

ORDER OF SHEETS

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

TOTAL SHEETS = 174

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PLAN OF PROPOSED IMPROVEMENT  
MENOMONIE-CONNORSVILLE  
STH 170-STH 64  
STH 79  
DUNN COUNTY

| STATE PROJECT | FEDERAL PROJECT |          |
|---------------|-----------------|----------|
|               | PROJECT         | CONTRACT |
| 8640-02-61    |                 |          |
|               |                 |          |
|               |                 |          |
|               |                 |          |



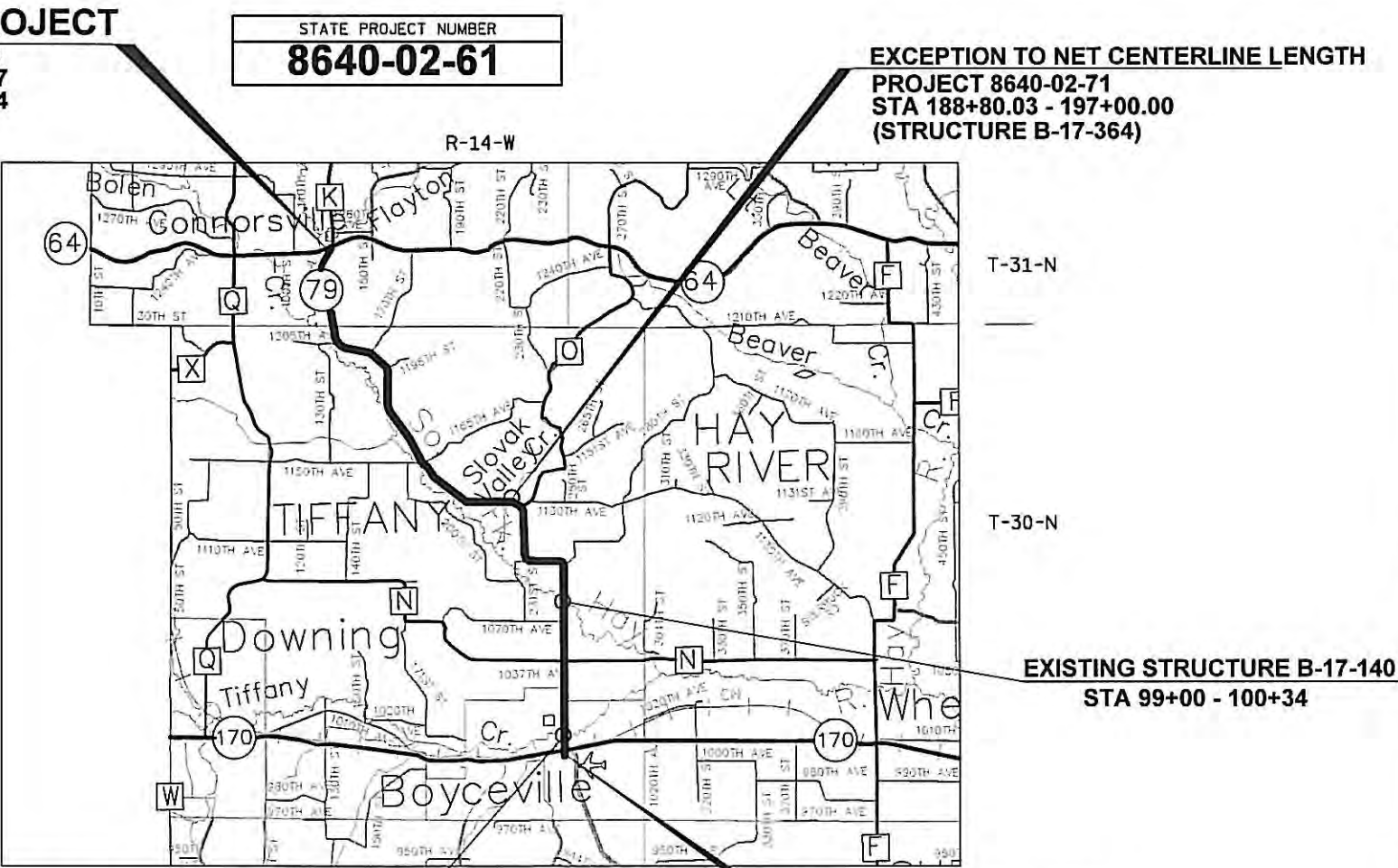
DESIGN DESIGNATION

|               |   |         |
|---------------|---|---------|
| A.A.D.T. 2013 | = | 1050    |
| A.A.D.T. 2023 | = | 1150    |
| A.A.D.T. 2033 | = | 1300    |
| D.H.V. 2033   | = | 133     |
| D.D.          | = | 60/40   |
| T.            | = | 6.7%    |
| DESIGN SPEED  | = | 55 MPH  |
| ESALS         | = | 202,940 |

CONVENTIONAL SYMBOLS

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

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



LAYOUT  
SCALE 0 1.1 MI.  
TOTAL NET LENGTH OF CENTERLINE = 8.130 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DUNN COUNTY.

PLANS PREPARED BY

**QUEST**  
Civil Engineers, LLC  
2811 8th Street South, Suite 8  
Wisconsin Rapids, WI 54494

**WISCONSIN PROFESSIONAL ENGINEER**  
JAMES G. WENDELS  
E-35087  
WISCONSIN RAPIDS, WI

DATE: 01/16/2013

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

|                     |                       |
|---------------------|-----------------------|
| Surveyor            | QUEST Civil Engineers |
| Designer            | QUEST Civil Engineers |
| Project Manager     | Tou Yang              |
| Regional Examiner   | Daniel Ojibway        |
| Regional Supervisor | Dave Solberg          |
| C.O. Examiner       |                       |

APPROVED FOR THE DEPARTMENT

DATE: 1/3/2013 *Daniel Ojibway*  
(Signature)

E

LIST OF STANDARD ABBREVIATIONS

|            |                                           |               |                                |
|------------|-------------------------------------------|---------------|--------------------------------|
| Δ          | CENTRAL ANGLE OR DELTA                    | LB            | POUND                          |
| AADT       | ANNUAL AVERAGE DAILY TRAFFIC              | LC            | LONG CHORD OF CURVE            |
| AC         | ASPHALT CEMENT                            | LIN FT and LF | LINEAR FOOT                    |
| ADT        | AVERAGE DAILY TRAFFIC                     | LS            | LUMP SUM                       |
| AECPRC     | APRON ENDWALL FOR CULV PIPE REIN CONC     | LT            | LEFT                           |
| AEW        | APRON ENDWALL                             | M             | MARSH                          |
| AGG        | AGGREGATE                                 | MAINT         | MAINTENANCE                    |
| ASPH       | ASPHALTIC                                 | MATL          | MATERIAL                       |
| AVG        | AVERAGE                                   | MAX           | MAXIMUM                        |
| BAD        | BASE AGGREGATE DENSE                      | MIN           | MINIMUM                        |
| BM         | BENCH MARK                                | N             | NORTH                          |
| C&G        | CURB AND GUTTER                           | NB            | NORTHBOUND                     |
| CABC       | CRUSHED AGGREGATE BASE COURSE             | NC            | NORMAL CROWN                   |
| CE         | COMMERCIAL ENTRANCE                       | NO            | NUMBER                         |
| CL or C/L  | CENTER LINE                               | NW or NW      | NORMAL WATER                   |
| CO         | COUNTY                                    | OD            | OUTSIDE DIAMETER               |
| CONC       | CONCRETE                                  | PAVT          | PAVEMENT                       |
| CP         | CULVERT PIPE                              | PC            | POINT OF CURVATURE             |
| CPCP       | CULVERT PIPE CORRUGATED POLYETHYLENE      | PD or PED     | PEDISTAL                       |
| CPCS       | CULVERT PIPE CORRUGATED STEEL             | PE            | PRIVATE ENTRANCE               |
| CPRC       | CULVERT PIPE REINFORCED CONCRETE          | PI            | POINT OF INTERSECTION          |
| CPRCHE     | CULV PIPE REIN CONC HORIZONTAL ELLIPTICAL | PL            | PROPERTY LINE                  |
| CTH        | COUNTY TRUNK HIGHWAY                      | PP            | POWER POLE                     |
| CULV       | CULVERT                                   | PROJ          | PROJECT                        |
| CWT        | HUNDREDWEIGHT                             | PROP          | PROPOSED                       |
| CY or CUYD | CUBIC YARD                                | PT            | POINT OF TANGENCY              |
| D          | DEGREE OF CURVE                           | R             | RADIUS                         |
| DG         | DITCH GRADE                               | R/L           | REFERENCE LINE                 |
| DHV        | DESIGN HOUR VOLUME                        | R/W           | RIGHT-OF-WAY                   |
| DIA        | DIAMETER                                  | RD            | ROAD                           |
| DISCH      | DISCHARGE                                 | RR            | RAILROAD                       |
| DIST       | DISTRICT                                  | RT            | RIGHT                          |
| DWY        | DRIVEWAY                                  | SB            | SOUTH BOUND                    |
| EAT        | ENERGY ABSORBING TERMINAL                 | SDD           | STANDARD DETAIL DRAWINGS       |
| EB         | EASTBOUND                                 | SE            | SUPERELEVATION                 |
| EBS        | EXCAVATING BELOW SUBGRADE                 | SF or SQ FT   | SQUARE FEET                    |
| EL or ELEV | ELEVATION                                 | SHLDR         | SHOULDER                       |
| ENT        | ENTRANCE                                  | SPECS         | SPECIFICATIONS                 |
| EOP        | EDGE OF PAVEMENT                          | STA           | STATION                        |
| ESALS      | EQUIVALENT SINGLE AXLE LOADS              | STH           | STATE TRUNK HIGHWAYS           |
| EW         | ENDWALL                                   | SY or SQ YD   | SQUARE YARD                    |
| EXC        | EXCAVATION                                | T or TAN      | TANGENT                        |
| EXIST      | EXISTING                                  | T             | TRUCKS (PERCENT OF)            |
| FE         | FIELD ENTRANCE                            | T or TN       | TOWN                           |
| FERT       | FERTILIZE                                 | TEL           | TELEPHONE                      |
| FG         | FINISHED GRADE                            | TYP           | TYPICAL                        |
| FL or F/L  | FLOW LINE                                 | V             | VELOCITY OR DESIGN SPEED       |
| FO         | FIBEROPTIC                                | VAR           | VARIABLE                       |
| FP         | FENCE POST                                | VC            | VERTICAL CURVE                 |
| FT         | FOOT                                      | VPC           | VERTICAL POINT OF CURVE        |
| GAL        | GALLON                                    | VPI           | VERTICAL POINT OF INTERSECTION |
| HMA        | HOT MIX ASPHALT                           | VPT           | VERTICAL POINT OF TANGENCY     |
| ID         | INSIDE DIAMETER                           | W             | WATER                          |
| INV        | INVERT                                    | WB            | WESTBOUND                      |
| IP         | IRON PIPE OR PIN                          | X             | EAST GRID COORDINATE           |
| JCT        | JUNCTION                                  | Y             | NORTH GRID COORDINATE          |
| L          | LENGTH                                    |               |                                |

GENERAL NOTES

ASPHALTIC SURFACE SPECIAL WEDGING IS REQUIRED IN AREAS WHERE NORMAL CROWN SLOPE OR SUPER ELEVATION CORRECTION RESULTS IN ASPHALTIC SURFACE SPECIAL DEPTHS THAT EXCEED 3-1/2".

ASPHALTIC SURFACE SPECIAL CAN USE 12.5mm OR 9.5 mm NOMINAL SIZE AGGREGATE.

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

ELEVATIONS ON THIS PLAN ARE REFERENCED TO NAVD 88.

PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, THE CONTRACTOR SHALL CAREFULLY MAKE A SEARCH FOR EVIDENCE OF ALL LANDMARKS, BENCHMARKS, AND OTHER CONTROL POINTS IN ALL AREAS WHERE SUCH LANDMARKS, BENCHMARKS, OR OTHER CONTROL POINTS MAY EXIST.

THE CONTRACTOR SHALL PROTECT ALL SURVEY MARKERS. SURVEY MARKERS SHALL NOT BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

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

EXACT LOCATION AND LIMITS OF DRIVEWAY ENTRANCES ARE TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND RESTORATION OF, INCLUDING BUT NOT LIMITED TO : SEED, FERTILIZER, MULCH, EROSION MAT, AND ANY DISTURBED AREAS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AS DETERMINED BY THE ENGINEER.

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

ALL CONCRETE PIPES WILL HAVE JOINT TIES INSTALLED ON THE LAST TWO PIPE JOINTS AND THE END WALL JOINT AT BOTH INLET AND DISCHARGE ENDS AND WILL BE INCIDENTAL TO THE BID ITEM.

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

MUNICIPAL CONTACTS

DUNN COUNTY HIGHWAY DEPARTMENT  
ATTN: M.O. BRENDEN-COMMISSIONER  
3303 USH 12 E  
MENOMONIE, WI 54751  
TELEPHONE: 715.232.2181

DUNN COUNTY SURVEY DIVISION  
ATTN: LEON HENDRICK – COUNTY SURVEYOR  
390 RED CEDAR STREET, SUITE C  
MENOMONIE, WI 54751  
TELEPHONE: 715.231.6525  
lherrick@co.dunn.wi.us

TOWN OF NEW HAVEN  
ROGER HANSON – CHAIRPERSON  
E224 CTY ROAD Q  
CLEAR LAKE, WI 54005  
TELEPHONE: 715.265.4525

TOWN OF TIFFANY  
CHUCK SILER – CHAIRPERSON  
N12098 230<sup>th</sup> ST  
BOYCEVILLE, WI 54725  
TELEPHONE: 715.643.3919

VILLAGE OF BOYCEVILLE  
GILBERT KRUEGER – PRESIDENT  
1303 TIFFANY STREET  
BOYCEVILLE, WI 54725  
TELEPHONE: 715.556.0719  
boyceville@celectcom.net

UTILITY CONTACTS

CENTURYLINK – COMMUNICATION LINE  
ATTN: BRUCE LARSON  
20 S WILSON AVE  
RICE LAKE, WI 54868  
WORK PHONE: 715.234.5573  
bruce.larson@centurylink.com

DUNN COUNTY ELECTRIC COOP  
ATTN: JERRY BUSS  
PO BOX 220  
MENOMONIE, WI 54751  
WORK PHONE: 715.232.5528  
jbuss@dunnenergy.com

VIKING GAS TRANSMISSION CO.  
ATTN: JIM SCHUELKE  
3140 NEIL ARMSTRONG BLVD, SUITE 208  
EAGAN, MN 55121  
WORK PHONE: 651.994.0332 EXT. 1202  
CELL PHONE: 612.709.9562  
james.schuelke@oneok.com

VILLAGE OF BOYCEVILLE – SANITARY SEWER/WATER  
ATTN: DON ROSE  
PO BOX 368  
BOYCEVILLE, WI 54725  
WORK PHONE 715.702.2593  
waterworks54725@hotmail.com

WE ENERGIES – GAS/PETROLEUM  
ATTN: LEWIS KNAPP  
104 WEST SOUTH STREET  
RICE LAKE, WI 54868  
WORK PHONE 715.234.9605  
lewis.knapp@we-energies.com

XCEL ENERGIES – ELECTRIC/GAS  
ATTN: PAM TAYLOR  
1414 W HAMILTON AVE, PO BOX 8  
EAU CLAIRE, WI 54702  
WORK PHONE 715.737.1306  
pamela.l.taylor@xcelenergy.com

RAILROAD CONTACT

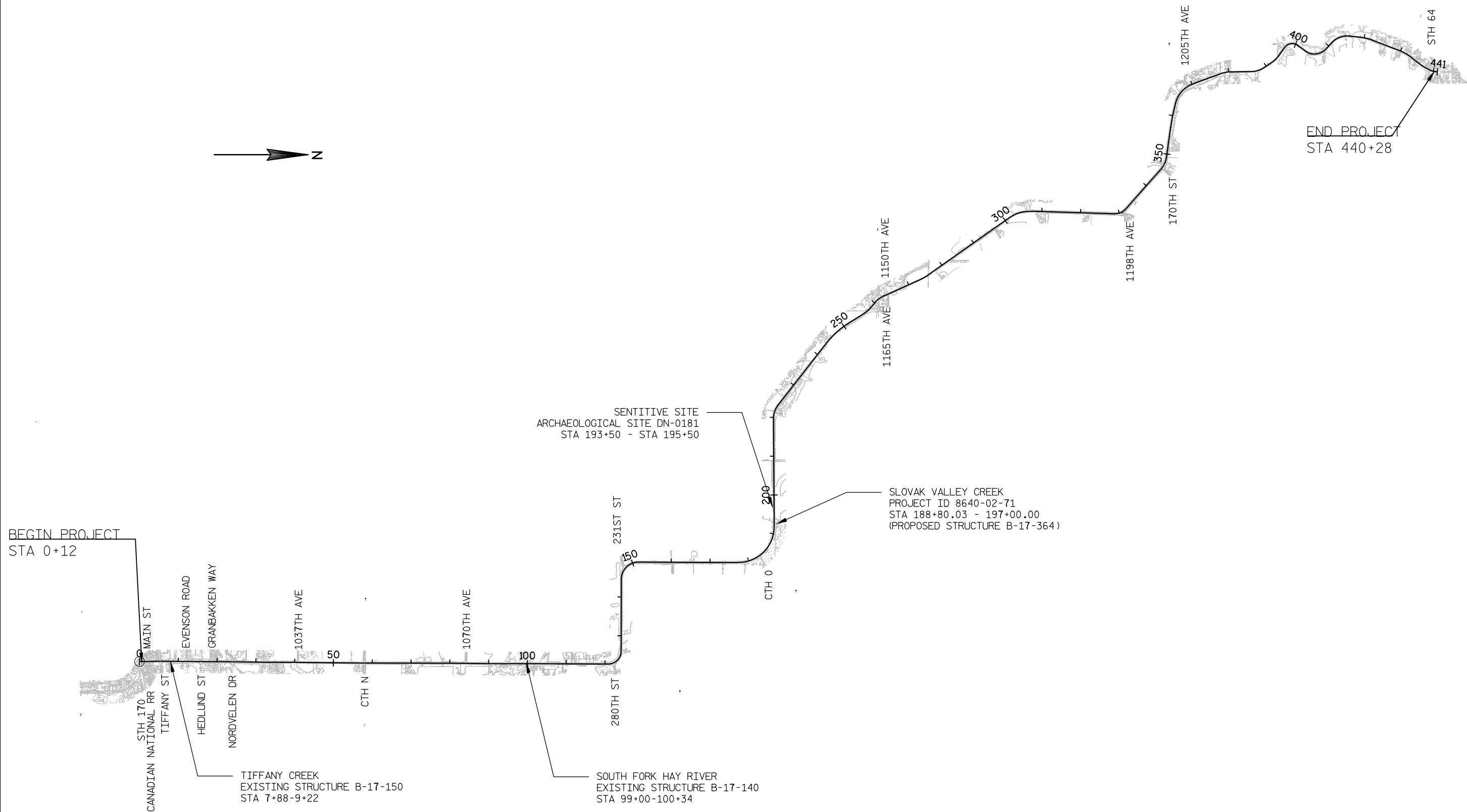
CANADIAN NATIONAL RAILROAD  
ATTN: JACKIE MACEWICZ  
1625 DEPOT STREET  
STEVENS POINT, WI 54481  
TELEPHONE: 715.345.2503

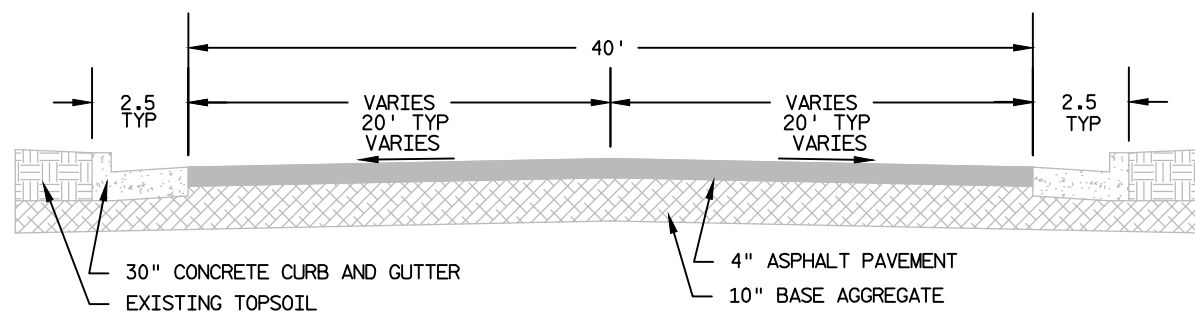
DNR CONTACT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES  
ATTN: NICK SCHAFF  
1300 CLAIREMONT AVE  
EAU CLAIRE, WI 54701  
TELEPHONE: 715.839.1609  
nicholas.schaff@wisconsin.gov

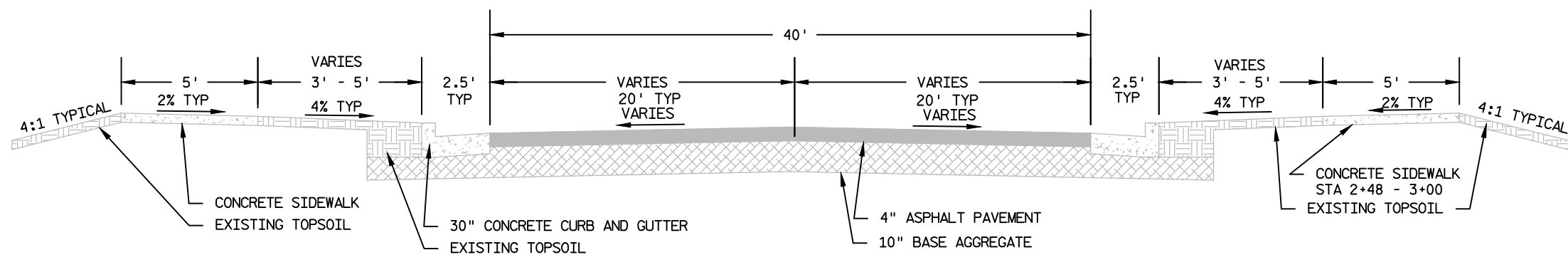


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Hearing Impaired TDD (800) 542-2289  
www.DiggersHotline.com

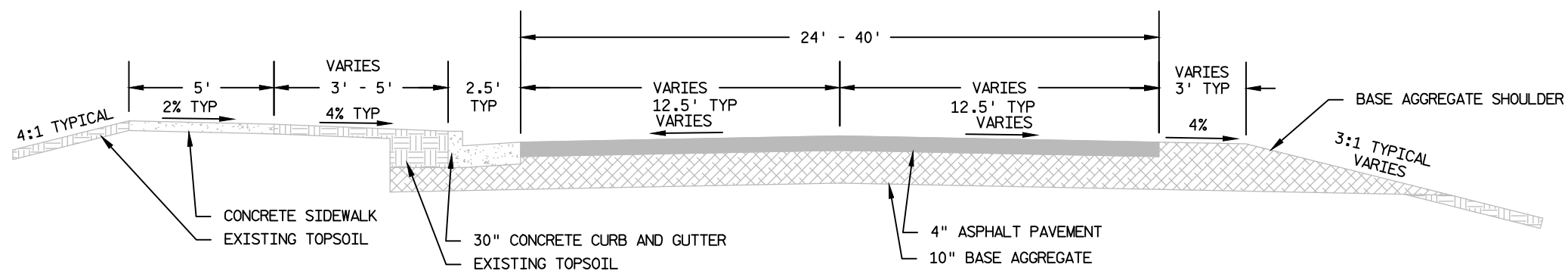




TYPICAL EXISTING SECTION STH 79  
STATION 0+12 TO 2+48



TYPICAL EXISTING SECTION STH 79  
STATION 2+48 TO 5+39

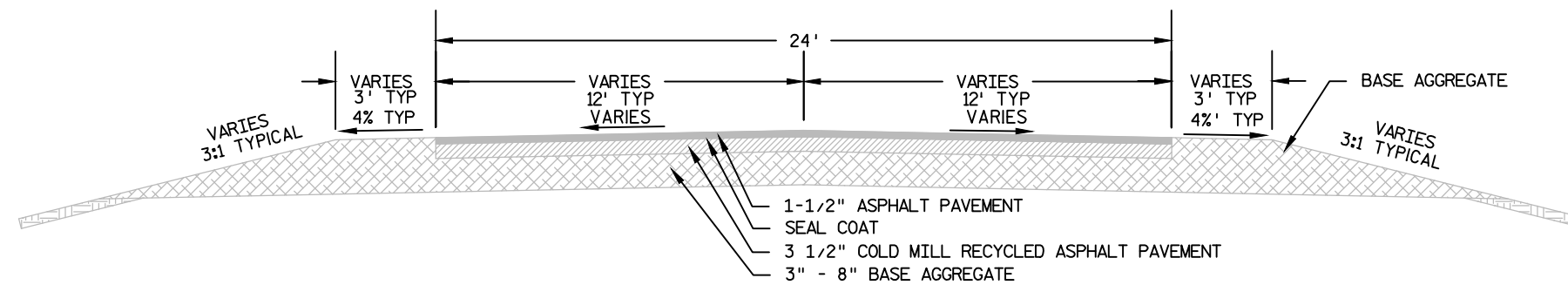


TYPICAL EXISTING SECTION STH 79  
STATION 5+39 - 7+88  
STATION 9+22 - 25+55

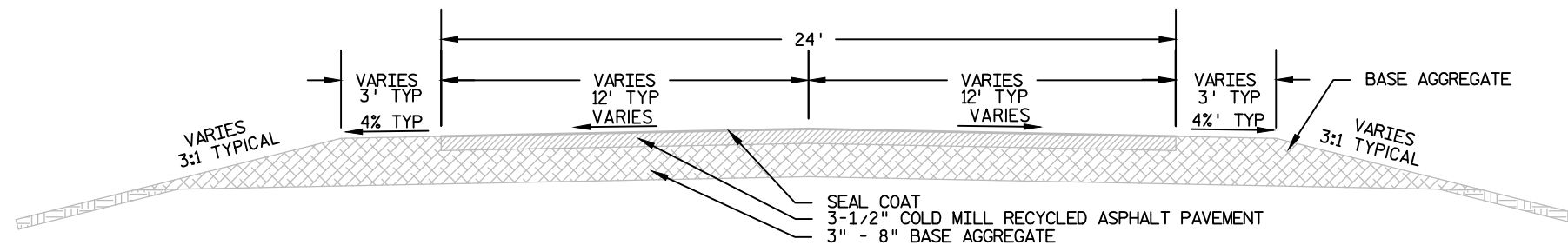
NOTE: STA 7+88 - 9+22 (STRUCTURE B-17-150)

LEGEND

-  CONCRETE
-  ASPHALT PAVEMENT
-  BASE AGGREGATE
-  EXISTING TOPSOIL



TYPICAL EXISTING SECTION STH 79  
STATION 25+55 TO 31+33



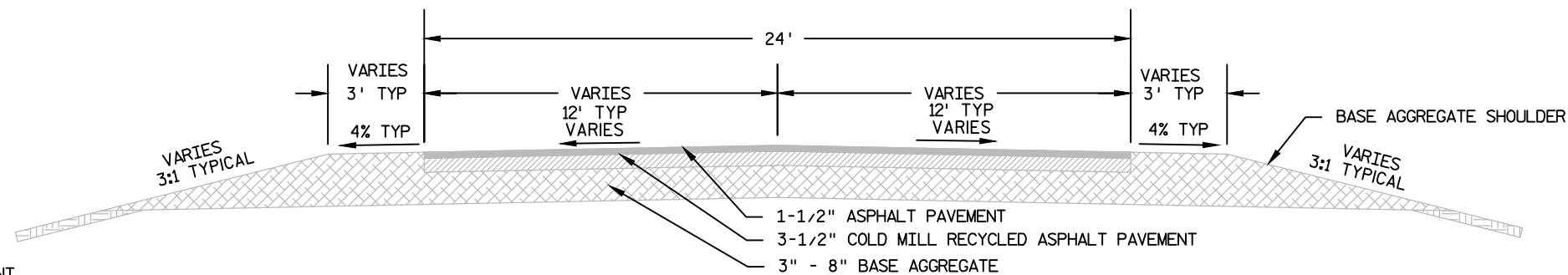
TYPICAL EXISTING SECTION STH 79

STATION 31+33 TO 99+00  
STATION 100+34 TO 188+80.03  
STATION 197+00 TO 265+50

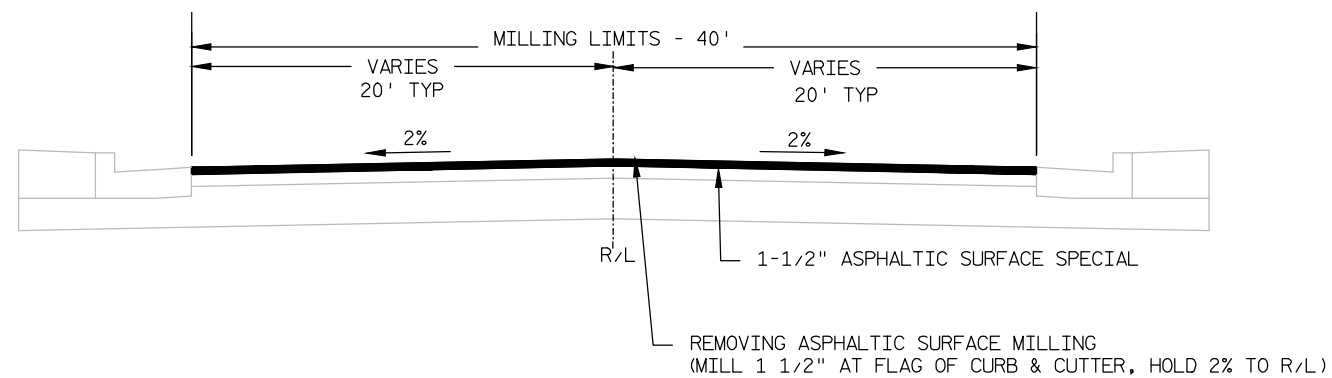
NOTE: STATION 99+00 - 100+34 (STRUCTURE B-17-140)  
STATION 188.80.03 - 197+00 (STRUCTURE B-17-364)

LEGEND

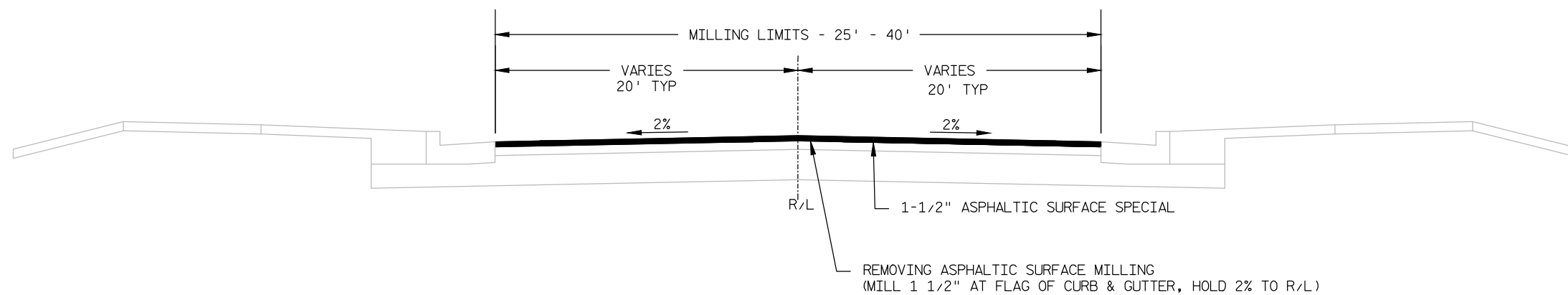
|  |                                     |
|--|-------------------------------------|
|  | CONCRETE                            |
|  | COLD MILL RECYCLED ASPHALT PAVEMENT |
|  | ASPHALT PAVEMENT                    |
|  | BASE AGGREGATE                      |
|  | EXISTING TOPSOIL                    |



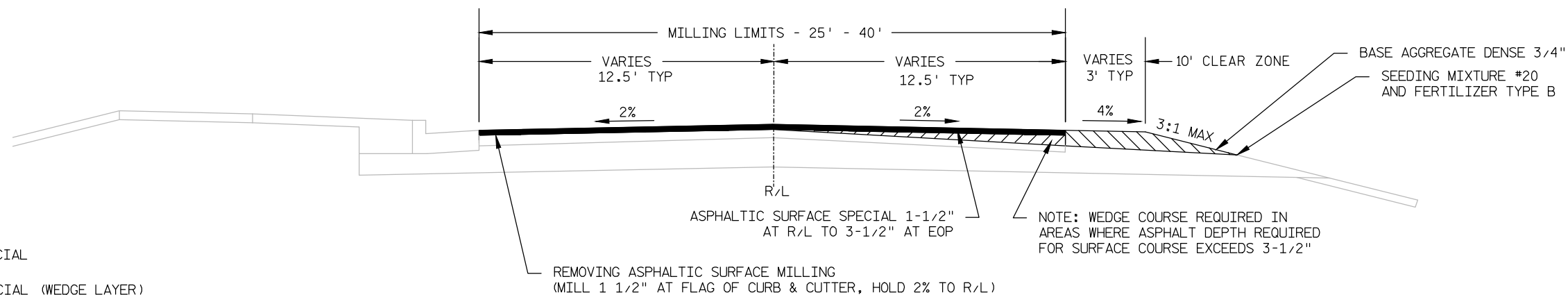
TYPICAL EXISTING SECTION STH 79  
STATION 265+50 TO 440+28



TYPICAL FINISHED SECTION STH 79  
STATION 0+12 TO 2+48



TYPICAL FINISHED SECTION STH 79  
STATION 2+48 TO 5+39

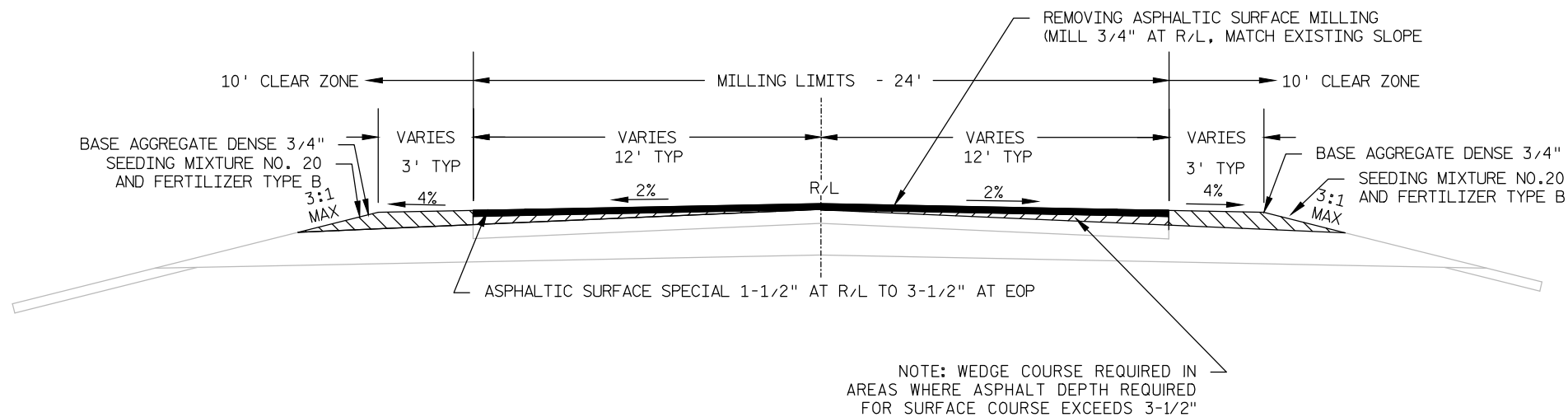
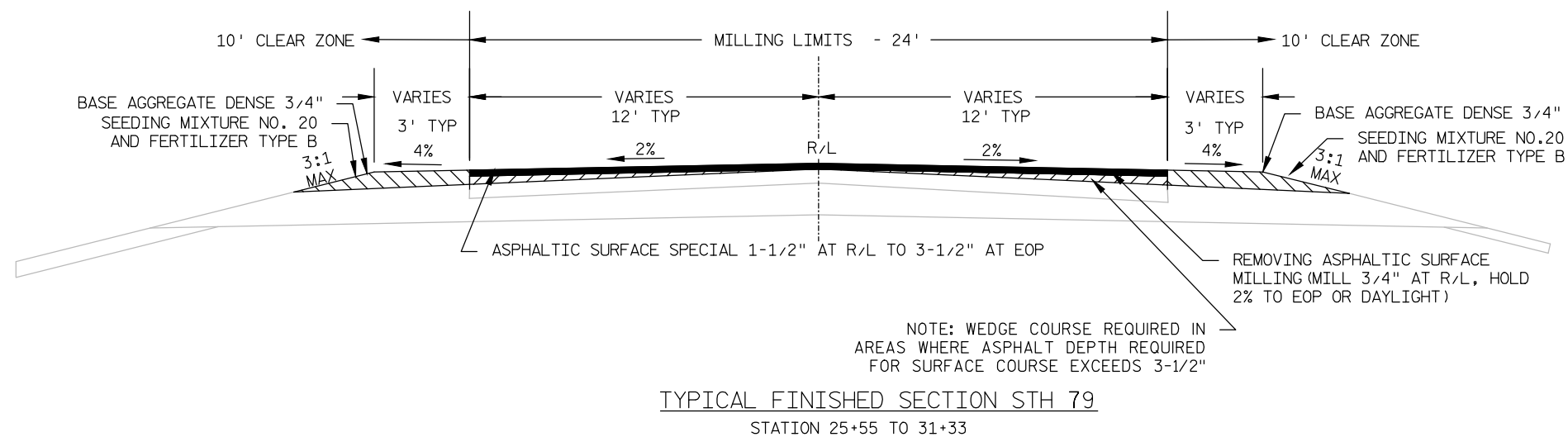


