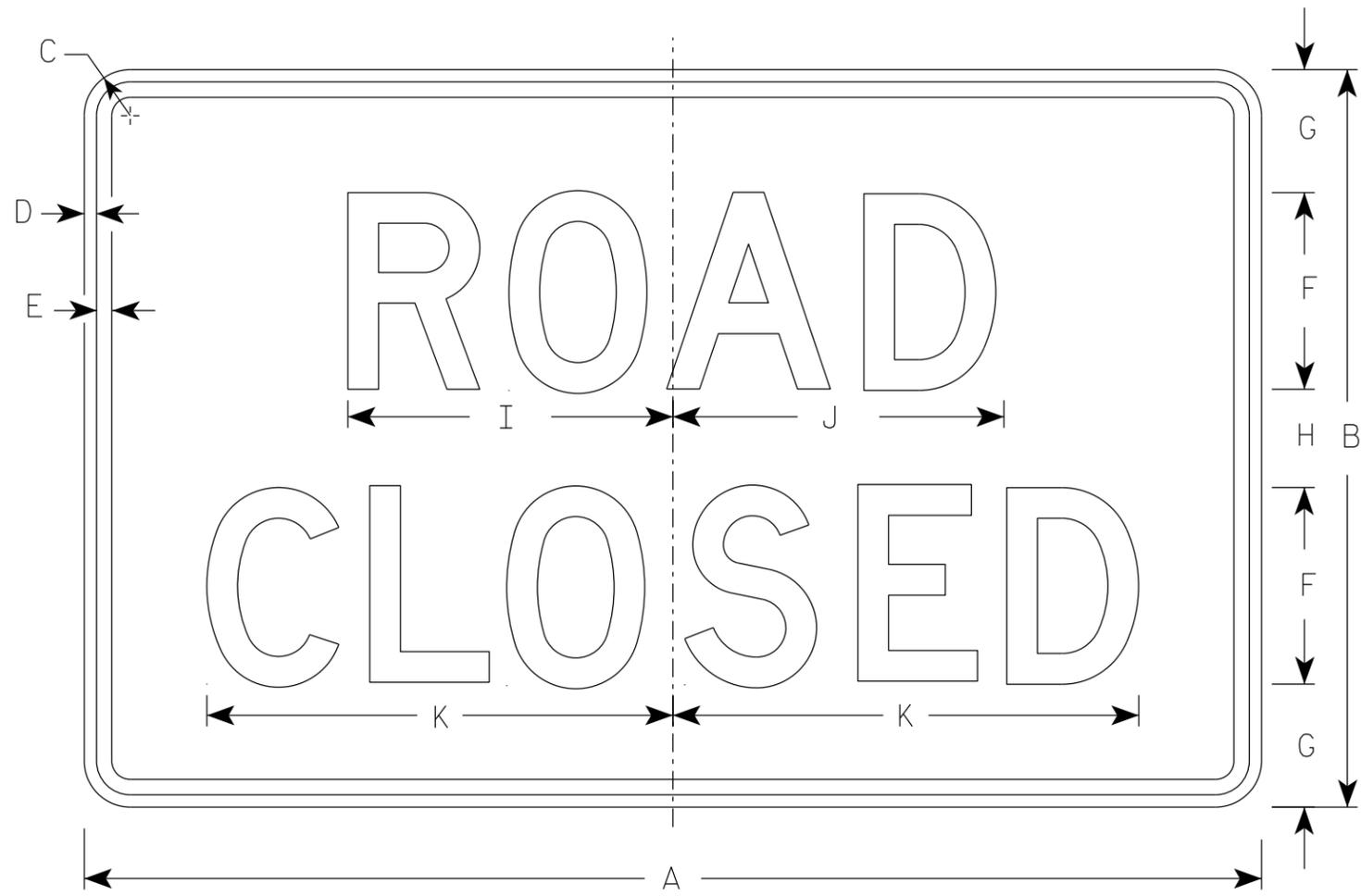
| SIZE | A  | B | C     | D   | E   | F | G      | H      | I     | J     | K     | L     | M     | N     | O   | P | Q | R | S | T | U | V   | W | X | Y | Z | Area sq. ft. |
|------|----|---|-------|-----|-----|---|--------|--------|-------|-------|-------|-------|-------|-------|-----|---|---|---|---|---|---|-----|---|---|---|---|--------------|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

STANDARD SIGN  
M6-1 & M6-2  
SERIES

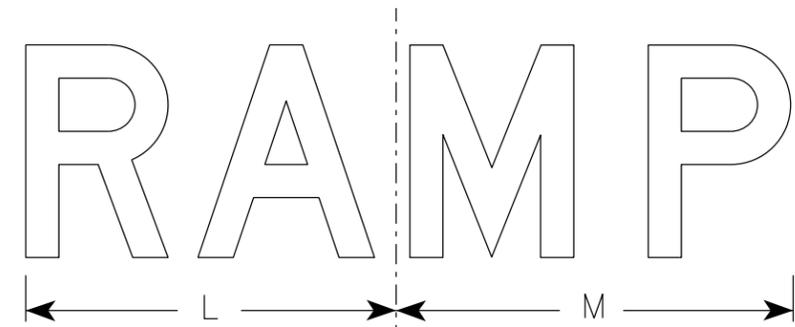
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

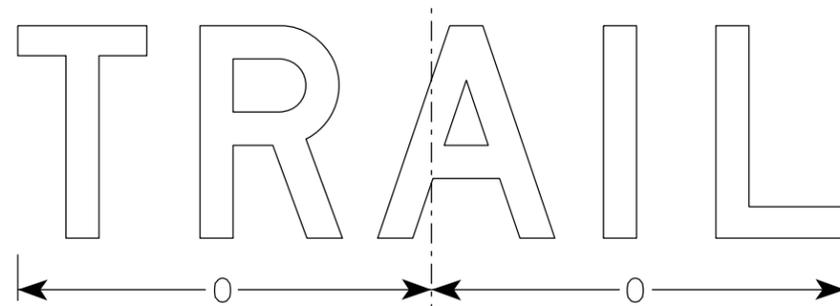
DATE 2/13/2023 PLATE NO. M6-1.16



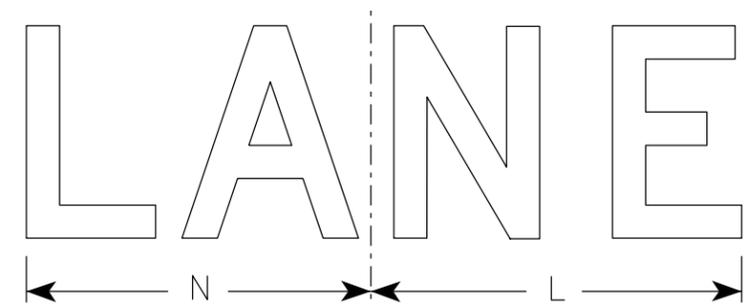
R11-2



R11-2R



R11-2T



R11-2L

NOTES

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

7

7

| SIZE | A  | B  | C     | D   | E   | F | G | H | I      | J      | K  | L  | M  | N  | O      | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|---|---|--------|--------|----|----|----|----|--------|---|---|---|---|---|---|---|---|---|---|---|--------------|
| 1    |    |    |       |     |     |   |   |   |        |        |    |    |    |    |        |   |   |   |   |   |   |   |   |   |   |   |              |
| 2S   | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 |   |   |   |   |   |   |   |   |   |   |   | 10.0         |
| 2M   | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 |   |   |   |   |   |   |   |   |   |   |   | 10.0         |
| 3    | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 |   |   |   |   |   |   |   |   |   |   |   | 10.0         |
| 4    | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 |   |   |   |   |   |   |   |   |   |   |   | 10.0         |
| 5    | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 |   |   |   |   |   |   |   |   |   |   |   | 10.0         |

STANDARD SIGN  
R11-2

WISCONSIN DEPT OF TRANSPORTATION

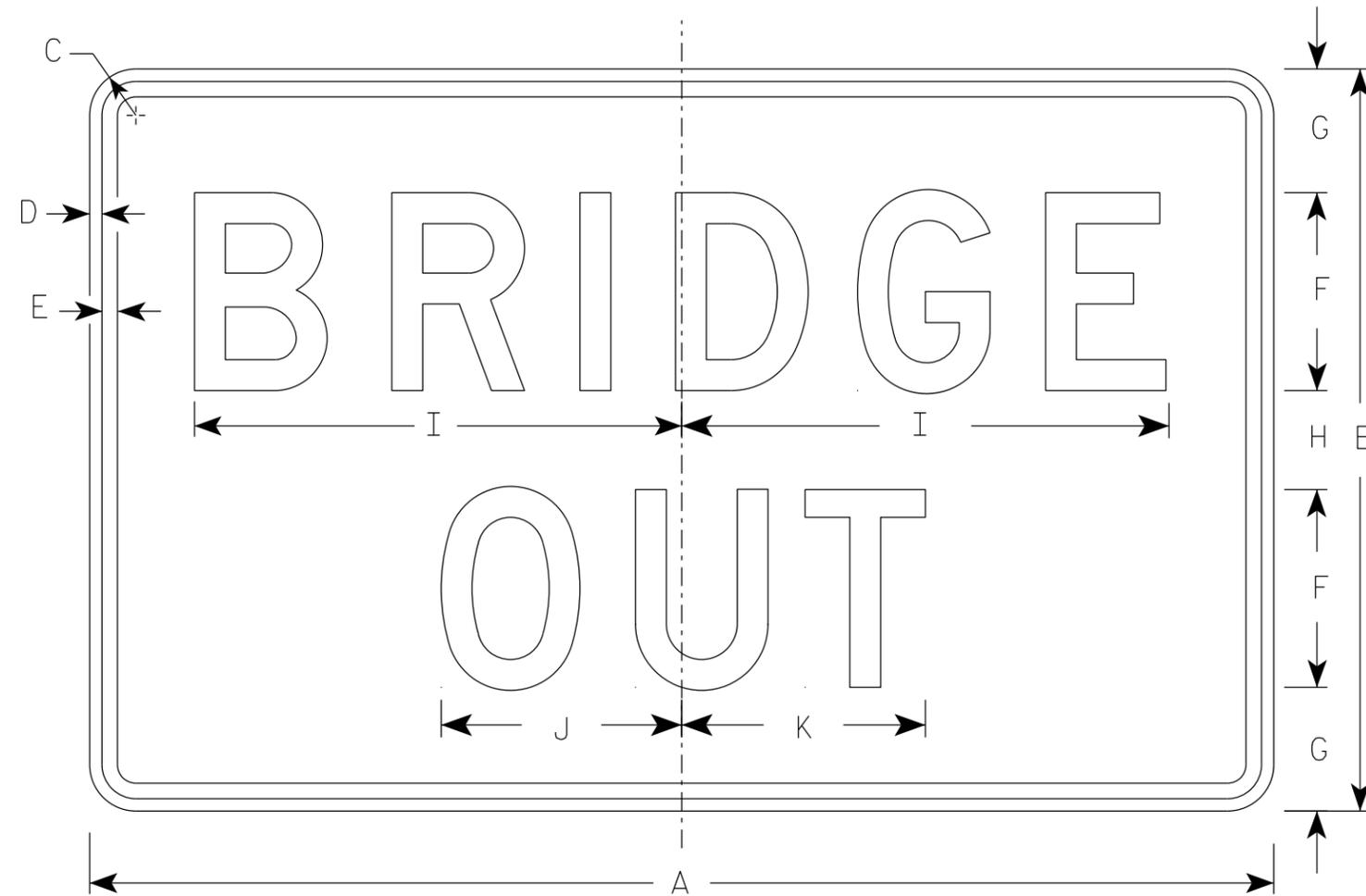
APPROVED *Matthew R Rauch*  
For State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-2.12

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

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



R11-2B

7

7

| SIZE | A  | B  | C     | D   | E   | F | G | H | I      | J     | K     | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|---|---|--------|-------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |   |   |        |       |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 2M   | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 3    | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 4    | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 5    | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.0            |

STANDARD SIGN  
R11-2B

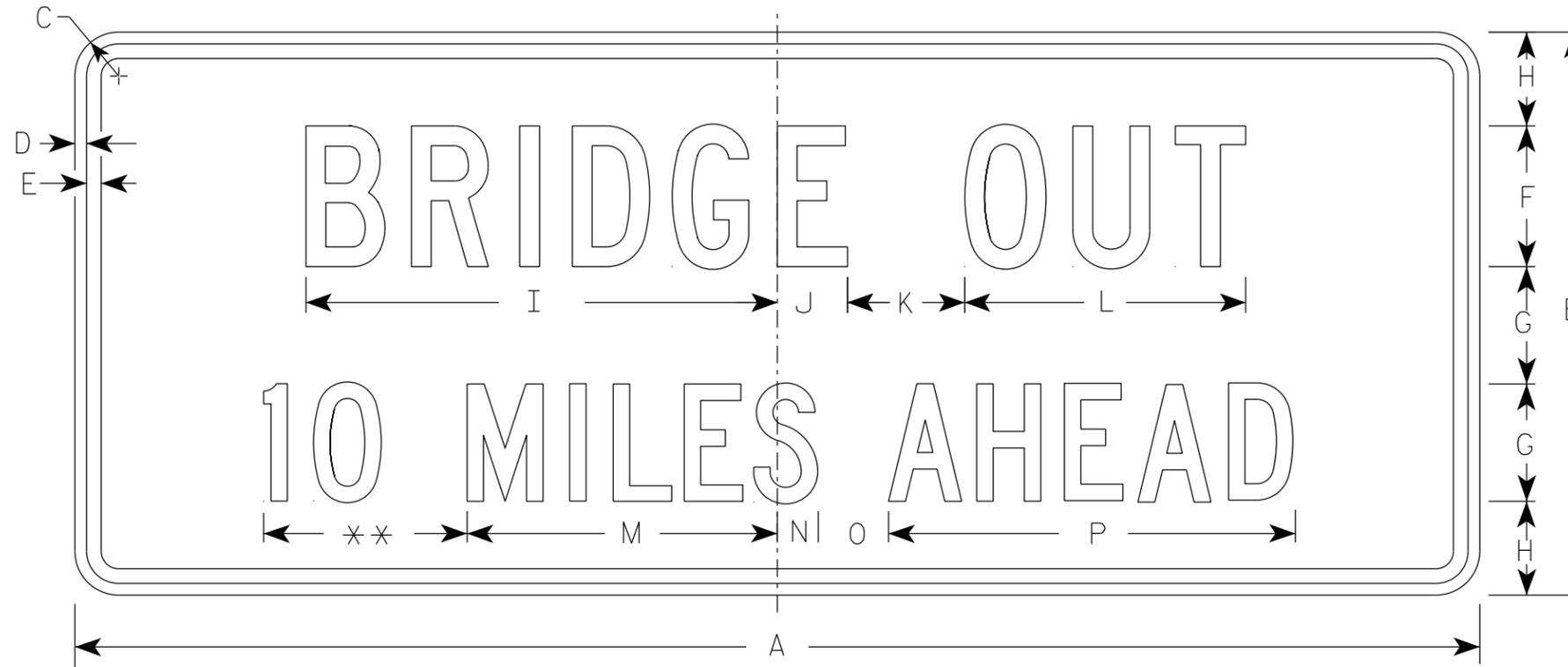
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-2B.3

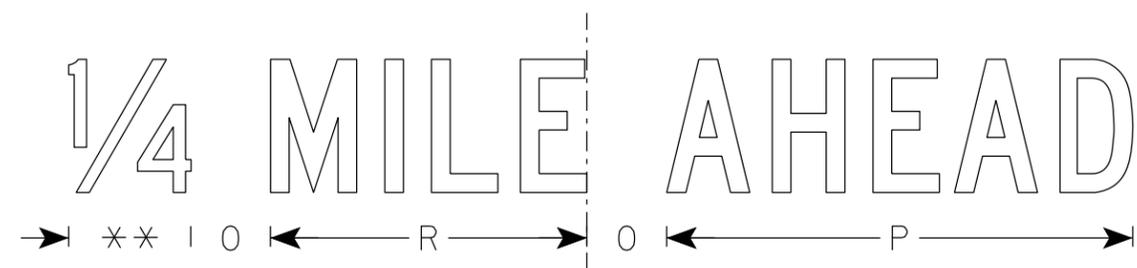
NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

\*\* See Note 5



| SIZE | A  | B  | C     | D   | E   | F | G | H     | I      | J     | K | L  | M      | N     | O | P      | Q | R      | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|---|-------|--------|-------|---|----|--------|-------|---|--------|---|--------|---|---|---|---|---|---|---|---|-----------------|
| 1    | 36 | 15 | 1 1/2 | 1/2 | 5/8 | 4 | 3 | 2 1/2 | 13 1/4 | 2 1/4 | 3 | 8  | 8      | 1 1/2 | 2 | 10 3/4 |   | 7 1/8  |   |   |   |   |   |   |   |   | 3.75            |
| 2S   | 60 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 5 | 4     | 20 1/8 | 3     | 5 | 12 | 13 1/4 | 1 3/4 | 3 | 17 3/8 |   | 11 7/8 |   |   |   |   |   |   |   |   | 10.0            |
| 2M   | 60 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 5 | 4     | 20 1/8 | 3     | 5 | 12 | 13 1/4 | 1 3/4 | 3 | 17 3/8 |   | 11 7/8 |   |   |   |   |   |   |   |   | 10.0            |
| 3    |    |    |       |     |     |   |   |       |        |       |   |    |        |       |   |        |   |        |   |   |   |   |   |   |   |   |                 |
| 4    |    |    |       |     |     |   |   |       |        |       |   |    |        |       |   |        |   |        |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |     |   |   |       |        |       |   |    |        |       |   |        |   |        |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

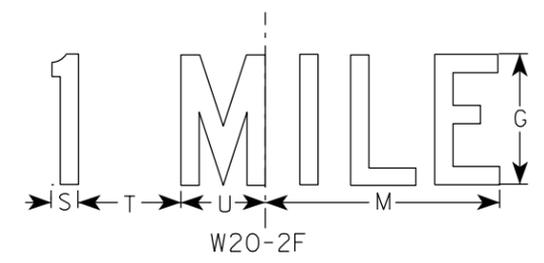
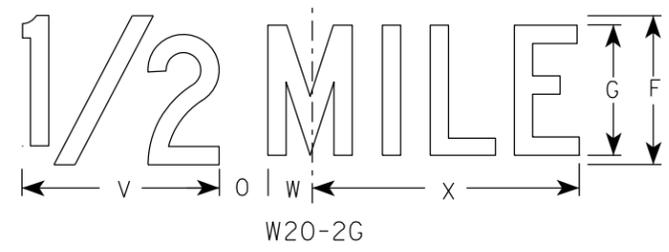
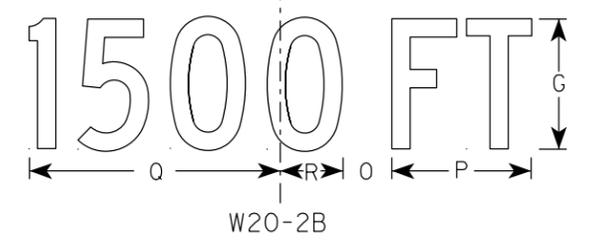
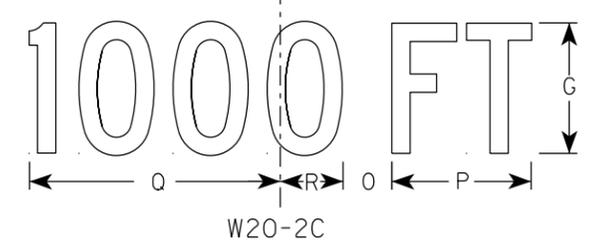
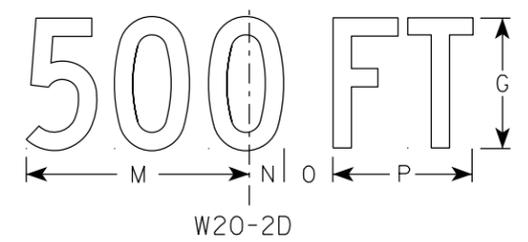
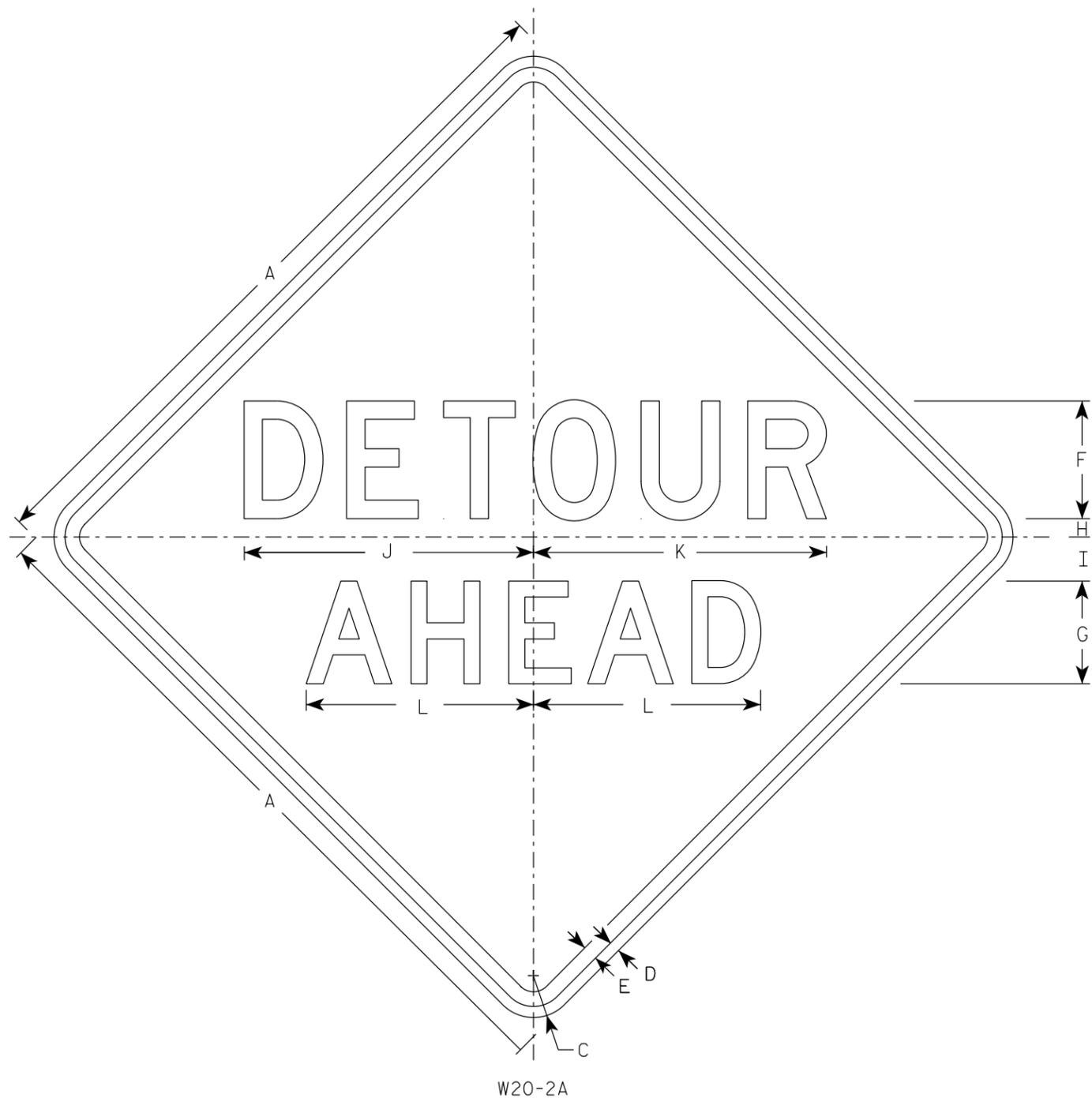
APPROVED  
*Matthew R. Raub*  
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3C.4

PROJECT NO:

SHEET NO:

E



NOTES

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

7

7

| SIZE | A  | B | C     | D   | E   | F | G | H     | I     | J      | K  | L      | M  | N     | O     | P     | Q      | R     | S     | T     | U     | V      | W     | X      | Y | Z | Area sq. ft. |
|------|----|---|-------|-----|-----|---|---|-------|-------|--------|----|--------|----|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|--------|---|---|--------------|
| 1    | 36 |   | 2 1/4 | 5/8 | 3/4 | 6 | 5 | 1     | 2 1/4 | 14 3/4 | 15 | 11 5/8 | 9  | 1 3/8 | 1 7/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 1/8 | 4 1/2 | 3 1/2 | 8      | 1 3/4 | 10 3/4 |   |   | 9.0          |
| 2S   | 48 |   | 3     | 3/4 | 1   | 8 | 7 | 1 1/4 | 3     | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6     | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 |   |   | 16.0         |
| 2M   | 48 |   | 3     | 3/4 | 1   | 8 | 7 | 1 1/4 | 3     | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6     | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 |   |   | 16.0         |
| 3    | 48 |   | 3     | 3/4 | 1   | 8 | 7 | 1 1/4 | 3     | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6     | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 |   |   | 16.0         |
| 4    | 48 |   | 3     | 3/4 | 1   | 8 | 7 | 1 1/4 | 3     | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6     | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 |   |   | 16.0         |
| 5    | 48 |   | 3     | 3/4 | 1   | 8 | 7 | 1 1/4 | 3     | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6     | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 |   |   | 16.0         |

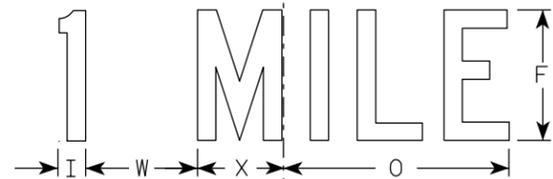
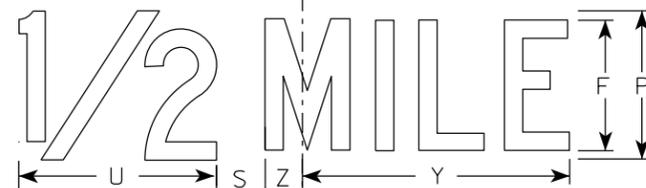
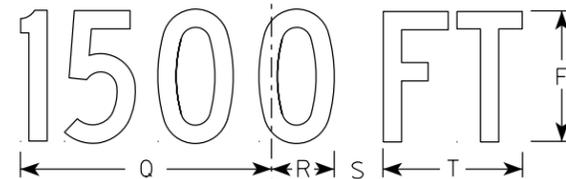
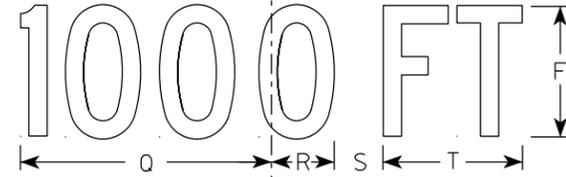
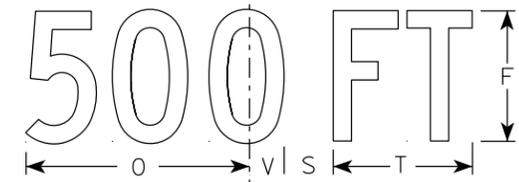
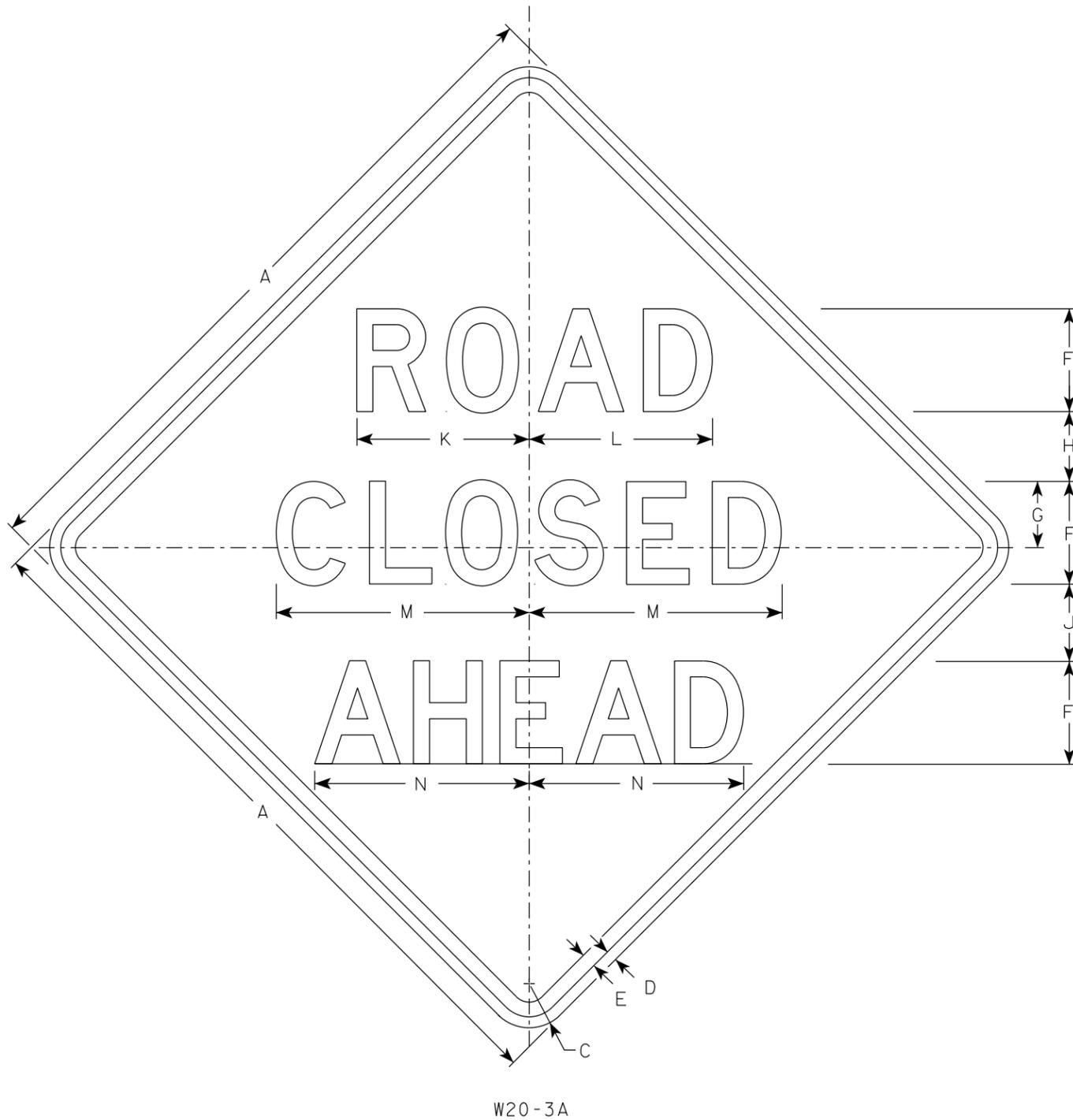
STANDARD SIGN  
W20-2A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-2.7

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



**NOTES**

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.  
Line 3 is Series D for AHEAD and Series C for all other distances.

7

7

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

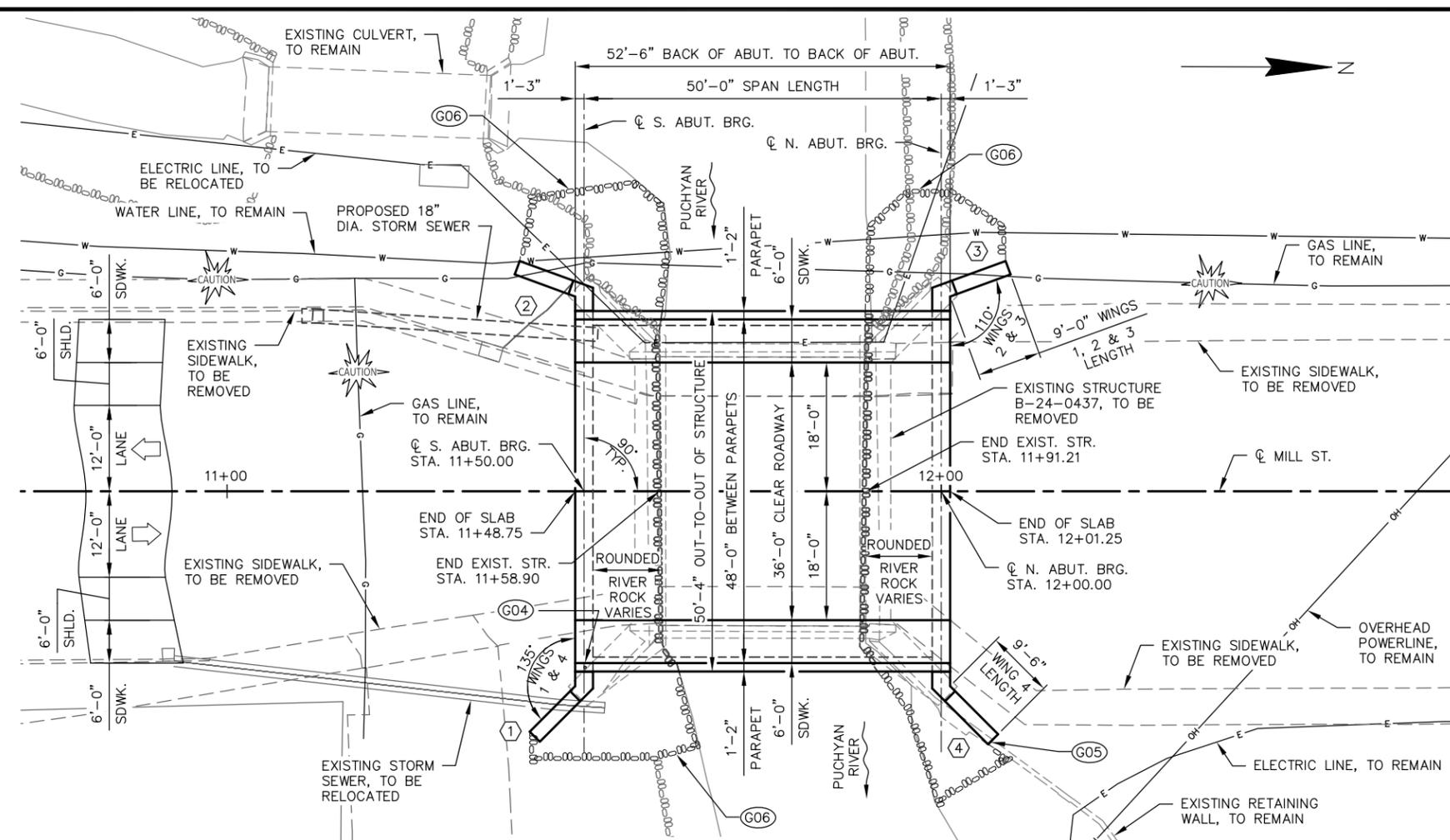
STANDARD SIGN  
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

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

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



**PLAN B-24-46**  
(SINGLE SPAN CONCRETE FLAT SLAB BRIDGE)

**NOTES**

- EXCAVATION AS INDICATED IN THE HATCH AREAS, TO BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-24-46".
- G01 BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCLUDED WITH BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-24-46". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- G02 "GEOTEXTILE TYPE DF SCHEDULE A" LIMITS. EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT FOR THE ENTIRE ABUTMENT BODY LENGTH.
- G03 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED IN "SOUTH ABUT. REINFORCEMENT" SHEET.
- G04 NAME PLATE REQUIRED AND BENCH MARK CAP (WHEN SUPPLIED) NEAR WING 1. FOR LOCATION SEE "VERTICAL FACE PARAPET 'TX'" SHEET.
- G05 REMOVE PORTION OF EXISTING RETAINING WALL (COST TO BE INCLUDED IN BID ITEM "REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-24-437"). PLACE 1" FILLER BETWEEN EXISTING RETAINING WALL AND END OF WING 4.
- G06 MATCH NEW ROUNDED RIVER ROCK INTO EXISTING ROUNDED RIVER ROCK. SEE "ROUNDED RIVER ROCK LAYOUT" SHEET.
- INDICATES WING NUMBER

**DESIGN DATA**

**LIVE LOAD:**

DESIGN LOADING ————— HL-93  
 INVENTORY RATING FACTOR ——— RF=1.28  
 OPERATING RATING FACTOR ——— RF=1.66  
 WISCONSIN STANDARD PERMIT  
 VEHICLE RATING (WIS.-SPV): — 250 KIPS

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

**MATERIAL PROPERTIES:**

CONCRETE MASONRY, SLAB —  $f_c = 4,000$  P.S.I.  
 ALL OTHER —————  $f_c = 3,500$  P.S.I.  
 HIGH-STRENGTH BAR STEEL  
 REINFORCEMENT —————  $f_y = 60,000$  P.S.I.

**FOUNDATION DATA:**

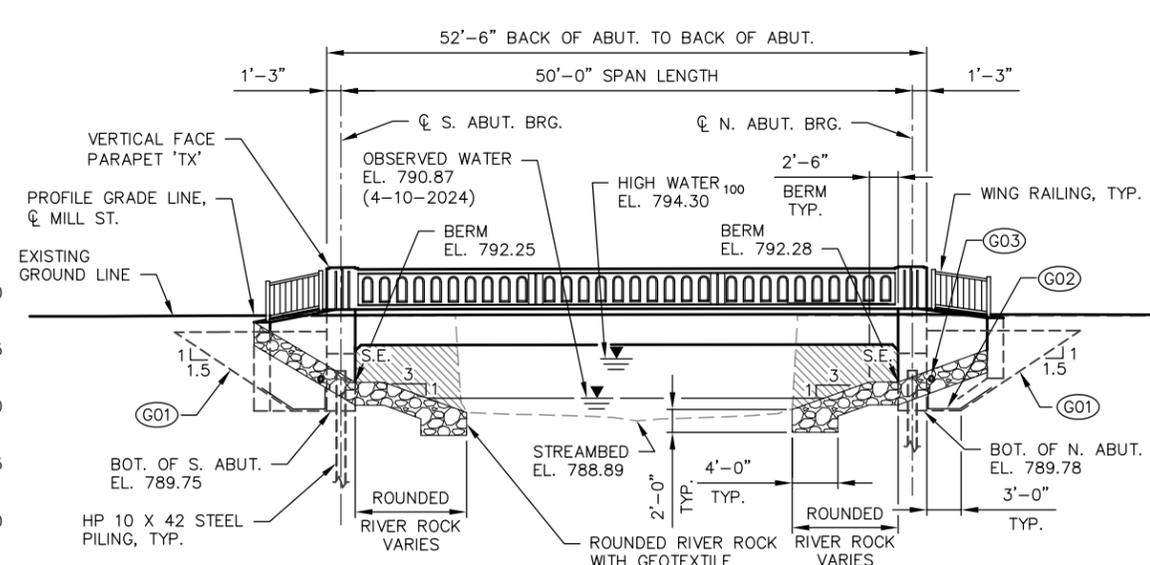
ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 3 FT MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 180 TONS AT THE SOUTH ABUTMENT AND 170 TONS AT THE NORTH ABUTMENT MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 15 FT PILE LENGTHS AT ABUTMENTS.

**HYDRAULIC DATA:**

100 YEAR DESIGN FREQUENCY:  
 $Q_{100}$  ————— 1,300 C.F.S.  
 $Q_{100}$  (THRU BRIDGE) ——— 1,050 C.F.S.  
 $Q_{100}$  (SIDE CHANNEL) ——— 250 C.F.S.  
 DRAINAGE AREA ——— 103 SQ. MI.  
 BRIDGE WATER AREA ——— 170 SQ. FT.  
 BRIDGE VELOCITY ——— 6.17 F.P.S.  
 HIGH WATER 100 EL. ——— 794.30 FT.  
 ROADWAY OVERTOPPING — NA  
 SCOUR CRITICAL CODE — 5  
 $Q_2$  ————— 500 C.F.S.  
 $Q_2$  (THRU BRIDGE) ——— 400 C.F.S.  
 $Q_2$  (SIDE CHANNEL) ——— 100 C.F.S.  
 $Q_2$  ELEVATION ——— 792.25 FT.  
 $Q_2$  VELOCITY ——— 5.20 F.P.S.

**LIST OF DRAWINGS**

1. GENERAL PLAN
2. CROSS SECTION, GENERAL NOTES & QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT WING DETAILS
6. SOUTH ABUT. REINFORCEMENT
7. NORTH ABUTMENT
8. NORTH ABUTMENT WING DETAILS
9. NORTH ABUT. REINFORCEMENT
10. STEEL RAILING ON WINGS
11. STEEL RAILING ON WING PLANS
12. SUPERSTRUCTURE
13. SUPERSTRUCTURE DETAILS
14. SIDEWALK DETAILS & SUPER. REINF.
15. VERTICAL FACE PARAPET 'TX'
16. CONDUIT DETAILS
17. ROUNDED RIVER ROCK LAYOUT
18. ALTERNATE CONSTRUCTION JOINT



**ELEVATION**

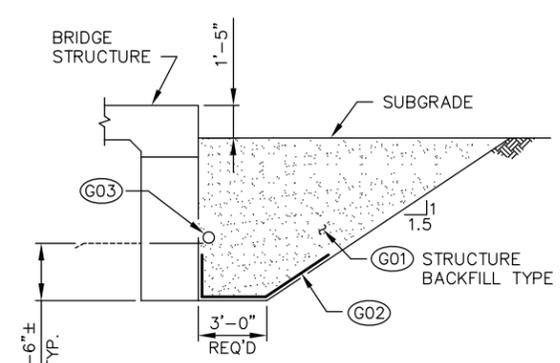
(THRU PUCHYAN RIVER, LOOKING WEST)

**TRAFFIC DATA:**

MILL ST. ————— 1,620  
 A.A.D.T. (2026) ——— 1,703  
 A.A.D.T. (2046) ——— 1,703  
 DESIGN SPEED ——— 30 M.P.H.

BRIDGE OFFICE CONTACT  
 AARON BONK, P.E.  
 (608) 261-0261

CONSULTANT CONTACT  
 ANDY KNUTSON, P.E., S.E.  
 (608) 588-7866



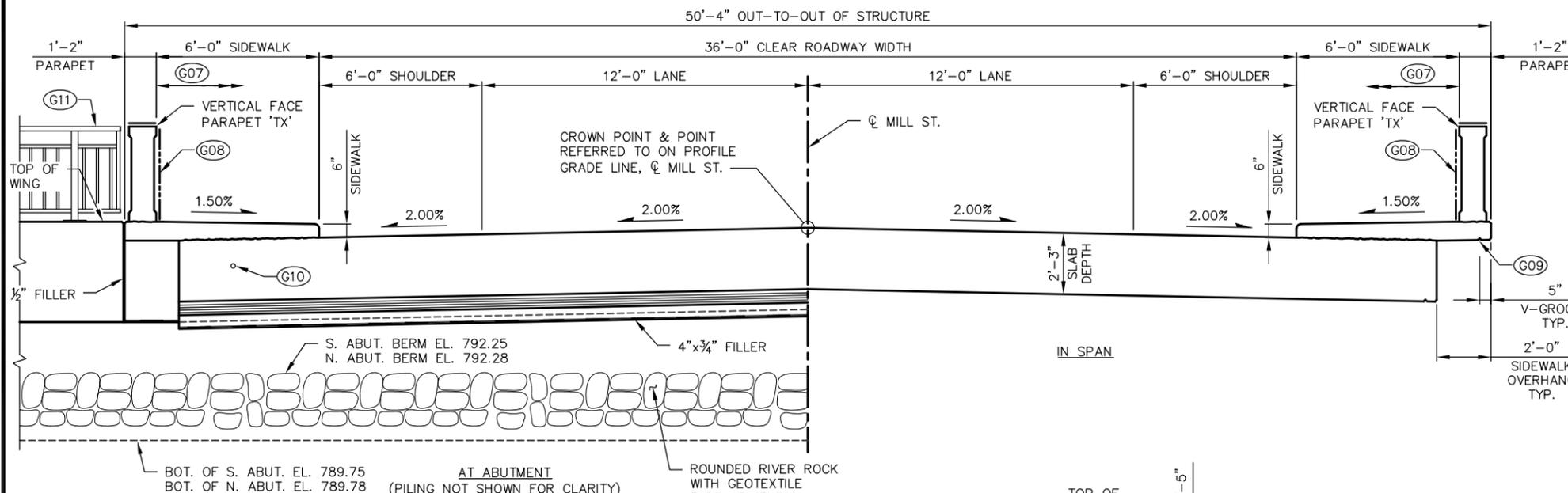
**ABUTMENT BACKFILL DETAIL**  
(TYPICAL AT BOTH ABUTMENTS)

**BENCH MARKS**

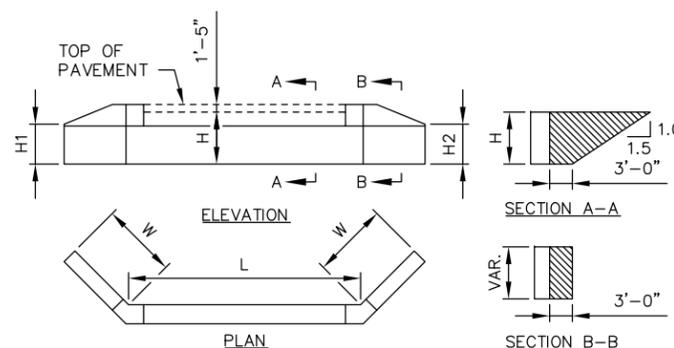
| NO.   | STATION/OFFSET        | DESCRIPTION                  | ELEVATION |
|-------|-----------------------|------------------------------|-----------|
| BM #1 | 11+23.89, 109.92' LT. | CHISELED X IN CONCRETE       | 798.64    |
| BM #2 | 12+17.84, 52.11' RT.  | RAILROAD SPIKE SET           | 796.00    |
| BM #3 | 13+86.04, 28.58' LT.  | RAILROAD SPIKE IN POWER POLE | 797.99    |

HORIZONTAL DATUM AND ADJUSTMENT: NAD 83 (2011)  
 VERTICAL DATUM AND ADJUSTMENT: NAVD 88 (2012)  
 COORDINATE REFERENCE SYSTEM: WISCRS GREEN LAKE CO.

|   |            |                   |               |
|---|------------|-------------------|---------------|
| NO.   | DATE       | REVISION          | BY            |
| <br>619 EAST HOXIE STREET<br>P.O. BOX 429<br>SPRING GREEN, WI 53588<br>PHONE (608) 588-7866<br>FAX (608) 588-7954 |            |                   |               |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION  |            |                   |               |
| ACCEPTED  |            | DATE              |               |
| <br>CHIEF STRUCTURES DESIGN ENGINEER  |            | 08/18/25          |               |
| <b>STRUCTURE B-24-46</b>  |            |                   |               |
| MILL ST OVER PUCHYAN RIVER  |            |                   |               |
| COUNTY  | GREEN LAKE | TOWN/CITY/VILLAGE | GREEN LAKE    |
| DESIGN SPEC. AASHTO LRFD DESIGN SPEC.   |            |                   |               |
| DESIGNED BY   | JDO        | DESIGN CK'D.      | CDS           |
| DRAWN BY  | JDO        | PLANS CK'D.       | ACK           |
| <b>GENERAL PLAN</b>   |            |                   | SHEET 1 OF 18 |



**CROSS SECTION THRU ROADWAY**  
(LOOKING NORTH)



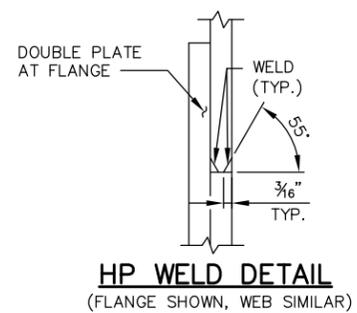
- L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
- H = AVERAGE ABUTMENT FILL HEIGHT (FT)
- H1 = WING 1 HEIGHT AT TIP (FT)
- H2 = WING 2 HEIGHT AT TIP (FT)
- W = WING LENGTH (FT)
- EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
- $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)$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

**GENERAL NOTES**

- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
- BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
- THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH ROUNDED RIVER ROCK AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE "GENERAL PLAN" SHEET, THE ABUTMENT SHEETS AND THE "ROUNDED RIVER ROCK LAYOUT" SHEET.
- THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WING FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCLUDED WITH "EXCAVATION FOR STRUCTURES BRIDGES B-24-46".
- 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.
- SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.
- SHALLOW BEDROCK (LESS THAN 10-FT BELOW ABUT.) WAS ENCOUNTERED IN THE BORINGS. A MINIMUM OF 10-FEET OF PREBORED AT THE ABUT. (3-FEET MINIMUM INTO SUITABLE BEDROCK) IS REQUIRED. THE CONTRACTOR AND THE CONSTRUCTION ENGINEER SHALL ANTICIPATE VARIABLE PREBORE DEPTHS BASED ON BEDROCK QUALITY ENCOUNTERED.
- PILES PLACED IN PREBORED HOLES CORED INTO ROCK DO NOT REQUIRE DRIVING. PILES SHALL BE "FIRMLY SEATED" ON ROCK AFTER PLACEMENT IN PREBORED HOLES.
- THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-24-46" SHALL BE THE EXISTING GROUND LINE.
- AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.
- AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.
- DO NOT PLACE FILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.
- THE EXISTING STRUCTURE (B-24-437) IS A SINGLE SPAN CONCRETE T-GIRDER BRIDGE WITH A CONCRETE DECK. THE BRIDGE HAS AN OVERALL LENGTH OF 33-FT AND A DECK WIDTH OF 40.5-FT AND IS TO BE REMOVED PER BID ITEM "REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-24-437".

