

SWL

PROJECT ID:

5719-00-72

COUNTY:

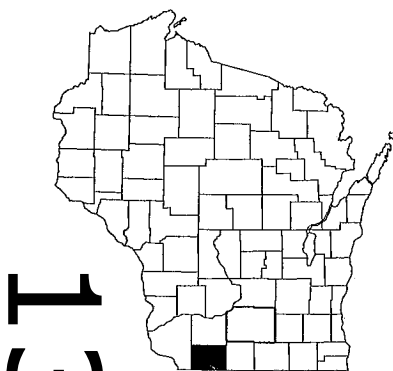
LAFAYETTE

NOVEMBER 2017

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 (Includes Erosion Control) |
| 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 = 48



DESIGN DESIGNATION

|               |   |        |
|---------------|---|--------|
| A.A.D.T. 2018 | = | 160    |
| A.A.D.T. 2038 | = | 210    |
| D.H.V.        | = | 4.5    |
| D.D.          | = | 60/40  |
| T.            | = | 2.4    |
| DESIGN SPEED  | = | 40 MPH |
| ESALS         | = | 22,000 |

CONVENTIONAL SYMBOLS

|                                |         |
|--------------------------------|---------|
| PLAN                           |         |
| CORPORATE LIMITS               | ////    |
| PROPERTY LINE                  | ---     |
| LOT LINE                       | ---     |
| LIMITED HIGHWAY EASEMENT       | ---     |
| EXISTING RIGHT OF WAY          | ---     |
| PROPOSED OR NEW R/W LINE       | ---     |
| SLOPE INTERCEPT                | 300' 1" |
| REFERENCE LINE                 | ---     |
| EXISTING CULVERT               | ---     |
| PROPOSED CULVERT (Box or Pipe) | ---     |
| COMBUSTIBLE FLUIDS             | CAUTION |
| MARSH AREA                     | ---     |
| WOODED OR SHRUB AREA           | ---     |

|                                             |       |
|---------------------------------------------|-------|
| PROFILE                                     |       |
| GRADE LINE                                  | ---   |
| ORIGINAL GROUND                             | ---   |
| MARSH OR ROCK PROFILE (To be noted as such) | ---   |
| SPECIAL DITCH                               | ---   |
| GRADE ELEVATION                             | 95.36 |
| CULVERT (Profile View)                      | ---   |
| UTILITIES                                   |       |
| ELECTRIC                                    | E     |
| FIBER OPTIC                                 | FO    |
| GAS                                         | G     |
| SANITARY SEWER                              | SAN   |
| STORM SEWER                                 | SS    |
| TELEPHONE                                   | T     |
| WATER                                       | W     |
| UTILITY PEDESTAL                            | ---   |
| POWER POLE                                  | ---   |
| TELEPHONE POLE                              | ---   |

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

TOWN OF KENDALL, BETHEL GROVE ROAD

(COTTAGE INN BRANCH BRIDGE B-33-0132)

TOWN ROAD  
LAFAYETTE COUNTY

STATE PROJECT NUMBER  
5719-00-72

STATE PROJECT

5719-00-72

FEDERAL PROJECT

PROJECT

WISC 2017508

CONTRACT

1

Carla M. Jacobson  
Prof. Co. Clerk

ACCEPTED FOR

TOWN of KENDALL

and

TOWN of BELMONT

3-20-17 Micah M. Bahr  
(Date) (TOWN CHAIRPERSON)

3-20-17 BLS  
(Date) (TOWN CHAIRPERSON)

ACCEPTED FOR

COUNTY of LAFAYETTE

4-4-17 Thomas R. Jean  
(Date) (HIGHWAY COMMISSIONER)

ORIGINAL PLANS PREPARED BY

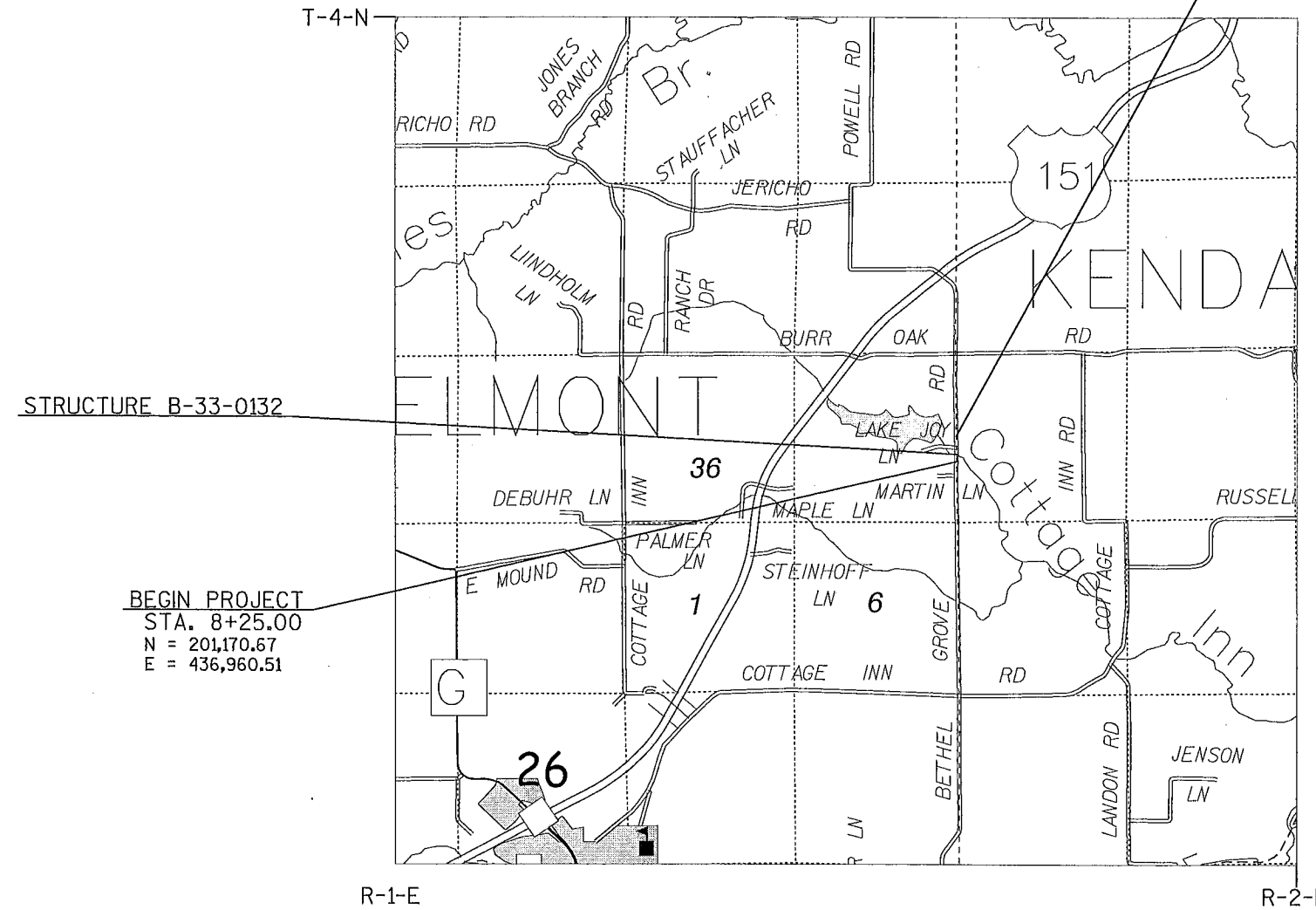
WISCONSIN  
JAMES L. KURTEN-CHMIELEWSKI  
E-42403  
MADISON WI  
PROFESSIONAL ENGINEER  
3-14-2017 (Date) (Professional Engineer)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY  
Surveyor MSA PROFESSIONAL SERVICES, INC.  
Designer MSA PROFESSIONAL SERVICES, INC.  
MANAGEMENT CONSULTANT KL ENGINEERING

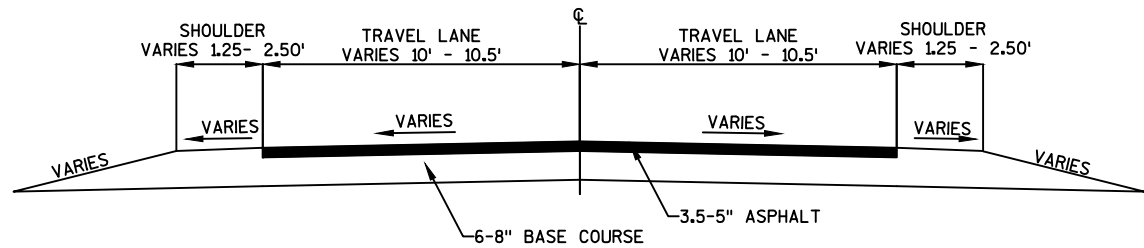
APPROVED FOR THE DEPARTMENT  
DATE: 4/28/17 (Management Consultant Signature)

E

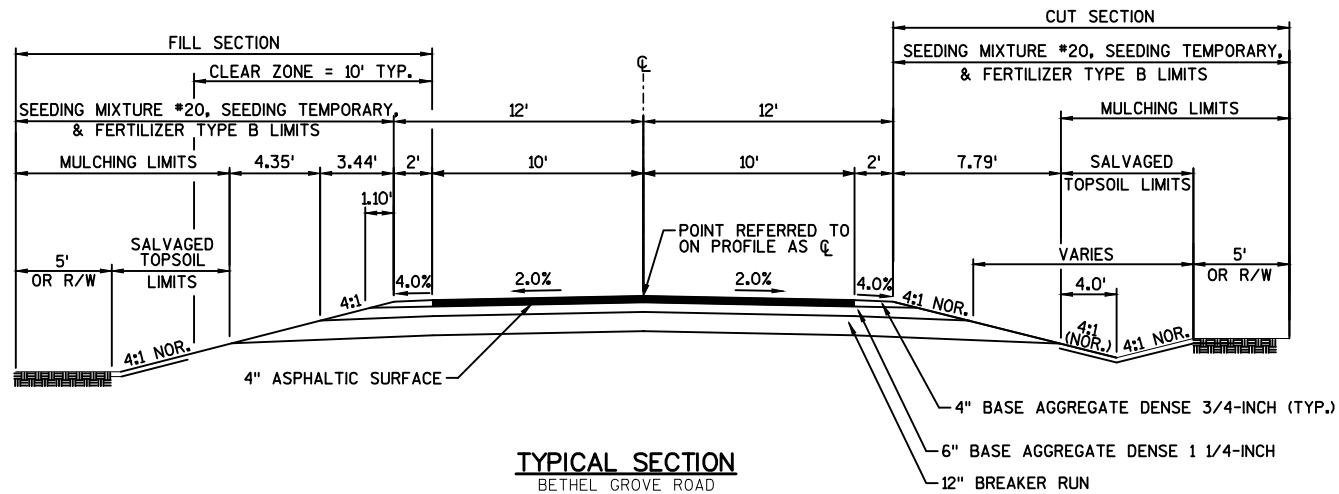


LAYOUT  
SCALE 0 1 MILE  
TOTAL NET LENGTH OF CENTERLINE = 0.057 MILE

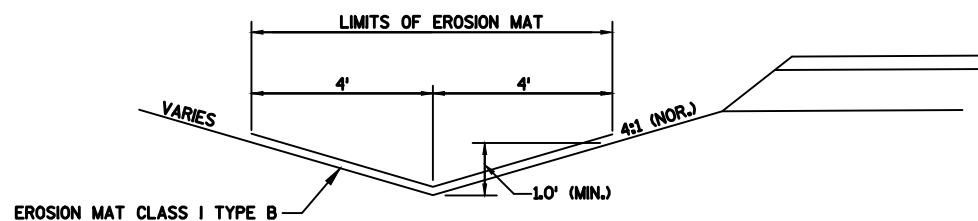
HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, LAFAYETTE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.



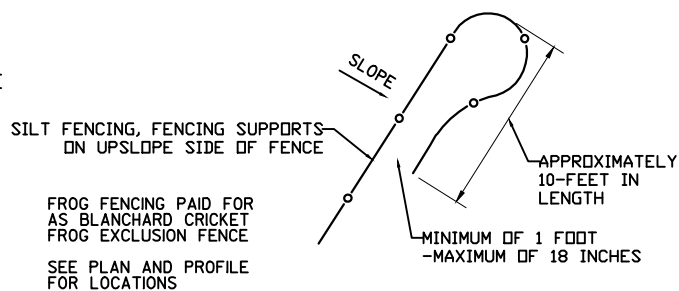
EXISTING TYPICAL SECTION  
BETHEL GROVE ROAD



TYPICAL SECTION  
BETHEL GROVE ROAD  
LAKE JOY LANE



EROSION MAT DITCH DETAIL



FROG EXCLUSION FENCING  
FOR BLANCHARD CRICKET FROG

DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.  
ATTN: JAIME KURTEN, P.E.  
2901 INTERNATIONAL LANE, SUITE 300  
MADISON, WI 53704-3133  
PHONE: (608) 242-6619  
EMAIL: JKURTEN@MSA-PS.COM

LAFAYETTE COUNTY HIGHWAY COMMISSIONER  
ATTN: TOM JEAN  
PO BOX 100  
12016 COUNTY SHOP ROAD  
DARLINGTON, WI 53530  
PHONE: (608) 776-4919  
EMAIL: tom.jean@lafayettecountywi.org

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES  
ATTN.: LAURA BUB  
3911 FISH HATCHERY ROAD  
FITCHBURG, WI 53711  
PHONE: (608) 275-3485  
EMAIL: LAURA.BUB@WISCONSIN.GOV

UTILITIES

TELEPHONE:  
BELMONT TELEPHONE COMPANY  
ATTN: JERRY CULLEN  
P.O. BOX 762  
121 N. WASHINGTON ST.  
CUBA CITY, WI 53807  
PHONE: (608) 744-2154  
EMAIL: JERRY@CSTECH.COM

ELECTRIC:  
SCENIC RIVERS ENERGY COOPERATIVE  
ATTN: CHAD OLMSTEAD  
231 N. SHERIDAN STREET  
LANCASTER, WI 53813  
PHONE: (608) 723-2121 (Ext 561)  
EMAIL: colmstead@SREC.NET

GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS SHALL BE FERTILIZED, SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

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

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

THE 4" ASPHALTIC SURFACE SHALL BE CONSTRUCTED USING A 2.25" LOWER LAYER AND A 1.75" UPPER LAYER.

SILT FENCE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO BRIDGE REMOVAL.

TEMPORARY DITCH CHECKS, IF NEEDED, SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

THE ASPHALTIC SURFACE SHALL TAPER FROM 14.25 FEET AT THE END OF THE BRIDGE TO 10.00 FEET AT +/- 25 FEET FROM THE BRIDGE ENDS, EXCEPT AT WING 3. SEE LAKE JOY LANE INTERSECTION DETAIL FOR ADDITIONAL EDGES OF PAVEMENTS LAYOUT.

\*\* WETLANDS EXIST AT STA. 9+40 TO 9+90, LT AND RT AND STA. 10+15 TO 10+40, LT. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE THE SLOPE INTERCEPT IN THESE AREAS.

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 0.64 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.53 ACRES

\*-DENOTES UTILITIES THAT ARE NOT  
DIGGERS HOTLINE MEMBERS

**DIGGERS HOTLINE**

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

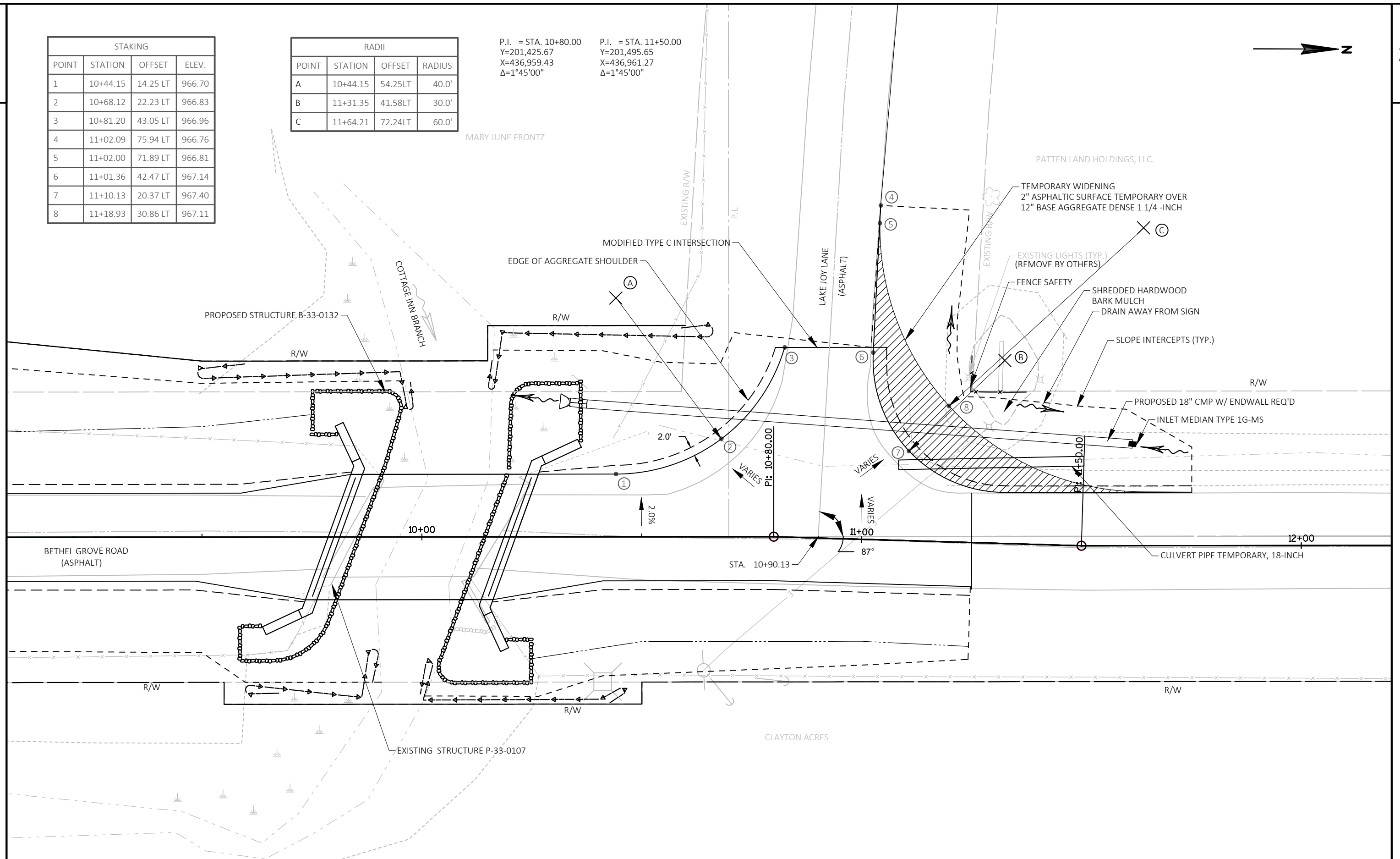
| STAKING |          |          |        |
|---------|----------|----------|--------|
| POINT   | STATION  | OFFSET   | ELEV.  |
| 1       | 10+44.15 | 14.25 LT | 966.70 |
| 2       | 10+68.12 | 22.23 LT | 966.83 |
| 3       | 10+81.20 | 43.05 LT | 966.96 |
| 4       | 11+02.09 | 75.94 LT | 966.76 |
| 5       | 11+02.00 | 71.89 LT | 966.81 |
| 6       | 11+01.36 | 42.47 LT | 967.14 |
| 7       | 11+10.13 | 20.37 LT | 967.40 |
| 8       | 11+18.93 | 30.86 LT | 967.11 |

| RADII |          |         |        |
|-------|----------|---------|--------|
| POINT | STATION  | OFFSET  | RADIUS |
| A     | 10+44.15 | 54.25LT | 40.0'  |
| B     | 11+31.35 | 41.58LT | 30.0'  |
| C     | 11+64.21 | 72.24LT | 60.0'  |

P.I. = STA. 10+80.00  
Y=201,425.67  
X=436,959.43  
 $\Delta=1^{\circ}45'00''$

P.I. = STA. 11+50.00  
Y=201,495.65  
X=436,961.27  
 $\Delta=1^{\circ}45'00''$

MARY JUNE FRONTZ



PROJECT NO: 5719-00-72

HWY: BETHEL GROVE ROAD

COUNTY: LAFAYETTE

LAKE JOY LANE INTERSECTION DETAIL

SHEET

E

Estimate Of Quantities

5719-00-72

| Line | Item       | Item Description                                                             | Unit | Total      | Qty        |
|------|------------|------------------------------------------------------------------------------|------|------------|------------|
| 0002 | 203.0100   | Removing Small Pipe Culverts                                                 | EACH | 2.000      | 2.000      |
| 0004 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00 | LS   | 1.000      | 1.000      |
| 0006 | 205.0100   | Excavation Common **p**                                                      | CY   | 1,031.000  | 1,031.000  |
| 0008 | 206.1000   | Excavation for Structures Bridges (structure) 01. B-33-132                   | LS   | 1.000      | 1.000      |
| 0010 | 210.1500   | Backfill Structure Type A                                                    | TON  | 370.000    | 370.000    |
| 0012 | 213.0100   | Finishing Roadway (project) 01. 5719-00-72                                   | EACH | 1.000      | 1.000      |
| 0014 | 305.0110   | Base Aggregate Dense 3/4-Inch                                                | TON  | 37.000     | 37.000     |
| 0016 | 305.0120   | Base Aggregate Dense 1 1/4-Inch                                              | TON  | 393.000    | 393.000    |
| 0018 | 311.0110   | Breaker Run                                                                  | TON  | 1,058.000  | 1,058.000  |
| 0020 | 455.0605   | Tack Coat                                                                    | GAL  | 37.000     | 37.000     |
| 0022 | 465.0105   | Asphaltic Surface                                                            | TON  | 166.000    | 166.000    |
| 0024 | 465.0125   | Asphaltic Surface Temporary                                                  | TON  | 8.000      | 8.000      |
| 0026 | 502.0100   | Concrete Masonry Bridges                                                     | CY   | 155.000    | 155.000    |
| 0028 | 502.3200   | Protective Surface Treatment                                                 | SY   | 200.000    | 200.000    |
| 0030 | 505.0400   | Bar Steel Reinforcement HS Structures                                        | LB   | 4,670.000  | 4,670.000  |
| 0032 | 505.0600   | Bar Steel Reinforcement HS Coated Structures                                 | LB   | 18,270.000 | 18,270.000 |
| 0034 | 513.4061   | Railing Tubular Type M (structure) 01. B-33-132                              | LF   | 90.000     | 90.000     |
| 0036 | 516.0500   | Rubberized Membrane Waterproofing                                            | SY   | 13.000     | 13.000     |
| 0038 | 520.1018   | Apron Endwalls for Culvert Pipe 18-Inch                                      | EACH | 1.000      | 1.000      |
| 0040 | 520.2018   | Culvert Pipe Temporary 18-Inch                                               | LF   | 84.000     | 84.000     |
| 0042 | 520.3318   | Culvert Pipe Class III-A 18-Inch                                             | LF   | 125.000    | 125.000    |
| 0044 | 550.0020   | Pre-Boring Rock or Consolidated Materials                                    | LF   | 156.000    | 156.000    |
| 0046 | 550.1100   | Piling Steel HP 10-Inch X 42 Lb                                              | LF   | 198.000    | 198.000    |
| 0048 | 606.0300   | Riprap Heavy                                                                 | CY   | 100.000    | 100.000    |
| 0050 | 611.0642   | Inlet Covers Type MS                                                         | EACH | 1.000      | 1.000      |
| 0052 | 611.3901   | Inlets Median 1 Grate                                                        | EACH | 1.000      | 1.000      |
| 0054 | 612.0406   | Pipe Underdrain Wrapped 6-Inch                                               | LF   | 190.000    | 190.000    |
| 0056 | 616.0700.S | Fence Safety                                                                 | LF   | 50.000     | 50.000     |
| 0058 | 619.1000   | Mobilization                                                                 | EACH | 1.000      | 1.000      |
| 0060 | 624.0100   | Water                                                                        | MGAL | 6.000      | 6.000      |
| 0062 | 625.0500   | Salvaged Topsoil **p**                                                       | SY   | 668.000    | 668.000    |
| 0064 | 627.0200   | Mulching **p**                                                               | SY   | 669.000    | 669.000    |
| 0066 | 628.1104   | Erosion Bales                                                                | EACH | 50.000     | 50.000     |
| 0068 | 628.1504   | Silt Fence                                                                   | LF   | 539.000    | 539.000    |
| 0070 | 628.1520   | Silt Fence Maintenance                                                       | LF   | 1,078.000  | 1,078.000  |
| 0072 | 628.1905   | Mobilizations Erosion Control                                                | EACH | 2.000      | 2.000      |
| 0074 | 628.1910   | Mobilizations Emergency Erosion Control                                      | EACH | 1.000      | 1.000      |
| 0076 | 628.2004   | Erosion Mat Class I Type B                                                   | SY   | 279.000    | 279.000    |

Estimate Of Quantities

5719-00-72

| Line | Item     | Item Description                                                   | Unit | Total   | Qty     |
|------|----------|--------------------------------------------------------------------|------|---------|---------|
| 0078 | 628.2006 | Erosion Mat Urban Class I Type A                                   | SY   | 50.000  | 50.000  |
| 0080 | 628.6005 | Turbidity Barriers                                                 | SY   | 104.000 | 104.000 |
| 0082 | 628.7020 | Inlet Protection Type D                                            | EACH | 1.000   | 1.000   |
| 0084 | 628.7504 | Temporary Ditch Checks                                             | LF   | 50.000  | 50.000  |
| 0086 | 628.7560 | Tracking Pads                                                      | EACH | 2.000   | 2.000   |
| 0088 | 629.0210 | Fertilizer Type B **p**                                            | CWT  | 0.950   | 0.950   |
| 0090 | 630.0120 | Seeding Mixture No. 20 **p**                                       | LB   | 31.000  | 31.000  |
| 0092 | 630.0140 | Seeding Mixture No. 40 **p**                                       | LB   | 7.000   | 7.000   |
| 0094 | 630.0200 | Seeding Temporary **p**                                            | LB   | 19.000  | 19.000  |
| 0096 | 631.1100 | Sod Erosion Control                                                | SY   | 50.000  | 50.000  |
| 0098 | 633.5100 | Markers Row                                                        | EACH | 18.000  | 18.000  |
| 0100 | 633.5200 | Markers Culvert End                                                | EACH | 1.000   | 1.000   |
| 0102 | 634.0612 | Posts Wood 4x6-Inch X 12-FT                                        | EACH | 4.000   | 4.000   |
| 0104 | 634.0614 | Posts Wood 4x6-Inch X 14-FT                                        | EACH | 1.000   | 1.000   |
| 0106 | 637.2210 | Signs Type II Reflective H                                         | SF   | 12.000  | 12.000  |
| 0108 | 637.2230 | Signs Type II Reflective F                                         | SF   | 5.180   | 5.180   |
| 0110 | 642.5001 | Field Office Type B                                                | EACH | 1.000   | 1.000   |
| 0112 | 643.0100 | Traffic Control (project) 01. 5719-00-72                           | EACH | 1.000   | 1.000   |
| 0114 | 645.0111 | Geotextile Type DF Schedule A                                      | SY   | 100.000 | 100.000 |
| 0116 | 645.0120 | Geotextile Type HR                                                 | SY   | 230.000 | 230.000 |
| 0118 | 645.0135 | Geotextile Type SR                                                 | SY   | 200.000 | 200.000 |
| 0120 | 650.4000 | Construction Staking Storm Sewer                                   | EACH | 1.000   | 1.000   |
| 0122 | 650.4500 | Construction Staking Subgrade                                      | LF   | 257.000 | 257.000 |
| 0124 | 650.5000 | Construction Staking Base                                          | LF   | 257.000 | 257.000 |
| 0126 | 650.6000 | Construction Staking Pipe Culverts                                 | EACH | 1.000   | 1.000   |
| 0128 | 650.6500 | Construction Staking Structure Layout (structure) 01. B-33-132     | LS   | 1.000   | 1.000   |
| 0130 | 650.9910 | Construction Staking Supplemental Control (project) 01. 5719-00-72 | LS   | 1.000   | 1.000   |
| 0132 | 650.9920 | Construction Staking Slope Stakes                                  | LF   | 257.000 | 257.000 |
| 0134 | 690.0150 | Sawing Asphalt                                                     | LF   | 60.000  | 60.000  |
| 0136 | 715.0502 | Incentive Strength Concrete Structures                             | DOL  | 930.000 | 930.000 |
| 0138 | SPV.0085 | Special 01. Blanchard's Cricket Frog Seed Mix                      | LB   | 1.000   | 1.000   |
| 0140 | SPV.0090 | Special 01. Blanchard's Cricket Frog Exclusion Fence               | LF   | 150.000 | 150.000 |
| 0142 | SPV.0090 | Special 02. Exclusion Fence Maintenance                            | LF   | 150.000 | 150.000 |
| 0144 | SPV.0180 | Special 01. Shredded Hardwood Bark Mulch                           | SY   | 20.000  | 20.000  |

| HMA PAVEMENT   |               |            |          |               |                                         |                                           |                       |                     |                             |                                       |  |
|----------------|---------------|------------|----------|---------------|-----------------------------------------|-------------------------------------------|-----------------------|---------------------|-----------------------------|---------------------------------------|--|
| CATEGORY       | STATION       | TO STATION | LOCATION | NOTES         | (305.0110)                              | (305.0120)                                | (311.0110)            | (455.0605)          | (465.0105)                  | 465.0125)                             |  |
|                |               |            |          |               | BASE AGGREGATE<br>DENSE 3/4-INCH<br>TON | BASE AGGREGATE<br>DENSE 1 1/4-INCH<br>TON | BREAKER<br>RUN<br>TON | TACK<br>COAT<br>GAL | ASPHALTIC<br>SURFACE<br>TON | ASPHALTIC<br>SURFACE TEMPORARY<br>TON |  |
| 0010           | 8+25          | 9+80       | LT & RT  | -             | 20                                      | 171                                       | 345                   | 17                  | 78                          | -                                     |  |
|                | 10+20         | 11+25      | LT & RT  | LAKE JOY LANE | 14                                      | 166                                       | 338                   | 20                  | 88                          | -                                     |  |
|                | 11+00         | 11+65      | LT       | TEMP WIDENING | -                                       | 49                                        | -                     | -                   | -                           | 8                                     |  |
|                | 11+25         | 11+75      | LT       | -             | 3                                       | 8                                         | 25                    | -                   | -                           | -                                     |  |
|                | UNDISTRIBUTED |            |          |               | -                                       | -                                         | 350                   | -                   | -                           | -                                     |  |
| PROJECT TOTALS |               |            |          |               | 37                                      | 393                                       | 1058                  | 37                  | 166                         | 8                                     |  |

| SAWING ASPHALT |         |          |                  |
|----------------|---------|----------|------------------|
| CATEGORY       | STATION | LOCATION | (690.0150)<br>LF |
| 0010           | 8+25    | RT & LT  | 20               |
|                | 10+95   | LT       | 20               |
|                | 11+25   | RT & LT  | 20               |
| PROJECT TOTAL  |         |          | 60               |

| REMOVING SMALL PIPE CULVERTS |         |          |      |          |        |      |
|------------------------------|---------|----------|------|----------|--------|------|
| (203.0100)                   |         |          |      |          |        |      |
| CATEGORY                     | STATION | LOCATION | TYPE | DIAMETER | LENGTH | EACH |
| 0010                         | 8+73    | LT/RT    | CMP  | 18-INCH  | 46     | 1    |
|                              | 10+54   | LT       | CMP  | 18-INCH  | 58     | 1    |
| PROJECT TOTAL                |         |          |      |          |        | 2    |

| CULVERT PIPE   |         |                            |                              |             |            |                                                    |                                               |
|----------------|---------|----------------------------|------------------------------|-------------|------------|----------------------------------------------------|-----------------------------------------------|
| CATEGORY       | STATION | (520.2018)                 | (521.3318)                   | THICKNESS   |            | (520.1018)                                         | (650.6000)                                    |
|                |         | TEMPORARY<br>18-INCH<br>LF | CLASS III-A<br>18-INCH<br>LF | STEEL<br>IN | ALUM<br>IN | APRON ENDWALLS FOR CULVERT PIPE<br>18-INCH<br>EACH | CONSTRUCTION STAKING<br>PIPE CULVERTS<br>EACH |
| 0010           | 10+30   | -                          | 125                          | 0.064       | 0.060      | 1                                                  | 1                                             |
|                | 11+18   | 84                         | -                            | 0.064       | 0.060      | -                                                  | -                                             |
| PROJECT TOTALS |         | 84                         | 125                          |             |            | 1                                                  | 1                                             |

EARTHWORK PROJECT I.D. 5719-00-72

| Division                   | From/To Station | Location                         | Common Excavation (1)<br><div>(item # 205.0100)</div> |                    | Salvaged/Unusable Pavement Material (4) | Available Material (5) | Unexpanded Fill | Expanded Fill (6)  | Mass Ordinate +/- (7) | Waste | Comment: |
|----------------------------|-----------------|----------------------------------|-------------------------------------------------------|--------------------|-----------------------------------------|------------------------|-----------------|--------------------|-----------------------|-------|----------|
|                            |                 |                                  | Cut (2)                                               | EBS Excavation (3) |                                         |                        |                 | Factor<br><br>1.25 |                       |       |          |
| Project ID 5695-00-72      |                 |                                  |                                                       |                    |                                         |                        |                 |                    |                       |       |          |
| 1                          | 8+25 - 9+78     | Bethel Grove Rd - South Approach | 430                                                   | 0                  | 0                                       | 430                    | 24              | 30                 | 400                   | 400   |          |
| 2                          | 10+21 - 11+75   | Bethel Grove Rd - North Approach | 351                                                   | 0                  | 0                                       | 351                    | 71              | 89                 | 261                   | 261   |          |
| TEMPORARY WIDENING REMOVAL |                 |                                  | 50                                                    | 0                  | 0                                       | 50                     | 0               | 0                  | 50                    | 50    |          |
| UNDISTRIBUTED EBS          |                 |                                  | 0                                                     | 200                |                                         |                        |                 |                    |                       |       |          |
| Grand Total                |                 |                                  | 831                                                   | 200                | 0                                       | 831                    | 96              | 120                | 711                   | 711   |          |
|                            |                 |                                  | 1031                                                  |                    |                                         |                        |                 |                    |                       |       |          |

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unsuable Pavement Material is included in Cut.
- 3) EBS Excavation to be backfilled with Breaker Run material.
- 4) Salvaged/Unusable Pavement Material
- 5) Available Material = Cut - Salvaged/Unusuable Pavement Material
- 6) Expanded Fill. Factor = 1.25
- 7) 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.

| FINISHING ITEMS |         |            |          |                           |                |                     |                                 |                                     |                             |                             |                                 |                                 |                            |                                     |                              |                          |
|-----------------|---------|------------|----------|---------------------------|----------------|---------------------|---------------------------------|-------------------------------------|-----------------------------|-----------------------------|---------------------------------|---------------------------------|----------------------------|-------------------------------------|------------------------------|--------------------------|
| CATEGORY        | STATION | TO STATION | LOCATION | (625.0500)                | (627.0200)     | (628.1504)          | (628.1520)                      | (628.2004)                          | (628.6005)                  | (629.0210)                  | (630.0120)                      | (630.0140)                      | (630.0200)                 | (628.2006)                          | (631.1100)                   | (628.1104)               |
|                 |         |            |          | SALVAGED<br>TOPSOIL<br>SY | MULCHING<br>SY | SILT<br>FENCE<br>LF | SILT FENCE<br>MAINTENANCE<br>LF | EROSION MAT<br>CLASS I TYPE B<br>SY | TURBIDITY<br>BARRIERS<br>SY | FERTILIZER<br>TYPE B<br>CWT | SEEDING MIXTURE<br>NO. 20<br>LB | SEEDING MIXTURE<br>NO. 40<br>LB | SEEDING<br>TEMPORARY<br>LB | EROSION MAT<br>CLASS I TYPE A<br>SY | SOD EROSION<br>CONTROL<br>SY | EROSION<br>BALES<br>EACH |
| 0010            | 8+25    | 10+00      | RT       | 121                       | 203            | 165                 | 330                             | -                                   | -                           | 0.20                        | 9                               | -                               | 5                          | -                                   | -                            | -                        |
|                 | 8+25    | 10+00      | LT       | 301                       | 268            | 64                  | 128                             | 133                                 | 26                          | 0.34                        | 15                              | -                               | 8                          | -                                   | -                            | -                        |
|                 | 10+08   | 11+25      | RT       | 122                       | 57             | 130                 | 260                             | 82                                  | 78                          | 0.16                        | 7                               | -                               | 4                          | -                                   | -                            | -                        |
|                 | 10+08   | 11+75      | LT       | 124                       | 141            | 130                 | 260                             | 64                                  | -                           | 0.24                        | -                               | 7                               | 4                          | -                                   | -                            | -                        |
| UNDISTRIBUTED   |         |            |          | -                         | -              | 50                  | 100                             | -                                   | -                           | -                           | -                               | -                               | -                          | 50                                  | 50                           | 50                       |
| PROJECT TOTALS  |         |            |          | 668                       | 669            | 539                 | 1,078                           | 279                                 | 104                         | 0.95                        | 31                              | 7                               | 19                         | 50                                  | 50                           | 50                       |

| BLANCHARD'S CRICKET FROG |         |            |          |                                                       |                                                              |                                                  |
|--------------------------|---------|------------|----------|-------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------|
| CATEGORY                 | STATION | TO STATION | LOCATION | (SPV.0085.01)<br>BLANCHARD'S CRICKET FROG<br>SEED MIX | (SPV.0090.01)<br>BLANCHARD'S CRICKET FROG<br>EXCLUSION FENCE | (SPV.0090.02)<br>EXCLUSION FENCE<br>MAINTNENANCE |
|                          |         |            |          | LB                                                    | LF                                                           | LF                                               |
| 0010                     | 9+85    | 10+00      | RT & LT  | 0.5                                                   | 75                                                           | 75                                               |
|                          | 10+00   | 10+15      | RT & LT  | 0.5                                                   | 75                                                           | 75                                               |
| PROJECT TOTALS           |         |            |          | 1                                                     | 150                                                          | 150                                              |

| TEMPORARY DITCH CHECKS |               |            |
|------------------------|---------------|------------|
|                        |               | (628.7504) |
| CATEGORY               | STATION       | LF         |
| 0010                   | UNDISTRIBUTED | 50         |
| PROJECT TOTALS         |               | 50         |

| MOBILIZATIONS EROSION CONTROL |                    |                                               |                                            |
|-------------------------------|--------------------|-----------------------------------------------|--------------------------------------------|
| CATEGORY                      | DESCRIPTION        | (628.1905)<br>MOBILIZATION<br>EROSION CONTROL | (628.1910)<br>EMERGENCY<br>EROSION CONTROL |
|                               |                    | EACH                                          | EACH                                       |
| 0010                          | PROJECT 5719-00-72 | 2                                             | 1                                          |
| PROJECT TOTALS                |                    | 2                                             | 1                                          |

| TRACKING PADS |         |                    |
|---------------|---------|--------------------|
| CATEGORY      | STATION | (628.7560)<br>EACH |
|               |         |                    |
| 0010          | 8+25    | 1                  |
|               | 11+75   | 1                  |
| PROJECT TOTAL |         | 2                  |

| WATER          |              |                    |
|----------------|--------------|--------------------|
| CATEGORY       | DESCRIPTION  | (624.0100)<br>MGAL |
|                |              |                    |
| 0010           | DUST CONTROL | 2                  |
|                | COMPACTION   | 4                  |
| PROJECT TOTALS |              | 6                  |

| GEOTEXTILE TYPE SR |         |                  |
|--------------------|---------|------------------|
| CATEGORY           | STATION | (645.0135)<br>SY |
|                    |         | UNDISTRIBUTED    |
| 0010               |         | 200              |
|                    |         | 200              |

| MARKERS CULVERT END |         |          |                    |
|---------------------|---------|----------|--------------------|
| CATEGORY            | STATION | LOCATION | (633.5200)<br>EACH |
|                     |         |          |                    |
| 0010                | 10+30   | LT       | 1                  |
| PROJECT TOTALS      |         |          | 1                  |

| STORM SEWER STRUCTURES |         |          |                                       |                                        |                                          |                                                   |                                  |                      |
|------------------------|---------|----------|---------------------------------------|----------------------------------------|------------------------------------------|---------------------------------------------------|----------------------------------|----------------------|
| CATEGORY               | STATION | LOCATION | (611.0642)<br>INLET COVERS<br>TYPE MS | (611.3901)<br>INLETS MEDIAN 1<br>GRATE | (628.7020)<br>INLET PROTECTION<br>TYPE D | (650.4000)<br>CONSTRUCTION STAKING<br>STORM SEWER | TOP OF<br>STRUCTURE<br>ELEVATION | BOX<br>DEPTH<br>FEET |
|                        |         |          | EACH                                  | EACH                                   | EACH                                     | EACH                                              |                                  | RIM<br>ELEVATION     |
| 0010                   | 11+61   | 23' RT   | 1                                     | 1                                      | 1                                        | 1                                                 | 964.99                           | 2.97                 |
| PROJECT TOTALS         |         |          | 1                                     | 1                                      | 1                                        | 1                                                 |                                  |                      |

| PERMANENT SIGNING |         |          |           |                                             |                                             |                                                         |                                                         |
|-------------------|---------|----------|-----------|---------------------------------------------|---------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|
| CATEGORY          | STATION | LOCATION | SIGN CODE | (637.2210)<br>SIGNS TYPE II<br>REFLECTIVE H | (637.2230)<br>SIGNS TYPE II<br>REFLECTIVE F | (634.0612)<br>POSTS WOOD<br>4X6-INCH X<br>12-FT<br>EACH | (634.0614)<br>POSTS WOOD<br>4X6-INCH X<br>14-FT<br>EACH |
|                   |         |          |           | SF                                          | SF                                          |                                                         |                                                         |
| 0010              | 9+80    | RT       | W5-52R    | 3                                           | -                                           | 1                                                       | -                                                       |
|                   | 9+80    | LT       | W5-52L    | 3                                           | -                                           | 1                                                       | -                                                       |
|                   | 10+20   | RT       | W5-52R    | 3                                           | -                                           | 1                                                       | -                                                       |
|                   | 10+20   | LT       | W5-52L    | 3                                           | -                                           | 1                                                       | -                                                       |
|                   | 10+75   | LT       | R1-1      | -                                           | 5.18                                        | -                                                       | 1                                                       |
| PROJECT TOTALS    |         |          |           | 12.00                                       | 5.18                                        | 4                                                       | 1                                                       |

| FENCE SAFETY  |                    |                    |
|---------------|--------------------|--------------------|
| CATEGORY      | DESCRIPTION        | (616.0700.S)<br>LF |
|               |                    |                    |
| 0010          | LAKE JOY CAMP SIGN | 50                 |
| PROJECT TOTAL |                    | 50                 |

| MARKERS ROW    |        |          |            |                    |
|----------------|--------|----------|------------|--------------------|
| CATEGORY       | R/W PT | STATION  | LOCATION   | (633.5100)<br>EACH |
|                |        |          |            |                    |
| 0010           | 1      | 7+50     | 33.00' LT  | 1                  |
|                | 2      | 8+25     | 33.00' LT  | 1                  |
|                | 3      | 8+25     | 45.00' LT  | 1                  |
|                | 4      | 9+00     | 45.00' LT  | 1                  |
|                | 5      | 9+50     | 40.00' LT  | 1                  |
|                | 6      | 10+15    | 40.00' LT  | 1                  |
|                | 7      | 10+15    | 48.00' LT  | 1                  |
|                | 8      | 10+60    | 48.00' LT  | 1                  |
|                | 9      | 10+63    | 100.78' LT | 1                  |
|                | 10     | 11+26    | 97.85' LT  | 1                  |
|                | 11     | 11+24.13 | 34.36' LT  | 1                  |
|                | 12     | 12+50    | 35.14' LT  | 1                  |
|                | 13     | 12+50    | 30.86' RT  | 1                  |
|                | 14     | 10+50    | 33.00' RT  | 1                  |
|                | 15     | 10+50    | 38.00' RT  | 1                  |
|                | 16     | 9+55     | 38.00' RT  | 1                  |
|                | 17     | 9+55     | 33.00' RT  | 1                  |
|                | 18     | 7+50     | 33.00' RT  | 1                  |
| PROJECT TOTALS |        |          |            | 18                 |

| CONSTRUCTION STAKING |         |            |                                          |                        |                    |                               |
|----------------------|---------|------------|------------------------------------------|------------------------|--------------------|-------------------------------|
| CATEGORY             | STATION | TO STATION | (650.9910.01)<br>SUPPLEMENTAL<br>CONTROL | (650.4500)<br>SUBGRADE | (650.5000)<br>BASE | (650.9920)<br>SLOPE<br>STAKES |
|                      |         |            | LS                                       | LF                     | LF                 | LF                            |
| 0010                 | 8+25    | 9+78       | -                                        | 153                    | 153                | 153                           |
|                      | 10+21   | 11+25      | -                                        | 104                    | 104                | 104                           |
| PROJECT 5719-00-72   |         |            | 1                                        | -                      | -                  | -                             |
| PROJECT TOTALS       |         |            | 1                                        | 257                    | 257                | 257                           |

| SHREDDED HARDWOOD BARK MULCH |               |                     |
|------------------------------|---------------|---------------------|
| CATEGORY                     | STATION       | (SPV.0180.01)<br>SY |
|                              |               |                     |
| 0010                         | UNDISTRIBUTED | 20                  |
| PROJECT TOTALS               |               | 20                  |



| CONVENTIONAL ABBREVIATIONS        |        |                            |
|-----------------------------------|--------|----------------------------|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP     | RELEASE OF RIGHTS          |
| ACCESS RIGHTS                     | AR     | REMAINING                  |
| ACRES                             | AC.    | RIGHT-OF-WAY               |
| AND OTHERS                        | ET.AL. | SECTION                    |
| CENTERLINE                        | C/L    | STATION                    |
| CERTIFIED SURVEY MAP              | CSM    | TEMPORARY LIMITED EASEMENT |
| CORNER                            | COR.   | VOLUME                     |
| DOCUMENT                          | DOC.   |                            |
| EASEMENT                          | EASE.  |                            |
| HIGHWAY EASEMENT                  | H.E.   |                            |
| LAND CONTRACT                     | LC     |                            |
| MONUMENT                          | MON.   |                            |
| PAGE                              | P.     |                            |
| PERMANENT LIMITED EASEMENT        | PLE    |                            |
| PROPERTY LINE                     | PL     |                            |
| RECORDED AS                       | (100') |                            |
| REFERENCE LINE                    | R/L    |                            |