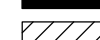
LEGEND

- ASPHALTIC SURFACE SPECIAL
- ASPHALTIC SURFACE SPECIAL (WEDGE LAYER)
- BASE AGGREGATE DENSE 3/4"

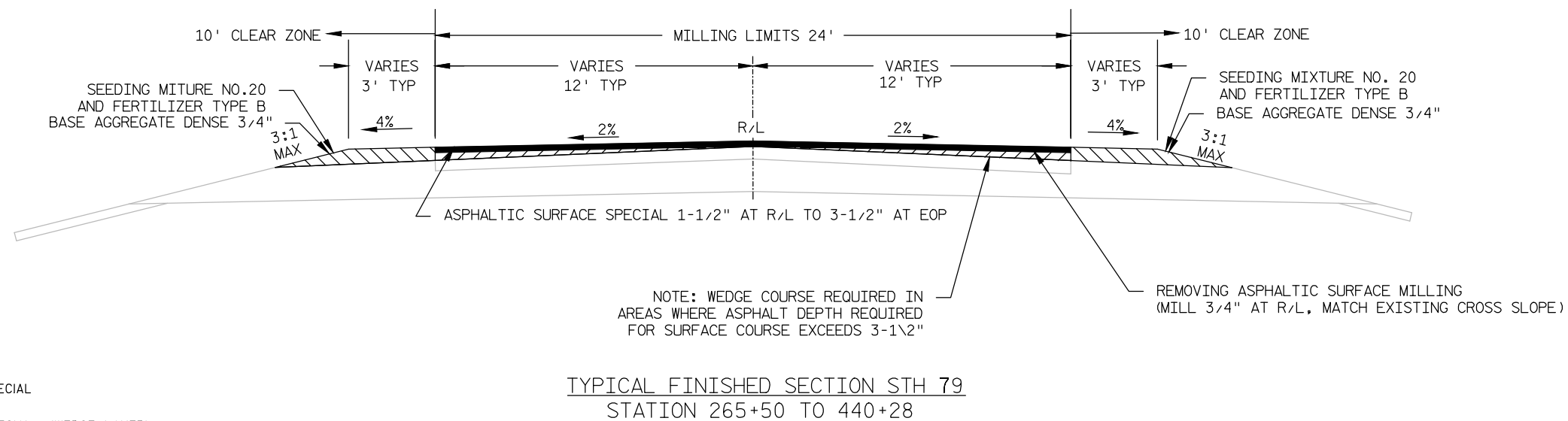
TYPICAL FINISHED SECTION STH 79  
STATION 5+39 TO 7+88  
STATION 9+22 TO 25+55

NOTE: STA 7+88 - 9+22 (STRUCTURE B-17-150)

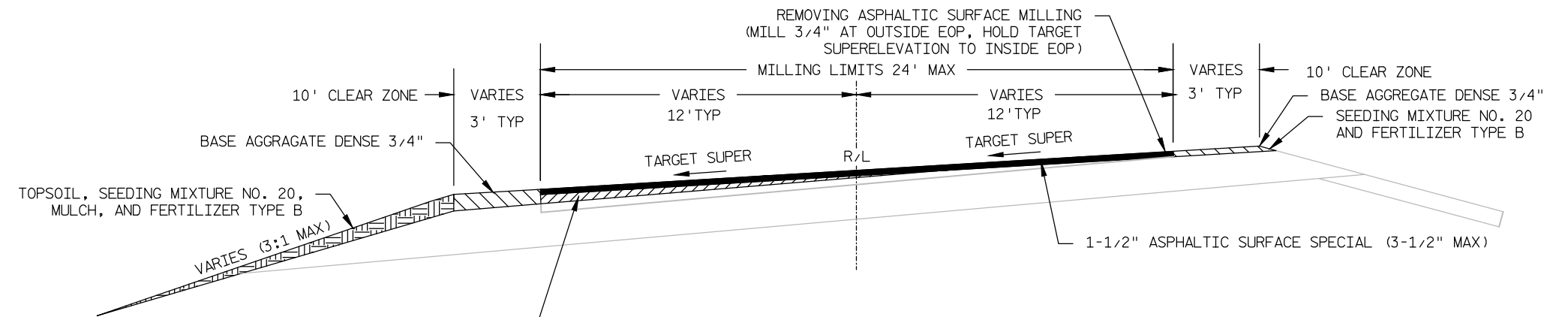
LEGEND

-  ASPHALTIC SURFACE SPECIAL
-  ASPHALTIC SURFACE SPECIAL (WEDGE LAYER)
-  BASE AGGREGATE DENSE 3/4"

NOTE: STATION 99+00 - 100+34 (STRUCTURE B-17-140)  
STATION 188.80.03 - 197+00 (STRUCTURE B-17-364)

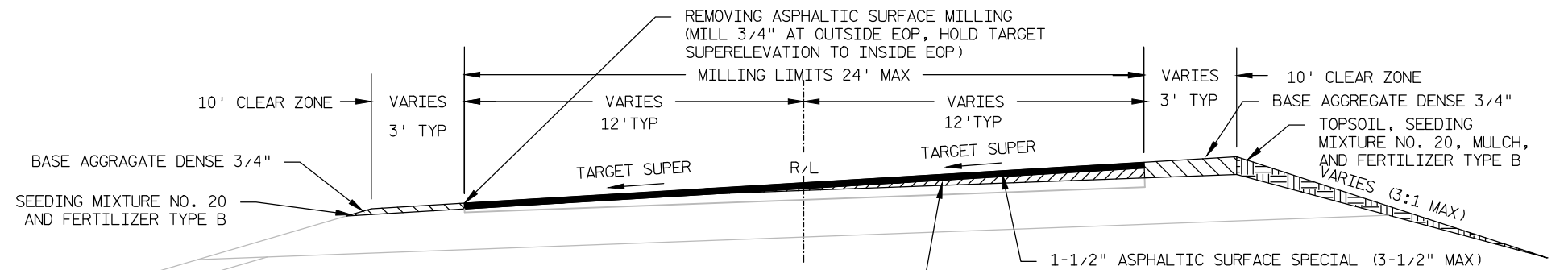


|                                                                                     |                                         |
|-------------------------------------------------------------------------------------|-----------------------------------------|
|  | ASPHALTIC SURFACE SPECIAL               |
|  | ASPHALTIC SURFACE SPECIAL (WEDGE LAYER) |
|  | BASE AGGREGATE DENSE 3/4"               |



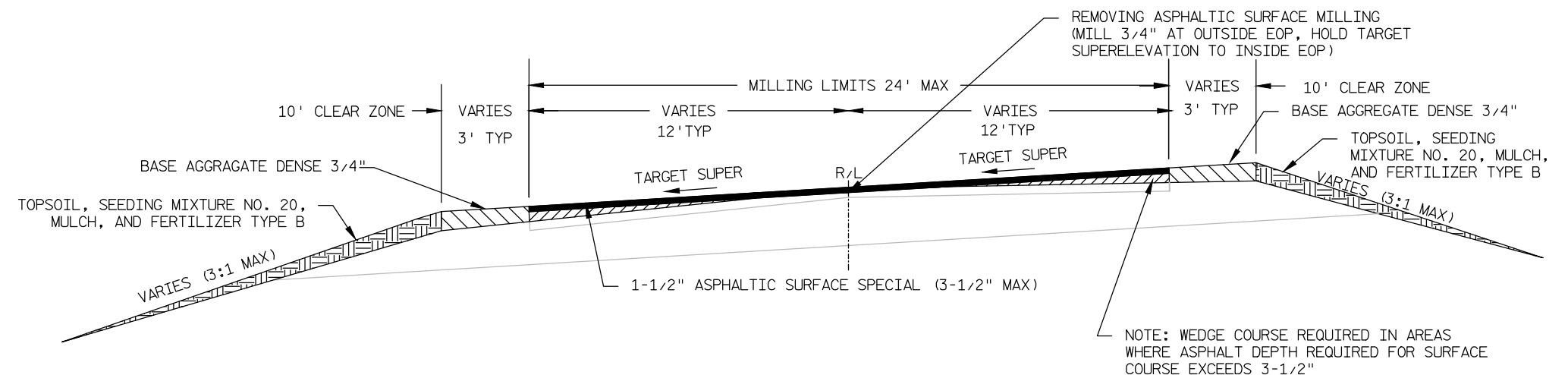
NOTE: WEDGE COURSE REQUIRED IN AREAS WHERE ASPHALT DEPTH REQUIRED FOR SURFACE COURSE EXCEEDS 3-1/2"

TYPICAL FINISHED SUPERELEVATION SECTION STH 79  
(ROTATE ON HIGH END)



NOTE: WEDGE COURSE REQUIRED IN AREAS WHERE ASPHALT DEPTH REQUIRED FOR SURFACE COURSE EXCEEDS 3-1/2"

TYPICAL FINISHED SUPERELEVATION SECTION STH 79  
(ROTATE ON LOW END)



NOTE: WEDGE COURSE REQUIRED IN AREAS WHERE ASPHALT DEPTH REQUIRED FOR SURFACE COURSE EXCEEDS 3-1/2"

TYPICAL FINISHED SUPERELEVATION SECTION STH 79  
(ROTATE ON CENTER)

| STA. - STA.             | CURVE DIRECTION | INSIDE SHOULDER TYPE | APPROX EXST. SUPERELEVATION |       | TARGET SUPER. | ROTATE ON HIGH, C/L OR LOW SIDE OF CURVE |
|-------------------------|-----------------|----------------------|-----------------------------|-------|---------------|------------------------------------------|
|                         |                 |                      | LT                          | RT    |               |                                          |
| 120+85.11 - 125+72.47   | LT              | ASPHALT              | 17.6%                       | 12.5% | 12.5%         | HIGH                                     |
| 144+64.74 - 151+33.11   | RT              | ASPHALT              | 10.2%                       | 10.5% | 8.0%          | HIGH                                     |
| *177+44.61 - 188+80.03* | LT              | BAD 3/4"             | 6.5%                        | 3.5%  | 5.7%          | C/L                                      |
| 219+33 - 223+86.84      | RT              | BAD 3/4"             | 4.8%                        | 8.2%  | 5.4%          | C/L                                      |
| 244+91.51 - 251+00.55   | RT              | BAD 3/4"             | 4.4%                        | 6.0%  | 4.5%          | C/L                                      |
| 255+83.38 - 258+10.08   | LT              | BAD 3/4"             | 3.2%                        | 1.5%  | 5.0%          | LOW                                      |
| 260+49.62 - 262+91.62   | RT              | BAD 3/4"             | 1.7%                        | 4.3%  | 5.7%          | LOW                                      |
| 272+76.83 - 275+58.5    | LT              | BAD 3/4"             | 5.7%                        | 3.6%  | 4.3%          | C/L                                      |
| 301+63.38 - 309+01.13   | RT              | BAD 3/4"             | 3.9%                        | 7.5%  | 5.2%          | C/L                                      |
| 329+13.02 - 331+88.95   | LT              | BAD 3/4"             | 14.6%                       | 11.1% | 10.0%         | HIGH                                     |
| 345+34.7 - 349+34.52    | LT              | BAD 3/4"             | 6.9%                        | 3.1%  | 5.8%          | C/L                                      |
| 356+80.31 - 369+85.05   | RT              | BAD 3/4"             | 2.4%                        | 6.2%  | 5.9%          | C/L                                      |
| 377+92.32 - 380+56.1    | RT              | BAD 3/4"             | 5.9%                        | 7.1%  | 5.3%          | HIGH                                     |
| 385+58.07 - 389+51.98   | LT              | BAD 3/4"             | 12.3%                       | 7.0%  | 8.0%          | C/L                                      |
| 391+21.23 - 394+67.26   | LT              | BAD 3/4"             | 10.5%                       | 4.8%  | 6.0%          | C/L                                      |
| 396+96.25 - 400+68.25   | RT              | BAD 3/4"             | 10.3%                       | 15.0% | 10.5%         | HIGH                                     |
| 403+08.31 - 409+29.99   | LT              | BAD 3/4"             | 12.7%                       | 7.0%  | 7.0%          | HIGH                                     |
| 411+50.16 - 416+24.67   | RT              | BAD 3/4"             | 7.7%                        | 10.8% | 8.0%          | C/L                                      |
| 419+42.06 - 422+24.23   | RT              | BAD 3/4"             | 2.2%                        | 5.9%  | 4.3%          | C/L                                      |
| 430+16.88 - 432+99.19   | RT              | BAD 3/4"             | 4.5%                        | 7.2%  | 4.6%          | C/L                                      |
| 435+09.3 - 440+17.18    | LT              | BAD 3/4"             | 4.3%                        | 1.9%  | 3.6%          | C/L                                      |

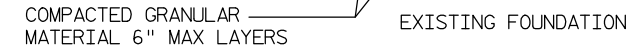
\* CURVE FROM STA 177+44.61 TO 188+80.03 CONTINUES ONTO PROJECT 8640-02-71 AT FULL 5.7% SUPER

### LEGEND

|  |                                         |
|--|-----------------------------------------|
|  | ASPHALTIC SURFACE SPECIAL               |
|  | ASPHALTIC SURFACE SPECIAL (WEDGE LAYER) |
|  | BASE AGGREGATE DENSE 3/4"               |
|  | TOPSOIL                                 |

2

2



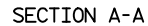
### CULVERT PIPE TRENCH BACKFILL DETAIL

## NOTES

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

CLASS "B" BEDDING SHALL BE PLACED AT ALL PIPE LOCATIONS.

- ① WHERE ROCK, HARD PAN, OR FRAGMENTED MATERIAL IS ENCOUNTERED THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO 1/2 INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.
- ② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS SECTION 520 FOR PIPE CULVERTS.

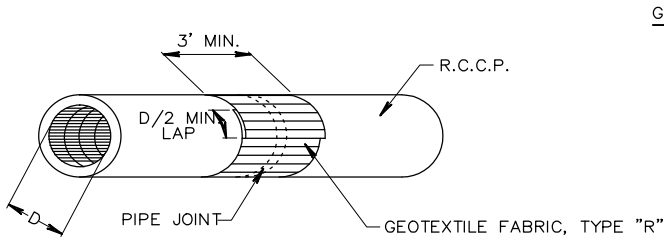


TIMBER RUB RAIL IS TO BE FASTENED FLUSH WITH THE TOP OF THE POSTS FOR MGS GUARDRAIL 3, USING 6 - #10X3" GALVANIZED WOOD SCREWS PER POST.

BEAM GUARD NUTS AND BOLTS ARE TO BE COUNTERSUNK AND CUT OFF SO AS NOT TO PROTRUDE FROM THE FACE OF THE TIMBER RUB RAIL.

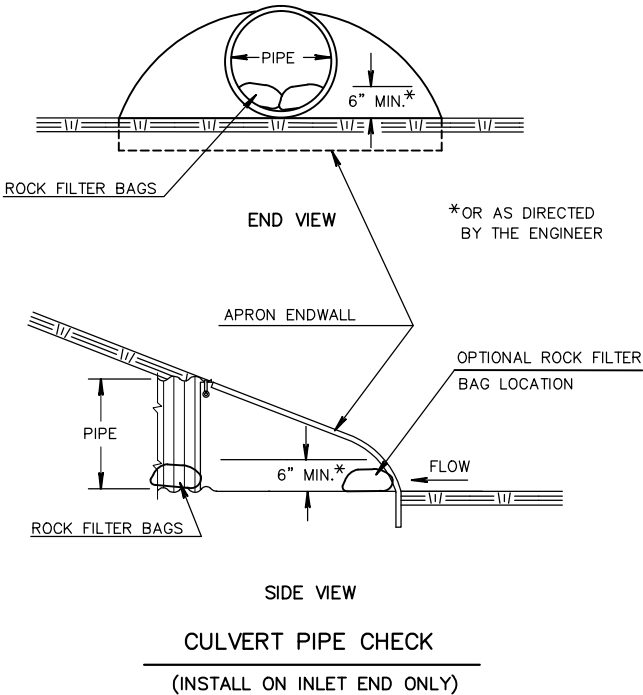
TREATED TIMBER RUB RAIL  
(WITH 45° END BEVEL)

\*\*FOR INFORMATION ONLY – NOT A BID ITEM\*\*

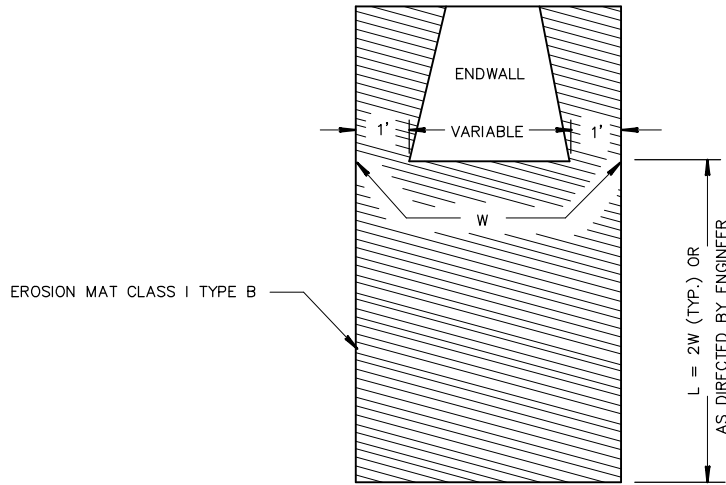


| GEOTEXTILE FABRIC REQUIRED FOR PIPE JOINTS |                    |                        |
|--------------------------------------------|--------------------|------------------------|
| PIPE DIA.<br>(IN.)                         | PIPE O.D.<br>(IN.) | FABRIC/JOINT<br>(S.Y.) |
| 18                                         | 23                 | 2.3                    |
| 21                                         | 26.5               | 2.6                    |
| 24                                         | 30                 | 3.0                    |
| 27                                         | 33.5               | 3.3                    |
| 30                                         | 37                 | 3.6                    |
| 36                                         | 44                 | 4.3                    |
| 42                                         | 51                 | 5.0                    |
| 48                                         | 58                 | 5.7                    |
| 54                                         | 65                 | 6.4                    |
| 60                                         | 72                 | 7.1                    |
| 66                                         | 79                 | 7.8                    |
| 72                                         | 86                 | 8.5                    |

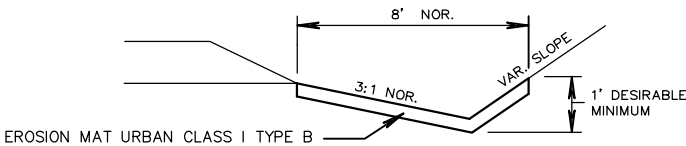
DETAIL OF WRAPPED PIPE JOINT  
(WRAP ALL JOINTS)



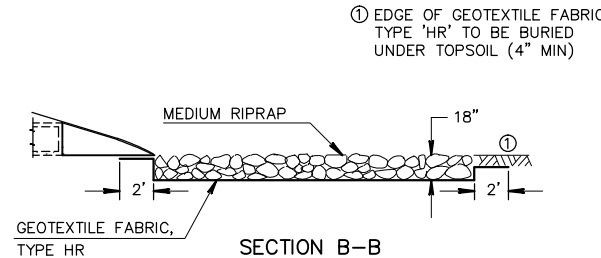
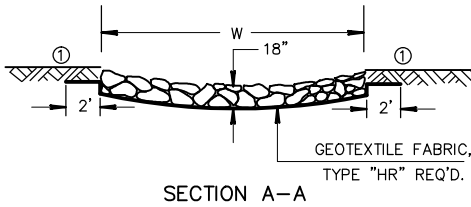
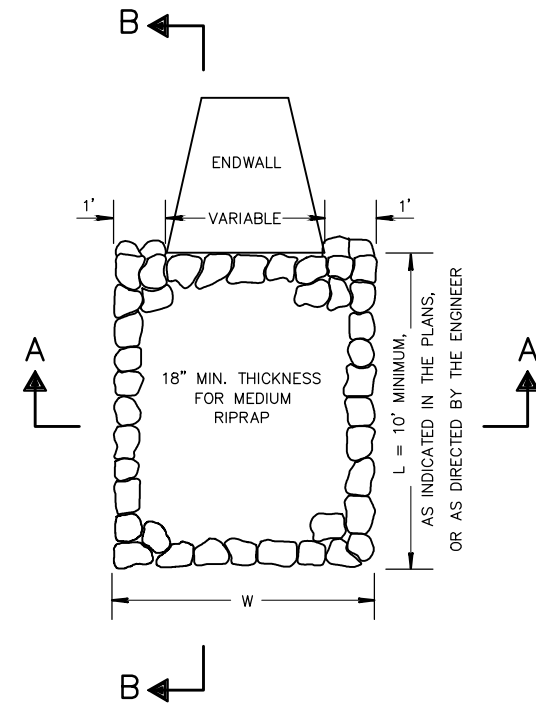
CULVERT PIPE CHECK  
(INSTALL ON INLET END ONLY)



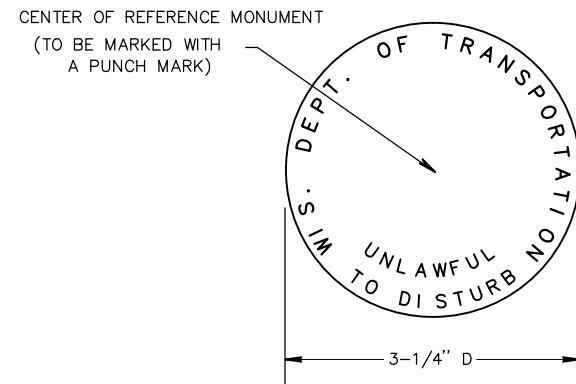
EROSION MAT TREATMENT AT CULVERTS



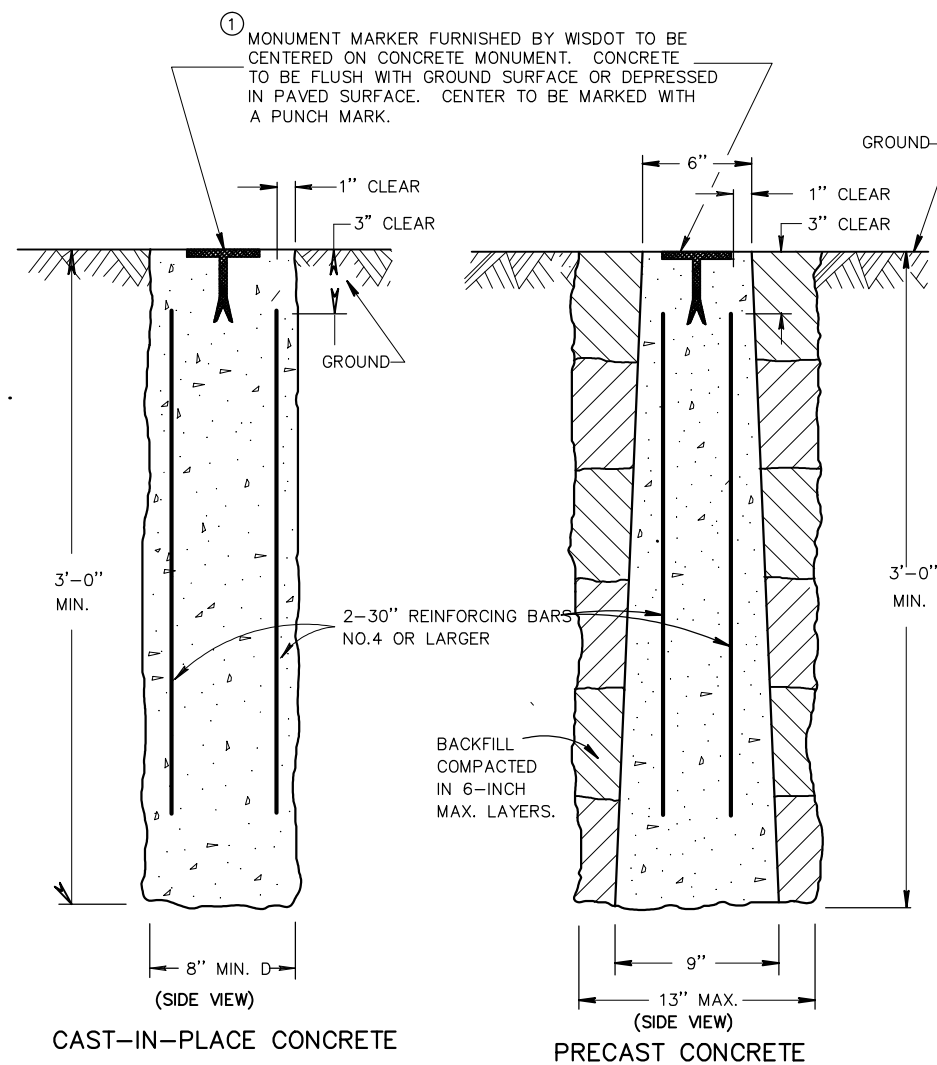
EROSION MAT DETAIL FOR DITCHES



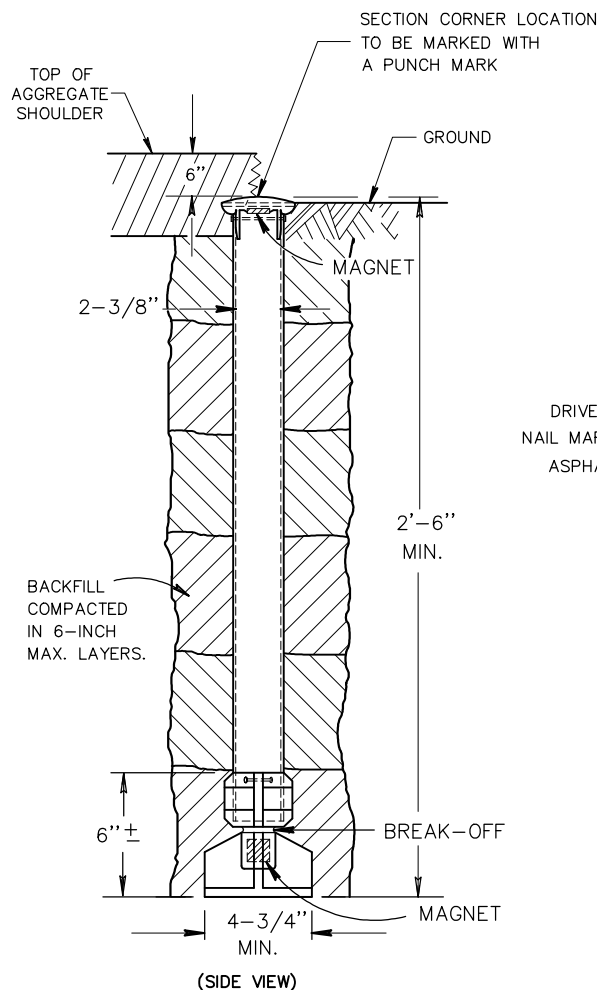
MEDIUM RIPRAP TREATMENT AT CULVERTS



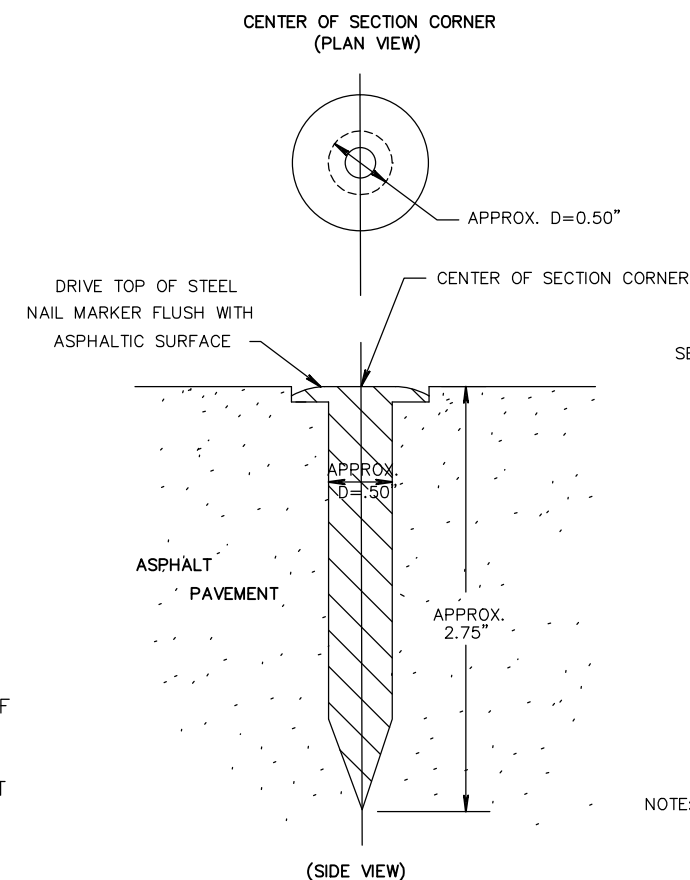
① WIS DOT MONUMENT MARKER LOGO



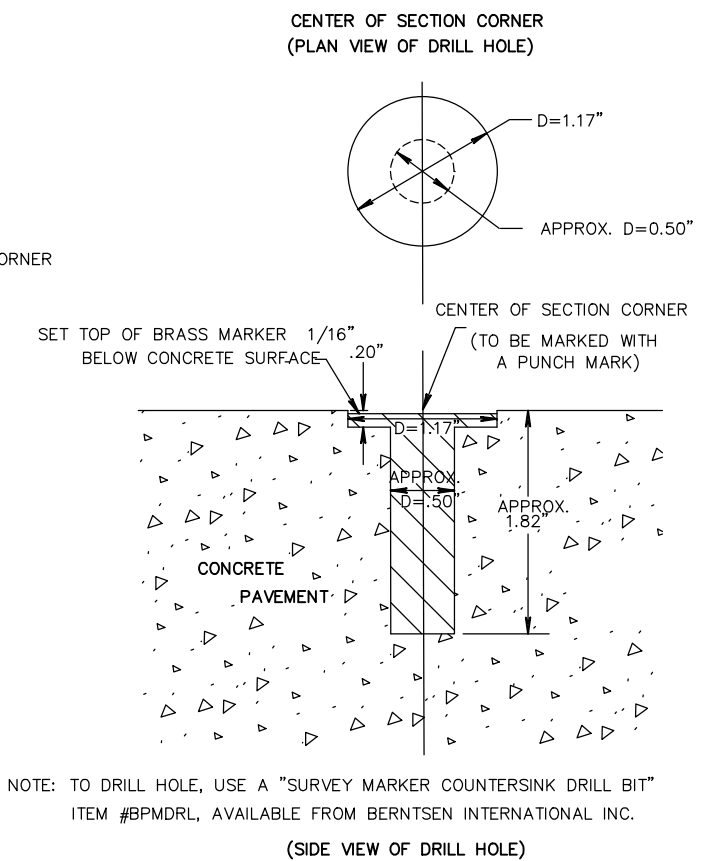
LANDMARK REFERENCE MONUMENTS (TIES ONLY)



① BERNTSEN A1BR30 ALUMINUM BREAK-OFF MONUMENT



① BERNTSEN SNM1 STEEL NAIL MARKER



① BERNTSEN BP - 1 BRASS MARKER WITH ANCHOR PLUG

## SECTION CORNER MONUMENTS

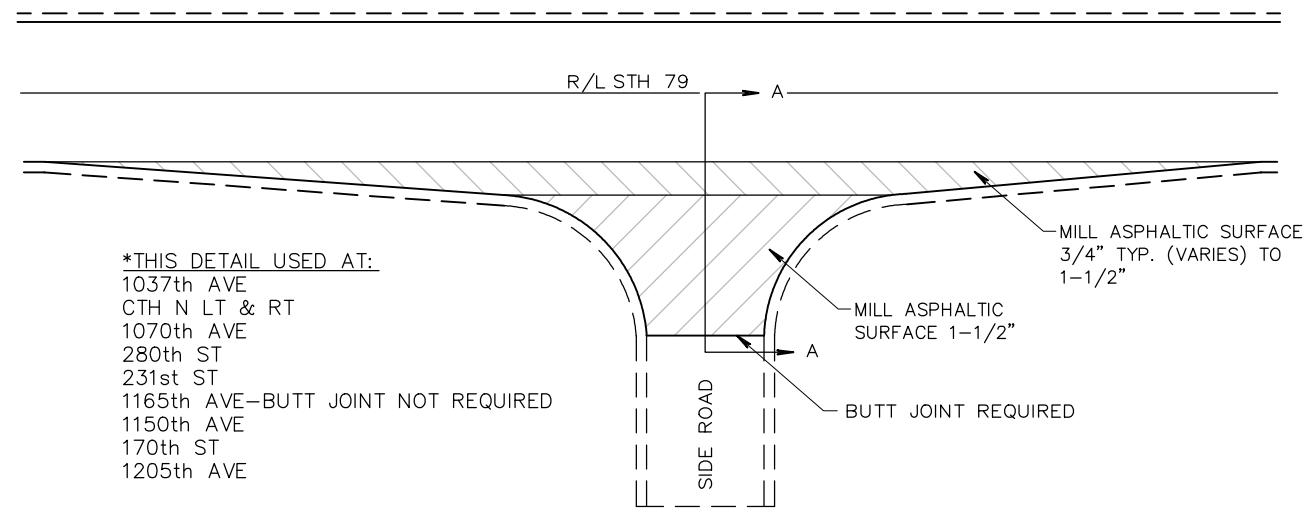
### GENERAL NOTES

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.

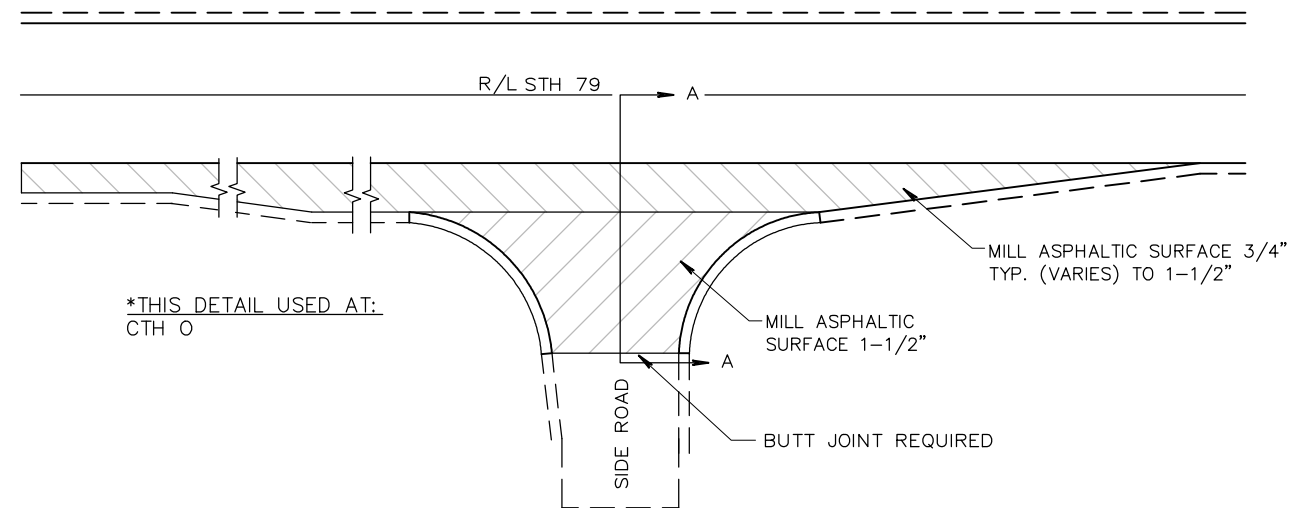
LOCATE LANDMARK REFERENCE MONUMENTS OUTSIDE THE CONSTRUCTION LIMITS AND WITHIN WISDOT RIGHT OF WAY. LOCATION TO BE APPROVED BY THE ENGINEER.

① THE REGIONAL SURVEY COORDINATOR WILL SUPPLY.