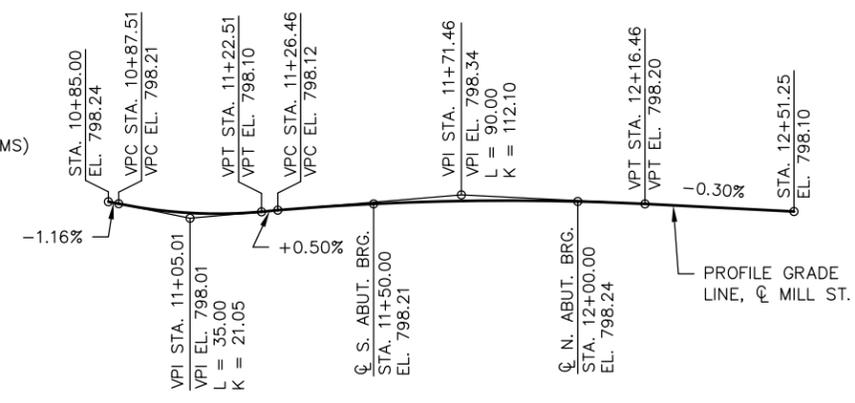
**NOTES**

- (G07) COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS. PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP SURFACE OF SLAB AND SIDEWALKS BETWEEN THE PARAPETS.
- (G08) APPLY PIGMENTED SURFACE SEALER TO INSIDE AND TOP FACES OF PARAPET ACROSS THE LENGTH OF THE BRIDGE. TYPICAL FOR EACH PARAPET.
- (G09) 3/4" V-GROOVE REQ'D. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT.
- (G10) 2" DIA. CONDUIT, WEST EDGE OF SLAB ONLY. SEE "CONDUIT DETAIL" SHEET.
- (G11) RAILING ON WINGS, SEE "STEEL RAILING ON WINGS" SHEET FOR DETAILS AND "STEEL RAILING ON WING PLANS" SHEET FOR RAILING SPACING AND LAYOUT.

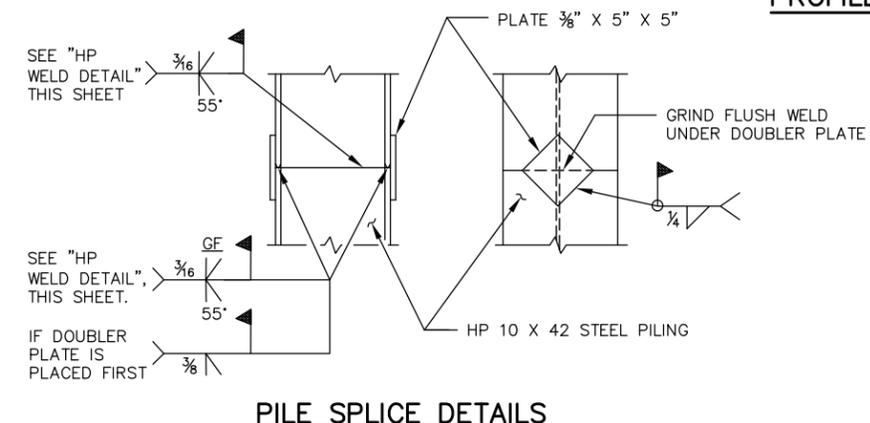


**TOTAL ESTIMATED QUANTITIES**

| ITEM NO.       | BID ITEMS   | UNIT | S. ABUT. | N. ABUT. | SUPER. | TOTALS      |
|----------------|---|------|----------|----------|--------|-------------|
| 203.0250       | REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-24-437 | EACH | ---      | ---      | ---    | 1           |
| 206.1001       | EXCAVATION FOR STRUCTURES BRIDGES B-24-46               | EACH | ---      | ---      | ---    | 1           |
| 210.1500       | BACKFILL STRUCTURE TYPE A                               | TON  | 280      | 280      | ---    | 560         |
| 502.0100       | CONCRETE MASONRY BRIDGES                                | CY   | 39.4     | 39.8     | 230.2  | 309         |
| 502.3200       | PROTECTIVE SURFACE TREATMENT                            | SY   | ---      | ---      | 286    | 286         |
| 502.3210       | PIGMENTED SURFACE SEALER                                | SY   | ---      | ---      | 57     | 57          |
| 505.0400       | BAR STEEL REINFORCEMENT HS STRUCTURES                   | LB   | 3690     | 3510     | ---    | 7200        |
| 505.0600       | BAR STEEL REINFORCEMENT HS COATED STRUCTURES            | LB   | 1520     | 1490     | 43330  | 46340       |
| 513.8021       | RAILING STEEL PEDESTRIAN TYPE C4                        | LF   | 24       | 24       | ---    | 48          |
| 516.0500       | RUBBERIZED MEMBRANE WATERPROOFING                       | SY   | 11       | 12       | ---    | 23          |
| 550.0020       | PRE-BORING ROCK OR CONSOLIDATED MATERIALS               | LF   | 120      | 120      | ---    | 240         |
| 550.1100       | PILING STEEL HP 10-INCH X 42 LB                         | LF   | 150      | 150      | ---    | 300         |
| 612.0406       | PIPE UNDERDRAIN WRAPPED 6-INCH                          | LF   | 100      | 100      | ---    | 200         |
| 645.0111       | GEOTEXTILE TYPE DF SCHEDULE A                           | SY   | 52       | 52       | ---    | 104         |
| 645.0120       | GEOTEXTILE TYPE HR                                      | SY   | 158      | 143      | ---    | 301         |
| 652.0125       | CONDUIT RIGID METALLIC 2-INCH                           | LF   | ---      | ---      | 8      | 8           |
| 652.0225       | CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH            | LF   | ---      | ---      | 67     | 67          |
| SPV.0035.01    | ROUNDED RIVER ROCK                                      | CY   | 90       | 80       | ---    | 170         |
| SPV.0090.02    | PARAPET CONCRETE TYPE 'TX'                              | LF   | ---      | ---      | 105    | 105         |
| (NON-BID ITEM) | FILLER  | SIZE |          |          |        | 1/2" & 3/4" |



**PROFILE GRADE LINE, Q MILL ST.**



**PILE SPlice DETAILS**

| NO.  | DATE | REVISION        | BY            |
|--|------|-----------------|---------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION   |      |                 |               |
| <b>STRUCTURE B-24-46</b>                             |      |                 |               |
| DRAWN BY: CDS  |      | PLANS OK'D: ACK |               |
| <b>CROSS SECTION, GENERAL NOTES &amp; QUANTITIES</b> |      |                 | SHEET 2 OF 18 |

8

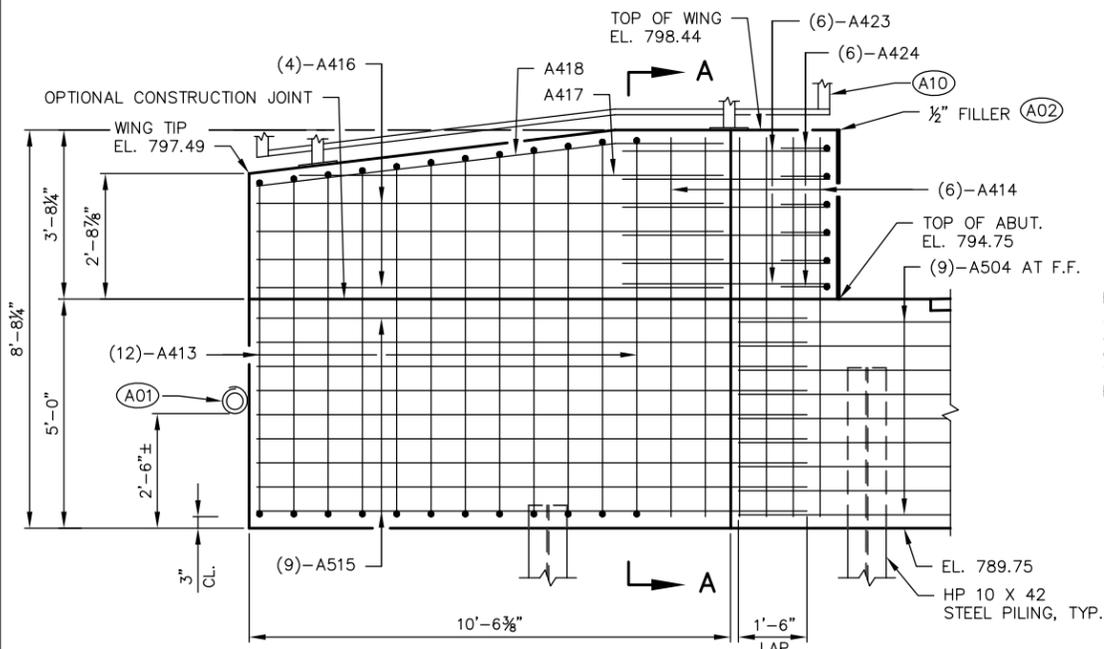
8

FILE: B240046\_02\_qty.dwg PLOT SCALE:

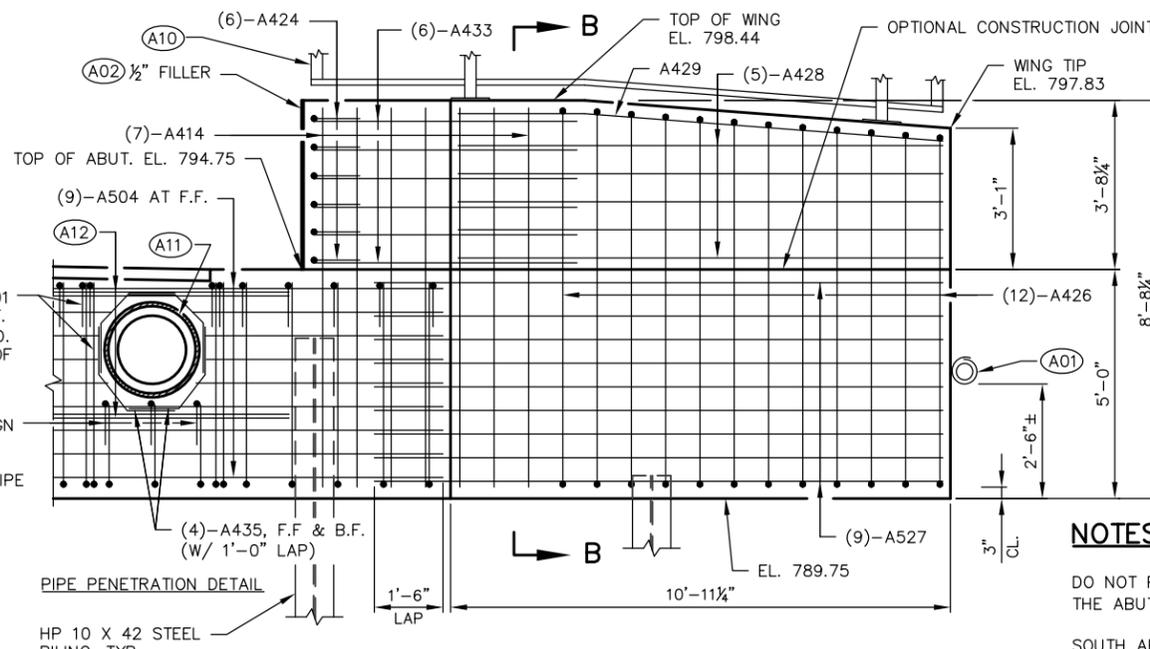




F.F. - FRONT FACE  
B.F. - BACK FACE



F.F. ELEVATION - WING 1



F.F. ELEVATION - WING 2

NOTES

DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SOUTH ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 3 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 180 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 15 FT PILE LENGTHS AT THE SOUTH ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

SEE "SOUTH ABUT. REINFORCEMENT" SHEET FOR SECTION A-A AND SECTION B-B.

(A01) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "SOUTH ABUT. REINFORCEMENT" SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

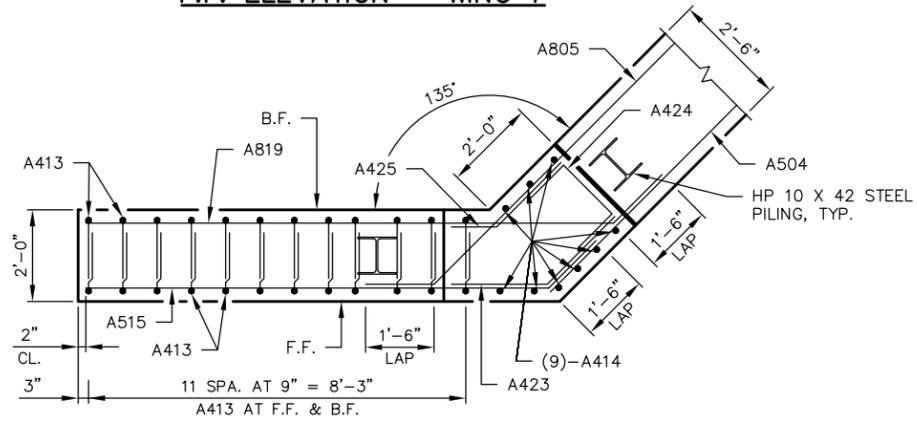
(A02) SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.) 1/2" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

(A10) RAILING ON WINGS, SEE "STEEL RAILING ON WINGS" SHEET FOR DETAILS AND SEE "STEEL RAILING ON WING PLANS" SHEET FOR RAILING SPACING AND LAYOUT.

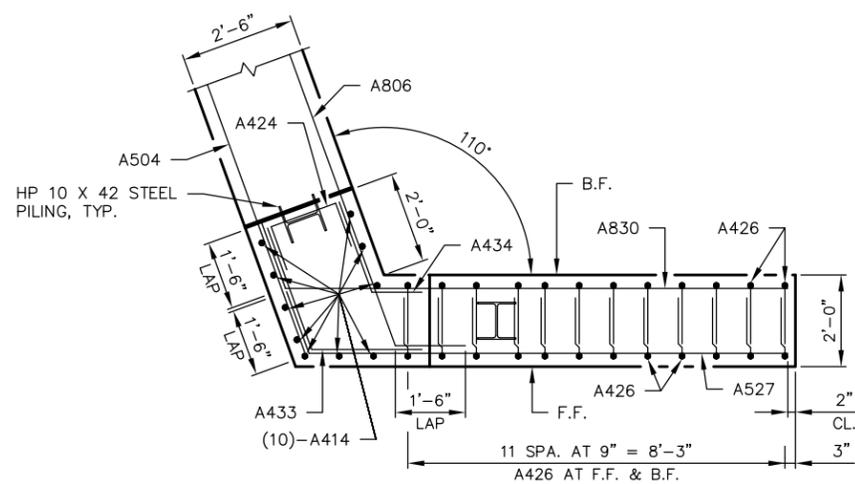
(A11) 18" DIA. STORM SEWER PIPE. WRAP PIPE WITH 1" THK. FILLER AND CAST PIPE INTO ABUT. FIELD TRIM (4)-A504 & (4)-A806 HORIZ. BARS AT PIPE PENETRATION AND MAINTAIN 2" CLEAR COVER. FIELD TRIM (3)-A501 & (3)-A502 BARS 2" CLEAR ON F.F. AND B.F. IN CONFLICT WITH PIPE PENETRATION. ADJUST SPACING OF OTHER A501 & A502 BARS TO MAINTAIN 2" CLEAR.

(A12) (4)-A536, F.F. & (4)-A837, B.F. ADD (2) BARS BUNDLED ON TOP & BOT. OF THE PIPE PENETRATION. (A536, 6'-0" LONG BARS & A837, 10'-0" LONG BARS).

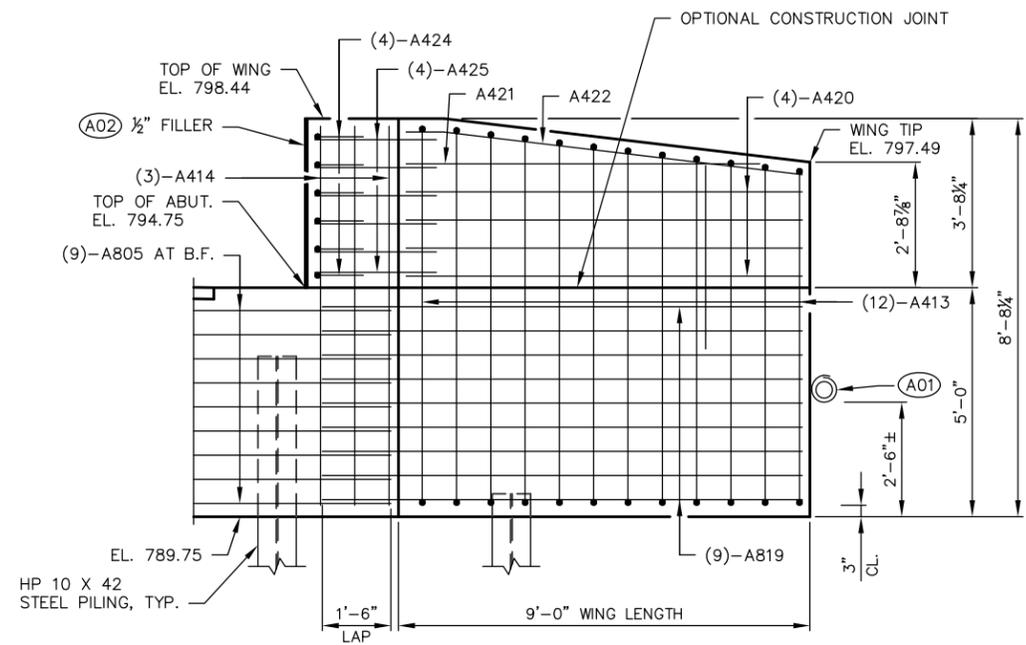
BUNDLE (1)-A501 ADD., F.F. & B.F. & (1)-A502 ADD. ON EACH SIDE OF THE PIPE PENETRATION.  
(3)-A538, ALIGN WITH FIELD TRIMMED A501 BARS BELOW PIPE PENETRATION.



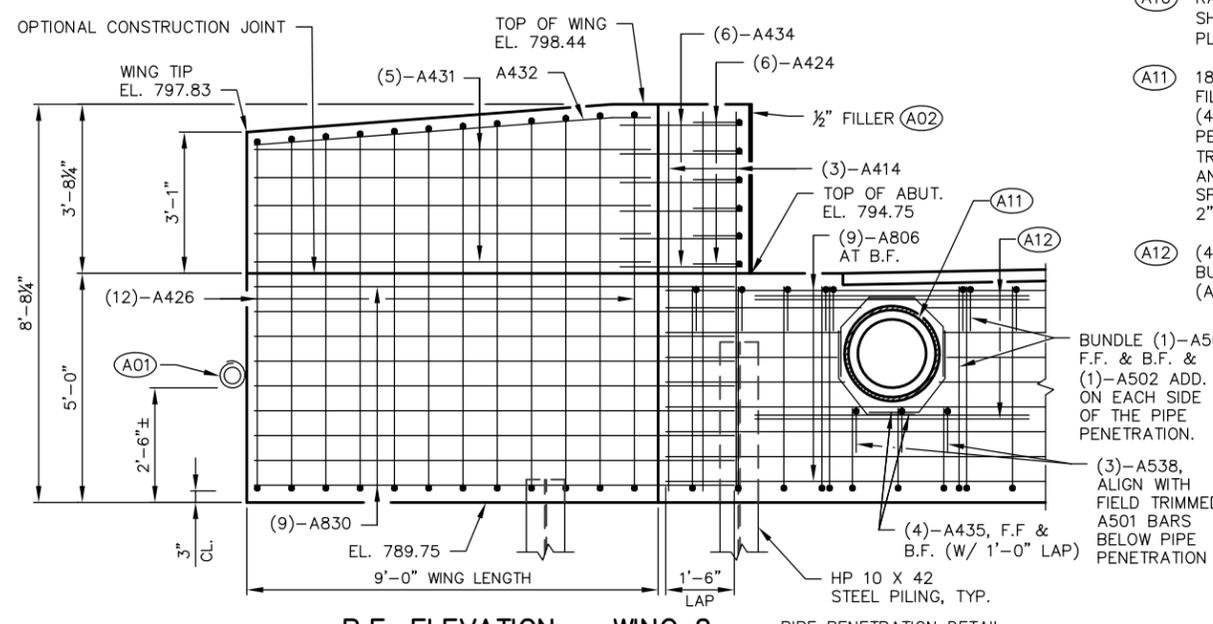
PLAN - WING 1



PLAN - WING 2



B.F. ELEVATION - WING 1



B.F. ELEVATION - WING 2

| NO.  | DATE | REVISION       | BY            |
|--|------|----------------|---------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |               |
| <b>STRUCTURE B-24-46</b>                           |      |                |               |
| DRAWN BY JDO                                       |      | PLANS OK'D ACK |               |
| <b>SOUTH ABUTMENT<br/>WING DETAILS</b>             |      |                | SHEET 5 OF 18 |

8

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PLOT SCALE:

**BILL OF BARS  
SOUTH ABUTMENT**

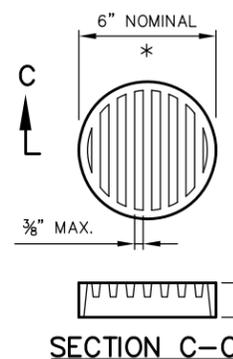
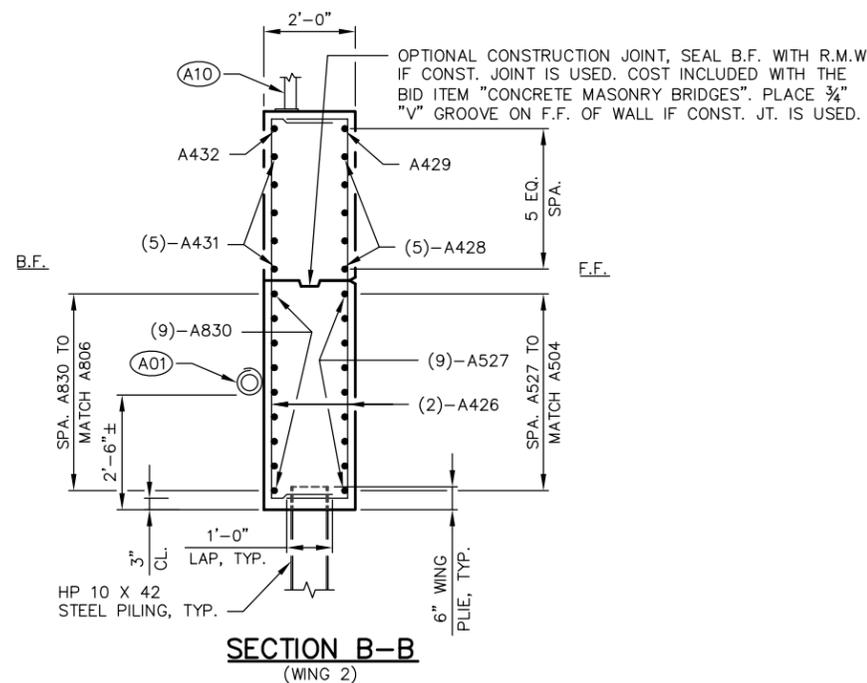
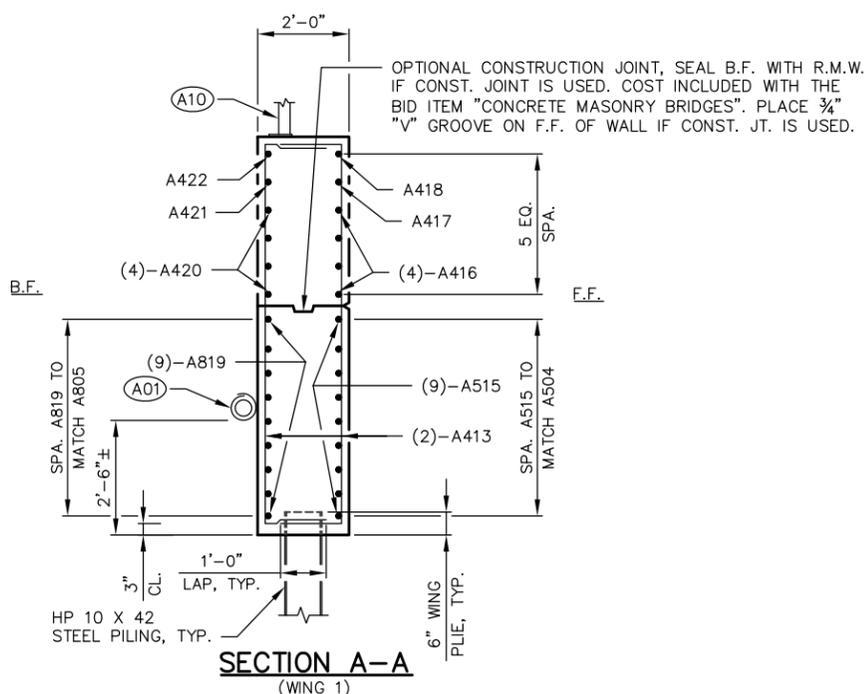
**COATED = 1,520 LBS.  
UNCOATED = 3,690 LBS.**

| MARK | NUMBER |          | LENGTH  | BENT | BAR SERIES | LOCATION                                    |
|------|--------|----------|---------|------|------------|---|
|      | COATED | UNCOATED |         |      |            |   |
| A501 | 116    |          | 5'-8"   | X    |            | BODY - STIRRUP - F.F. & B.F. VERT.          |
| A502 | 58     |          | 6'-1"   | X    |            | BODY - STIRRUP - TOP VERT.                  |
| A403 | 42     |          | 3'-1"   | X    |            | BODY - TIES HORIZ.                          |
| A504 | 18     |          | 29'-2"  |      |            | BODY - F.F. HORIZ.                          |
| A805 | 9      |          | 33'-5"  | X    |            | BODY - B.F. (WEST) HORIZ.                   |
| A806 | 9      |          | 33'-5"  | X    |            | BODY - B.F. (EAST) HORIZ.                   |
| A407 | 4      |          | 26'-0"  |      |            | BODY - B.F. HORIZ.                          |
| A408 | 31     |          | 3'-3"   | X    |            | BODY - STIRRUP - B.F. VERT.                 |
| A409 | 4      |          | 4'-6"   | X    |            | BODY - STIRRUP - AT ENDS VERT.              |
| A410 | 2      |          | 1'-8"   |      |            | BODY - F.F. - TOP AT ENDS HORIZ.            |
| A411 | 3      |          | 14'-0"  |      |            | BODY - ADDITIONAL REINF. - TOP HORIZ.       |
| A512 | 14     |          | 4'-9"   | X    |            | BODY - ADDITIONAL REINF. - STIRRUP VERT.    |
| A413 | 24     |          | 10'-4"  | X    | ▲          | WING 1 - STIRRUP - F.F. & B.F. VERT.        |
| A414 | 19     |          | 8'-3"   |      |            | WINGS 1 & 2 - F.F. & B.F. VERT.             |
| A515 | 9      |          | 11'-9"  | X    |            | WING 1 - F.F. HORIZ.                        |
| A416 | 4      |          | 10'-2"  |      |            | WING 1 - F.F. HORIZ.                        |
| A417 | 1      |          | 9'-3"   |      |            | WING 1 - F.F. HORIZ.                        |
| A418 | 1      |          | 10'-3"  | X    |            | WING 1 - F.F. - TOP HORIZ.                  |
| A819 | 9      |          | 13'-3"  | X    |            | WING 1 - B.F. HORIZ.                        |
| A420 | 4      |          | 8'-8"   |      |            | WING 1 - B.F. HORIZ.                        |
| A421 | 1      |          | 7'-8"   |      |            | WING 1 - B.F. HORIZ.                        |
| A422 | 1      |          | 8'-8"   | X    |            | WING 1 - B.F. - TOP HORIZ.                  |
| A423 | 6      |          | 4'-2"   | X    |            | WING 1 - F.F. CORNER HORIZ.                 |
| A424 | 12     |          | 3'-11"  | X    |            | WINGS 1 & 2 - TOP CORNER HORIZ.             |
| A425 | 6      |          | 2'-10"  | X    |            | WING 1 - B.F. CORNER HORIZ.                 |
| A426 | 24     |          | 10'-6"  | X    | ▲          | WING 2 - STIRRUP - F.F. & B.F. VERT.        |
| A527 | 9      |          | 11'-11" | X    |            | WING 2 - F.F. HORIZ.                        |
| A428 | 5      |          | 10'-7"  |      |            | WING 2 - F.F. HORIZ.                        |
| A429 | 1      |          | 10'-7"  | X    |            | WING 2 - F.F. - TOP HORIZ.                  |
| A830 | 9      |          | 12'-4"  | X    |            | WING 2 - B.F. HORIZ.                        |
| A431 | 5      |          | 8'-8"   |      |            | WING 2 - B.F. HORIZ.                        |
| A432 | 1      |          | 8'-7"   | X    |            | WING 2 - B.F. - TOP HORIZ.                  |
| A433 | 6      |          | 5'-4"   | X    |            | WING 2 - F.F. CORNER HORIZ.                 |
| A434 | 6      |          | 2'-11"  | X    |            | WING 2 - B.F. CORNER HORIZ.                 |
| A435 | 8      |          | 3'-0"   | X    |            | BODY - F.F. & B.F. - PIPE PENETRATION VERT. |
| A536 | 4      |          | 6'-0"   |      |            | BODY - F.F. - PIPE PENETRATION HORIZ.       |
| A837 | 4      |          | 10'-0"  |      |            | BODY - B.F. - PIPE PENETRATION HORIZ.       |
| A538 | 3      |          | 3'-11"  | X    |            | BODY - STIRRUP - PIPE PENETRATION VERT.     |

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

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



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

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

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

**RODENT SHIELD DETAIL**

**NOTES**

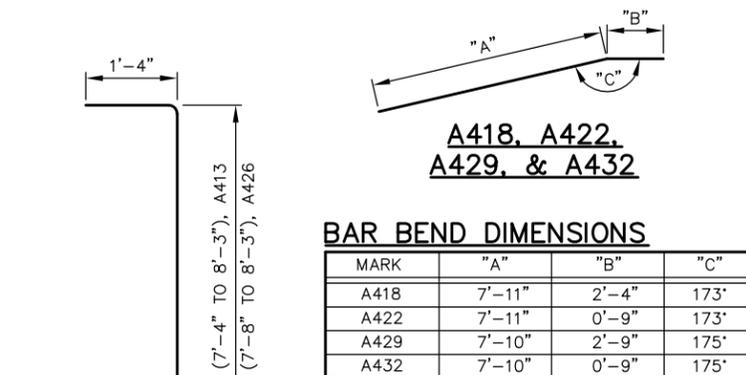
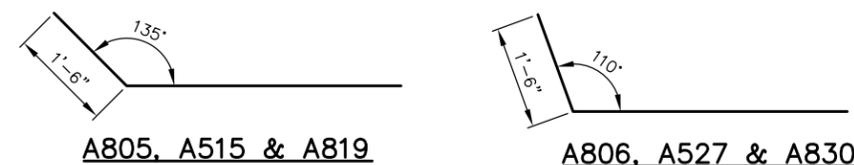
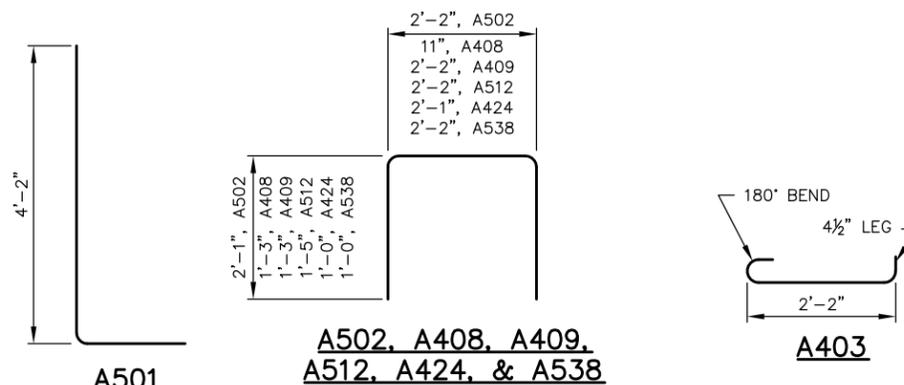
DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SOUTH ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 3 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 180 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 15 FT PILE LENGTHS AT THE SOUTH ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

(A01) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

(A10) RAILING ON WINGS, SEE "STEEL RAILING ON WINGS" SHEET FOR DETAILS AND SEE "STEEL RAILING ON WING PLANS" SHEET FOR RAILING SPACING AND LAYOUT.



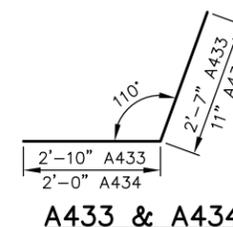
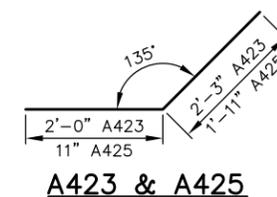
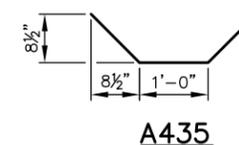
**BAR BEND DIMENSIONS**

| MARK | "A"    | "B"   | "C"  |
|------|--------|-------|------|
| A418 | 7'-11" | 2'-4" | 173' |
| A422 | 7'-11" | 0'-9" | 173' |
| A429 | 7'-10" | 2'-9" | 175' |
| A432 | 7'-10" | 0'-9" | 175' |

**BAR SERIES TABLE**

| MARK | NO. REQ'D      | LENGTH           |
|------|----------------|------------------|
| A413 | 2 SERIES OF 12 | 9'-10" TO 10'-9" |
| A426 | 2 SERIES OF 12 | 10'-2" TO 10'-9" |

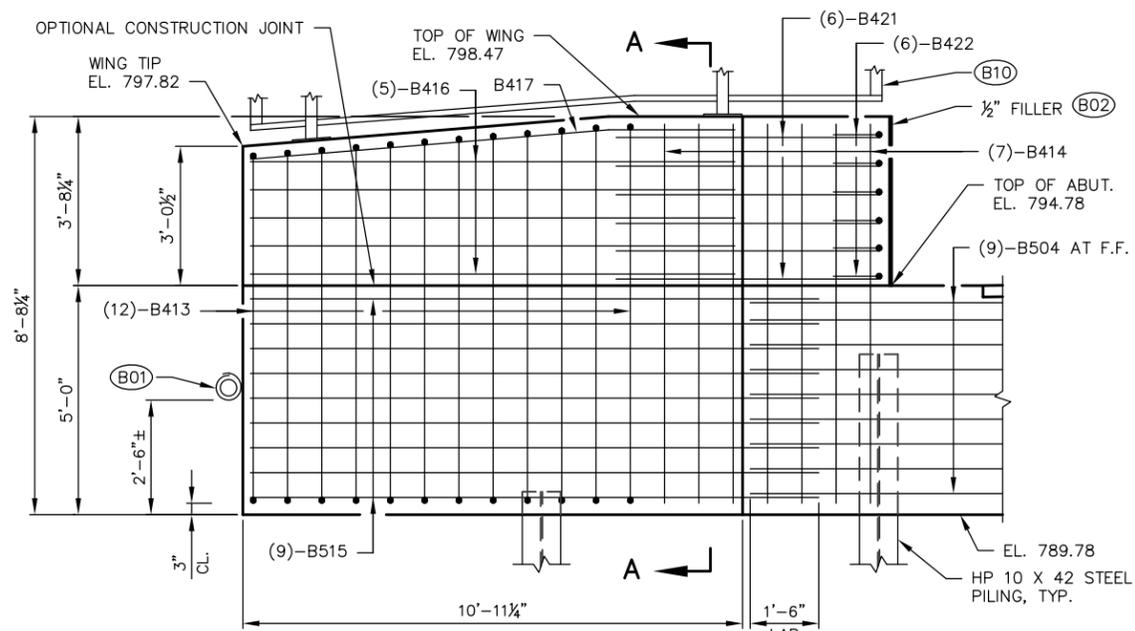
BUNDLE AND TAG EACH SERIES SEPARATELY.



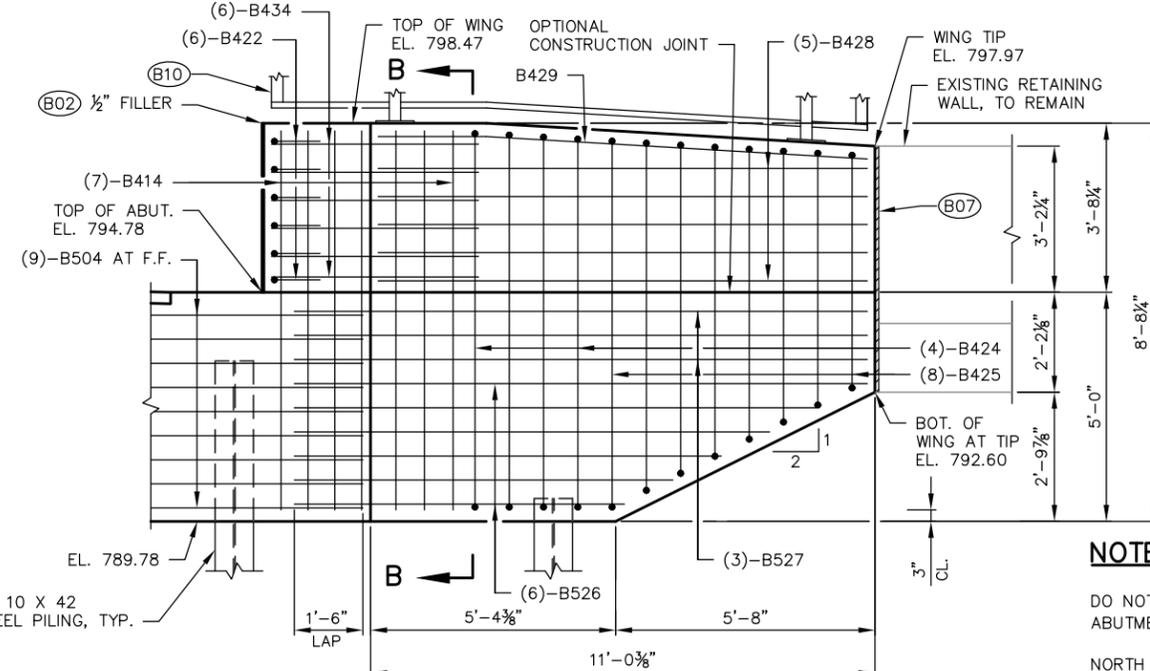
F.F. - FRONT FACE  
B.F. - BACK FACE

| NO.  | DATE | REVISION       | BY            |
|--|------|----------------|---------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |               |
| <b>STRUCTURE B-24-46</b>                           |      |                |               |
| DRAWN BY JDO                                       |      | PLANS OK'D ACK |               |
| <b>SOUTH ABUT. REINFORCEMENT</b>                   |      |                | SHEET 6 OF 18 |

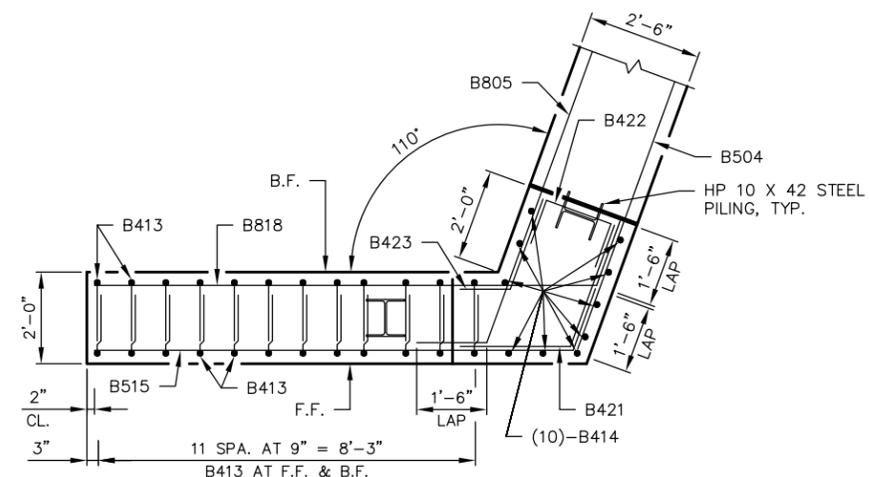




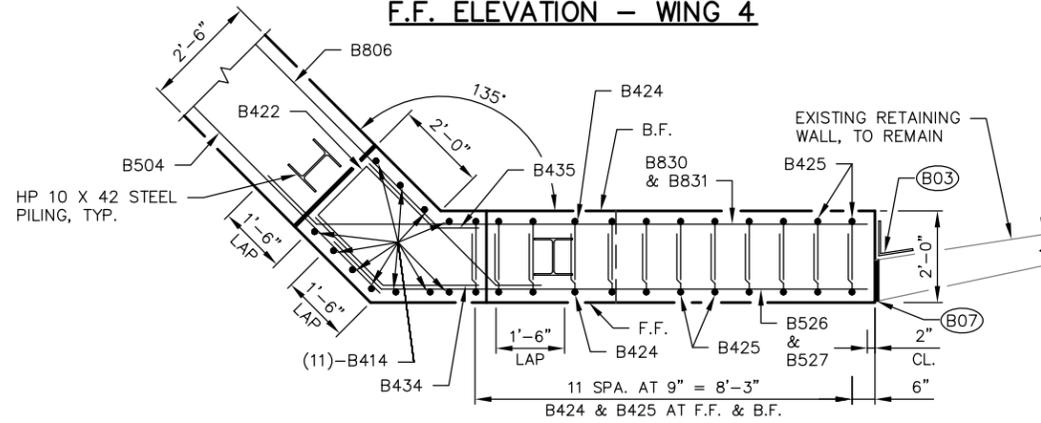
F.F. ELEVATION - WING 3



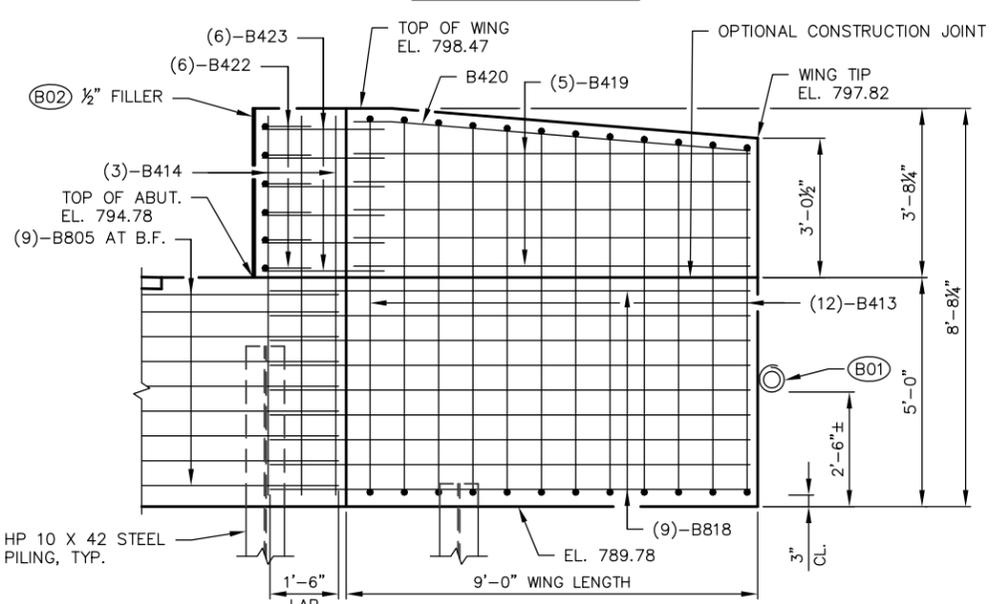
F.F. ELEVATION - WING 4



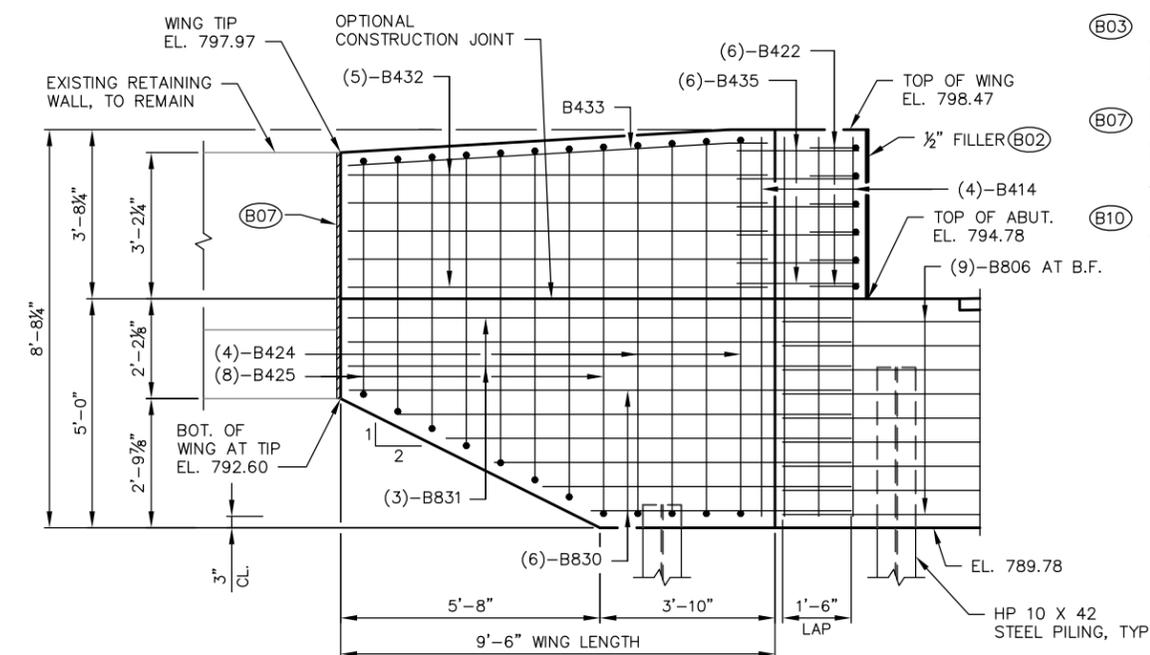
PLAN - WING 3



PLAN - WING 4



B.F. ELEVATION - WING 3



B.F. ELEVATION - WING 4

**NOTES**

DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

NORTH ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 3 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 170 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 15 FT PILE LENGTHS AT THE NORTH ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

SEE "NORTH ABUT. REINFORCEMENT" SHEET FOR SECTION A-A AND SECTION B-B.

- (B01) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "SOUTH ABUT. REINFORCEMENT" SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- (B02) SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.) 1/2" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.
- (B03) 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W.), SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE AND BETWEEN WING 4 AND EXISTING RETAINING WALL.
- (B07) PLACE 1" FILLER BETWEEN EXISTING RETAINING WALL AND END OF WING 4. SEAL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).
- (B10) RAILING ON WINGS, SEE "STEEL RAILING ON WINGS" SHEET FOR DETAILS AND SEE "STEEL RAILING ON WING PLANS" SHEET FOR RAILING SPACING AND LAYOUT.