#### CURVE DATA

|                        |       |
|------------------------|-------|
| LONG CHORD             | LCH   |
| LONG CHORD BEARING     | LCB   |
| RADIUS                 | R     |
| DEGREE OF CURVE        | D     |
| CENTRAL ANGLE OR DELTA | DELTA |
| LENGTH OF CURVE        | L     |
| TANGENT                | TAN   |

#### CONVENTIONAL SYMBOLS

|                            |                   |                                                     |
|----------------------------|-------------------|-----------------------------------------------------|
| FOUND IRON PIPE/PIN        | (IF UNLESS NOTED) | PROPOSED R/W LINE                                   |
| R/W MONUMENT               | • (SET)           | EXISTING H.E. LINE                                  |
| R/W STANDARD               | ▲ (SET)           | PROPERTY LINE                                       |
| SIGN                       | ISIGN             | LOT & TIE LINES                                     |
| SECTION CORNER MONUMENT    | •                 | SLOPE INTERCEPTS                                    |
| SECTION CORNER SYMBOL      | •                 | CORPORATE LIMITS                                    |
| FEE (HATCH VARIES)         |                   | ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL) |
| TEMPORARY LIMITED EASEMENT |                   | ACCESS RESTRICTED (BY ACQUISITION)                  |
| PERMANENT LIMITED EASEMENT |                   | NO ACCESS (BY STATUTORY AUTHORITY)                  |
| R/W BOUNDARY POINT         | •                 | SECTION LINE                                        |
| PARCEL NUMBER              | 100               | QUARTER LINE                                        |
| UTILITY INTEREST           | 40                | SIXTEENTH LINE                                      |
| SIGN NUMBER (OFF PREMISE)  | 21-               | EXISTING CENTERLINE                                 |
| BUILDING                   | ■                 | PROPOSED REFERENCE LINE                             |
|                            |                   | PARALLEL OFFSET                                     |

#### CONVENTIONAL UTILITY SYMBOLS

|                    |       |
|--------------------|-------|
| WATER              | —H—   |
| GAS                | —G—   |
| TELEPHONE          | —T—   |
| OVERHEAD           | —OH—  |
| TRANSMISSION LINES | —E—   |
| ELECTRIC           | —E—   |
| CABLE TELEVISION   | —TV—  |
| FIBER OPTIC        | —FO—  |
| SANITARY SEWER     | —SAN— |
| STORM SEWER        | —SS—  |
| NON COMPENSABLE    | •     |
| COMPENSABLE        | •     |
| POWER POLE         | •     |
| TELEPHONE POLE     | •     |
| TELEPHONE PEDESTAL | •     |
| ELECTRIC TOWER     | •     |

#### NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, LAFAYETTE COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" x 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

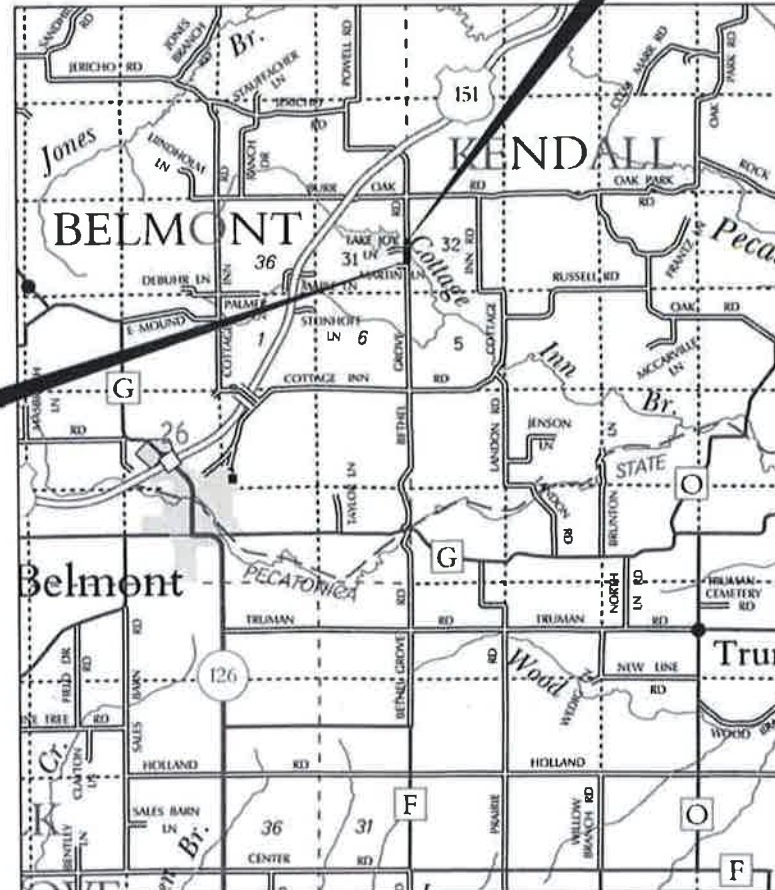
EXISTING RIGHT-OF-WAY OF BETHEL GROVE ROAD IS BASED ON THE EXISTING CENTERLINE OF BETHEL GROVE ROAD AND STATE STATUTE 82.31.  
EXISTING RIGHT-OF-WAY OF LAKE JOY LANE IS BASED ON THE EXISTING CENTERLINE OF LAKE JOY LANE AND STATE STATUTE 82.31.

ALL STATION/OFFSET DATA IS REFERENCED TO THE MAINLINE ALIGNMENT (BETHEL GROVE ROAD).

REVISION DATE  
4/27/2017 - No Change

DATE 02/14/17

GRID FACTOR NA



R-1-E

R-2-E

T-1-N

T-3-N

T-4-N



LAYOUT  
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.095 MI.

#### END RELOCATION

ORDER STA.12+50.00

Y = 201,595.670

X = 436,958.707

APPROXIMATELY 120 FEET SOUTH OF AND 1 FEET EAST OF THE WEST 1/4 CORNER OF SECTION 32, T-4-N, R-2-E, TOWN OF KENDALL, LAFAYETTE COUNTY, WI.

#### BEGIN RELOCATION

ORDER STA.7+50.00

Y = 201,095.675

X = 436,960.828

APPROXIMATELY 620 FEET SOUTH OF AND 3 FEET EAST OF THE WEST 1/4 CORNER OF SECTION 32, T-4-N, R-2-E, TOWN OF KENDALL, LAFAYETTE COUNTY, WI.

|                                       |            |               |              |
|---------------------------------------|------------|---------------|--------------|
| R/W PROJECT NUMBER                    | 5719-00-02 | SHEET NUMBER  | TOTAL SHEETS |
| FEDERAL PROJECT NUMBER                |            | 4.01          | 2            |
| PLAT OF RIGHT-OF-WAY REQUIRED FOR     |            |               |              |
| TOWN OF KENDALL, BETHEL GROVE ROAD    |            |               |              |
| (COTTAGE INN BRANCH BRIDGE B-33-0132) |            |               |              |
| TOWN ROAD                             |            | LAFAYETTE CO. |              |
| CONSTRUCTION PROJECT NUMBER           |            |               |              |
| 5719-00-72                            |            |               |              |

#### ACCEPTED FOR

TOWN of KENDALL

3-20-17 *Michael Bahr*  
(Date) MICHAEL BAHR, CHAIRMAN

#### ACCEPTED FOR

TOWN of BELMONT

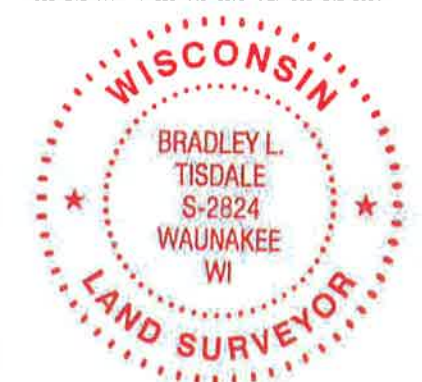
3-20-17 *Brad Schobert*  
(Date) BRAD SCHOBERT, CHAIRMAN

#### ORIGINAL PLAT PREPARED BY

**MSA**

PROFESSIONAL SERVICES  
TRANSPORTATION • MUNICIPAL • RECREATION  
DEVELOPMENT • ENVIRONMENTAL

2901 International Lane, Suite 300 Madison, WI 53704-3133  
608-242-7779 1-800-446-0879 Fax: 608-242-5864



02/14/17  
(Date)

*Bradley L. Tisdale*  
(Professional Land Surveyor)

*Carla M. Jacobsen*  
*Lafayette Co. Clerk*  
4-4-2017



| R/W POINT | STATION  | OFFSET   | Y           | X           |
|-----------|----------|----------|-------------|-------------|
| 1         | 7+50.00  | 33.00 L  | 201,095.535 | 436,927.829 |
| 2         | 8+25.00  | 33.00 L  | 201,170.534 | 436,927.510 |
| 3         | 8+25.00  | 45.00 L  | 201,170.483 | 436,915.511 |
| 4         | 9+00.00  | 45.00 L  | 201,245.482 | 436,915.192 |
| 5         | 9+50.00  | 40.00 L  | 201,295.503 | 436,919.980 |
| 6         | 10+15.00 | 40.00 L  | 201,360.503 | 436,919.705 |
| 7         | 10+15.00 | 48.00 L  | 201,360.469 | 436,911.705 |
| 8         | 10+59.95 | 48.00 L  | 201,405.413 | 436,911.514 |
| 9         | 10+63.13 | 100.78 L | 201,408.371 | 436,858.718 |
| 10        | 11+29.01 | 96.81 L  | 201,474.267 | 436,862.408 |
| 11        | 11+25.16 | 33.00 L  | 201,470.692 | 436,926.237 |
| 12        | 12+50.00 | 33.00 L  | 201,595.530 | 436,925.708 |
| 13        | 12+50.00 | 33.00 R  | 201,595.810 | 436,991.707 |
| 14        | 10+50.00 | 33.00 R  | 201,395.812 | 436,992.555 |
| 15        | 10+50.00 | 38.00 R  | 201,395.833 | 436,997.555 |
| 16        | 9+55.00  | 38.00 R  | 201,300.834 | 436,997.958 |
| 17        | 9+55.00  | 33.00 R  | 201,300.813 | 436,992.958 |
| 18        | 7+50.00  | 33.00 R  | 201,095.815 | 436,993.828 |

| LINE  | BEARING     | DISTANCE |
|-------|-------------|----------|
| 2-3   | S89°45'25"W | 12.00'   |
| 6-7   | S89°45'25"W | 8.00'    |
| 14-15 | N89°45'25"E | 5.00'    |
| 16-17 | S89°45'25"W | 5.00'    |

# SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNER(S)           | INTEREST REQUIRED | R/W ACRES REQUIRED |          |       |
|---------------|--------------------|-------------------|--------------------|----------|-------|
|               |                    |                   | NEW                | EXISTING | TOTAL |
| 1             | MARY JUNE FRONTZ   | FEE               | 0.06               | 0.26     | 0.32  |
| 3             | CLAYTON ACRES, LLC | FEE               | 0.01               | 0.38     | 0.39  |

| UTILITY NUMBER | OWNER(S)                         | INTEREST REQUIRED |
|----------------|----------------------------------|-------------------|
| 80             | SCENIC RIVERS ENERGY COOPERATIVE | RELEASE OF RIGHTS |
| 81             | BELMONT TELEPHONE COOPERATIVE    | RELEASE OF RIGHTS |

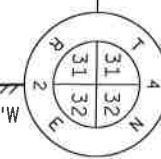
80 SCENIC RIVERS ENERGY COOPERATIVE  
20' WIDE ELECTRIC EASEMENT  
GRANT-LAFAYETTE ELECTRIC COOPERATIVE  
V.70 BONDS AND CONTRACTS, PG.518,  
DOC. #263541

80 SCENIC RIVERS ENERGY COOPERATIVE  
BLANKET ELECTRIC EASEMENT  
LAFAYETTE ELECTRIC COOPERATIVE  
V.64 BONDS AND CONTRACTS, PG.518,  
DOC. #240085

FOUND 7/8" IRON BAR  
Y = 199,022.778  
X = 436,969.622



FOUND ALUMINUM MONUMENT  
Y = 201,715.475  
X = 436,958.199



16' WIDE TELEPHONE EASEMENT  
BELMONT TELEPHONE CORP  
V.47 BONDS AND CONTRACTS,  
PG.6, DOC. #207548

BEGIN RELOCATION  
ORDER STA. 7+50.00  
Y = 201,095.675  
X = 436,960.828

END RELOCATION  
ORDER STA. 12+50.00  
Y = 201,595.670  
X = 436,958.707

## ALIGNMENT INFORMATION

PI = STA 7+50.00  
Y = 201,095.675  
X = 436,960.828

DA = N00°14'35"W

PI = STA 12+50.00  
Y = 201,595.670  
X = 436,958.707

|               |          |
|---------------|----------|
| REVISION DATE | DATE     |
| 04/27/17 KCL  | 04/27/17 |

DATE 04/27/17

GRID FACTOR

SCALE, FEET



HWY: BETHEL GROVE ROAD

COUNTY: LAFAYETTE

STATE R/W PROJECT NUMBER 5719-00-02

CONSTRUCTION PROJECT NUMBER 5719-00-72

PLAT SHEET 4.02

PS&E SHEET

E

FILE NAME: 2398017\_PLINE.DWG  
LAYOUT NAME: RW 1 IN 40 FT REV

PLOT DATE: 4/27/2017 11:41 AM

PLOT BY: KEVIN LORD

PLOT NAME:

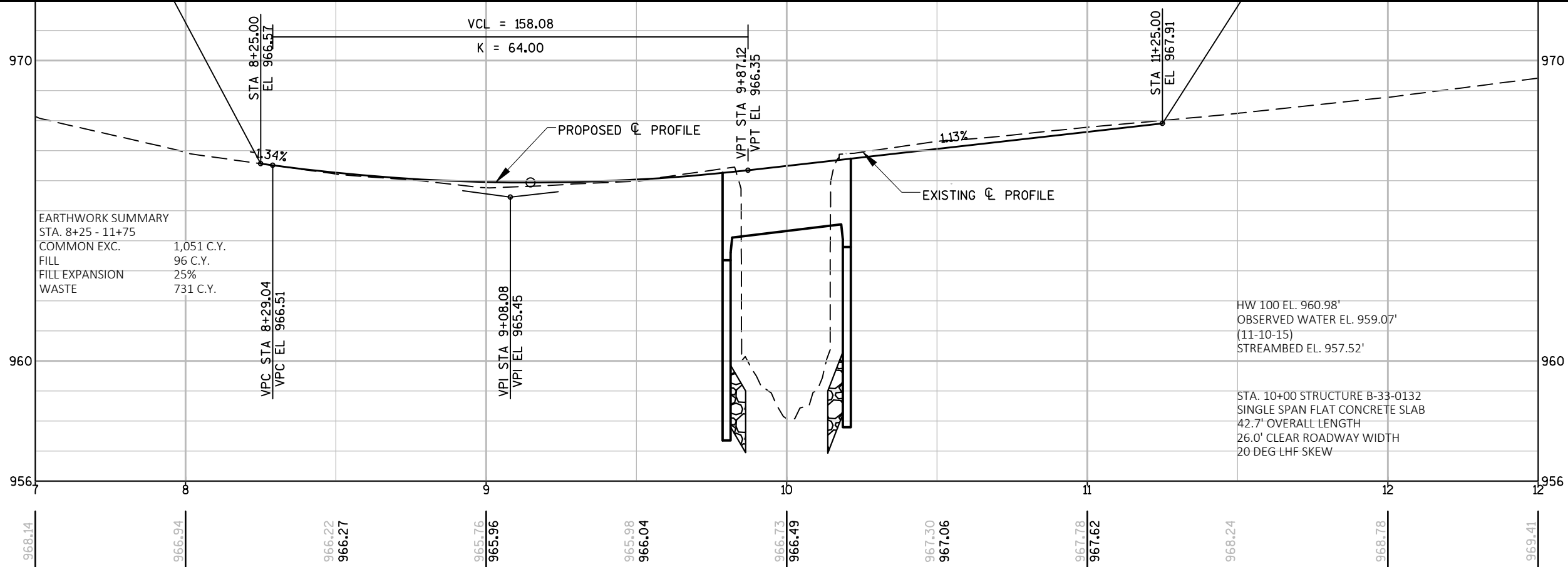
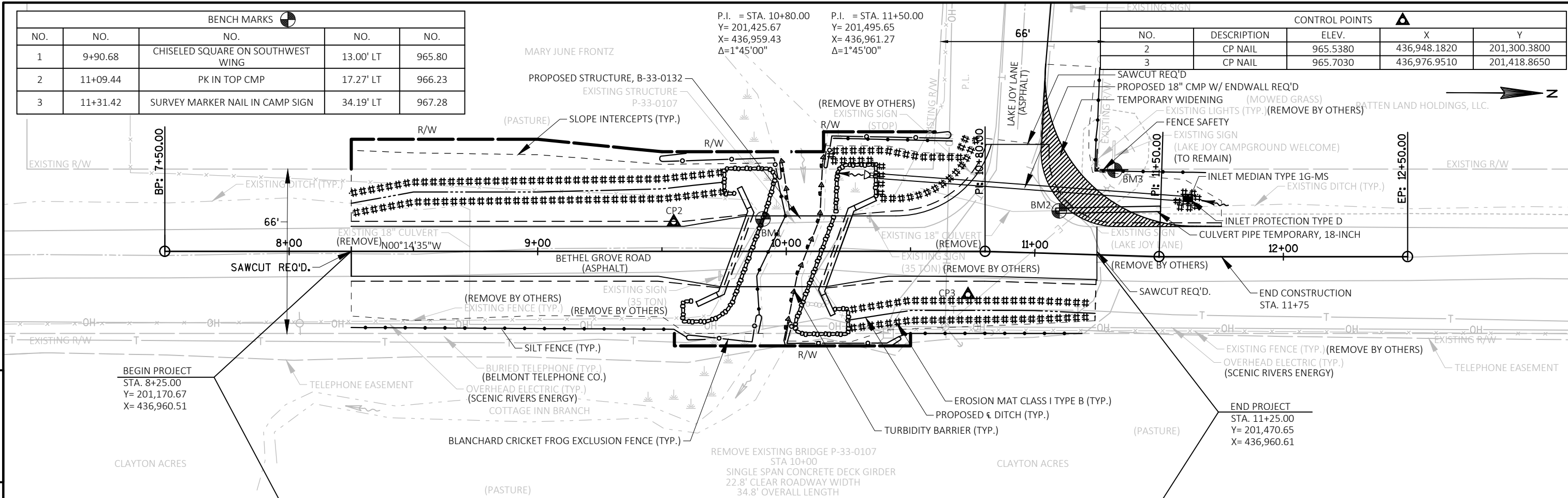
PLOT SCALE:

\*\*\*\*\*

WISDOT/CADDIS SHEET 75

| BENCH MARKS |          |                                   |           |        |
|-------------|----------|-----------------------------------|-----------|--------|
| NO.         | NO.      | NO.                               | NO.       | NO.    |
| 1           | 9+90.68  | CHISELED SQUARE ON SOUTHWEST WING | 13.00' LT | 965.80 |
| 2           | 11+09.44 | PK IN TOP CMP                     | 17.27' LT | 966.23 |
| 3           | 11+31.42 | SURVEY MARKER NAIL IN CAMP SIGN   | 34.19' LT | 967.28 |

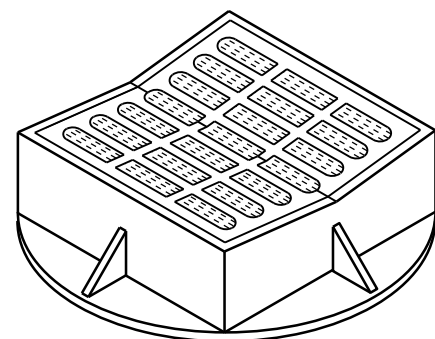
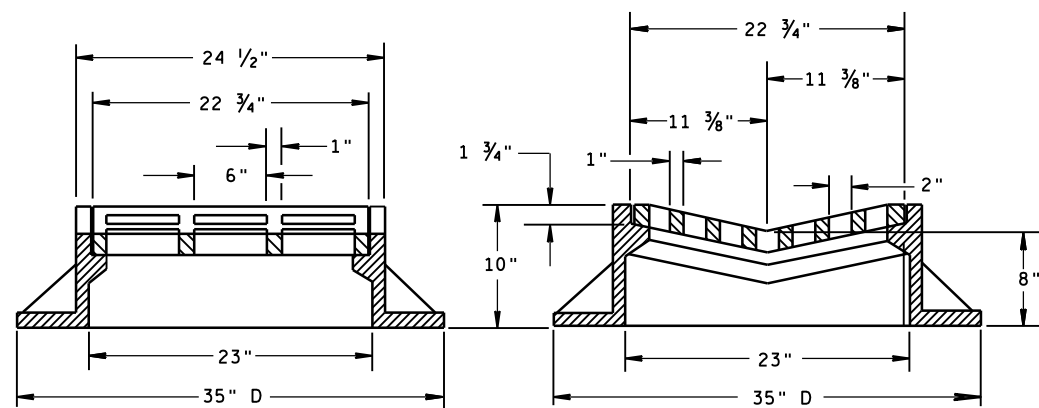
| CONTROL POINTS |             |          |              |              |
|----------------|-------------|----------|--------------|--------------|
| NO.            | DESCRIPTION | ELEV.    | X            | Y            |
| 2              | CP NAIL     | 965.5380 | 436,948.1820 | 201,300.3800 |
| 3              | CP NAIL     | 965.7030 | 436,976.9510 | 201,418.8650 |



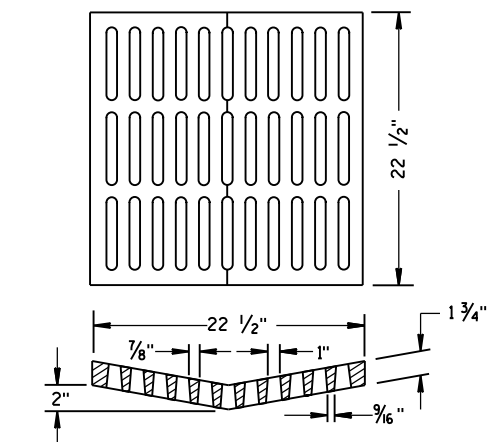
| EARTHWORK SUMMARY |            |
|-------------------|------------|
| STA. 8+25 - 11+75 |            |
| COMMON EXC.       | 1,051 C.Y. |
| FILL              | 96 C.Y.    |
| FILL EXPANSION    | 25%        |
| WASTE             | 731 C.Y.   |

Standard Detail Drawing List

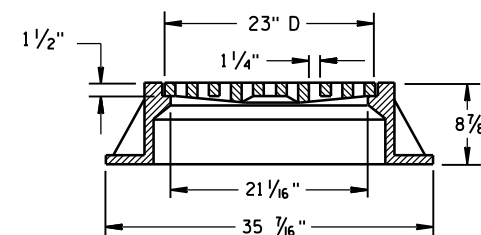
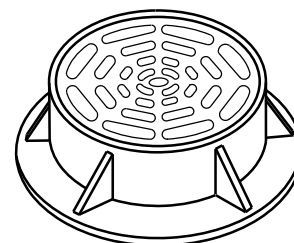
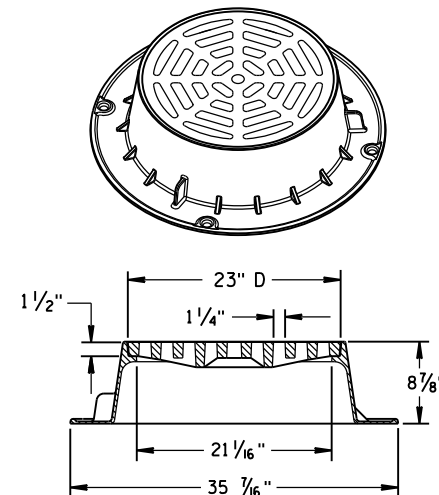
|           |                                                                                               |
|-----------|-----------------------------------------------------------------------------------------------|
| 08A05-19B | INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM                                                   |
| 08C08-02  | INLETS MEDIAN 1 AND 2 GRATE                                                                   |
| 08E08-03  | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS                               |
| 08E09-06  | SILT FENCE                                                                                    |
| 08E10-02  | INLET PROTECTION TYPE A, B, C AND D                                                           |
| 08E11-02  | TURBIDITY BARRIER                                                                             |
| 08E14-01  | TRACKING PAD                                                                                  |
| 08F01-11  | APRON ENDWALLS FOR CULVERT PIPE                                                               |
| 09A01-13A | AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE |
| 12A03-10  | NAME PLATE (STRUCTURES)                                                                       |
| 15A01-13A | MARKER POST FOR RIGHT-OF-WAY                                                                  |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END                                                          |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END                                                          |
| 15C02-06A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES                                                    |
| 15C02-06B | BARRICADES AND SIGNS FOR MAINLINE CLOSURES                                                    |
| 15C06-08  | SIGNING & MARKING FOR TWO LANE BRIDGES                                                        |



TYPE "B"

ALTERNATIVE GRATE FOR  
TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.  
 NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

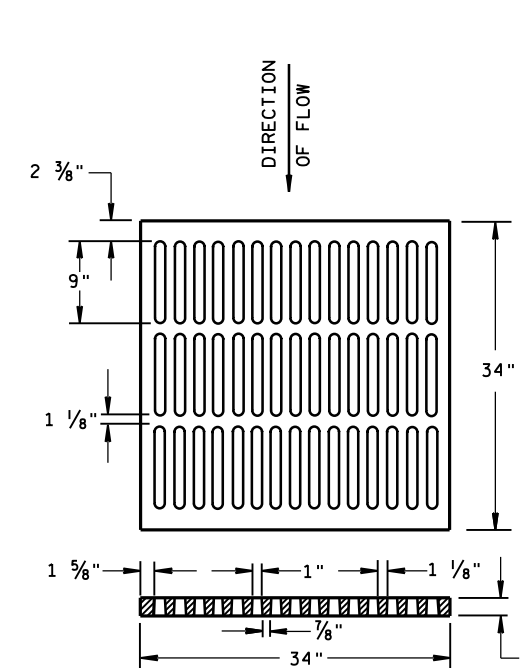
NOTE: EITHER CASTING IS ACCEPTABLE

## 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.

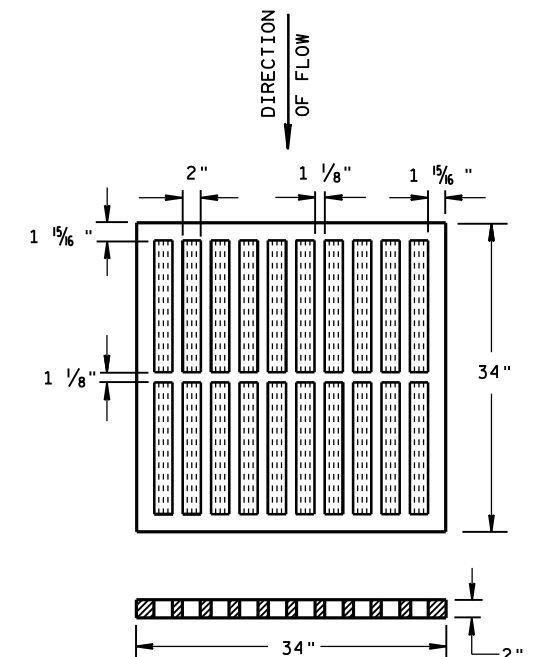
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



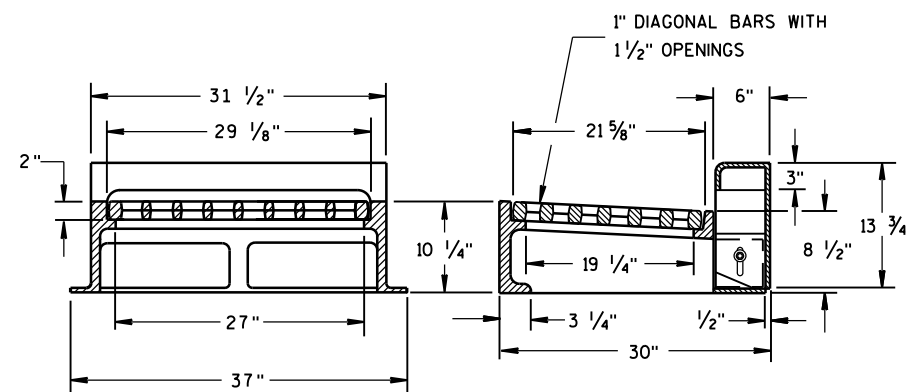
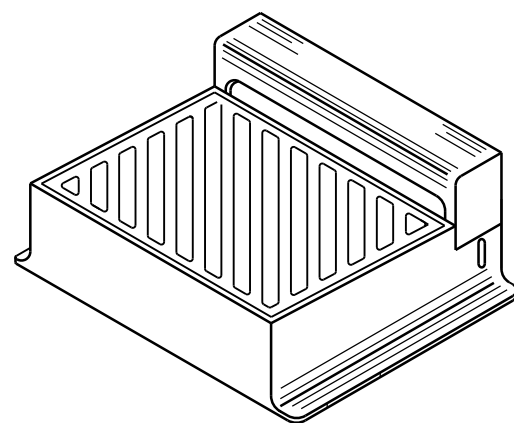
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED  
 NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS  
 NOTED AS TYPE MS ON DRAINAGE TABLE



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

DIAGONAL SLOTS, SHALL BE ORIENTED  
 TO THE DIRECTION OF FLOW AS ILLUSTRATED.  
 GRATES ARE MANUFACTURED TO BE REVERSIBLE.

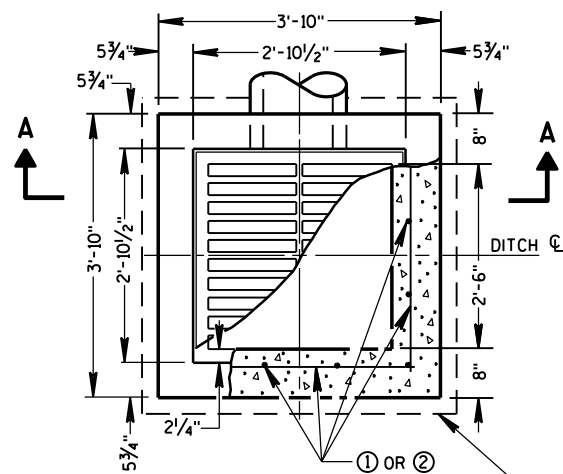
DIRECTION  
OF FLOW

INLET COVERS  
 TYPE B, B-A, C,  
 MS, MS-A, & WM

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

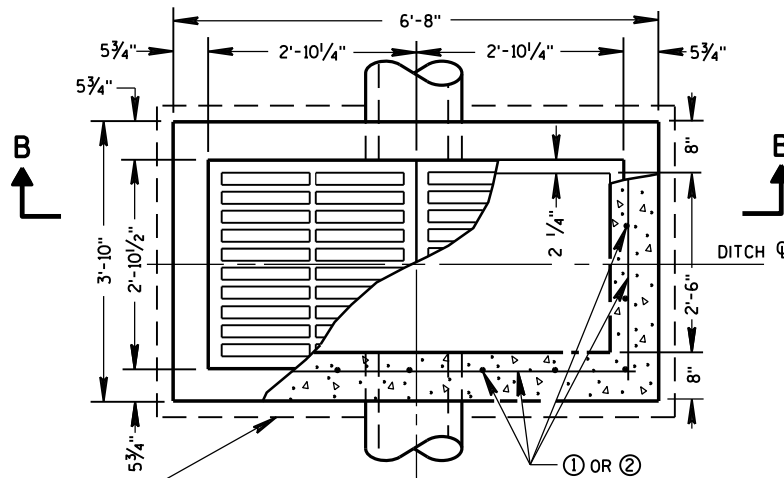
APPROVED  
 11/27/2013  
 DATE  
 FHWA

/S/ Jerry H. Zogg  
 ROADWAY STANDARDS DEVELOPMENT  
 ENGINEER

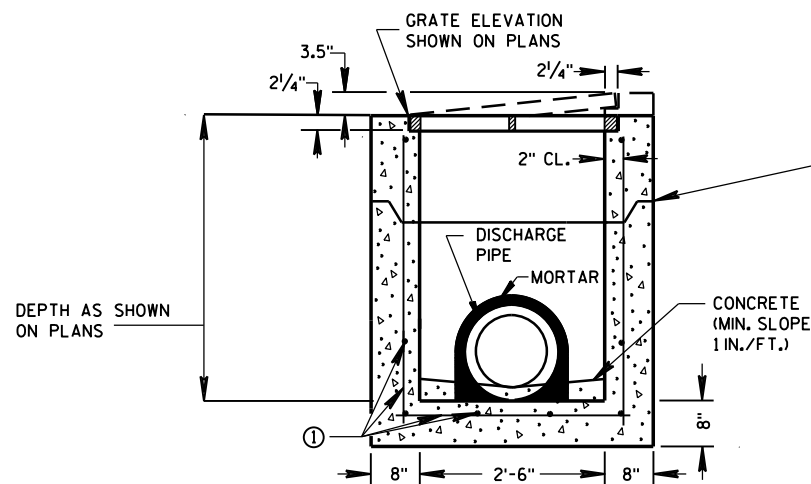


PLAN VIEW

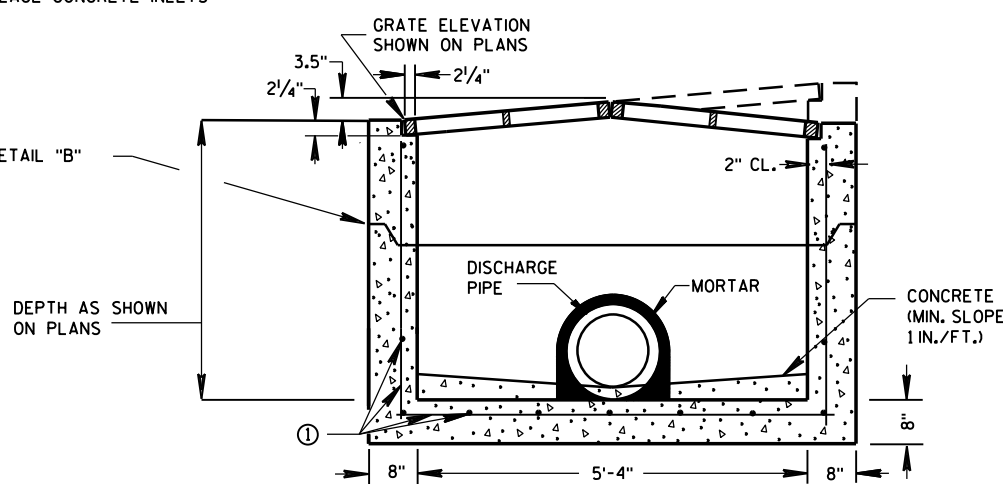
4" OVERHANGING BASE ON REINFORCED  
CAST-IN-PLACE CONCRETE INLETS



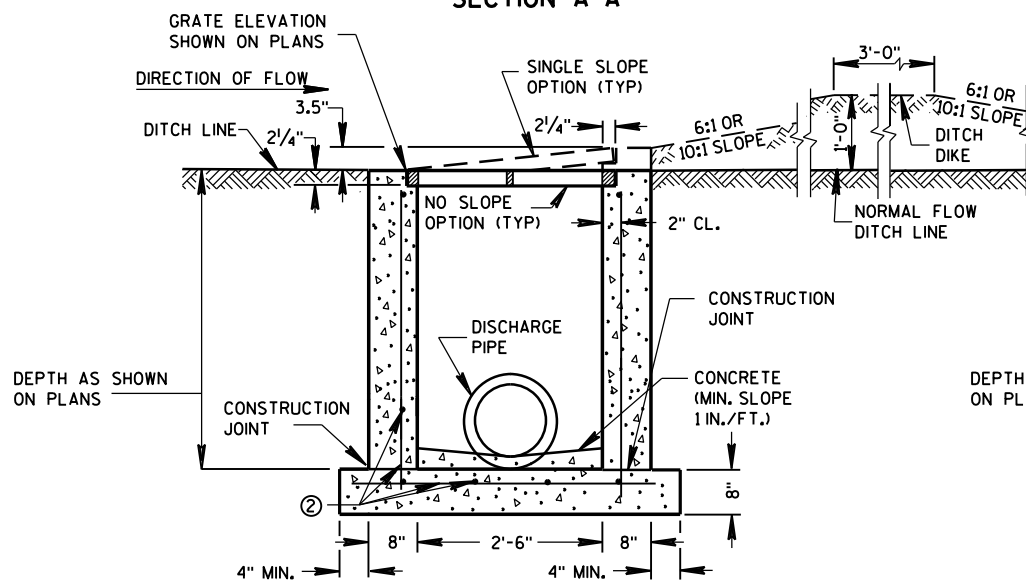
PLAN VIEW



PRECAST REINFORCED CONCRETE  
SECTION A-A

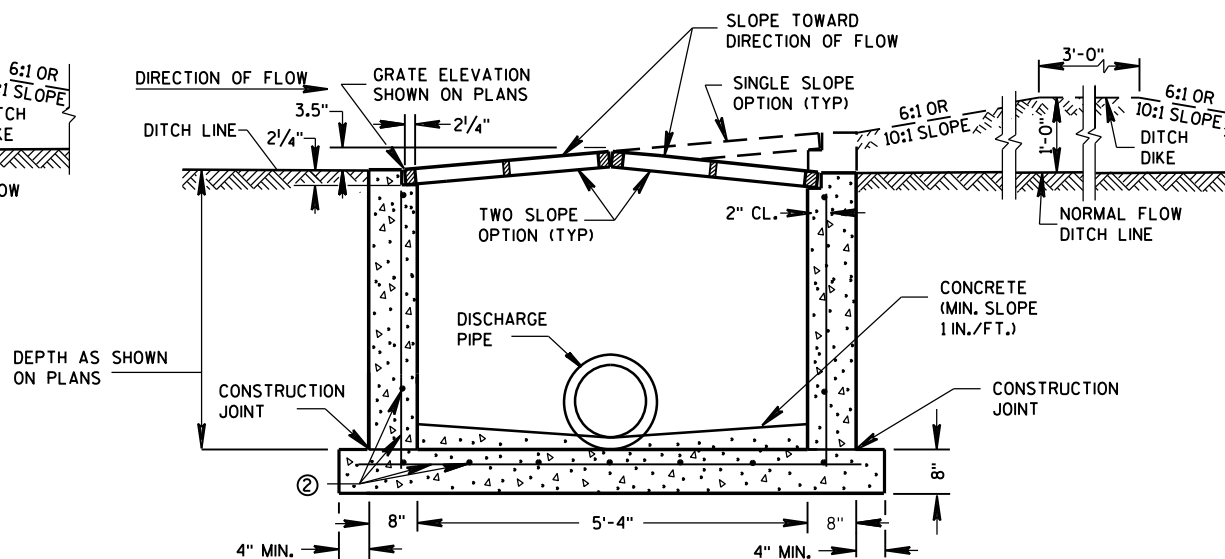


PRECAST REINFORCED CONCRETE  
SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE  
SECTION A-A

INLETS MEDIAN 1 GRATE



REINFORCED CAST-IN-PLACE CONCRETE  
SECTION B-B

INLETS MEDIAN 2 GRATE

## 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 INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, IG-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE 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.