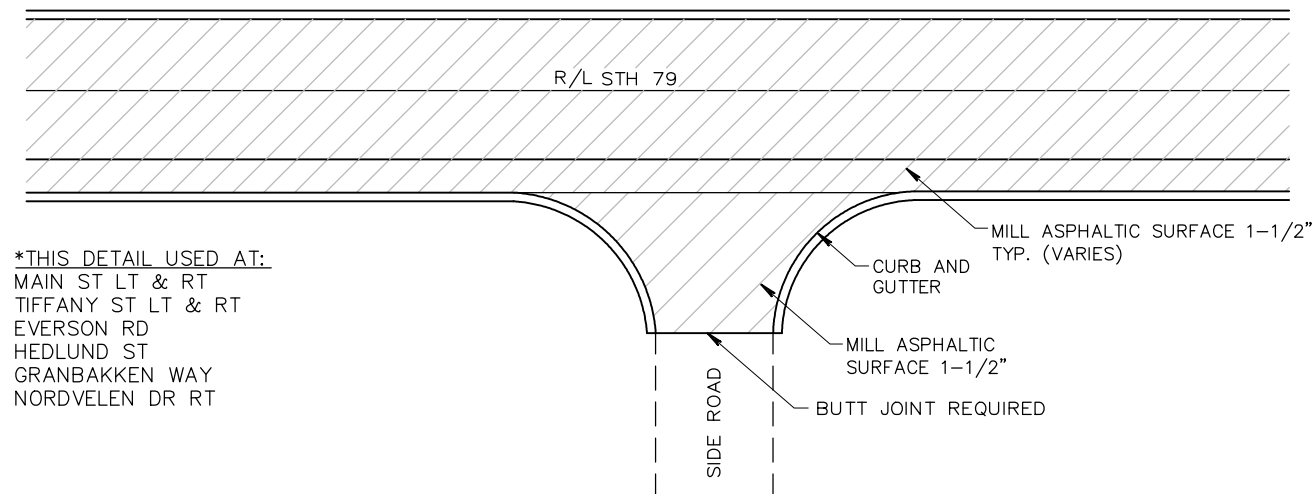
## SECTION CORNER MONUMENT AND LANDMARK REFERENCE MONUMENT DETAIL



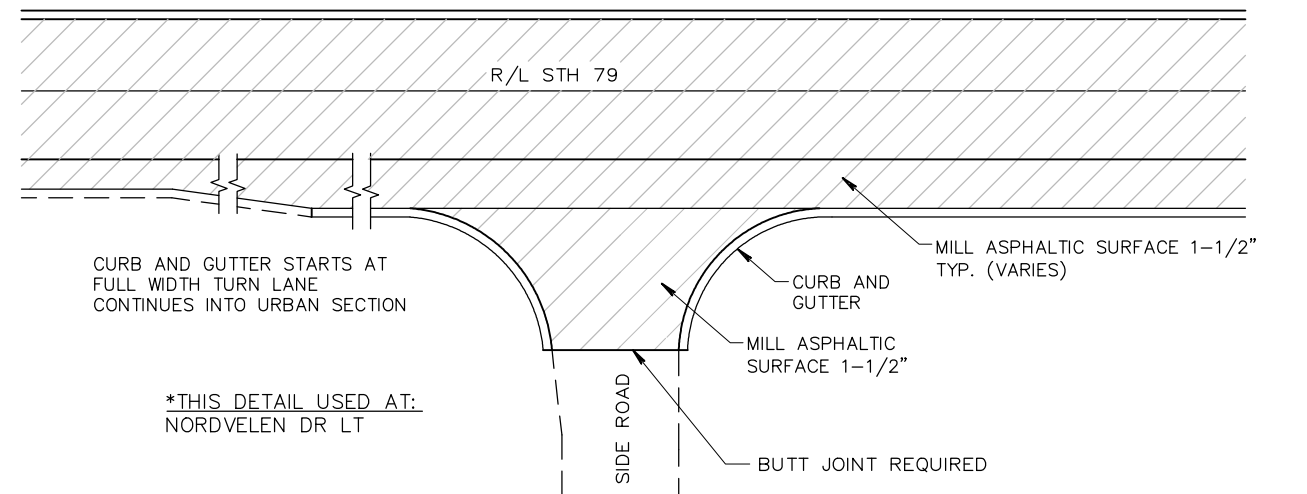
**REMOVING ASPHALTIC SURFACE MILLING**  
(TAPER WITH GRAVEL SHOULDER)



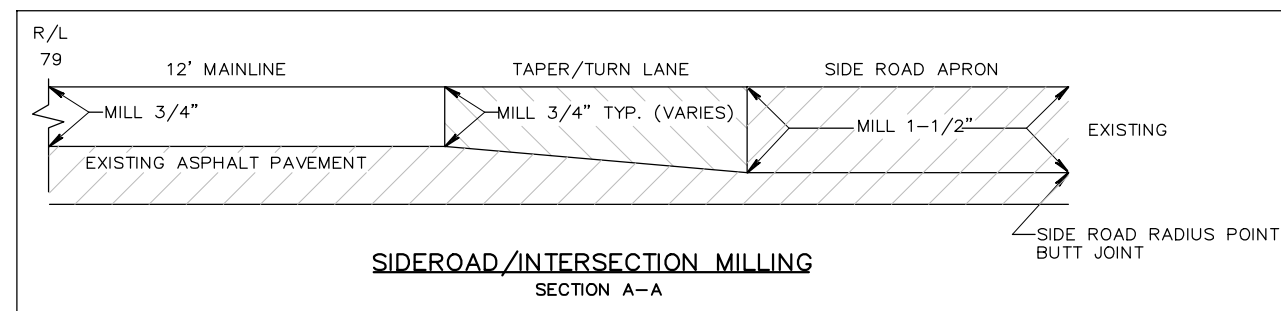
**REMOVING ASPHALTIC SURFACE MILLING**  
(TURNING LANE WITH GRAVEL SHOULDER)



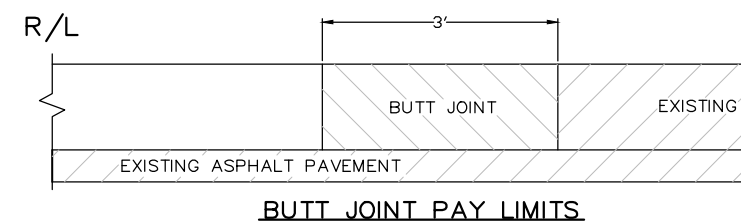
**REMOVING ASPHALTIC SURFACE MILLING**  
(WITH CURB AND GUTTER)



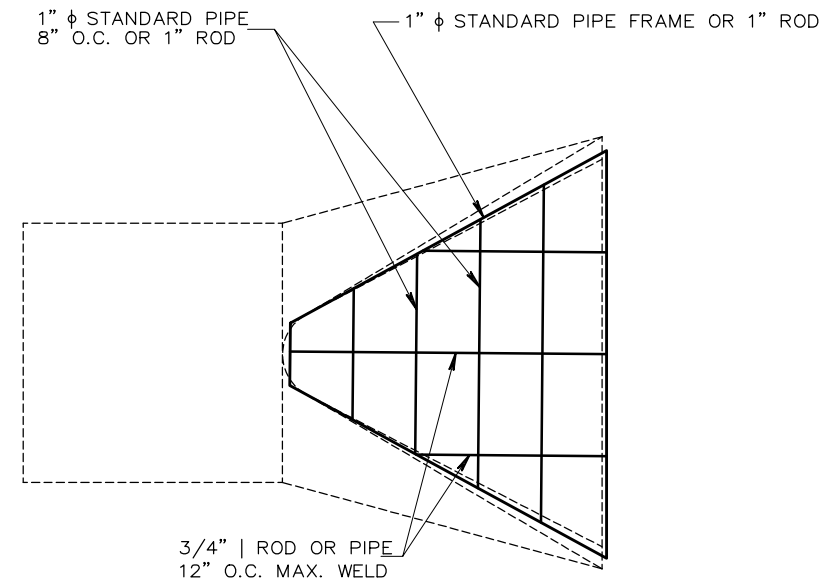
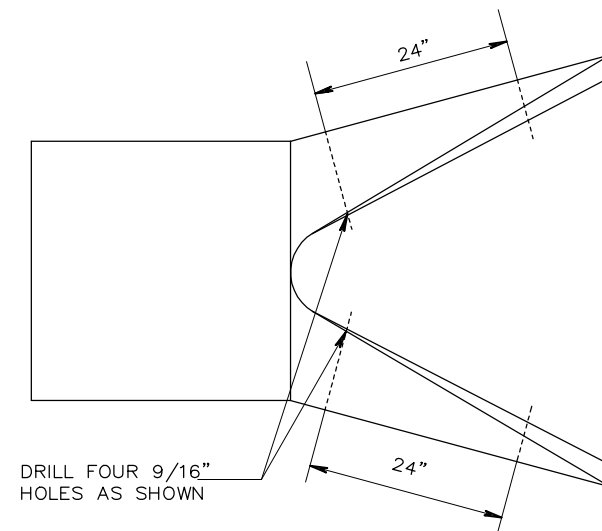
**REMOVING ASPHALTIC SURFACE MILLING**  
(TURNING LANE WITH CURB AND GUTTER)



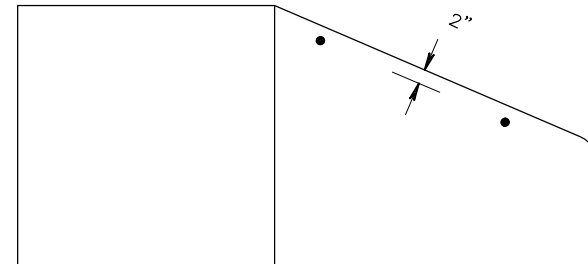
**SIDEROAD/INTERSECTION MILLING**  
SECTION A-A



**BUTT JOINT PAY LIMITS**

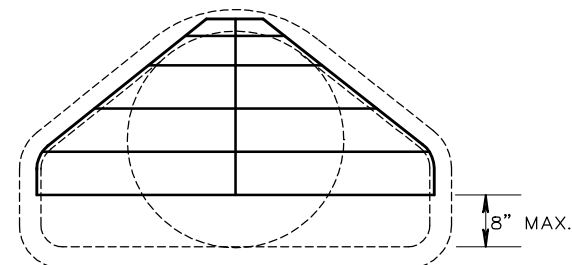
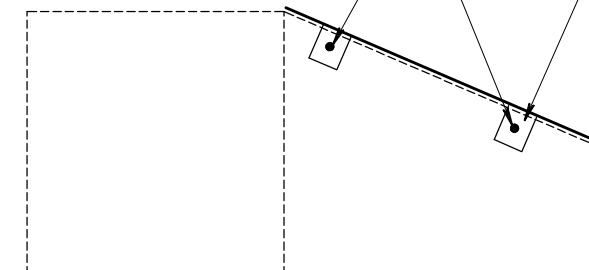


AT EACH PIPE



BOLT GRATE TO CONCRETE ENDWALL  
WITH FOUR 3/8" X 6" MACHINE BOLTS  
PLACE NUTS INSIDE

6" X 4" X 1/4" ANGLES (4 REQ'D.)  
WELD TO FRAME  
PROVIDE 9/16" HOLE IN EACH



PIPE GRATE DETAIL

**CONCRETE MASONRY CULVERT**

STATION 406+54

**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.

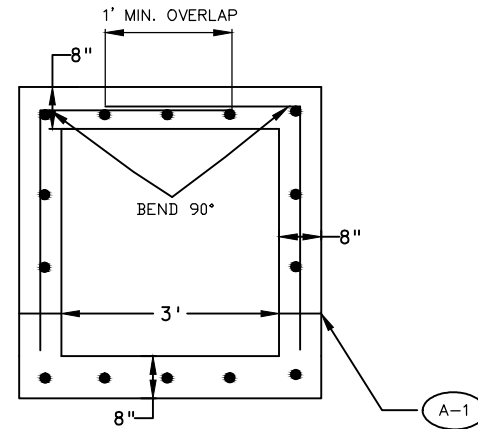
FILL SLOPES FLATTER THAN 1-1/2:1 SHALL BE WRAPPED TO MEET THE TOP OF THE WINGWALLS.

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

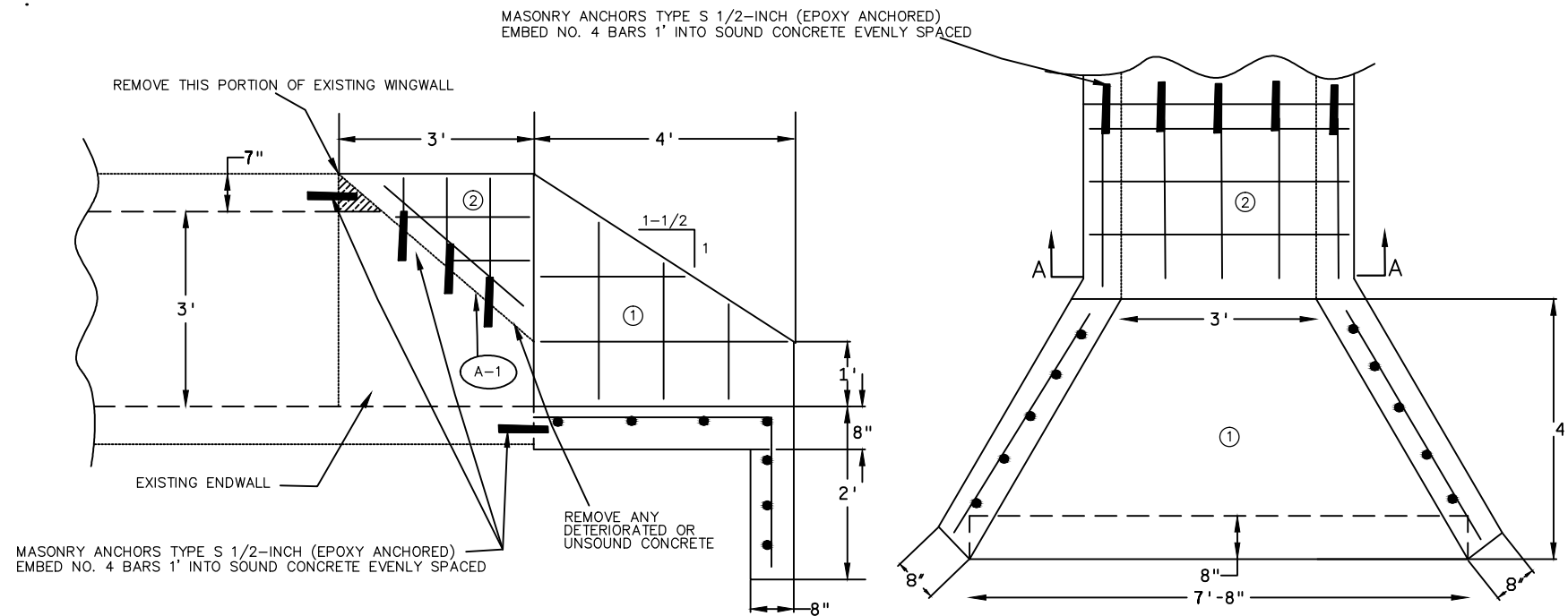
① NO. 4 BARS 12" C-C BOTH DIRECTIONS (GRADE 60)

② NO. 4 BARS 8" C-C BOTH DIRECTIONS (GRADE 60)

A-1 18" RUBBERIZED MEMBRANE WATERPROOFING  
SEAL ALL HORIZ. & VERT. JOINTS ON OUTSIDE



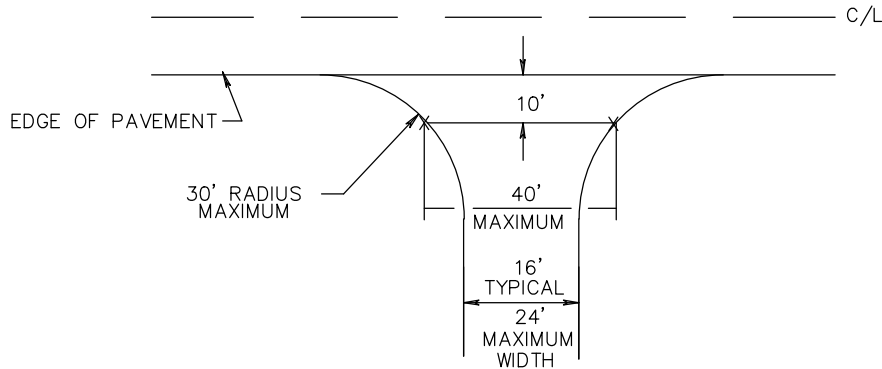
END VIEW AT CULVERT  
SECTION A-A



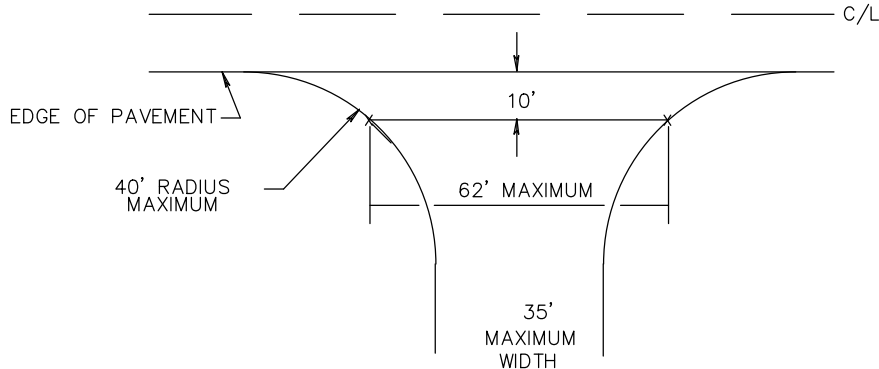
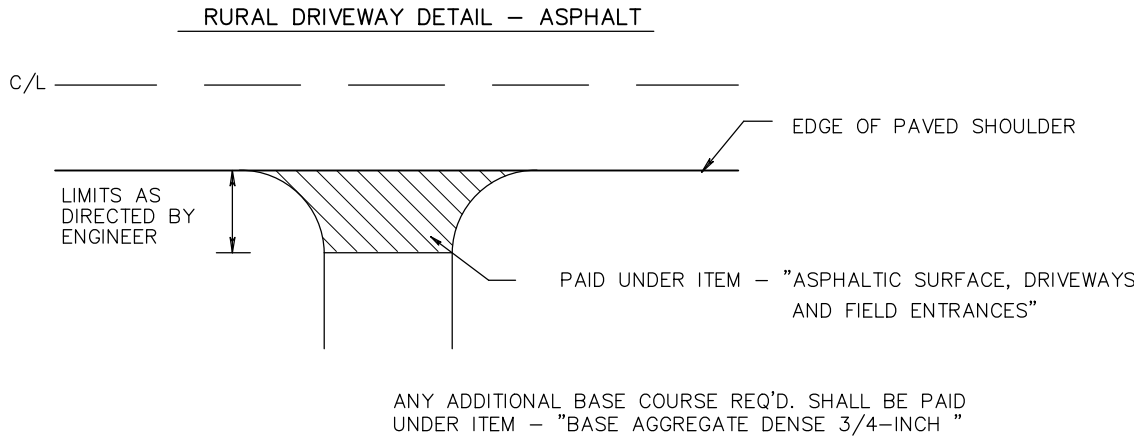
ELEVATION AT OUTLET APRON

PLAN

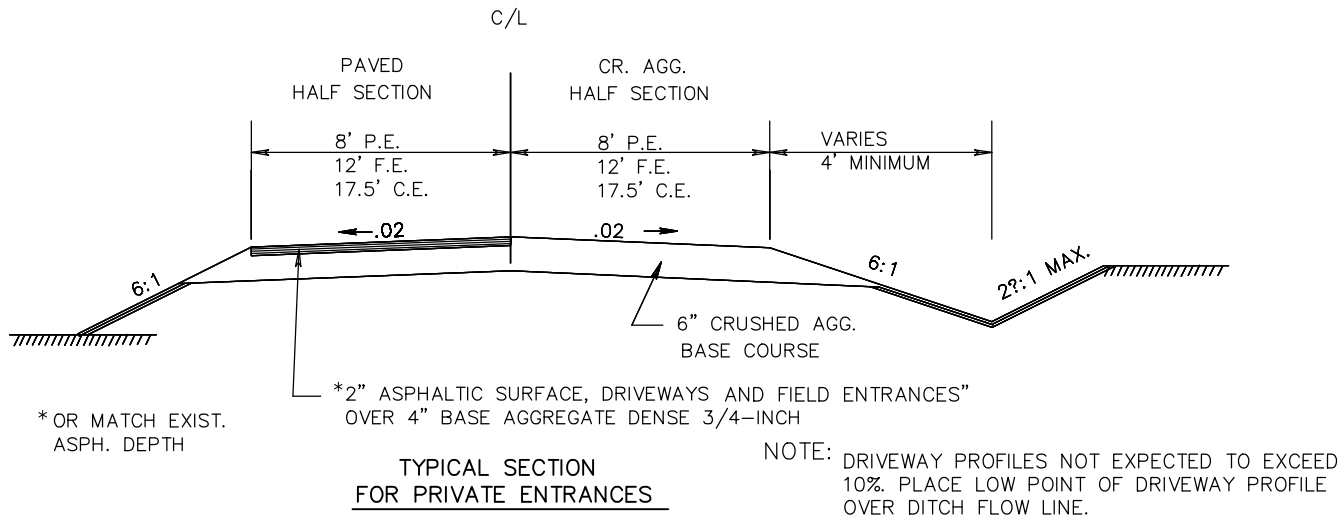
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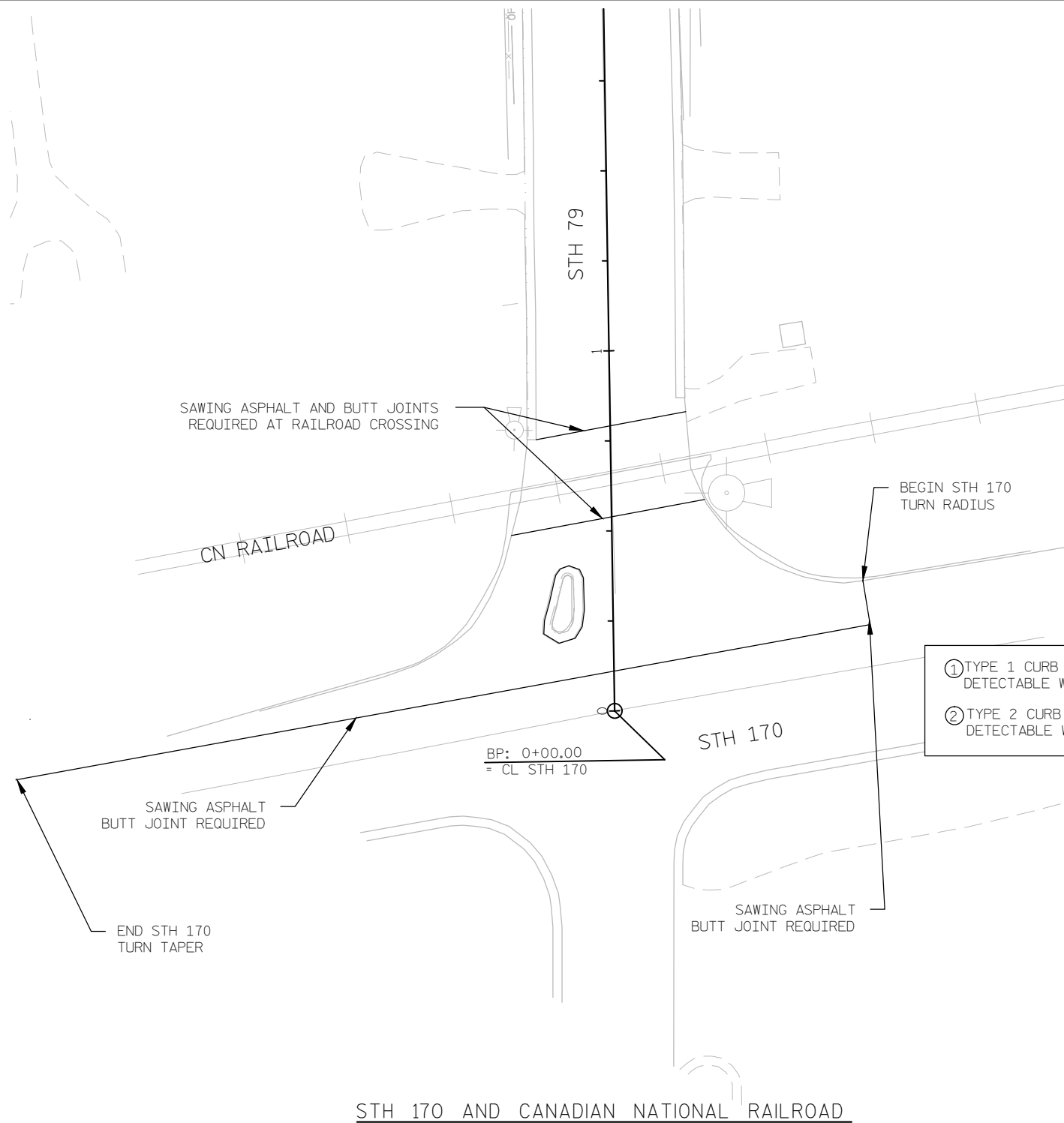


TYPICAL DRIVEWAY DETAIL  
(NON-COMMERCIAL RURAL)



TYPICAL DRIVEWAY DETAIL  
(COMMERCIAL RURAL)





- ① TYPE 1 CURB RAMP WITH CURB RAMP DETECTABLE WARNING FIELD YELLOW
- ② TYPE 2 CURB RAMP WITH CURB RAMP DETECTABLE WARNING FIELD YELLOW

SAWING CONCRETE, REMOVING CURB AND GUTTER, & REPLACEMENT OF CONCRETE CURB AND GUTTER 30" TYPE D

SAWING CONCRETE, REMOVING SIDEWALK, & CONCRETE SIDEWALK 4"

CURB RAMP DETECTABLE WARNING FIELD YELLOW

SAWING ASPHALT BUTT JOINT REQUESTED

SAWING CONCRETE, REMOVING SIDEWALK, & CONCRETE SIDEWALK 4"

CURB RAMP DETECTABLE WARNING FIELD YELLOW

SAWING CONCRETE, REMOVING SIDEWALK, & CONCRETE SIDEWALK 4"

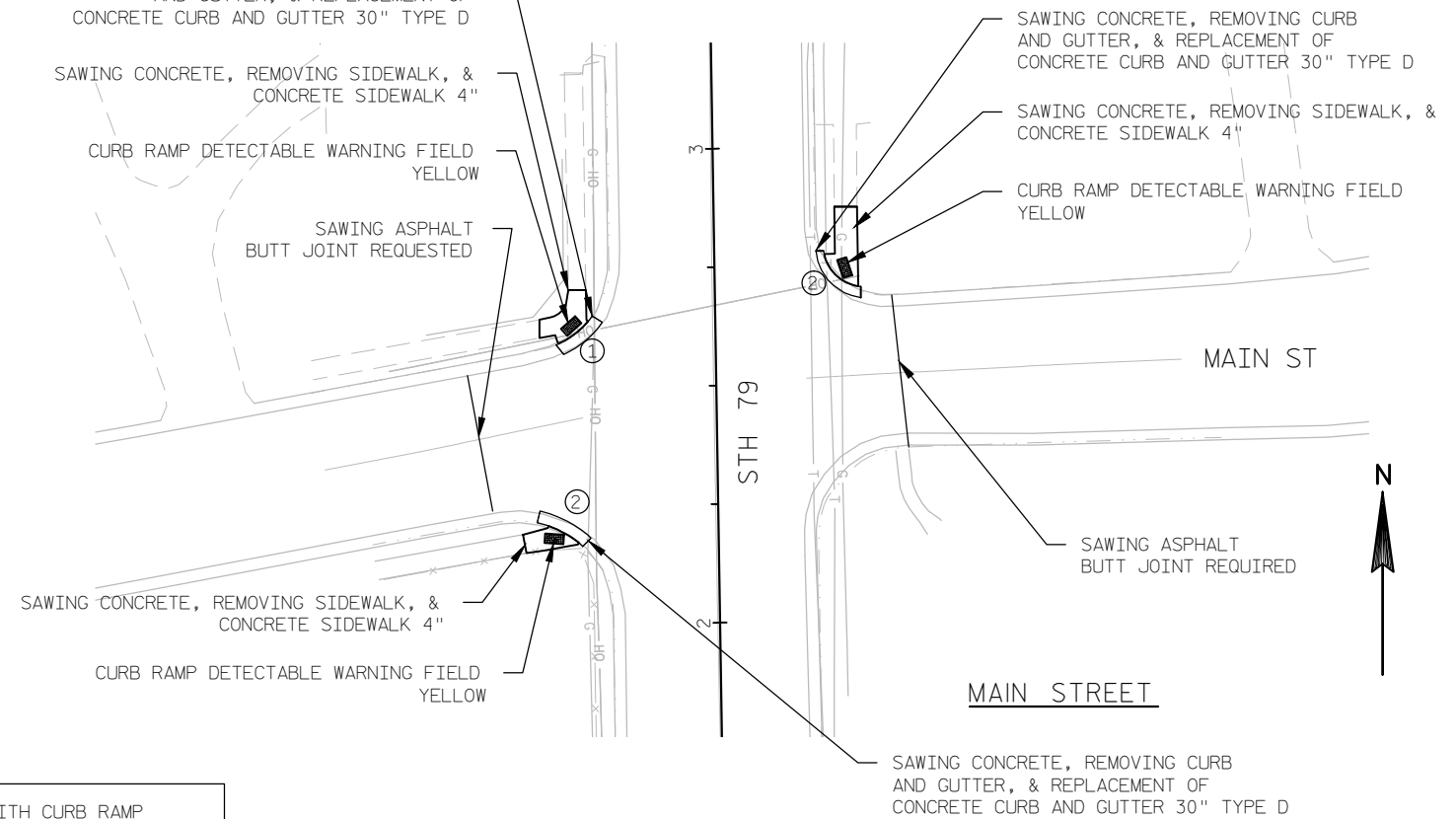
CURB RAMP DETECTABLE WARNING FIELD YELLOW

SAWING ASPHALT BUTT JOINT REQUIRED

CURB RAMP DETECTABLE WARNING FIELD YELLOW

SAWING CONCRETE, REMOVING SIDEWALK, & CONCRETE SIDEWALK 4"

SAWING CONCRETE, REMOVING CURB AND GUTTER, & REPLACEMENT OF CONCRETE CURB AND GUTTER 30" TYPE D



SAWING CONCRETE, REMOVING CURB AND GUTTER, & REPLACEMENT OF CONCRETE CURB AND GUTTER 30" TYPE D

TIFFANY STREET

SAWING CONCRETE, REMOVING SIDEWALK, & CONCRETE SIDEWALK 4"

CURB RAMP DETECTABLE WARNING FIELD YELLOW

SAWING ASPHALT BUTT JOINT REQUIRED

CURB RAMP DETECTABLE WARNING FIELD YELLOW

SAWING CONCRETE, REMOVING SIDEWALK, & CONCRETE SIDEWALK 4"

SAWING CONCRETE, REMOVING CURB AND GUTTER, & REPLACEMENT OF CONCRETE CURB AND GUTTER 30" TYPE D

SAWING CONCRETE, REMOVING CURB AND GUTTER, & REPLACEMENT OF CONCRETE CURB AND GUTTER 30" TYPE D

TIFFANY STREET

SAWING ASPHALT BUTT JOINT REQUIRED

SAWING CONCRETE, REMOVING SIDEWALK, & CONCRETE SIDEWALK 4"

CURB RAMP DETECTABLE WARNING FIELD YELLOW

SAWING CONCRETE, REMOVING CURB AND GUTTER, & REPLACEMENT OF CONCRETE CURB AND GUTTER 30" TYPE D

SAWING CONCRETE, REMOVING SIDEWALK, &  
CONCRETE SIDEWALK 4"

CURB RAMP DETECTABLE WARNING FIELD  
YELLOW

SAWING CONCRETE, REMOVING CURB  
AND GUTTER, & REPLACEMENT OF  
CONCRETE CURB AND GUTTER 30" TYPE D

SAWING ASPHALT  
BUTT JOINT REQUIRED

EVENSON RD

SAWING CONCRETE, REMOVING CURB  
AND GUTTER, & REPLACEMENT OF  
CONCRETE CURB AND GUTTER 30" TYPE D

CURB RAMP DETECTABLE WARNING FIELD  
YELLOW

SAWING CONCRETE, REMOVING SIDEWALK, &  
CONCRETE SIDEWALK 4"

EVENSON RD

① TYPE 1 CURB RAMP WITH CURB RAMP  
DETECTABLE WARNING FIELD YELLOW

② TYPE 2 CURB RAMP WITH CURB RAMP  
DETECTABLE WARNING FIELD YELLOW

GRANBAKKEN WAY

SAWING CONCRETE, REMOVING SIDEWALK, &  
CONCRETE SIDEWALK 4"

CURB RAMP DETECTABLE WARNING FIELD  
YELLOW

SAWING CONCRETE, REMOVING CURB  
AND GUTTER, & REPLACEMENT OF  
CONCRETE CURB AND GUTTER 30" TYPE D

SAWING ASPHALT  
BUTT JOINT REQUIRED

GRANBAKKEN WAY

SAWING CONCRETE, REMOVING CURB  
AND GUTTER, & REPLACEMENT OF  
CONCRETE CURB AND GUTTER 30" TYPE D

CURB RAMP DETECTABLE WARNING FIELD  
YELLOW

SAWING CONCRETE, REMOVING SIDEWALK, &  
CONCRETE SIDEWALK 4"

SAWING ASPHALT  
BUTT JOINT REQUIRED

STH 79



NORDVELEN DRIVE

Pl: 23+90.57

SAWING ASPHALT  
BUTT JOINT REQUIRED

CURB RAMP DETECTABLE  
WARNING FIELD YELLOW

SAWING CONCRETE,  
REMOVING SIDEWALK, &  
CONCRETE SIDEWALK 4"

SAWING CONCRETE, REMOVING CURB  
AND GUTTER, & REPLACEMENT OF  
CONCRETE CURB AND GUTTER 30" TYPE D

NORDVELEN DRIVE

STH 79

24

25

SAWING CONCRETE, REMOVING CURB  
AND GUTTER, & REPLACEMENT OF  
CONCRETE CURB AND GUTTER 30" TYPE D

CURB RAMP DETECTABLE  
WARNING FIELD YELLOW

SAWING CONCRETE,  
REMOVING SIDEWALK, &  
CONCRETE SIDEWALK 4"

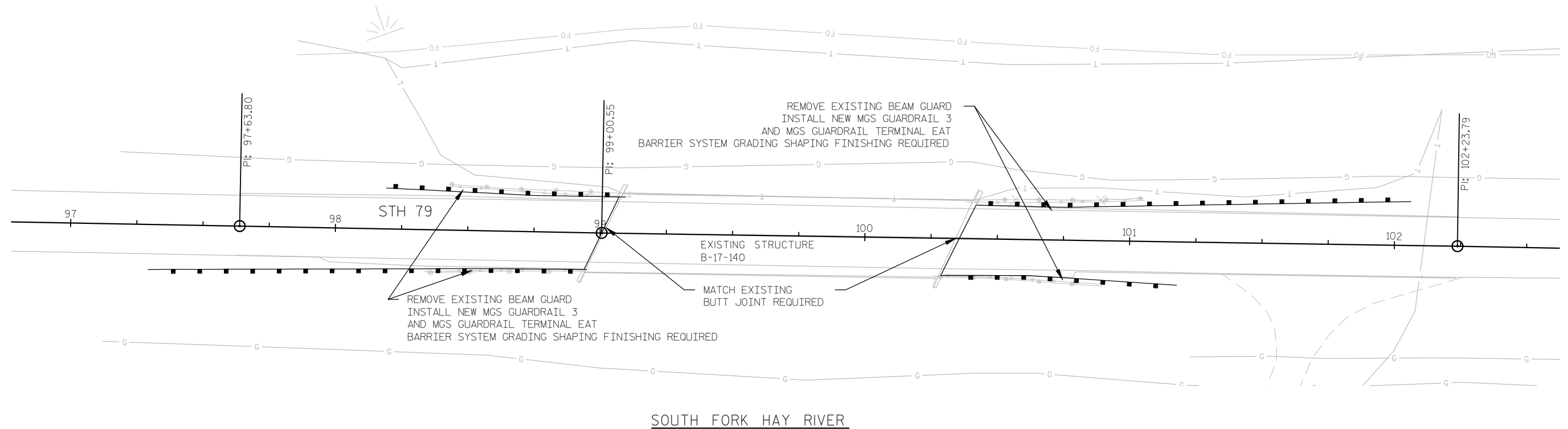
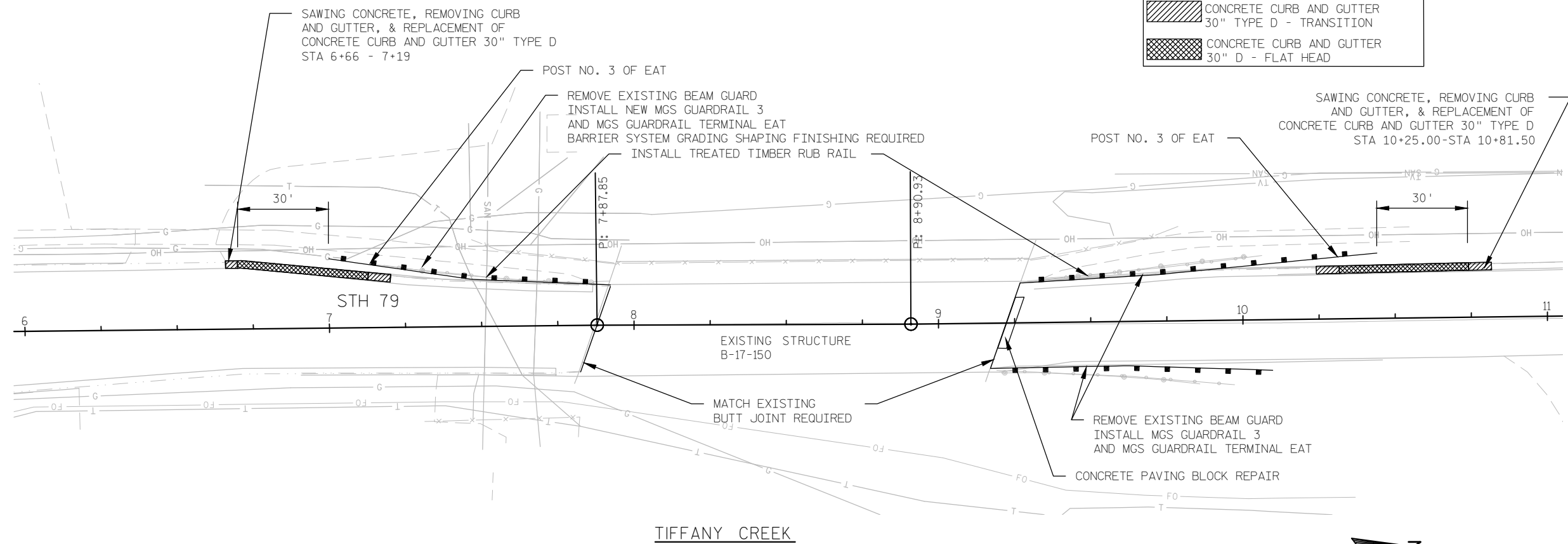
CURB RAMP DETECTABLE  
WARNING FIELD YELLOW