F.F. - FRONT FACE  
B.F. - BACK FACE

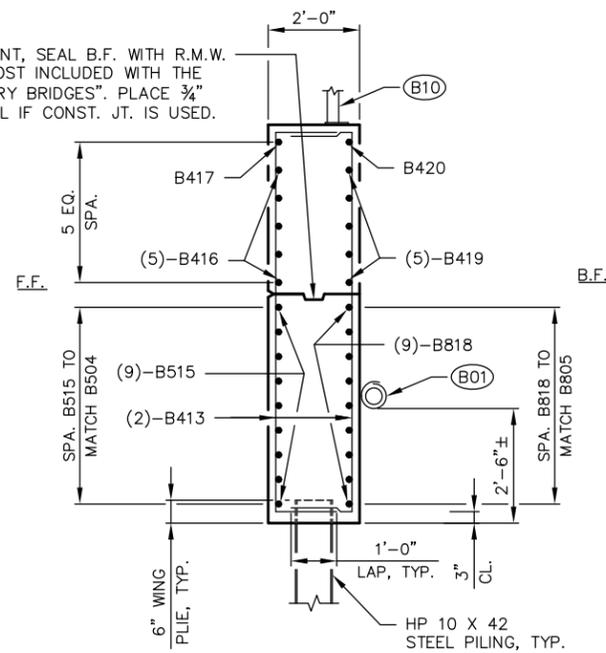
| NO.  | DATE | REVISION       | BY            |
|--|------|----------------|---------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |               |
| <b>STRUCTURE B-24-46</b>                           |      |                |               |
| DRAWN BY JDO                                       |      | PLANS OK'D ACK |               |
| <b>NORTH ABUTMENT<br/>WING DETAILS</b>             |      |                | SHEET 8 OF 18 |

8

8

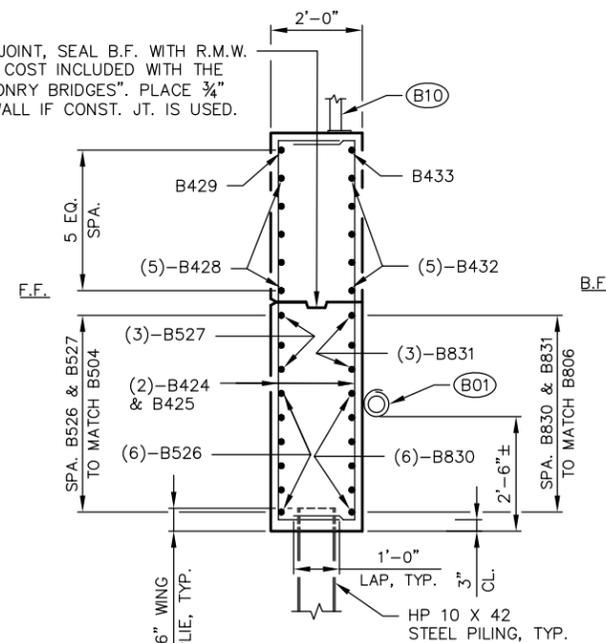
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PLOT SCALE:

OPTIONAL CONSTRUCTION JOINT, SEAL B.F. WITH R.M.W. IF CONST. JOINT IS USED. COST INCLUDED WITH THE BID ITEM "CONCRETE MASONRY BRIDGES". PLACE 3/4" "V" GROOVE ON F.F. OF WALL IF CONST. JT. IS USED.



SECTION A-A  
(WING 3)

OPTIONAL CONSTRUCTION JOINT, SEAL B.F. WITH R.M.W. IF CONST. JOINT IS USED. COST INCLUDED WITH THE BID ITEM "CONCRETE MASONRY BRIDGES". PLACE 3/4" "V" GROOVE ON F.F. OF WALL IF CONST. JT. IS USED.



SECTION B-B  
(WING 4)

**NOTES**

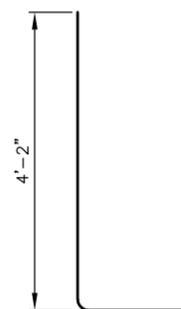
DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

NORTH ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 3 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 170 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 15 FT PILE LENGTHS AT THE NORTH ABUTMENT.

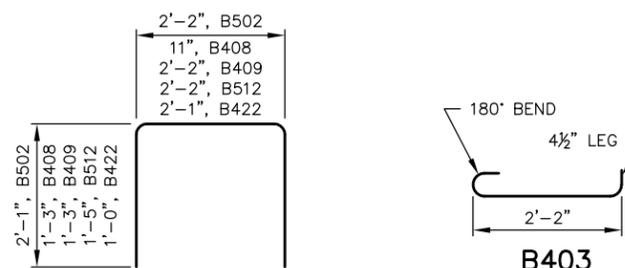
SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

(B01) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "SOUTH ABUT. REINFORCEMENT" SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

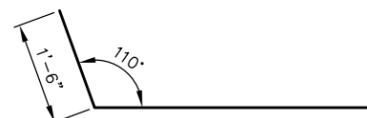
(B10) RAILING ON WINGS, SEE "STEEL RAILING ON WINGS" SHEET FOR DETAILS AND SEE "STEEL RAILING ON WING PLANS" SHEET FOR RAILING SPACING AND LAYOUT.



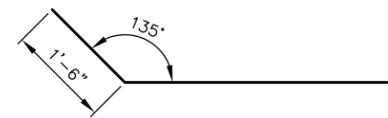
B501



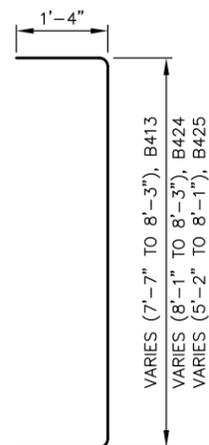
B502, B408, B409,  
B512, & B422



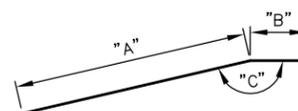
B805, B515 & B818



B806, B526, B527,  
B830 & B831



B413, B424  
& B425



B417, B420,  
B429, & B433

**BAR BEND DIMENSIONS**

| MARK | "A"    | "B"   | "C"  |
|------|--------|-------|------|
| B417 | 7'-10" | 2'-9" | 175° |
| B420 | 7'-10" | 0'-9" | 175° |
| B429 | 8'-4"  | 2'-4" | 177° |
| B433 | 8'-4"  | 0'-9" | 177° |

**BAR SERIES TABLE**

| MARK | NO. REQ'D      | LENGTH           |
|------|----------------|------------------|
| B413 | 2 SERIES OF 12 | 10'-1" TO 10'-9" |
| B424 | 2 SERIES OF 4  | 10'-7" TO 10'-9" |
| B425 | 2 SERIES OF 8  | 7'-8" TO 10'-7"  |
| B526 | 1 SERIES OF 6  | 7'-1" TO 12'-3"  |
| B830 | 1 SERIES OF 6  | 8'-7" TO 13'-9"  |

BUNDLE AND TAG EACH SERIES SEPARATELY.

**BILL OF BARS  
NORTH ABUTMENT**

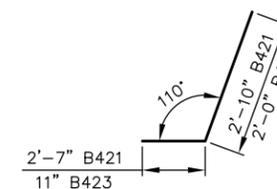
COATED = 1,490 LBS.  
UNCOATED = 3,510 LBS.

| MARK | NUMBER |          | LENGTH  | BENT | BAR SERIES | LOCATION                                 |
|------|--------|----------|---------|------|------------|--|
|      | COATED | UNCOATED |         |      |            |  |
| B501 | 112    |          | 5'-8"   | X    |            | BODY - STIRRUP - F.F. & B.F. VERT.       |
| B502 | 56     |          | 6'-1"   | X    |            | BODY - STIRRUP - TOP VERT.               |
| B403 | 42     |          | 3'-1"   | X    |            | BODY - TIES HORIZ.                       |
| B504 | 18     |          | 29'-2"  |      |            | BODY - F.F. HORIZ.                       |
| B805 | 9      |          | 33'-5"  | X    |            | BODY - B.F. (WEST) HORIZ.                |
| B806 | 9      |          | 33'-5"  | X    |            | BODY - B.F. (EAST) HORIZ.                |
| B407 | 4      |          | 26'-0"  |      |            | BODY - B.F. HORIZ.                       |
| B408 | 31     |          | 3'-3"   | X    |            | BODY - STIRRUP - B.F. VERT.              |
| B409 | 4      |          | 4'-6"   | X    |            | BODY - STIRRUP - AT ENDS VERT.           |
| B410 | 2      |          | 1'-8"   |      |            | BODY - F.F. - TOP AT ENDS HORIZ.         |
| B411 | 3      |          | 14'-0"  |      |            | BODY - ADDITIONAL REINF. - TOP HORIZ.    |
| B512 | 14     |          | 4'-9"   | X    |            | BODY - ADDITIONAL REINF. - STIRRUP VERT. |
| B413 | 24     |          | 10'-5"  | X    | ▲          | WING 3 - STIRRUP - F.F. & B.F. VERT.     |
| B414 | 21     |          | 8'-3"   |      |            | WINGS 3 & 4 - F.F. & B.F. VERT.          |
| B515 | 9      |          | 11'-11" | X    |            | WING 3 - F.F. HORIZ.                     |
| B416 | 5      |          | 10'-7"  |      |            | WING 3 - F.F. HORIZ.                     |
| B417 | 1      |          | 10'-7"  | X    |            | WING 3 - F.F. - TOP HORIZ.               |
| B818 | 9      |          | 12'-4"  | X    |            | WING 3 - B.F. HORIZ.                     |
| B419 | 5      |          | 8'-8"   |      |            | WING 3 - B.F. HORIZ.                     |
| B420 | 1      |          | 8'-7"   | X    |            | WING 3 - B.F. - TOP HORIZ.               |
| B421 | 6      |          | 5'-4"   | X    |            | WING 3 - F.F. CORNER HORIZ.              |
| B422 | 12     |          | 3'-11"  | X    |            | WINGS 3 & 4 - TOP CORNER HORIZ.          |
| B423 | 6      |          | 2'-11"  | X    |            | WING 3 - B.F. CORNER HORIZ.              |
| B424 | 8      |          | 10'-8"  | X    | ▲          | WING 4 - STIRRUP - F.F. & B.F. VERT.     |
| B425 | 16     |          | 9'-2"   | X    | ▲          | WING 4 - STIRRUP - F.F. & B.F. VERT.     |
| B526 | 6      |          | 9'-8"   | X    | ▲          | WING 4 - F.F. HORIZ.                     |
| B527 | 3      |          | 12'-3"  | X    |            | WING 4 - F.F. HORIZ.                     |
| B428 | 5      |          | 10'-8"  |      |            | WING 4 - F.F. HORIZ.                     |
| B429 | 1      |          | 10'-8"  | X    |            | WING 4 - F.F. - TOP HORIZ.               |
| B830 | 6      |          | 11'-2"  | X    | ▲          | WING 4 - B.F. HORIZ.                     |
| B831 | 3      |          | 13'-9"  | X    |            | WING 4 - B.F. HORIZ.                     |
| B432 | 5      |          | 9'-2"   |      |            | WING 4 - B.F. HORIZ.                     |
| B433 | 1      |          | 9'-1"   | X    |            | WING 4 - B.F. - TOP HORIZ.               |
| B434 | 6      |          | 4'-2"   | X    |            | WING 4 - F.F. CORNER HORIZ.              |
| B435 | 6      |          | 2'-10"  | X    |            | WING 4 - B.F. CORNER HORIZ.              |

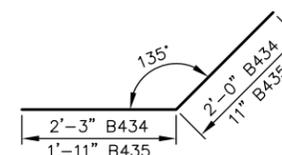
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

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



B421 & B423



B434 & B435

F.F. - FRONT FACE  
B.F. - BACK FACE

| NO.  | DATE | REVISION       | BY            |
|--|------|----------------|---------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |               |
| <b>STRUCTURE B-24-46</b>                           |      |                |               |
| DRAWN BY JDO                                       |      | PLANS OK'D ACK |               |
| <b>NORTH ABUT.<br/>REINFORCEMENT</b>               |      |                | SHEET 9 OF 18 |

**NOTES**

BID ITEM SHALL BE "RAILING STEEL PEDESTRIAN TYPE C4", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

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 CUTS.

ALL PLATES, BARS, AND RECTANGULAR SLEEVES SHALL CONFORM TO ASTM A709 GRADE 36. ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTION.

STEEL SHIMS SHALL BE PROVIDED AND USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

CAULK AROUND PERIMETER OF BASE PLATES, NO. 1, AND FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALL MATERIAL (EXCEPT NO. 3) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED AMS STD. COLOR NO. 27038 (BLACK).

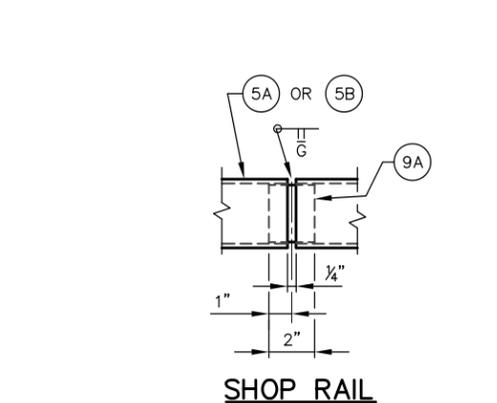
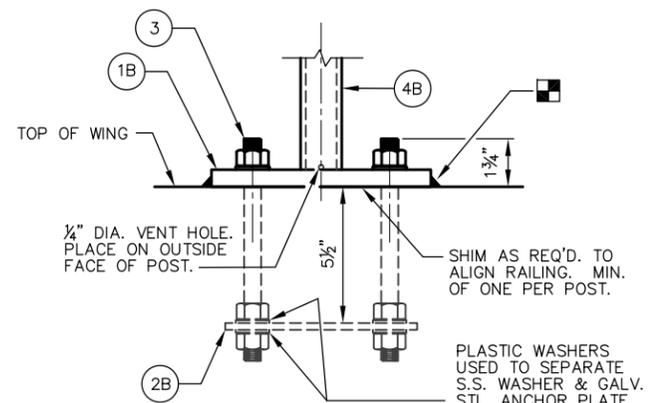
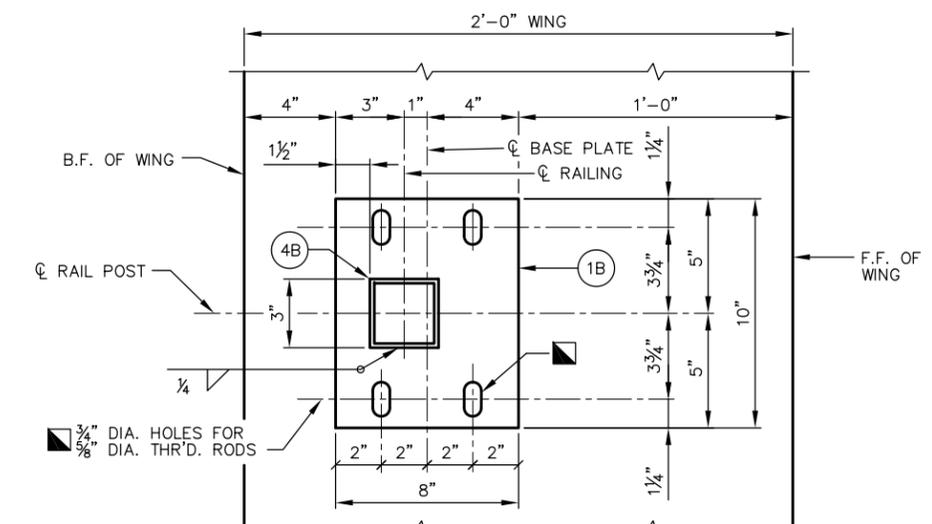
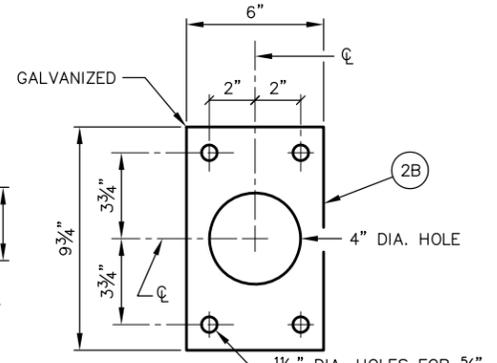
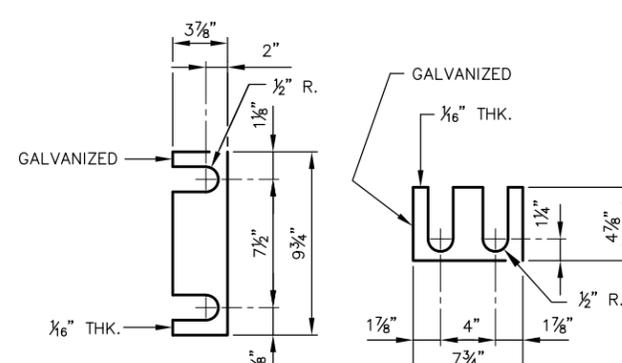
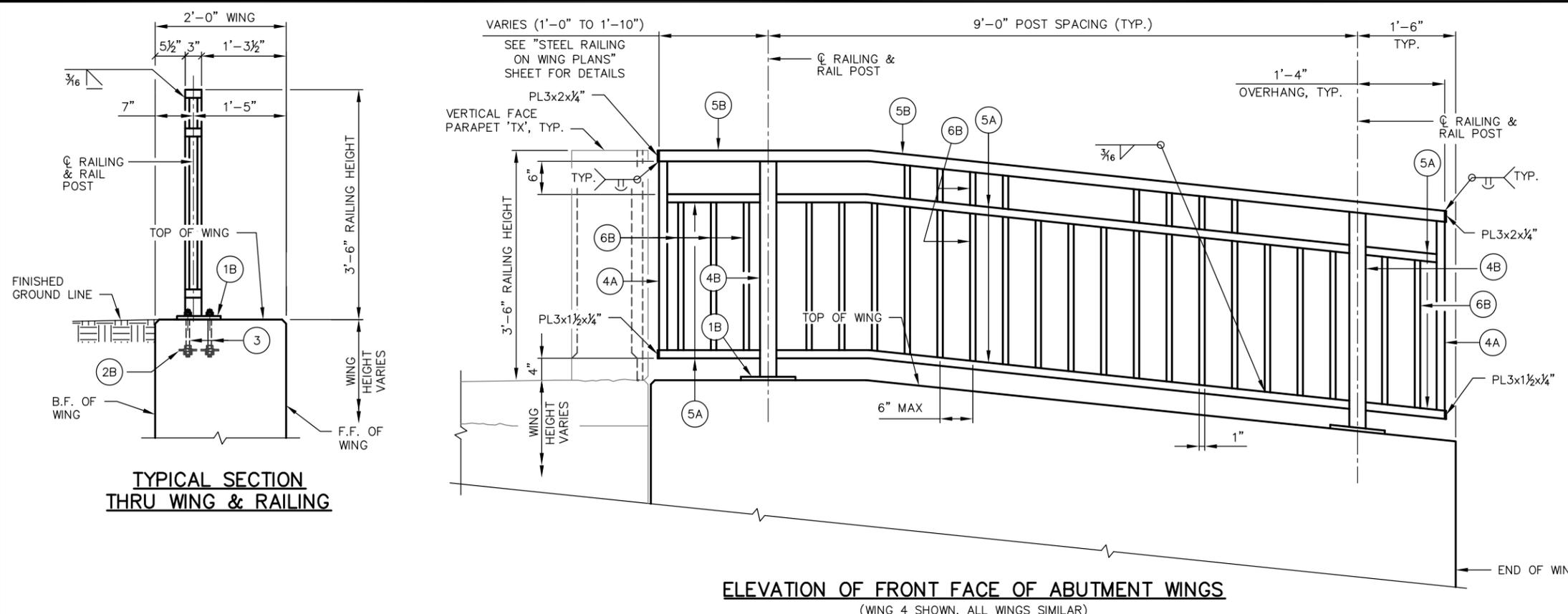
TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.

VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

EACH RAILING ON WING SHALL BE FABRICATED FULL LENGTH. NO JOINTS ALLOWED.

**LEGEND**

- (1B) PLATE 5/8" X 8" X 10" WITH HOLES. ■
- (2B) 1/4" X 6" X 9 3/4" ANCHOR PLATE WITH 1/16" DIA. HOLES FOR THR'D. RODS NO. 3.
- (3) 5/8" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 5/8"-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 & 502.3.14 OF THE STANDARD SPECIFICATIONS.
- (4A) STRUCTURAL TUBING 3" X 1 1/2" X 3/16". PLACE VERTICAL. WELD TO NO. 5.
- (4B) STRUCTURAL TUBING 3" X 3" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.
- (5A) STRUCTURAL TUBING 3" X 1 1/2" X 3/16" RAILS. WELD TO NO. 4.
- (5B) STRUCTURAL TUBING 3" X 2" X 3/16" RAILS. WELD TO NO. 4.
- (6B) BAR 1" X 1 1/2" PICKETS. WELD TO NO. 5. (SPACE AT 6" MAX. C/L TO C/L SPACING). PLACE VERTICAL.
- (9A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. PROVIDE "SLIDING FIT".
- 3/4" DIA. HOLES FOR ADHESIVE ANCHORS. 3/4" DIA. X 1 1/2" SLOTTED HOLES FOR CAST-IN-PLACE ANCHORS.



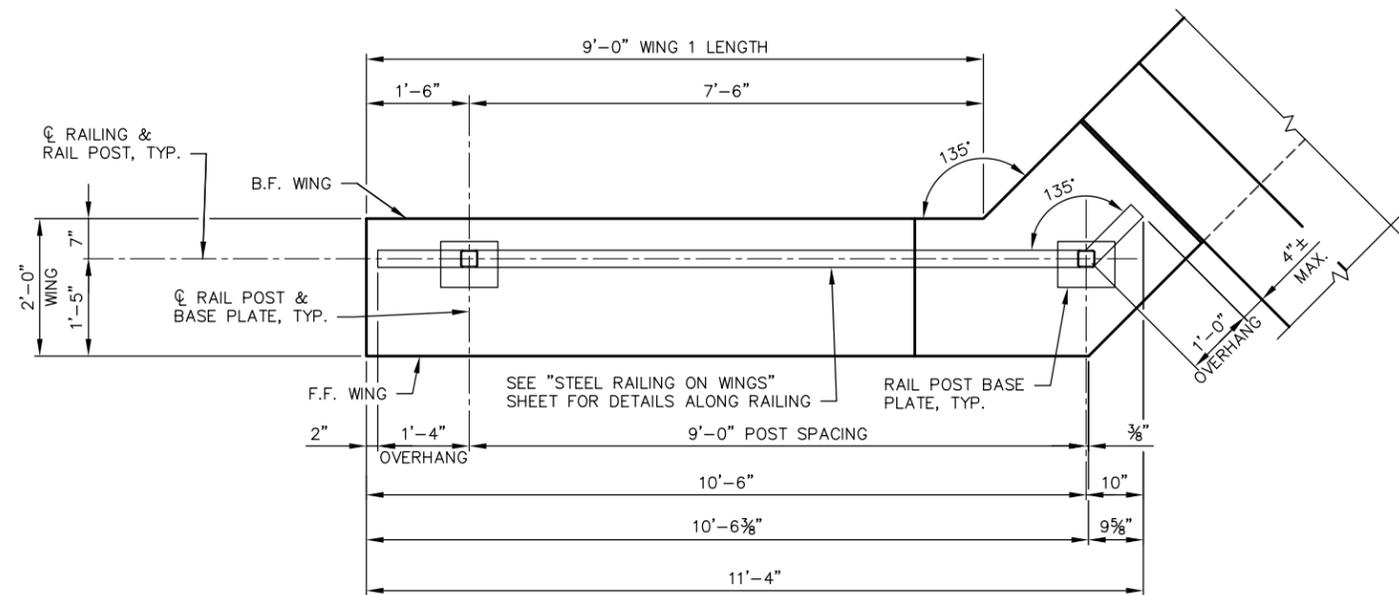
F.F. - FRONT FACE  
B.F. - BACK FACE

| NO.  | DATE | REVISION       | BY             |
|--|------|----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |                |
| <b>STRUCTURE B-24-46</b>                           |      |                |                |
| DRAWN BY JDO                                       |      | PLANS OK'D ACK |                |
| <b>STEEL RAILING ON WINGS</b>                      |      |                | SHEET 10 OF 18 |