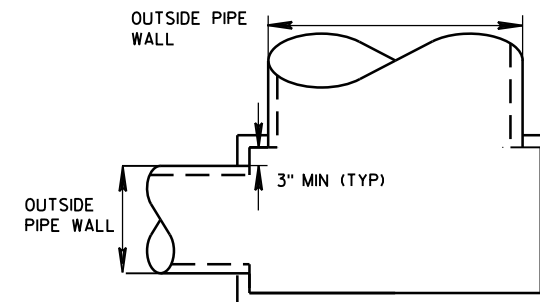
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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 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.

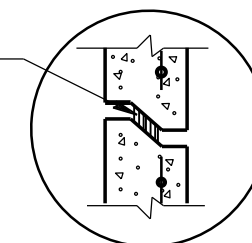
## PIPE MATRIX

| INLET SIZE | MAXIMUM INSIDE PIPE DIAMETER |             |
|------------|------------------------------|-------------|
|            | WIDTH (IN)                   | LENGTH (IN) |
| 1 GRATE    | 18                           | 18          |
| 2 GRATE    | 18                           | 42          |



DETAIL "A"

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



DETAIL "B"

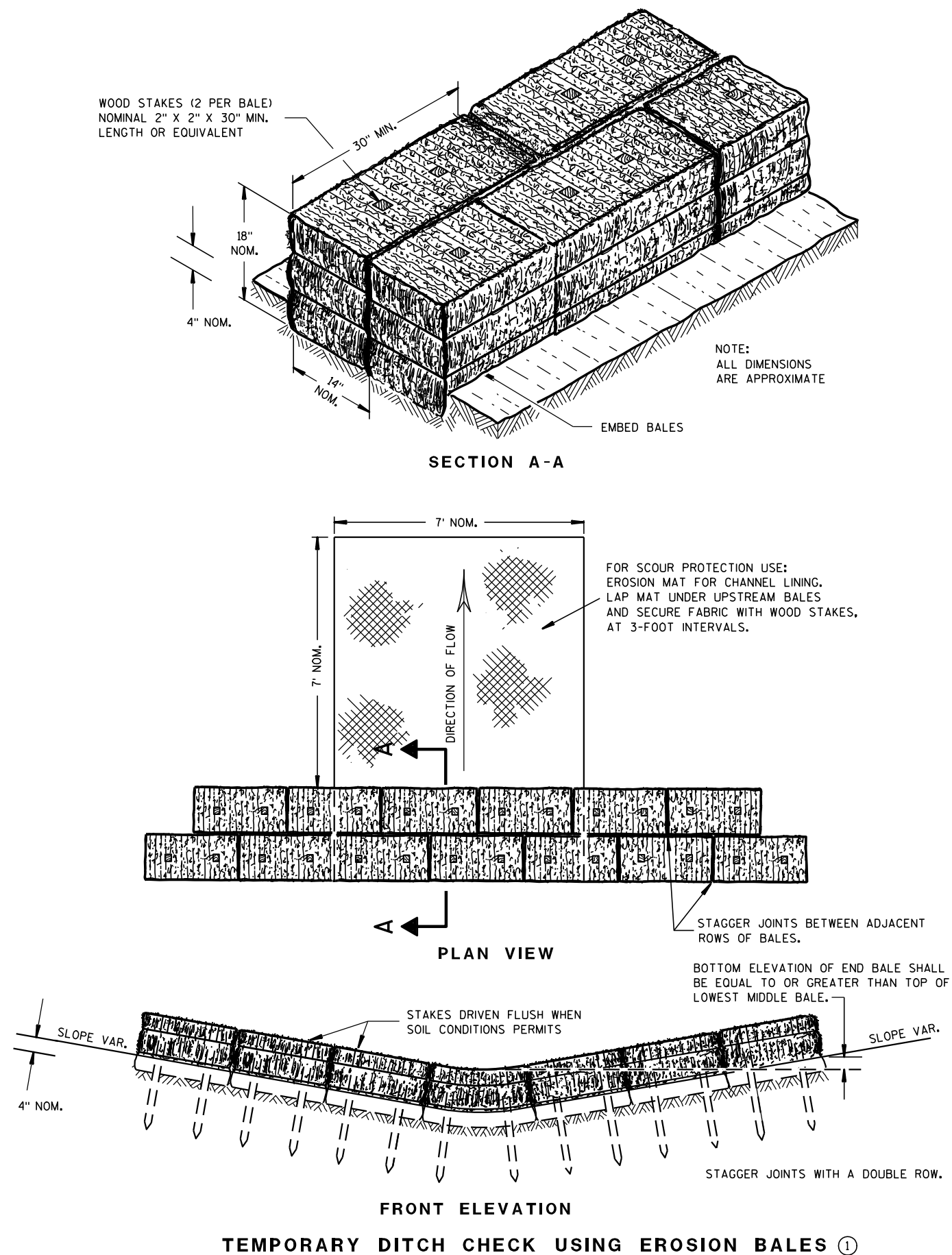
INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
Sept., 2016  
DATE  
FHWA

/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

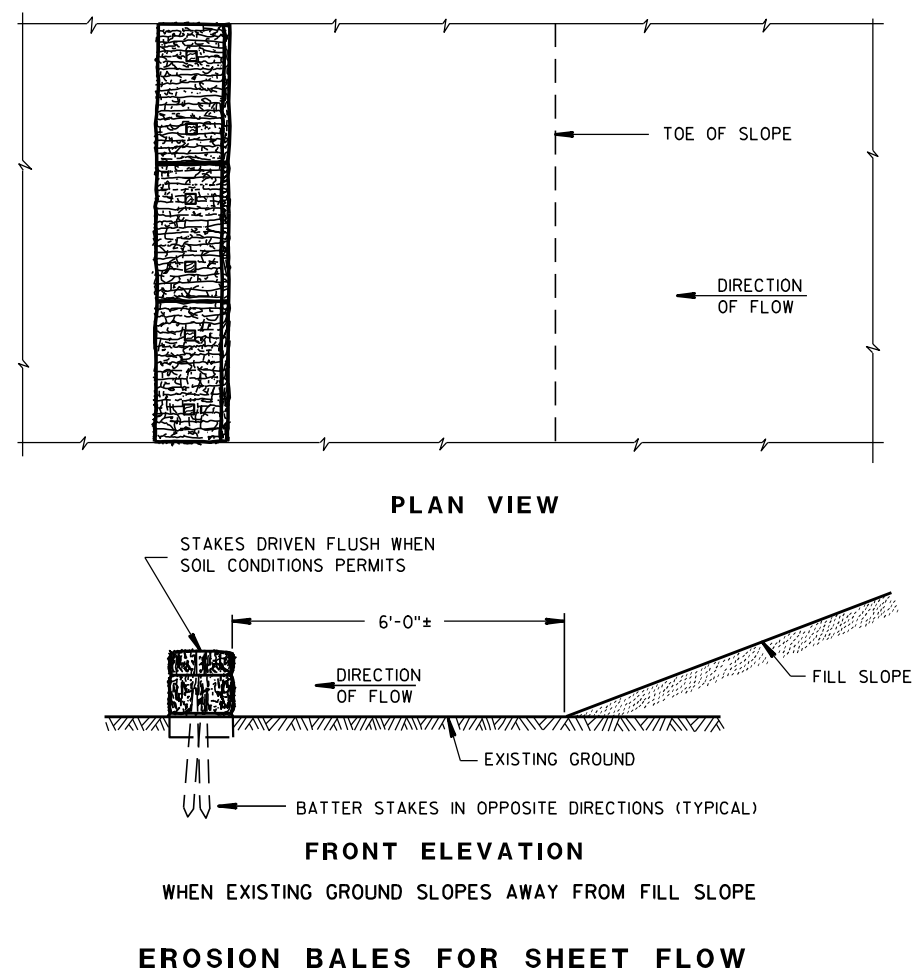
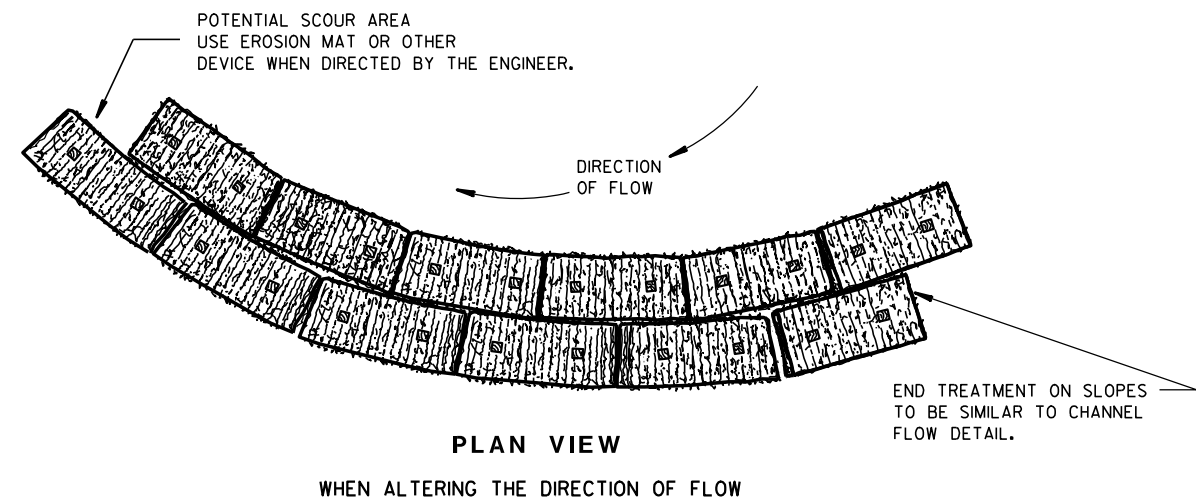




## GENERAL NOTES

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

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

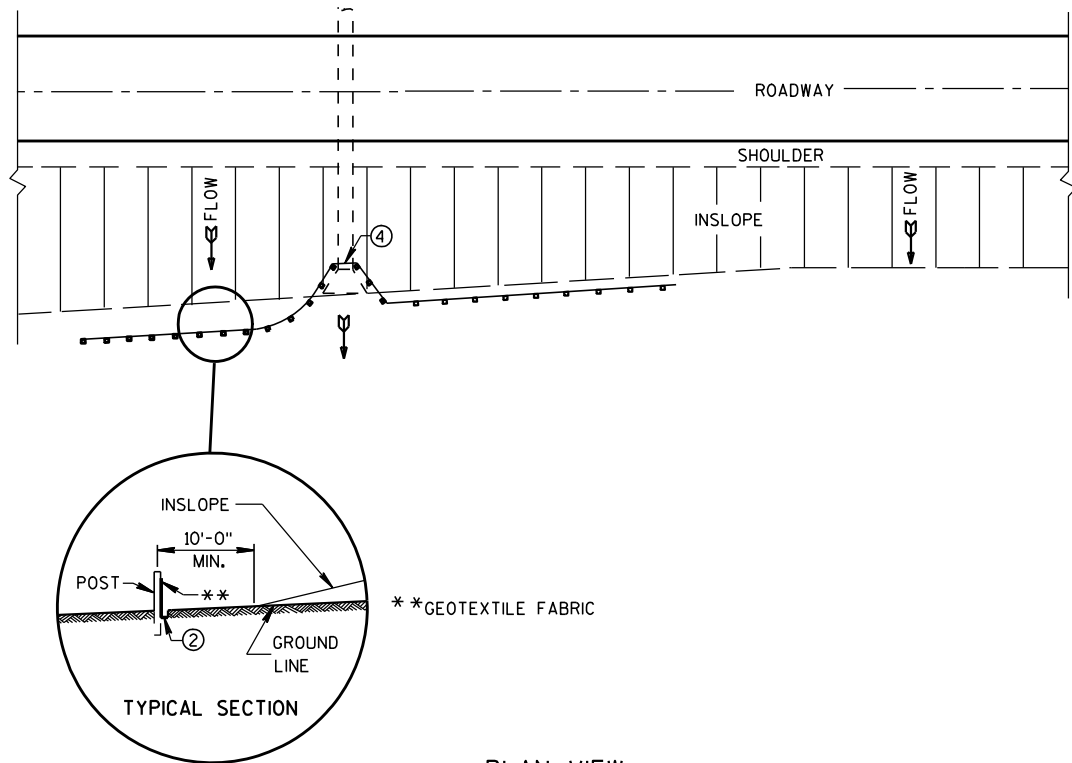
TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

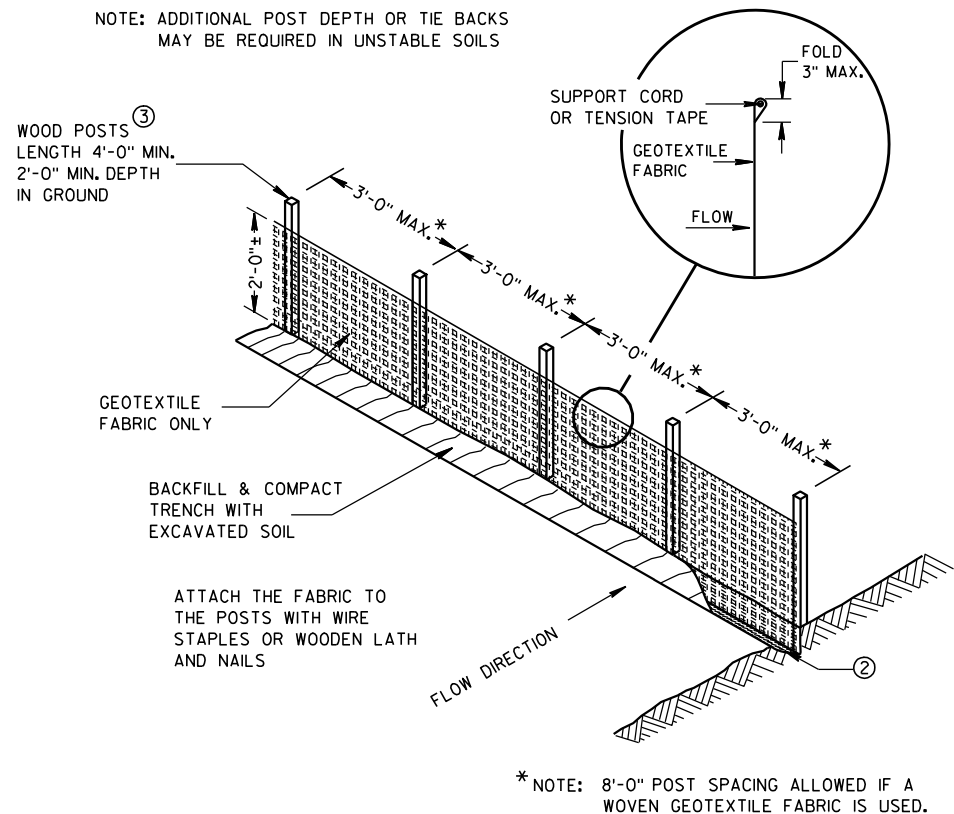
APPROVED

6/04/02  
DATE/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER

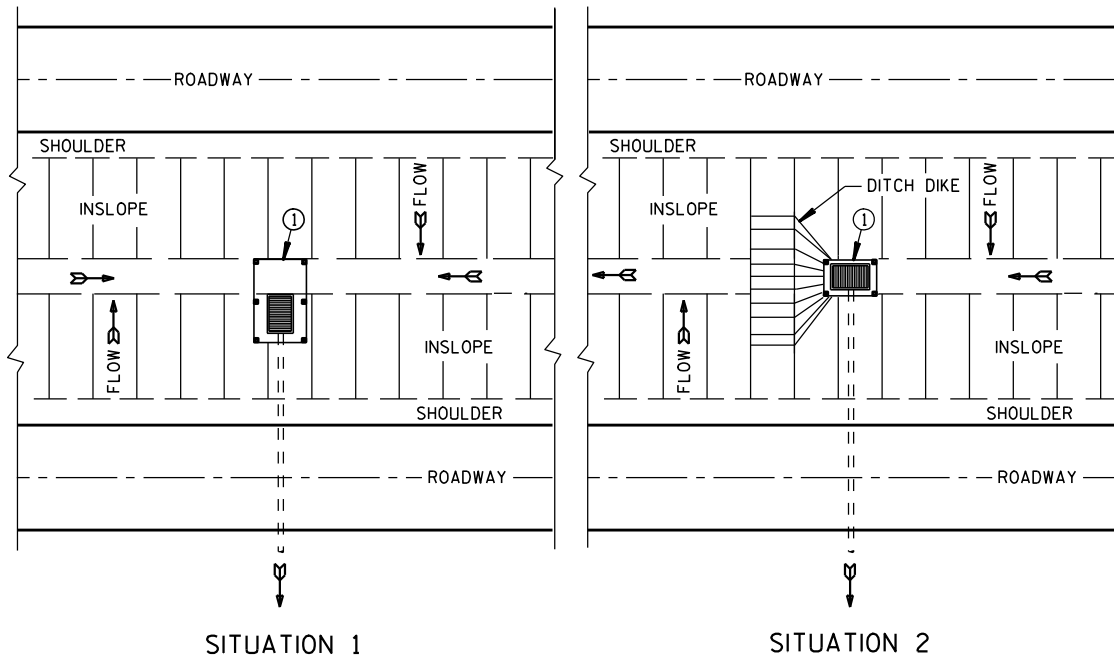
FHWA



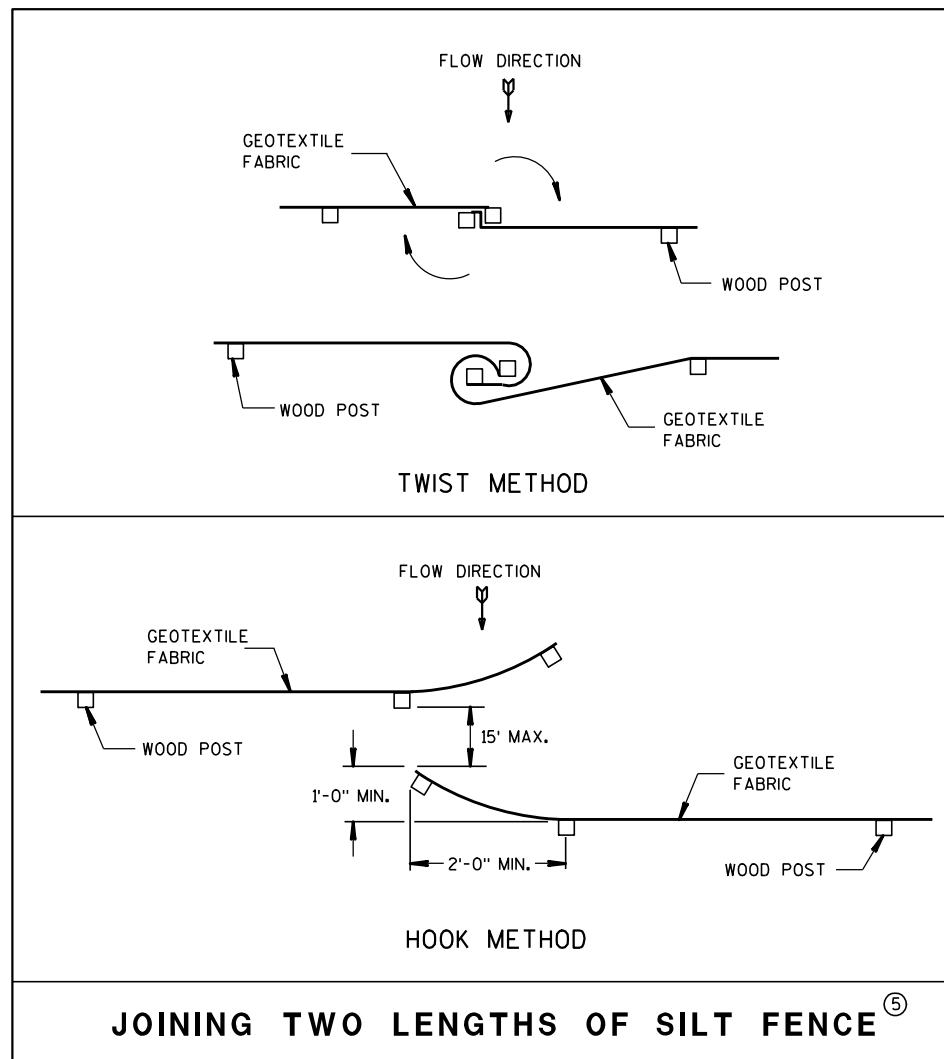
PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

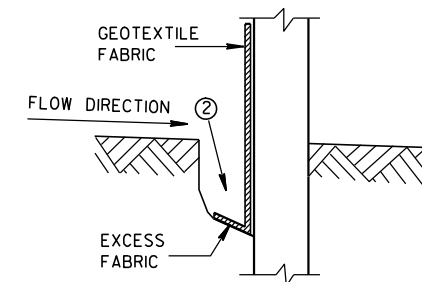


JOINING TWO LENGTHS OF SILT FENCE<sup>⑤</sup>

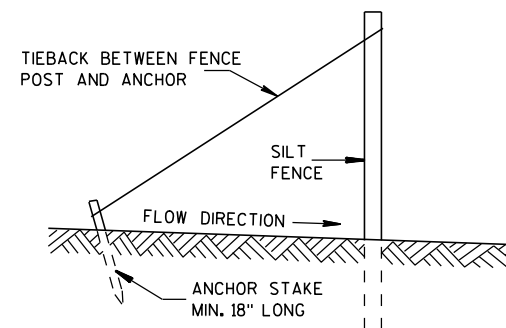
GENERAL NOTES

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

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

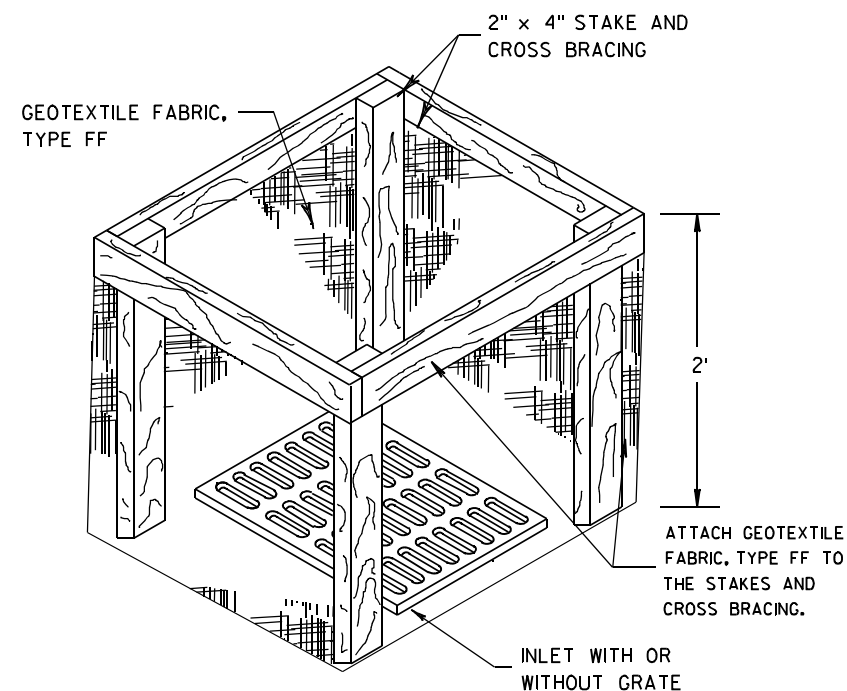
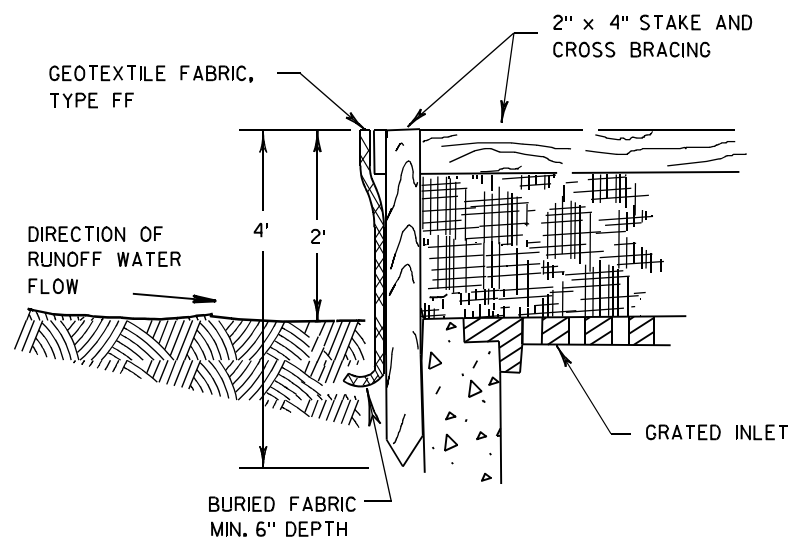


TRENCH DETAIL



SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

| SILT FENCE                                         |                                                          |
|----------------------------------------------------|----------------------------------------------------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                          |
| APPROVED<br>4-29-05<br>DATE                        | /S/ Beth Cannestra<br>CHIEF ROADWAY DEVELOPMENT ENGINEER |
| FHWA                                               |                                                          |



**INLET PROTECTION, TYPE A**

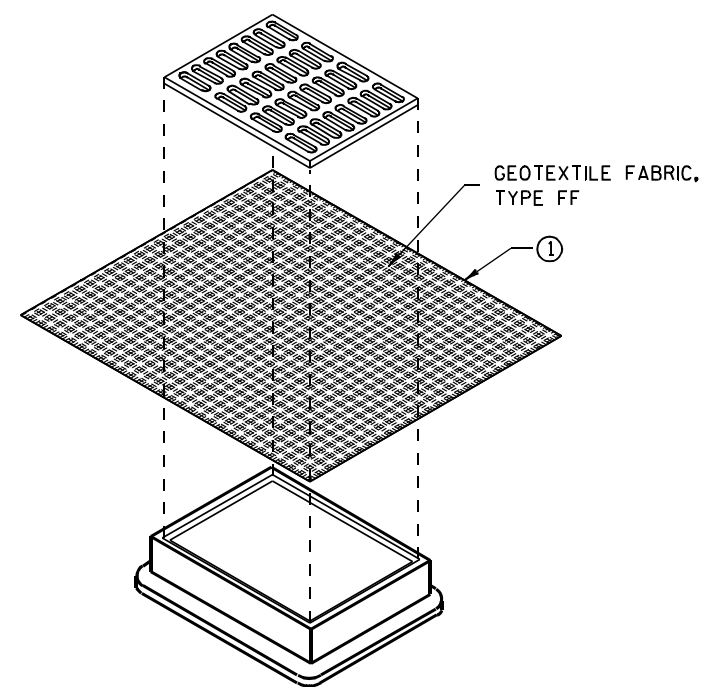
**GENERAL NOTES**

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.

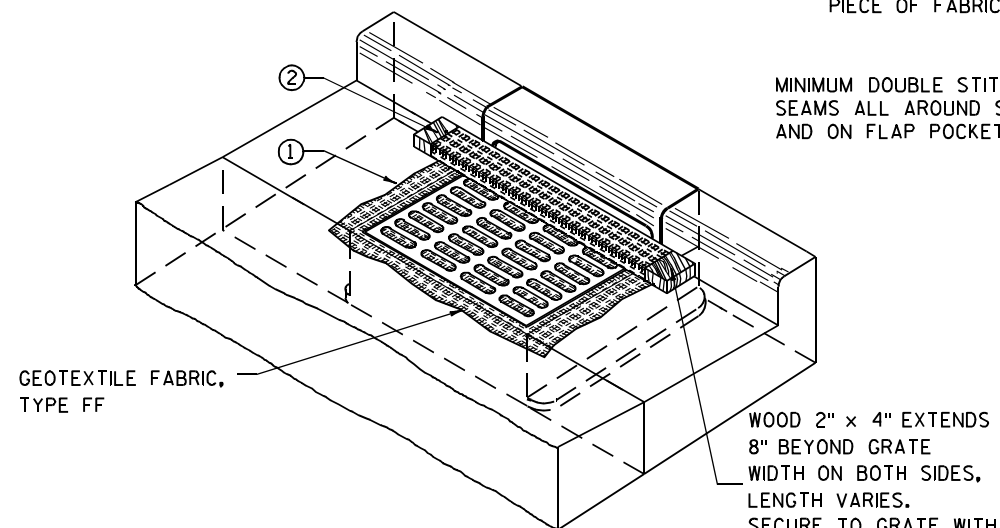
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

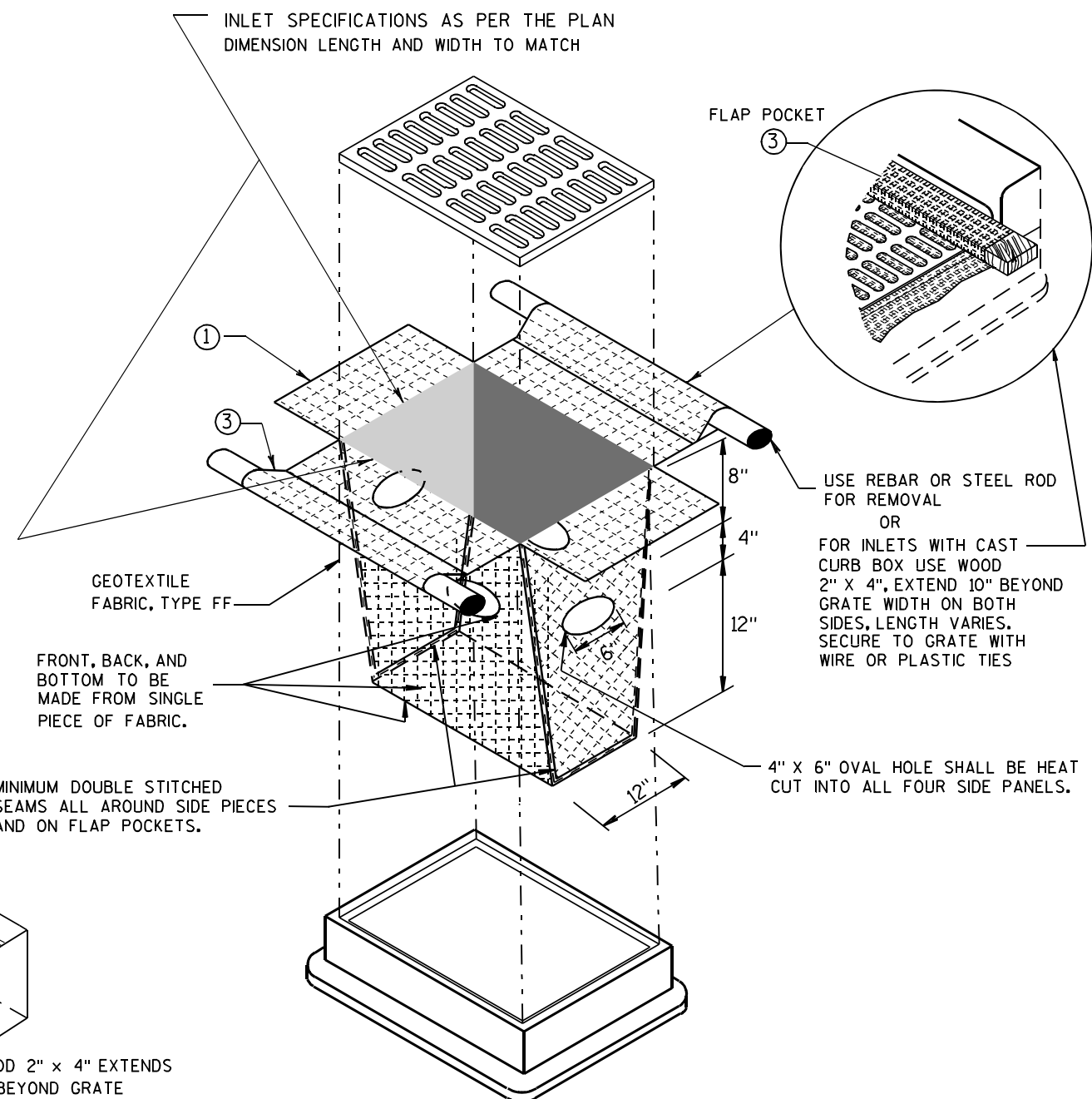
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**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.



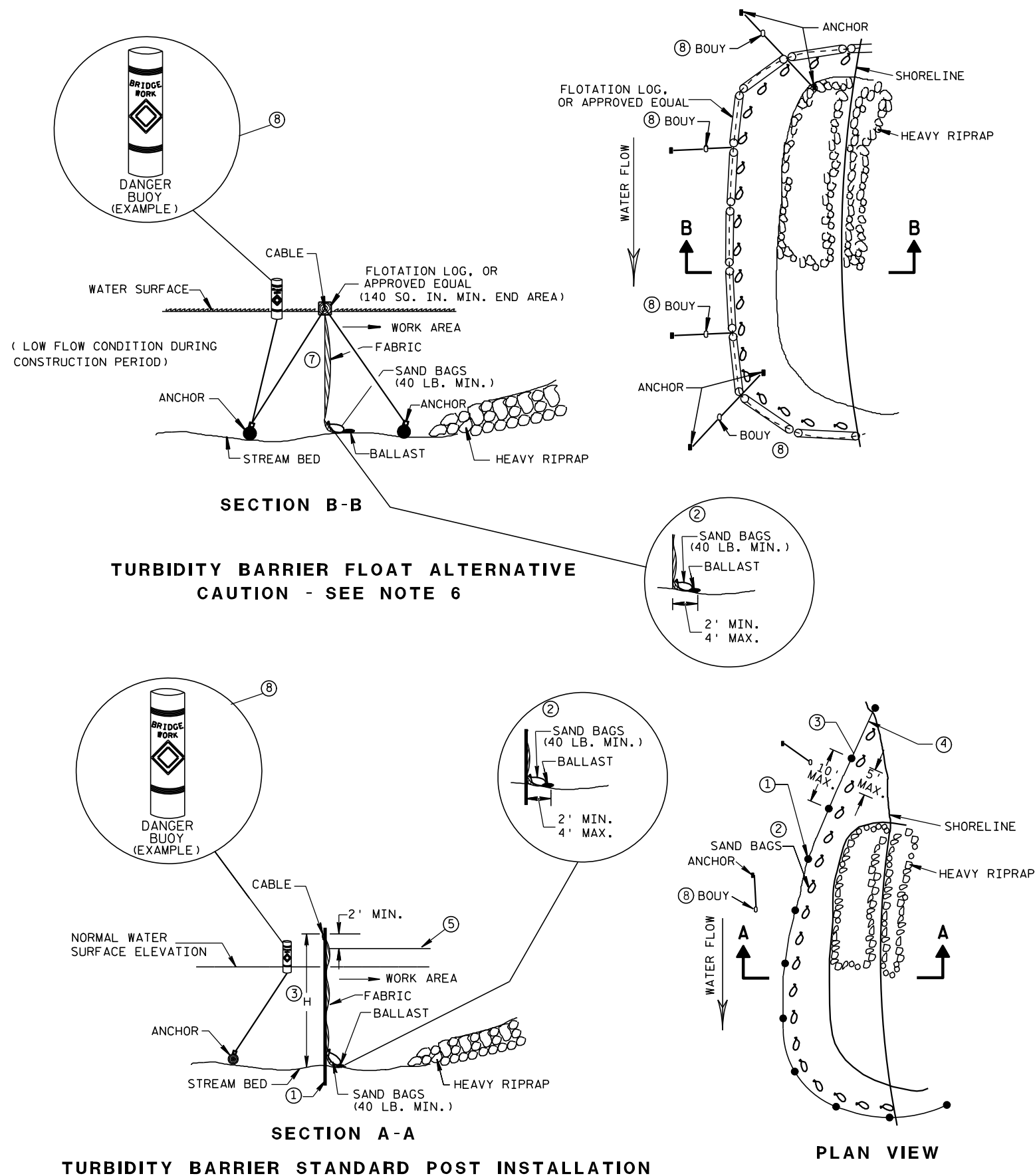
**INLET PROTECTION, TYPE D**

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

**INLET PROTECTION  
TYPE A, B, C, AND D**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
10/16/02 /S/ Beth Cannestra  
DATE  
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

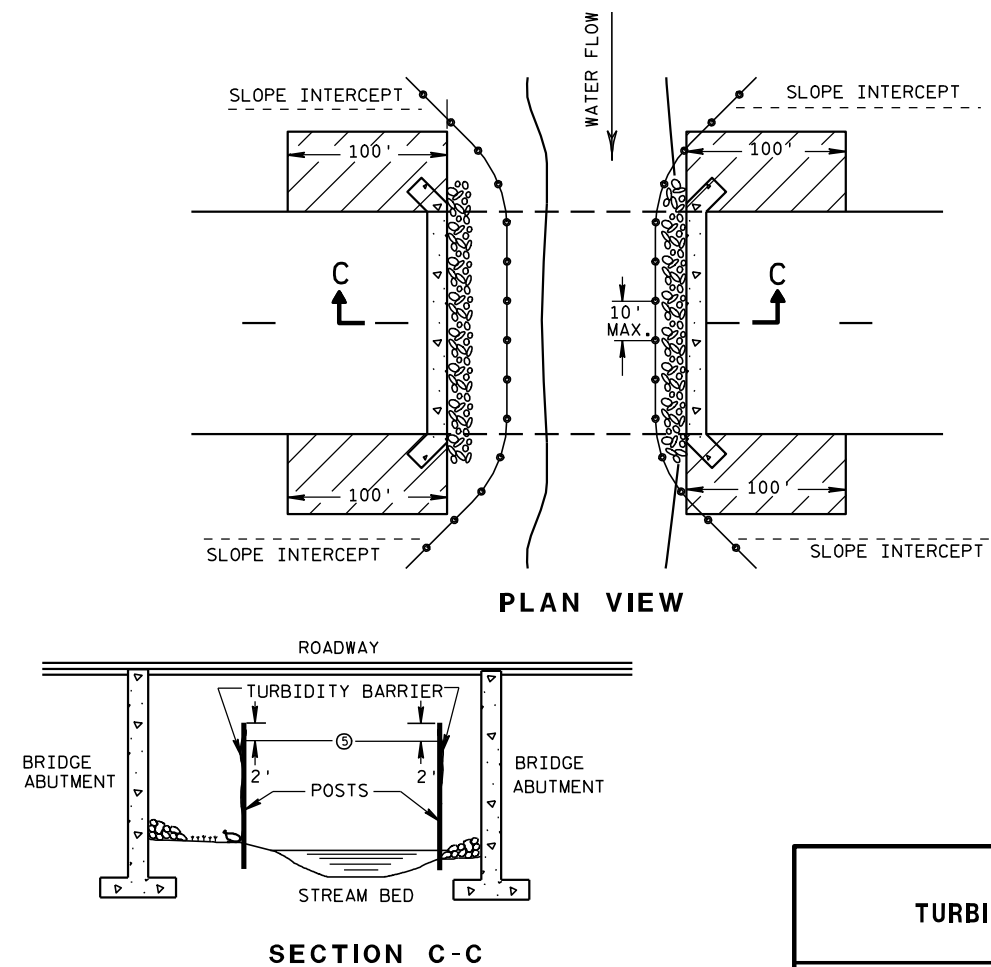


## GENERAL NOTES

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 SANDBAGS 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 FT., 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 02 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 BED ROCK 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.



## TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

### TURBIDITY BARRIER

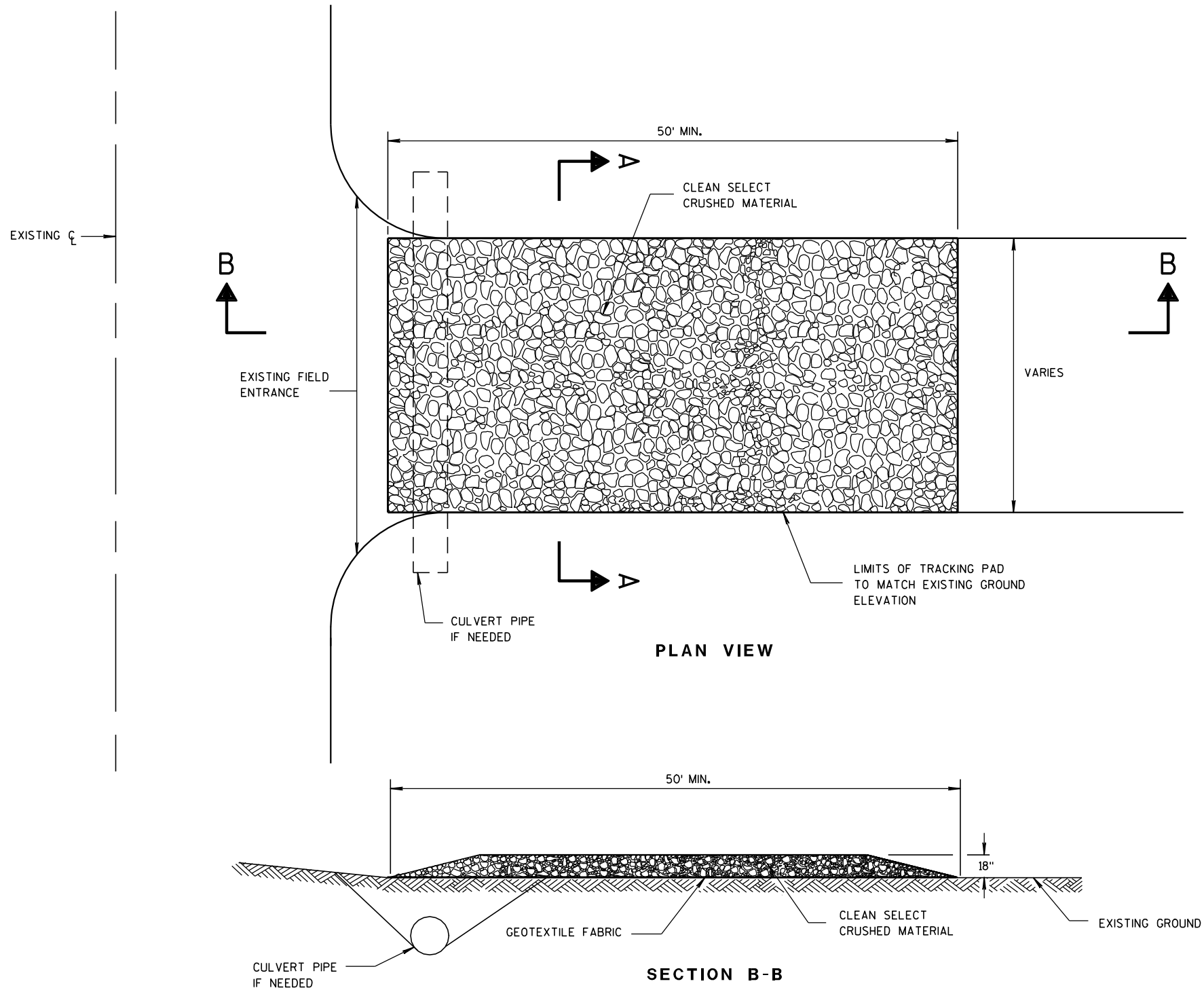
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02  
DATE

FWHA

/S/ Beth Connestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER



TRACKING PAD

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

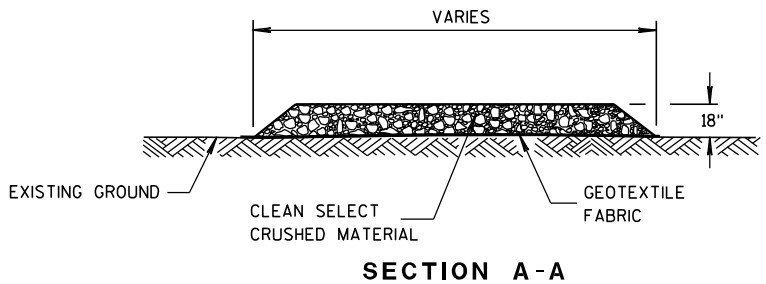
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



TRACKING PAD

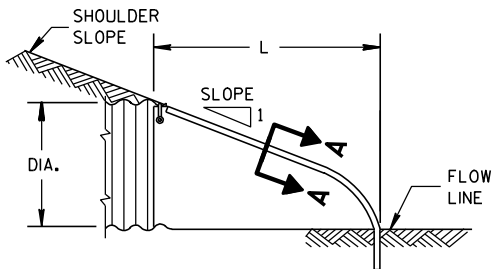
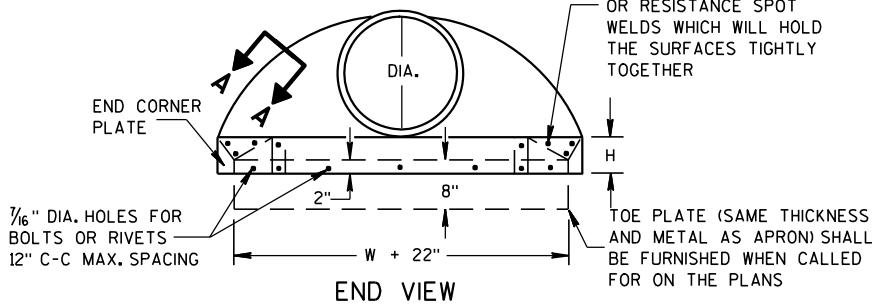
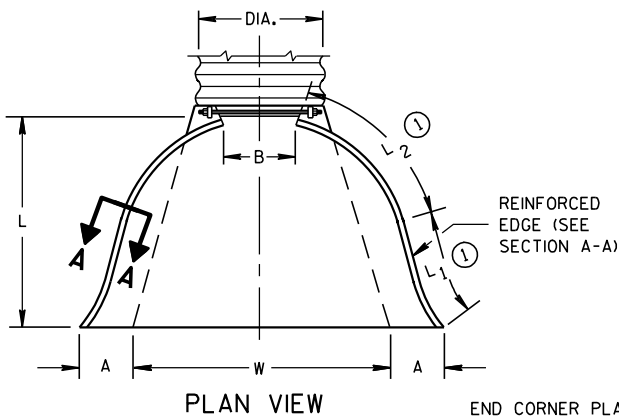
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
3/24/2011  
DATE  
/S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA



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

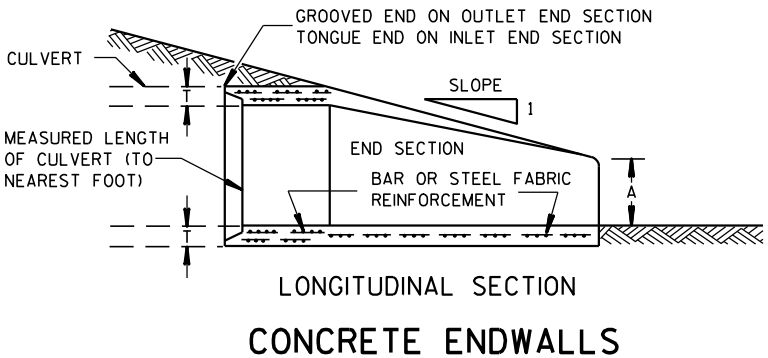
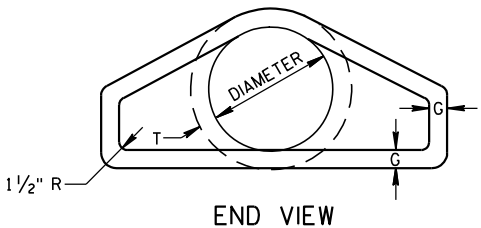
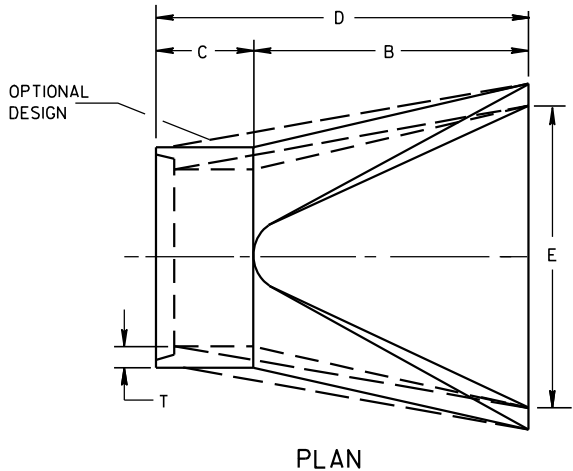
\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES



SIDE ELEVATION  
METAL ENDWALLS

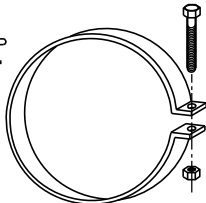
| REINFORCED CONCRETE APRON ENDWALLS |                     |        |        |           |            |     |       |               |  |  |  |
|------------------------------------|---------------------|--------|--------|-----------|------------|-----|-------|---------------|--|--|--|
| PIPE DIA.<br>(IN.)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

\* MINIMUM  
\*\* MAXIMUM

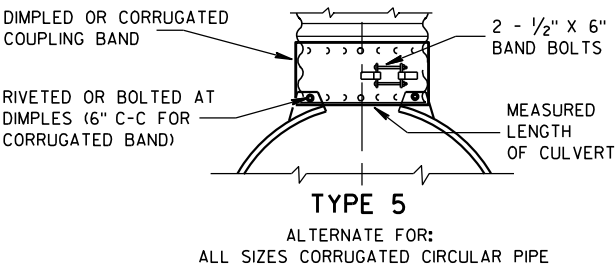
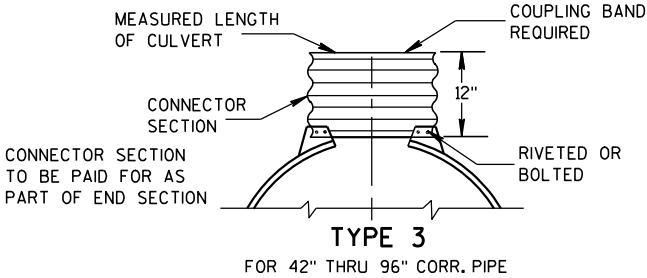
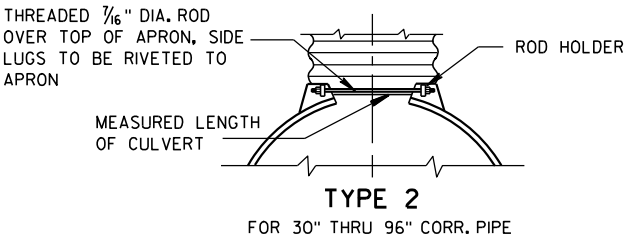
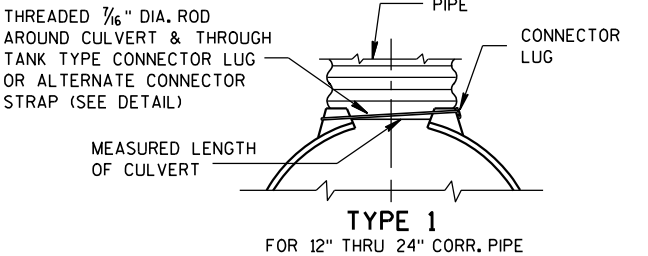


LONGITUDINAL SECTION  
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



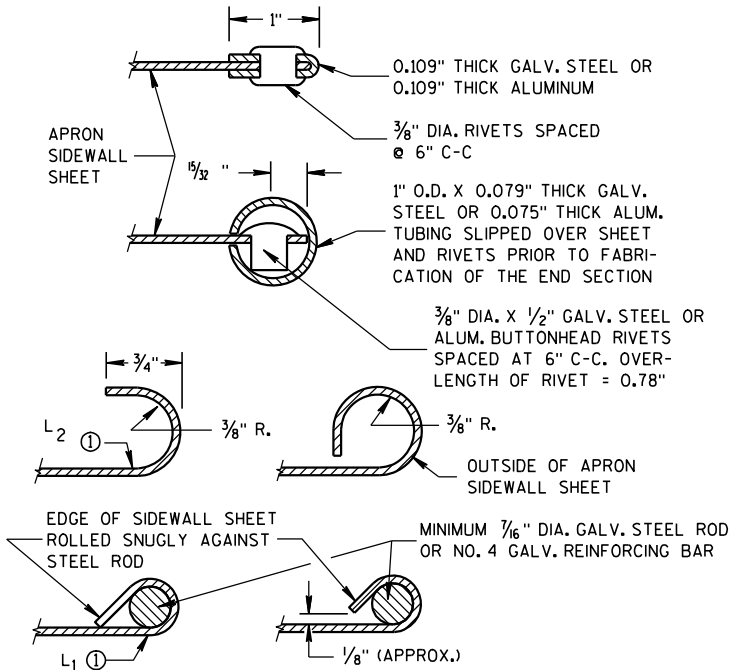
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

### GENERAL NOTES

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

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

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

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

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

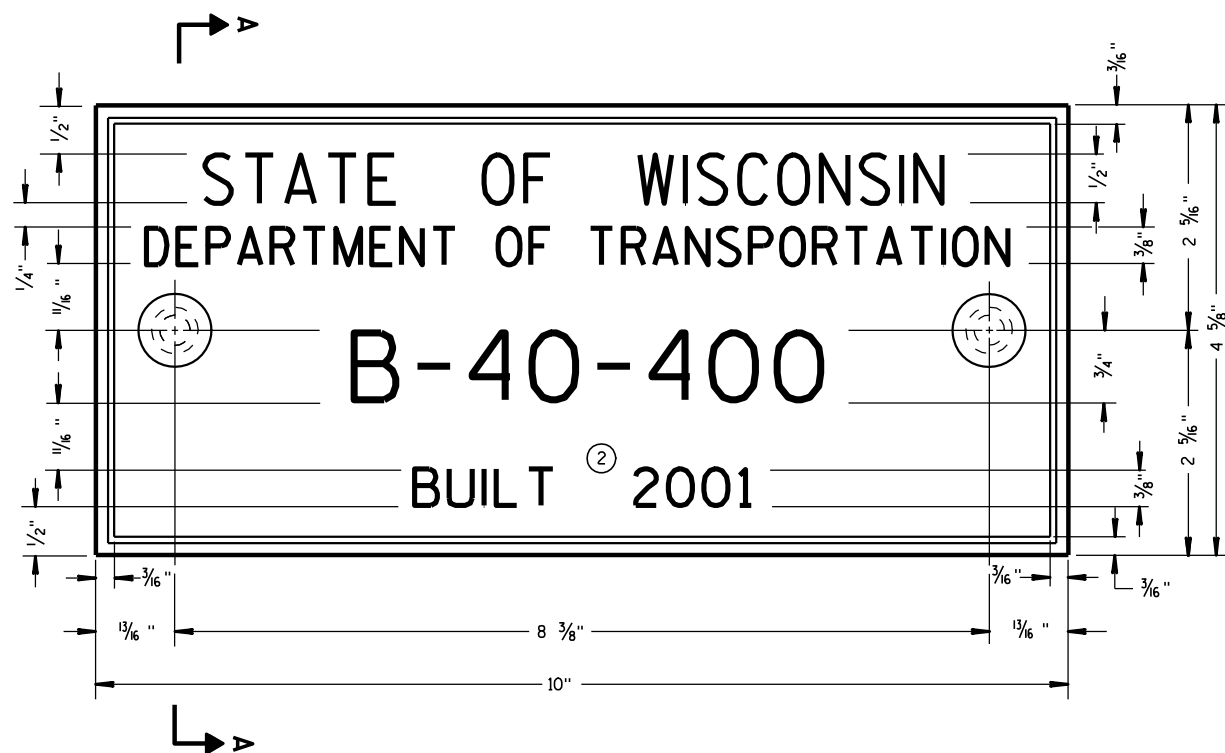
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR  
CULVERT PIPE

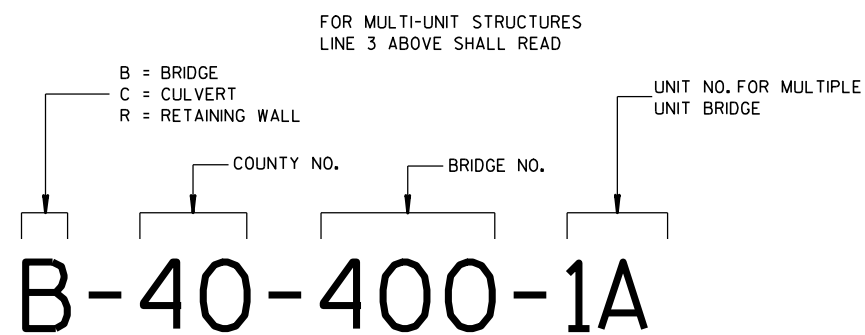
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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





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



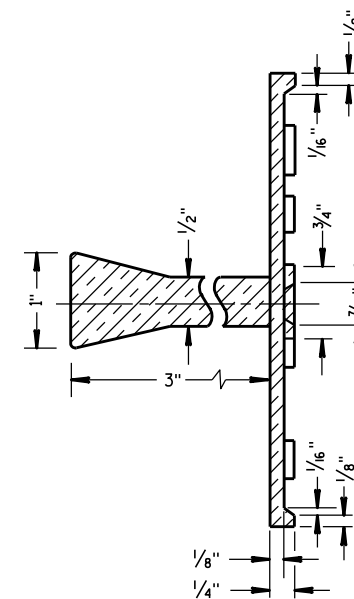
**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

## GENERAL NOTES

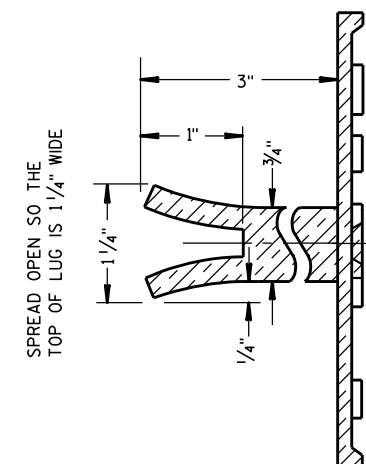
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

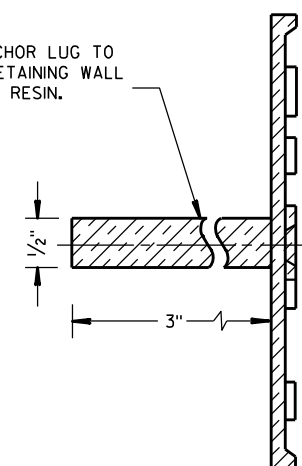


**SECTION A-A**



**ALTERNATE LUG**

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



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

**NAME PLATE  
(STRUCTURES)**

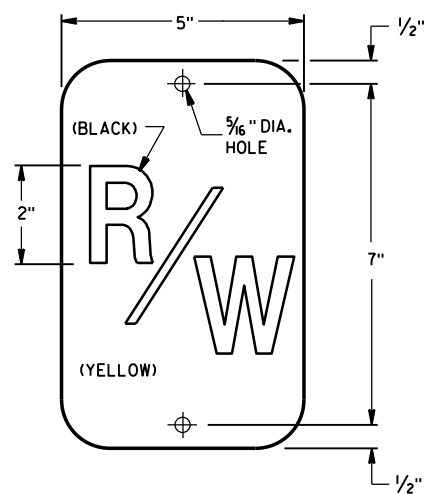
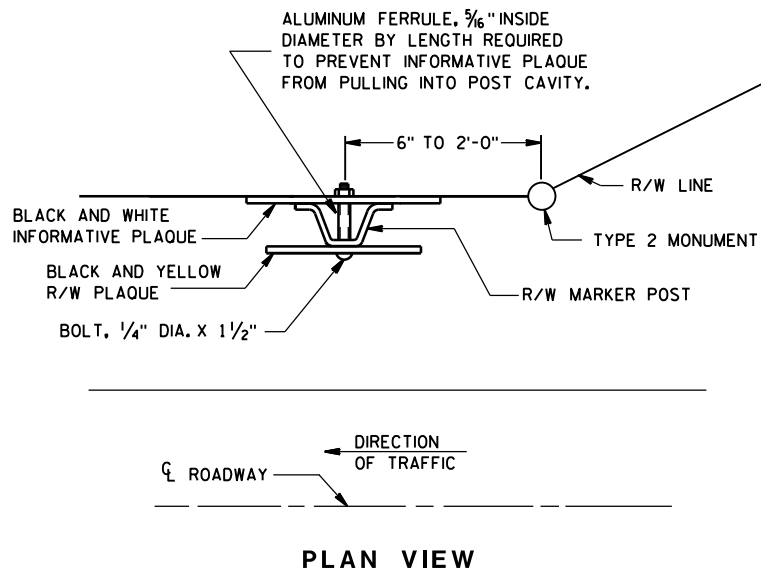
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

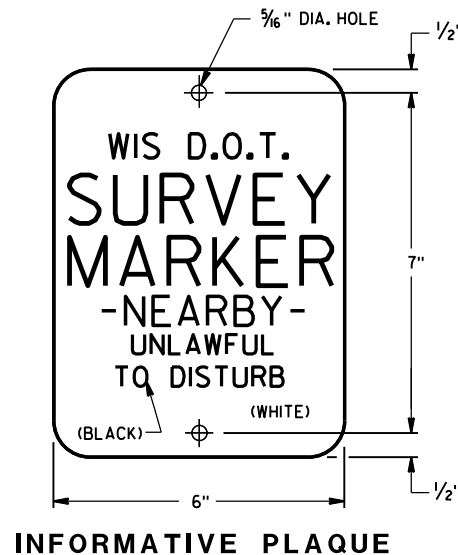
3/26/10  
DATE

FHWA

/S/ Scot Becker  
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



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



## GENERAL NOTES

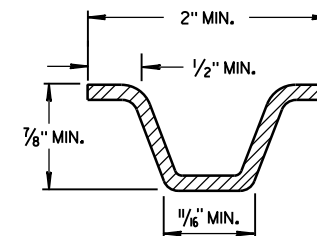
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

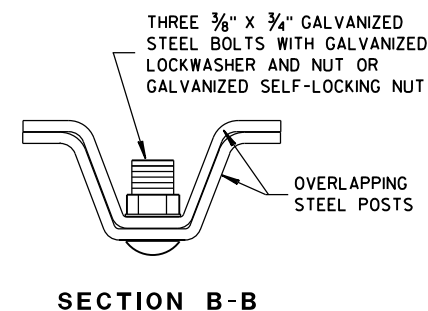
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

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.

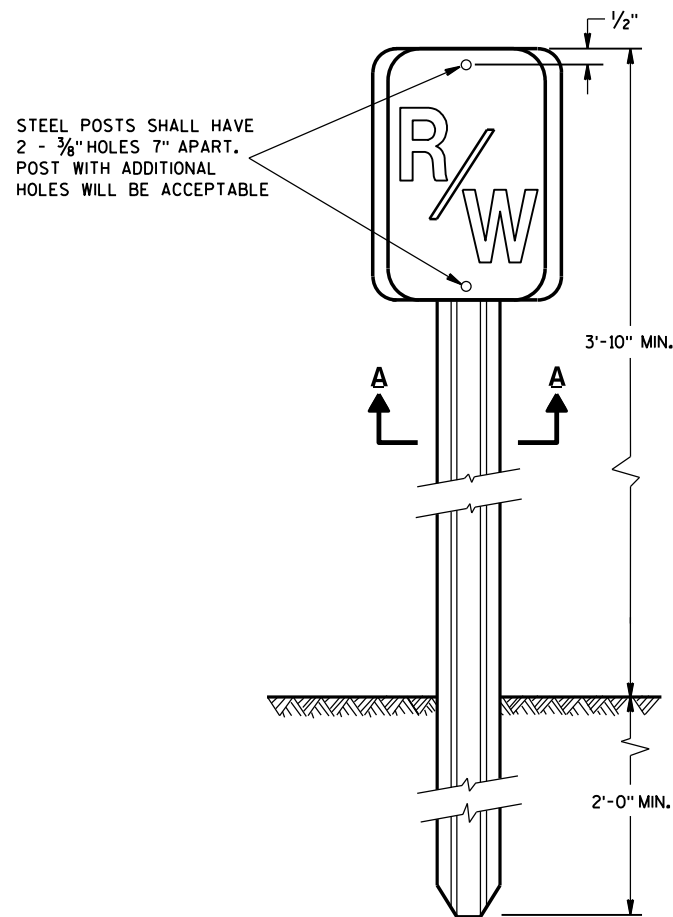
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL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



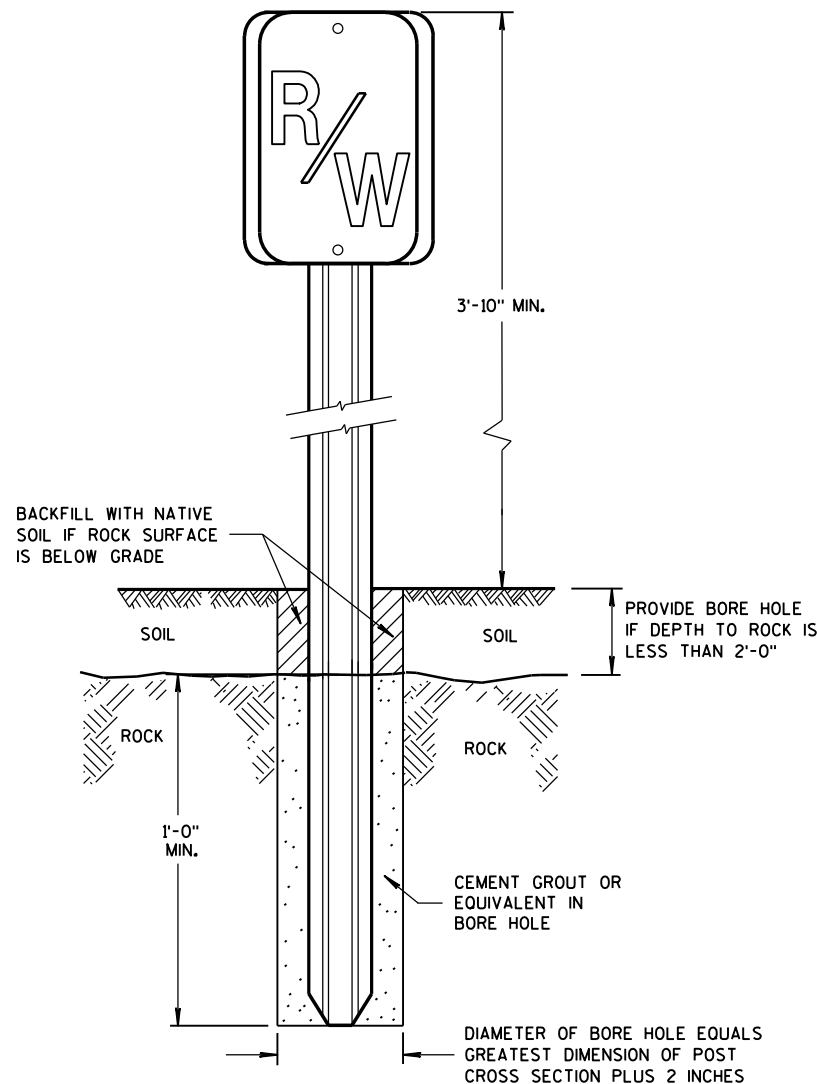
MIN. WEIGHT 1.12 LB./FT.  
**SECTION A-A**



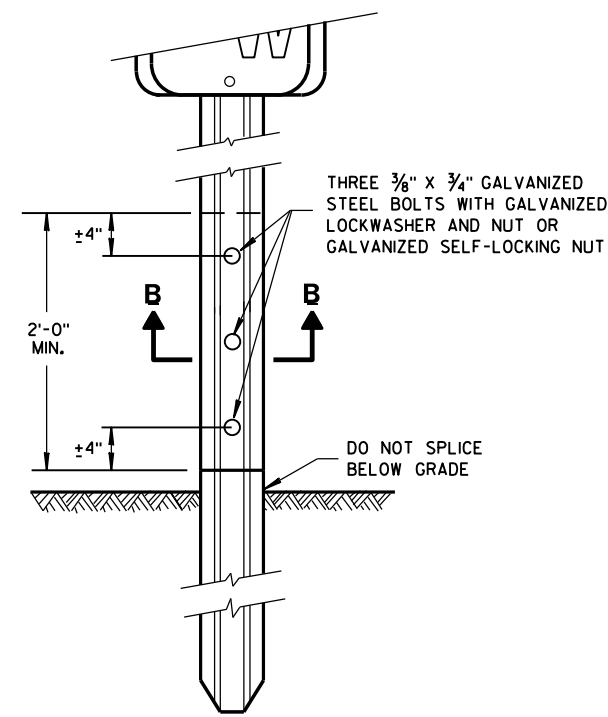
**SECTION B-B**



**FRONT VIEW  
STEEL MARKER POST**



**FRONT VIEW  
ROCK INSTALLATION** ①



**FRONT VIEW  
SPLICE DETAIL**

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

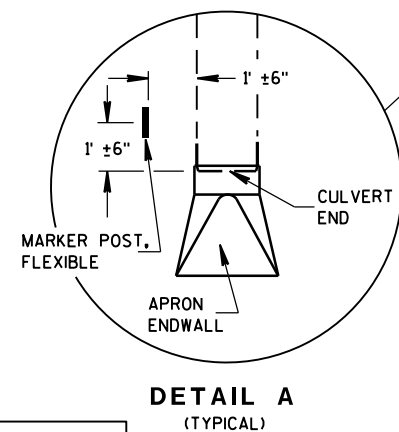
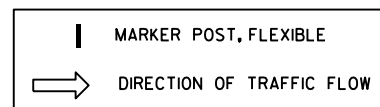
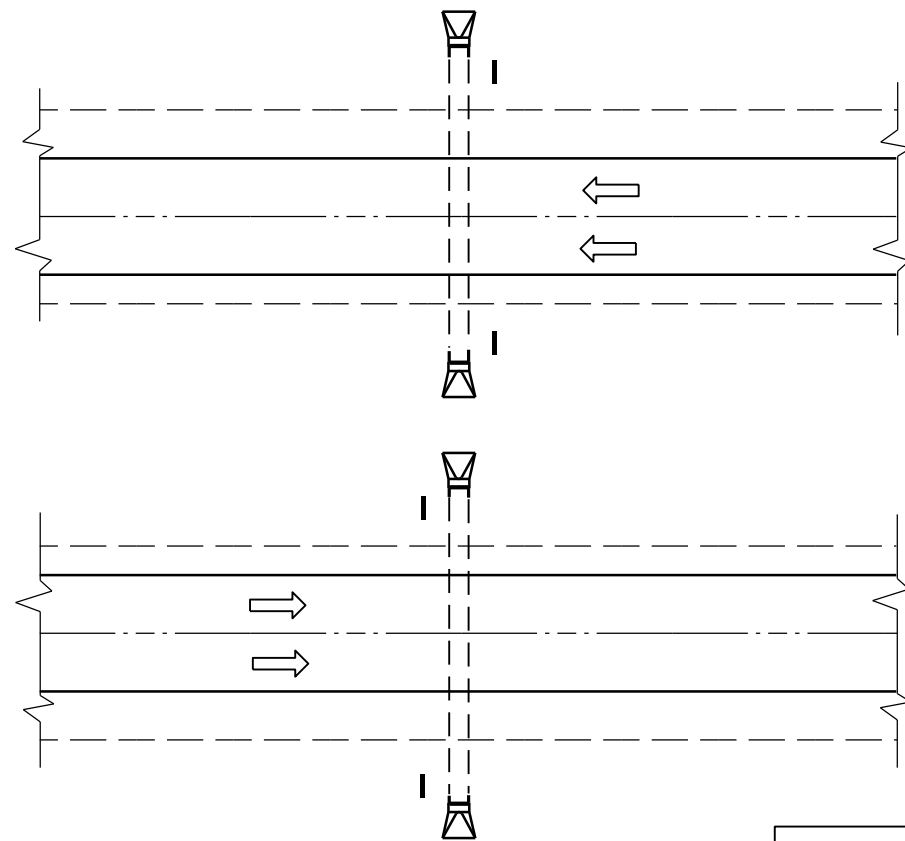
2/18/2016

DATE

/S/ Ray Kumapayi  
CHIEF SURVEYING AND MAPPING ENGINEER

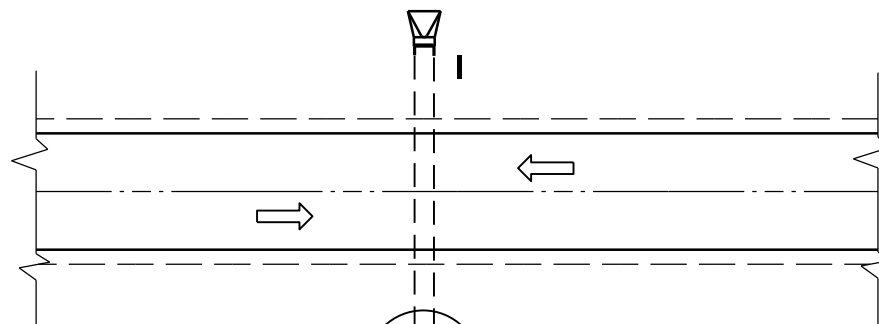
FHWA

PLAN VIEW  
DIVIDED HIGHWAY

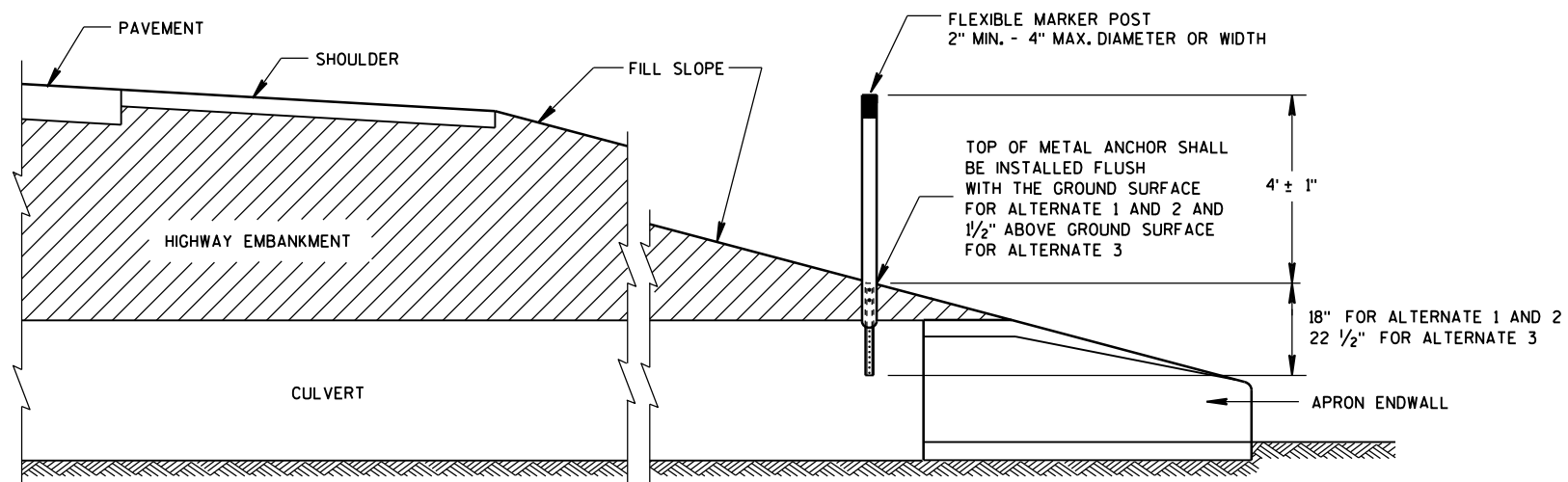


DETAIL A  
(TYPICAL)

PLAN VIEW  
UNDIVIDED HIGHWAY



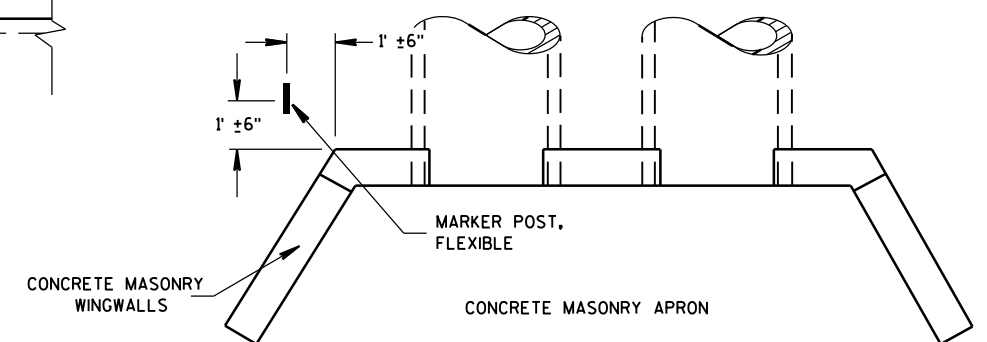
## FLEXIBLE MARKER POST LOCATION



CROSS SECTION  
FLEXIBLE MARKER POST

## GENERAL NOTES

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

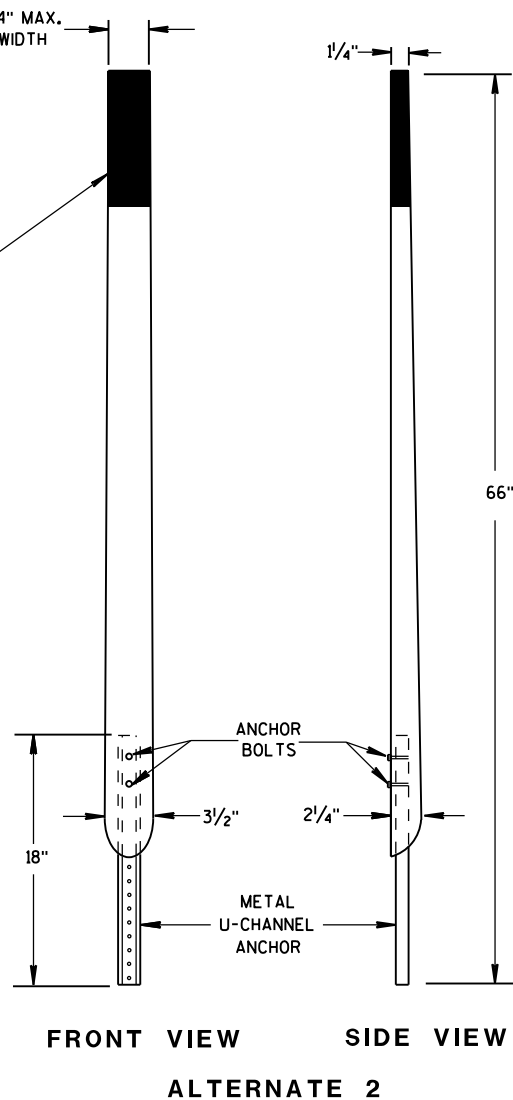
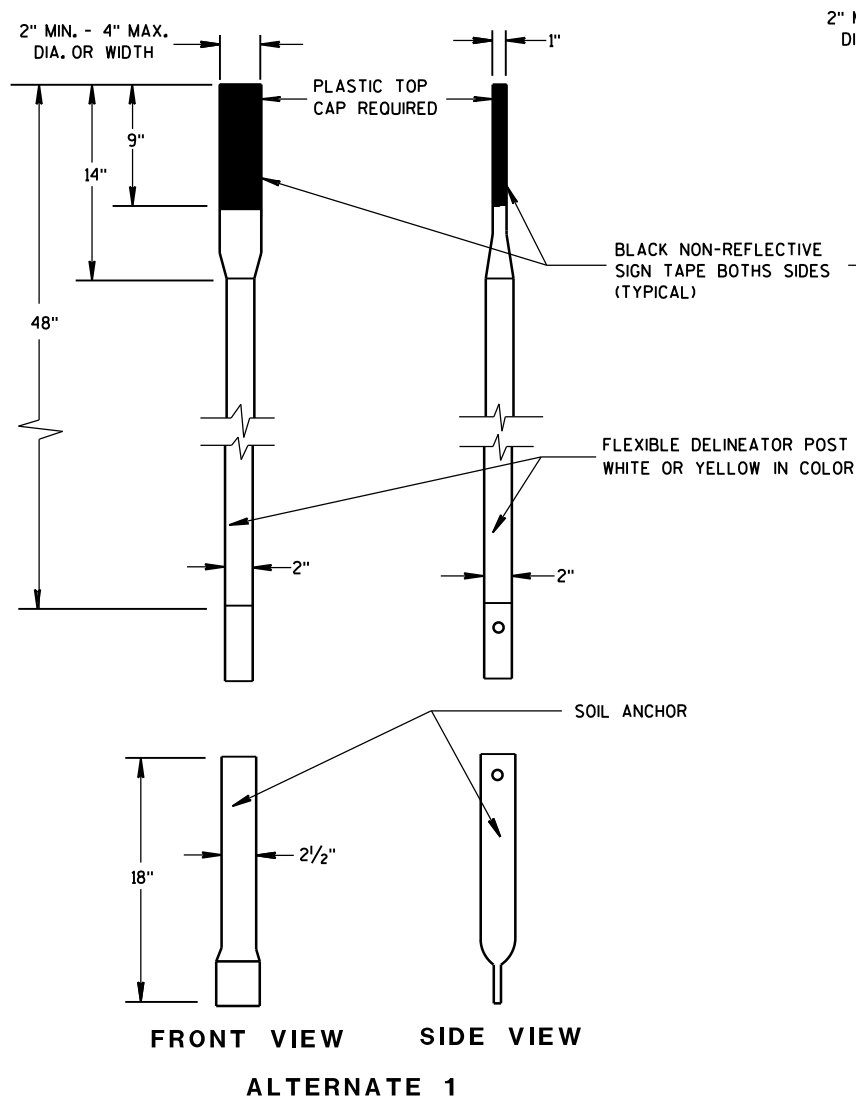


PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH

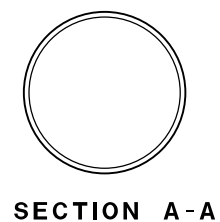
FLEXIBLE MARKER POST  
FOR CULVERT END

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

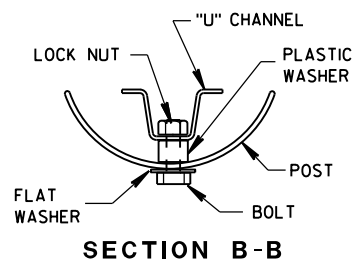
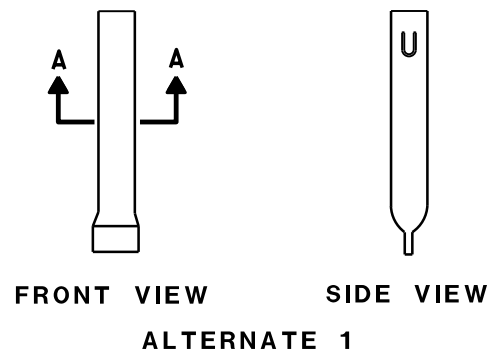




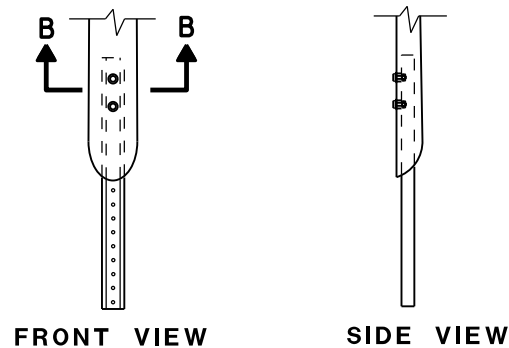
FLEXIBLE MARKER POSTS



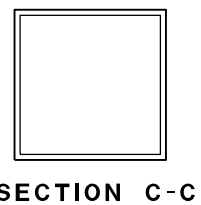
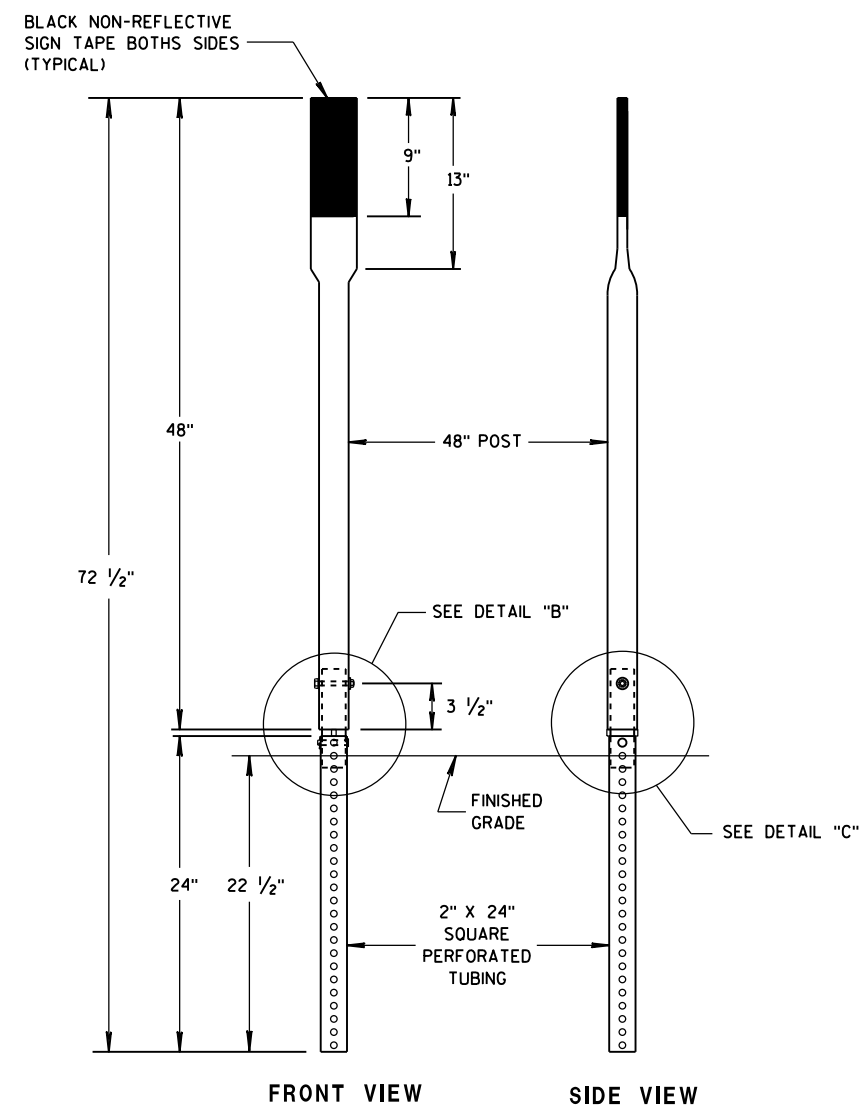
SECTION A-A



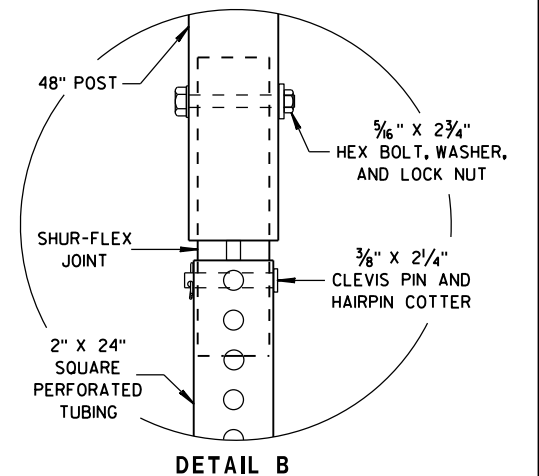
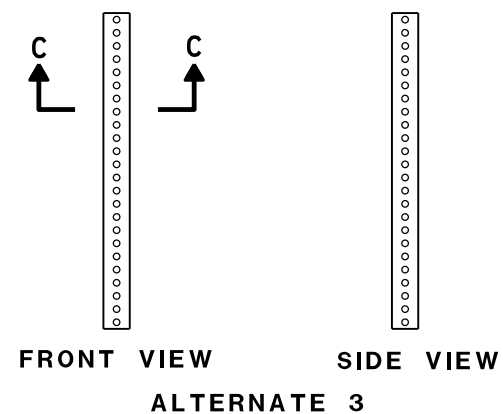
SECTION B-B



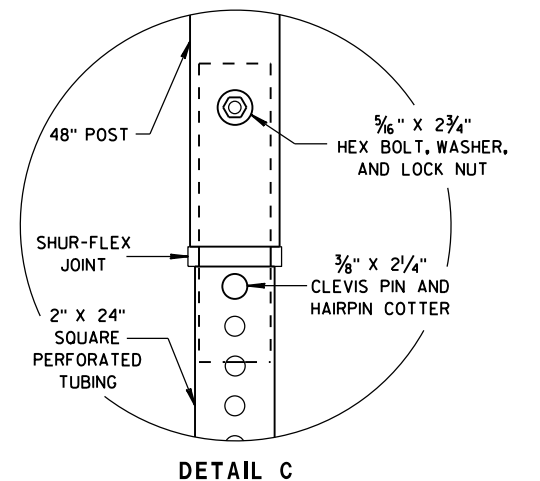
FLEXIBLE MARKER POST ANCHORS



SECTION C-C



DETAIL B

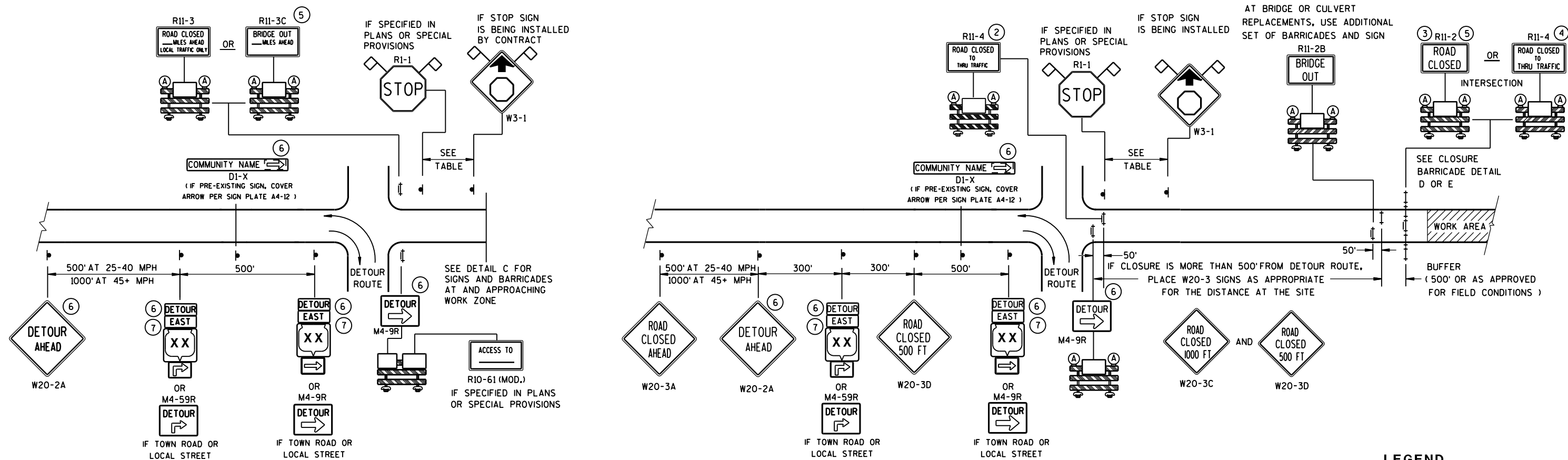


DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

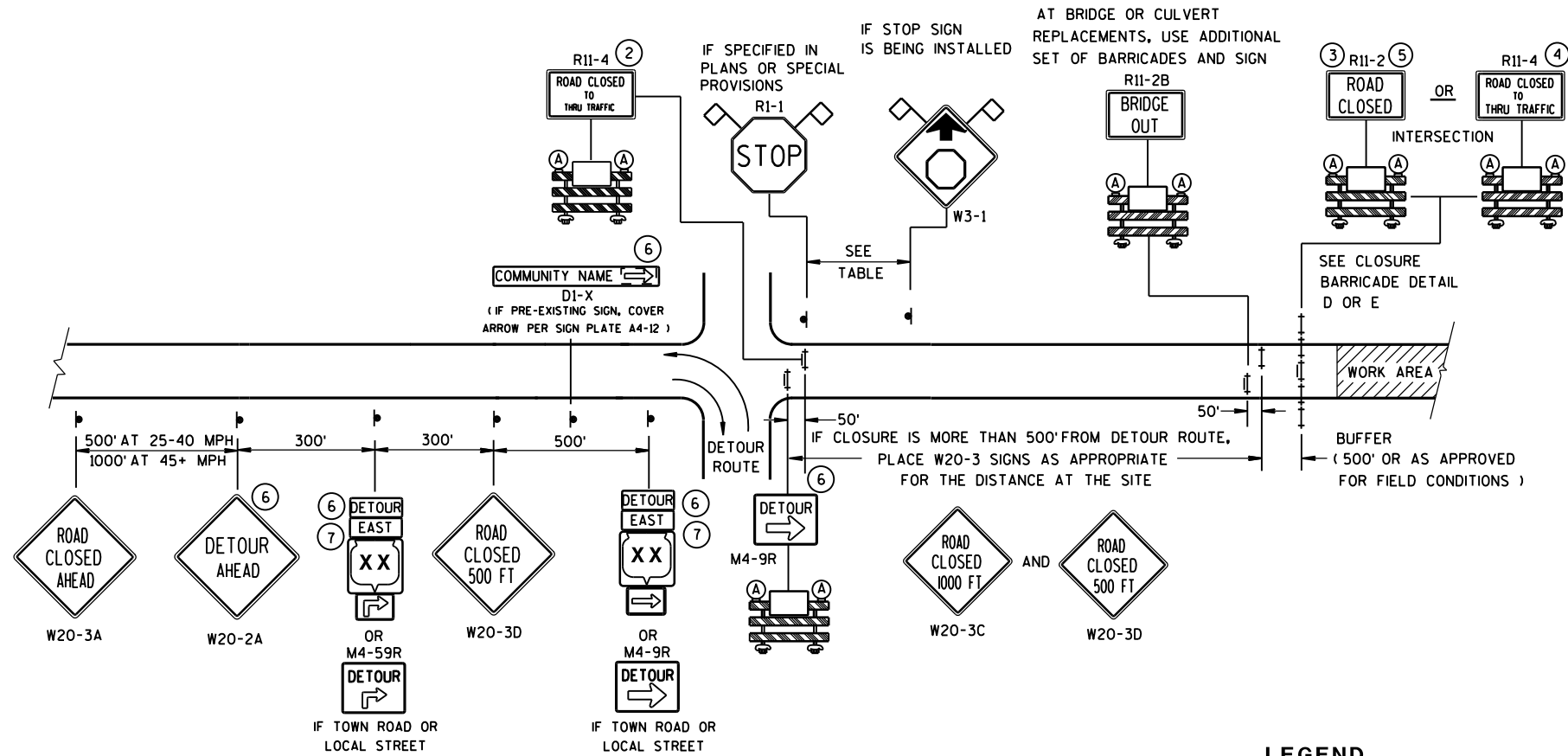
APPROVED  
10/1/2012 DATE /S/ Travis Feltes  
STATE TRAFFIC ENGINEER OF DESIGN  
FHWA



DETAIL A

**MAINLINE CLOSURE WITH POSTED DETOUR**

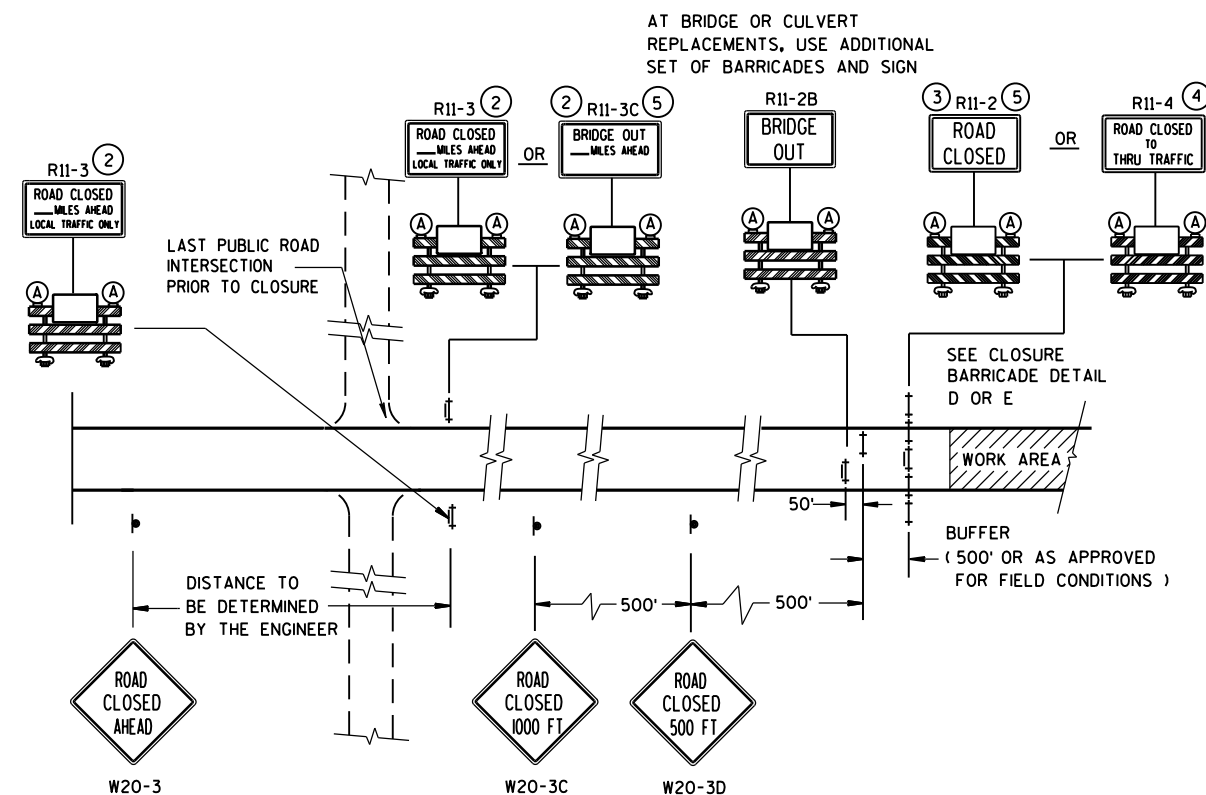
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )



DETAIL B













**MAINLINE CLOSURE WITH POSTED DETOUR**

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



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

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

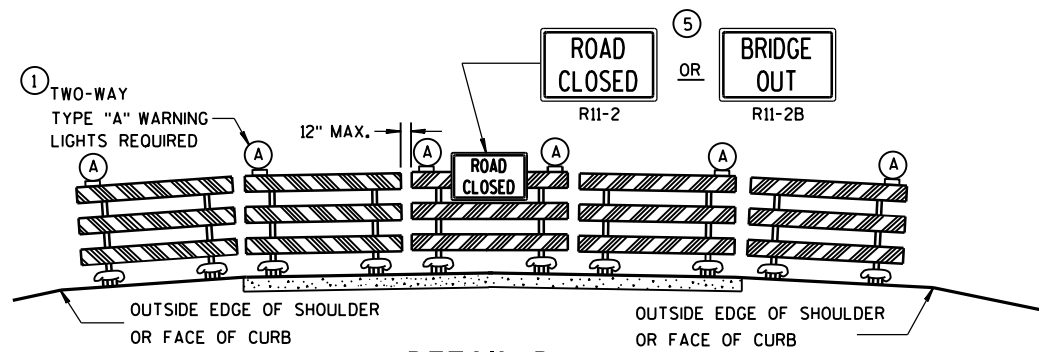
- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8  
M3-X
-  OR  OR   
M1-4 M1-5A M1-6
-  OR   
MO5-1 MO6-1
-  FLAGS, 16" X 16" MIN., (ORANGE)

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

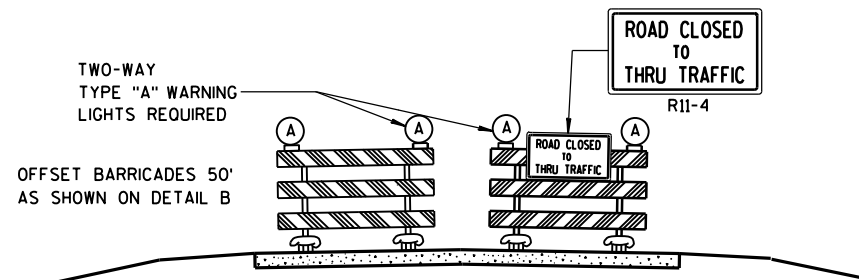
## BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

|            |                             |
|------------|-----------------------------|
| Sept. 2015 | /S/ Peter Amakobe Atepe     |
| DATE       | STATEWIDE WORK ZONE TRAFFIC |
| FHWA       | SAFETY ENGINEER             |



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 BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE 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, 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". (30" X 15" 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.)

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

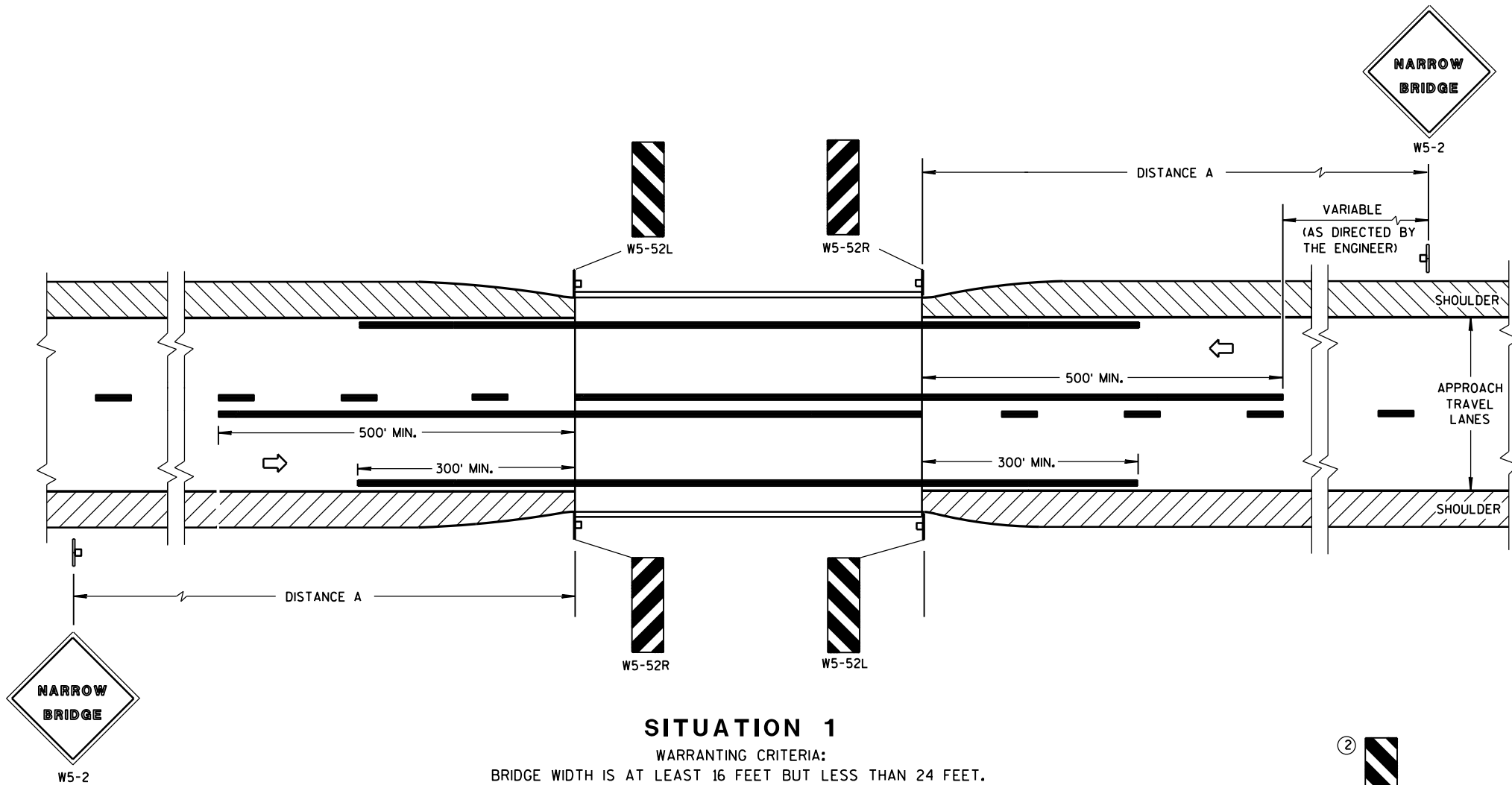
R1-1 SHALL BE 36" X 36".

- 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 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 LANE 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 MAINLINE CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

Sept. 2015 /S/ Peter Amokobe Atepe  
DATE STATEWIDE WORK ZONE TRAFFIC  
FHWA SAFETY ENGINEER



### SITUATION 1

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

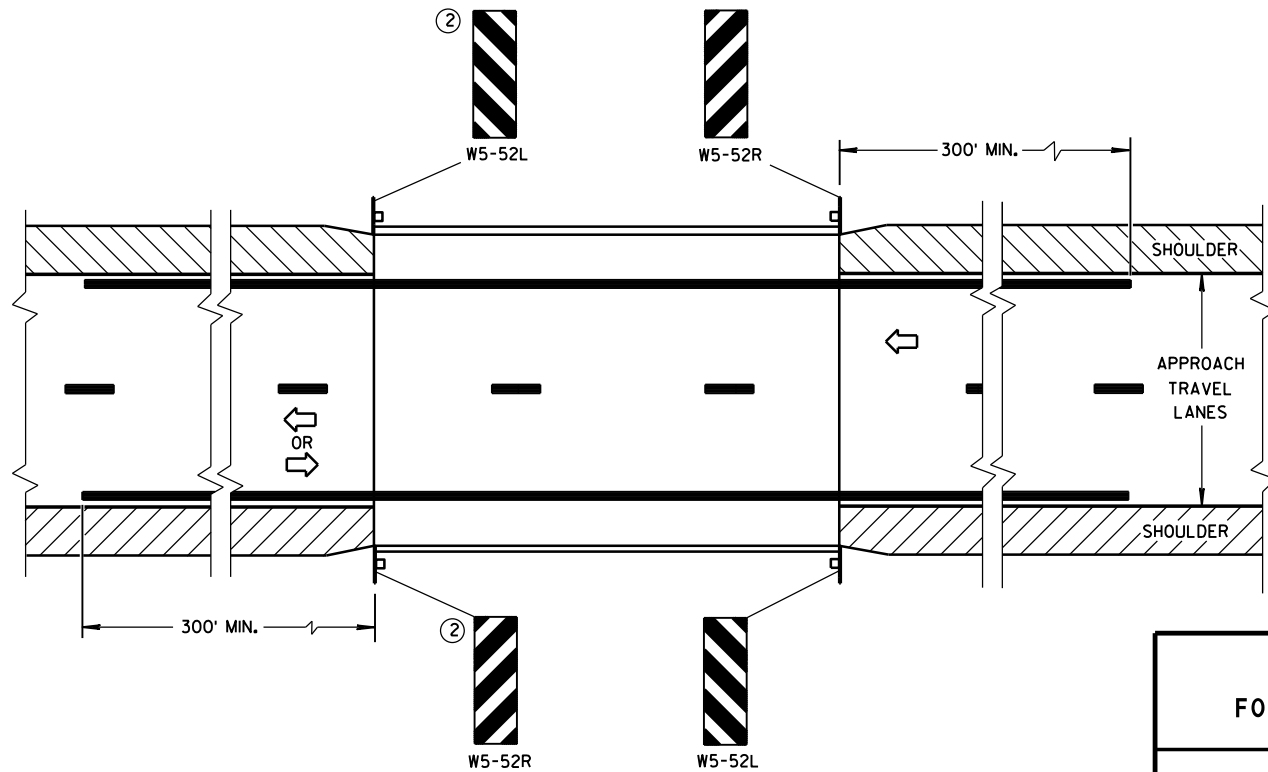
DISTANCE TABLE

| POSTED OR 85th PERCENTILE SPEED | DISTANCE "A" |
|---------------------------------|--------------|
| 25                              | 150'         |
| 30                              | 200'         |
| 35                              | 250'         |
| 40                              | 300'         |
| 45                              | 400'         |
| 50                              | 550'         |
| 55                              | 750'         |

### GENERAL NOTES

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

- ① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ② OMIT ON ONE-WAY TRAVELLED WAYS.
- ③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.



### SITUATION 2

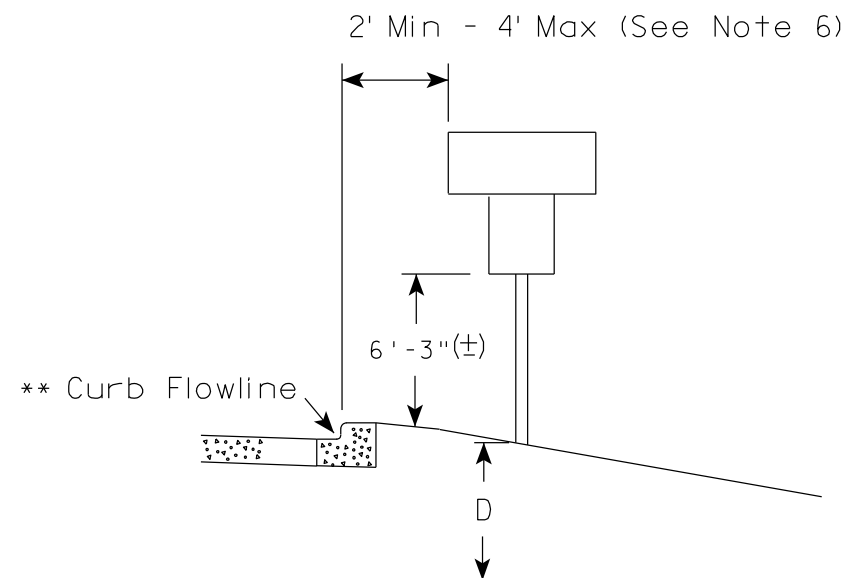
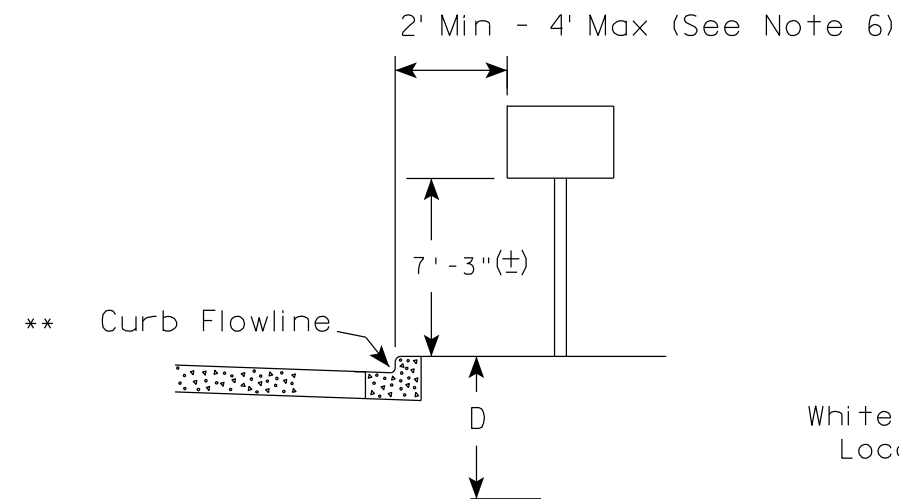
WARRANTING CRITERIA:  
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND  
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

### SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

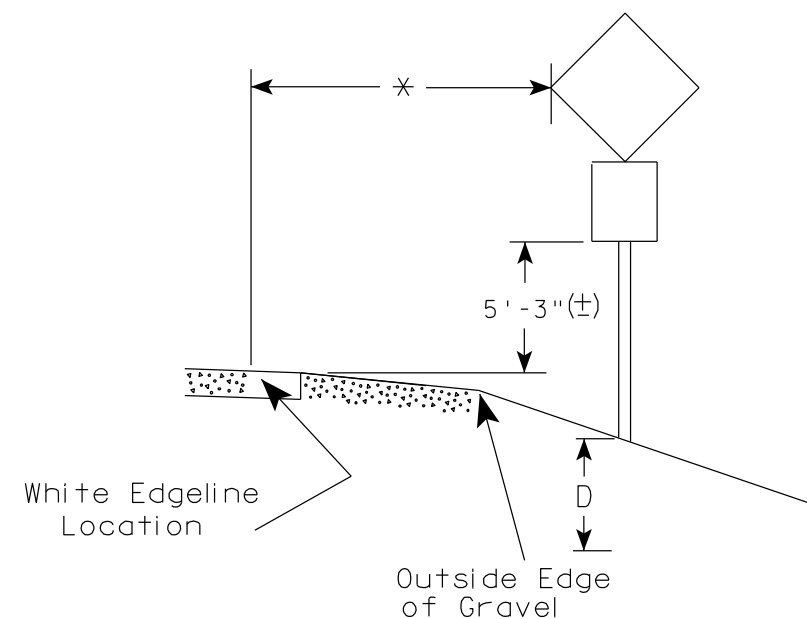
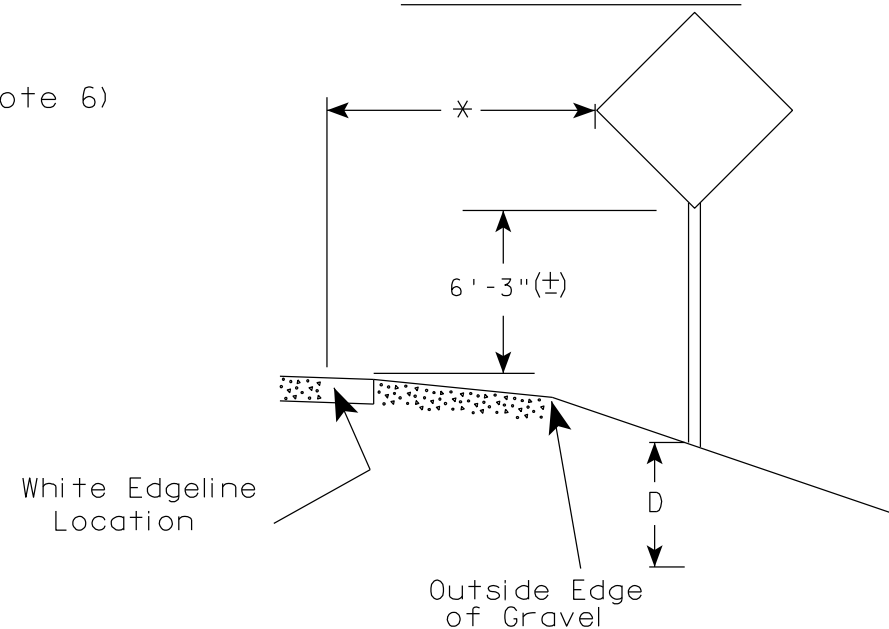
APPROVED  
4-18-16 /S/ Matthew R. Rauch  
DATE STATE SIGNING AND MARKING ENGINEER  
FHWA

## URBAN AREA



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

## RURAL AREA (See Note 2)



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

### POST EMBEDMENT DEPTH

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

### GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'-3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

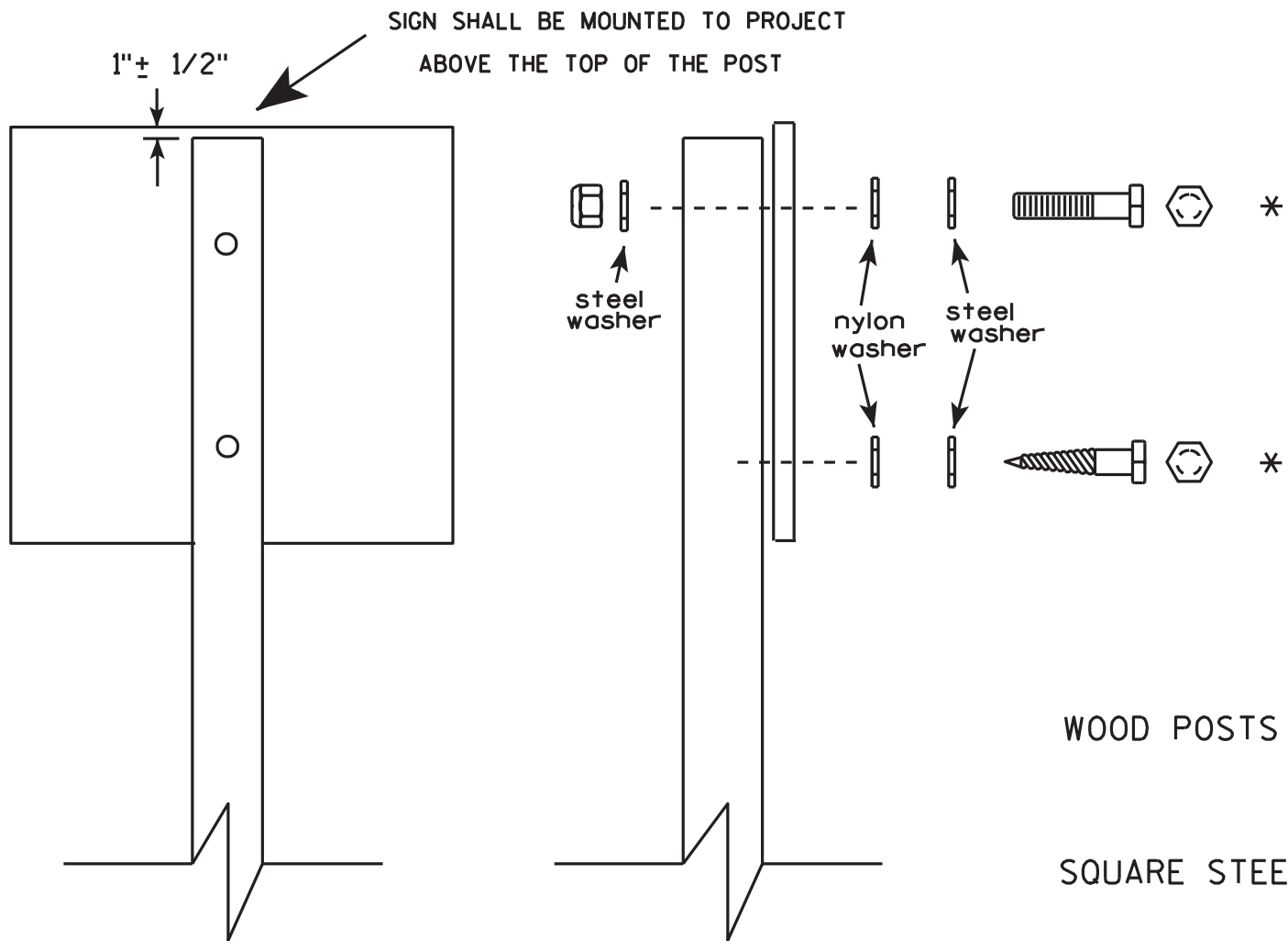
APPROVED

*Matthew R. Rauch*  
for State Traffic Engineer

DATE 7/23/15

PLATE NO. A4-3.20



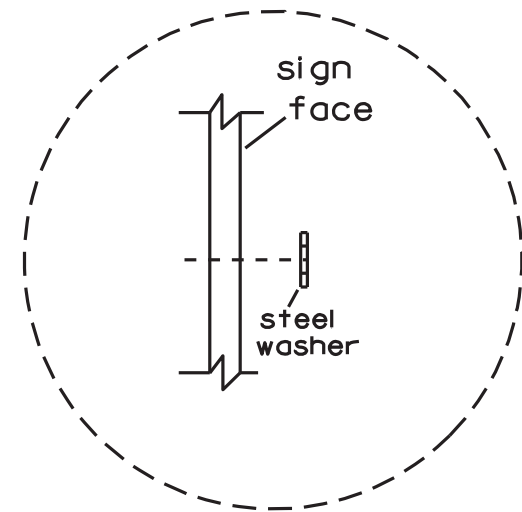


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

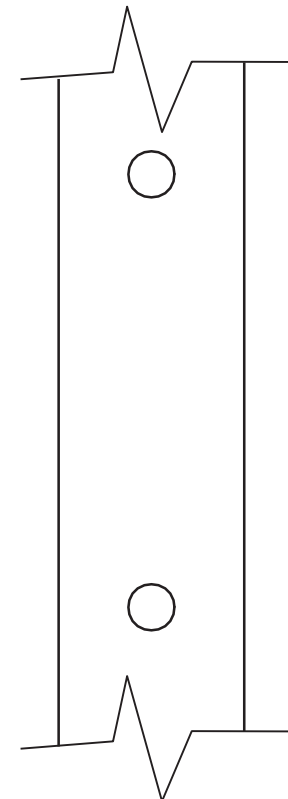
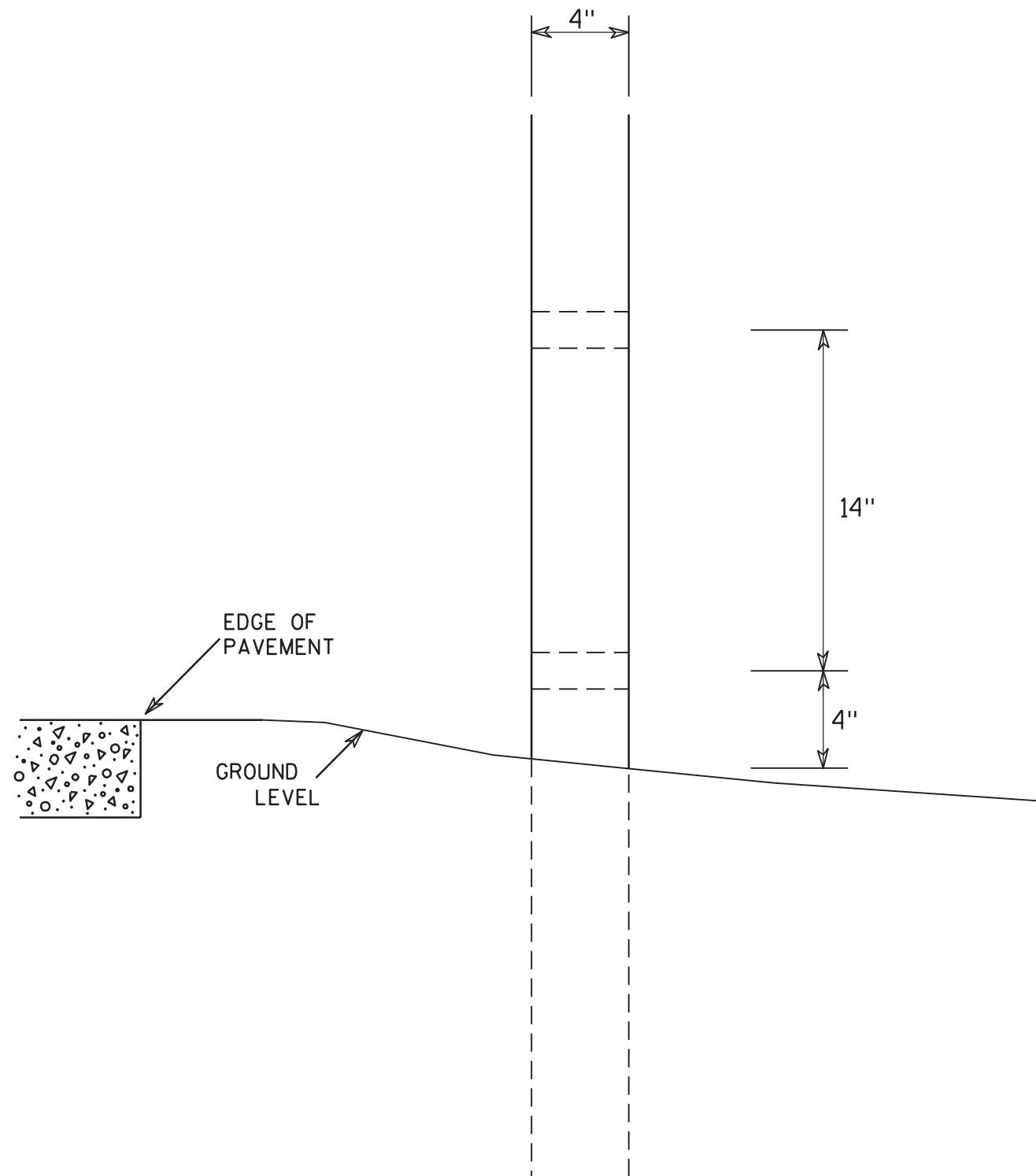
- WOOD POSTS (4" x 4" or 4" x 6")  
LAG SCREWS - 3/8" X 3"  
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")  
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts  
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL  
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -  
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