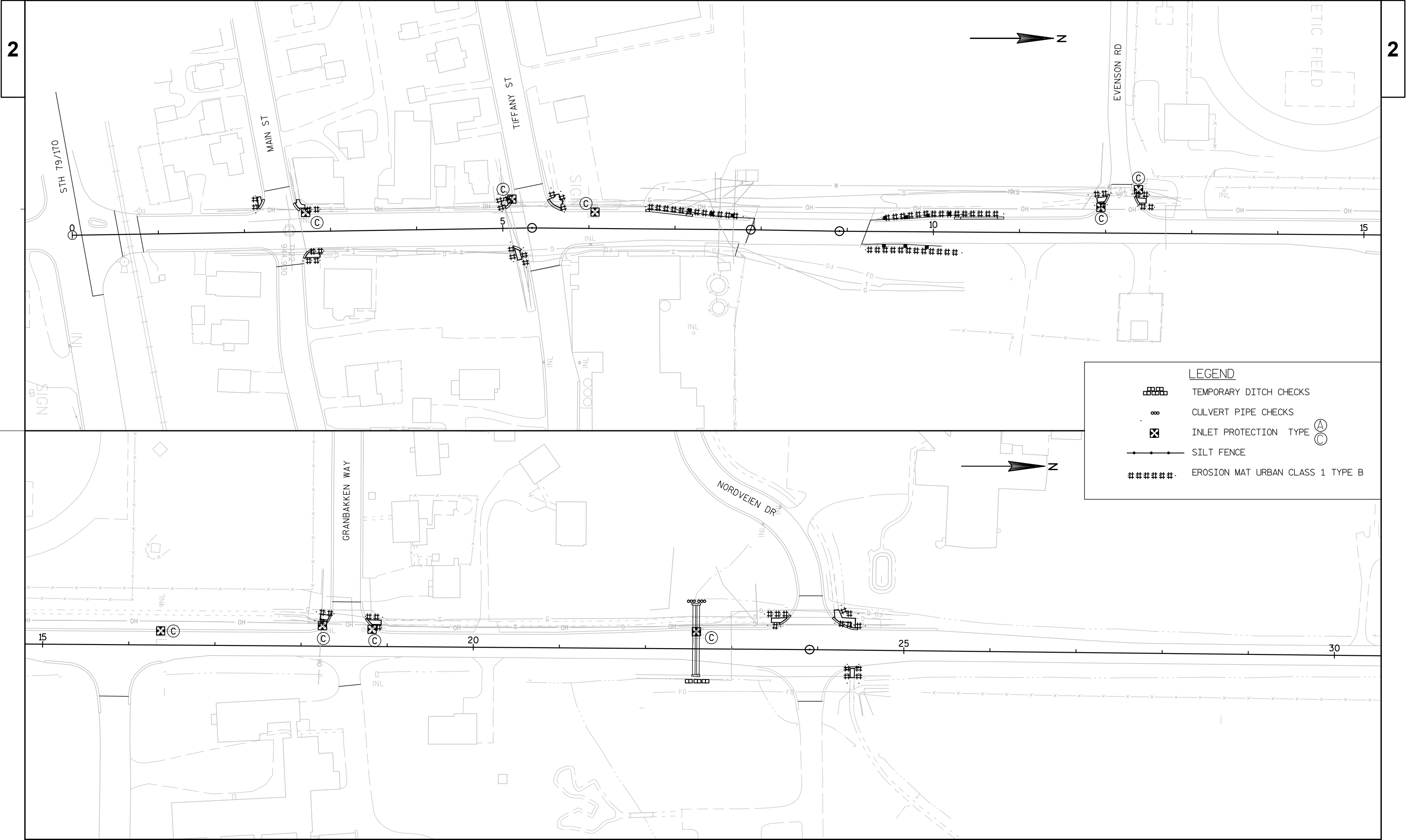
SAWING CONCRETE, REMOVING CURB  
AND GUTTER, & REPLACEMENT OF  
CONCRETE CURB AND GUTTER 30" TYPE D

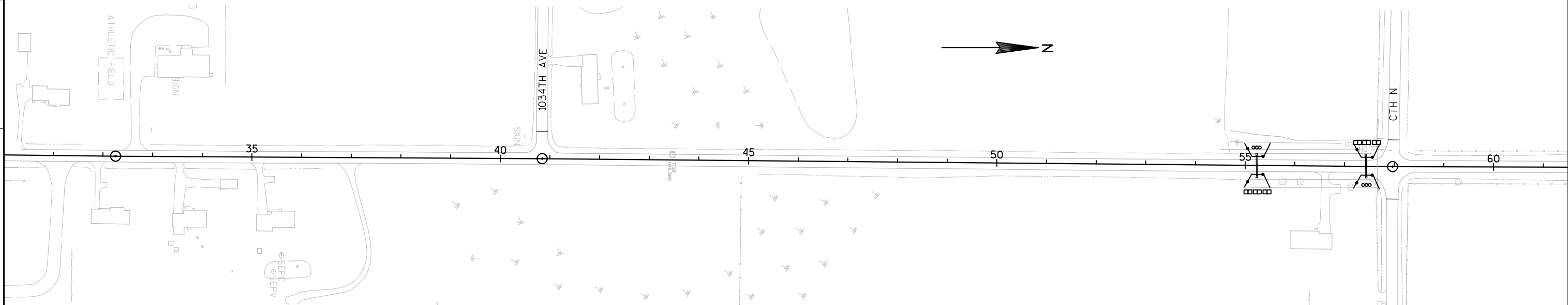
CURB RAMP DETECTABLE  
WARNING FIELD YELLOW

SAWING CONCRETE,  
REMOVING SIDEWALK, &  
CONCRETE SIDEWALK 4"



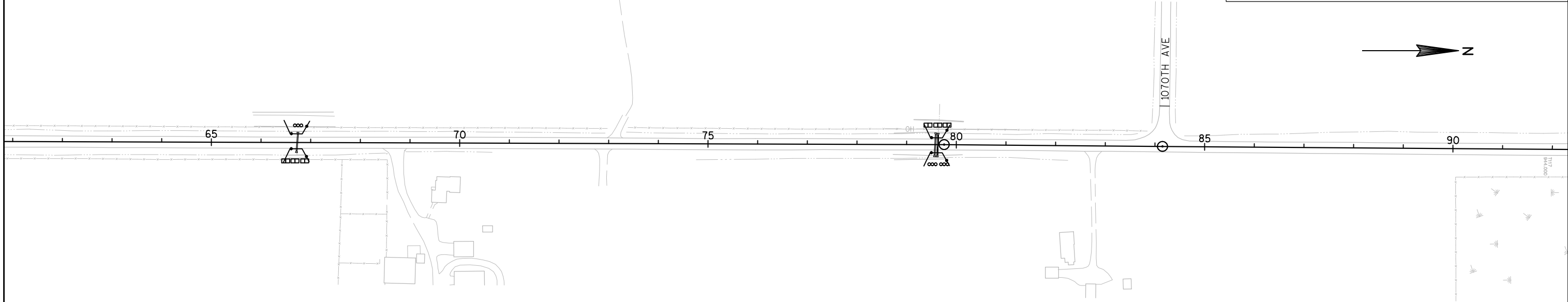


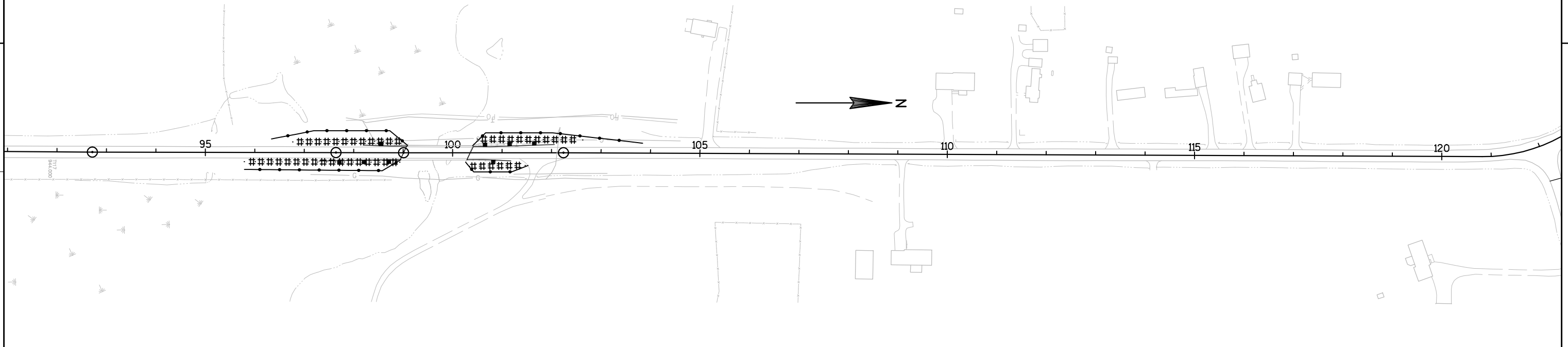




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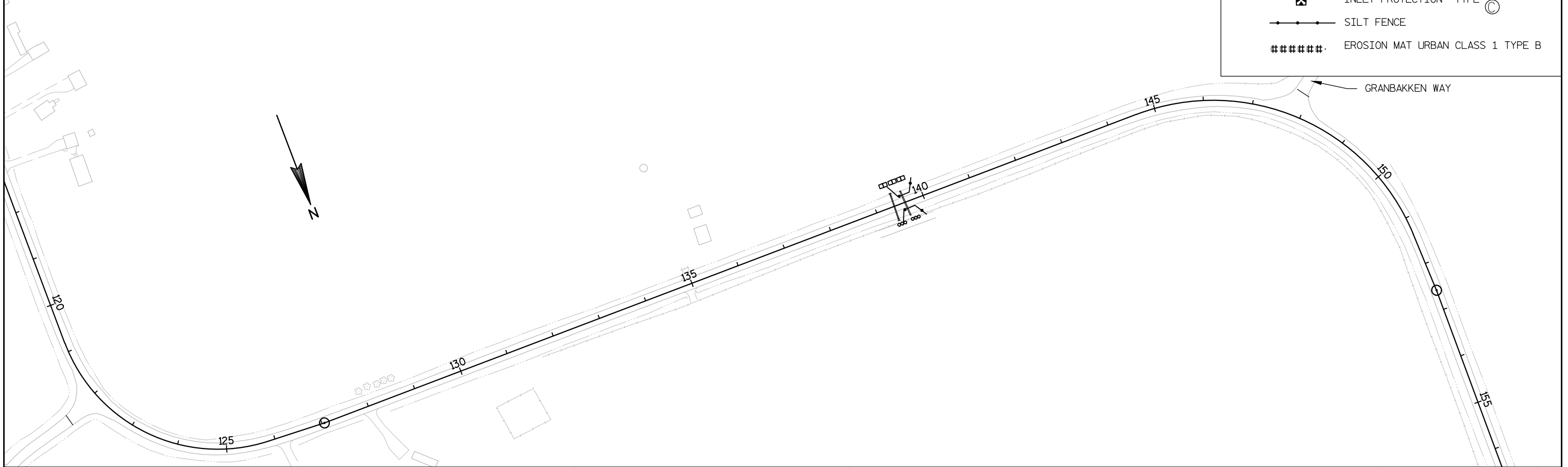
|  |                                                                                                           |
|--|-----------------------------------------------------------------------------------------------------------|
|  | TEMPORARY DITCH CHECKS                                                                                    |
|  | CULVERT PIPE CHECKS                                                                                       |
|  | INLET PROTECTION TYPE <span style="border: 1px solid black; border-radius: 50%; padding: 0 2px;">A</span> |
|  | SILT FENCE                                                                                                |
|  | EROSION MAT URBAN CLASS 1 TYPE B                                                                          |

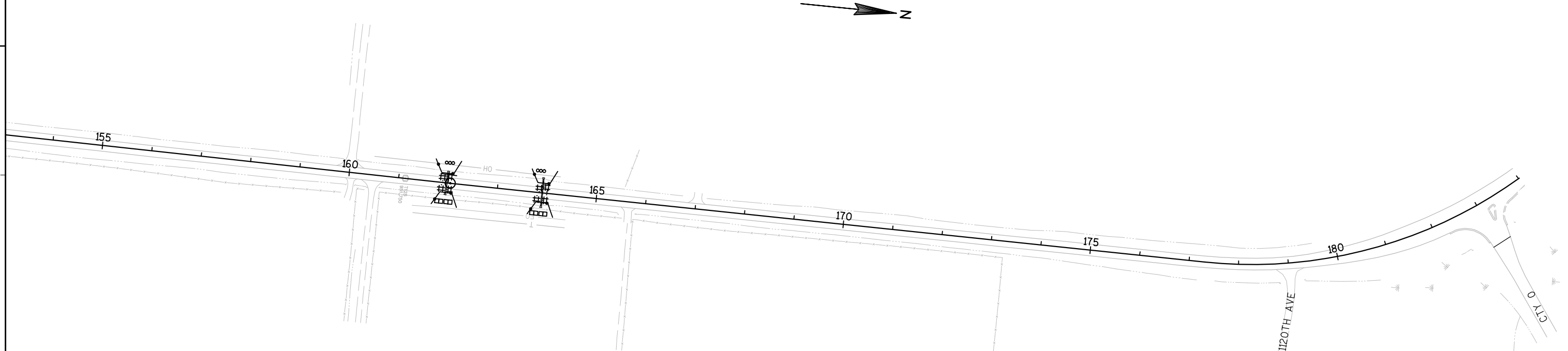




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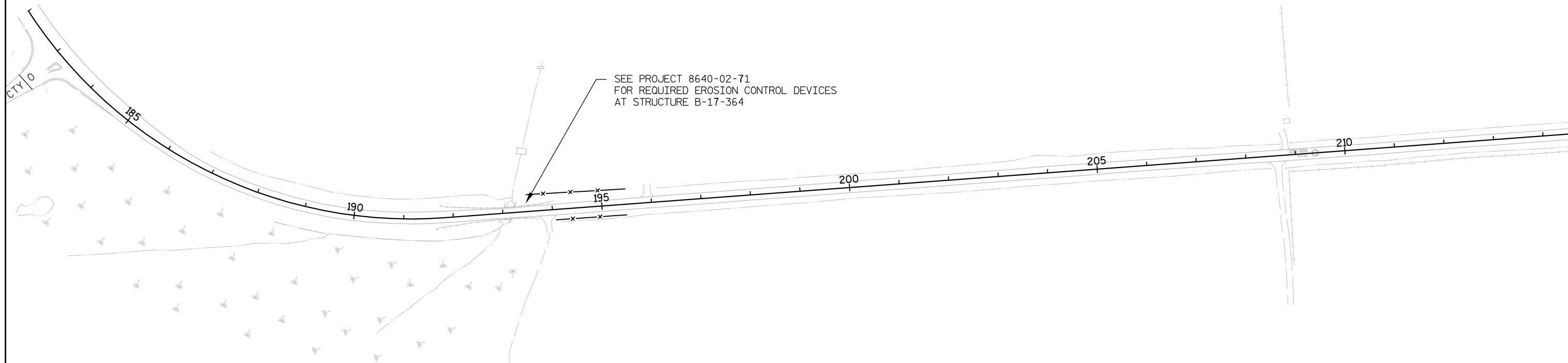
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|  | TEMPORARY DITCH CHECKS                                                                                    |
|  | CULVERT PIPE CHECKS                                                                                       |
|  | INLET PROTECTION TYPE <span style="border: 1px solid black; border-radius: 50%; padding: 0 2px;">A</span> |
|  | SILT FENCE                                                                                                |
|  | EROSION MAT URBAN CLASS 1 TYPE B                                                                          |

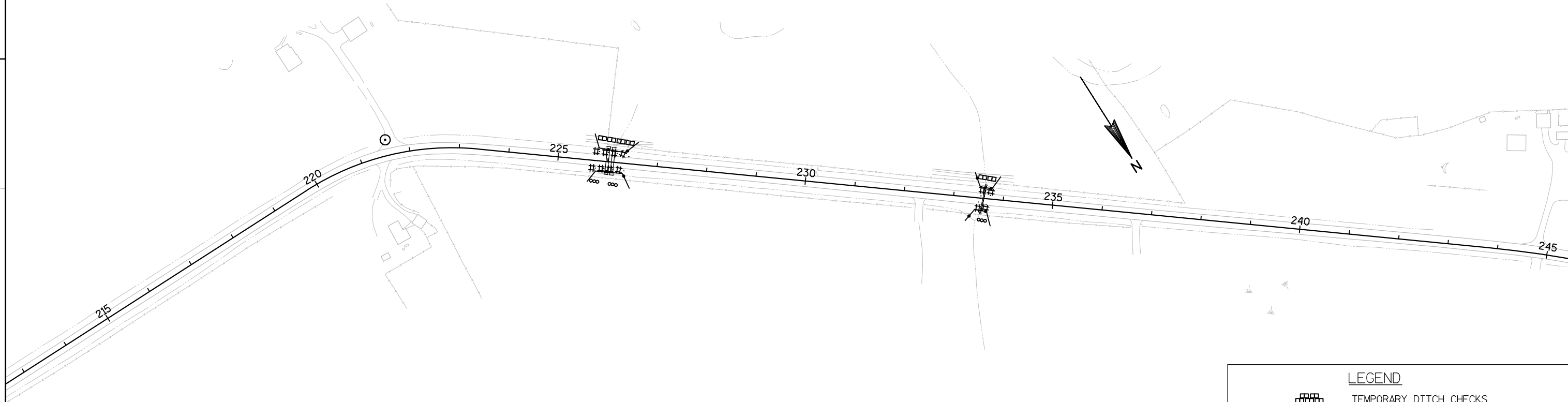




**LEGEND**

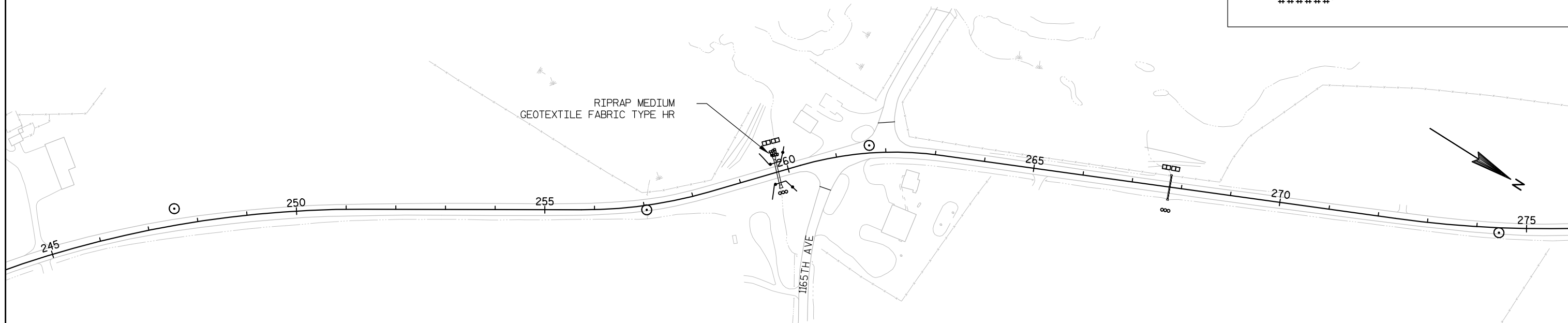
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|  | TEMPORARY DITCH CHECKS                                                                                    |
|  | CULVERT PIPE CHECKS                                                                                       |
|  | INLET PROTECTION TYPE <span style="border: 1px solid black; border-radius: 50%; padding: 0 2px;">A</span> |
|  | SILT FENCE                                                                                                |
|  | EROSION MAT URBAN CLASS 1 TYPE B                                                                          |

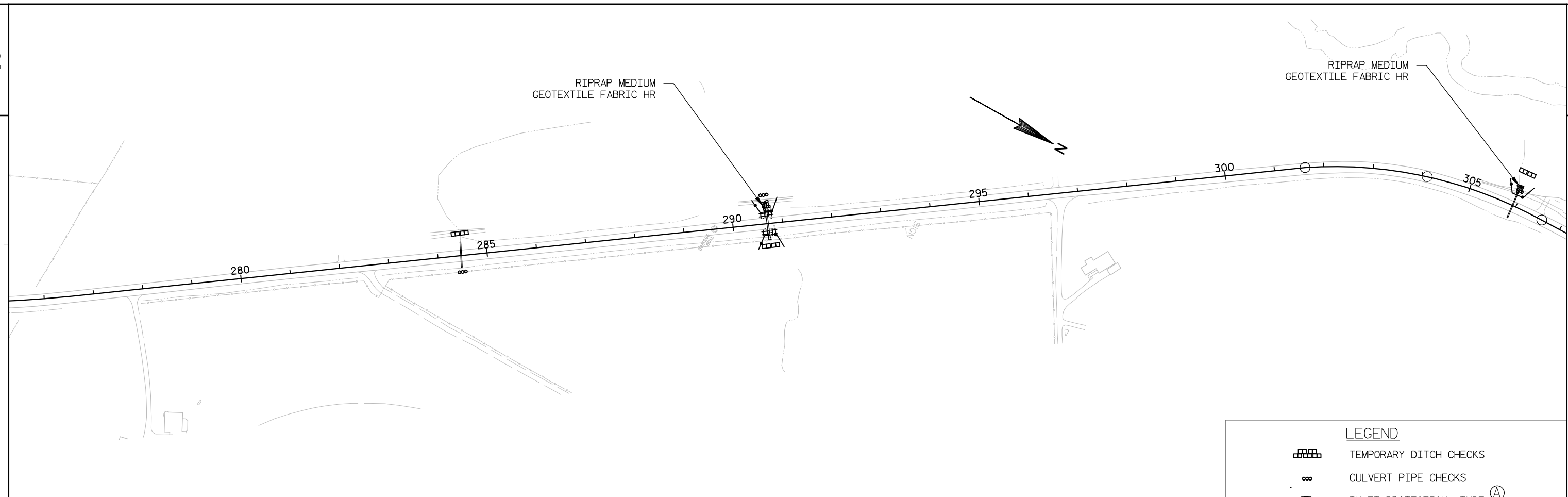




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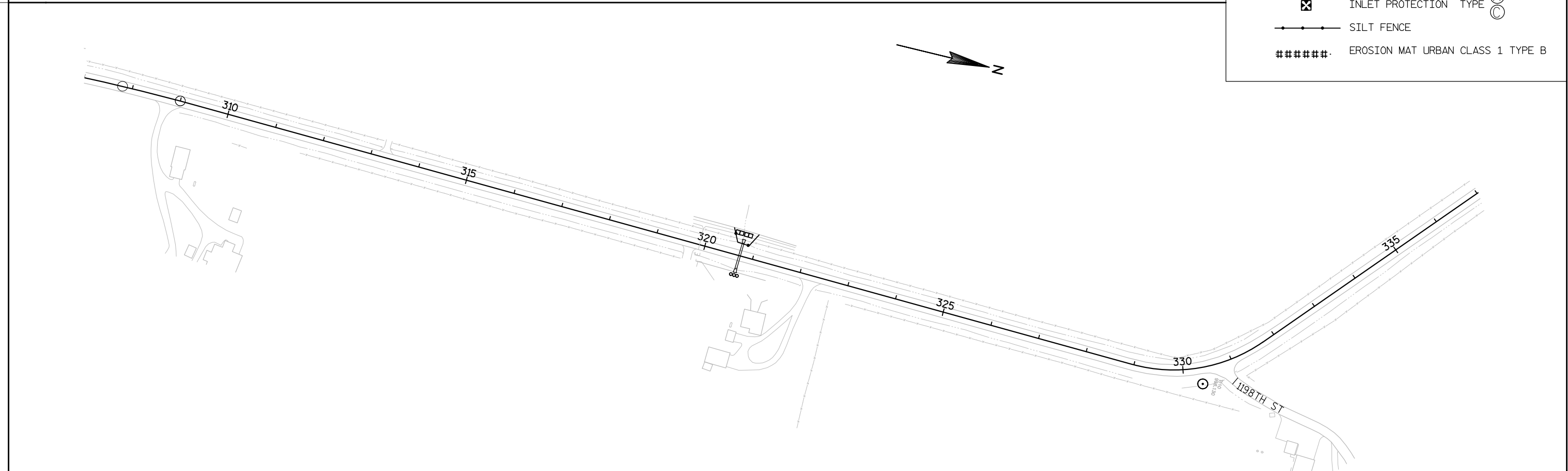
|  |                                  |
|--|----------------------------------|
|  | TEMPORARY DITCH CHECKS           |
|  | CULVERT PIPE CHECKS              |
|  | INLET PROTECTION TYPE            |
|  | SILT FENCE                       |
|  | EROSION MAT URBAN CLASS 1 TYPE B |

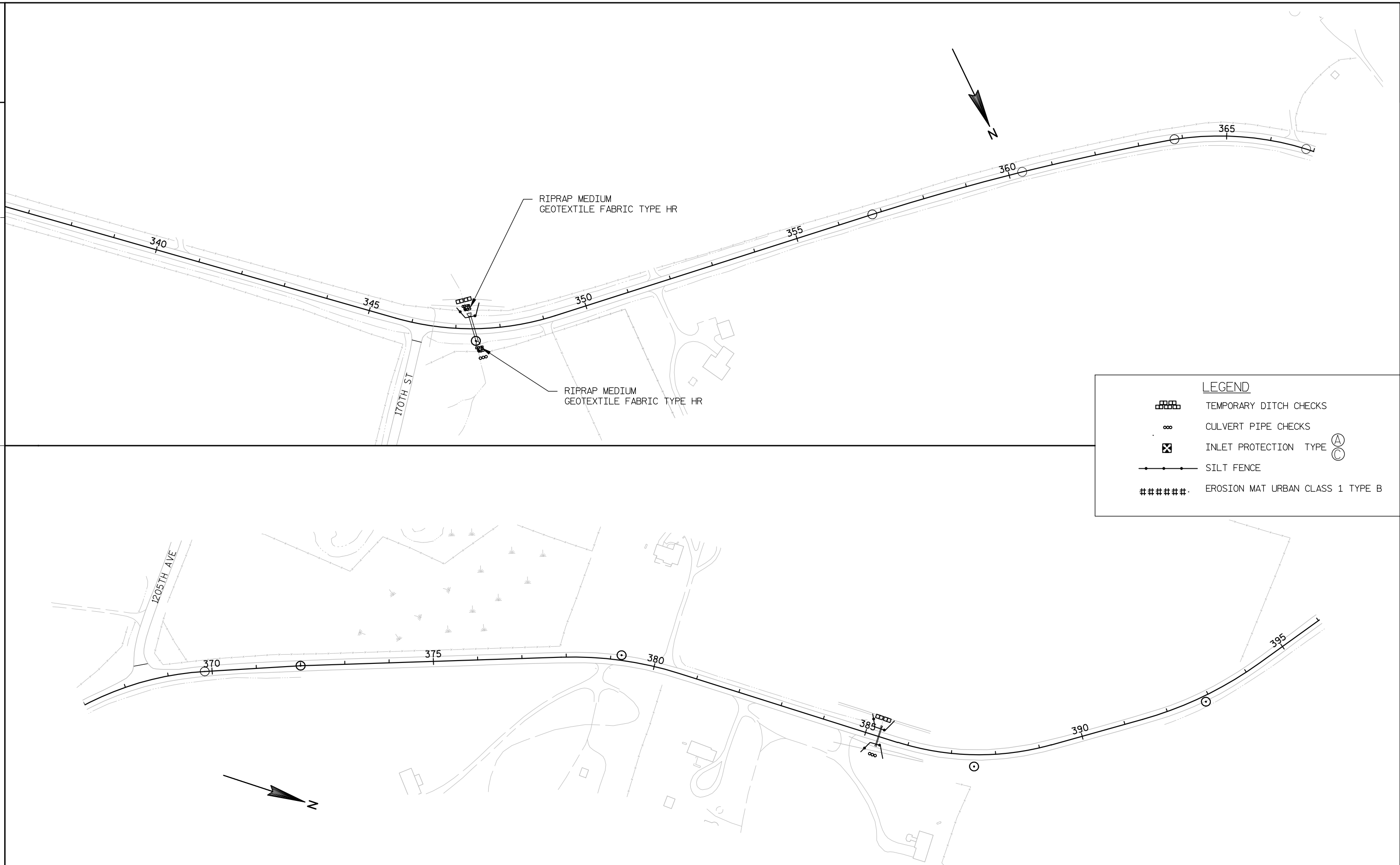




**LEGEND**

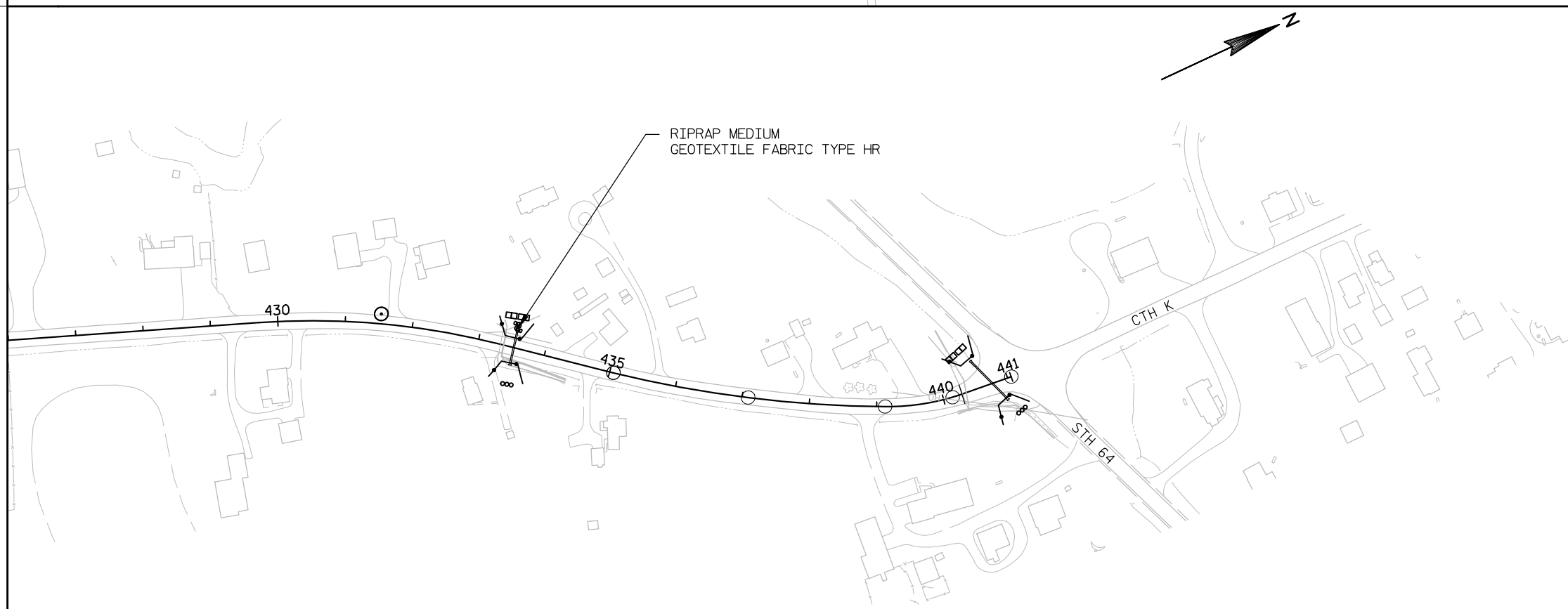
|  |                                                                                                                                                                                           |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | TEMPORARY DITCH CHECKS                                                                                                                                                                    |
|  | CULVERT PIPE CHECKS                                                                                                                                                                       |
|  | INLET PROTECTION TYPE <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">A</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">C</span> |
|  | SILT FENCE                                                                                                                                                                                |
|  | EROSION MAT URBAN CLASS 1 TYPE B                                                                                                                                                          |

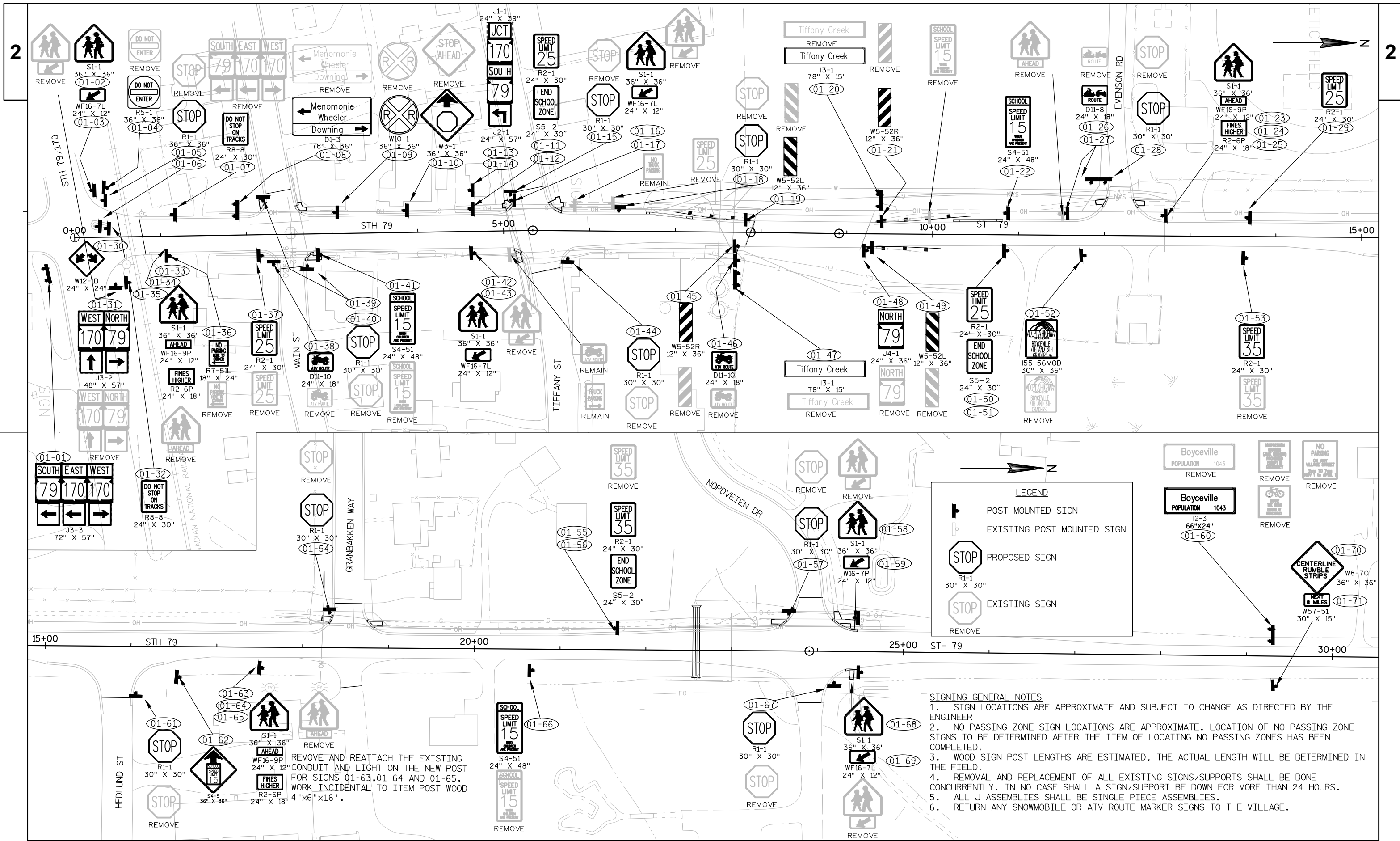


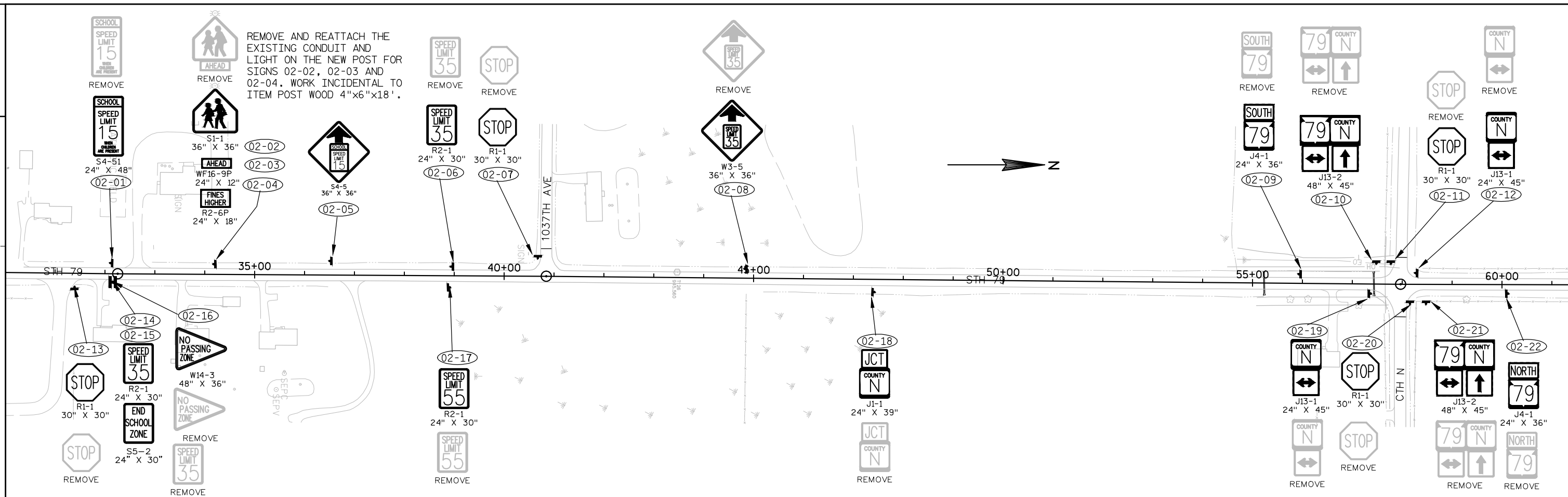




| LEGEND |                                                                                                                                                                                               |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | TEMPORARY DITCH CHECKS                                                                                                                                                                        |
|        | CULVERT PIPE CHECKS                                                                                                                                                                           |
|        | INLET PROTECTION TYPE <span style="border: 1px solid black; border-radius: 50%; padding: 0 2px;">A</span> <span style="border: 1px solid black; border-radius: 50%; padding: 0 2px;">C</span> |
|        | SILT FENCE                                                                                                                                                                                    |
|        | EROSION MAT URBAN CLASS 1 TYPE B                                                                                                                                                              |