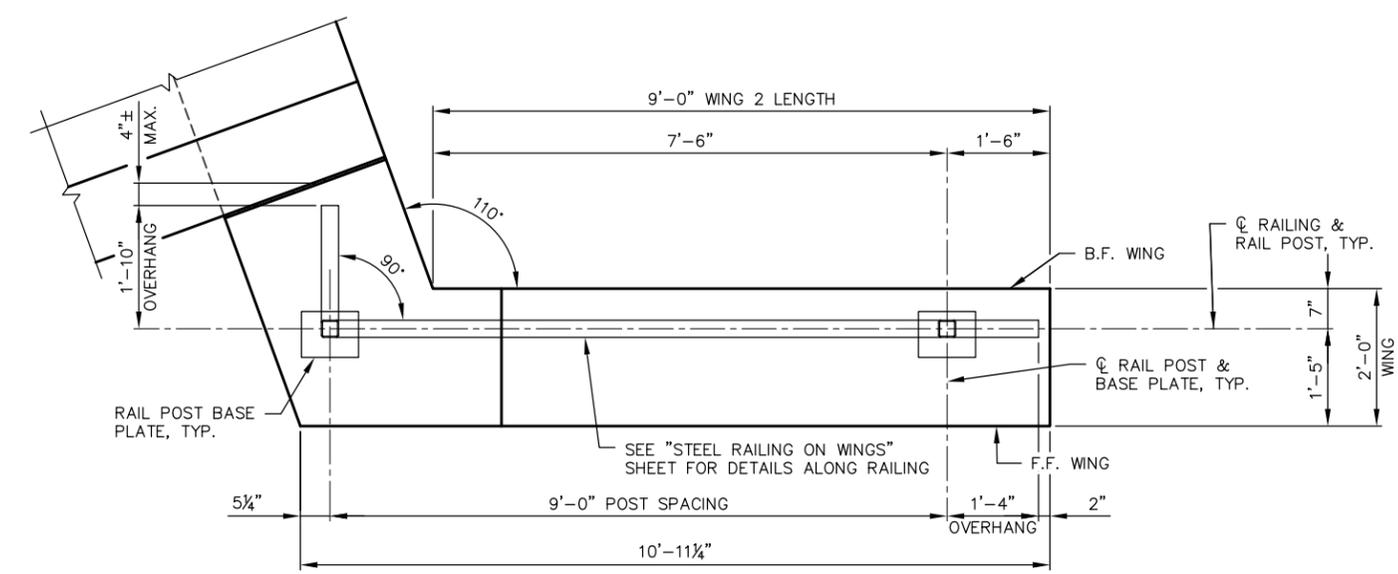
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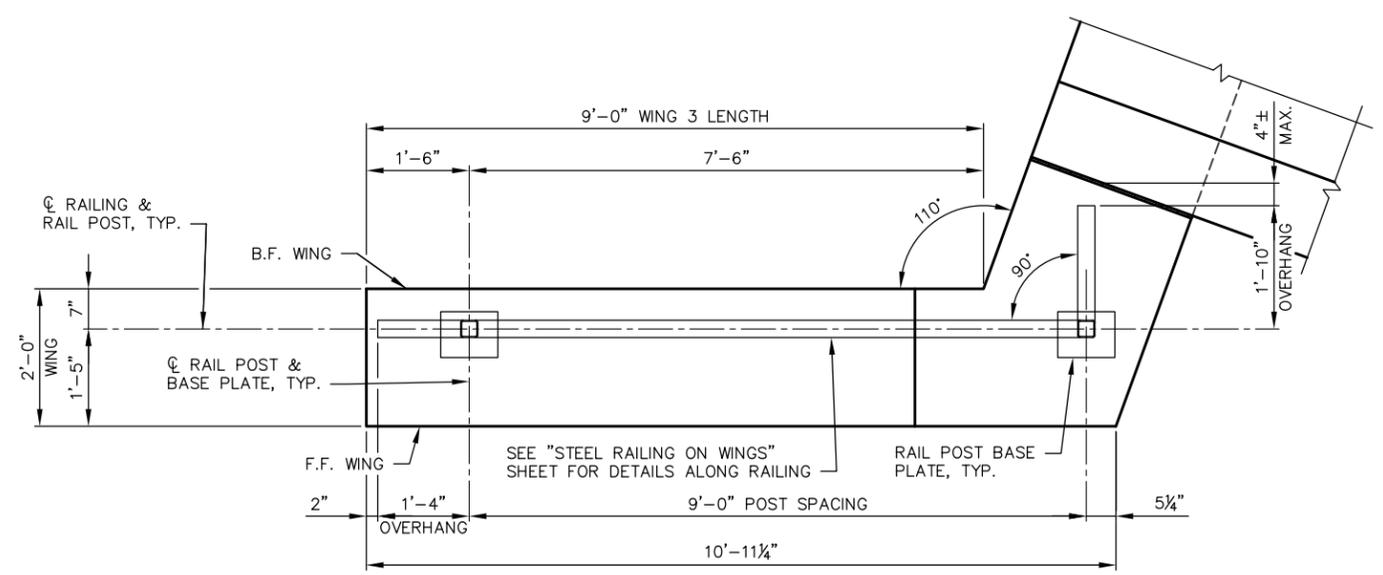
FILE: B240046\_10\_11\_wingrail.dwg PLOT SCALE:



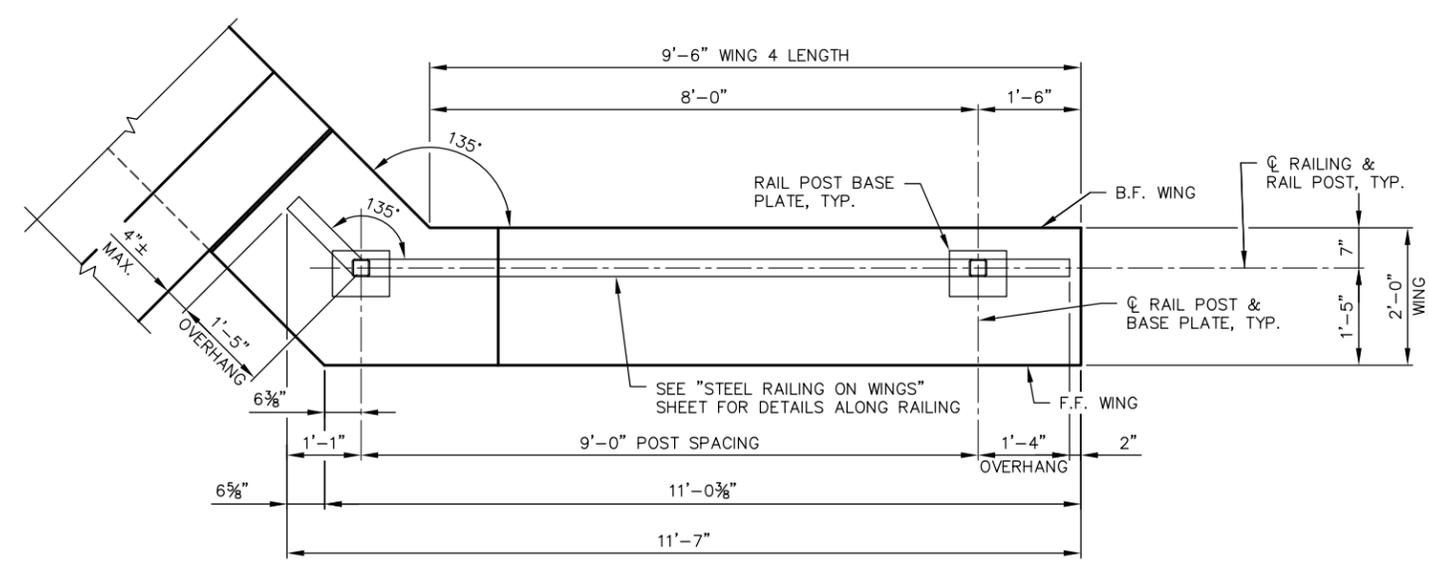
**WING 1 LAYOUT**



**WING 2 LAYOUT**



**WING 3 LAYOUT**



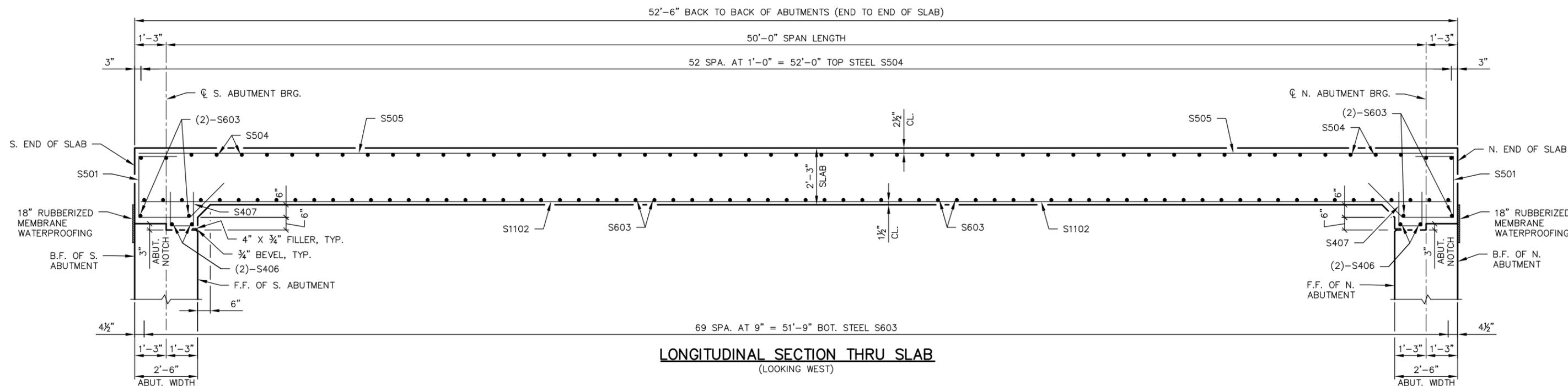
**WING 4 LAYOUT**

8

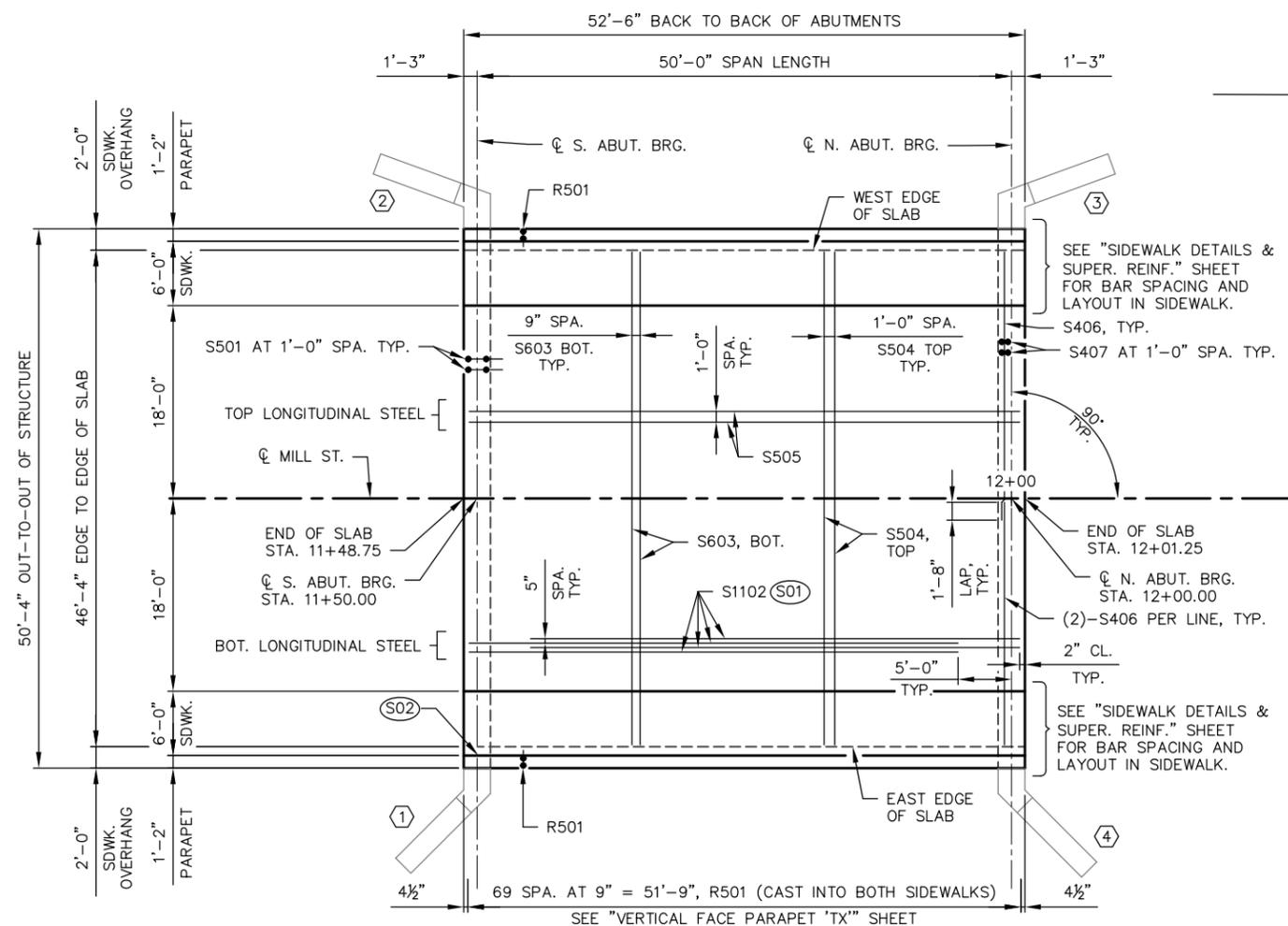
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F.F. - FRONT FACE  
B.F. - BACK FACE

| NO.  | DATE | REVISION       | BY             |
|--|------|----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |                |
| <b>STRUCTURE B-24-46</b>                           |      |                |                |
| DRAWN BY JDO                                       |      | PLANS OK'D ACK |                |
| <b>STEEL RAILING ON WING PLANS</b>                 |      |                | SHEET 11 OF 18 |



**LONGITUDINAL SECTION THRU SLAB**  
(LOOKING WEST)



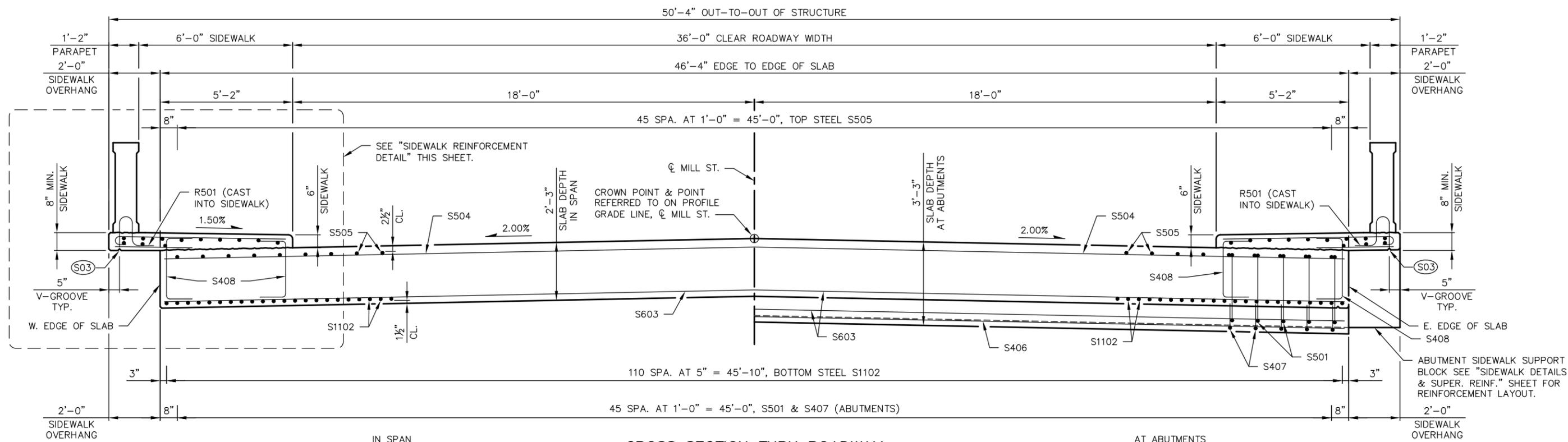
**SUPERSTRUCTURE PLAN**

**NOTES**

- TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY.
- BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.
- ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).
- PARAPETS AND SIDEWALK PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.
- (S01) EXTEND ONE END OF THE S1102 BAR TO 2" CLEAR OF ONE BACK FACE OF ABUTMENT. ALTERNATE BETWEEN SOUTH AND NORTH ABUTMENTS ACROSS ENTIRE SLAB.
- (S02) NAME PLATE AND BENCHMARK (WHEN SUPPLIED). SEE "VERTICAL FACE PARAPET 'TX'" SHEET FOR PLACEMENT LOCATION.
- ⬡ INDICATES WING NUMBER

F.F. — FRONT FACE  
B.F. — BACK FACE

| NO.  | DATE | REVISION       | BY             |
|--|------|----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |                |
| <b>STRUCTURE B-24-46</b>                           |      |                |                |
| DRAWN BY JDO                                       |      | PLANS OK'D ACK |                |
| <b>SUPERSTRUCTURE</b>                              |      |                | SHEET 12 OF 18 |



**CROSS SECTION THRU ROADWAY**

(LOOKING NORTH)  
(CONDUIT NOT SHOWN FOR CLARITY)

**NOTES**

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

(S03) 3/4" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT BODY. V-GROOVES ARE REQUIRED.

(S04) SEE "VERTICAL FACE PARAPET 'TX'" SHEET FOR DETAILS.

(S05) INSIDE FACE OF SIDEWALK CURB

(S06) TOP OF SIDEWALK (AT INSIDE FACE OF PARAPET)

(S07) CONSTRUCTION JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. MATCH BRIDGE SLAB CROSS SLOPE OF 2%.

**TOP OF SLAB/SIDEWALK ELEVATIONS**

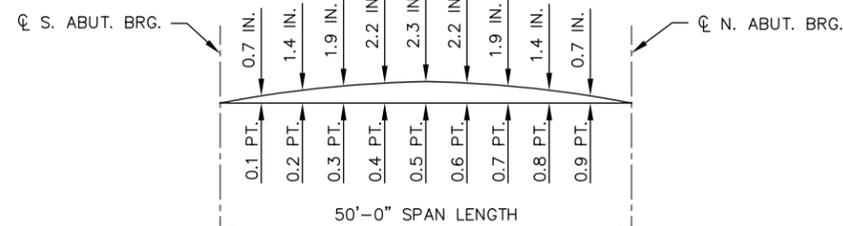
| SPAN PT     | W. SDWK. (INSIDE FACE OF PARAPET) | W. SLAB EDGE * | INSIDE FACE OF W. SDWK. CURB | CL MILL ST. | INSIDE FACE OF E. SDWK. CURB | E. SLAB EDGE * | E. SDWK. (INSIDE FACE OF PARAPET) |
|-------------|-----------------------------------|----------------|------------------------------|-------------|------------------------------|----------------|-----------------------------------|
| CL S. ABUT. | 798.44                            | 797.75         | 797.85                       | 798.21      | 797.85                       | 797.75         | 798.44                            |
| 0.1         | 798.45                            | 797.76         | 797.86                       | 798.22      | 797.86                       | 797.76         | 798.45                            |
| 0.2         | 798.46                            | 797.77         | 797.87                       | 798.23      | 797.87                       | 797.77         | 798.46                            |
| 0.3         | 798.47                            | 797.78         | 797.88                       | 798.24      | 797.88                       | 797.78         | 798.47                            |
| 0.4         | 798.48                            | 797.79         | 797.89                       | 798.25      | 797.89                       | 797.79         | 798.48                            |
| 0.5         | 798.48                            | 797.79         | 797.89                       | 798.25      | 797.89                       | 797.79         | 798.48                            |
| 0.6         | 798.48                            | 797.79         | 797.89                       | 798.25      | 797.89                       | 797.79         | 798.48                            |
| 0.7         | 798.48                            | 797.79         | 797.89                       | 798.25      | 797.89                       | 797.79         | 798.48                            |
| 0.8         | 798.48                            | 797.79         | 797.89                       | 798.25      | 797.89                       | 797.79         | 798.48                            |
| 0.9         | 798.48                            | 797.79         | 797.89                       | 798.25      | 797.89                       | 797.79         | 798.48                            |
| CL N. ABUT. | 798.47                            | 797.78         | 797.88                       | 798.24      | 797.88                       | 797.78         | 798.47                            |

\* ELEVATION AT TOP OF SLAB EDGE WITHOUT SIDEWALK AND WITH CONTINUED 2% CROSS SLOPE FROM CROWN POINT.

**SURVEY TOP OF SLAB ELEVATIONS**

|                | CL S. ABUT. BRG. | 5/10 PT. | CL N. ABUT. BRG. |
|----------------|------------------|----------|------------------|
| WEST SLAB EDGE |                  |          |                  |
| CL MILL ST.    |                  |          |                  |
| EAST SLAB EDGE |                  |          |                  |

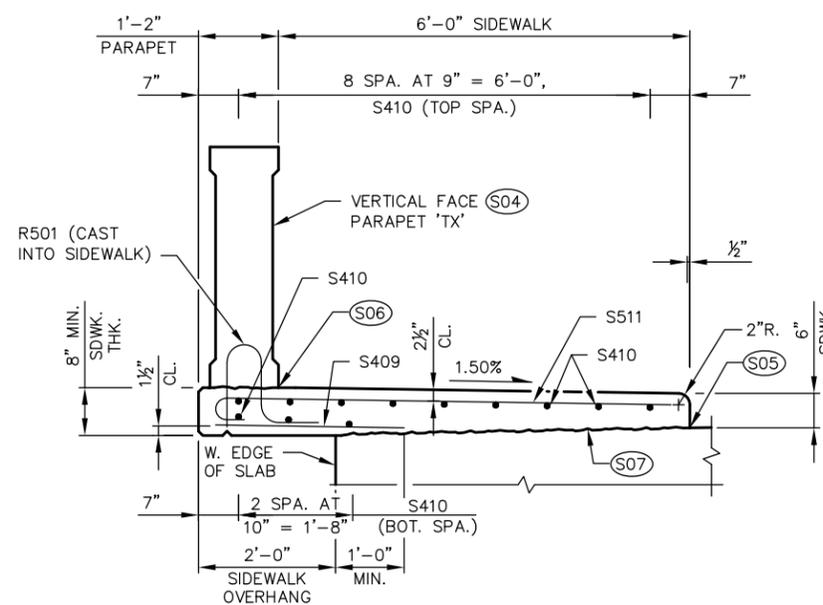
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE CL OF ABUTMENTS, CL OF PIER AND AT 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND REFERENCE LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.