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

|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| ATTACHMENT OF SIGNS<br>TO POSTS  |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION |                                                       |
| APPROVED                         | <i>Matthew R. Rauch</i><br>For State Traffic Engineer |
| DATE 3/23/10                     | PLATE NO. A4-8.7                                      |



SIDE VIEW

# GENERAL NOTES

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

## 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO: 5719-00-72

HWY: BETHEL GROVE

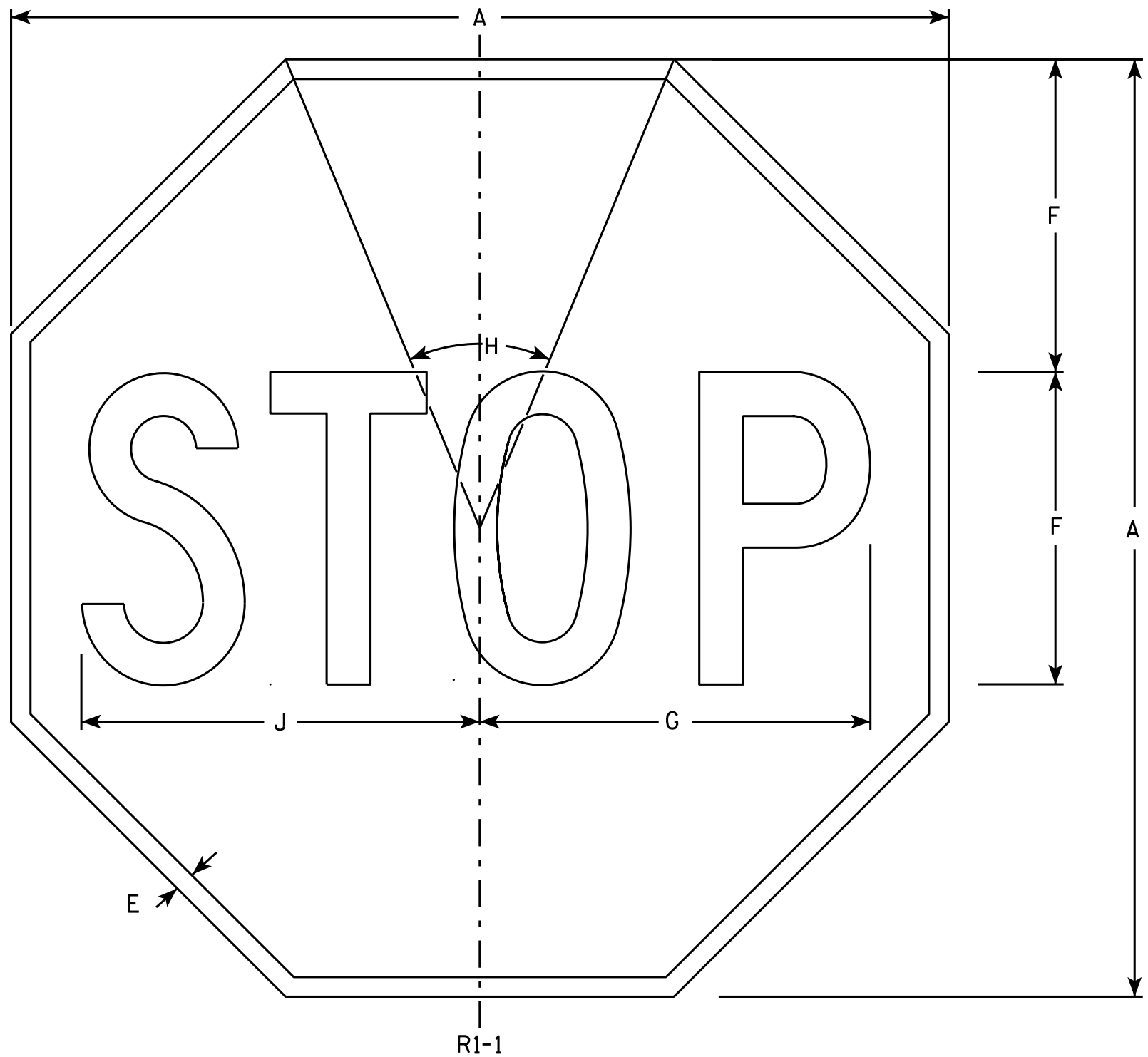
COUNTY: LAFAYETTE

SIGN PLATE DETAILS

SHEET NO.

PRE 12

E



NOTES

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

R1-1

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

STANDARD SIGN  
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/12/15

PLATE NO. R1-1.12

SHEET NO:

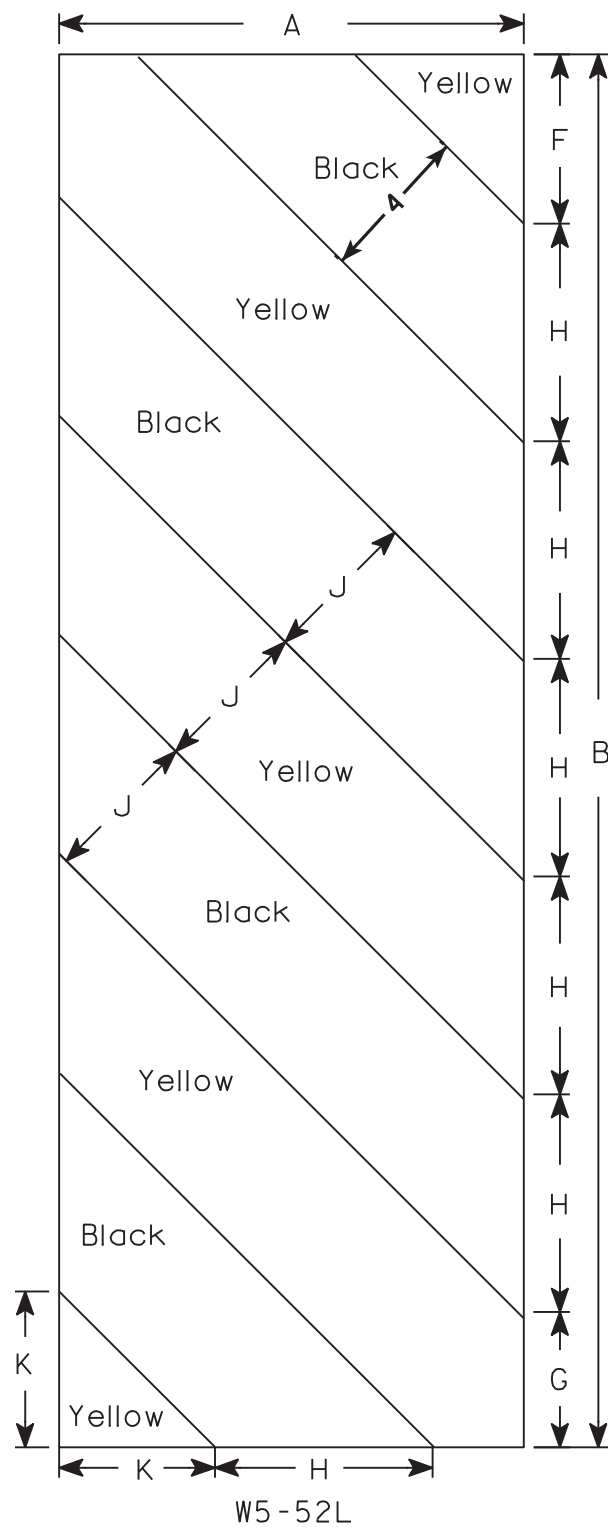
PROJECT NO: 5719-00-72

HWY: BETHEL GROVE ROAD

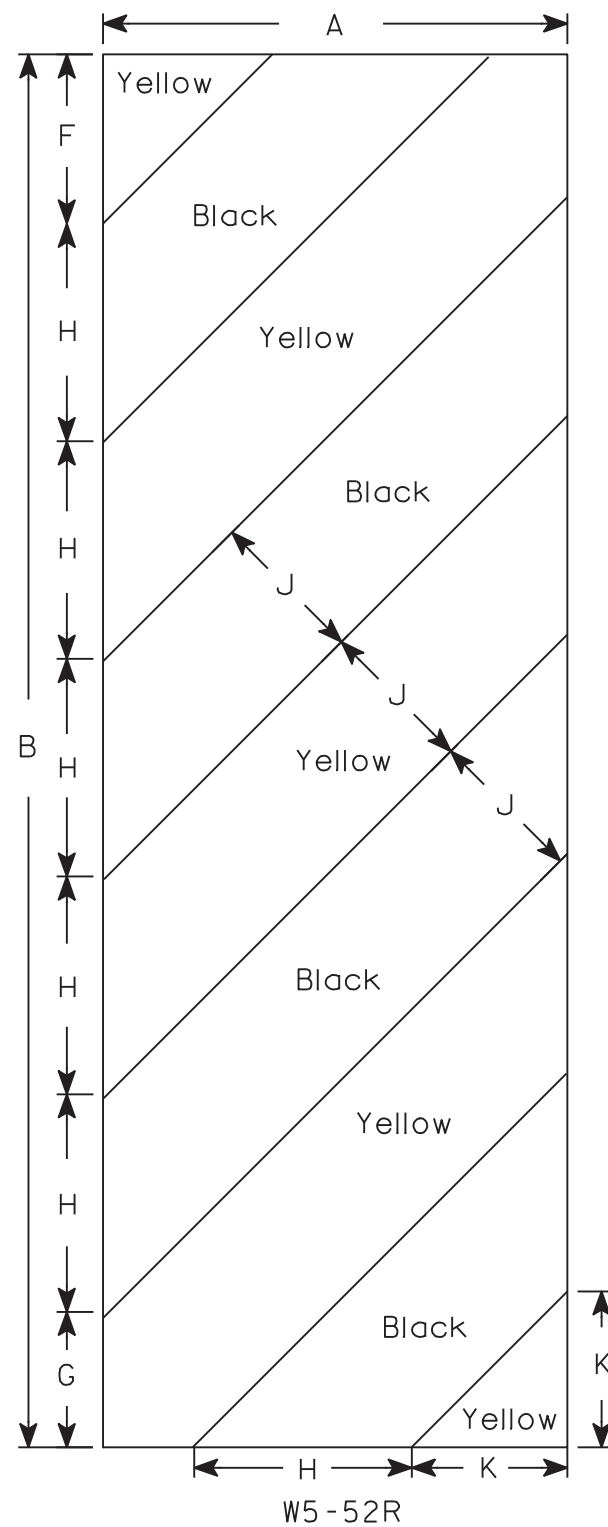
COUNTY: LAFAYETTE

SIGN PLATE DETAILS

7



W5-52L



W5-52R

NOTES

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

7

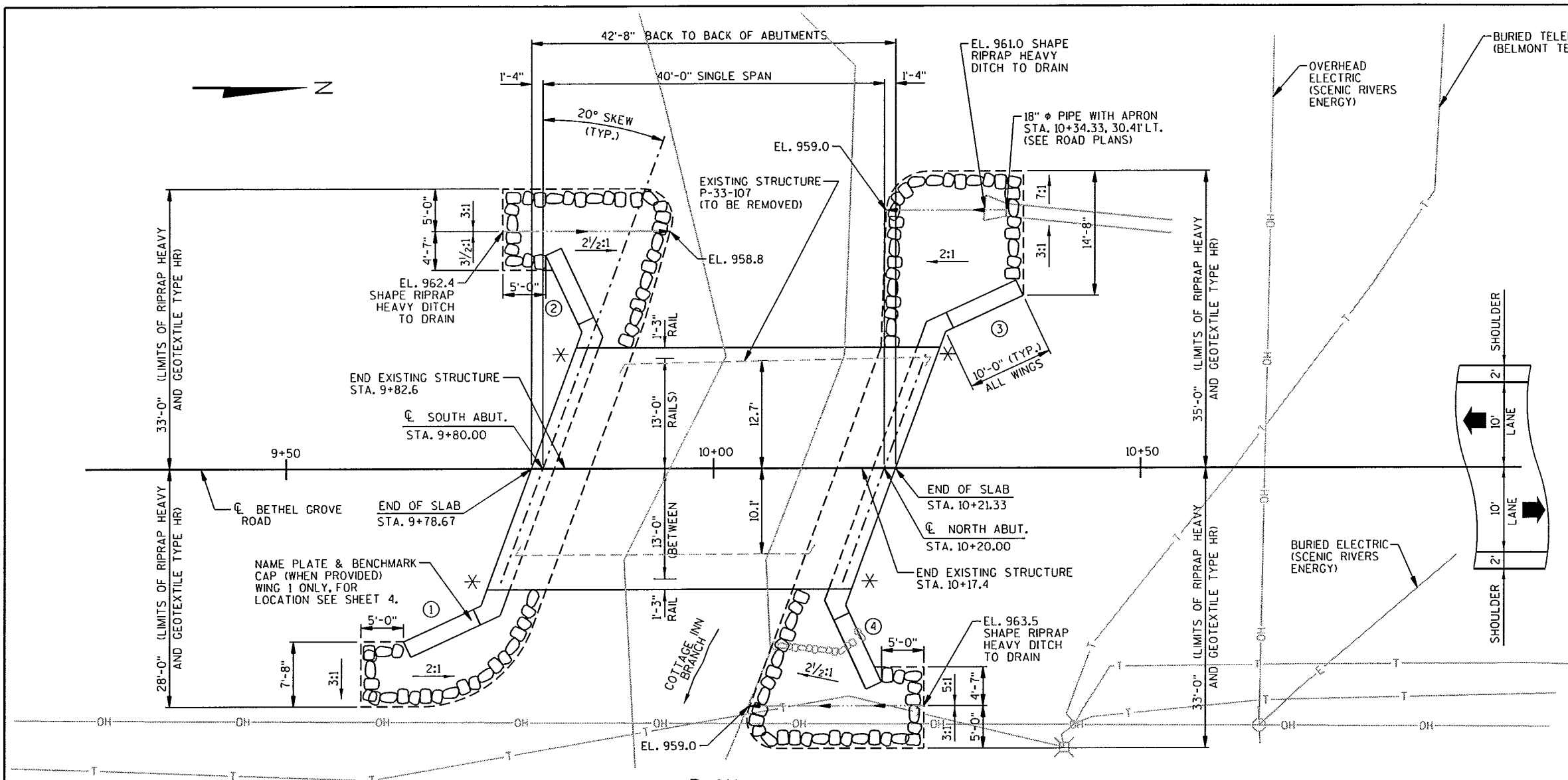
| SIZE | A  | B  | C | D | E | F     | G     | H     | I   | J | K     | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|---|---|---|-------|-------|-------|-----|---|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|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

STANDARD SIGN  
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

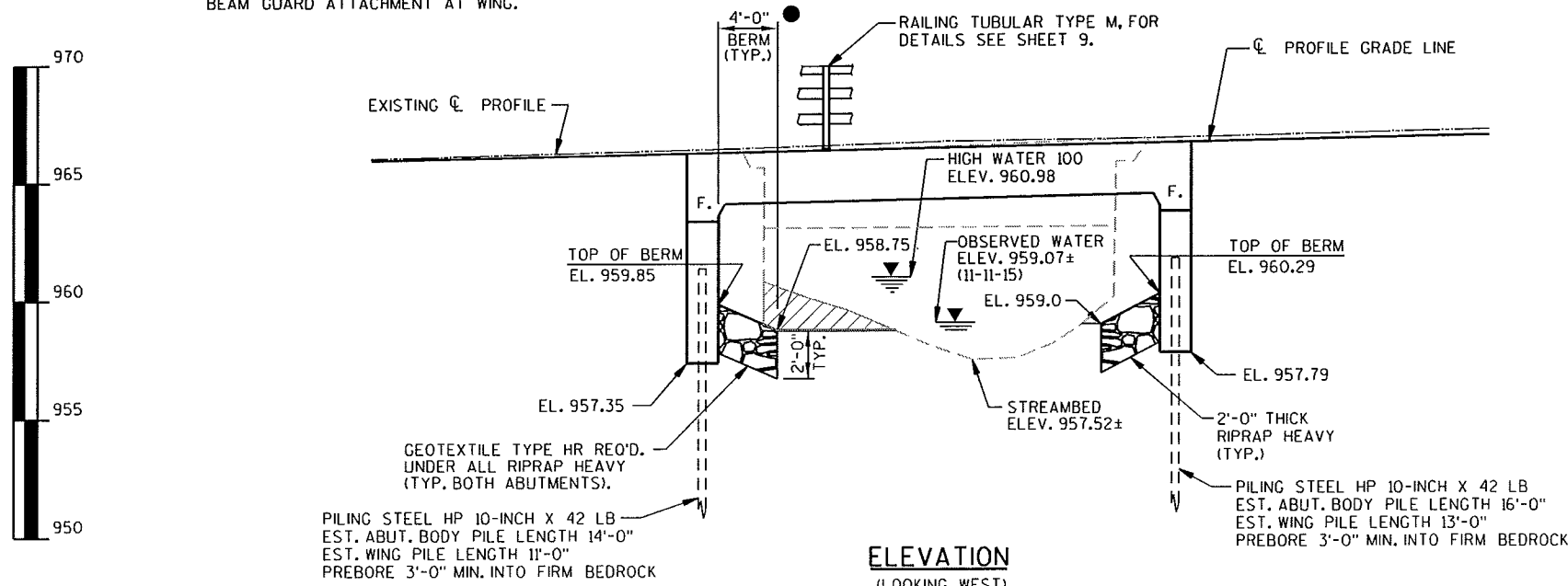
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9



PLAN  
(SINGLE SPAN FLAT CONCRETE SLAB)

- - INDICATES WING NUMBER
- - NORMAL TO  $\phi$  OF SUBSTRUCTURES
- ▨ - REMOVAL OF THIS MATERIAL IS INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-33-132".
- \* - INDICATES LOCATION OF PROVISION FOR FUTURE THRE BEAM GUARD ATTACHMENT AT WING.



ELEVATION  
(LOOKING WEST)

STATE PROJECT NUMBER

5719-00-72

| BENCHMARKS |                      | NAVD 88                         |        |
|------------|----------------------|---------------------------------|--------|
| NO.        | STA./OFFSET          | DESCRIPTION                     | ELEV.  |
| 1          | 9+90.68, 13.0' LT.   | CHIS SQUARE ON SOUTHWEST WING   | 965.80 |
| 2          | 11+09.90, 16.22' LT. | PK IN TOP CMP                   | 966.23 |
| 3          | 11+32.40, 32.55' LT. | SURVEY MARKER NAIL IN CAMP SIGN | 967.28 |

### DESIGN DATA

#### LIVE LOAD:

DESIGN LOADING : HL-93

INVENTORY RATING FACTOR : 1.13

OPERATIONAL RATING FACTOR : 1.46

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.

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

#### TRAFFIC DATA:

A.A.D.T. (2018) = 160

A.A.D.T. (2038) = 210

RDS = 40 MPH

#### 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, GRADE 60  $f_y = 60,000$  P.S.I.

#### FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. ESTIMATED PILE LENGTHS ARE 14'-0" AT THE SOUTH ABUTMENT BODY, 11'-0" AT THE SOUTH ABUTMENT WINGS, 16'-0" AT THE NORTH ABUTMENT BODY AND 13'-0" AT THE NORTH ABUTMENT WINGS. ALL PILING SHALL BE PREBORED 3'-0" MINIMUM INTO FIRM BEDROCK. SEAT PREBORED PILING BY TAPPING IN PLACE, DRIVING NOT REQUIRED.

#### HYDRAULIC DATA:

100 YEAR FREQUENCY  
DRAINAGE AREA 2.3 SQ. MI.  
Q<sub>100</sub> 165 C.F.S.  
VELOCITY 3.27 FT./SEC.  
WATERWAY AREA 50 SQ. FT.  
SCOUR CRITICAL CODE 8  
HIGH WATER 100 ELEVATION 960.98  
O<sub>2</sub> ELEVATION (30 C.F.S.) 959.79  
O<sub>2</sub> VELOCITY 1.90 FT./SEC.

#### ROADWAY OVERFLOW DESIGN FREQUENCY

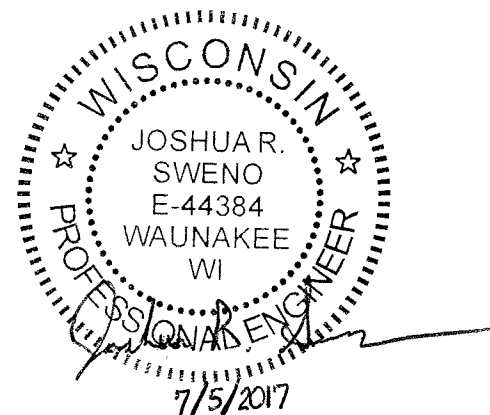
OVERTOPPING FREQUENCY > 100 YEARS

### LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. RAILING TUBULAR TYPE M

CONSULTANT DESIGN CONTACT:  
JOSHUA SWENO  
(608) 355-8852

BRIDGE OFFICE CONTACT:  
WILLIAM DREHER  
(608) 266-8489



| NO.                                                                                                                                                           | DATE      | REVISION          | BY                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------|-------------------|
| <b>MSA</b> TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL<br>1230 South Boulevard, Baraboo, WI 53913<br>608-356-2771 1-800-362-4505 Fax: 608-356-2770 |           |                   |                   |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>ACCEPTED <i>William C. Dreher</i> <b>07/05/17</b><br>CHIEF STRUCTURES DESIGN ENGINEER DATE              |           |                   |                   |
| STRUCTURE B-33-132                                                                                                                                            |           |                   |                   |
| BETHEL GROVE ROAD OVER COTTAGE INN BRANCH                                                                                                                     |           |                   |                   |
| COUNTY                                                                                                                                                        | LAFAYETTE | TOWN/CITY/VILLAGE | KENDALL & BELMONT |
| DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS                                                                                                         |           |                   |                   |
| DESIGNED BY                                                                                                                                                   | JAS       | DESIGN CK'D.      | JRS               |
| DRAWN BY                                                                                                                                                      | RLR       | PLANS CK'D.       | JAS               |
| GENERAL PLAN                                                                                                                                                  |           |                   | SHEET 1 OF 9      |

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (2012 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.



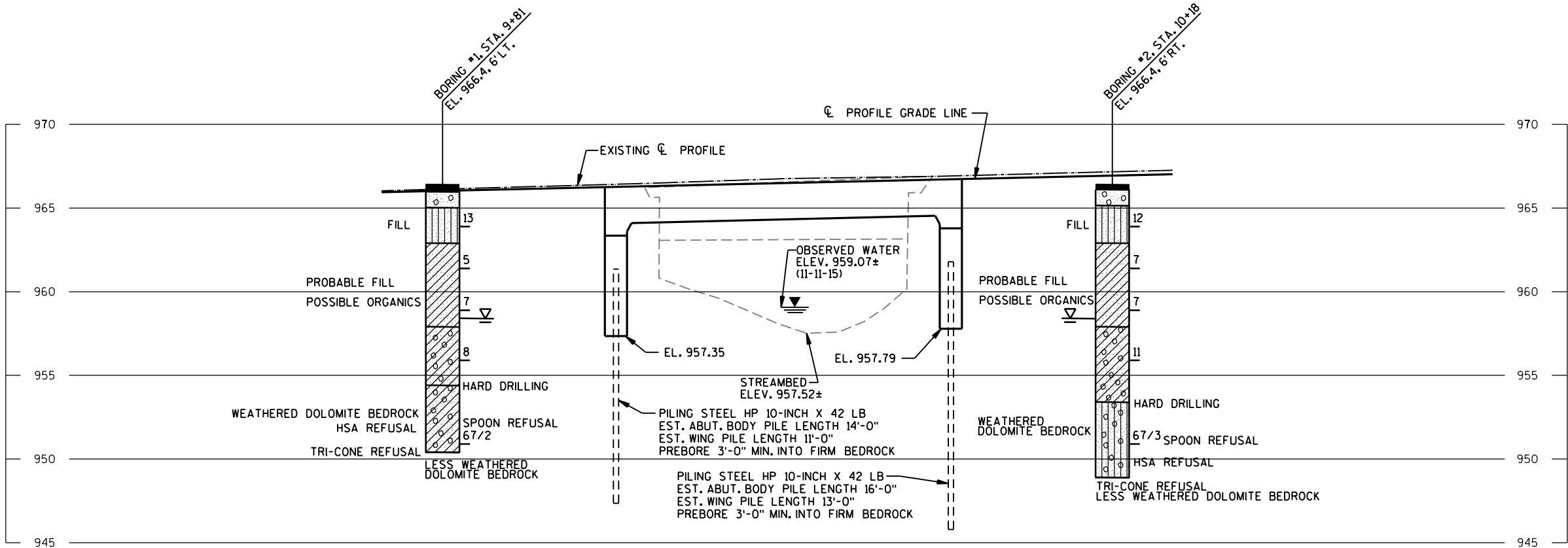
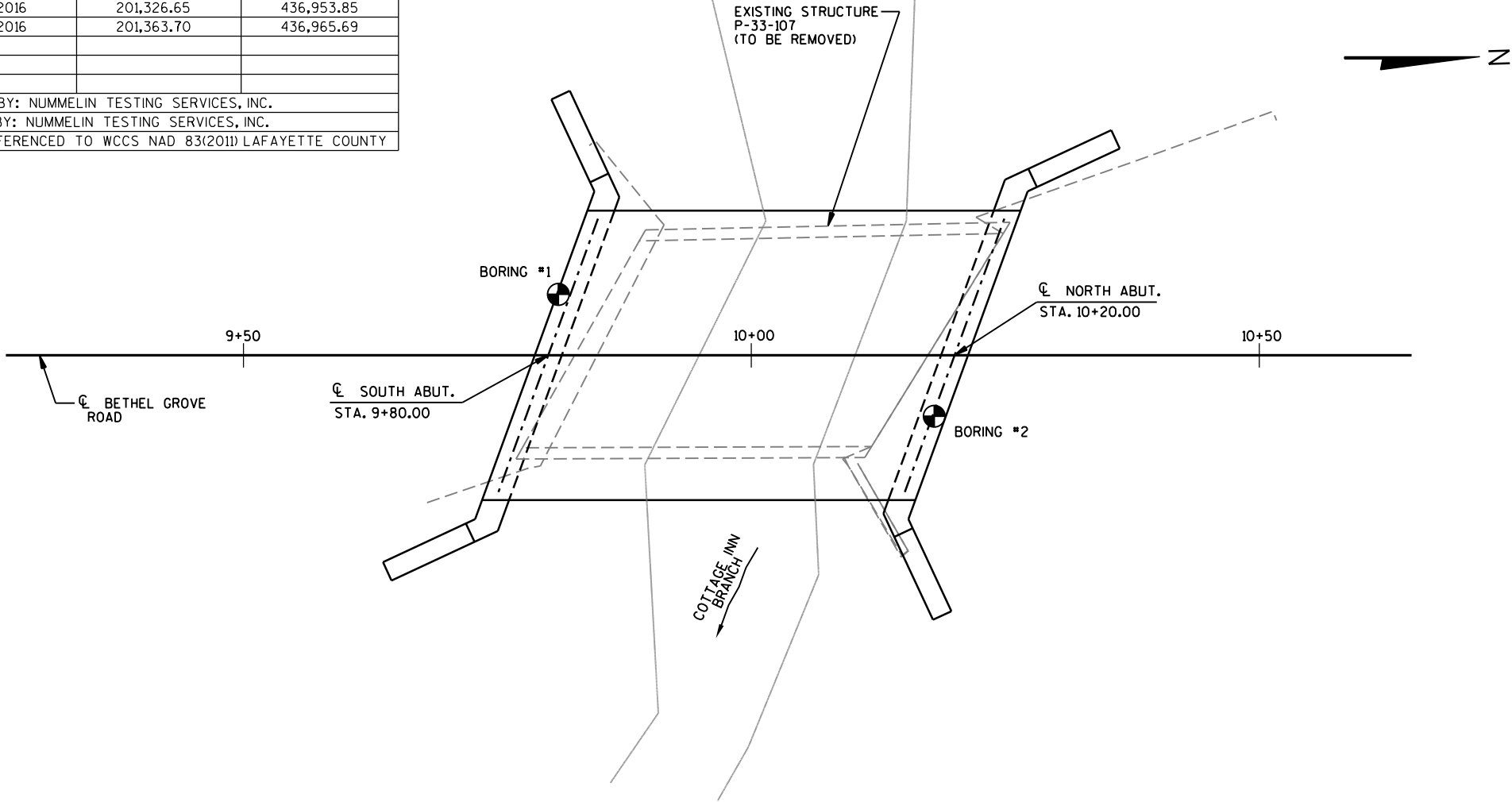
| ITEM NUMBER   | BID ITEM                                           | UNIT | SOUTH ABUT. | NORTH ABUT. | SUPER | TOTAL   |
|---------------|----------------------------------------------------|------|-------------|-------------|-------|---------|
| 203.0500.S.01 | REMOVING OLD STRUCTURE OVER WATERWAY STATION 10+00 | LS   | -           | -           | -     | 1       |
| 206.1000.01   | EXCAVATION FOR STRUCTURES BRIDGES B-33-132         | LS   | -           | -           | -     | 1       |
| 210.1500      | BACKFILL STRUCTURE TYPE A                          | TON  | 185         | 185         | -     | 370     |
| 502.0100      | CONCRETE MASONRY BRIDGES                           | CY   | 34          | 34          | 87    | 155     |
| 502.3200      | PROTECTIVE SURFACE TREATMENT                       | SY   | 20          | 20          | 160   | 200     |
| 505.0400      | BAR STEEL REINFORCEMENT HS STRUCTURES              | LB   | 2335        | 2335        | -     | 4670    |
| 505.0600      | BAR STEEL REINFORCEMENT HS COATED STRUCTURES       | LB   | 1615        | 1620        | 15035 | 18270   |
| 513.4061.01   | RAILING TUBULAR TYPE M B-33-132                    | LF   | -           | -           | 90    | 90      |
| 516.0500      | RUBBERIZED MEMBRANE WATERPROOFING                  | SY   | 6.5         | 6.5         | -     | 13      |
| 550.0020      | PRE-BORING ROCK OR CONSOLIDATED MATERIALS          | LF   | 71          | 85          | -     | 156     |
| 550.1100      | PILING STEEL HP 10-INCH X 42 LB                    | LF   | 92          | 106         | -     | 198     |
| 606.0300      | RIPRAP HEAVY                                       | CY   | 45          | 55          | -     | 100     |
| 612.0406      | PIPE UNDERDRAIN WRAPPED 6-INCH                     | LF   | 95          | 95          | -     | 190     |
| 645.0111      | GEOTEXTILE TYPE DF SCHEDULE A                      | SY   | 50          | 50          | -     | 100     |
| 645.0120      | GEOTEXTILE TYPE HR                                 | SY   | 105         | 125         | -     | 230     |
|               |                                                    |      |             |             |       |         |
|               | <b>NON-BID ITEMS</b>                               |      |             |             |       |         |
|               | PREFORMED FILLER                                   | SIZE |             |             |       | ½" & ¾" |



|                                                    |      |             |              |                |     |
|----------------------------------------------------|------|-------------|--------------|----------------|-----|
|                                                    |      |             |              |                |     |
| NO.                                                | DATE | REVISION    |              |                | BY  |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |             |              |                |     |
| STRUCTURE                                          |      | B-33-132    |              |                |     |
|                                                    |      | DRAWN<br>BY | RLR          | PLANS<br>CK'D. | JAS |
| CROSS SECTION,<br>QUANTITIES<br>& NOTES            |      |             | SHEET 2 OF 9 |                |     |
|                                                    |      |             |              |                |     |



| BORING #                                                         | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|------------------------------------------------------------------|----------------|--------------|-------------|
| 1                                                                | 3-30-2016      | 201,326.65   | 436,953.85  |
| 2                                                                | 3-30-2016      | 201,363.70   | 436,965.69  |
|                                                                  |                |              |             |
|                                                                  |                |              |             |
| BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.            |                |              |             |
| REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.             |                |              |             |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) LAFAYETTE COUNTY |                |              |             |



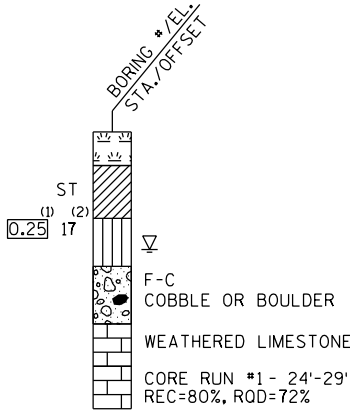
STATE PROJECT NUMBER

5719-00-72

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▽ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

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

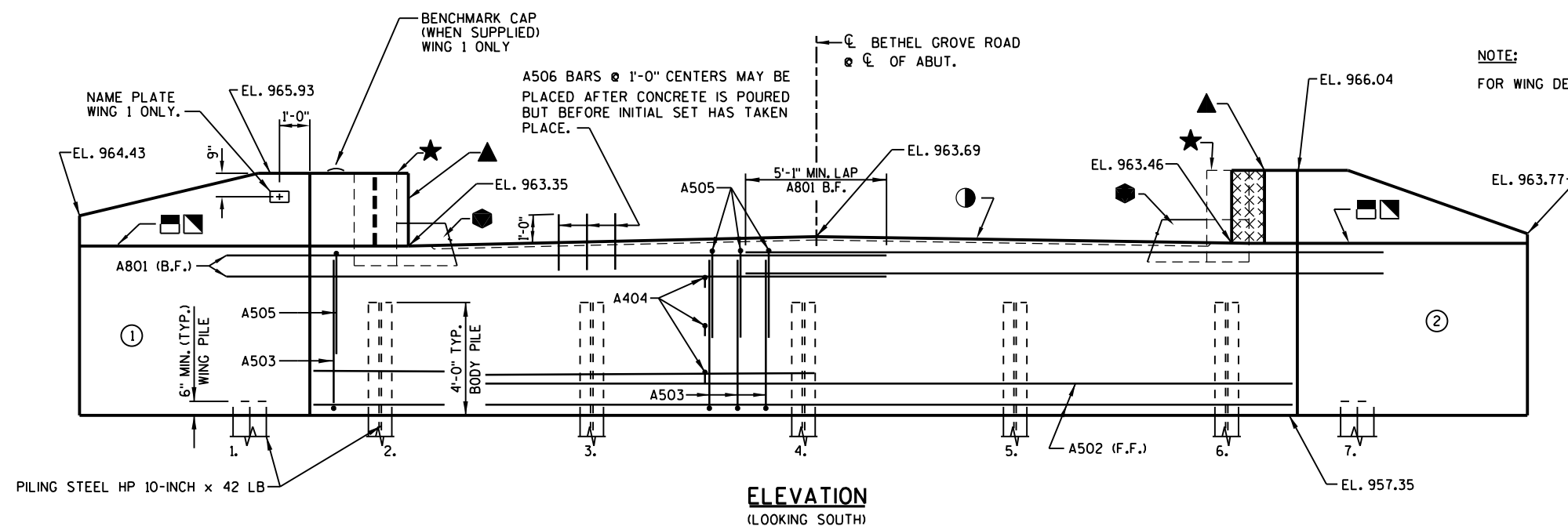
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-33-132

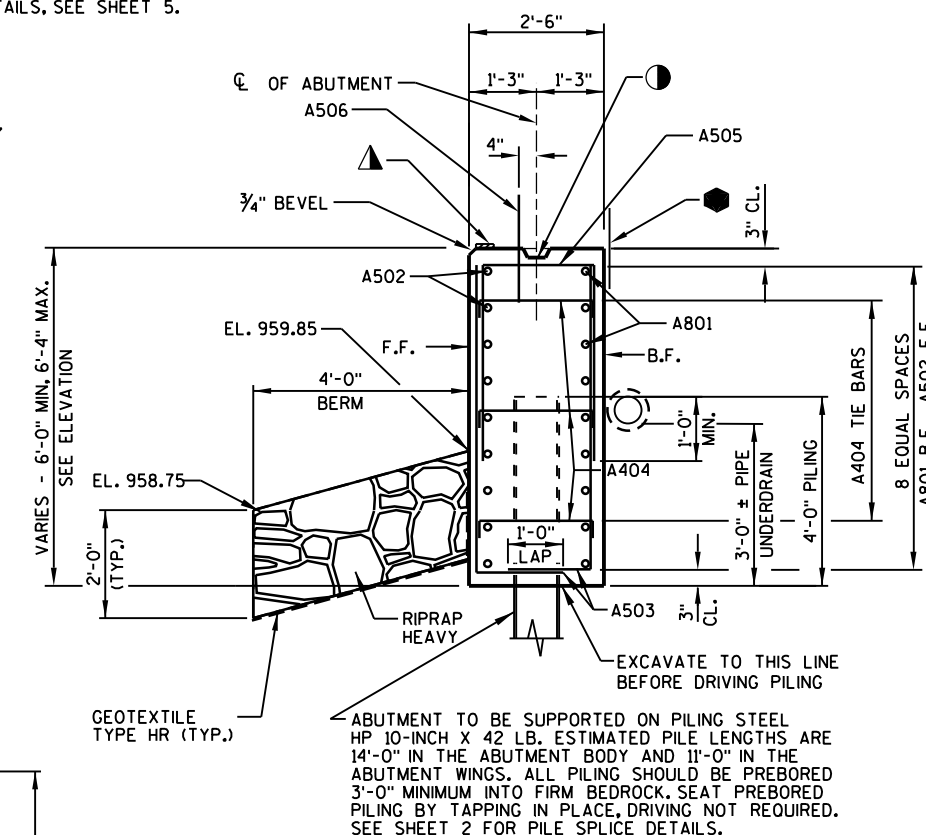
DRAWN BY RLR PLANS CK'D. JAS

SUBSURFACE  
EXPLORATION

SHEET 3 OF 9

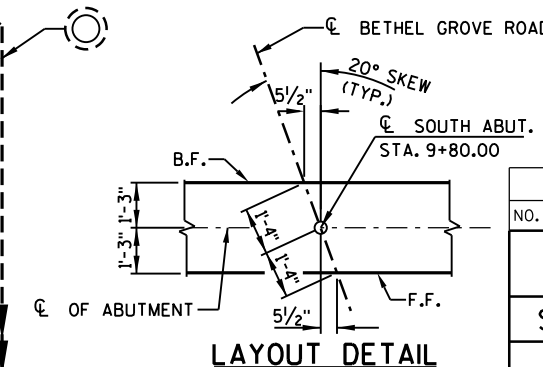
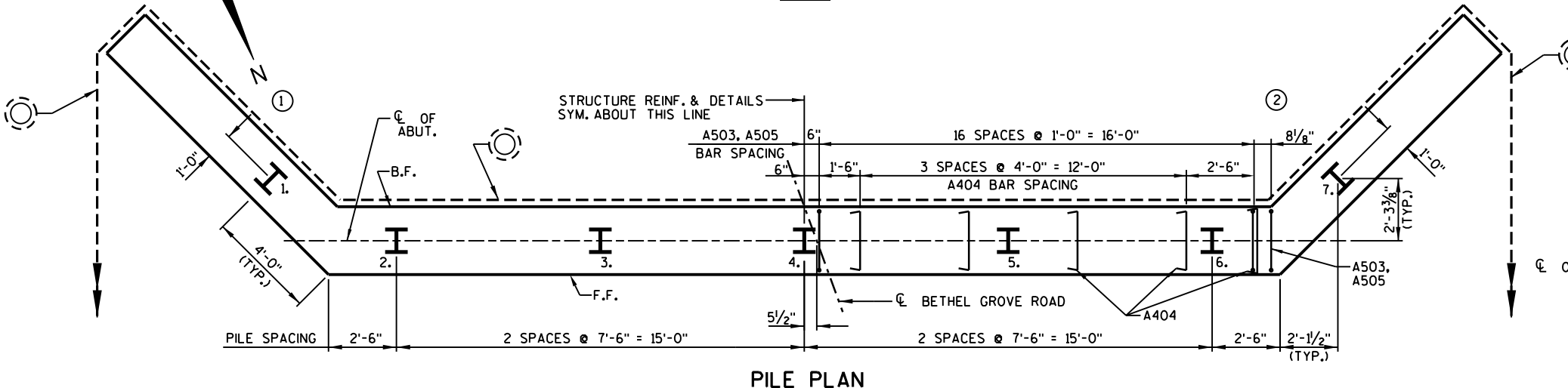
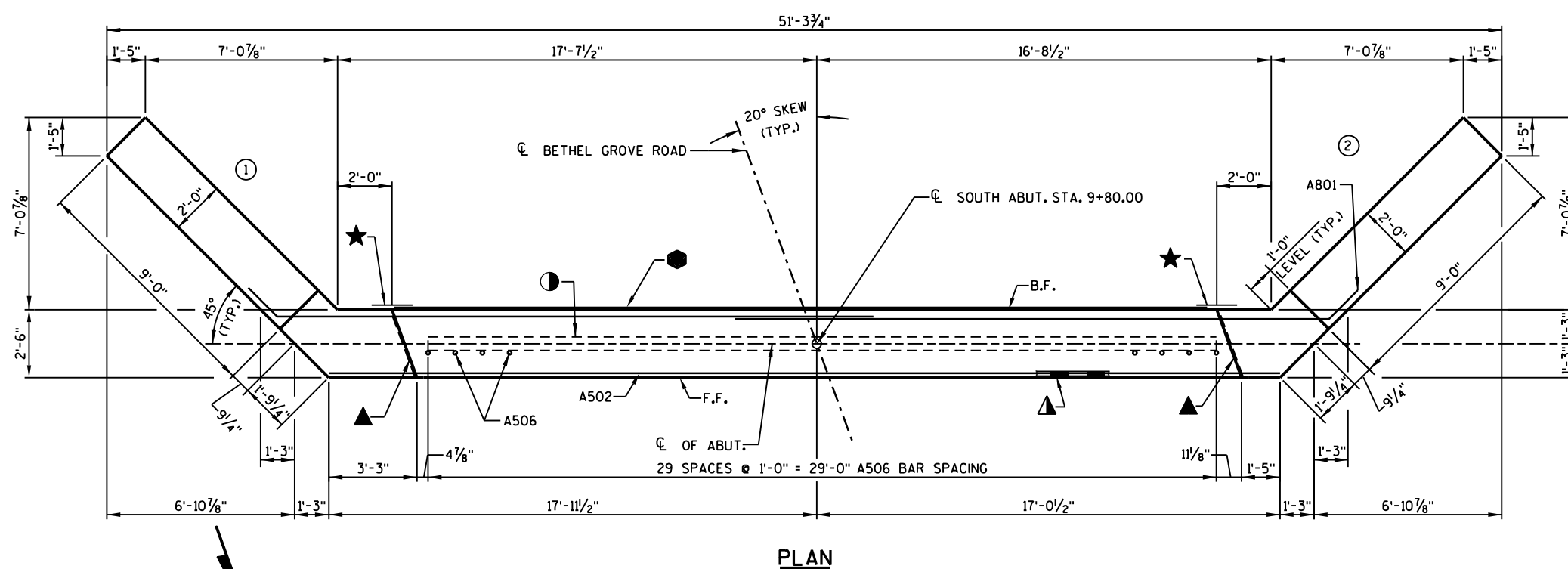


NOTE:  
FOR WING DETAILS, SEE SHEET 5.