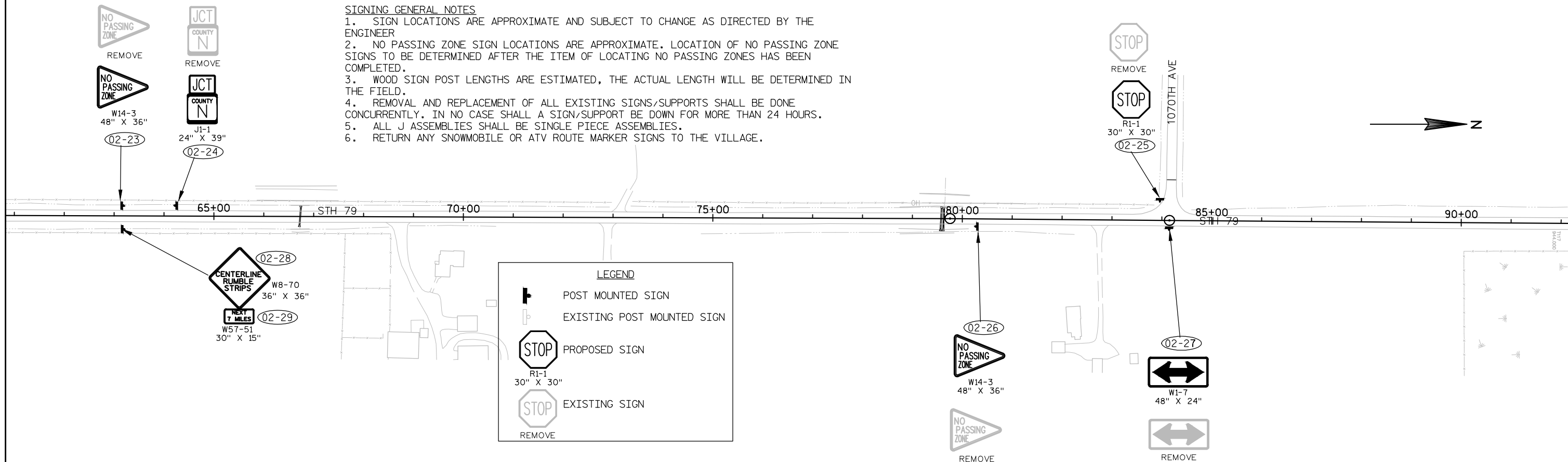


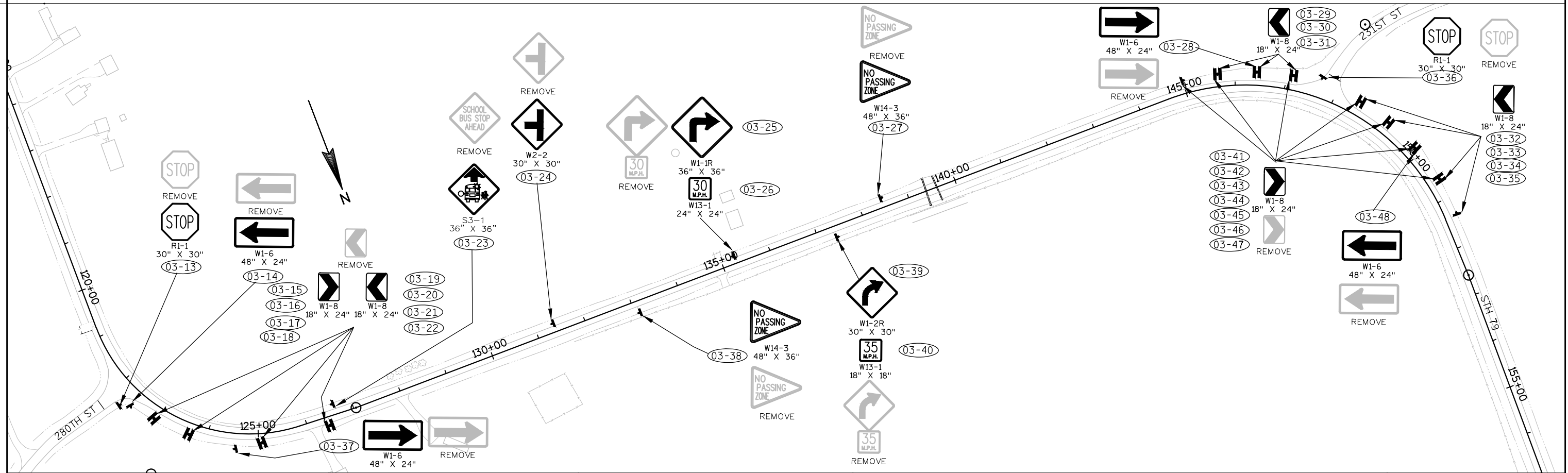


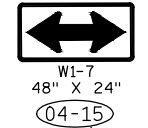
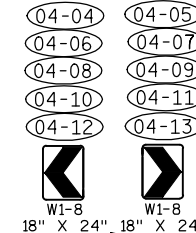
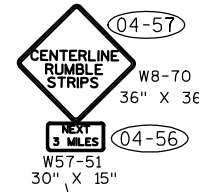
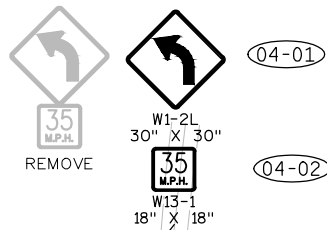
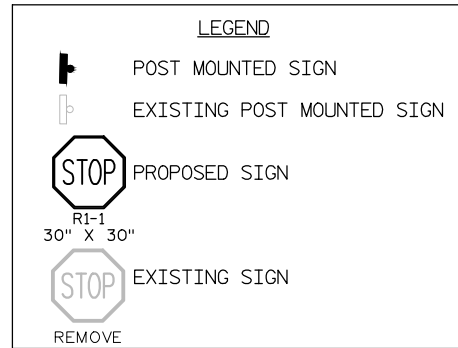


## SIGNING GENERAL NOTES

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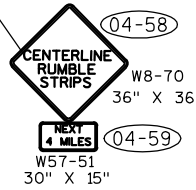
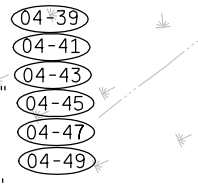
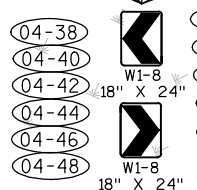
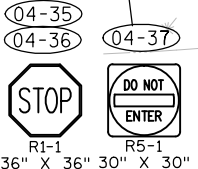
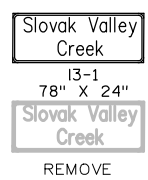
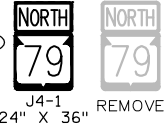
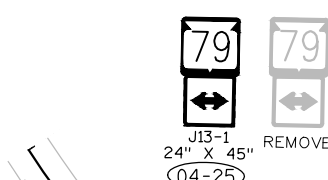
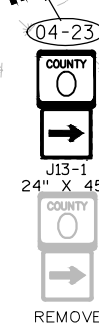


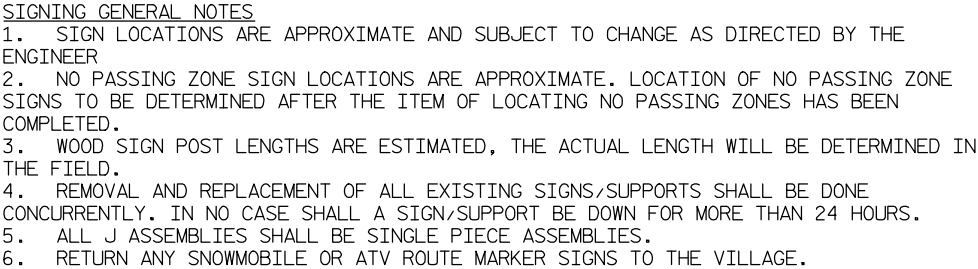




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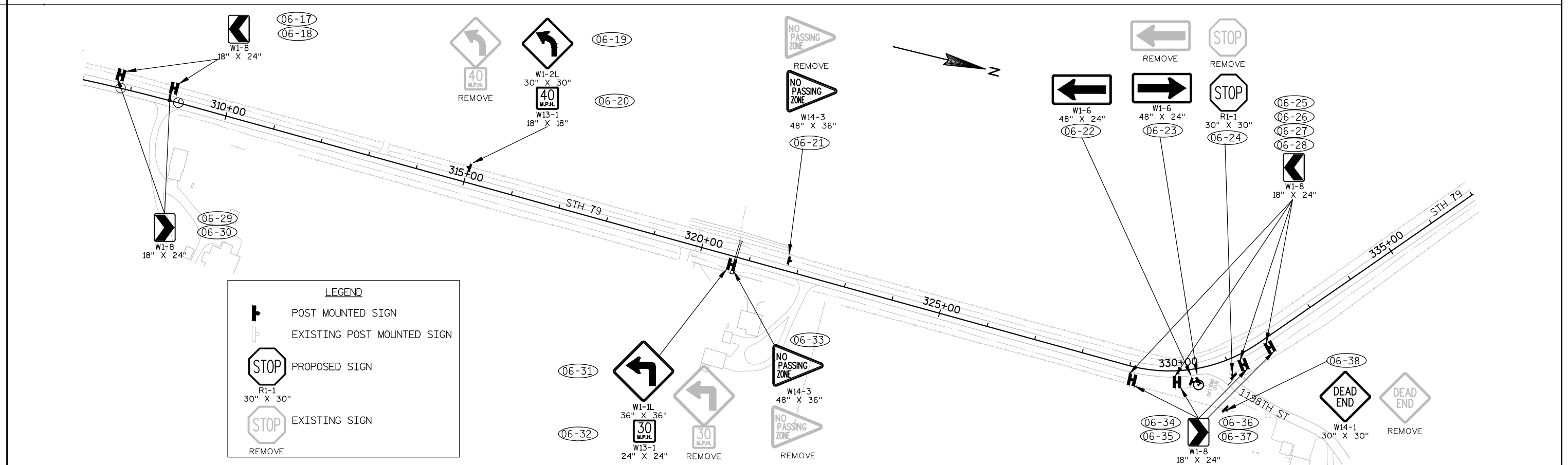
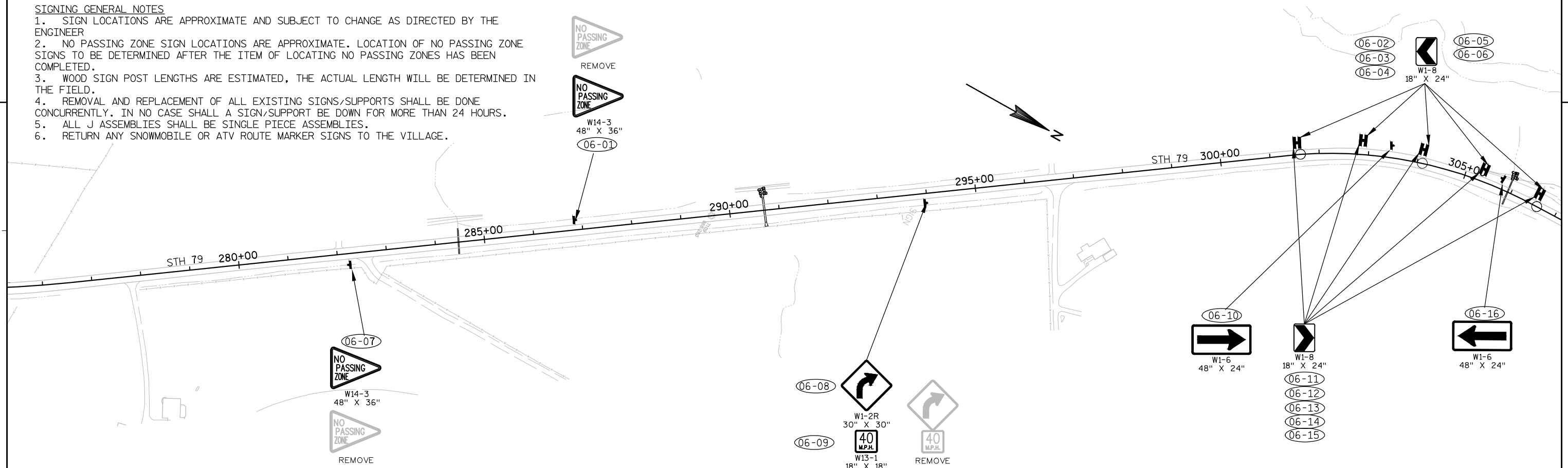




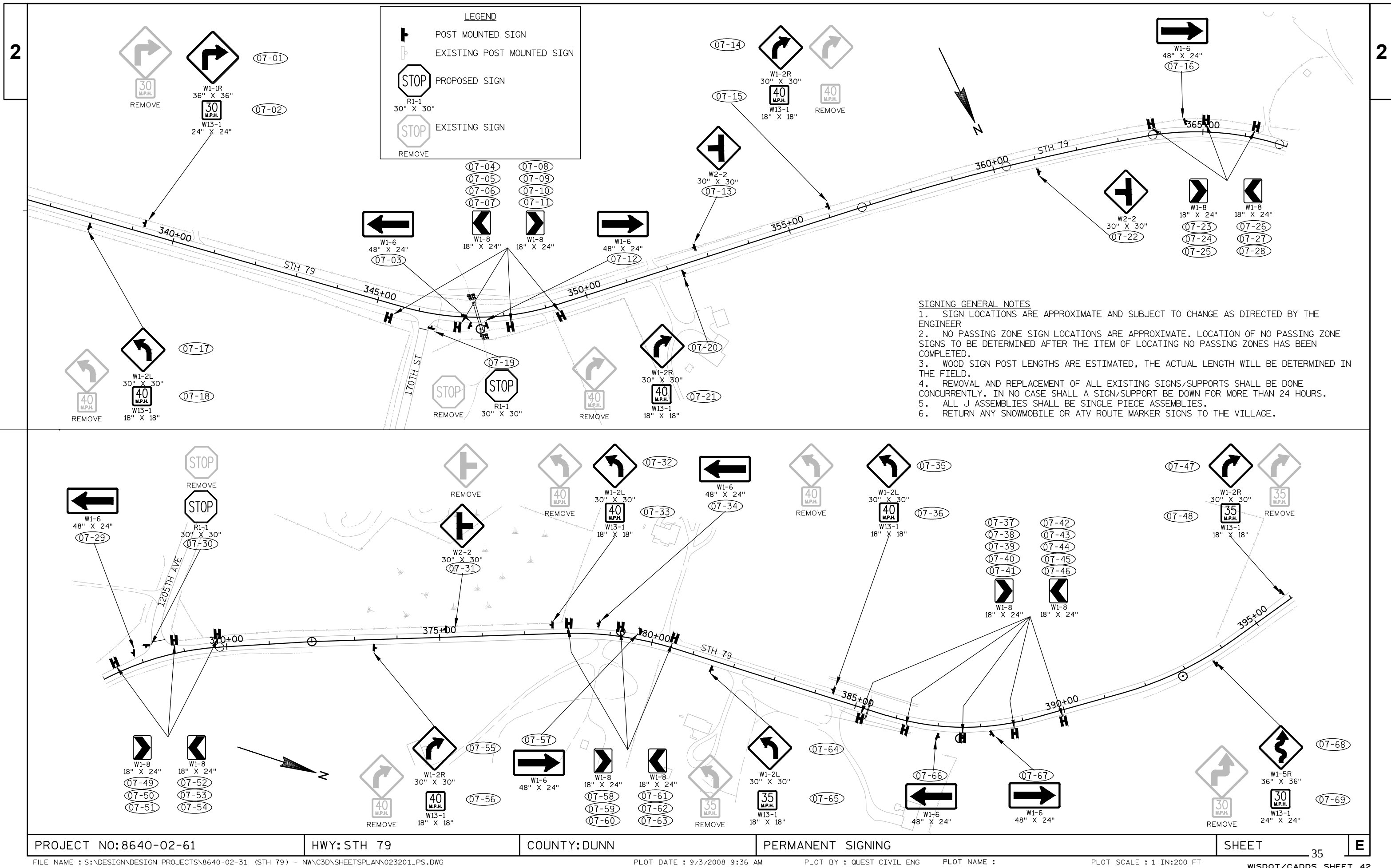
 POST MOUNTED SIGN  
 EXISTING POST MOUNTED SIGN  
 PROPOSED SIGN  
 R1-1  
 30" X 30"  
 EXISTING SIGN  
 REMOVE

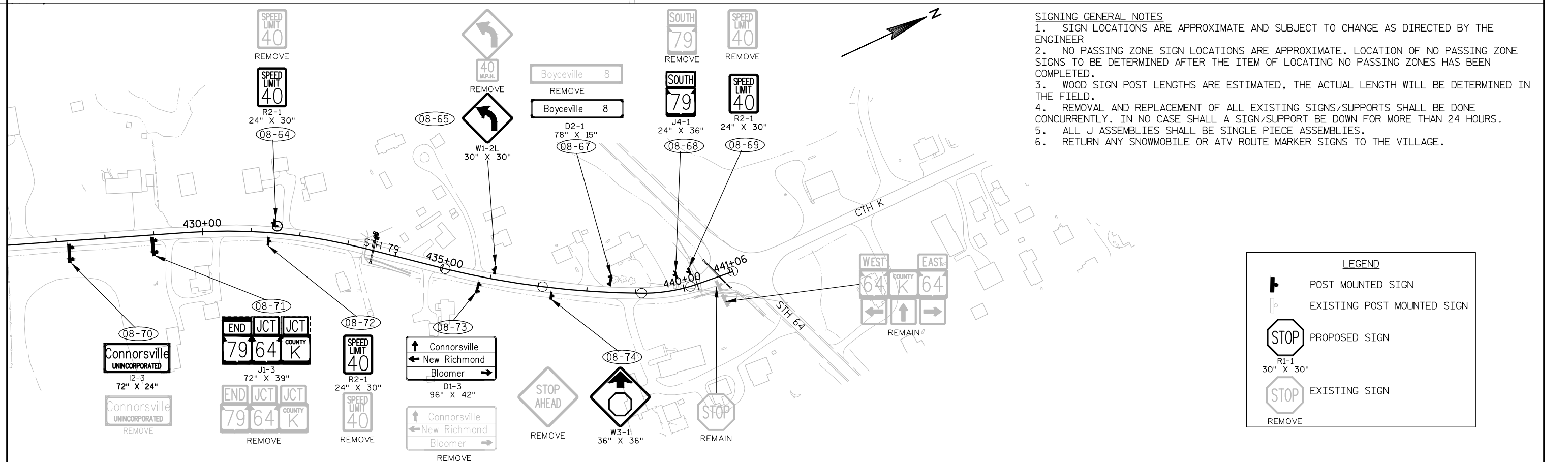
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| LEGEND |                            |
|--------|----------------------------|
|        | POST MOUNTED SIGN          |
|        | EXISTING POST MOUNTED SIGN |
|        | PROPOSED SIGN              |
|        | EXISTING SIGN              |
|        | REMOVE                     |





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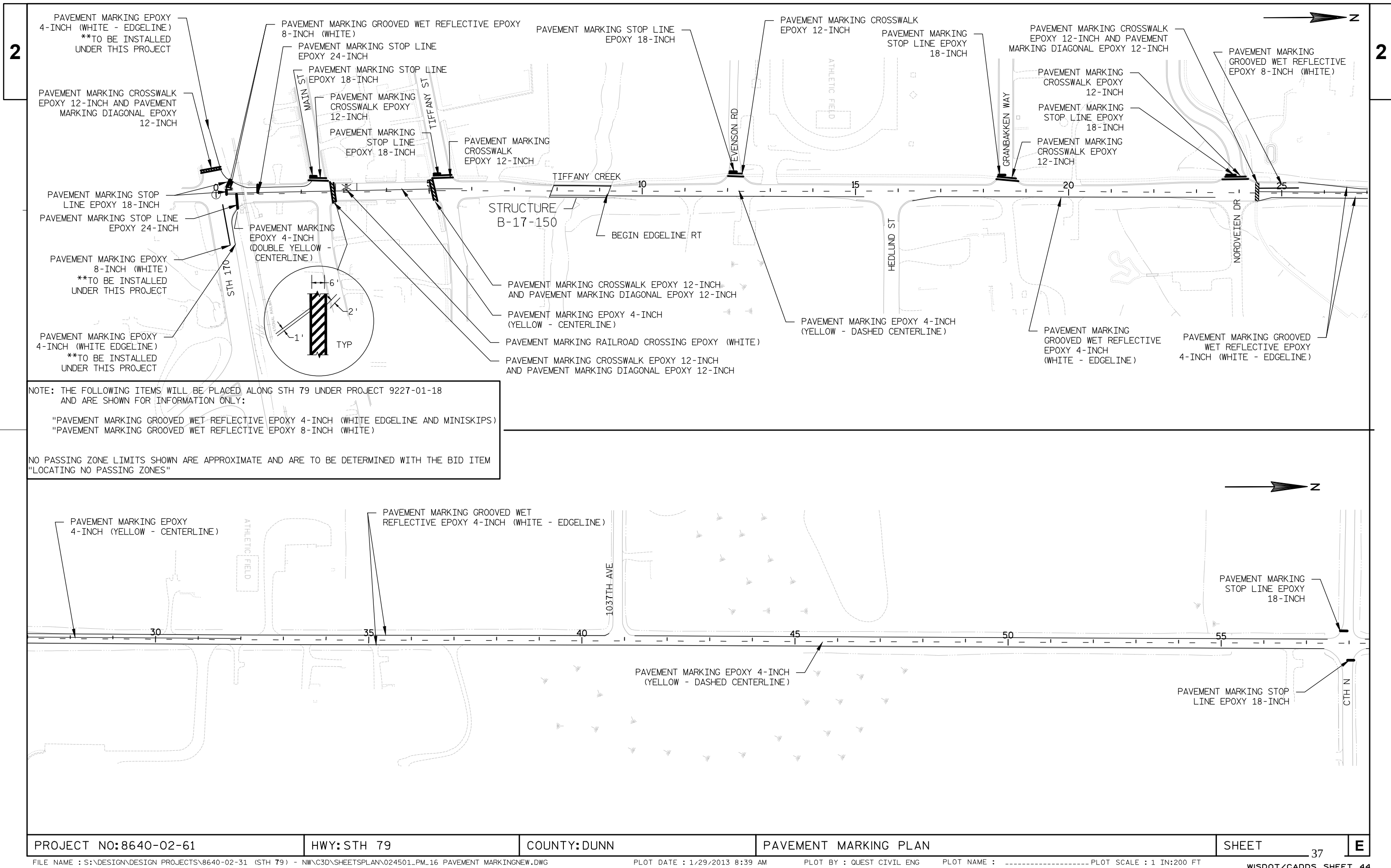
### LEGEND

POST MOUNTED SIGN

EXISTING POST MOUNTED SIGN

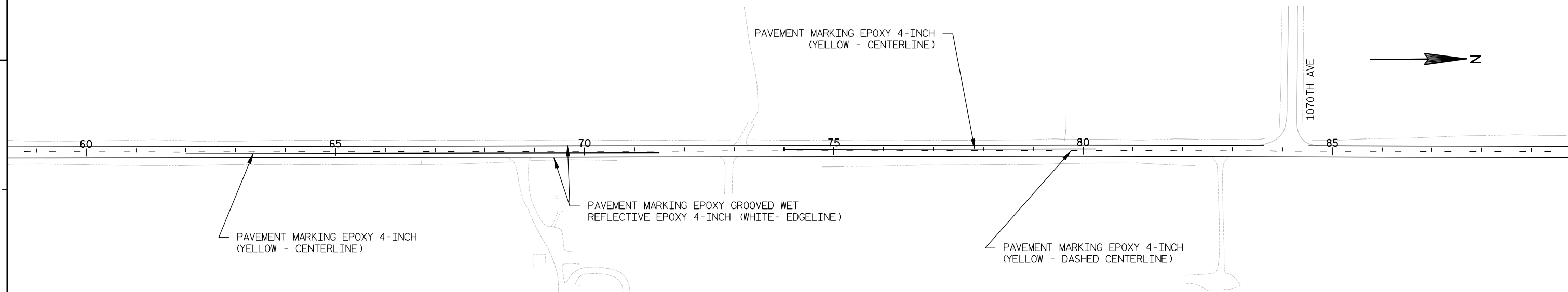
PROPOSED SIGN

EXISTING SIGN



2

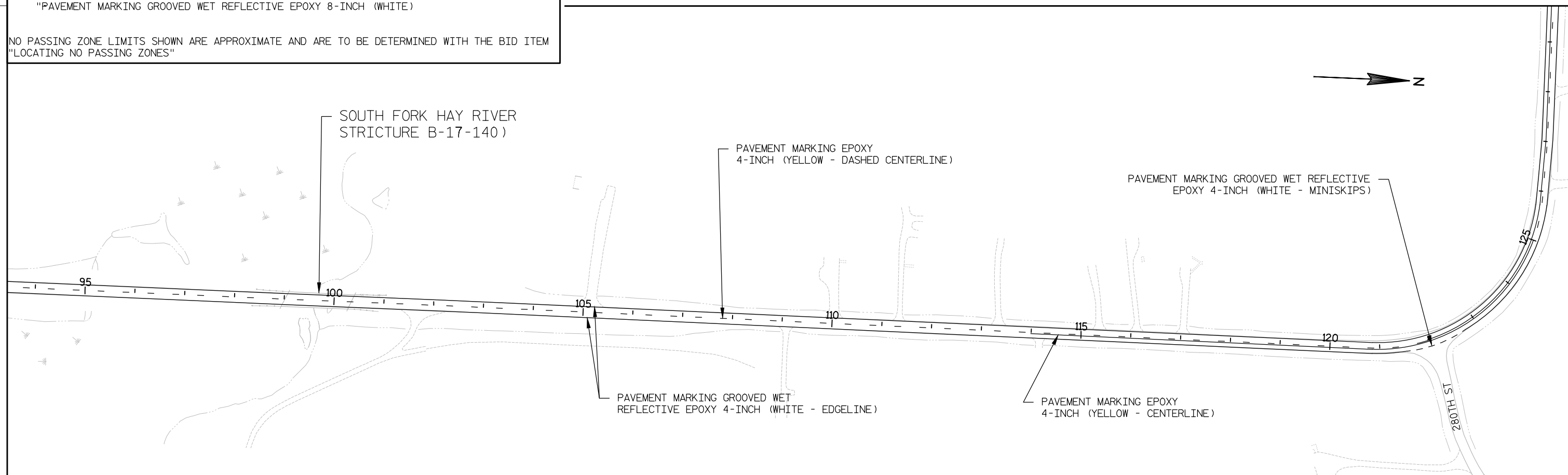
2



NOTE: THE FOLLOWING ITEMS WILL BE PLACED ALONG STH 79 UNDER PROJECT 9227-01-18 AND ARE SHOWN FOR INFORMATION ONLY:

"PAVEMENT MARKING GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGE LINE AND MINISKIPS)  
"PAVEMENT MARKING GROOVED WET REFLECTIVE EPOXY 8-INCH (WHITE)

NO PASSING ZONE LIMITS SHOWN ARE APPROXIMATE AND ARE TO BE DETERMINED WITH THE BID ITEM "LOCATING NO PASSING ZONES"



PROJECT NO: 8640-02-61

HWY: STH 79

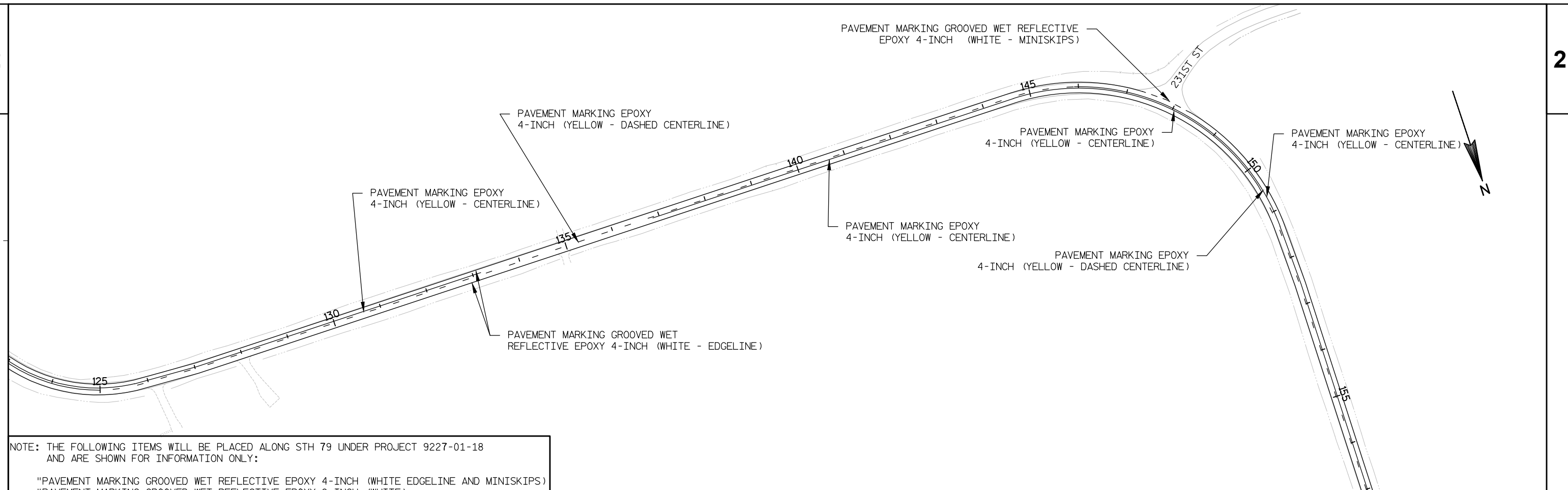
COUNTY: DUNN

PAVEMENT MARKING PLAN

SHEET

38

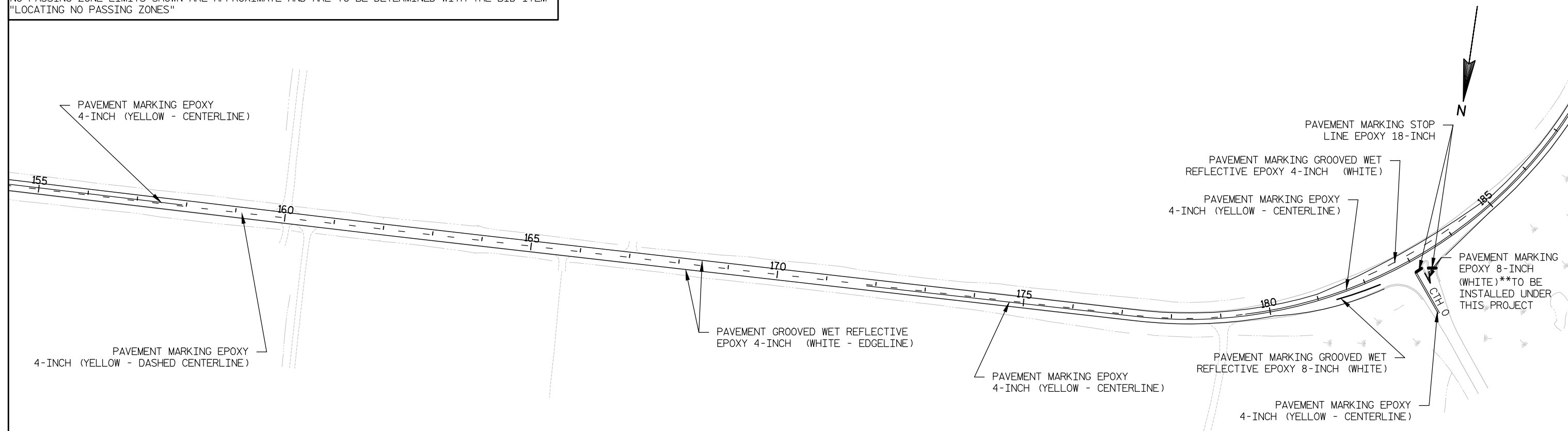
E



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PROJECT NO:8640-02-61

HWY:STH 79

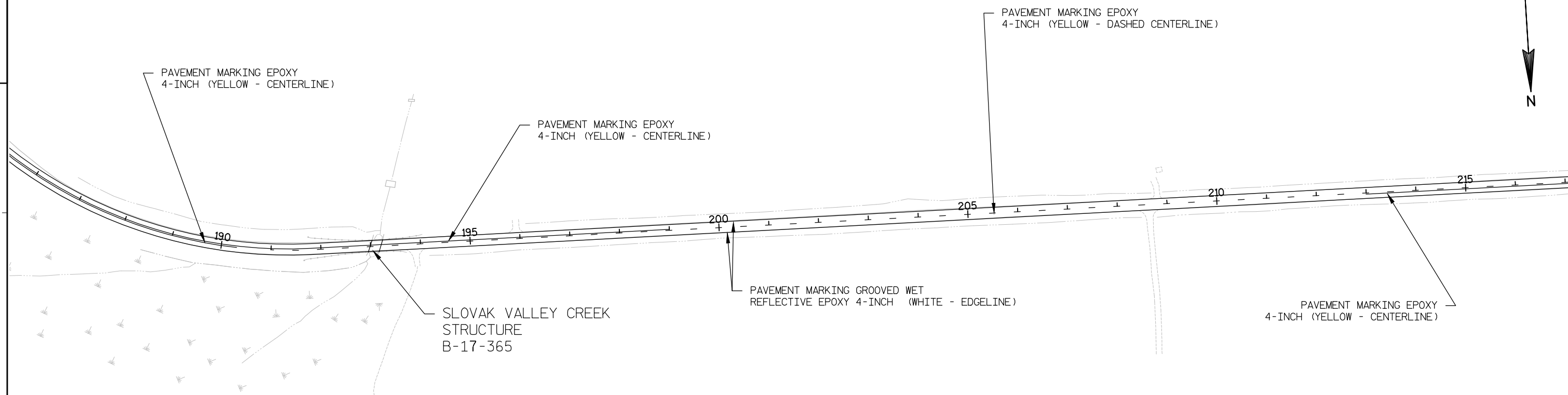
COUNTY:DUNN

PAVEMENT MARKING PLAN

SHEET

39

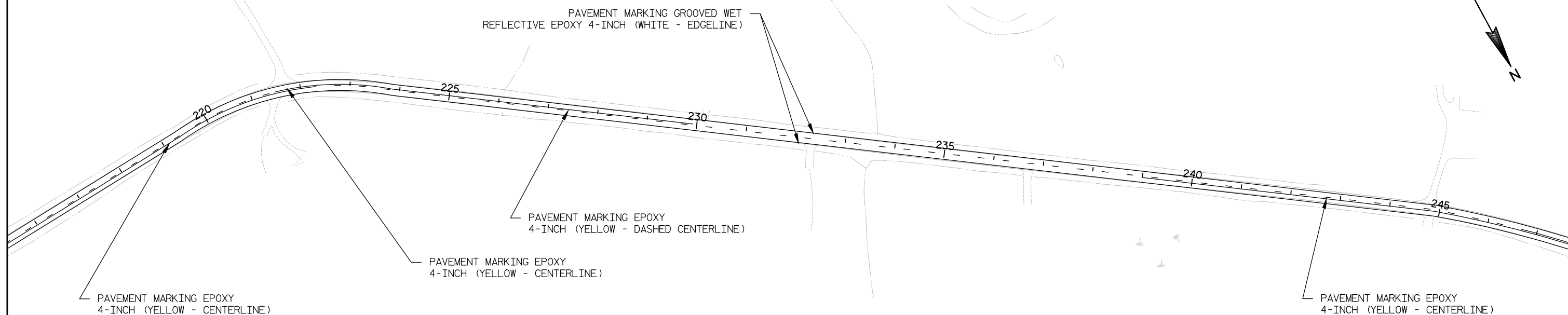
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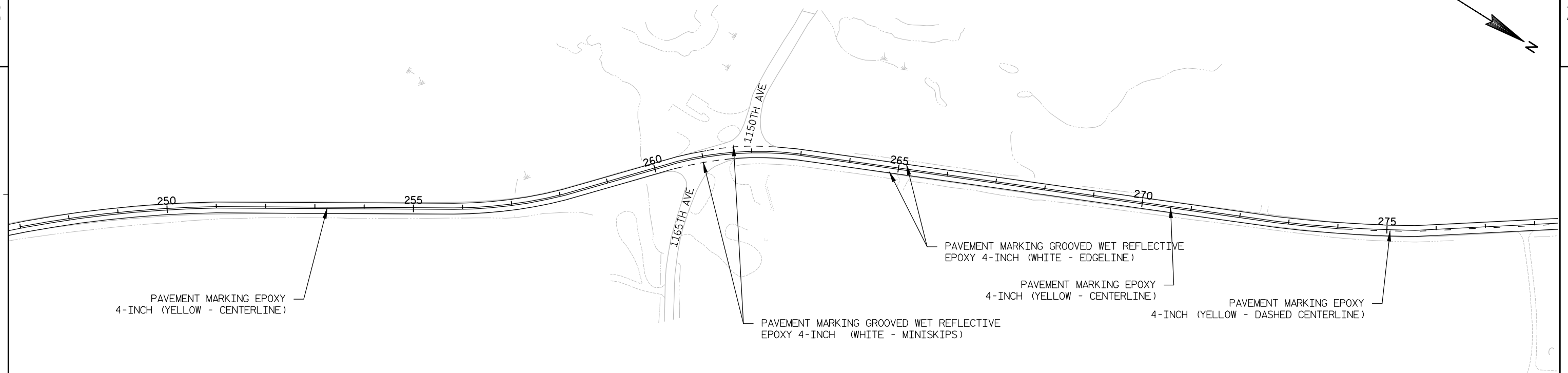