**SLAB CAMBER DIAGRAM**

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

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



**SIDEWALK REINFORCEMENT DETAIL**

(SLAB REINFORCEMENT NOT SHOWN FOR CLARITY)  
(SEE "SIDEWALK DETAILS & SUPER. REINF." SHEET FOR BAR SPACING & ADDITIONAL DETAILS)  
(W. SIDEWALK SHOWN, E. SIDEWALK SIMILAR)

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**STRUCTURE B-24-46**

DRAWN BY JDO PLANS CKD ACK

**SUPERSTRUCTURE DETAILS**

SHEET 13 OF 18

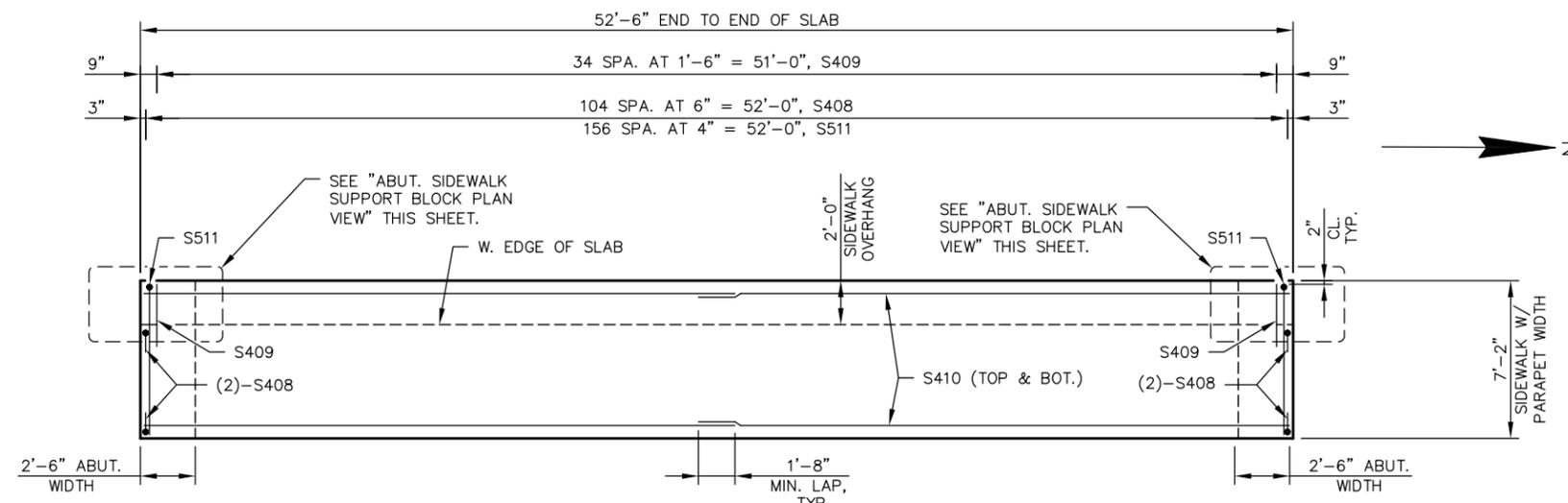
8

8

**BILL OF BARS  
SUPERSTRUCTURE**

| MARK  | NUMBER |          | LENGTH  | BENT | BAR SERIES | LOCATION                                  |
|-------|--------|----------|---------|------|------------|---|
|       | COATED | UNCOATED |         |      |            |   |
| S501  | 92     |          | 7'-10"  | X    |            | SLAB AT ABUTMENTS - TIES LONGIT.          |
| S1102 | 111    |          | 46'-1"  |      |            | SLAB - BOTTOM LONGIT.                     |
| S603  | 74     |          | 46'-0"  |      |            | SLAB - BOTTOM & ABOVE ABUTMENTS TRANS.    |
| S504  | 53     |          | 46'-0"  |      |            | SLAB - TOP TRANS.                         |
| S505  | 46     |          | 52'-2"  |      |            | SLAB - TOP LONGIT.                        |
| S406  | 8      |          | 23'-10" |      |            | SLAB - AT ABUTMENT NOTCH TRANS.           |
| S407  | 92     |          | 3'-3"   | X    |            | SLAB - STIRRUP ABOVE ABUTMENT NOTCH VERT. |
| S408  | 420    |          | 4'-1"   | X    |            | SLAB - SIDEWALK - STIRRUP VERT.           |
| S409  | 70     |          | 2'-10"  |      |            | SIDEWALK BOT. - EDGE TRANS.               |
| S410  | 48     |          | 26'-11" |      |            | SIDEWALK TOP & BOT. TRANS.                |
| S511  | 314    |          | 7'-4"   | X    |            | SIDEWALK OVERHANG TRANS.                  |
| S612  | 12     |          | 9'-6"   | X    |            | ABUT. SDWK. SUPPORT BLOCK - TRANS. TRANS. |
| S513  | 16     |          | 11'-6"  | X    |            | ABUT. SDWK. SUPPORT BLOCK - LONGIT. VERT. |

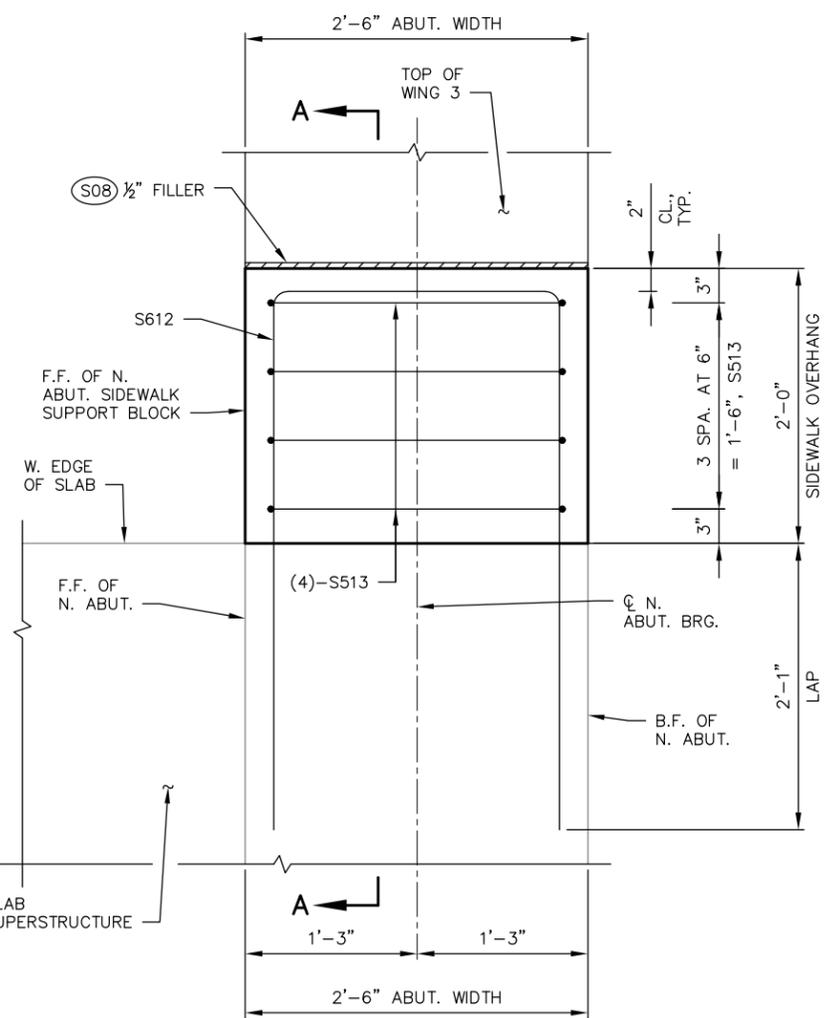
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.  
ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.



**SIDEWALK PLAN**

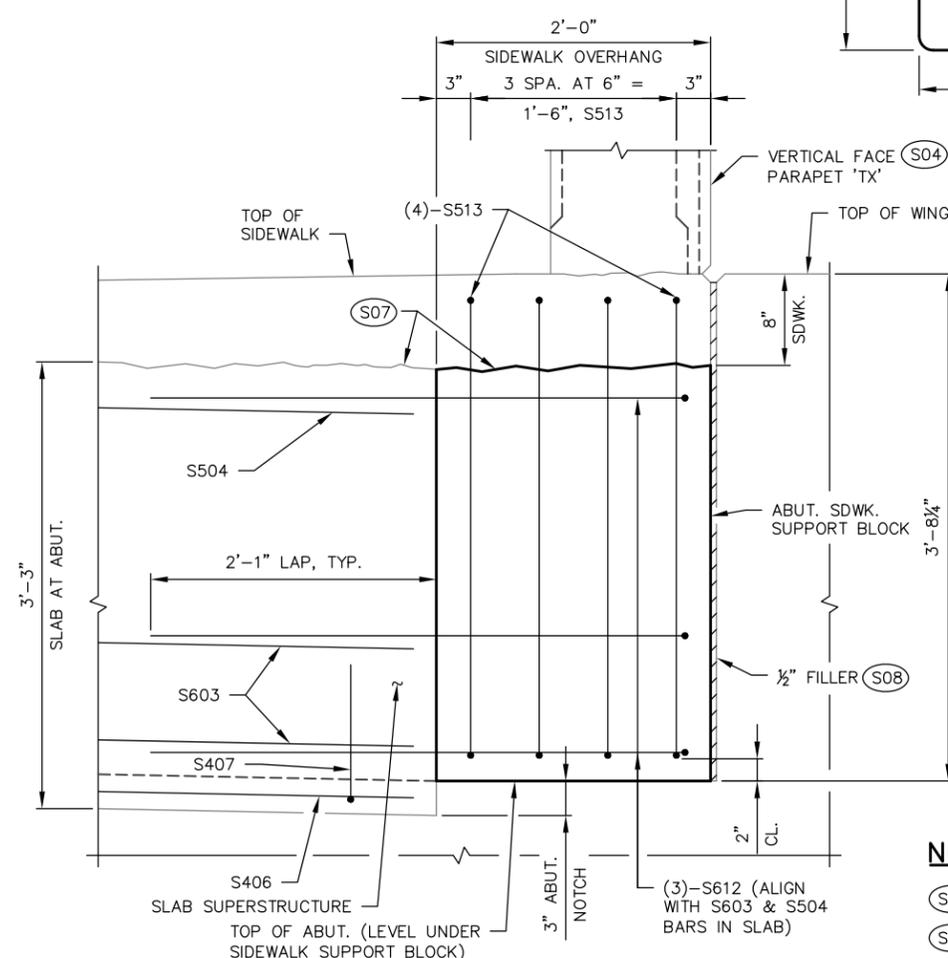
(W. SIDEWALK SHOWN, E. SIDEWALK SIMILAR  
PARAPET STEEL NOT SHOWN FOR CLARITY)

F.F. - FRONT FACE  
B.F. - BACK FACE



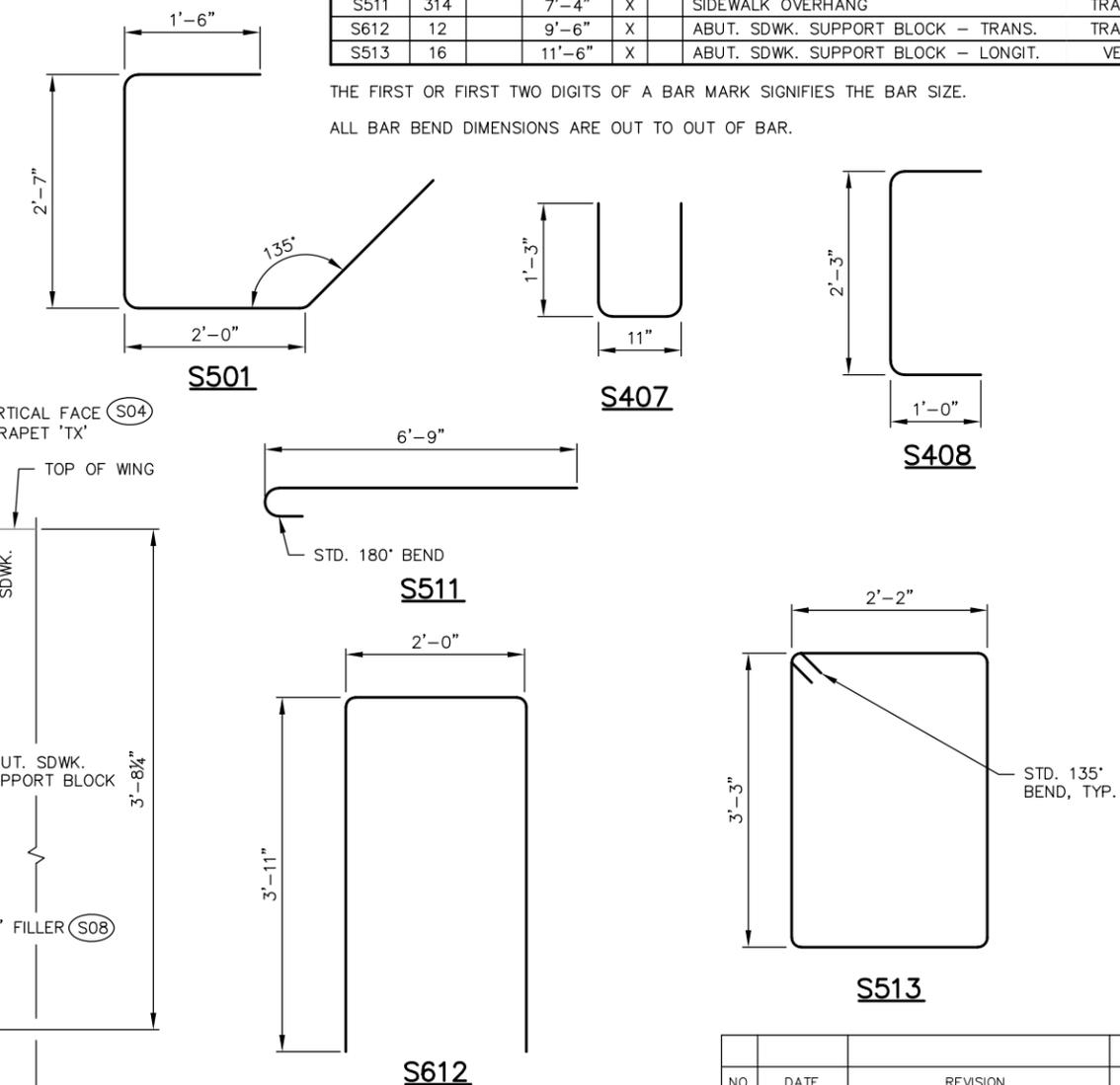
**ABUT. SIDEWALK SUPPORT  
BLOCK PLAN VIEW**

(N. ABUT. SHOWN NEAR WING 3, S. ABUT.  
AND OTHER WING LOCATIONS SIMILAR)



**SECTION A-A**

(N. ABUT. SHOWN, S. ABUT. SIMILAR)  
(SIDEWALK & PARAPET STEEL NOT SHOWN FOR CLARITY)



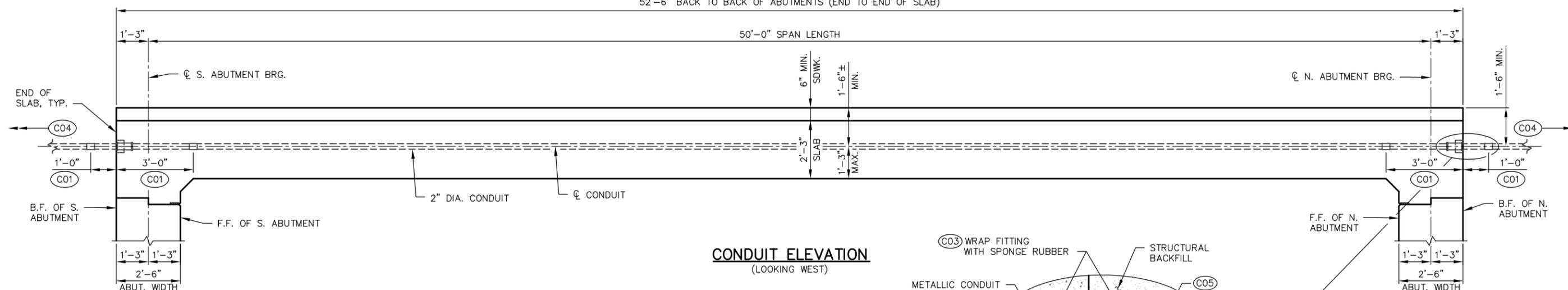
**NOTES**

- (S04) SEE "VERTICAL FACE PARAPET 'TX'" SHEET FOR DETAILS.
- (S07) CONSTRUCTION JOINT-STRIKE OFF AS SHOWN AND LEAVE ROUGH. MATCH BRIDGE SLAB CROSS SLOPE OF 2%.
- (S08) SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

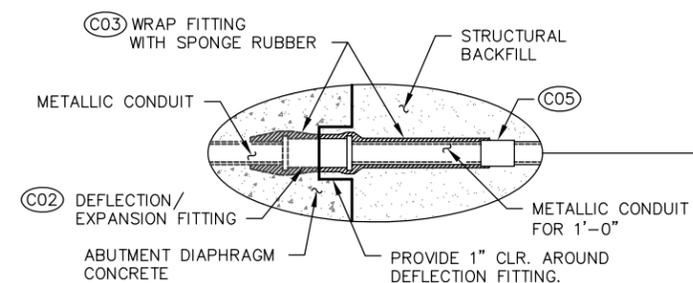
| NO.  | DATE | REVISION       | BY             |
|--|------|----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |                |
| <b>STRUCTURE B-24-46</b>                           |      |                |                |
| DRAWN BY JDO                                       |      | PLANS OK'D ACK |                |
| <b>SIDEWALK DETAILS<br/>&amp; SUPER. REINF.</b>    |      |                | SHEET 14 OF 18 |



52'-6" BACK TO BACK OF ABUTMENTS (END TO END OF SLAB)



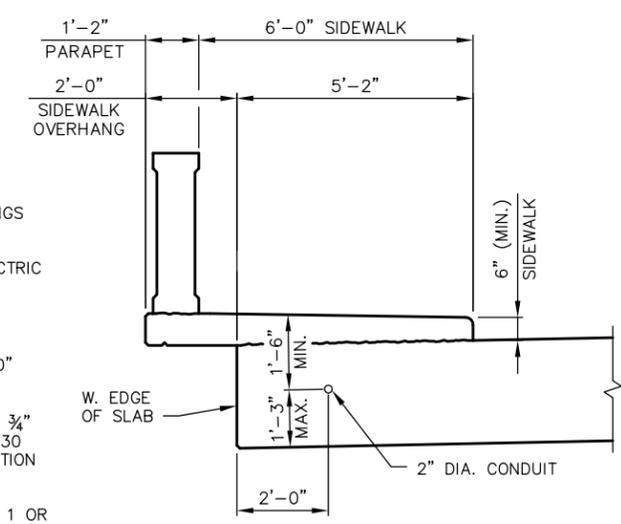
**CONDUIT ELEVATION**  
(LOOKING WEST)



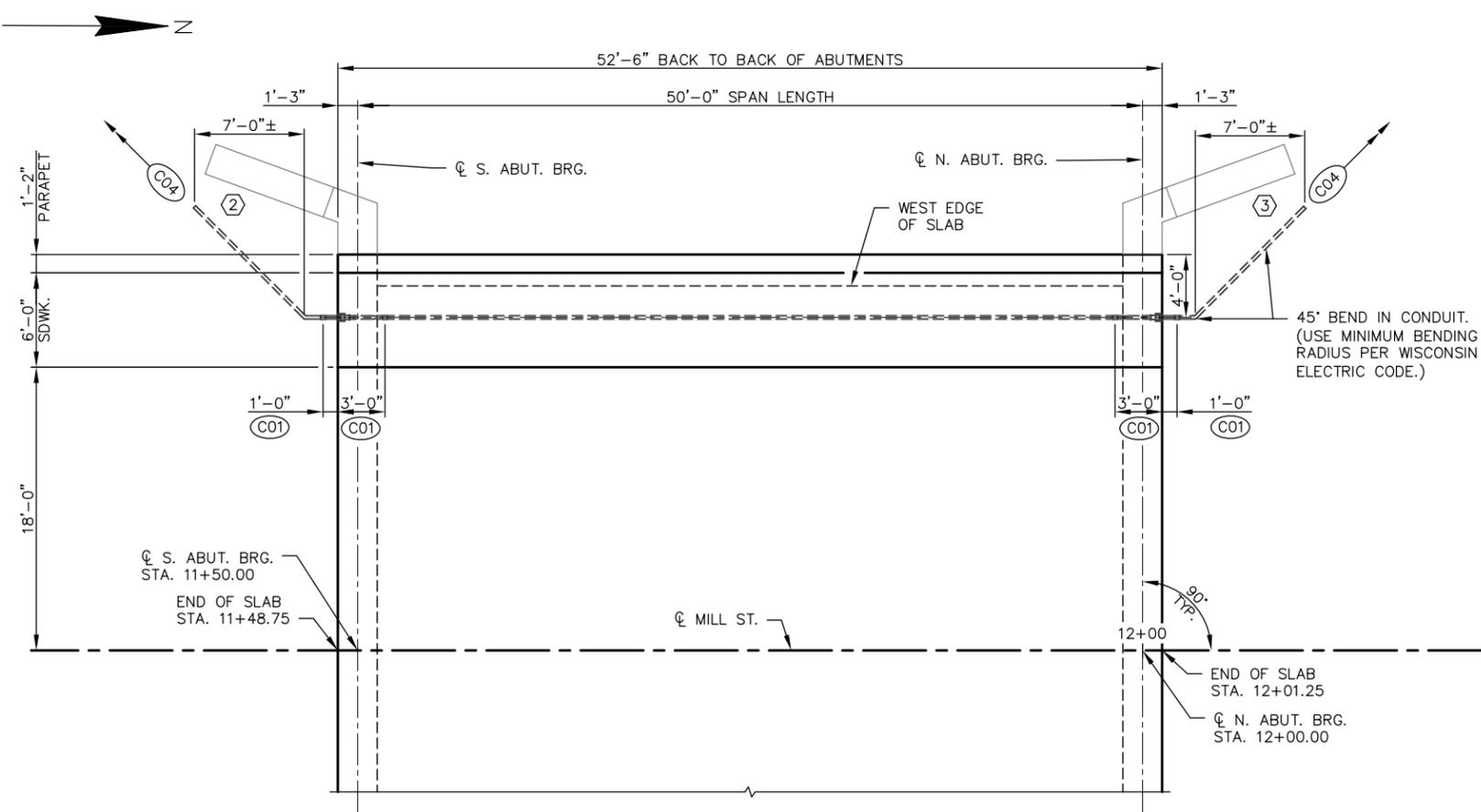
**DEFLECTION/EXPANSION FITTING**

**NOTES**

- CONDUIT SHALL BE EMBEDDED 2" CLEAR.
- USE 2" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.
- CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS INCIDENTAL TO CONDUIT WORK.
- CONDUIT BENDS SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.
- (C01) USE 2" DIA. RIGID METALLIC CONDUIT AT DEFLECTION/EXPANSION FITTINGS IN THE ABUTMENT DIAPHRAGMS. EXTEND RIGID METALLIC CONDUIT 3'-0" INTO THE SLAB.
- (C02) DEFLECTION/EXPANSION FITTING TO PROVIDE UP TO 3/4" CONDUIT CONTRACTION OR EXPANSION AND UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER.
- (C03) SPONGE RUBBER WRAP TO BE AASHTO M153, TYPE 1 OR EQUIVALENT - 1/4" MINIMUM THICKNESS. PROVIDE WRAP FOR THE ENTIRE LENGTH OF THE FITTING OR AS SHOWN. SPONGE RUBBER WRAP TO BE INCLUDED WITH THE BID ITEM "CONDUIT RIGID METALLIC 2-INCH".
- (C04) LIMITS OF STRUCTURE BID ITEM FOR CONDUITS TERMINATES AT PULL BOXES OFF OF STRUCTURE. REFER TO ROADWAY PLANS FOR LOCATIONS AND DETAILS.
- (C05) WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.
- ⬡ INDICATES WING NUMBER



**SECTION THRU CONDUIT**  
(LOOKING NORTH, WEST SIDE ONLY)  
(REINFORCEMENT NOT SHOWN FOR CLARITY)



**CONDUIT PLAN**

F.F. - FRONT FACE  
B.F. - BACK FACE

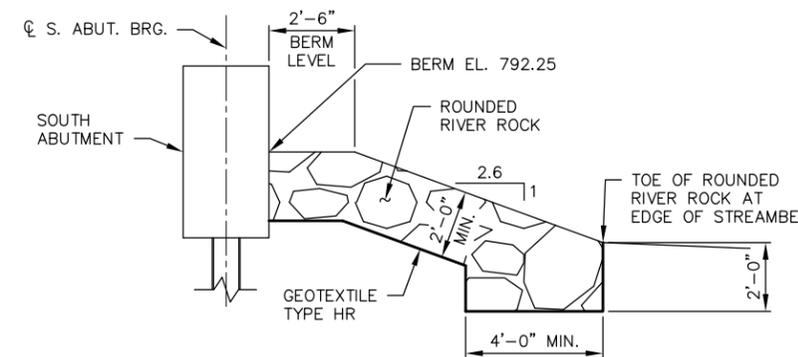
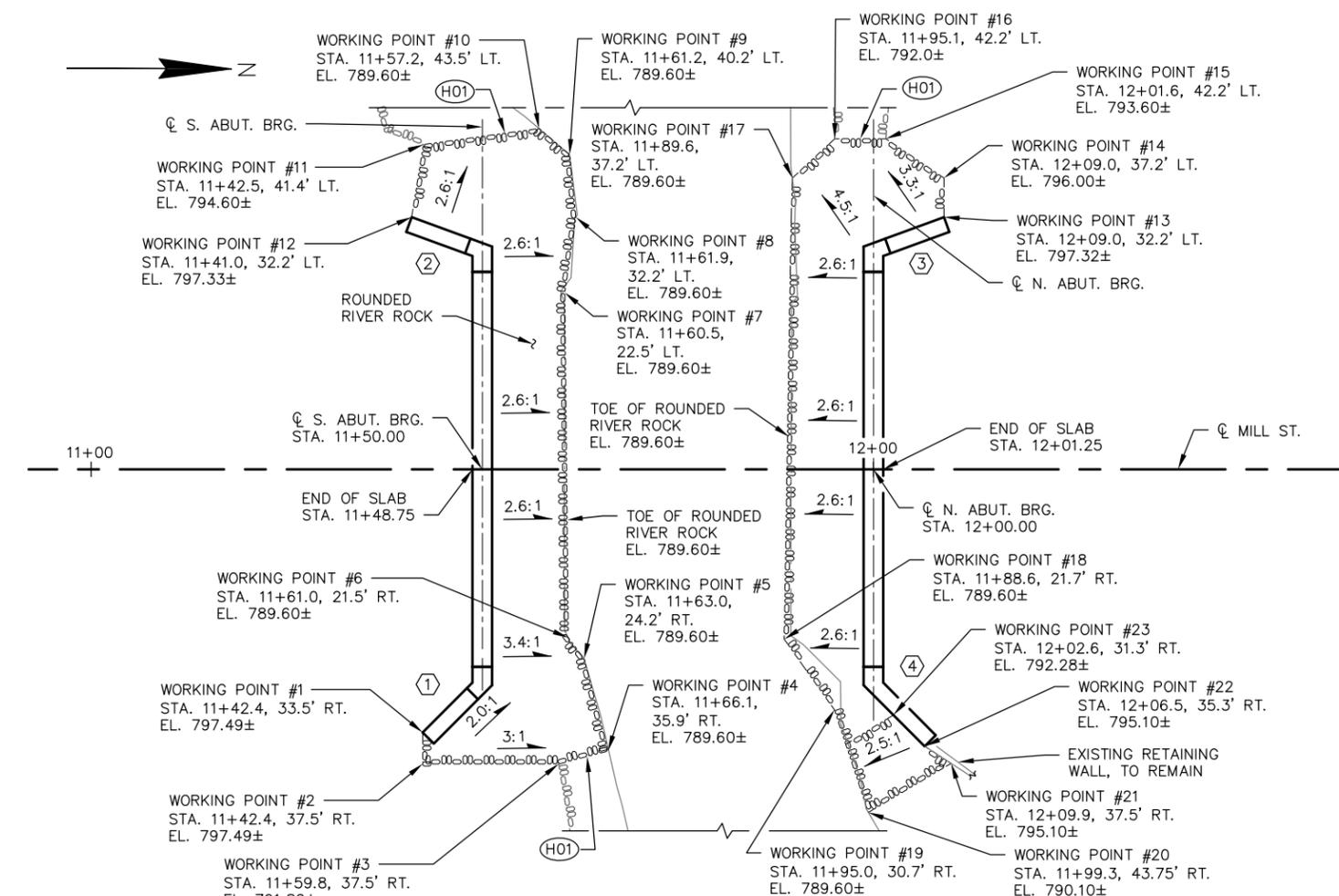
| NO.  | DATE | REVISION       | BY             |
|--|------|----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |                |
| <b>STRUCTURE B-24-46</b>                           |      |                |                |
| DRAWN BY JDO                                       |      | PLANS OK'D ACK |                |
| <b>CONDUIT DETAILS</b>                             |      |                | SHEET 16 OF 18 |

**NOTES**

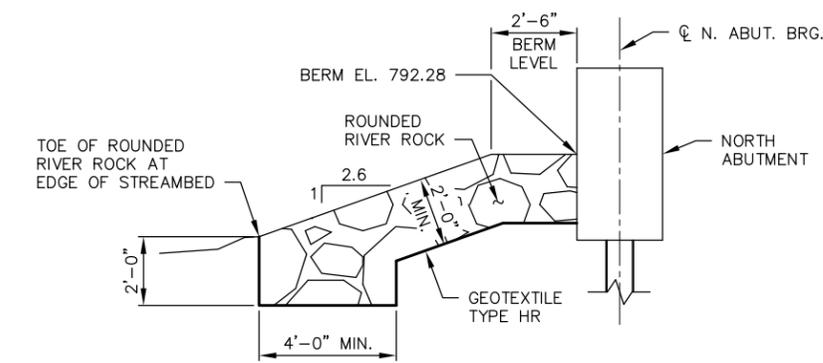
PLACE GEOTEXTILE TYPE HR BELOW ROUNDED RIVER ROCK.