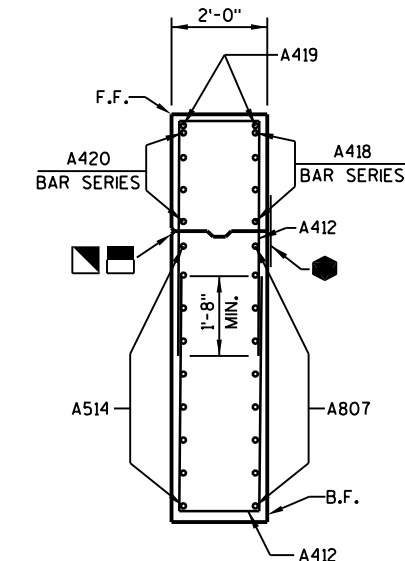
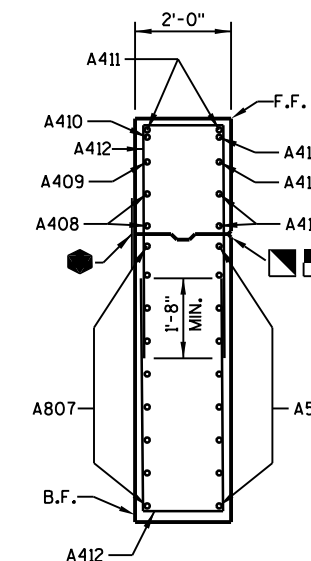
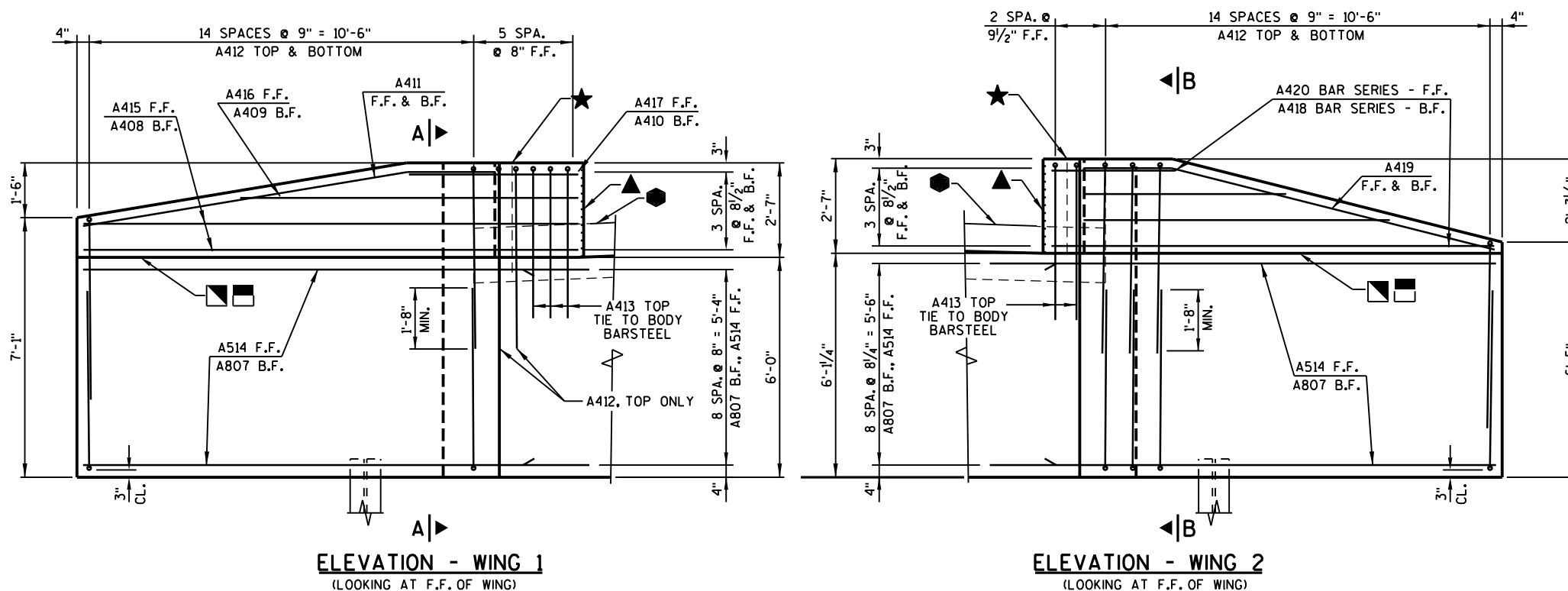


### LEGEND

- — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ▲ — 4"x 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6, IF JOINT IS USED, PLACE ● ON B.F. OF WING. COST OF ● IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".
- — 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY, SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHIELD AT ENDS OF PIPE. FOR RODENT DETAILS, SEE SHEET 5.
- — INDICATES WING NUMBER F.F.—FRONT FACE B.F.—BACK FACE CL.—CLEAR



| NO.                                                | DATE | REVISION     | BY              |
|----------------------------------------------------|------|--------------|-----------------|
|                                                    |      |              |                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |              |                 |
| STRUCTURE                                          |      | B-33-132     |                 |
| DRAWN BY                                           |      | CAR          | PLANS CK'D. JAS |
| SOUTH ABUTMENT                                     |      | SHEET 4 OF 9 |                 |



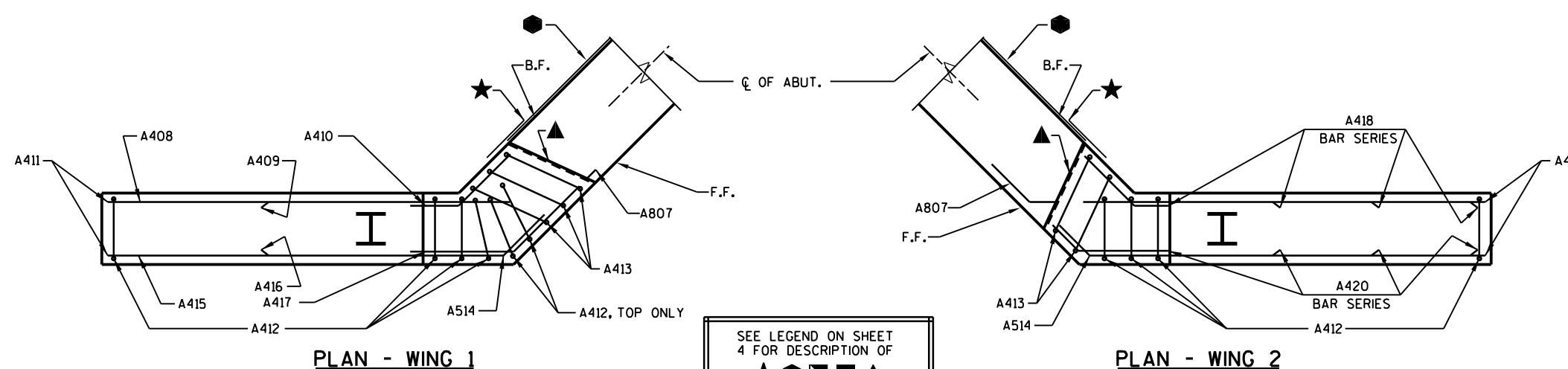
UNCOATED 2335 LBS.  
COATED 1615 LBS.

## BILL OF BARS (1 ABUTMENT)

| MARK | NUMBER COATED | REQUIRED UNCOATED | LENGTH  | BENT | BAR SERIES | LOCATION                            |
|------|---------------|-------------------|---------|------|------------|-------------------------------------|
| A801 | -             | 18                | 23'-6"  | X    |            | ABUTMENT BODY - B.F. - HORIZ.       |
| A502 | -             | 9                 | 34'-9"  |      |            | ABUTMENT BODY - F.F. - HORIZ.       |
| A503 | -             | 72                | 6'-11"  | X    |            | ABUTMENT BODY - F.F. & B.F. - VERT. |
| A404 | -             | 30                | 2'-9"   | X    |            | ABUTMENT BODY - TIES - HORIZ.       |
| A505 | -             | 36                | 8'-1"   | X    |            | ABUTMENT BODY - TOP - VERT.         |
| A506 | 30            | -                 | 2'-0"   |      |            | ABUTMENT BODY - TOP DOWELS - VERT.  |
| A807 | 18            | -                 | 14'-1"  | X    |            | WINGS - B.F. - HORIZ.               |
| A408 | 2             | -                 | 11'-9"  | X    |            | WING 1 - B.F. - HORIZ.              |
| A409 | 1             | -                 | 7'-7"   | X    |            | WING 1 - B.F. - HORIZ.              |
| A410 | 1             | -                 | 3'-4"   | X    |            | WING 1 - B.F. - HORIZ.              |
| A411 | 2             | -                 | 11'-4"  | X    |            | WING 1 - F.F. & B.F. - TOP - HORIZ. |
| A412 | 62            | -                 | 11'-6"  | X    |            | WINGS - F.F. & B.F. - VERT.         |
| A413 | 5             | -                 | 10'-10" | X    |            | WINGS - F.F. & B.F. - TOP - VERT.   |
| A514 | 18            | -                 | 12'-8"  | X    |            | WINGS - F.F. - HORIZ.               |
| A415 | 2             | -                 | 14'-0"  | X    |            | WING 1 - F.F. - HORIZ.              |
| A416 | 1             | -                 | 9'-9"   | X    |            | WING 1 - F.F. - HORIZ.              |
| A417 | 1             | -                 | 5'-6"   | X    |            | WING 1 - F.F. - HORIZ.              |
| A418 | 4             | -                 | 7'-4"   | X    | Ⓢ          | WING 2 - B.F. - HORIZ.              |
| A419 | 2             | -                 | 11'-6"  | X    |            | WING 2 - F.F. & B.F. - TOP - HORIZ. |
| A420 | 4             | -                 | 8'-2"   | X    | Ⓢ          | WING 2 - F.F. - HORIZ.              |

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

Ⓢ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BENT BARS USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.



SEE LEGEND ON SHEET 4 FOR DESCRIPTION OF



PLAN - WING 1

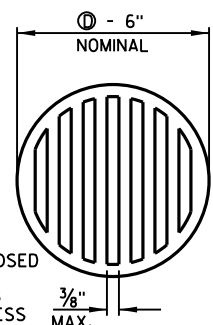
PLAN - WING 2

# RODENT SHIELD NOTES:

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 IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".



RODENT SHIELD

Ⓢ - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

SECTION C-C

| MARK | A      | B   |
|------|--------|-----|
| A801 |        |     |
| A807 | 1'-6"  | 45° |
| A514 |        |     |
| A408 | 1'-10" | 45° |
| A409 |        |     |
| A410 |        |     |
| A411 | 2'-5"  | 10° |
| A415 |        |     |
| A416 | 2'-9"  | 45° |
| A417 |        |     |
| A418 | 1'-9"  | 45° |
| A419 | 2'-5"  | 14° |
| A420 | 1'-2"  | 45° |

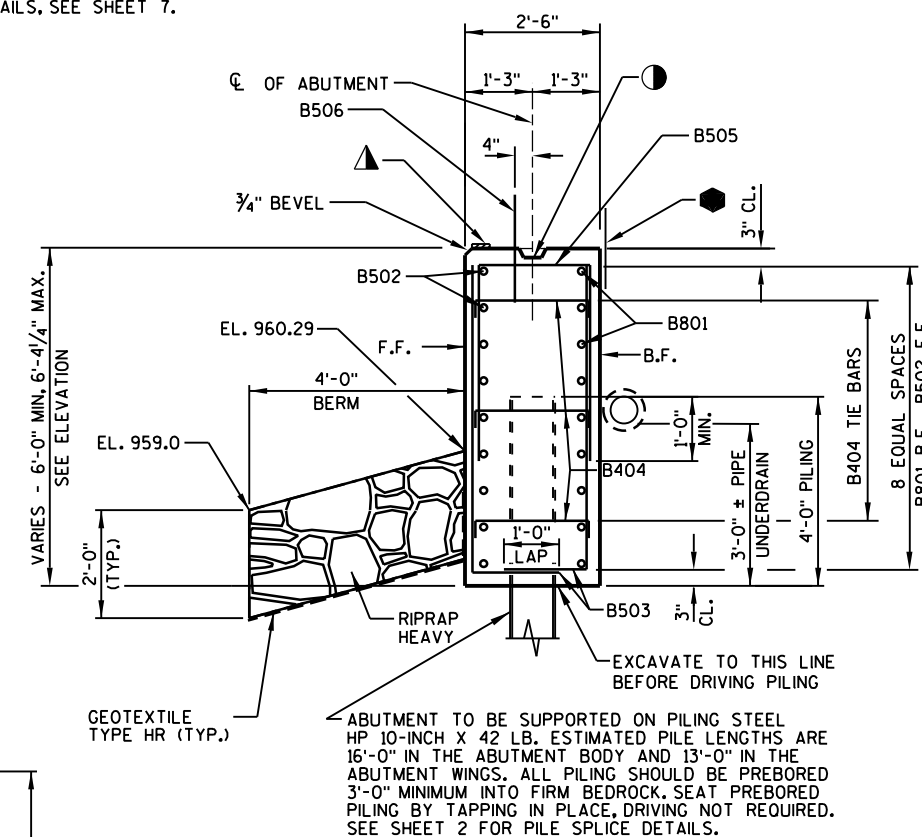
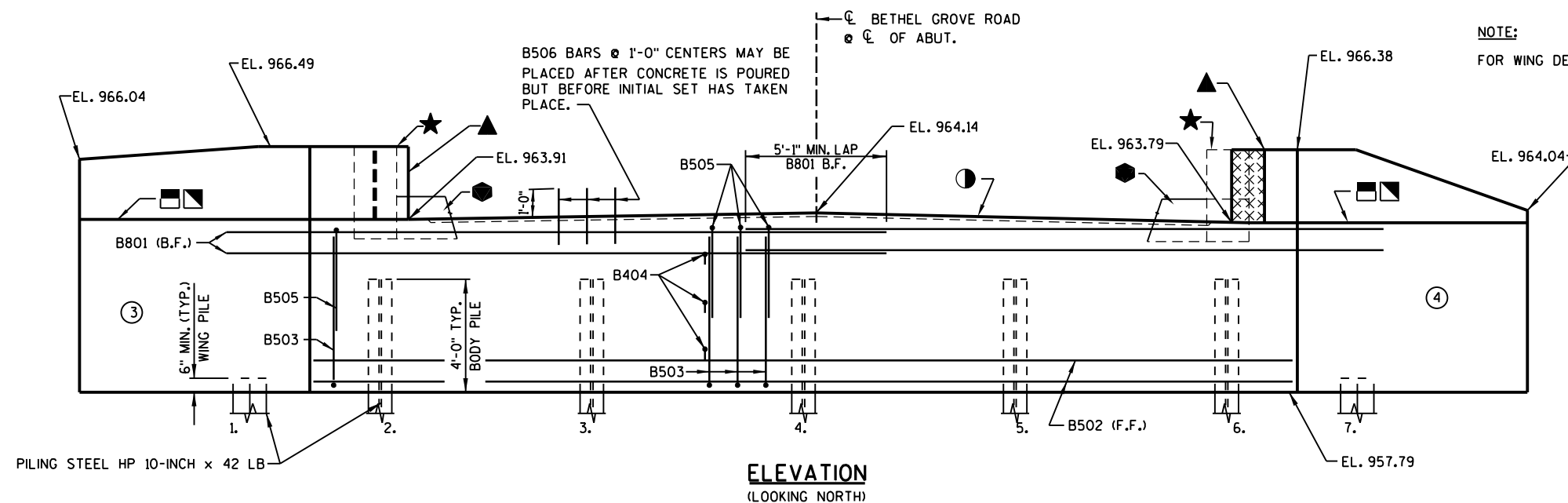
STIRRUPS AND TIES

| MARK | C      | D     |
|------|--------|-------|
| A404 | 4 1/2" | 2'-2" |
| A505 | 3'-1"  | 2'-2" |
| A412 | 5'-0"  | 1'-8" |
| A413 | 4'-4"  | 2'-4" |

| BAR MARK | NO. REQ'D.    | LENGTH           |
|----------|---------------|------------------|
| A418     | 1 SERIES OF 4 | 3'-1" TO 11'-7"  |
| A420     | 1 SERIES OF 4 | 3'-11" TO 12'-4" |

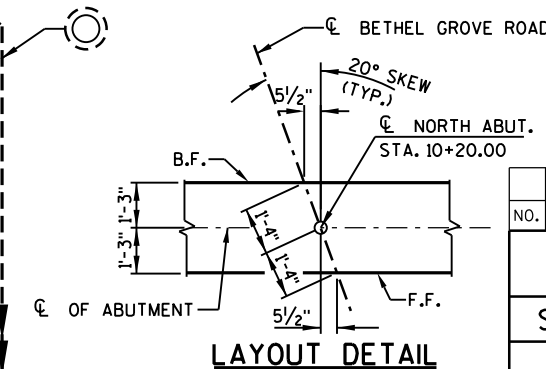
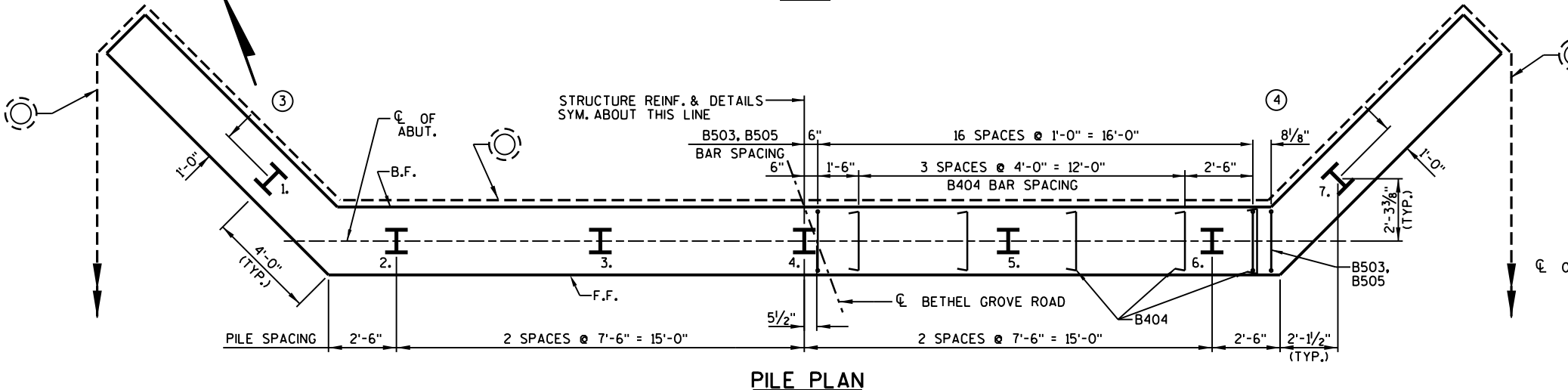
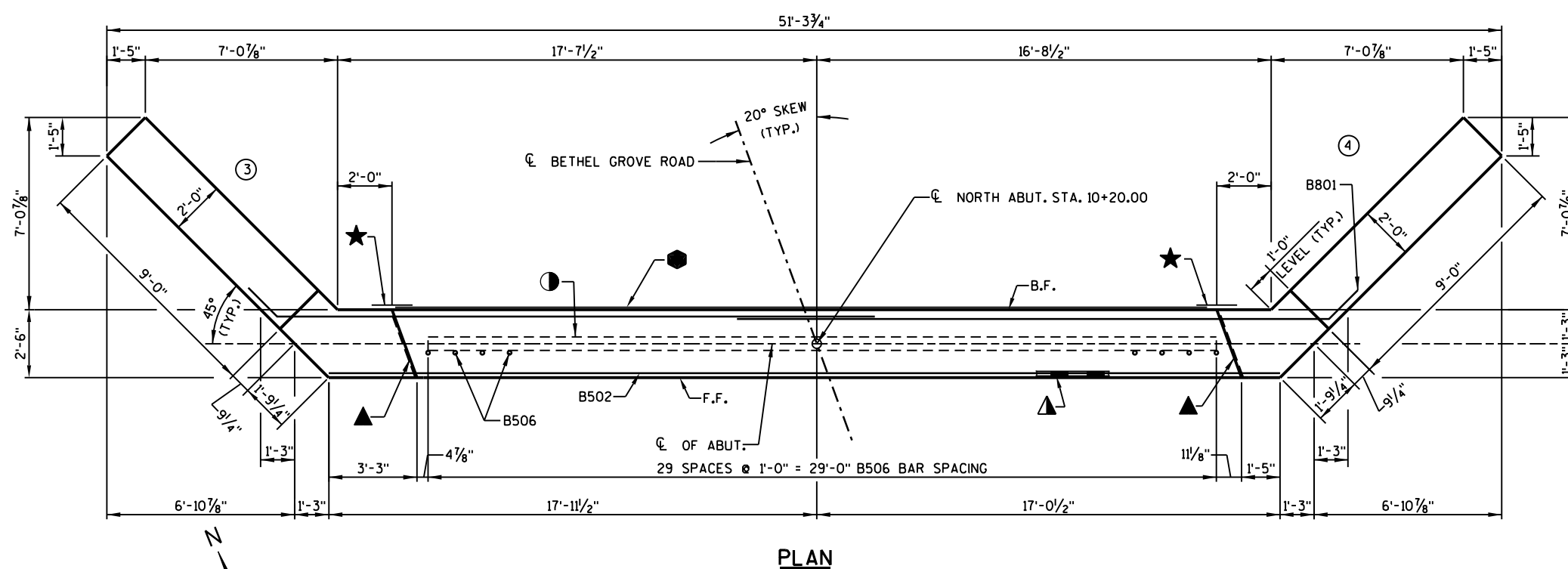
BAR SERIES TABLE

| NO.                                                | DATE | REVISION     | BY              |
|----------------------------------------------------|------|--------------|-----------------|
|                                                    |      |              |                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |              |                 |
| STRUCTURE                                          |      | B-33-132     |                 |
| DRAWN BY                                           |      | CAR          | PLANS CK'D. JAS |
| SOUTH ABUTMENT DETAILS                             |      | SHEET 5 OF 9 |                 |

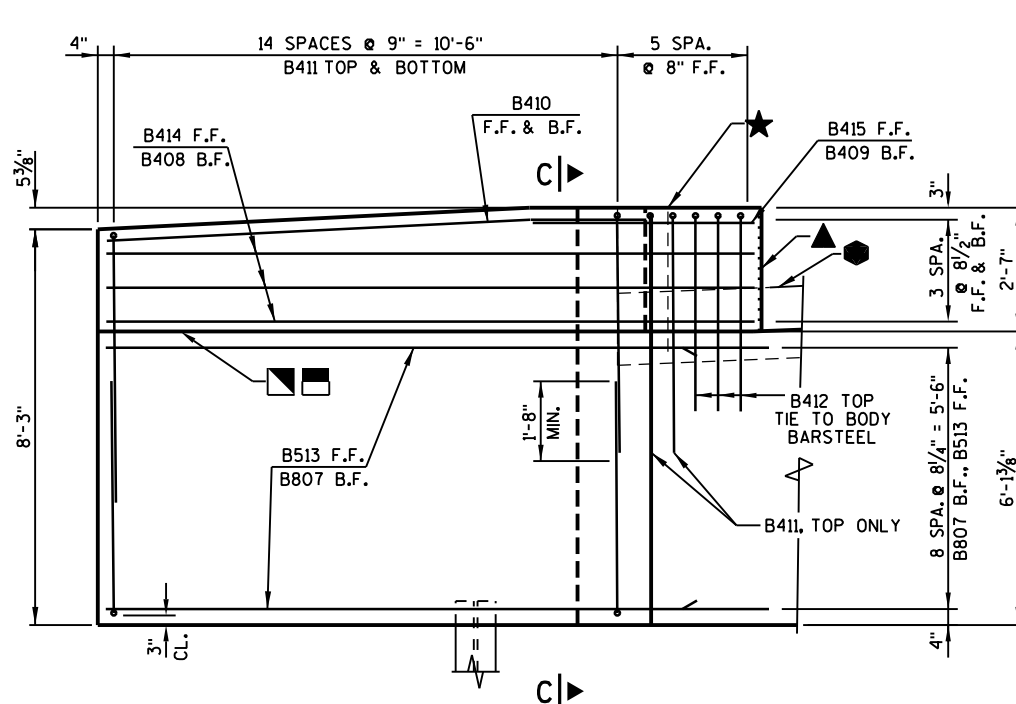


## LEGEND

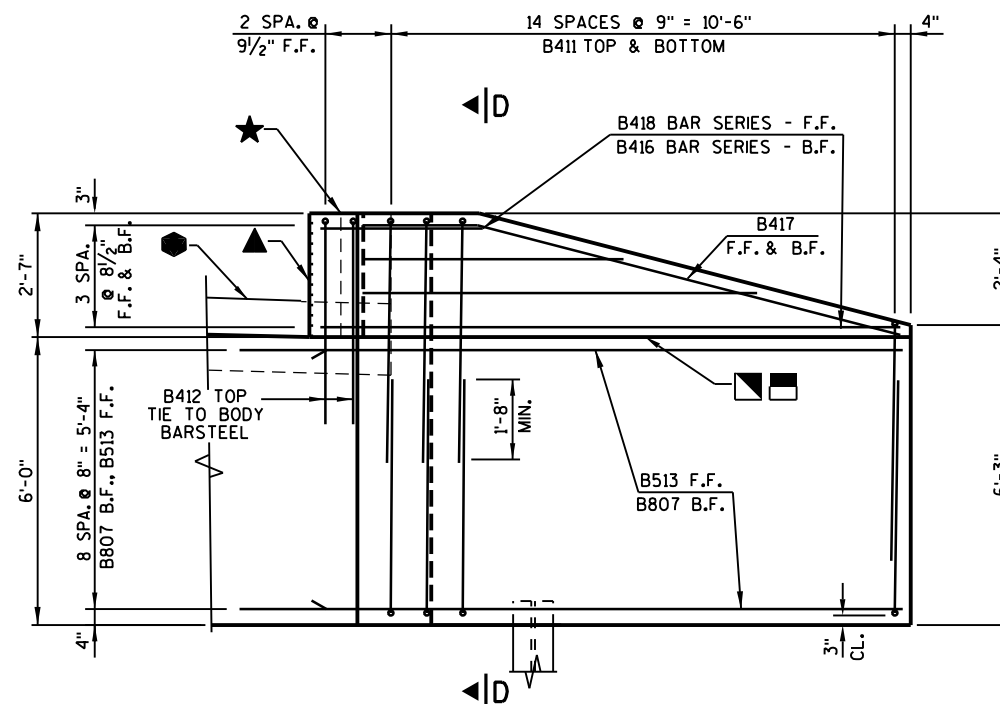
- — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ▲ — 4"x 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6, IF JOINT IS USED, PLACE ● ON B.F. OF WING. COST OF ● IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".
- — 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY, SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHIELD AT ENDS OF PIPE. FOR RODENT DETAILS, SEE SHEET 5.
- — INDICATES WING NUMBER F.F.—FRONT FACE B.F.—BACK FACE CL.—CLEAR



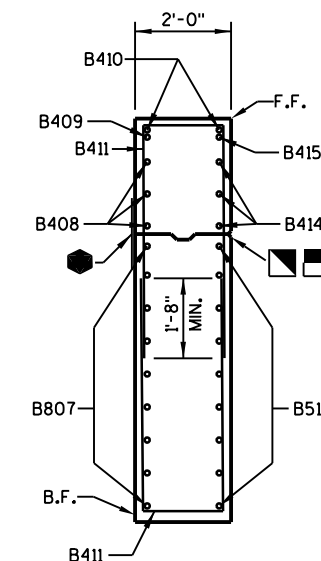
| NO.                                                | DATE | REVISION     | BY              |
|----------------------------------------------------|------|--------------|-----------------|
|                                                    |      |              |                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |              |                 |
| STRUCTURE                                          |      | B-33-132     |                 |
| DRAWN BY                                           |      | CAR          | PLANS CK'D. JAS |
| NORTH ABUTMENT                                     |      | SHEET 6 OF 9 |                 |



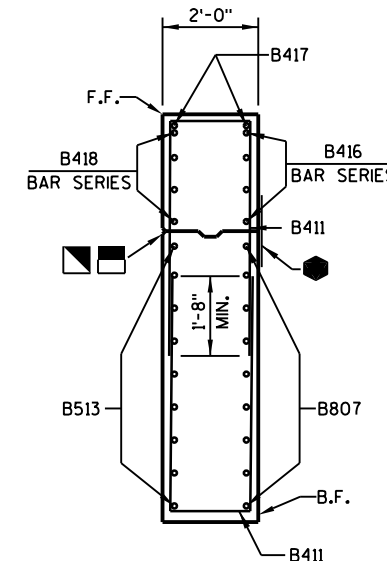
**ELEVATION - WING 3**  
(LOOKING AT F.F. OF WING)



**ELEVATION - WING 4**  
(LOOKING AT F.F. OF WING)



**SECTION C-C  
THRU WING 3**



**SECTION D-D  
THRU WING 4**

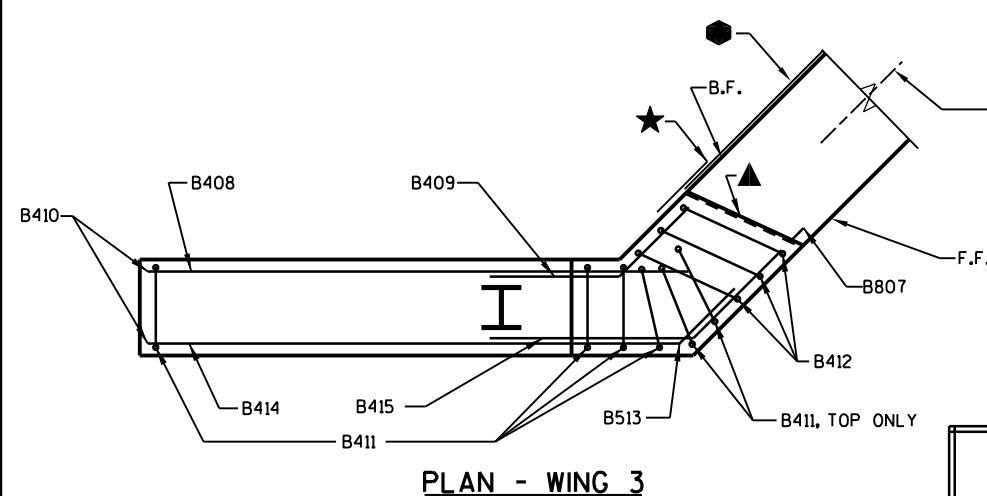
**UNCOATED 2335 LBS.  
COATED 1620 LBS.**

**BILL OF BARS (1 ABUTMENT)**

| MARK | NUMBER<br>COATED | REQUIRED<br>UNCOATED | LENGTH  | BENT | BAR<br>SERIES | LOCATION                            |
|------|------------------|----------------------|---------|------|---------------|-------------------------------------|
| B801 | -                | 18                   | 23'-6"  | X    |               | ABUTMENT BODY - B.F. - HORIZ.       |
| B502 | -                | 9                    | 34'-9"  |      |               | ABUTMENT BODY - F.F. - HORIZ.       |
| B503 | -                | 72                   | 6'-11"  | X    |               | ABUTMENT BODY - F.F. & B.F. - VERT. |
| B404 | -                | 30                   | 2'-9"   | X    |               | ABUTMENT BODY - TIES - HORIZ.       |
| B505 | -                | 36                   | 8'-1"   | X    |               | ABUTMENT BODY - TOP - VERT.         |
| B506 | 30               | -                    | 2'-0"   |      |               | ABUTMENT BODY - TOP DOWELS - VERT.  |
| B807 | 18               | -                    | 14'-1"  | X    |               | WINGS - B.F. - HORIZ.               |
| B408 | 3                | -                    | 11'-9"  | X    |               | WING 3 - B.F. - HORIZ.              |
| B409 | 1                | -                    | 4'-7"   | X    |               | WING 3 - B.F. - HORIZ.              |
| B410 | 2                | -                    | 11'-2"  | X    |               | WING 3 - F.F. & B.F. - TOP - HORIZ. |
| B411 | 62               | -                    | 11'-6"  | X    |               | WINGS - F.F. & B.F. - VERT.         |
| B412 | 5                | -                    | 10'-10" | X    |               | WINGS - F.F. & B.F. - TOP - VERT.   |
| B513 | 18               | -                    | 12'-8"  | X    |               | WINGS - F.F. - HORIZ.               |
| B414 | 3                | -                    | 14'-0"  | X    |               | WING 3 - F.F. - HORIZ.              |
| B415 | 1                | -                    | 6'-9"   | X    |               | WING 3 - F.F. - HORIZ.              |
| B416 | 4                | -                    | 7'-3"   | X    | ⊙             | WING 4 - B.F. - HORIZ.              |
| B417 | 2                | -                    | 11'-6"  | X    |               | WING 4 - F.F. & B.F. - TOP - HORIZ. |
| B418 | 4                | -                    | 8'-0"   | X    | ⊙             | WING 4 - F.F. - HORIZ.              |

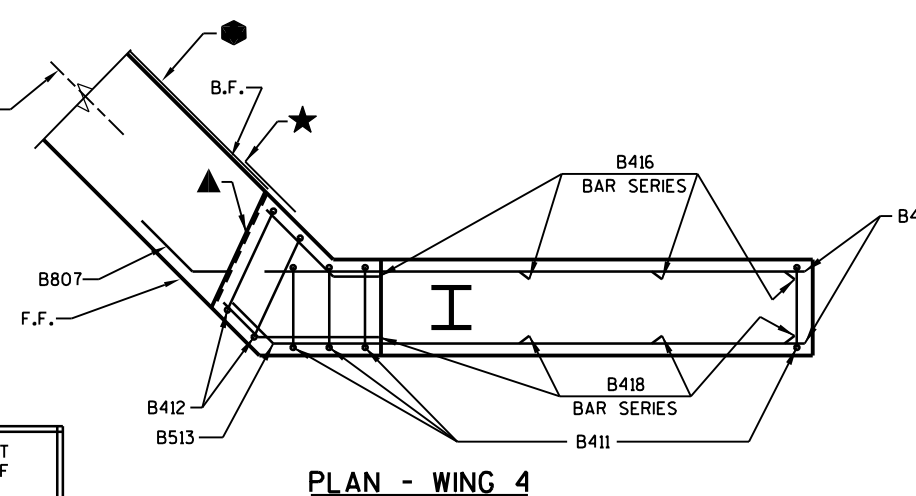
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

⊙ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BENT BARS USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

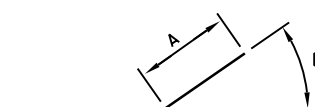


**PLAN - WING 3**

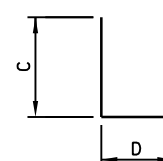
SEE LEGEND ON SHEET 6 FOR DESCRIPTION OF  
★ ● ▣ ▢ ▲



**PLAN - WING 4**

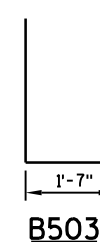


| MARK                 | A      | B   |
|----------------------|--------|-----|
| B801<br>B807<br>B513 | 1'-6"  | 45° |
| B408<br>B409         | 1'-10" | 45° |
| B410                 | 2'-5"  | 3°  |
| B414<br>B415         | 2'-9"  | 45° |
| B416                 | 1'-9"  | 45° |
| B417                 | 2'-5"  | 14° |
| B418                 | 1'-2"  | 45° |



**STIRRUPS AND TIES**

| MARK | C      | D     |
|------|--------|-------|
| B404 | 4 1/2" | 2'-2" |
| B505 | 3'-1"  | 2'-2" |
| B411 | 5'-0"  | 1'-8" |
| B412 | 4'-4"  | 2'-4" |



**B503**

| BAR MARK | NO. REQ'D.    | LENGTH           |
|----------|---------------|------------------|
| B416     | 1 SERIES OF 4 | 3'-1" TO 11'-4"  |
| B418     | 1 SERIES OF 4 | 3'-11" TO 12'-1" |

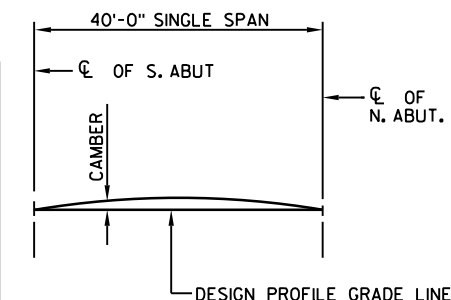
**BAR SERIES TABLE**

| NO.                                                | DATE | REVISION        | BY |
|----------------------------------------------------|------|-----------------|----|
|                                                    |      |                 |    |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |    |
| <b>STRUCTURE B-33-132</b>                          |      |                 |    |
| DRAWN BY CAR                                       |      | PLANS CK'D. JAS |    |
| <b>NORTH ABUTMENT DETAILS</b>                      |      | SHEET 7 OF 9    |    |

## BILL OF BARS (COATED) 15,035 LBS.

| MARK  | NO. REQ'D. | LENGTH  | BENT | LOCATION                          |
|-------|------------|---------|------|-----------------------------------|
| S501  | 58         | 7'-8"   | X    | DIAPHRAGM @ ABUTS. - LONGIT.      |
| S1002 | 29         | 42'-3"  |      | SLAB BOTTOM - LONGIT.             |
| S1003 | 28         | 32'-6"  |      | SLAB BOTTOM - LONGIT.             |
| S504  | 104        | 29'-11" |      | SLAB TOP & BOTTOM - TRANS.        |
| S405  | 35         | 42'-3"  |      | SLAB TOP - LONGIT.                |
| S606  | 32         | 12'-0"  | X    | SLAB TOP @ RAIL POST, 2 PER POST  |
| S607  | 48         | 6'-0"   |      | SLAB TOP @ RAIL POST, 4 PER POST  |
| S608  | 16         | 6'-0"   | X    | SLAB TOP @ RAIL END POST AS NOTED |

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.  
EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.