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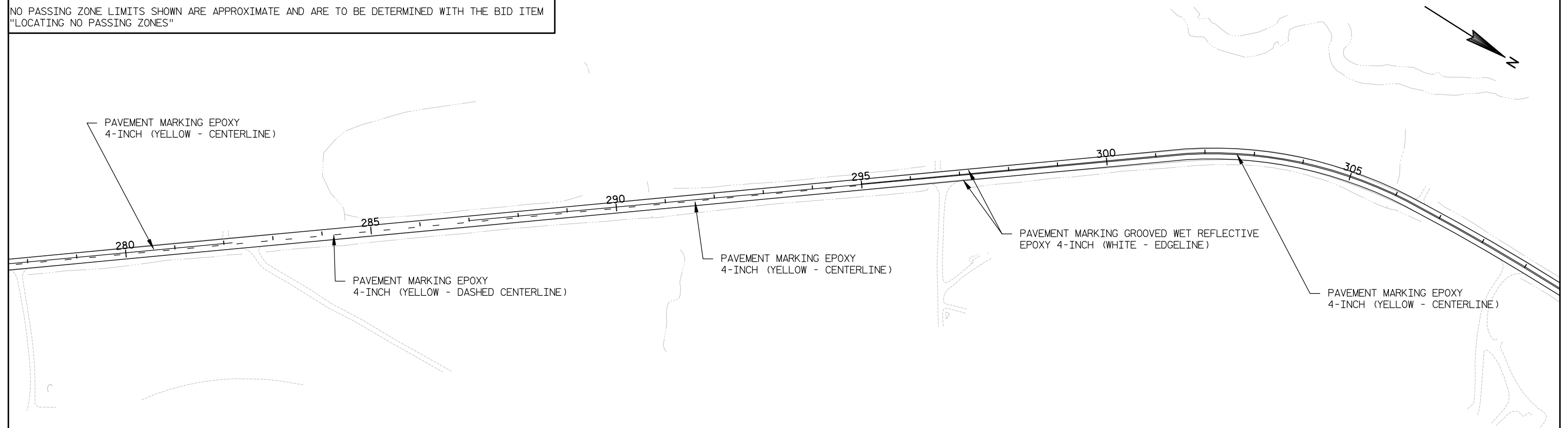


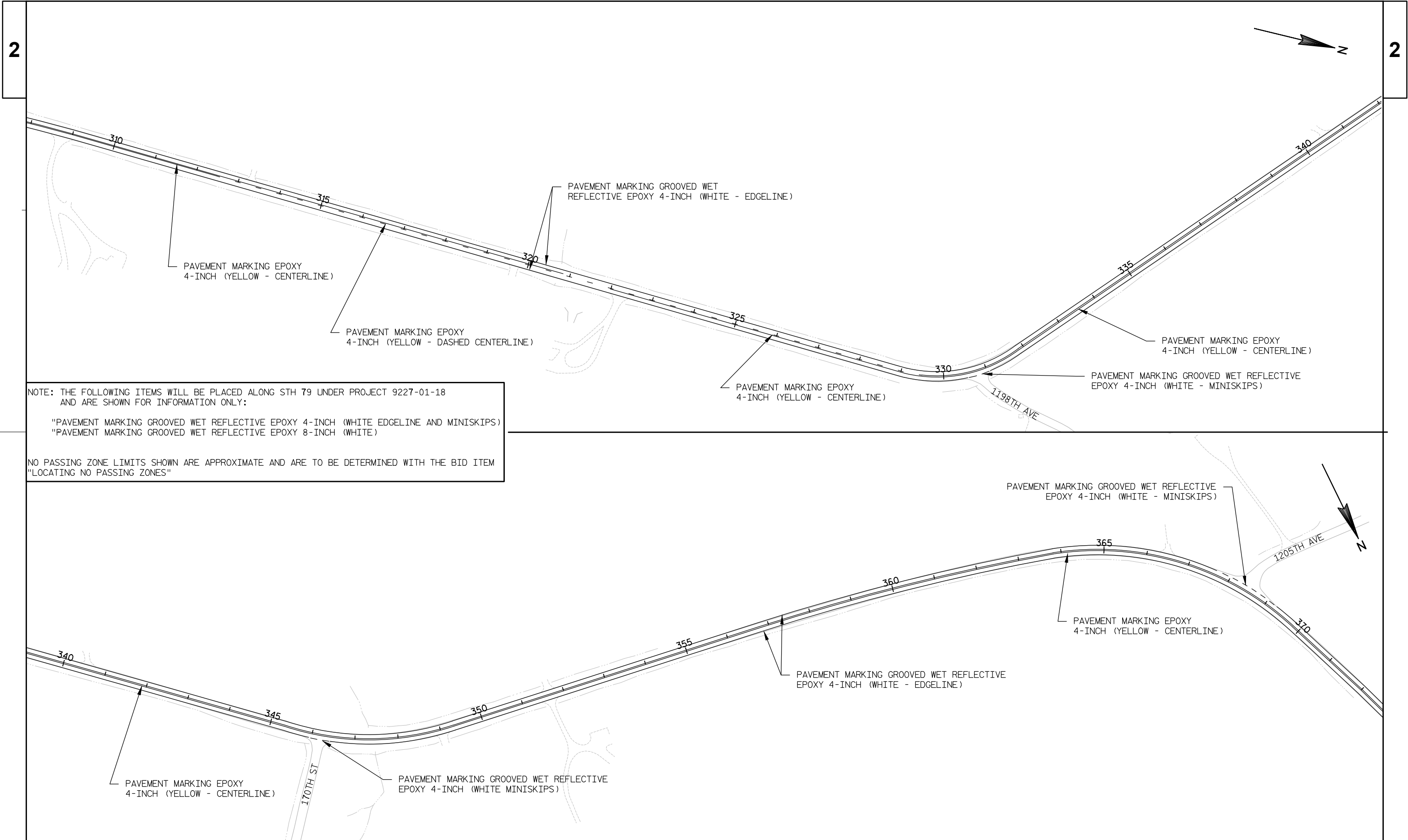


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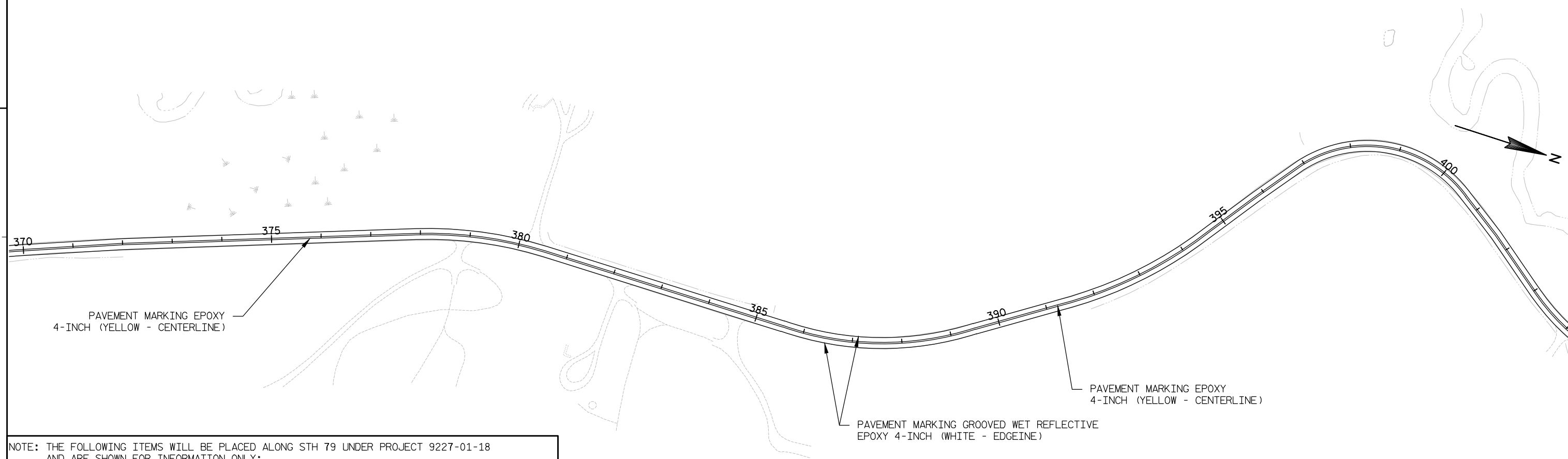




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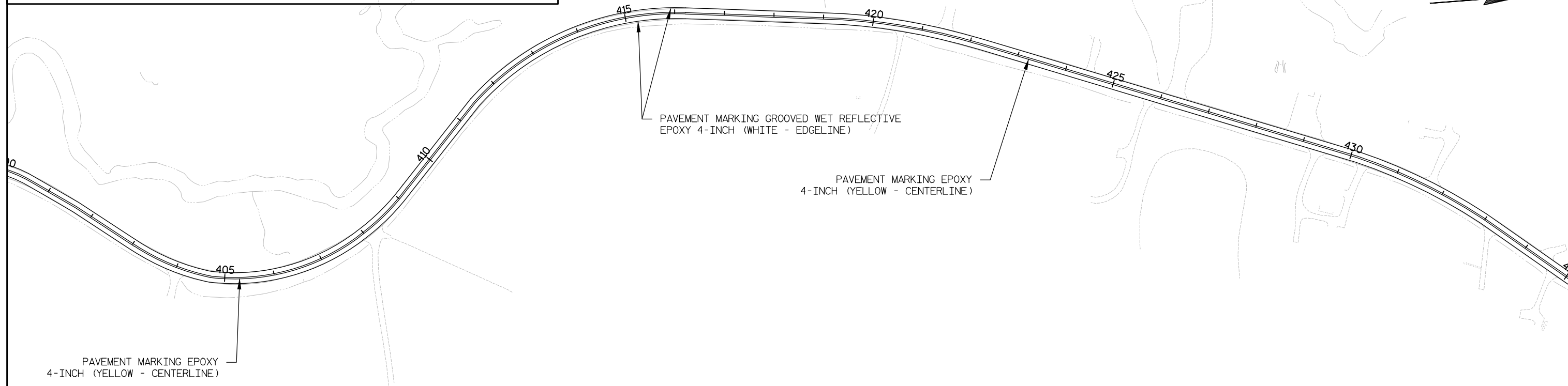
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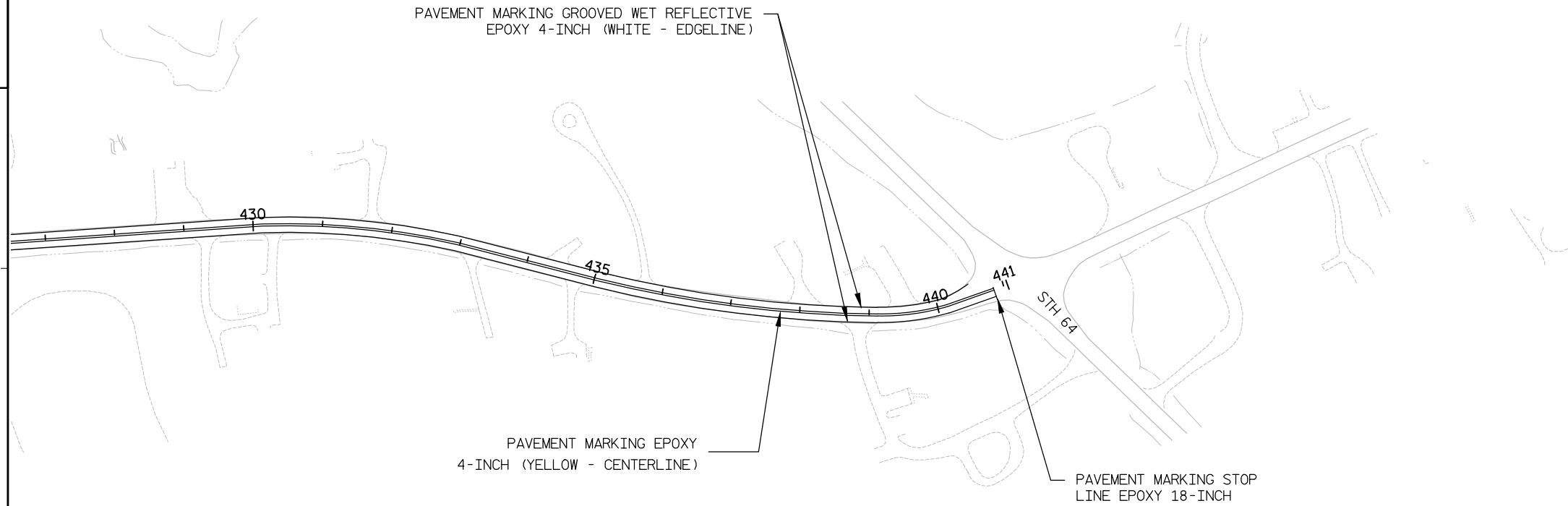


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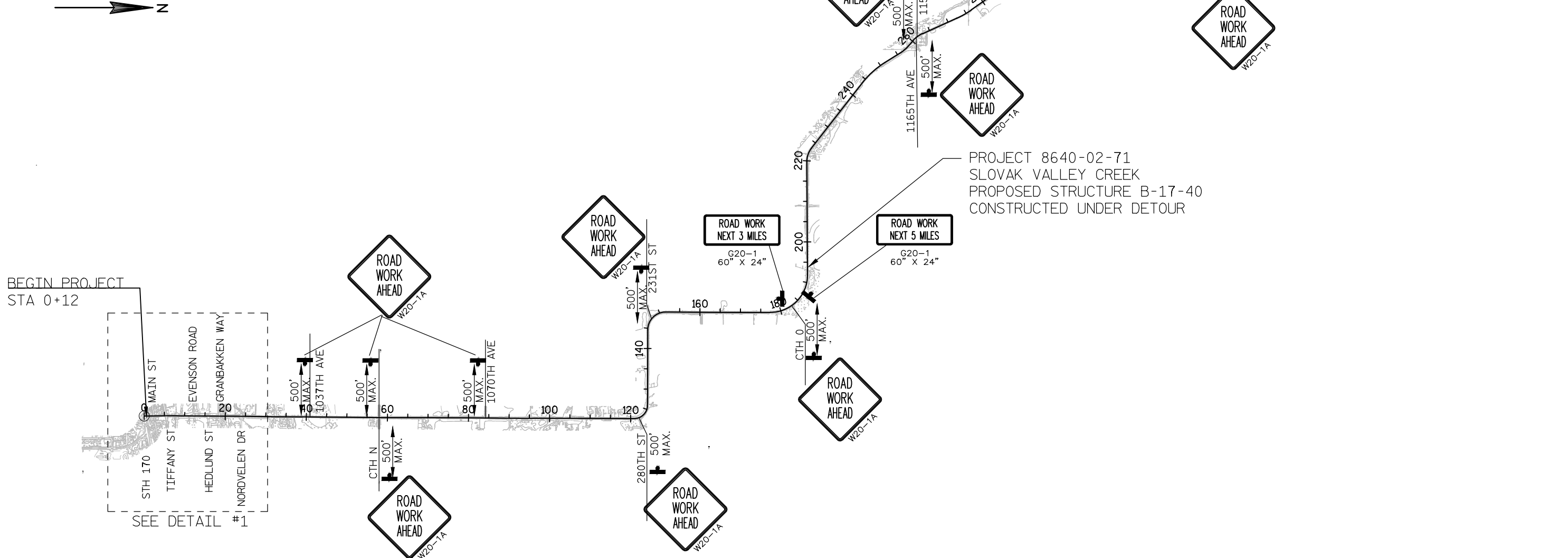
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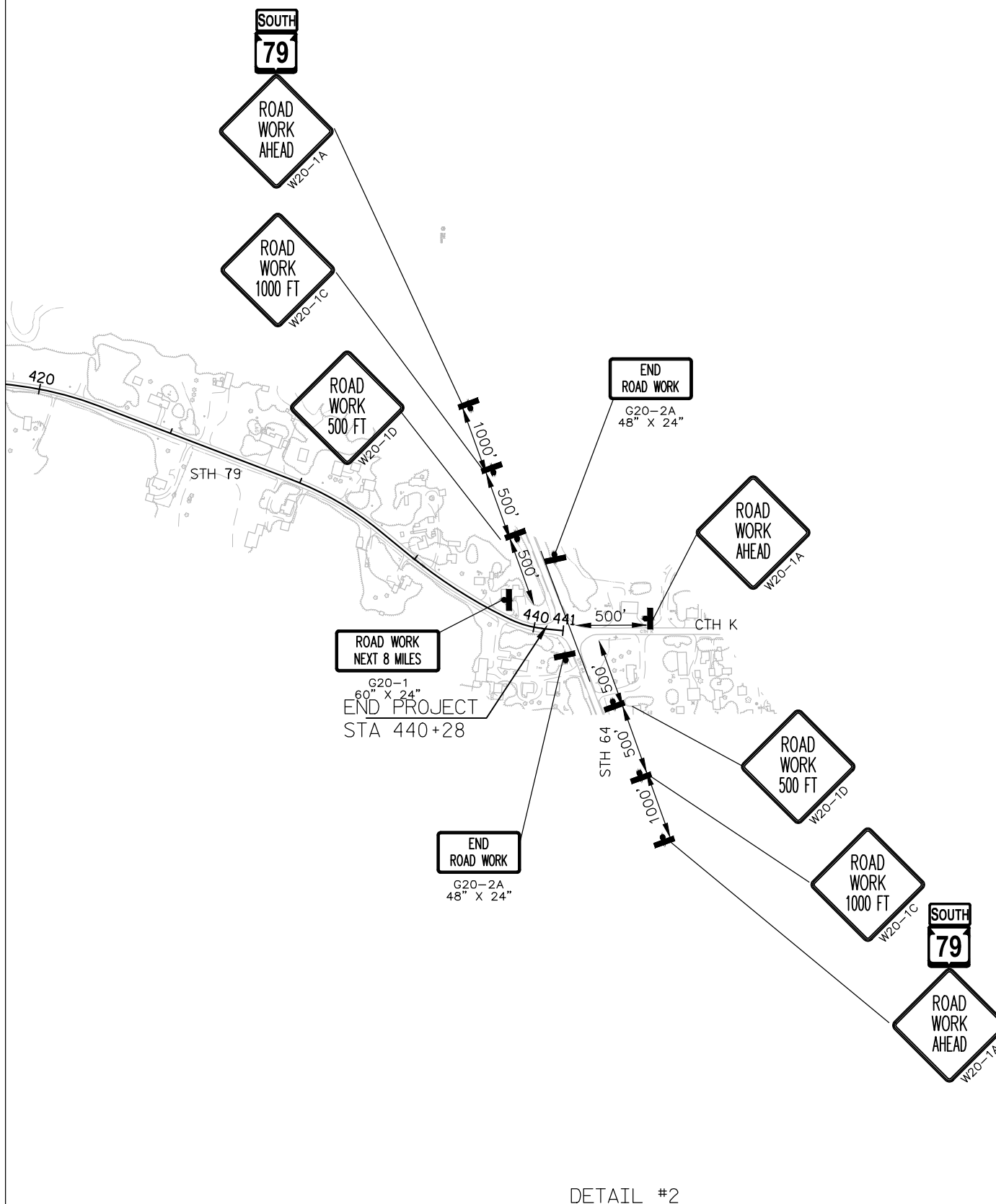
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TRAFFIC CONTROL NOTES

- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS OR AS DETERMINED BY THE ENGINEER.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- SIGNS DESIGNATED AS "W0" ARE THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE "WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (WMUTCD), A SUPPLEMENT TO THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
- ANY SIGNS OR PAVEMENT MARKING, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND APPROVED BY THE ENGINEER.
- ALL SIDE STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES DURING CONSTRUCTION.
- ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.
- REFER TO STANDARD DETAIL DRAWING "TRAFFIC CONTROL ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC", AND "TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVABLE OPERATIONS)"
- SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC/STAGING REQUIREMENTS.
- COORDINATE SIGNING WITH DETOUR SIGNING FOR PROJECT 8640-02-71





3

| DATE 17APR13 |            | E S T I M A T E O F Q U A N T I T I E S                     |      |             |             |
|--------------|------------|-------------------------------------------------------------|------|-------------|-------------|
| LINE         |            | 8640-02-61                                                  |      |             |             |
| NUMBER       | ITEM       | ITEM DESCRIPTION                                            | UNIT | TOTAL       | QUANTITY    |
| 0020         | 201.0120   | CLEARING                                                    | ID   | 152.000     | 152.000     |
| 0040         | 201.0220   | GRUBBING                                                    | ID   | 297.000     | 297.000     |
| 0050         | 203.0100   | REMOVING SMALL PIPE CULVERTS                                | EACH | 14.000      | 14.000      |
| 0070         | 204.0110   | REMOVING ASPHALTIC SURFACE                                  | SY   | 1,050.000   | 1,050.000   |
| 0080         | 204.0115   | REMOVING ASPHALTIC SURFACE BUTT JOINTS                      | SY   | 400.000     | 400.000     |
|              |            |                                                             |      |             |             |
| 0090         | 204.0120   | REMOVING ASPHALTIC SURFACE MILLING                          | SY   | 121,950.000 | 121,950.000 |
| 0100         | 204.0150   | REMOVING CURB & GUTTER                                      | LF   | 285.000     | 285.000     |
| 0110         | 204.0155   | REMOVING CONCRETE SIDEWALK                                  | SY   | 115.000     | 115.000     |
| 0120         | 204.0165   | REMOVING GUARDRAIL                                          | LF   | 490.000     | 490.000     |
| 0130         | 204.0180   | REMOVING DELINEATORS AND MARKERS                            | EACH | 14.000      | 14.000      |
|              |            |                                                             |      |             |             |
| 0180         | 211.0400   | PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS                  | STA  | 36.000      | 36.000      |
| 0190         | 213.0100   | FINISHING ROADWAY (PROJECT) 01. 8640-02-61                  | EACH | 1.000       | 1.000       |
| 0210         | 305.0110   | BASE AGGREGATE DENSE 3/4-INCH                               | TON  | 13,660.000  | 13,660.000  |
| 0230         | 440.4410.S | INCENTIVE IRI RIDE                                          | DOL  | 22,130.000  | 22,130.000  |
| 0240         | 455.0605   | TACK COAT                                                   | GAL  | 5,895.000   | 5,895.000   |
|              |            |                                                             |      |             |             |
| 0260         | 465.0110   | ASPHALTIC SURFACE PATCHING                                  | TON  | 500.000     | 500.000     |
| 0270         | 465.0120   | ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES             | TON  | 160.000     | 160.000     |
| 0290         | 465.0475.S | ASPHALT CENTER LINE RUMBLE STRIP 2-LANE RURAL               | LF   | 34,777.000  | 34,777.000  |
| 0320         | 502.6102   | MASONRY ANCHORS TYPE S 1/2-INCH                             | EACH | 16.000      | 16.000      |
| 0330         | 504.0100   | CONCRETE MASONRY CULVERTS                                   | CY   | 3.000       | 3.000       |
|              |            |                                                             |      |             |             |
| 0340         | 504.0900   | CONCRETE MASONRY ENDWALLS                                   | CY   | 5.000       | 5.000       |
| 0350         | 505.0110   | BAR STEEL REINFORCEMENT CULVERTS                            | LB   | 80.000      | 80.000      |
| 0380         | 516.0500   | RUBBERIZED MEMBRANE WATERPROOFING                           | SY   | 2.000       | 2.000       |
| 0390         | 520.0124   | CULVERT PIPE CLASS III 24-INCH                              | LF   | 34.000      | 34.000      |
| 0400         | 520.0130   | CULVERT PIPE CLASS III 30-INCH                              | LF   | 38.000      | 38.000      |
|              |            |                                                             |      |             |             |
| 0410         | 520.0136   | CULVERT PIPE CLASS III 36-INCH                              | LF   | 80.000      | 80.000      |
| 0420         | 520.1024   | APRON ENDWALLS FOR CULVERT PIPE 24-INCH                     | EACH | 2.000       | 2.000       |
| 0430         | 520.1030   | APRON ENDWALLS FOR CULVERT PIPE 30-INCH                     | EACH | 2.000       | 2.000       |
| 0440         | 520.7000   | CLEANING CULVERT PIPES                                      | EACH | 4.000       | 4.000       |
| 0450         | 520.8000   | CONCRETE COLLARS FOR PIPE                                   | EACH | 2.000       | 2.000       |
|              |            |                                                             |      |             |             |
| 0460         | 521.0124   | CULVERT PIPE CORRUGATED STEEL 24-INCH                       | LF   | 27.000      | 27.000      |
| 0470         | 521.0735   | PIPE ARCH CORRUGATED STEEL 35X24-INCH                       | LF   | 91.000      | 91.000      |
| 0480         | 521.1024   | APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH               | EACH | 17.000      | 17.000      |
| 0490         | 521.1036   | APRON ENDWALLS FOR CULVERT PIPE STEEL 36-INCH               | EACH | 1.000       | 1.000       |
| 0500         | 521.1048   | APRON ENDWALLS FOR CULVERT PIPE STEEL 48-INCH               | EACH | 2.000       | 2.000       |
|              |            |                                                             |      |             |             |
| 0510         | 521.1060   | APRON ENDWALLS FOR CULVERT PIPE STEEL 60-INCH               | EACH | 2.000       | 2.000       |
| 0520         | 521.1235   | APRON ENDWALLS FOR PIPE ARCH STEEL 35X24-INCH               | EACH | 4.000       | 4.000       |
| 0530         | 522.0136   | CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH          | LF   | 94.000      | 94.000      |
| 0540         | 522.1036   | APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH | EACH | 4.000       | 4.000       |
| 0550         | 522.1042   | APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH | EACH | 2.000       | 2.000       |
|              |            |                                                             |      |             |             |
| 0570         | 601.0411   | CONCRETE CURB & GUTTER 30-INCH TYPE D                       | LF   | 285.000     | 285.000     |
| 0580         | 602.0405   | CONCRETE SIDEWALK 4-INCH                                    | SF   | 1,170.000   | 1,170.000   |
| 0590         | 602.0505   | CURB RAMP DETECTABLE WARNING FIELD YELLOW                   | SF   | 112.000     | 112.000     |

3

3

| DATE 17APR13 |            | E S T I M A T E O F Q U A N T I T I E S                          |      |            |            |
|--------------|------------|------------------------------------------------------------------|------|------------|------------|
| LINE         |            |                                                                  |      | 8640-02-61 |            |
| NUMBER       | ITEM       | ITEM DESCRIPTION                                                 | UNIT | TOTAL      | QUANTITY   |
| 0600         | 606.0200   | RIPRAP MEDIUM                                                    | CY   | 50.000     | 50.000     |
| 0620         | 611.8110   | ADJUSTING MANHOLE COVERS                                         | EACH | 4.000      | 4.000      |
| 0630         | 611.9800.S | PIPE GRATES                                                      | EACH | 1.000      | 1.000      |
| 0650         | 614.0010   | BARRIER SYSTEM GRADING SHAPING FINISHING                         | EACH | 7.000      | 7.000      |
| 0670         | 614.2300   | MGS GUARDRAIL 3                                                  | LF   | 112.500    | 112.500    |
| 0680         | 614.2500   | MGS THRIE BEAM TRANSITION                                        | LF   | 262.500    | 262.500    |
| 0690         | 614.2610   | MGS GUARDRAIL TERMINAL EAT                                       | EACH | 7.000      | 7.000      |
| 0700         | 616.0700.S | FENCE SAFETY                                                     | LF   | 400.000    | 400.000    |
| 0710         | 618.0100   | MAINTENANCE AND REPAIR OF HAUL ROADS<br>(PROJECT) 01. 8640-02-61 | EACH | 1.000      | 1.000      |
| 0720         | 619.1000   | MOBILIZATION                                                     | EACH | 0.670      | 0.670      |
| 0730         | 621.0100   | LANDMARK REFERENCE MONUMENTS                                     | EACH | 32.000     | 32.000     |
| 0740         | 625.0100   | TOPSOIL                                                          | SY   | 12,650.000 | 12,650.000 |
| 0760         | 627.0200   | MULCHING                                                         | SY   | 12,620.000 | 12,620.000 |
| 0770         | 628.1504   | SILT FENCE                                                       | LF   | 4,210.000  | 4,210.000  |
| 0780         | 628.1520   | SILT FENCE MAINTENANCE                                           | LF   | 4,210.000  | 4,210.000  |
| 0790         | 628.1905   | MOBILIZATIONS EROSION CONTROL                                    | EACH | 2.000      | 2.000      |
| 0800         | 628.1910   | MOBILIZATIONS EMERGENCY EROSION CONTROL                          | EACH | 3.000      | 3.000      |
| 0810         | 628.2004   | EROSION MAT CLASS I TYPE B                                       | SY   | 2,480.000  | 2,480.000  |
| 0820         | 628.2008   | EROSION MAT URBAN CLASS I TYPE B                                 | SY   | 290.000    | 290.000    |
| 0840         | 628.7015   | INLET PROTECTION TYPE C                                          | EACH | 10.000     | 10.000     |
| 0850         | 628.7504   | TEMPORARY DITCH CHECKS                                           | LF   | 380.000    | 380.000    |
| 0860         | 628.7555   | CULVERT PIPE CHECKS                                              | EACH | 30.000     | 30.000     |
| 0870         | 629.0210   | FERTILIZER TYPE B                                                | CWT  | 37.000     | 37.000     |
| 0880         | 630.0120   | SEEDING MIXTURE NO. 20                                           | LB   | 1,600.000  | 1,600.000  |
| 0890         | 630.0140   | SEEDING MIXTURE NO. 40                                           | LB   | 1.000      | 1.000      |
| 0900         | 633.5200   | MARKERS CULVERT END                                              | EACH | 48.000     | 48.000     |
| 0910         | 634.0612   | POSTS WOOD 4X6-INCH X 12-FT                                      | EACH | 6.000      | 6.000      |
| 0920         | 634.0614   | POSTS WOOD 4X6-INCH X 14-FT                                      | EACH | 107.000    | 107.000    |
| 0930         | 634.0616   | POSTS WOOD 4X6-INCH X 16-FT                                      | EACH | 22.000     | 22.000     |
| 0940         | 634.0618   | POSTS WOOD 4X6-INCH X 18-FT                                      | EACH | 154.000    | 154.000    |
| 0950         | 634.0620   | POSTS WOOD 4X6-INCH X 20-FT                                      | EACH | 13.000     | 13.000     |
| 0960         | 637.0202   | SIGNS REFLECTIVE TYPE II                                         | SF   | 2,134.550  | 2,134.550  |
| 0970         | 638.2602   | REMOVING SIGNS TYPE II                                           | EACH | 259.000    | 259.000    |
| 0980         | 638.3000   | REMOVING SMALL SIGN SUPPORTS                                     | EACH | 170.000    | 170.000    |
| 0990         | 642.5001   | FIELD OFFICE TYPE B                                              | EACH | 0.800      | 0.800      |
| 1000         | 643.0100   | TRAFFIC CONTROL (PROJECT) 01. 8640-02-61                         | EACH | 1.000      | 1.000      |
| 1020         | 643.0410   | TRAFFIC CONTROL BARRICADES TYPE II                               | DAY  | 406.000    | 406.000    |
| 1040         | 643.0705   | TRAFFIC CONTROL WARNING LIGHTS TYPE A                            | DAY  | 406.000    | 406.000    |
| 1050         | 643.0900   | TRAFFIC CONTROL SIGNS                                            | DAY  | 3,926.000  | 3,926.000  |
| 1080         | 645.0120   | GEOTEXTILE FABRIC TYPE HR                                        | SY   | 240.000    | 240.000    |
| 1090         | 646.0106   | PAVEMENT MARKING EPOXY 4-INCH                                    | LF   | 55,590.000 | 55,590.000 |
| 1100         | 646.0126   | PAVEMENT MARKING EPOXY 8-INCH                                    | LF   | 145.000    | 145.000    |
| 1110         | 646.0406   | PAVEMENT MARKING SAME DAY EPOXY 4-INCH                           | LF   | 55,270.000 | 55,270.000 |
| 1120         | 647.0110   | PAVEMENT MARKING RAILROAD CROSSINGS<br>EPOXY                     | EACH | 1.000      | 1.000      |
| 1130         | 647.0566   | PAVEMENT MARKING STOP LINE EPOXY 18-INCH                         | LF   | 152.000    | 152.000    |
| 1140         | 647.0576   | PAVEMENT MARKING STOP LINE EPOXY 24-INCH                         | LF   | 55.000     | 55.000     |
| 1150         | 647.0726   | PAVEMENT MARKING DIAGONAL EPOXY 12-INCH                          | LF   | 525.000    | 525.000    |
| 1160         | 647.0776   | PAVEMENT MARKING CROSSWALK EPOXY 12-INCH                         | LF   | 820.000    | 820.000    |
| 1170         | 648.0100   | LOCATING NO-PASSING ZONES                                        | MI   | 8.350      | 8.350      |
| 1180         | 649.0100   | TEMPORARY PAVEMENT MARKING 4-INCH                                | LF   | 55,270.000 | 55,270.000 |
| 1210         | 650.6000   | CONSTRUCTION STAKING PIPE CULVERTS                               | EACH | 8.000      | 8.000      |

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|              |          |                                                                           |                                         |            |            |
|--------------|----------|---------------------------------------------------------------------------|-----------------------------------------|------------|------------|
| DATE 17APR13 |          |                                                                           | E S T I M A T E O F Q U A N T I T I E S |            |            |
| LINE         |          |                                                                           |                                         |            | 8640-02-61 |
| NUMBER       | ITEM     | ITEM DESCRIPTION                                                          | UNIT                                    | TOTAL      | QUANTITY   |
| 1230         | 650.8000 | CONSTRUCTION STAKING RESURFACING REFERENCE                                | LF                                      | 43,665.000 | 43,665.000 |
| 1240         | 650.9910 | CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 8640-02-61        | LS                                      | 1.000      | 1.000      |
| 1270         | 690.0150 | SAWING ASPHALT                                                            | LF                                      | 1,475.000  | 1,475.000  |
| 1280         | 690.0250 | SAWING CONCRETE                                                           | LF                                      | 220.000    | 220.000    |
| 1300         | SPV.0060 | SPECIAL 01. GRADING, SHAPING, AND FINISHING FOR CROSSDRAINS               | EACH                                    | 19.000     | 19.000     |
| 1310         | SPV.0060 | SPECIAL 02. GRADING, SHAPING, AND FINISHING FOR CONCRETE SIDEWALK         | EACH                                    | 14.000     | 14.000     |
| 1320         | SPV.0060 | SPECIAL 03. REESTABLISH SECTION CORNER MONUMENTS                          | EACH                                    | 8.000      | 8.000      |
| 1330         | SPV.0090 | SPECIAL 01. DITCH CLEANING                                                | LF                                      | 475.000    | 475.000    |
| 1340         | SPV.0090 | SPECIAL 02. TREATED TIMBER RUB RAIL                                       | LF                                      | 100.000    | 100.000    |
| 1350         | SPV.0090 | SPECIAL 03. CONCRETE CURB AND GUTTER CURE AND SEAL TREATMENT              | LF                                      | 285.000    | 285.000    |
| 1360         | SPV.0105 | SPECIAL 01. PREPARE FOUNDATION FOR ASPHALTIC SURFACE SPECIAL AND PATCHING | LS                                      | 1.000      | 1.000      |
| 1370         | SPV.0165 | SPECIAL 01. CONCRETE PAVING BLOCK REPAIR, STRUCTURE B-17-150              | SF                                      | 10.000     | 10.000     |
| 1380         | SPV.0165 | SPECIAL 02. CONCRETE SIDEWALK CURE AND SEAL TREATMENT                     | SF                                      | 1,170.000  | 1,170.000  |
| 1390         | SPV.0195 | SPECIAL 01. ASPHALTIC SURFACE SPECIAL                                     | TON                                     | 17,850.000 | 17,850.000 |

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CLEARING AND GRUBBING

| CATEGORY | STATION | LOCATION | 201.0120    | 201.0220    |
|----------|---------|----------|-------------|-------------|
|          |         |          | CLEARING ID | GRUBBING ID |
| 0010     | 127+90  | LT       | ---         | 6           |
|          | 127+90  | LT       | ---         | 5           |
|          | 127+90  | LT       | ---         | 5           |
|          | 127+90  | LT       | ---         | 3           |
|          | 128+10  | LT       | ---         | 36          |
|          | 128+18  | LT       | ---         | 22          |
|          | 128+26  | LT       | ---         | 19          |
|          | 128+31  | LT       | ---         | 19          |
|          | 128+40  | LT       | ---         | 30          |
|          | 409+50  | LT       | 9           | 9           |
|          | 409+68  | LT       | 14          | 14          |
|          | 409+76  | LT       | 10          | 10          |
|          | 409+94  | LT       | 14          | 14          |
|          | 410+12  | LT       | 10          | 10          |
|          | 410+30  | LT       | 10          | 10          |
|          | 438+80  | LT       | 47          | 47          |
|          | 438+98  | LT       | 21          | 21          |
|          | 439+28  | LT       | 17          | 17          |
| TOTAL    |         |          | 152         | 297         |

REMOVING CONCRETE

| CATEGORY | STA. - STA.   | LOCATION | 204.0150                  | 204.0155                      |
|----------|---------------|----------|---------------------------|-------------------------------|
|          |               |          | REMOVING CURB & GUTTER LF | REMOVING CONCRETE SIDEWALK SY |
| 0010     | 2+00          | LT       | 16                        | 6                             |
|          | 2+75          | RT & LT  | 20                        | 16                            |
|          | 5+00          | RT & LT  | 20                        | 14                            |
|          | 5+85          | LT       | 20                        | 15                            |
|          | 6+60 - 7+17   | LT       | 57                        | ---                           |
|          | 10+08 - 10+65 | LT       | 57                        | ---                           |
|          | 11+75         | LT       | 10                        | 6                             |
|          | 12+50         | LT       | 10                        | 6                             |
|          | 18+00         | LT       | 10                        | 6                             |
|          | 18+90         | LT       | 10                        | 6                             |
|          | 23+40         | LT       | 10                        | 10                            |
|          | 24+50         | LT       | 10                        | 6                             |
|          | 24+60         | RT & LT  | 35                        | 24                            |
| TOTAL    |               |          | 285                       | 115                           |