(H01) TIE NEW ROUNDED RIVER ROCK INTO EXISTING ROUNDED RIVER ROCK NEAR WINGS 1, 2, & 3.

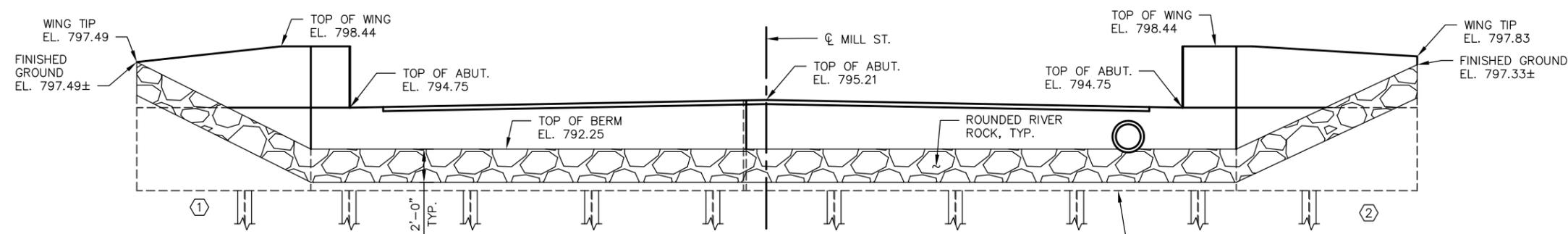
⊙ INDICATES WING NUMBER



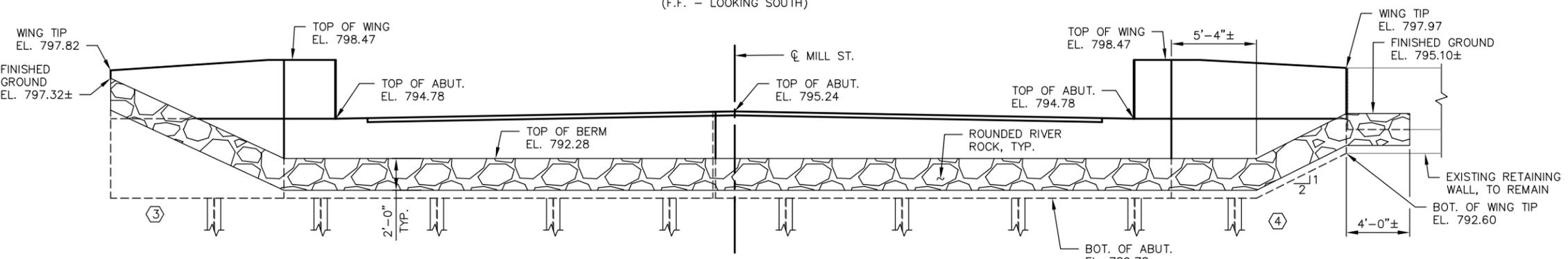
**TYPICAL SECTION THRU SOUTH ABUTMENT (LOOKING WEST)**



**TYPICAL SECTION THRU NORTH ABUTMENT (LOOKING WEST)**

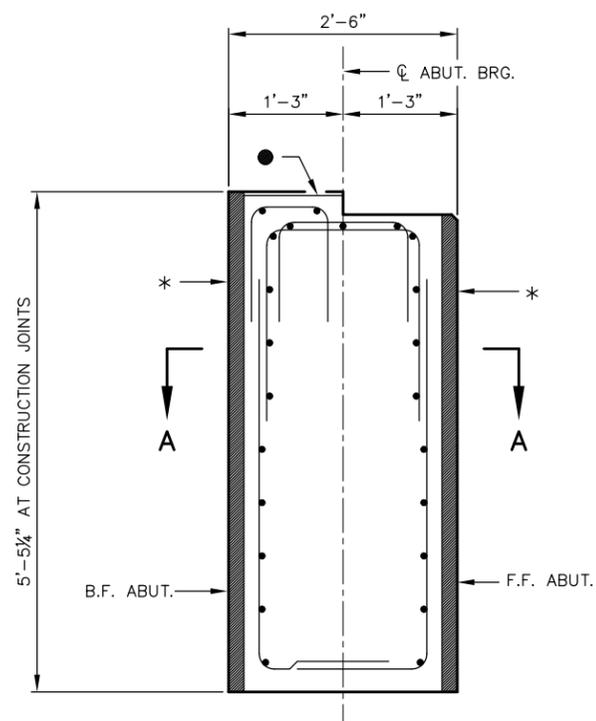


**S. ABUT. ELEVATION (F.F. - LOOKING SOUTH)**

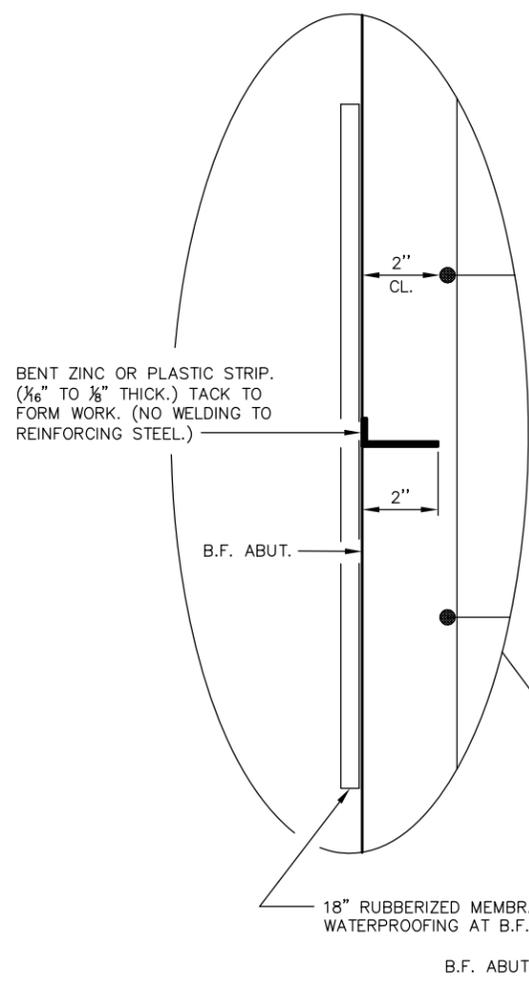


**N. ABUT. ELEVATION (F.F. - LOOKING NORTH)**

| NO.  | DATE | REVISION       | BY             |
|--|------|----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                |                |
| <b>STRUCTURE B-24-46</b>                           |      |                |                |
| DRAWN BY JDO                                       |      | PLANS OK'D ACK |                |
| <b>ROUNDED RIVER ROCK LAYOUT</b>                   |      |                | SHEET 17 OF 18 |

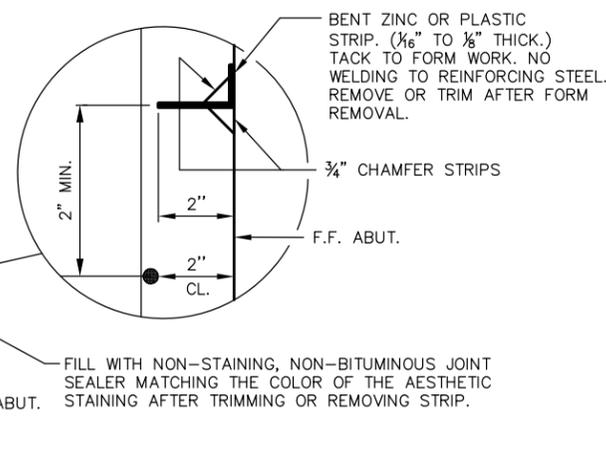


**SECTION THRU ABUTMENT BODY**



**SECTION A-A**

**ALTERNATE CONSTRUCTION JOINT AT ABUTMENT**



**NOTES**

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

SAW CUTTING THE CONSTRUCTION JOINT IS NOT ALLOWED.

● USE A JOINT TOOL TO CONSTRUCT A CONSTRUCTION JOINT APPROXIMATELY 1/2" DEEP.

\* BENT ZINC OR PLASTIC STRIP.

F.F. - FRONT FACE  
B.F. - BACK FACE

| NO.  | DATE | REVISION        | BY             |
|--|------|-----------------|----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |                |
| <b>STRUCTURE B-24-46</b>                           |      |                 |                |
| DRAWN BY: JDO                                      |      | PLANS OK'D: ACK |                |
| <b>ALTERNATE CONSTRUCTION JOINT</b>                |      |                 | SHEET 18 OF 18 |

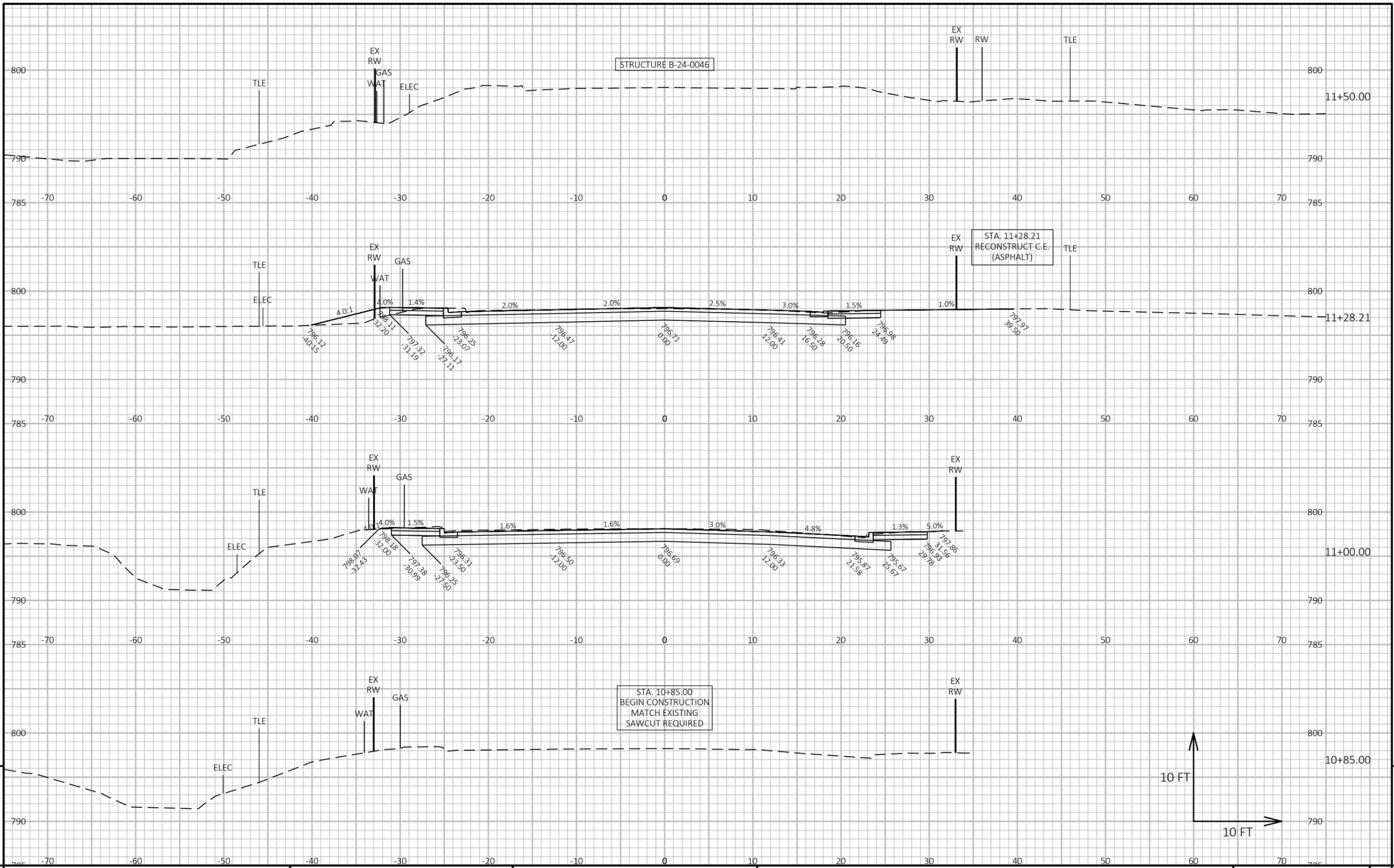
| STATION           | DISTANCE | AREA (SF) |                                     |      | INCREMENTAL VOL (CY) (UNADJUSTED) |   |                | CUMULATIVE VOL (CY)   |                       |                         |
|-------------------|----------|-----------|-------------------------------------|------|-----------------------------------|---|----------------|-----------------------|-----------------------|-------------------------|
|                   |          | CUT       | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT<br>NOTE 1                     | SALVAGED/UNUSABLE PAVEMENT MATERIAL<br>NOTE 2 | FILL<br>NOTE 3 | CUT<br>1.00<br>NOTE 1 | EXPANDED FILL<br>1.25 | MASS ORDINATE<br>NOTE 4 |
| 105.00            | 0.00     | 5.42      | 4.00                                | 0.35 | 0                                 | 0   | 0              | 0                     | 0                     | 0                       |
| 1100.00           | 15.00    | .04       | 4.00                                | 0.0  | 4                                 | 2   | 0              | 4                     | 0                     | 22                      |
| 112.21            | 2.21     | 3.5       | 3.00                                | .2   | 5                                 | 44  | 4              | 133                   | 5                     | 5                       |
| 114.5             | 20.54    | 5.4       | 30.00                               | .2   | 51                                | 2   | 6              | 14                    | 13                    | 76                      |
| STRUCTURE B24004  |          |           |                                     |      |                                   |   |                |                       |                       |                         |
| DIVISION 1 TOTALS |          |           |                                     |      | 14.00                             | 96  | 10             |                       |                       |                         |

| STATION             | DISTANCE | AREA (SF) |                                     |      | INCREMENTAL VOL (CY) (UNADJUSTED) |   |                | CUMULATIVE VOL (CY)   |                       |                         |
|---------------------|----------|-----------|-------------------------------------|------|-----------------------------------|---|----------------|-----------------------|-----------------------|-------------------------|
|                     |          | CUT       | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT<br>NOTE 1                     | SALVAGED/UNUSABLE PAVEMENT MATERIAL<br>NOTE 2 | FILL<br>NOTE 3 | CUT<br>1.00<br>NOTE 1 | EXPANDED FILL<br>1.25 | MASS ORDINATE<br>NOTE 4 |
| STRUCTURE B-24-0046 |          |           |                                     |      |                                   |   |                |                       |                       |                         |
| 12+01.25            | 0.00     | 49.43     | 32.00                               | 6.82 | 0                                 | 0   | 0              | 0                     | 0                     | 0                       |
| 12+50.00            | 48.75    | 80.88     | 54.00                               | 0.44 | 118                               | ..  | 7              | 11                    | 9                     | 31                      |
| 1251.25             | 1.25     | 1.4       | 54.00                               | 0.24 | 4                                 | 3   | 0              | 122                   | 9                     | 32                      |
| DIVISION 2 TOTALS   |          |           |                                     |      | 122                               | 1   | 7              |                       |                       |                         |
| PROJECT TOTAL       |          |           |                                     |      | 30                                | 1   | 1              |                       |                       |                         |

| NOTES                                 |   |
|---------------------------------------|---|
| 1 CUT                                 | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL  |
| 2 SALVAGED/UNUSABLE PAVEMENT MATERIAL | TIS DOES NOT SO UP IN CROSS SECTIONS  |
| 3 FILL                                | DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME   |
| 4 MASS ORDINATE                       | (CUT) (FILLFILL FACTOR) (SALVAGED/UNUSABLE PAVEMENT MATERIAL)   |
|                                       | PLUS UANTITIY INDICATES AN EXCESS OF MATERIAL ITIN TE DIVISION. MINUS UANTITY INDICATES A SORTAGE OF MATERIAL ITIN TE DIVISION. |

9

9



PROJECT NO: 6626-01-70

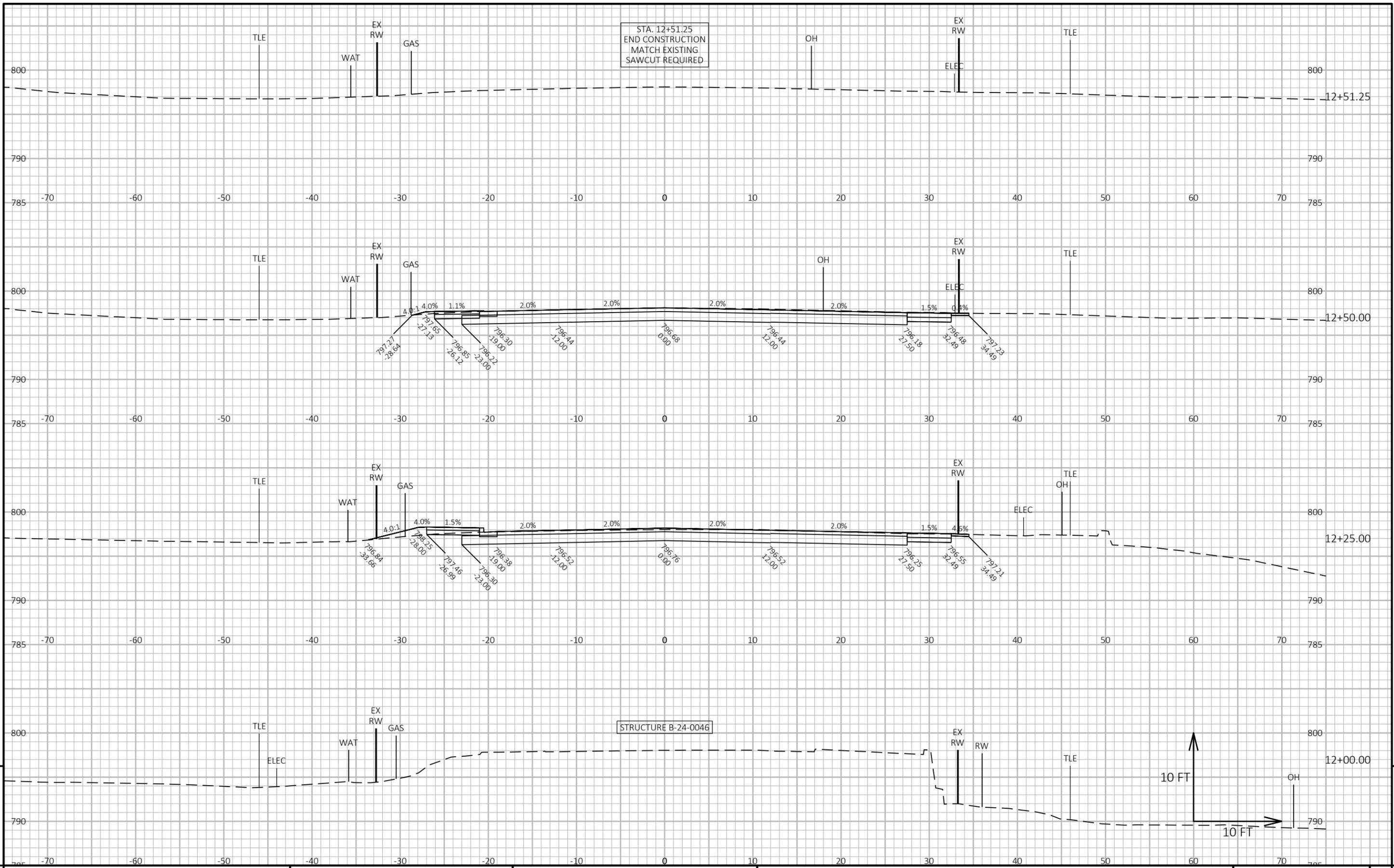
HWY: MILL STREET

COUNTY: GREEN LAKE

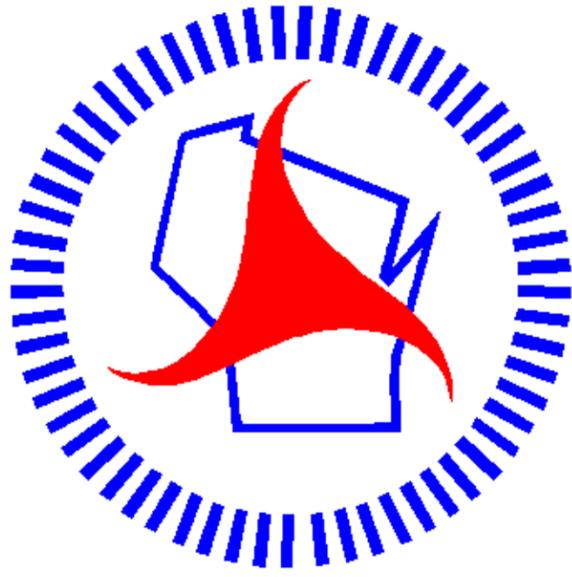
CROSS SECTIONS: MILL STREET

SHEET

E



PROJECT NO: 6626-01-70      HWY: MILL STREET      COUNTY: GREEN LAKE      CROSS SECTIONS: MILL STREET      SHEET      9



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

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