## CAMBER DIAGRAM

CAMBER SPANS AS SHOWN ABOVE AND IN THE TABLE OF VALUES TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTION APPROXIMATES 1/3 OF CAMBER VALUES SHOWN.

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

- TOP OF SLAB ELEVATION AT FINAL GRADE
- SLAB THICKNESS
- + CAMBER
- + FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
- = TOP OF SLAB FALSEWORK ELEVATION

## GENERAL NOTES

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

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 TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED ON THE SKEW.

## SURVEY TOP OF SLAB ELEVATIONS

| LOCATION    | SPAN POINT | WEST SLAB EDGE | C/L BETHEL GROVE ROAD | EAST SLAB EDGE |
|-------------|------------|----------------|-----------------------|----------------|
| SOUTH ABUT. | 1.0        |                |                       |                |
|             | 1.5        |                |                       |                |
| NORTH ABUT. | 2.0        |                |                       |                |

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE CL OF ABUTMENTS AND AT THE 0.5 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR CL. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

## TOP OF SLAB ELEVATIONS AND CAMBER VALUES

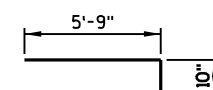
| LOCATION    | SPAN POINT | EAST SLAB EDGE | C/L BETHEL GROVE ROAD | WEST SLAB EDGE | CAMBER VALUE (INCHES) |
|-------------|------------|----------------|-----------------------|----------------|-----------------------|
| SOUTH ABUT. | 1.0        | 965.93         | 966.27                | 966.04         | 0.0                   |
|             | 1.1        | 965.97         | 966.31                | 966.09         | 0.4                   |
|             | 1.2        | 966.01         | 966.36                | 966.13         | 0.8                   |
|             | 1.3        | 966.06         | 966.40                | 966.18         | 1.0                   |
|             | 1.4        | 966.10         | 966.45                | 966.22         | 1.2                   |
|             | 1.5        | 966.15         | 966.49                | 966.27         | 1.3                   |
|             | 1.6        | 966.19         | 966.54                | 966.31         | 1.2                   |
|             | 1.7        | 966.24         | 966.58                | 966.36         | 1.0                   |
|             | 1.8        | 966.28         | 966.63                | 966.40         | 0.8                   |
|             | 1.9        | 966.33         | 966.67                | 966.45         | 0.4                   |
| NORTH ABUT. | 2.0        | 966.38         | 966.72                | 966.49         | 0.0                   |

## AT ABUTMENTS

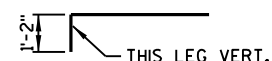
## IN SPAN

## CROSS SECTION THRU BRIDGE

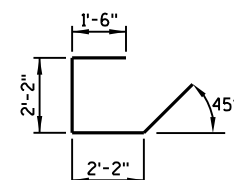
(LOOKING NORTH)



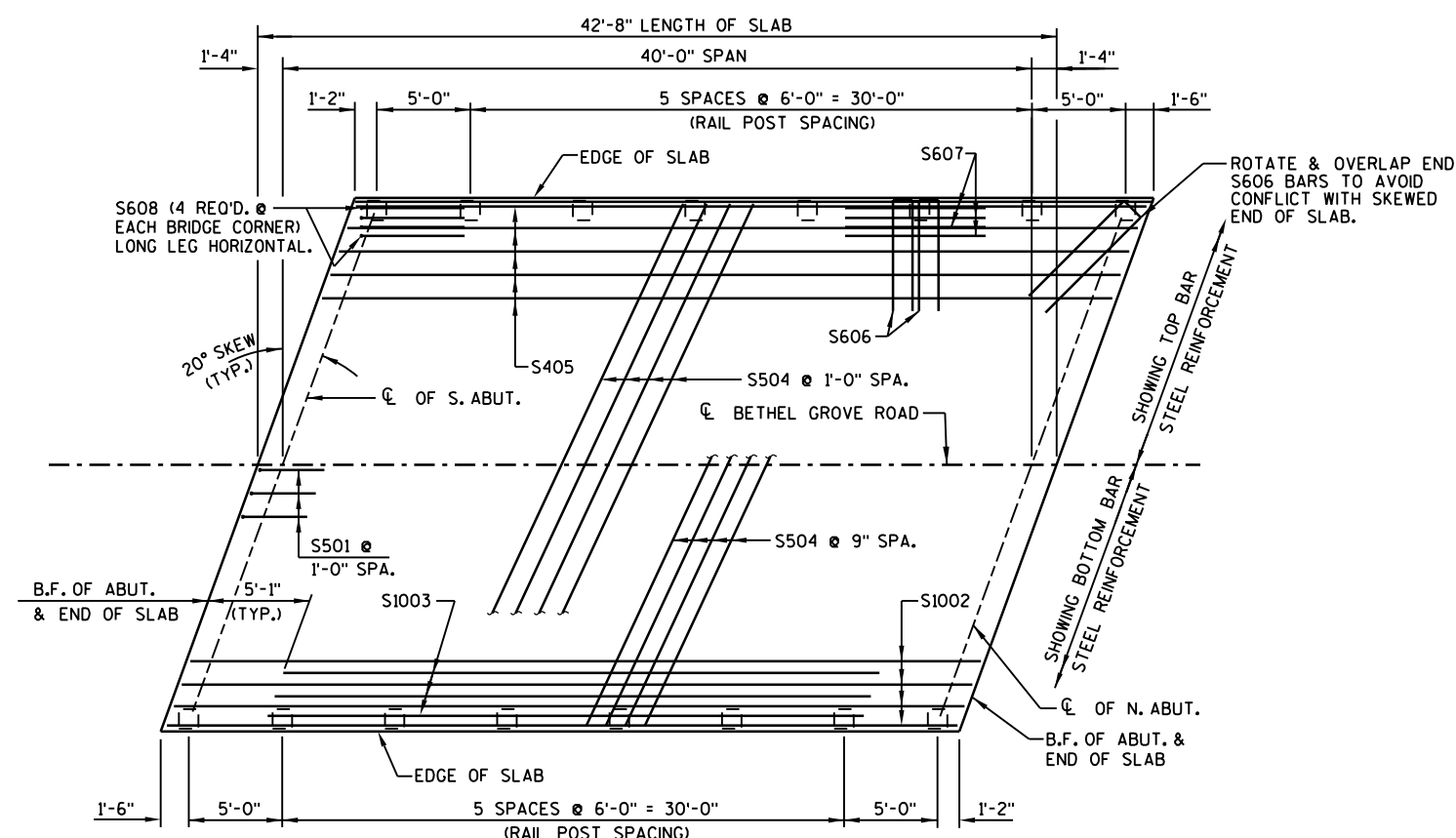
S606



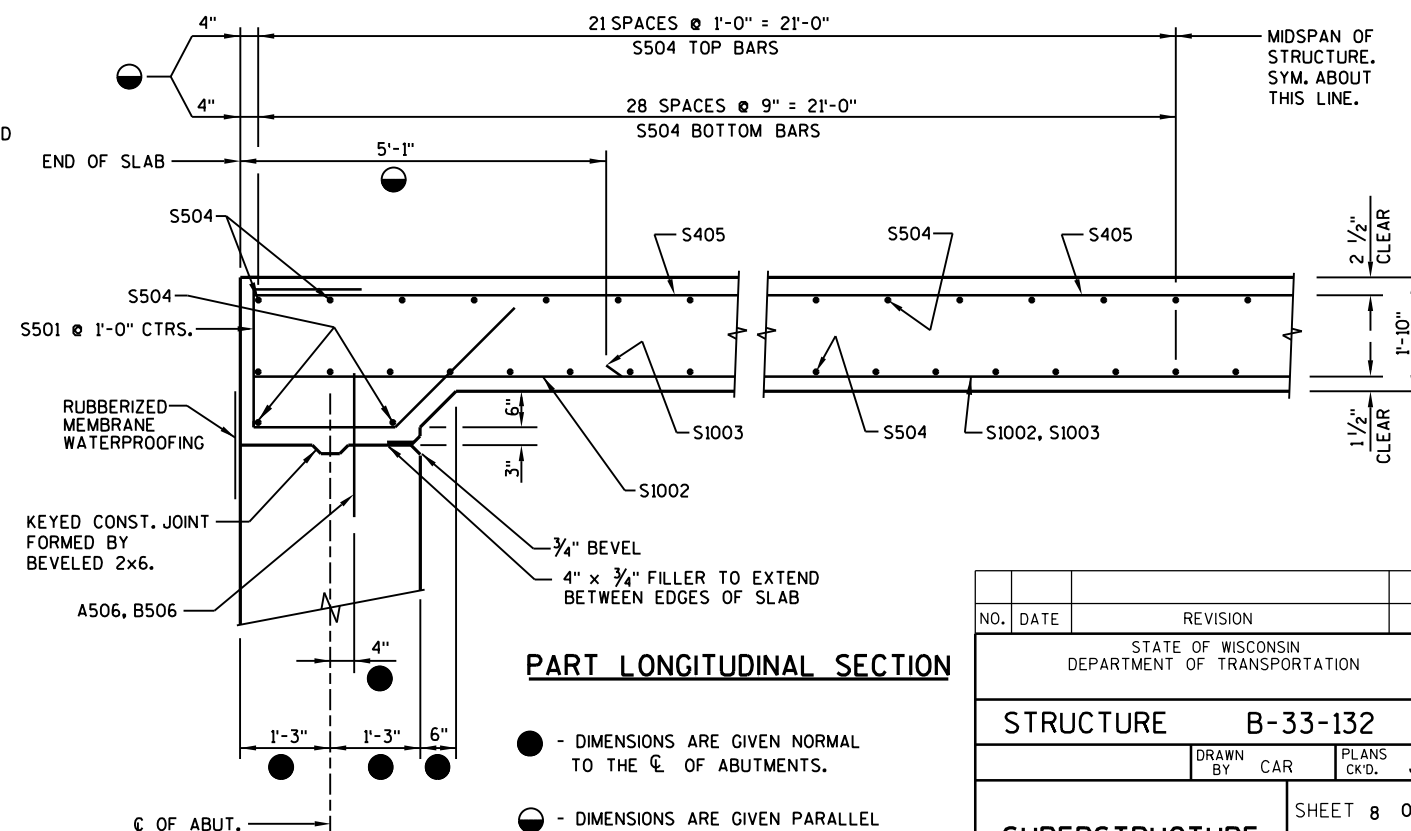
S608



S501



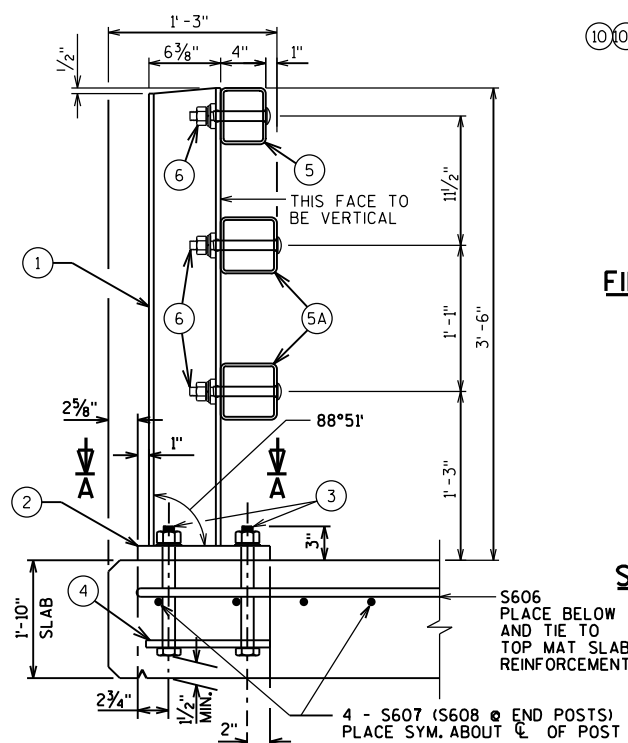
## PLAN



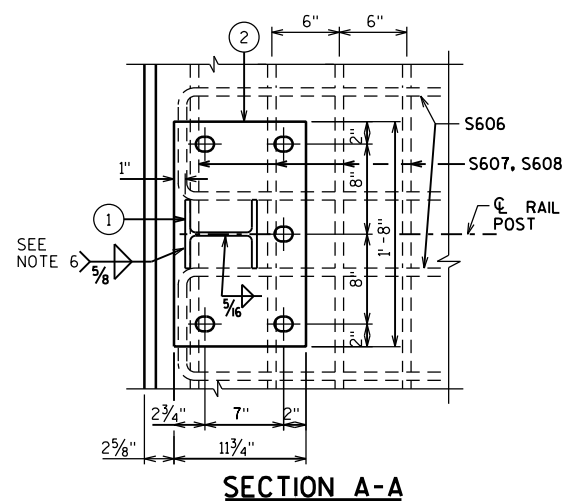
## PART LONGITUDINAL SECTION

- - DIMENSIONS ARE GIVEN NORMAL TO THE CL OF ABUTMENTS.
- - DIMENSIONS ARE GIVEN PARALLEL TO THE CL OF BETHEL GROVE ROAD.

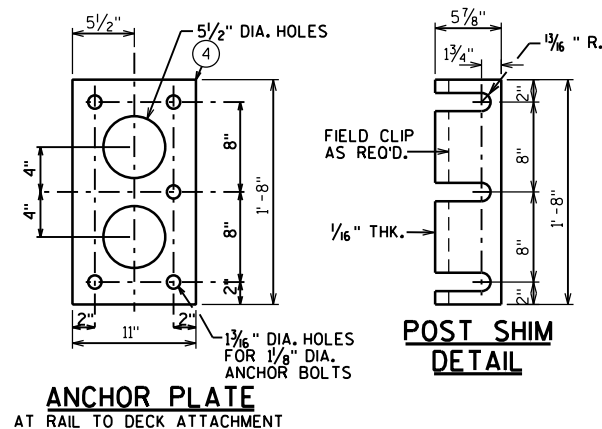
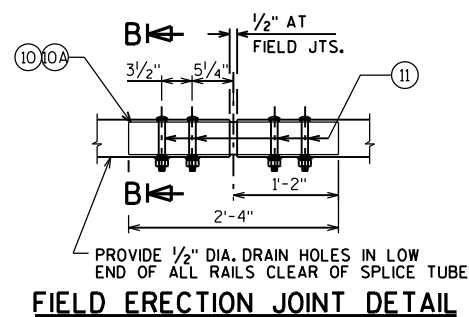
| NO.                                                | DATE | REVISION        | BY |
|----------------------------------------------------|------|-----------------|----|
|                                                    |      |                 |    |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |    |
| STRUCTURE B-33-132                                 |      |                 |    |
| DRAWN BY CAR                                       |      | PLANS CK'D. JAS |    |
| SUPERSTRUCTURE                                     |      | SHEET 8 OF 9    |    |



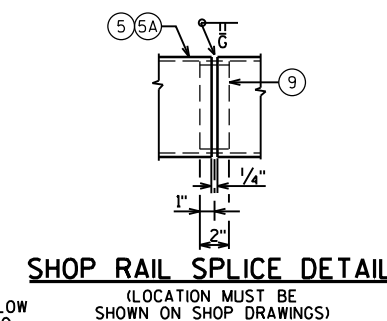
SECTION THRU RAILING ON SLAB



SECTION A-A

ANCHOR PLATE  
AT RAIL TO DECK ATTACHMENTPOST SHIM  
DETAIL

FIELD ERECTION JOINT DETAIL



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE  
SHOWN ON SHOP DRAWINGS)S606  
PLACE BELOW  
AND TIE TO  
TOP MAT SLAB  
REINFORCEMENT4 - S607 (S608 @ END POSTS)  
PLACE SYM. ABOUT CL OF POST

88°51'

2 3/4"

1/2" MIN.

2"

1'-10" SLAB

2 3/4"

1/2" MIN.

2"

1'-10" SLAB

2 3/4"

1/2" MIN.

2"

1'-10" SLAB

2 3/4"

1/2" MIN.

2"

1'-10" SLAB

2 3/4"

1/2" MIN.

2"

1'-10" SLAB

2 3/4"

1/2" MIN.

2"

1'-10" SLAB

2 3/4"

1/2" MIN.

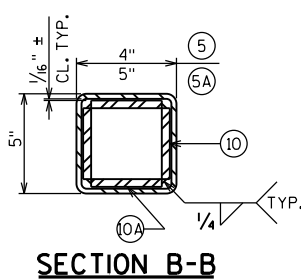
2"

1'-10" SLAB

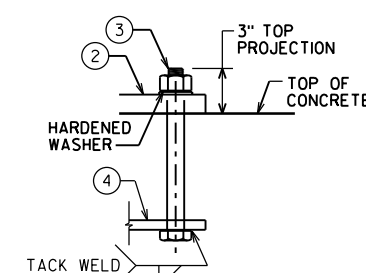
2 3/4"

1/2" MIN.

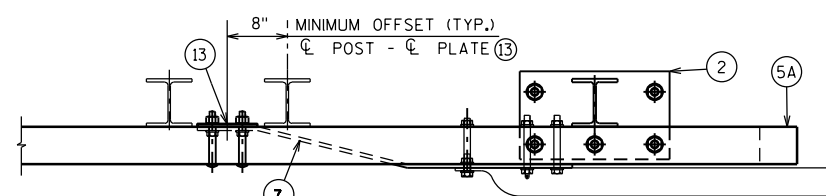
2"



SECTION B-B

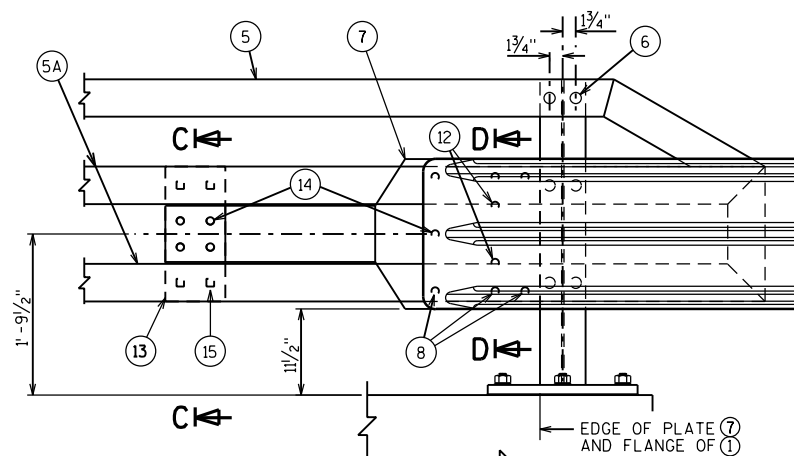


ANCHOR BOLTS



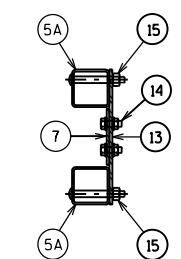
TOP VIEW AT END POST

(THREE BEAM RAIL ATTACHMENT)

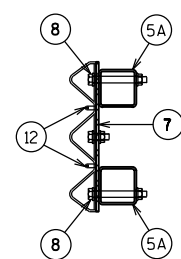


DETAIL AT END POST

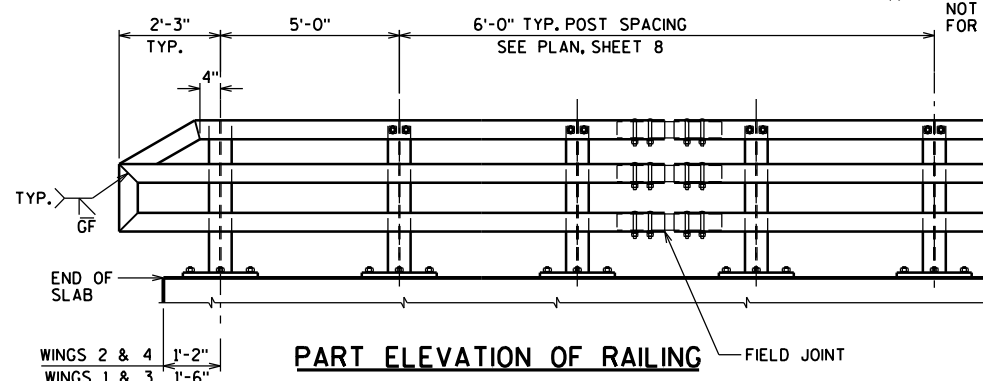
(THREE BEAM RAIL ATTACHMENT)



SECTION C-C



SECTION D-D



PART ELEVATION OF RAILING

FIELD JOINT

WINGS 2 & 4  
WINGS 1 & 31'-2"  
1'-6"

## LEGEND

- ① W6 x 25 WITH 1/8" x 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" x 1 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1/4" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-3" LONG.
- ④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 5/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
- ⑤ TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/8" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).
- \* ⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THREE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- \* ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5, 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 5/8" x 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS IN PLATE NO. 10A.
- \* ⑫ 7/8" DIA. x 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- \* ⑬ 3/8" x 8" x 1'-6" ANCHOR PLATE, BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THREE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- \* ⑭ 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQUIRED).
- \* ⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

## GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-33-132" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
10. PAINTING IS NOT REQUIRED.
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
- \* 12. THREE BEAM RAIL ATTACHMENT IS INCLUDED FOR FUTURE USE. ENSURE PROPER FIT BUT DO NOT MOUNT TO RAILING. FURNISH PLATES AND ATTACHMENT HARDWARE TO LAFAYETTE COUNTY FOR FUTURE INSTALLATION

| NO.                                                | DATE | REVISION     | BY              |
|----------------------------------------------------|------|--------------|-----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |              |                 |
| STRUCTURE                                          |      | B-33-132     |                 |
| DRAWN BY                                           |      | CAR          | PLANS CK'D. JAS |
| RAILING TUBULAR TYPE M                             |      | SHEET 9 OF 9 |                 |

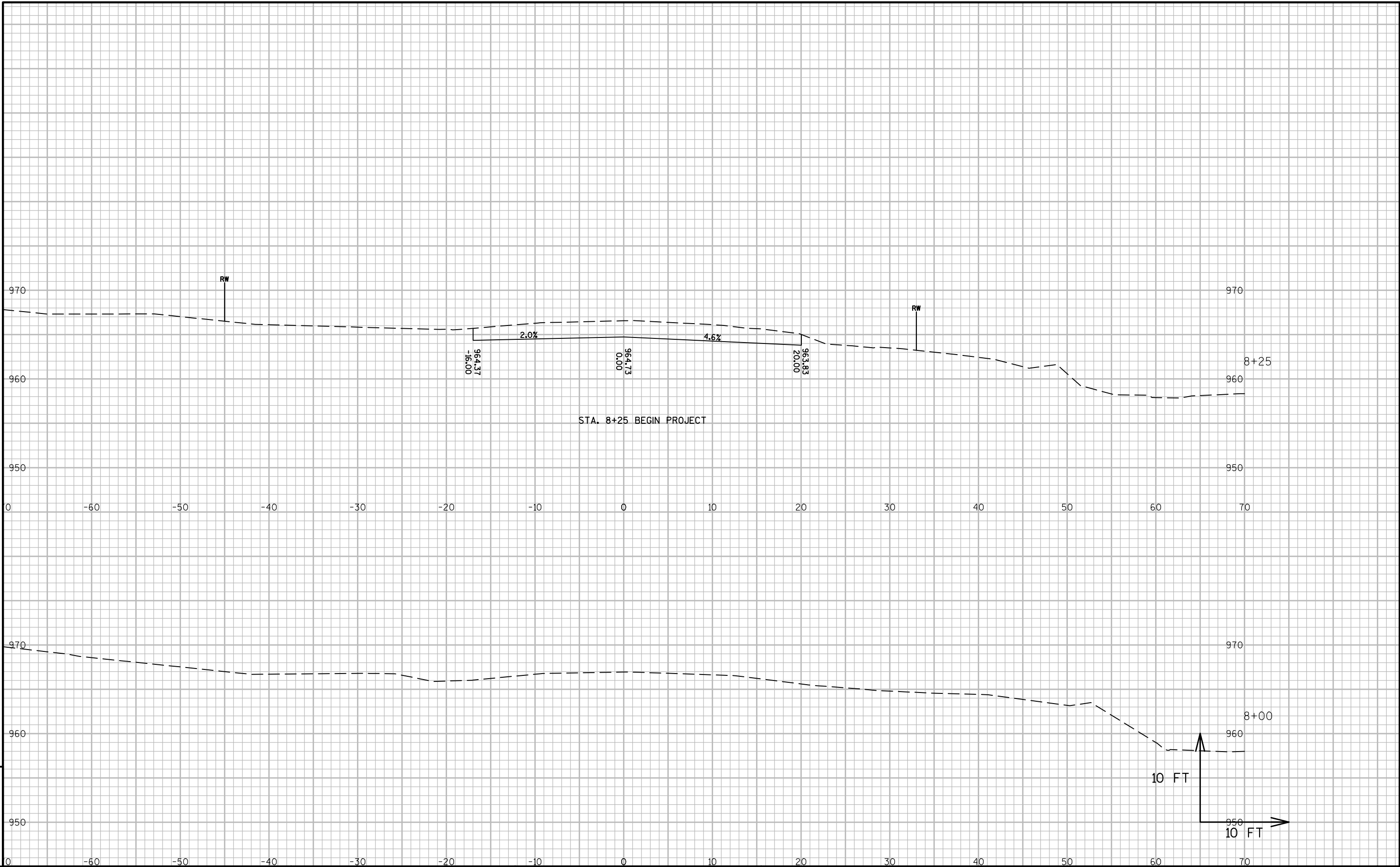


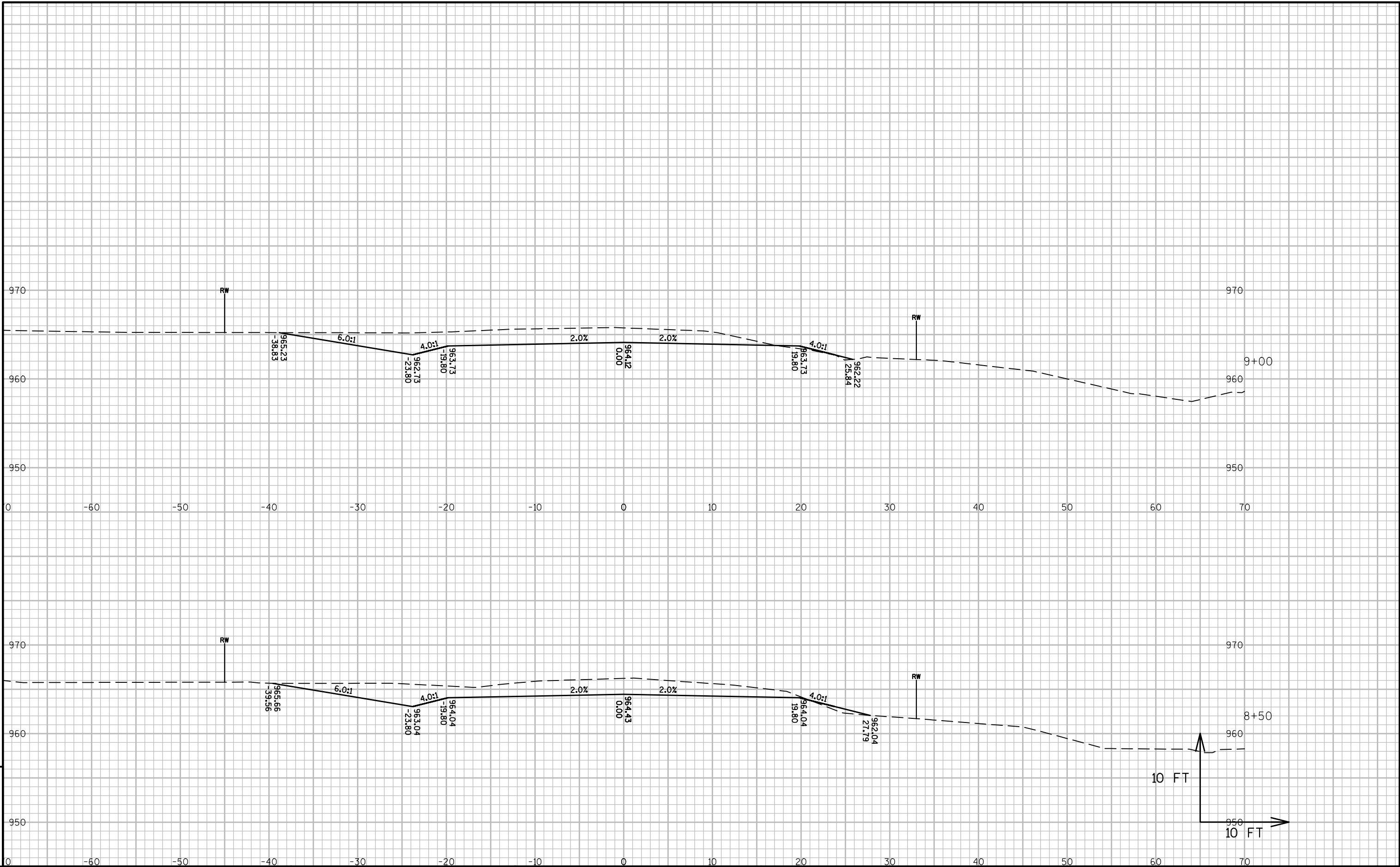
EARTHWORK PROJECT I.D. 5719-00-72 - BETHEL GROVE - BRIDGE RECONSTRUCTION

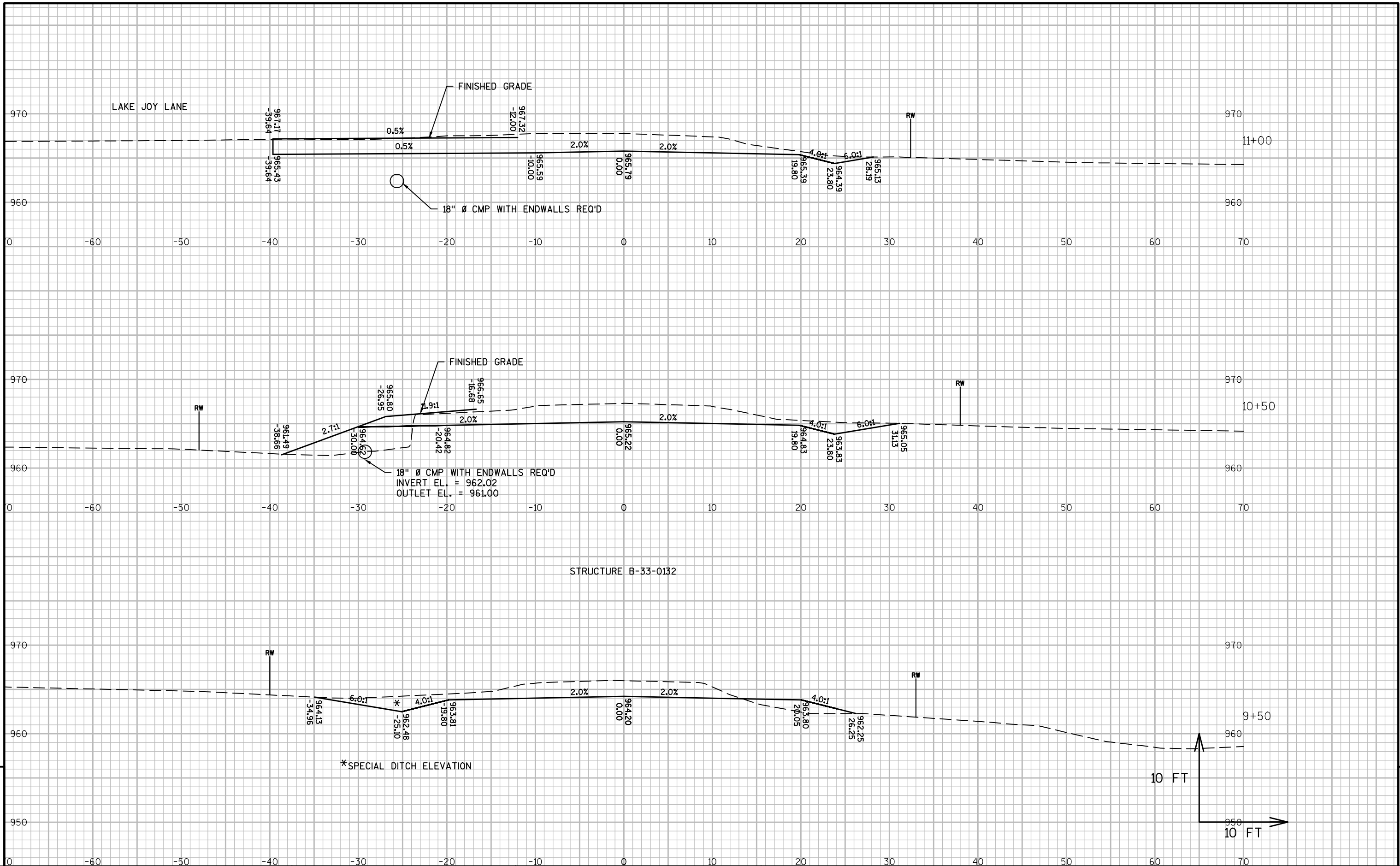
| STATION   | Distance | AREA (SF) |                                     |      | Incremental Vol (CY) (Unadjusted) |                                     |      | Cumulative Vol (CY) |                    | Mass Ordinate |
|-----------|----------|-----------|-------------------------------------|------|-----------------------------------|-------------------------------------|------|---------------------|--------------------|---------------|
|           |          | Cut       | Salvaged/Unusable Pavement Material | Fill | Cut                               | Salvaged/Unusable Pavement Material | Fill | Cut 1.00            | Expanded Fill 1.25 |               |
| 8+25      |          | 91        | 0                                   | 0    | 0                                 | 0                                   | 0    | 0                   | 0                  | 0             |
| 8+50.     | 25.00    | 85        | 0                                   | 2    | 81                                | 0                                   | 1    | 81                  | 1                  | 81            |
| 9+00.     | 50.00    | 81        | 0                                   | 1    | 154                               | 0                                   | 3    | 235                 | 4                  | 231           |
| 9+50.     | 50.00    | 61        | 0                                   | 10   | 131                               | 0                                   | 10   | 367                 | 17                 | 349           |
| 9+78.     | 28.00    | 61        | 0                                   | 10   | 63                                | 0                                   | 10   | 430                 | 30                 | 400           |
| B-33-0132 |          |           |                                     |      |                                   |                                     |      |                     |                    |               |
|           |          |           |                                     |      | 430                               | 0                                   | 24   |                     |                    |               |

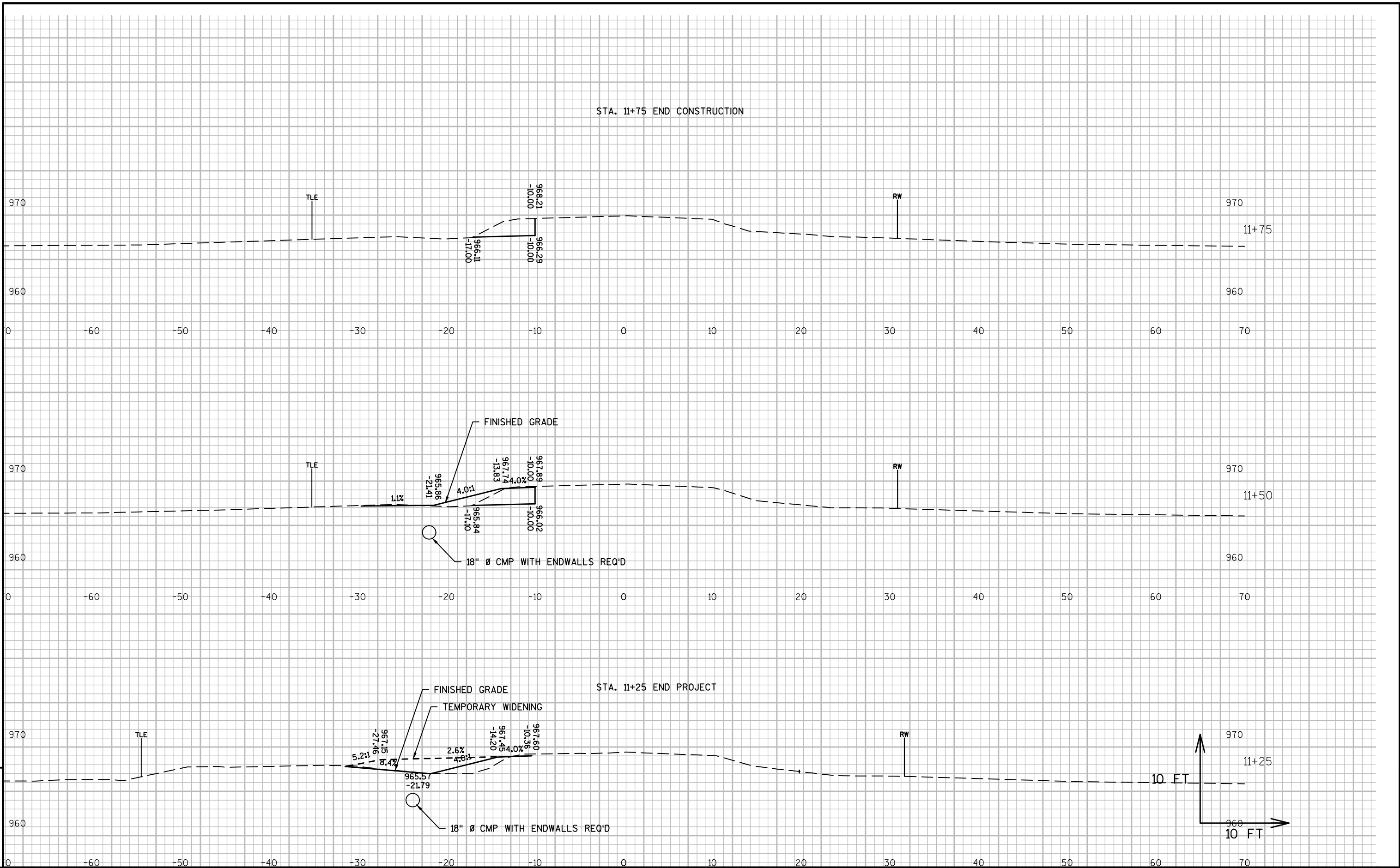
EARTHWORK PROJECT I.D. 5719-00-72 - BETHEL GROVE - BRIDGE RECONSTRUCTION

| STATION   | Distance | AREA (SF) |                                     |      | Incremental Vol (CY) (Unadjusted) |                                     |      | Cumulative Vol (CY) |                    | Mass Ordinate |
|-----------|----------|-----------|-------------------------------------|------|-----------------------------------|-------------------------------------|------|---------------------|--------------------|---------------|
|           |          | Cut       | Salvaged/Unusable Pavement Material | Fill | Cut                               | Salvaged/Unusable Pavement Material | Fill | Cut 1.00            | Expanded Fill 1.25 |               |
| B-33-0132 |          |           |                                     |      |                                   |                                     |      |                     |                    |               |
| 10+21.    |          | 74        | 0                                   | 35   | 0                                 | 0                                   | 0    | 0                   | 0                  | 0             |
| 10+50     | 29.00    | 80        | 0                                   | 29   | 83                                | 0                                   | 34   | 83                  | 43                 | 40            |
| 11+00     | 50.00    | 108       | 0                                   | 0    | 175                               | 0                                   | 27   | 258                 | 77                 | 181           |
| 11+25     | 25.00    | 53        | 0                                   | 6    | 75                                | 0                                   | 3    | 333                 | 80                 | 253           |
| 11+25     | 0.00     | 10        | 0                                   | 6    | 0                                 | 0                                   | 0    | 333                 | 80                 | 253           |
| 11+50     | 25.00    | 10        | 0                                   | 5    | 9                                 | 0                                   | 5    | 342                 | 87                 | 255           |
| 11+75     | 25.00    | 9         | 0                                   | 0    | 9                                 | 0                                   | 2    | 351                 | 89                 | 261           |
|           |          |           |                                     |      | 351                               | 0                                   | 71   |                     |                    |               |









## Notes



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

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through innovation and exceptional service.

<http://www.dot.wisconsin.gov>