REMOVING ASPHALTIC SURFACE

| CATEGORY | STA. - STA.     | LOCATION                 | 204.0110                      | 204.0115                                  | 204.0120                              |
|----------|-----------------|--------------------------|-------------------------------|-------------------------------------------|---------------------------------------|
|          |                 |                          | REMOVING ASPHALTIC SURFACE SY | REMOVING ASPHALTIC SURFACE BUTT JOINTS SY | REMOVING ASPHALTIC SURFACE MILLING SY |
| 0010     | 0+12            | SIDE ROADS               | ---                           | 210                                       | 5,007                                 |
|          |                 | BEGIN PROJECT            | ---                           | 80                                        | ---                                   |
|          |                 | RT. TURN LANE STH 170    | ---                           | 5                                         | ---                                   |
|          | 0+72            | RAILROAD TRACKS          | ---                           | 19                                        | ---                                   |
|          | 0+82            | RAILROAD TRACKS          | ---                           | 15                                        | ---                                   |
|          | 440+32          | END OF PROJECT           | ---                           | 13                                        | ---                                   |
|          | 0+12 - 0+72     | INCLUDES TURN LANES      | ---                           | ---                                       | 615                                   |
|          | 0+82 - 7+88     | INCLUDES SHOULDERS       | ---                           | ---                                       | 2,991                                 |
|          |                 | B-17-150                 | ---                           | 18                                        | ---                                   |
|          | 9+22 - 26+88    | MAIN LINE & LT. SHOULDER | ---                           | ---                                       | 5,499                                 |
|          | 26+88 - 99+00   | MAIN LINE                | ---                           | ---                                       | 19,236                                |
|          |                 | B-17-140                 | ---                           | 20                                        | ---                                   |
|          | B-17-140        | BEAMGUARD AREAS          | ---                           | ---                                       | 46                                    |
|          | 100+34 - 119+85 | MAIN LINE                | ---                           | ---                                       | 5,207                                 |
|          | 119+85 - 126+73 | MAIN LINE                | ---                           | ---                                       | 1,835                                 |
|          | 126+73 - 143+65 | MAIN LINE                | ---                           | ---                                       | 4,522                                 |
|          | 143+65 - 152+33 | MAIN LINE                | ---                           | ---                                       | 2,315                                 |
|          | 152+33 - 188+80 | MAIN LINE                | ---                           | ---                                       | 9,730                                 |
|          | 197+00 - 439+50 | MAIN LINE                | ---                           | ---                                       | 64,668                                |
|          | 439+50 - 440+28 | INCLUDES TURN LANES      | ---                           | ---                                       | 279                                   |
|          |                 | DRIVEWAYS                | 1,050                         | ---                                       | ---                                   |
|          |                 | UNDISTRIBUTED            | ---                           | 20                                        | ---                                   |
| TOTAL    |                 |                          | 1,050                         | 400                                       | 121,950                               |

REMOVING GUARDRAIL

| CATEGORY | STA. - STA.     | LOCATION | 204.0165              |
|----------|-----------------|----------|-----------------------|
|          |                 |          | REMOVING GUARDRAIL LF |
| 0010     | 7+14 - 7+90     | LT       | 75                    |
|          | 9+19 - 9+97     | RT       | 78                    |
|          | 9+29 - 10+06    | LT       | 78                    |
|          | 98+33 - 98+96   | RT       | 62                    |
|          | 98+43 - 99+09   | LT       | 67                    |
|          | 100+25 - 100+89 | RT       | 63                    |
|          | 100+38 - 101+05 | LT       | 67                    |
| TOTAL    |                 |          | 490                   |

REMOVING DELINEATORS AND MARKERS

| CATEGORY | STA. - STA.     | LOCATION | 204.0180                            |
|----------|-----------------|----------|-------------------------------------|
|          |                 |          | REMOVING DELINEATORS AND MARKERS EA |
| 0010     | 96+00 - 104+00  |          | 6                                   |
|          | 189+00 - 192+00 |          | 4                                   |
|          | 403+00 - 409+00 |          | 4                                   |
| TOTAL    |                 |          | 14                                  |

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BASE AGGREGATE DENSE

| 305.0110<br>BASE AGGREGATE<br>DENSE 3/4-INCH |                  |          |        |
|----------------------------------------------|------------------|----------|--------|
| CATEGORY                                     | STA. - STA.      | LOCATION | TON    |
| 0010                                         | PE's & FE's (29) | LT       | 290    |
|                                              | PE's & FE's (36) | RT       | 360    |
|                                              | 5+39 - 7+88      | RT       | 20     |
|                                              | 9+22 - 25+55     | RT       | 154    |
|                                              | 25+55 - 31+33    | RT & LT  | 90     |
|                                              | 31+33 - 119+85   | RT & LT  | 2,572  |
|                                              | 119+85 - 126+73  | RT & LT  | 38     |
|                                              | 126+73 - 143+65  | RT & LT  | 416    |
|                                              | 143+65 - 152+33  | RT & LT  | 38     |
|                                              | 152+33 - 265+50  | RT & LT  | 3,558  |
|                                              | 265+50 - 440+28  | RT & LT  | 6,124  |
| TOTAL                                        |                  |          | 13,660 |

PREPARE FOUNDATION FOR ASPHALT

| 211.0400<br>PREPARE FOUNDATION<br>FOR ASPHALTIC SHOULDERS |                 |          |     |  | SPV.0105.01<br>PREPARE FOUNDATION<br>FOR ASPHALTIC SURFACE<br>SPECIAL AND PATCHING |  |
|-----------------------------------------------------------|-----------------|----------|-----|--|------------------------------------------------------------------------------------|--|
| CATEGORY                                                  | STA. - STA.     | LOCATION | STA |  | LS                                                                                 |  |
| 0010                                                      | 119+85 - 126+73 |          | 16  |  | ---                                                                                |  |
|                                                           | 143+65 - 152+33 |          | 20  |  | ---                                                                                |  |
|                                                           | PROJECT         |          |     |  | 1                                                                                  |  |
| TOTAL                                                     |                 |          | 36  |  | 1                                                                                  |  |

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CONCRETE MASONRY CULVERTS

| 502.6102<br>MASONRY ANCHORS<br>TYPE S 1/2-INCH<br>EACH |         |          |      |    |    |    | 504.0100<br>CONCRETE MASONRY<br>CULVERTS<br>CY |  | 505.0110<br>BAR STEEL<br>REINFORCED<br>CULVERTS<br>LB |  | 516.0500<br>RUBBERIZED<br>MEMBRANE<br>WATERPROOFING<br>SY |  |
|--------------------------------------------------------|---------|----------|------|----|----|----|------------------------------------------------|--|-------------------------------------------------------|--|-----------------------------------------------------------|--|
| CATEGORY                                               | STATION | LOCATION | EACH | CY | LB | SY |                                                |  |                                                       |  |                                                           |  |
| 0010                                                   | 406+54  | LT       | 16   | 3  | 80 | 2  |                                                |  |                                                       |  |                                                           |  |
| TOTAL                                                  |         |          | 16   | 3  | 80 | 2  |                                                |  |                                                       |  |                                                           |  |

CONCRETE MASONRY ENDWALLS

| 504.0900<br>CONCRETE<br>MASONRY<br>ENDWALL<br>CY |         |          |    |
|--------------------------------------------------|---------|----------|----|
| CATEGORY                                         | STATION | LOCATION | CY |
| 0010                                             | 226+11  | RT & LT  | 5  |
| TOTAL                                            |         |          | 5  |

ASPHALTIC SURFACE

|          |                 |                          |      | SPV.0195.01                   |        | SPV.0195.01  |     | 465.0120           |     |
|----------|-----------------|--------------------------|------|-------------------------------|--------|--------------|-----|--------------------|-----|
|          |                 |                          |      | ASPHALTIC                     |        | ASPHALTIC    |     | 465.0110 ASPHALTIC |     |
|          |                 |                          |      | SURFACE                       |        | SURFACE      |     | ASPHALTIC SURFACE  |     |
|          |                 |                          |      | 455.0605                      |        | SPECIAL      |     | SPECIAL            |     |
|          |                 |                          |      | THICKNESS TACK COAT (WEDGING) |        | (1.5" THICK) |     | PATCHING AND FE    |     |
| CATEGORY | STA. - STA.     | LOCATION                 | INCH | GAL                           | TON    | TON          | TON | TON                | TON |
| 0010     | SIDE ROADS      | INCLUDES TURN LANES      | ---  | 130                           | ---    | 450          | --- | ---                | --- |
|          | 0+12 - 0+72     | INCLUDES TURN LANES      | ---  | 16                            | ---    | 55           | --- | ---                | --- |
|          | 0+82 - 7+88     | INCLUDES SHOULDERS       | ---  | 75                            | ---    | 260          | --- | ---                | --- |
|          | 9+22 - 26+88    | MAIN LINE & LT. SHOULDER | ---  | 138                           | ---    | 475          | --- | ---                | --- |
|          | 26+88 - 99+00   | MAIN LINE                | ---  | 962                           | 204    | 1,660        | --- | ---                | --- |
|          | B-17-140        | BEAMGUARD AREAS          | ---  | 1                             | ---    | 4            | --- | ---                | --- |
|          | 100+34 - 119+85 | MAIN LINE                | ---  | 260                           | 224    | 450          | --- | ---                | --- |
|          | 119+85 - 126+73 | INCLUDES 3' SHOULDERS    | ---  | 116                           | 175    | 200          | --- | ---                | --- |
|          | 126+73 - 143+65 | MAIN LINE                | ---  | 226                           | 207    | 390          | --- | ---                | --- |
|          | 143+65 - 152+33 | INCLUDES 3' SHOULDERS    | ---  | 144                           | 688    | 250          | --- | ---                | --- |
|          | 152+33 - 188+80 | MAIN LINE                | ---  | 536                           | 340    | 840          | --- | ---                | --- |
|          | 193+50 - 197+00 | MAIN LINE                | ---  | 3280                          | 5382   | 5,571        | --- | ---                | --- |
|          | 439+50 - 440+28 | INCLUDES TURN LANES      | ---  | 8                             | ---    | 25           | --- | ---                | --- |
|          | 30+30           | DRIVEWAY                 | 3    | ---                           | ---    | ---          | --- | ---                | 9   |
|          | 31+00           | SCHOOL DRIVEWAY          | 4    | ---                           | ---    | ---          | --- | ---                | 30  |
|          | 33+50           | DRIVEWAY                 | 2    | ---                           | ---    | ---          | --- | ---                | 6   |
|          | 56+60           | DRIVEWAY                 | 2    | ---                           | ---    | ---          | --- | ---                | 6   |
|          | 82+70           | DRIVEWAY                 | 2    | ---                           | ---    | ---          | --- | ---                | 9   |
|          | 126+15          | DRIVEWAY                 | 2    | ---                           | ---    | ---          | --- | ---                | 9   |
|          | 161+50          | DRIVEWAY                 | 2    | ---                           | ---    | ---          | --- | ---                | 9   |
|          | 308+80          | DRIVEWAY                 | 2    | ---                           | ---    | ---          | --- | ---                | 10  |
|          | 382+25          | DRIVEWAY                 | 2    | ---                           | ---    | ---          | --- | ---                | 10  |
|          | 424+10          | DRIVEWAY                 | 2    | ---                           | ---    | ---          | --- | ---                | 7   |
|          | 426+30          | DRIVEWAY                 | 2    | ---                           | ---    | ---          | --- | ---                | 12  |
|          | 429+00          | DRIVEWAY                 | 2    | ---                           | ---    | ---          | --- | ---                | 20  |
|          | 439+70          | DRIVEWAY                 | 4    | ---                           | ---    | ---          | --- | ---                | 21  |
|          |                 | UNDISTRIBUTED            | ---  | 3                             | ---    | ---          | 500 | ---                | 2   |
|          |                 |                          |      |                               | 7,220  | 10,630       |     |                    |     |
| TOTAL    |                 |                          |      | 5,895                         | 17,850 | 500          | 160 |                    |     |

ASPHALT CENTER LINE RUMBLE STRIP 2 LANE RURAL

|          |         |    |         |                           |  |
|----------|---------|----|---------|---------------------------|--|
|          |         |    |         | 465.0475.S                |  |
|          |         |    |         | ASPHALT CENTER LINE       |  |
|          |         |    |         | RUMBLE STRIP 2-LANE RURAL |  |
| CATEGORY | STATION | TO | STATION | LF                        |  |
| 0010     | 30+00   | -  | 38+84   | 884                       |  |
|          | 42+84   | -  | 55+96   | 1,312                     |  |
|          | 59+96   | -  | 81+70   | 2,174                     |  |
|          | 86+14   | -  | 98+75   | 1,261                     |  |
|          | 100+55  | -  | 120+00  | 1,946                     |  |
|          | 124+00  | -  | 145+75  | 2,175                     |  |
|          | 149+75  | -  | 181+00  | 3,125                     |  |
|          | 185+00  | -  | 192+00  | 700                       |  |
|          | 194+00  | -  | 259+00  | 6,500                     |  |
|          | 264+00  | -  | 329+00  | 6,500                     |  |
|          | 333+00  | -  | 344+30  | 1,130                     |  |
|          | 348+30  | -  | 366+50  | 1,820                     |  |
|          | 370+50  | -  | 423+00  | 5,250                     |  |
|          | TOTAL   |    |         | 34,777                    |  |

CULVERT PIPES AND ENDWALLS

| CATEGORY | STATION | LOCATION | 203.0100                                   | 520.0124                         | 520.0130                         | 520.0136                         | THICKNESS   |                | 520.1024                                  | 520.0103                                  | 520.7000                             | 520.8000                                | 521.0124                                    | 521.0735                                             |
|----------|---------|----------|--------------------------------------------|----------------------------------|----------------------------------|----------------------------------|-------------|----------------|-------------------------------------------|-------------------------------------------|--------------------------------------|-----------------------------------------|---------------------------------------------|------------------------------------------------------|
|          |         |          | REMOVING<br>SMALL PIPE<br>CULVERTS<br>EACH | CP<br>CLASS III<br>24-INCH<br>LF | CP<br>CLASS III<br>30-INCH<br>LF | CP<br>CLASS III<br>36-INCH<br>LF | STEEL<br>IN | ALUMINUM<br>IN | APRON<br>ENDWALL<br>CP<br>24-INCH<br>EACH | APRON<br>ENDWALL<br>CP<br>30-INCH<br>EACH | CLEANING<br>CULVERT<br>PIPES<br>EACH | CONCRETE<br>COLLARS FOR<br>PIPE<br>EACH | CULVERT PIPE<br>CORR STEEL<br>24-INCH<br>LF | PIPE ARCH<br>CORRUGATED<br>STEEL<br>35x24-INCH<br>LF |
| 0010     | 22+58   | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | 2                                    | ---                                     | ---                                         | ---                                                  |
|          | 22+58   | LT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 55+23   | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | 1                                    | ---                                     | ---                                         | ---                                                  |
|          | 55+23   | LT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 57+43   | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 57+43   | LT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 66+73   | RT       | ---                                        | 34                               | ---                              | ---                              | 0.064       | 0.075          | 1                                         | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 66+73   | LT       | 1                                          | ---                              | ---                              | ---                              | ---         | ---            | 1                                         | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 79+60   | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | 13                                          | ---                                                  |
|          | 79+60   | LT       | 1                                          | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | 2                                           | ---                                                  |
|          | 139+38  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 139+38  | LT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 139+61  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | 1                                    | ---                                     | 2                                           | ---                                                  |
|          | 139+61  | LT       | 1                                          | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 161+98  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | 41                                                   |
|          | 161+98  | LT       | 1                                          | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 163+91  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | 50                                                   |
|          | 163+91  | LT       | 1                                          | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 226+11  | RT       | ---                                        | ---                              | ---                              | 40                               | 0.079       | 0.105          | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 226+11  | LT       | 1                                          | ---                              | ---                              | 40                               | 0.079       | 0.105          | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 233+61  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 233+61  | LT       | 1                                          | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 259+79  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 259+79  | LT       | 1                                          | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 267+77  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 267+77  | LT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 284+49  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 284+49  | LT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 290+72  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 290+72  | LT       | 1                                          | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 305+94  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 305+94  | LT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 320+74  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 320+74  | LT       | 1                                          | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 347+42  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 347+42  | LT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 385+33  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | 2                                           | ---                                                  |
|          | 385+33  | LT       | 1                                          | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 397+21  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 397+21  | LT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 406+54  | RT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|          | 406+54  | LT       | ---                                        | ---                              | ---                              | ---                              | ---         | ---            | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
| SUBTOTAL |         |          | 11                                         | 34                               | 0                                | 80                               |             |                | 2                                         | 0                                         | 4                                    | 0                                       | 19                                          | 91                                                   |

CULVERT PIPES AND ENDWALLS

| CATEGORY      | STATION | LOCATION | 203.0100                                   | 520.0124                         | 520.0130                         | 520.0136                         | THICKNESS |          | 520.1024                                  | 520.0103                                  | 520.7000                             | 520.8000                                | 521.0124                                    | 521.0735                                             |
|---------------|---------|----------|--------------------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------|----------|-------------------------------------------|-------------------------------------------|--------------------------------------|-----------------------------------------|---------------------------------------------|------------------------------------------------------|
|               |         |          | REMOVING<br>SMALL PIPE<br>CULVERTS<br>EACH | CP<br>CLASS III<br>24-INCH<br>LF | CP<br>CLASS III<br>30-INCH<br>LF | CP<br>CLASS III<br>36-INCH<br>LF | STEEL     | ALUMINUM | APRON<br>ENDWALL<br>CP<br>24-INCH<br>EACH | APRON<br>ENDWALL<br>CP<br>30-INCH<br>EACH | CLEANING<br>CULVERT<br>PIPES<br>EACH | CONCRETE<br>COLLARS FOR<br>PIPE<br>EACH | CULVERT PIPE<br>CORR STEEL<br>24-INCH<br>LF | PIPE ARCH<br>CORRUGATED<br>STEEL<br>35x24-INCH<br>LF |
|               | 419+06  | RT       | ---                                        | ---                              | 38                               | ---                              | 0.079     | 0.075    | ---                                       | 1                                         | ---                                  | ---                                     | ---                                         | ---                                                  |
|               | 419+06  | LT       | 1                                          | ---                              | ---                              | ---                              | ---       | ---      | ---                                       | 1                                         | ---                                  | ---                                     | ---                                         | ---                                                  |
|               | 433+57  | RT       | ---                                        | ---                              | ---                              | ---                              | ---       | ---      | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|               | 433+57  | LT       | 1                                          | ---                              | ---                              | ---                              | ---       | ---      | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|               | 440+80  | RT       | ---                                        | ---                              | ---                              | ---                              | ---       | ---      | ---                                       | ---                                       | ---                                  | ---                                     | ---                                         | ---                                                  |
|               | 440+80  | LT       | 1                                          | ---                              | ---                              | ---                              | ---       | ---      | ---                                       | ---                                       | ---                                  | ---                                     | 8                                           | ---                                                  |
| UNDISTRIBUTED |         |          | ---                                        | ---                              | ---                              | ---                              | ---       | ---      | ---                                       | ---                                       | ---                                  | 2                                       | ---                                         | ---                                                  |
| SUBTOTAL      |         |          | 3                                          | 0                                | 38                               | 0                                |           |          | 0                                         | 2                                         | 0                                    | 2                                       | 8                                           | 0                                                    |
| TOTAL         |         |          | 14                                         | 34                               | 38                               | 80                               |           |          | 2                                         | 2                                         | 4                                    | 2                                       | 27                                          | 91                                                   |

CULVERT PIPES AND ENDWALLS

| CATEGORY | STATION | LOCATION | 521.1024                                    | 521.1036                                    | 521.1048                                    | 521.1060                                    | 521.1235                                      | 522.0136 | 522.1036                                    | 522.1042                                    | 611.9800.S | 633.5200 | 650.6000                                         |                                                  | SPV.0060.01                                               | SPV. 0090.01 |
|----------|---------|----------|---------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|-----------------------------------------------|----------|---------------------------------------------|---------------------------------------------|------------|----------|--------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------|--------------|
|          |         |          | APRON<br>ENDWALL<br>CPCS<br>24-INCH<br>EACH | APRON<br>ENDWALL<br>CPCS<br>36-INCH<br>EACH | APRON<br>ENDWALL<br>CPCS<br>48-INCH<br>EACH | APRON<br>ENDWALL<br>CPCS<br>60-INCH<br>EACH | APRON<br>ENDWALL<br>PAS<br>35x24-INCH<br>EACH |          | APRON<br>ENDWALL<br>CPRC<br>36-INCH<br>EACH | APRON<br>ENDWALL<br>CPRC<br>42-INCH<br>EACH |            |          | CONSTRUCTION<br>STAKING<br>PIPE CULVERTS<br>EACH | CONSTRUCTION<br>STAKING<br>PIPE CULVERTS<br>EACH | GRADING<br>SHAPING, &<br>FINISHING<br>CROSSDRAINS<br>EACH |              |
| 0010     | 22+58   | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | 15           |
|          | 22+58   | LT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | ---          |
|          | 55+23   | RT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | 1                                                         | 15           |
|          | 55+23   | LT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | 15           |
|          | 57+43   | RT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | 1                                                         | 15           |
|          | 57+43   | LT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | 15           |
|          | 66+73   | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | 1                                                | ---                                              | 1                                                         | 15           |
|          | 66+73   | LT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | 15           |
|          | 79+60   | RT       | 2                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | 1                                                         | 25           |
|          | 79+60   | LT       | 2                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | ---          |
|          | 139+38  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | ---          |
|          | 139+38  | LT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | 15           |
|          | 139+61  | RT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | 1                                                         | ---          |
|          | 139+61  | LT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | 15           |
|          | 161+98  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | 1                                             | ---      | ---                                         | ---                                         | ---        | 1        | 1                                                | ---                                              | 1                                                         | 15           |
|          | 161+98  | LT       | ---                                         | ---                                         | ---                                         | ---                                         | 1                                             | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | 15           |
|          | 163+91  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | 1                                             | ---      | ---                                         | ---                                         | ---        | 1        | 1                                                | ---                                              | 1                                                         | 15           |
|          | 163+91  | LT       | ---                                         | ---                                         | ---                                         | ---                                         | 1                                             | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | 15           |
|          | 226+11  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | 2                                                | ---                                              | 1                                                         | 15           |
|          | 226+11  | LT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | 15           |
|          | 233+61  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | 48       | 1                                           | ---                                         | ---        | 1        | 1                                                | ---                                              | 1                                                         | 15           |
|          | 233+61  | LT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---      | 1                                           | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | 15           |
|          | 259+79  | RT       | ---                                         | ---                                         | 1                                           | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | 1                                                         | ---          |
|          | 259+79  | LT       | ---                                         | ---                                         | 1                                           | ---                                         | ---                                           | ---      | ---                                         | ---                                         | ---        | 1        | ---                                              | ---                                              | ---                                                       | ---          |
| SUBTOTAL |         |          | 10                                          | 0                                           | 2                                           | 0                                           | 4                                             | 48       | 2                                           | 0                                           | 0          | 24       | 6                                                |                                                  | 10                                                        | 280          |

CULVERT PIPES AND ENDWALLS

| CATEGORY      | STATION | LOCATION | 521.1024                                    | 521.1036                                    | 521.1048                                    | 521.106                                     | 521.1235                                      | 522.1036                                        | 522.1042                                    | 611.9800.S                                  | 633.5200               | 650.6000                             | SPV.0060.01                                      |                                                           | SPV. 0090.01            |
|---------------|---------|----------|---------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|-----------------------------------------------|-------------------------------------------------|---------------------------------------------|---------------------------------------------|------------------------|--------------------------------------|--------------------------------------------------|-----------------------------------------------------------|-------------------------|
|               |         |          | APRON<br>ENDWALL<br>CPCS<br>24-INCH<br>EACH | APRON<br>ENDWALL<br>CPCS<br>36-INCH<br>EACH | APRON<br>ENDWALL<br>CPCS<br>48-INCH<br>EACH | APRON<br>ENDWALL<br>CPCS<br>60-INCH<br>EACH | APRON<br>ENDWALL<br>PAS<br>35x24-INCH<br>EACH | 522.0136<br>RCCP<br>CLASS III<br>36- INCH<br>LF | APRON<br>ENDWALL<br>CPRC<br>36-INCH<br>EACH | APRON<br>ENDWALL<br>CPRC<br>42-INCH<br>EACH | PIPE<br>GRATES<br>EACH | CULVERT END<br>PIPE CULVERTS<br>EACH | CONSTRUCTION<br>STAKING<br>PIPE CULVERTS<br>EACH | GRADING<br>SHAPING, &<br>FINISHING<br>CROSSDRAINS<br>EACH | DITCH<br>CLEANING<br>LF |
|               | 267+77  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | 15                      |
|               | 267+77  | LT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | ---                     |
|               | 284+49  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | 15                      |
|               | 284+49  | LT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | ---                     |
|               | 290+72  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | 46                                              | 1                                           | ---                                         | ---                    | 1                                    | 1                                                | 1                                                         | 15                      |
|               | 290+72  | LT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | 1                                           | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | ---                     |
|               | 305+94  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | ---                     |
|               | 305+94  | LT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | 1                                                         | ---                     |
|               | 320+74  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | 1                                           | 1                      | 1                                    | ---                                              | 1                                                         | 15                      |
|               | 320+74  | LT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | 1                                           | ---                    | 1                                    | ---                                              | ---                                                       | 15                      |
|               | 347+42  | RT       | ---                                         | ---                                         | ---                                         | 1                                           | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | 1                                                         | 15                      |
|               | 347+42  | LT       | ---                                         | ---                                         | ---                                         | 1                                           | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | ---                     |
|               | 385+33  | RT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | 1                                                         | 15                      |
|               | 385+33  | LT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | 15                      |
|               | 397+21  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | ---                     |
|               | 397+21  | LT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | ---                     |
|               | 406+54  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | 1                                                         | 15                      |
|               | 406+54  | LT       | ---                                         | 1                                           | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | ---                     |
|               | 419+06  | RT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | 1                                                | 1                                                         | 15                      |
|               | 419+06  | LT       | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | 15                      |
|               | 433+57  | RT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | 1                                                         | 15                      |
|               | 433+57  | LT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | ---                     |
|               | 440+80  | RT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | 1                                                         | ---                     |
|               | 440+80  | LT       | 1                                           | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | 1                                    | ---                                              | ---                                                       | 15                      |
| UNDISTRIBUTED |         |          | ---                                         | ---                                         | ---                                         | ---                                         | ---                                           | ---                                             | ---                                         | ---                                         | ---                    | ---                                  | ---                                              | ---                                                       | ---                     |
| SUBTOTAL      |         |          | 7                                           | 1                                           | 0                                           | 2                                           | 0                                             | 46                                              | 2                                           | 2                                           | 1                      | 24                                   | 2                                                | 9                                                         | 195                     |
| TOTAL         |         |          | 17                                          | 1                                           | 2                                           | 2                                           | 4                                             | 94                                              | 4                                           | 2                                           | 1                      | 48                                   | 8                                                | 19                                                        | 475                     |

3

CONCRETE CURB & GUTTER

| CATEGORY | STA. - STA.   | LOCATION | 601.0411                                             | SPV.0090.03                                                 |
|----------|---------------|----------|------------------------------------------------------|-------------------------------------------------------------|
|          |               |          | CONCRETE<br>CURB & GUTTER<br>30 INCH<br>TYPE D<br>LF | CONCRETE<br>CURB & GUTTER<br>CURE & SEAL<br>TREATMENT<br>LF |
| 0010     | 2+00          | LT       | 16                                                   | 16                                                          |
|          | 2+75          | RT & LT  | 20                                                   | 20                                                          |
|          | 5+00          | RT & LT  | 20                                                   | 20                                                          |
|          | 5+85          | LT       | 20                                                   | 20                                                          |
|          | 6+60 -7+17    | LT       | 57                                                   | 57                                                          |
|          | 10+08 - 10+65 | LT       | 57                                                   | 57                                                          |
|          | 11+75         | LT       | 10                                                   | 10                                                          |
|          | 12+50         | LT       | 10                                                   | 10                                                          |
|          | 18+00         | LT       | 10                                                   | 10                                                          |
|          | 18+90         | LT       | 10                                                   | 10                                                          |
|          | 23+40         | LT       | 10                                                   | 10                                                          |
|          | 24+50         | LT       | 10                                                   | 10                                                          |
|          | 24+60         | RT & LT  | 35                                                   | 35                                                          |
|          | TOTAL         |          | 285                                                  | 285                                                         |

CONCRETE DRIVEWAY AND SIDEWALK

| CATEGORY | STATION | LOCATION      | 602.0405                             | 602.0505                                                 | SPV.0060.02                                                | SPV.0165.02                                            |
|----------|---------|---------------|--------------------------------------|----------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------|
|          |         |               | CONCRETE<br>SIDEWALK<br>4-INCH<br>SF | CURB RAMP<br>DETECTABLE<br>WARNING<br>FIELD YELLOW<br>SF | GRADING<br>SHAPING &<br>FINISHING<br>CONC SIDEWALK<br>EACH | CONCRETE<br>SIDEWALK<br>CURE & SEAL<br>TREATMENT<br>SF |
| 0010     | 2+00    | LT            | 50                                   | 8                                                        | 1                                                          | 50                                                     |
|          | 2+75    | RT & LT       | 140                                  | 16                                                       | 2                                                          | 140                                                    |
|          | 5+00    | RT & LT       | 125                                  | 16                                                       | 2                                                          | 125                                                    |
|          | 5+85    | LT            | 130                                  | 8                                                        | 1                                                          | 130                                                    |
|          | 11+75   | LT            | 60                                   | 8                                                        | 1                                                          | 60                                                     |
|          | 12+50   | LT            | 60                                   | 8                                                        | 1                                                          | 60                                                     |
|          | 18+00   | LT            | 60                                   | 8                                                        | 1                                                          | 60                                                     |
|          | 18+90   | LT            | 60                                   | 8                                                        | 1                                                          | 60                                                     |
|          | 23+40   | LT            | 85                                   | 8                                                        | 1                                                          | 85                                                     |
|          | 24+50   | LT            | 50                                   | 8                                                        | 1                                                          | 50                                                     |
|          | 24+60   | RT & LT       | 200                                  | 16                                                       | 2                                                          | 200                                                    |
|          |         | UNDISTRIBUTED | 150                                  | ---                                                      | ---                                                        | 150                                                    |
|          | TOTAL   |               | 1,170                                | 112                                                      | 14                                                         | 1,170                                                  |

3

ADJUSTING MANHOLES

| CATEGORY | STATION    | LOCATION | 611.8110                               |
|----------|------------|----------|----------------------------------------|
|          |            |          | ADJUSTING<br>MANHOLE<br>COVERS<br>EACH |
| 0010     | 00+09      | 3.5 RT   | 1                                      |
|          | *00+22     | 6.1 LT   | ---                                    |
|          | *2+06      | 12.2 LT  | ---                                    |
|          | *2+43      | 8.9 RT   | ---                                    |
|          | *2+61      | 9.1 RT   | ---                                    |
|          | *10"MS"+15 | 0.0 RT   | ---                                    |
|          | *2+66      | 14.8 LT  | ---                                    |
|          | *2+71      | 21.7 LT  | ---                                    |
|          | 5+12       | 30.0 RT  | 1                                      |
|          | *5+33      | 12.1 RT  | ---                                    |
|          | 5+43       | 11.8 RT  | 1                                      |
|          | 10"HS"+40  | 0.0 RT   | 1                                      |
|          | 11"GW"+00  | 5.4 RT   | ---                                    |
|          | TOTAL      |          | 4                                      |

\*SANITARY SEWER MANHOLES AND WATER VALVES TO BE RECONSTRUCTED BY VILLAGE DURING CONSTRUCTION  
ADJUST MANHOLE COVERS ONLY AS NEEDED OR DIRECTED BY THE ENGINEER

STEEL PLATE BEAM GUARD

| CATEGORY | STA. - STA.     | LOCATION | 614.2500                              | 614.2300                    | 614.2610                                                       | SPV.0090.02                         |
|----------|-----------------|----------|---------------------------------------|-----------------------------|----------------------------------------------------------------|-------------------------------------|
|          |                 |          | MGS<br>THRIE BEAM<br>TRANSISION<br>LF | MGS<br>GUARDRAIL<br>3<br>LF | MGS GUARDRAIL<br>TERMINAL ENERGY<br>ABSORBING TERMINAL<br>EACH | TREATED<br>TIMBER<br>RUB RAIL<br>LF |
| 0010     | 7+90            | RT       | ---                                   | ---                         | ---                                                            | ---                                 |
|          | 6+69 - 7+90     | LT       | 37.5                                  | 12.5                        | 1                                                              | 50                                  |
|          | 9+19 - 10+40    | RT       | 37.5                                  | 25                          | 1                                                              | ---                                 |
|          | 9+29 - 10+50    | LT       | 37.5                                  | 25                          | 1                                                              | 50                                  |
|          | 97+88 - 98+96   | RT       | 37.5                                  | 12.5                        | 1                                                              | ---                                 |
|          | 98+01 - 99+09   | LT       | 37.5                                  | 12.5                        | 1                                                              | ---                                 |
|          | 100+25 - 101+33 | RT       | 37.5                                  | 12.5                        | 1                                                              | ---                                 |
|          | 100+38 - 101+46 | LT       | 37.5                                  | 12.5                        | 1                                                              | ---                                 |
|          | TOTAL           |          | 262.5                                 | 112.5                       | 7                                                              | 100                                 |

BARRIER SYSTEM GRADING, SHAPING, AND FINISHING

|          |         |          |   |                 |         |            |         |          |        |          |
|----------|---------|----------|---|-----------------|---------|------------|---------|----------|--------|----------|
|          |         |          |   | 614.0010        |         |            |         | 628.2004 |        | 628.2008 |
|          |         |          |   | BARRIER SYSTEM  |         |            |         | EROSION  |        | EROSION  |
|          |         |          |   | GRADING SHAPING |         |            |         | MAT      |        | MAT      |
|          |         |          |   | FINISHING FOR   |         |            |         | CLASS 1  |        | CLASS 1  |
|          |         |          |   | EACH            |         |            |         | TYPE B   |        | TYPE B   |
| CATEGORY | STATION | LOCATION |   | BORROW          | TOPSOIL | FERTILIZER | SEEDING | CLASS 1  | TYPE B | URBAN    |
|          |         |          |   | CY              | SY      | TYPE B     | MIXTURE | TYPE B   |        |          |
|          |         |          |   |                 |         | CWT        | NO 20   | SY       |        | SY       |
|          |         |          |   |                 |         |            | LB      |          |        |          |
| 0010     | 6+95    | LT       | 1 | 0               | 74      | 0.05       | 2.00    | ---      | 74     |          |
|          | 10+15   | RT       | 1 | 0               | 99      | 0.06       | 2.67    | ---      | 99     |          |
|          | 10+25   | LT       | 1 | 0               | 87      | 0.05       | 2.35    | ---      | 87     |          |
|          | 98+13   | RT       | 1 | 60              | 620     | 0.39       | 16.74   | 620      | ---    |          |
|          | 98+26   | LT       | 1 | 60              | 620     | 0.39       | 16.74   | 620      | ---    |          |
|          | 101+08  | RT       | 1 | 60              | 620     | 0.39       | 16.74   | 620      | ---    |          |
|          | 101+21  | LT       | 1 | 60              | 620     | 0.39       | 16.74   | 620      | ---    |          |
| TOTAL    |         |          | 7 | 240             | 2,740   | 2          | 74      | 2,480    | 260    | **       |

\*\* SEE EROSION MAT QUANTITIES FOR PROJECT TOTALS  
\*\*\* INCLUDED IN BARRIER SYSTEM GRADING SHAPING FINISHING, QUANTITIES SHOWN FOR INFORMATION ONLY

FENCE SAFETY

|          |                |              |     |
|----------|----------------|--------------|-----|
|          |                | 616.0700.S   |     |
|          |                | FENCE SAFETY |     |
| CATEGORY | STA. - STA.    | LOCATION     | LF  |
| 0010     | 193+50 -195+50 | RT           | 200 |
|          | 193+50 -195+50 | LT           | 200 |
| TOTAL    |                |              | 400 |

LANDMARK REFERENCE MONUMENTS

|          |                                    |           |                |
|----------|------------------------------------|-----------|----------------|
|          |                                    | 621.0100  | SPV.0060.03    |
|          |                                    | LANDMARK  | REESTABLISH    |
|          |                                    | REFERENCE | SECTION CORNER |
|          |                                    | MONUMENTS | MONUMENTS      |
| CATEGORY | LOCATION                           | EACH      | EACH           |
| 0010     | NW CORNER SEC 36 T30N R14W         | 4         | 1              |
|          | W 1/4 CORNER SEC 25 T30N R14W      | 4         | 1              |
|          | NW CORNER SEC 25 T30N R14W         | 4         | 1              |
|          | W 1/4 CORNER SEC 24 T30N R14W      | 4         | 1              |
|          | SE CORNER SEC 14 T30N R14W         | 4         | 1              |
|          | CENTER 1/4 CORNER SEC 14 T30N R14W | 4         | 1              |
|          | NW CORNER SEC 14 T30N R14W         | 4         | 1              |
|          | SE CORNER SEC 33 T31N R14W         | 4         | 1              |
| TOTAL    |                                    | 32        | 8              |

| EROSION CONTROL |             |          |          |            |              |            |             |            |             |
|-----------------|-------------|----------|----------|------------|--------------|------------|-------------|------------|-------------|
| CATEGORY        | STA. - STA. | LOCATION | 606.0200 | 645.0120   | 628.7504     | 628.1504   | 628.1520    | 628.7015   | 628.7555    |
|                 |             |          | RIPRAP   | GEOTEXTILE | TEMPORARY    | SILT FENCE | SILT FENCE  | INLET      | CULVERT     |
|                 |             |          | MEDIUM   | FABRIC     | DITCH CHECKS |            | MAINTENANCE | PROTECTION | PIPE CHECKS |
|                 |             |          | CY       | TYPE HR    | LF           | LF         | LF          | TYPE C     | EACH        |
|                 |             |          |          | SY         |              |            |             | EACH       | EACH        |
| 0010            | 2+71        | LT       | ---      | ---        | ---          | ---        | ---         | 1          | ---         |
|                 | 5+11        | LT       | ---      | ---        | ---          | ---        | ---         | 1          | ---         |
|                 | 6+07        | LT       | ---      | ---        | ---          | ---        | ---         | 1          | ---         |
|                 | 11+94       | LT       | ---      | ---        | ---          | ---        | ---         | 1          | ---         |
|                 | 12+38       | LT       | ---      | ---        | ---          | ---        | ---         | 1          | ---         |
|                 | 16+37       | LT       | ---      | ---        | ---          | ---        | ---         | 1          | ---         |
|                 | 18+25       | LT       | ---      | ---        | ---          | ---        | ---         | 1          | ---         |
|                 | 18+83       | LT       | ---      | ---        | ---          | ---        | ---         | 1          | ---         |
|                 | 22+61       | LT       | ---      | ---        | ---          | ---        | ---         | 1          | ---         |
|                 | 22+58       | RT       | ---      | ---        | 10           | ---        | ---         | ---        | ---         |
|                 | 22+58       | LT       | ---      | ---        | ---          | ---        | ---         | ---        | 2           |
|                 | 55+23       | RT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 55+23       | LT       | ---      | ---        | 10           | 50         | ---         | ---        | 1           |
|                 | 57+43       | RT       | ---      | ---        | 10           | 50         | ---         | ---        | 1           |
|                 | 57+43       | LT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 66+73       | RT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 66+73       | LT       | ---      | ---        | 10           | 50         | ---         | ---        | 1           |
|                 | 79+60       | RT       | ---      | ---        | 10           | 100        | ---         | ---        | 2           |
|                 | 79+60       | LT       | ---      | ---        | ---          | 100        | ---         | ---        | ---         |
|                 | 139+38      | RT       | ---      | ---        | ---          | 50         | ---         | ---        | 1           |
|                 | 139+38      | LT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 139+61      | RT       | ---      | ---        | ---          | 100        | ---         | ---        | 1           |
|                 | 139+61      | LT       | ---      | ---        | 10           | 100        | ---         | ---        | ---         |
|                 | 161+97      | RT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 161+97      | LT       | ---      | ---        | 10           | 50         | ---         | ---        | 1           |
|                 | 163+90      | RT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 163+90      | LT       | ---      | ---        | 10           | 50         | ---         | ---        | 1           |
|                 | 226+05      | RT       | ---      | ---        | 10           | 100        | ---         | ---        | 2           |
|                 | 226+05      | LT       | ---      | ---        | 10           | 100        | ---         | ---        | ---         |
|                 | 233+60      | RT       | ---      | ---        | 10           | 50         | ---         | ---        | 1           |
|                 | 233+60      | LT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 259+78      | RT       | ---      | ---        | ---          | 50         | ---         | ---        | 1           |
|                 | 259+78      | LT       | 7        | 33         | ---          | 50         | ---         | ---        | ---         |
|                 | 267+76      | RT       | ---      | ---        | 10           | ---        | ---         | ---        | 1           |
|                 | 267+76      | LT       | ---      | ---        | ---          | ---        | ---         | ---        | ---         |
|                 | 284+47      | RT       | ---      | ---        | 10           | ---        | ---         | ---        | 1           |
|                 | 284+47      | LT       | ---      | ---        | ---          | ---        | ---         | ---        | ---         |
|                 | 290+70      | RT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 290+70      | LT       | 5        | 26         | ---          | 50         | ---         | ---        | 1           |
|                 | 305+93      | RT       | ---      | ---        | ---          | ---        | ---         | ---        | 1           |
|                 | 305+93      | LT       | 4        | 24         | ---          | 50         | ---         | ---        | ---         |
|                 | 320+73      | RT       | ---      | ---        | 10           | 50         | ---         | ---        | 1           |
|                 | 320+73      | LT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 347+39      | RT       | 8        | 36         | 10           | 50         | ---         | ---        | 1           |
|                 | 347+39      | LT       | 8        | 36         | ---          | 50         | ---         | ---        | ---         |
|                 | 385+31      | RT       | ---      | ---        | 10           | 50         | ---         | ---        | 1           |
|                 | 385+31      | LT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 397+18      | RT       | ---      | ---        | ---          | ---        | ---         | ---        | 1           |
| SUBTOTAL        |             |          | 32       | 155        | 260          | 1,850      | 0           | 9          | 23          |

| EROSION CONTROL |                 |          |          |            |              |            |             |            |             |
|-----------------|-----------------|----------|----------|------------|--------------|------------|-------------|------------|-------------|
| CATEGORY        | STA. - STA.     | LOCATION | 606.0200 | 645.0120   | 628.7504     | 628.1504   | 628.1520    | 628.7015   | 628.7555    |
|                 |                 |          | RIPRAP   | GEOTEXTILE | TEMPORARY    | SILT FENCE | SILT FENCE  | INLET      | CULVERT     |
|                 |                 |          | MEDIUM   | FABRIC     | DITCH CHECKS |            | MAINTENANCE | PROTECTION | PIPE CHECKS |
|                 |                 |          | CY       | TYPE HR    | LF           | LF         | LF          | TYPE C     | PIPE CHECKS |
|                 |                 |          |          |            |              |            |             | EACH       | EACH        |
|                 | 397+18          | LT       | 4        | 22         | ---          | ---        | ---         | ---        | ---         |
|                 | 406+51          | RT       | ---      | ---        | 10           | 50         | ---         | ---        | 1           |
|                 | 406+51          | LT       | ---      | ---        | ---          | 50         | ---         | ---        | ---         |
|                 | 419+02          | RT       | ---      | ---        | 10           | 50         | ---         | ---        | 1           |
|                 | 419+02          | LT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 433+54          | RT       | 3        | 20         | 10           | 50         | ---         | ---        | 1           |
|                 | 433+54          | LT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 440+91          | RT       | ---      | ---        | ---          | 50         | ---         | ---        | 1           |
|                 | 440+91          | LT       | ---      | ---        | 10           | 50         | ---         | ---        | ---         |
|                 | 6+59 - 7+90     | LT       | ---      | ---        | ---          | 150        | ---         | ---        | ---         |
|                 | 9+19 - 10+51    | RT       | ---      | ---        | ---          | 150        | ---         | ---        | ---         |
|                 | 9+29 - 10+61    | LT       | ---      | ---        | ---          | 150        | ---         | ---        | ---         |
|                 | 96+91 - 98+96   | RT       | ---      | ---        | ---          | 220        | ---         | ---        | ---         |
|                 | 97+24 - 99+09   | LT       | ---      | ---        | ---          | 220        | ---         | ---        | ---         |
|                 | 100+25 - 102+30 | RT       | ---      | ---        | ---          | 220        | ---         | ---        | ---         |
|                 | 100+38 - 102+43 | LT       | ---      | ---        | ---          | 220        | ---         | ---        | ---         |
|                 | UNDISTRIBUTED   |          | 11       | 43         | 60           | 630        | 4,210       | 1          | 3           |
|                 |                 | SUBTOTAL | 18       | 85         | 120          | 2,360      | 4,210       | 1          | 7           |
|                 |                 | TOTAL    | 50       | 240        | 380          | 4,210      | 4,210       | 10         | 30          |

3

| CATEGORY | STA. - STA.     | LOCATION  | 625.0100      | 628.2008    | 629.0210   | 630.0120        | 630.0140        | 627.0200      |
|----------|-----------------|-----------|---------------|-------------|------------|-----------------|-----------------|---------------|
|          |                 |           | TOPSOIL       | EROSION MAT | FERTILIZER | SEEDING MIXTURE | SEEDING MIXTURE | MULCHING      |
|          |                 |           | SY            | TYPE B SY   | TYPE B CWT | NO. 20 LB       | NO. 40 LB       | SY            |
| 0010     | 25+55 - 440+28  | SHOULDERS | ---           | ---         | 29.0       | 1250            | ---             | ---           |
|          | FROM GUARDRAIL  |           | ---           | 260         | ---        | ---             | ---             | ---           |
|          | 120+85 - 125+72 | LT        | 541           | ---         | 0.3        | 15              | ---             | 541           |
|          | 144+64 - 151+33 | LT        | 743           | ---         | 0.5        | 20              | ---             | 743           |
|          | 177+44 - 188+80 | LT & RT   | 1262          | ---         | 0.8        | 34              | ---             | 1262          |
|          | 219+33 - 233+86 | LT & RT   | 1614          | ---         | 1.0        | 44              | ---             | 1614          |
|          | 244+92 - 251+00 | LT & RT   | 676           | ---         | 0.4        | 18              | ---             | 676           |
|          | 255+83 - 258+10 | RT        | 252           | ---         | 0.2        | 7               | ---             | 252           |
|          | 260+49 - 262+91 | RT        | 269           | ---         | 0.2        | 7               | ---             | 269           |
|          | 272+76 - 275+58 | LT & RT   | 313           | ---         | 0.2        | 8               | ---             | 313           |
|          | 301+63 - 309+01 | LT & RT   | 820           | ---         | 0.5        | 22              | ---             | 820           |
|          | 329+13 - 331+88 | LT        | 306           | ---         | 0.2        | 8               | ---             | 306           |
|          | 345+35 - 349+34 | LT & RT   | 443           | ---         | 0.3        | 12              | ---             | 443           |
|          | 356+80 - 369+85 | LT & RT   | 1450          | ---         | 0.9        | 39              | ---             | 1450          |
|          | 377+92 - 380+56 | LT        | 293           | ---         | 0.2        | 8               | ---             | 293           |
|          | 385+58 - 389+52 | LT & RT   | 438           | ---         | 0.3        | 12              | ---             | 438           |
|          | 391+20 - 394+67 | LT & RT   | 386           | ---         | 0.2        | 10              | ---             | 386           |
|          | 396+96 - 400+68 | LT        | 413           | ---         | 0.3        | 11              | ---             | 413           |
|          | 403+08 - 409+30 | LT        | 691           | ---         | 0.4        | 19              | ---             | 691           |
|          | 411+50 - 416+24 | LT & RT   | 527           | ---         | 0.3        | 14              | ---             | 527           |
|          | 419+42 - 422+24 | LT & RT   | 313           | ---         | 0.2        | 8               | ---             | 313           |
|          | 430+16 - 432+90 | LT & RT   | 304           | ---         | 0.2        | 8               | ---             | 304           |
|          | 435+09 - 440+17 | LT & RT   | 564           | ---         | 0.4        | 15              | ---             | 564           |
|          | UNDISTRIBUTED   |           | 30            | 30          | ---        | 9               | 1.0             | ---           |
|          | <b>TOTAL</b>    |           | <b>12,650</b> | <b>290</b>  | <b>37</b>  | <b>1,600</b>    | <b>1</b>        | <b>12,620</b> |

| CATEGORY | PROJECT      | 628.1905        | 628.1910        |
|----------|--------------|-----------------|-----------------|
|          |              | MOBILIZATIONS   | MOBILIZATIONS   |
|          |              | EROSION CONTROL | EROSION CONTROL |
|          |              | EACH            | EACH            |
| 0010     | 8640-02-61   | 2               | 3               |
|          | <b>TOTAL</b> | <b>2</b>        | <b>3</b>        |

|          |                |              |             |
|----------|----------------|--------------|-------------|
|          |                |              | 648.0100    |
|          |                |              | LOCATING    |
|          |                |              | NO-PASSING  |
|          |                |              | ZONES       |
| CATEGORY | STA. - STA.    | LOCATION     | MILES       |
| 0010     | 00+12 - 441+00 | MAINLINE     | 8.35        |
|          |                | <b>TOTAL</b> | <b>8.35</b> |

| CATEGORY |               | 643.0100<br>TRAFFIC<br>CONTROL<br>PROJECT<br>EACH | 643.0410<br>BARRICADES<br>TYPE II<br>DAYS | 643.0705<br>WARNING LIGHTS<br>TYPE A<br>EACH | 643.0900<br>SIGNS<br>DAYS | 649.0100<br>TEMPORARY<br>PAVEMENT MARKING<br>4-INCH<br>LF |
|----------|---------------|---------------------------------------------------|-------------------------------------------|----------------------------------------------|---------------------------|-----------------------------------------------------------|
| 0010     | PROJECT       | 1                                                 | 406                                       | 406                                          | 3926                      | 55,270                                                    |
|          | <b>TOTALS</b> | <b>1</b>                                          | <b>406</b>                                | <b>406</b>                                   | <b>3,926</b>              | <b>55,270</b>                                             |

|          |         |              | SPV.0165.01     |
|----------|---------|--------------|-----------------|
|          |         |              | CONCRETE PAVING |
|          |         |              | BLOCK REPAIR    |
| CATEGORY | STATION | STRUCTURE    | SF              |
| 0010     | 9+30    | B-17-150     | 10              |
|          |         | <b>TOTAL</b> | <b>10</b>       |

SIGNS REFLECTIVE TYPE II AND WOOD POSTS

| CATEGORY | SIGN NO. | ASSY # | SIGN CODE                                          | MESSAGE                                                           | SIGN SIZE<br>IN x IN | 637.0202                    | POSTS WOOD                   |                              |                              |                              |                              |
|----------|----------|--------|----------------------------------------------------|-------------------------------------------------------------------|----------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
|          |          |        |                                                    |                                                                   |                      | SIGNS REFLECTIVE TYPE II SF | 634.0612 4X6 INCH 12 FT EACH | 634.0614 4X6 INCH 14 FT EACH | 634.0616 4X6 INCH 16 FT EACH | 634.0618 4X6 INCH 18 FT EACH | 634.0620 4X6 INCH 20 FT EACH |
| 0010     | 01-01    | J3-3   | M3-3, M1-6, M6-1 M3-2, M1-6, M6-1 M3-4, M1-6, M6-1 | SOUTH 79, ARROW LEFT, EAST 170, ARROW LEFT, WEST 170, ARROW RIGHT | 72 x 57              | 28.50                       | ---                          | ---                          | 2                            | ---                          | ---                          |
|          | 01-02    |        | S1-1                                               | SCHOOL ZONE                                                       | 36 x 36              | 6.75                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-03    |        | WF16-7L                                            | DIAG. DOWN ARROW LEFT                                             | 24 x 12              | 2.00                        | ---                          | ---                          | ---                          | ---                          | ---                          |
|          | 01-04    |        | R5-1                                               | DO NOT ENTER                                                      | 30 x 30              | 6.25                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-05    |        | R1-1                                               | STOP                                                              | 36 x 36              | 7.46                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-06    |        | R1-1                                               | STOP                                                              | 36 x 36              | 7.46                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-07    |        | R8-8                                               | DO NOT STOP ON TRACKS                                             | 24 X 30              | 5.00                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-08    |        | D1-3                                               | MENOMONIE WHEELER <-, DOWNING ->                                  | 78 x 36              | 19.50                       | ---                          | 2                            | ---                          | ---                          | ---                          |
|          | 01-09    |        | W10-1                                              | RAILROAD CROSSING                                                 | 36 x 36              | 7.07                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-10    |        | W3-1                                               | STOP AHEAD                                                        | 36 x 36              | 9.00                        | ---                          | ---                          | 1                            | ---                          | ---                          |
|          | 01-11    |        | R2-1                                               | SPEED LIMIT 25                                                    | 24 x 30              | 5.00                        | ---                          | ---                          | 1                            | ---                          | ---                          |
|          | 01-12    |        | S5-2                                               | END SCHOOL ZONE                                                   | 24 X 30              | 5.00                        | ---                          | ---                          | ---                          | ---                          | ---                          |
|          | 01-13    | J1-1   | M2-1,M1-6                                          | JUNCTION 170                                                      | 24 X 39              | 6.50                        | ---                          | ---                          | 1                            | ---                          | ---                          |
|          | 01-14    | J2-1   | M3-3, M1-6, M5-1L                                  | SOUTH 79, ARROW UP AND LEFT                                       | 24 X 57              | 9.50                        | ---                          | ---                          | ---                          | ---                          | ---                          |
|          | 01-15    |        | R1-1                                               | STOP                                                              | 30 x 30              | 5.18                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-16    |        | S1-1                                               | SCHOOL ZONE                                                       | 36 x 30              | 6.75                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-17    |        | WF16-7L                                            | DIAG. DOWN ARROW LEFT                                             | 24 x 12              | 2.00                        | ---                          | ---                          | ---                          | ---                          | ---                          |
|          | 01-18    |        | R1-1                                               | STOP                                                              | 30 x 30              | 5.18                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-19    |        | W5-52L                                             | OBJECT MARKER                                                     | 12 x 36              | 3.00                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-20    |        | I3-1                                               | TIFFANY CREEK                                                     | 78 x 15              | 8.13                        | 2                            | ---                          | ---                          | ---                          | ---                          |
|          | 01-21    |        | W5-52R                                             | OBJECT MARKER                                                     | 12 x 36              | 3.00                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-22    |        | S4-51                                              | SCHOOL SPEED LIMIT 15                                             | 24 x 48              | 8.00                        | ---                          | ---                          | 1                            | ---                          | ---                          |
|          | 01-23    |        | S1-1                                               | SCHOOL ZONE                                                       | 36 x 36              | 6.75                        | ---                          | ---                          | 1                            | ---                          | ---                          |
|          | 01-24    |        | WF16-9P                                            | AHEAD                                                             | 24 x 12              | 2.00                        | ---                          | ---                          | ---                          | ---                          | ---                          |
|          | 01-25    |        | R2-6P                                              | FINES HIGHER                                                      | 24 x 18              | 3.00                        | ---                          | ---                          | ---                          | ---                          | ---                          |
|          | 01-26    |        | D11-8                                              | ATV ROUTE                                                         | 24 x 18              | 3.00                        | 1                            | ---                          | ---                          | ---                          | ---                          |
|          | 01-27    |        | D11-8                                              | ATV ROUTE                                                         | 24 x 18              | 3.00                        | 1                            | ---                          | ---                          | ---                          | ---                          |
|          | 01-28    |        | R1-1                                               | STOP                                                              | 30 x 30              | 5.18                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-29    |        | R2-1                                               | SPEED LIMIT 25                                                    | 24 x 30              | 5.00                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-30    |        | W12-1D                                             | DOUBLE DOWN ARROW                                                 | 24 x 24              | 4.00                        | 1                            | ---                          | ---                          | ---                          | ---                          |
|          | 01-31    |        | M3-4, M1-6, M6-1 M3-1, M1-6, M6-1                  | WEST 170, ARROW, NORTH 79, ARROW                                  | 48 x 57              | 19.00                       | ---                          | ---                          | 1                            | ---                          | ---                          |
|          | 01-32    | J3-2   | R8-8                                               | DO NOT STOP ON TRACKS                                             | 24 X 30              | 5.00                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-33    |        | S1-1                                               | SCHOOL ZONE                                                       | 36 x 36              | 6.75                        | ---                          | ---                          | 1                            | ---                          | ---                          |
|          | 01-34    |        | WF16-9P                                            | AHEAD                                                             | 24 x 12              | 2.00                        | ---                          | ---                          | ---                          | ---                          | ---                          |
|          | 01-35    |        | R2-6P                                              | FINES HIGHER                                                      | 24 x 18              | 3.00                        | ---                          | ---                          | ---                          | ---                          | ---                          |
|          | 01-36    |        | R7-51L                                             | NO PARKING HERE TO CORNER                                         | 18 x 24              | 3.00                        | ---                          | ---                          | ---                          | ---                          | ---                          |
|          | 01-37    |        | R2-1                                               | SPEED LIMIT 25                                                    | 24 x 30              | 5.00                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-38    |        | D11-10                                             | ATV ROUTE                                                         | 24 x 18              | 3.00                        | 1                            | ---                          | ---                          | ---                          | ---                          |
|          | 01-39    |        | R1-1                                               | STOP                                                              | 30 x 30              | 5.18                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-40    |        | R1-1                                               | STOP                                                              | 30 x 30              | 5.18                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-41    |        | S4-51                                              | SCHOOL SPEED LIMIT 15                                             | 24 x 48              | 8.00                        | ---                          | ---                          | 1                            | ---                          | ---                          |
|          | 01-42    |        | S1-1                                               | SCHOOL ZONE                                                       | 36 x 36              | 6.75                        | ---                          | 1                            | ---                          | ---                          | ---                          |
|          | 01-43    |        | WF16-7L                                            | DIAG. DOWN ARROW LEFT                                             | 24 x 12              | 2.00                        | ---                          | ---                          | ---                          | ---                          | ---                          |
|          | 01-44    |        | R1-1                                               | STOP                                                              | 30 x 30              | 5.18                        | ---                          | ---                          | ---                          | 1                            | ---                          |
|          | 01-45    |        | W5-52R                                             | OBJECT MARKER                                                     | 12 x 36              | 3.00                        | ---                          | ---                          | ---                          | 1                            | ---                          |
|          |          |        |                                                    | SUBTOTAL                                                          |                      | 280.19                      | 6                            | 20                           | 10                           | 2                            | 0                            |

SIGNS REFLECTIVE TYPE II AND WOOD POSTS CONTINUED

| CATEGORY | SIGN NO. | ASSY # | SIGN CODE            | MESSAGE                                        | SIGN SIZE<br>IN x IN | 637.0202                       | 634.0612                  | POSTS WOOD                |                           |                           |                           |
|----------|----------|--------|----------------------|------------------------------------------------|----------------------|--------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|          |          |        |                      |                                                |                      | SIGNS REFLECTIVE TYPE II<br>SF | 4X6 INCH<br>12 FT<br>EACH | 4X6 INCH<br>14 FT<br>EACH | 4X6 INCH<br>16 FT<br>EACH | 4X6 INCH<br>18 FT<br>EACH | 4X6 INCH<br>20 FT<br>EACH |
|          | 01-46    |        | D11-10               | ATV ROUTE                                      | 24 x 18              | 3.00                           | ---                       | ---                       | 1                         | ---                       | ---                       |
|          | 01-47    |        | I3-1                 | TIFFANY CREEK                                  | 78 x 15              | 8.13                           | ---                       | ---                       | 1                         | 1                         | ---                       |
|          | 01-48    | J4-1   | M3-1, M1-6           | NORTH 79                                       | 24 x 36              | 6.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 01-49    |        | W5-52L               | OBJECT MARKER                                  | 12 x 36              | 3.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 01-50    |        | R2-1                 | SPEED LIMIT 25                                 | 24 x 30              | 5.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 01-51    |        | S5-2                 | END SCHOOL ZONE                                | 24 x 30              | 5.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 01-52    |        | I55-56MOD            | ADOPT A HIGHWAY BOYCEVILLE 7TH AND 8TH GRADERS | 30 x 36              | 7.50                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 01-53    |        | R2-1                 | SPEED LIMIT 35                                 | 24 x 30              | 5.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 01-54    |        | R1-1                 | STOP                                           | 30 x 30              | 5.18                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 01-55    |        | R2-1                 | SPEED LIMIT 35                                 | 24 x 30              | 5.00                           | ---                       | ---                       | 1                         | ---                       | ---                       |
|          | 01-56    |        | S5-2                 | END SCHOOL ZONE                                | 24 x 30              | 5.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 01-57    |        | R1-1                 | STOP                                           | 30 x 30              | 5.18                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 01-58    |        | S1-1                 | SCHOOL ZONE                                    | 36 x 36              | 6.75                           | ---                       | ---                       | 1                         | ---                       | ---                       |
|          | 01-59    |        | WF16-7L              | DIAG. DOWN ARROW LEFT                          | 24 x 12              | 2.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 01-60    |        | I2-3                 | BOYCEVILLE POP. 1043                           | 66 x 24              | 11.00                          | ---                       | ---                       | 1                         | 1                         | ---                       |
|          | 01-61    |        | R1-1                 | STOP                                           | 30 x 30              | 5.18                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 01-62    |        | S4-51                | SCHOOL SPEED LIMIT 15 AHEAD                    | 36 x 36              | 9.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 01-63    |        | S1-1                 | SCHOOL ZONE                                    | 36 x 36              | 6.75                           | ---                       | ---                       | ---                       | ---                       | 1                         |
|          | 01-64    |        | WF16-9P              | AHEAD                                          | 24 x 12              | 2.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 01-65    |        | R2-6P                | FINES HIGHER                                   | 24 x 18              | 3.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 01-66    |        | S4-51                | SCHOOL SPEED LIMIT 15                          | 24 x 48              | 8.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 01-67    |        | R1-1                 | STOP                                           | 30 x 30              | 5.18                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 01-68    |        | S1-1                 | SCHOOL ZONE                                    | 36 x 36              | 6.75                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 01-69    |        | WF16-7L              | DIAG. DOWN ARROW LEFT                          | 24 x 12              | 2.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 01-70    |        | W8-70                | CENTERLINE RUMBLE STRIPS                       | 36 x 36              | 9.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 01-71    |        | W57-51               | NEXT 8 MILES                                   | 30 x 15              | 3.13                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 02-01    |        | S4-51                | SCHOOL SPEED LIMIT 15                          | 24 x 48              | 8.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-02    |        | S1-1                 | SCHOOL ZONE                                    | 36 x 36              | 6.75                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-03    |        | WF16-9P              | AHEAD                                          | 24 x 12              | 2.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 02-04    |        | R2-6P                | FINES HIGHER                                   | 24 x 18              | 3.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 02-05    |        | S4-51                | SCHOOL SPEED LIMIT 15 AHEAD                    | 36 x 36              | 9.00                           | ---                       | ---                       | ---                       | ---                       | 1                         |
|          | 02-06    |        | R2-1                 | SPEED LIMIT 35                                 | 24 x 30              | 5.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-07    |        | R1-1                 | STOP                                           | 30 x 30              | 5.18                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-08    |        | W3-5                 | SPEED LIMIT 35 AHEAD                           | 36 x 36              | 9.00                           | ---                       | ---                       | ---                       | ---                       | 1                         |
|          | 02-09    | J4-1   | M3-3, M1-6           | SOUTH 79                                       | 24 x 36              | 6.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-10    | J13-2  | M1-6,M6-4,M1-5A,M6-1 | 79, ARROW, COUNTY N, ARROW                     | 48 x 45              | 15.00                          | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-11    |        | R1-1                 | STOP                                           | 30 x 30              | 5.18                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-12    | J13-1  | M1-5A, M6-4          | COUNTY N, ARROW                                | 24 x 45              | 7.50                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-13    |        | R1-1                 | STOP                                           | 30 x 30              | 5.18                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-14    |        | R2-1                 | SPEED LIMIT 35                                 | 24 x 30              | 5.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-15    |        | S5-2                 | END SCHOOL ZONE                                | 24 x 30              | 5.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 02-16    |        | W14-3                | NO PASSING ZONE                                | 48 x 36              | 6.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 02-17    |        | R2-1                 | SPEED LIMIT 55                                 | 24 x 30              | 5.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-18    | J1-1   | M2-1, M1-5A          | JCT COUNTY N                                   | 24 x 39              | 6.50                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 02-19    | J13-1  | M1-5A, M6-4          | COUNTY N, ARROW                                | 24 x 45              | 7.50                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          |          |        |                      | SUBTOTAL                                       |                      | 264.51                         | 0                         | 2                         | 5                         | 26                        | 3                         |

SIGNS REFLECTIVE TYPE II AND WOOD POSTS CONTINUED

| CATEGORY | SIGN NO. | ASSY # | SIGN CODE               | MESSAGE                                        | SIGN SIZE<br>IN x IN | 637.0202                    | 634.0612            | POSTS WOOD          |                     |                     |                     |
|----------|----------|--------|-------------------------|------------------------------------------------|----------------------|-----------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|          |          |        |                         |                                                |                      | SIGNS REFLECTIVE TYPE II SF | 4X6 INCH 12 FT EACH | 4X6 INCH 14 FT EACH | 4X6 INCH 16 FT EACH | 4X6 INCH 18 FT EACH | 4X6 INCH 20 FT EACH |
|          | 02-20    |        | R1-1                    | STOP                                           | 30 x 30              | 5.18                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 02-21    | J13-2  | M1-6, M6-1, M1-5A, M6-1 | 79, ARROW, COUNTY N, ARROW                     | 48 x 45              | 15.00                       | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 02-22    | J4-1   | M3-1, M1-6              | NORTH 79                                       | 24 x 36              | 6.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 02-23    |        | W14-3                   | NO PASSING ZONE                                | 48 x 36              | 6.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 02-24    | J1-1   | M2-1, M1-5A             | JCT COUNTY N                                   | 24 x 39              | 6.50                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 02-25    |        | R1-1                    | STOP                                           | 30 x 30              | 5.18                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 02-26    |        | W14-3                   | NO PASSING ZONE                                | 48 x 36              | 6.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 02-27    |        | W1-7                    | DOUBLE ARROW                                   | 48 x 24              | 8.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 02-28    |        | W8-70                   | CENTERLINE RUMBLE STRIPS                       | 36 x 36              | 9.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 02-29    |        | W57-51                  | NEXT 7 MILES                                   | 30 x 15              | 3.13                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-01    |        | W5-52L                  | OBJECT MARKER                                  | 12 x 36              | 3.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-02    |        | W5-52R                  | OBJECT MARKER                                  | 12 x 36              | 3.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-03    |        | I3-1                    | SOUTH FORK HAY RIVER                           | 66 x 24              | 11.00                       | ---                 | ---                 | 1                   | 1                   | ---                 |
|          | 03-04    |        | W14-3                   | NO PASSING ZONE                                | 48 x 36              | 6.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-05    |        | I55-56MOD               | ADOPT A HIGHWAY BOYCEVILLE 7TH AND 8TH GRADERS | 30 x 36              | 7.50                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-06    |        | I3-1                    | SOUTH FORK HAY RIVER                           | 66 x 24              | 11.00                       | ---                 | ---                 | 1                   | 1                   | ---                 |
|          | 03-07    |        | W5-52R                  | OBJECT MARKER                                  | 12 x 36              | 3.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-08    |        | W5-52L                  | OBJECT MARKER                                  | 12 x 36              | 3.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-09    |        | W1-1L                   | LEFT TURN                                      | 36 x 36              | 9.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-10    |        | W13-1                   | 30 MPH                                         | 24 x 24              | 4.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-11    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | 1                   | ---                 | ---                 | ---                 |
|          | 03-12    |        | W1-8                    | > CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-13    |        | R1-1                    | STOP                                           | 30 x 30              | 5.18                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-14    |        | W1-6                    | LEFT ARROW                                     | 48 x 24              | 8.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-15    |        | W1-8                    | > CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | 1                   | ---                 | ---                 | ---                 |
|          | 03-16    |        | W1-8                    | > CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | 1                   | ---                 | ---                 | ---                 |
|          | 03-17    |        | W1-8                    | > CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | 1                   | ---                 | ---                 | ---                 |
|          | 03-18    |        | W1-8                    | > CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | 1                   | ---                 | ---                 | ---                 |
|          | 03-19    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-20    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-21    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-22    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-23    |        | S3-1                    | SCHOOL BUS STOP AHEAD                          | 36 x 24              | 6.00                        | ---                 | ---                 | ---                 | ---                 | 1                   |
|          | 03-24    |        | W2-2                    | LEFT TURN INTERSECTION                         | 30 x 30              | 6.25                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-25    |        | W1-1R                   | RIGHT TURN ARROW                               | 36 x 36              | 9.00                        | ---                 | ---                 | ---                 | ---                 | 1                   |
|          | 03-26    |        | W13-1                   | 30 MPH                                         | 24 x 24              | 4.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-27    |        | W14-3                   | NO PASSING ZONE                                | 48 x 36              | 6.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-28    |        | W1-6                    | RIGHT ARROW                                    | 48 x 24              | 8.00                        | ---                 | ---                 | ---                 | 1                   | ---                 |
|          | 03-29    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-30    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-31    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-32    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-33    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-34    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | ---                 | ---                 | ---                 | ---                 |
|          | 03-35    |        | W1-8                    | < CHEVRON                                      | 18 x 24              | 3.00                        | ---                 | 1                   | ---                 | ---                 | ---                 |
| SUBTOTAL |          |        |                         |                                                |                      | 233.92                      | 0                   | 6                   | 2                   | 23                  | 2                   |

SIGNS REFLECTIVE TYPE II AND WOOD POSTS CONTINUED

| CATEGORY | SIGN NO. | ASSY # | SIGN CODE   | MESSAGE             | SIGN SIZE<br>IN x IN | 637.0202         | 634.0612      | POSTS WOOD                |                           |                           |                           |
|----------|----------|--------|-------------|---------------------|----------------------|------------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|
|          |          |        |             |                     |                      | SIGNS REFLECTIVE | 4X6 INCH      | 634.0614                  | 634.0616                  | 634.0618                  | 634.0620                  |
|          |          |        |             |                     |                      | TYPE II<br>SF    | 12 FT<br>EACH | 4X6 INCH<br>14 FT<br>EACH | 4X6 INCH<br>16 FT<br>EACH | 4X6 INCH<br>18 FT<br>EACH | 4X6 INCH<br>20 FT<br>EACH |
|          | 03-36    |        | R1-1        | STOP                | 30 x 30              | 5.18             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 03-37    |        | W1-6        | RIGHT ARROW         | 48 x 24              | 8.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 03-38    |        | W14-3       | NO PASSING ZONE     | 48 x 36              | 6.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 03-39    |        | W1-2R       | RIGHT CURVE         | 30 x 30              | 6.25             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 03-40    |        | W13-1       | 35 MPH              | 18 x 18              | 2.25             | ---           | ---                       | ---                       | ---                       | ---                       |
|          | 03-41    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 03-42    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 03-43    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 03-44    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 03-45    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 03-46    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 03-47    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 03-48    |        | W1-6        | LEFT ARROW          | 48 x 24              | 8.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-01    |        | W1-2L       | LEFT CURVE          | 30 x 30              | 6.25             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-02    |        | W13-1       | 35 MPH              | 18 x 18              | 2.25             | ---           | ---                       | ---                       | ---                       | ---                       |
|          | 04-03    |        | W14-3       | NO PASSING ZONE     | 48 x 36              | 6.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-04    |        | W1-8        | < CHEVRON           | 18 x 24              | 3.00             | ---           | ---                       | ---                       | ---                       | ---                       |
|          | 04-05    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 04-06    |        | W1-8        | < CHEVRON           | 18 x 24              | 3.00             | ---           | ---                       | ---                       | ---                       | ---                       |
|          | 04-07    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 04-08    |        | W1-8        | < CHEVRON           | 18 x 24              | 3.00             | ---           | ---                       | ---                       | ---                       | ---                       |
|          | 04-09    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 04-10    |        | W1-8        | < CHEVRON           | 18 x 24              | 3.00             | ---           | ---                       | ---                       | ---                       | ---                       |
|          | 04-11    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 04-12    |        | W1-8        | < CHEVRON           | 18 x 24              | 3.00             | ---           | ---                       | ---                       | ---                       | ---                       |
|          | 04-13    |        | W1-8        | > CHEVRON           | 18 x 24              | 3.00             | ---           | 1                         | ---                       | ---                       | ---                       |
|          | 04-14    | J4-1   | M3-3, M1-6  | SOUTH 79            | 24 x 36              | 6.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-15    |        | W1-7        | DOUBLE ARROW        | 48 x 24              | 8.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-16    | J13-1  | M1-5A, M6-1 | COUNTY O, ARROW     | 24 x 45              | 7.50             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-17    |        | W14-3       | NO PASSING ZONE     | 48 x 36              | 6.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-18    |        | W1-2L       | LEFT CURVE          | 30 x 30              | 6.25             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-19    |        | W13-1       | 45 MPH              | 18 x 18              | 2.25             | ---           | ---                       | ---                       | ---                       | ---                       |
|          | 04-20    | J1-1   | M2-1, M1-5A | JCT COUNTY O        | 24 x 39              | 6.50             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-21    |        | R1-1        | STOP                | 30 x 30              | 5.18             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-22    |        | W1-6        | LEFT ARROW          | 48 x 24              | 8.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-23    | J13-1  | M1-5A, M6-1 | COUNTY O, ARROW     | 24 x 45              | 7.50             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-24    |        | W12-1D      | DOUBLE DOWN         | 24 x 24              | 4.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-25    | J13-1  | M1-6, M6-4  | 79, ARROW           | 24 x 45              | 7.50             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-26    | J4-1   | M3-1, M1-6  | NORTH 79            | 24 x 36              | 6.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-27    |        | W1-6        | RIGHT ARROW         | 48 x 24              | 8.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-28    |        | W5-52L      | OBJECT MARKER       | 12 x 36              | 3.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-29    |        | I3-1        | SLOVAK VALLEY CREEK | 78 x 24              | 13.00            | ---           | ---                       | 1                         | 1                         | ---                       |
|          | 04-30    |        | W5-52R      | OBJECT MARKER       | 12 x 36              | 3.00             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-31    | J1-1   | M2-1, M1-5A | JCT, COUNTY O       | 24 x 39              | 6.50             | ---           | ---                       | ---                       | 1                         | ---                       |
|          | 04-32    |        | W1-2R       | RIGHT CURVE         | 30 x 30              | 6.25             | ---           | ---                       | ---                       | 1                         | ---                       |
|          |          |        |             | SUBTOTAL            |                      | 221.61           | 0             | 12                        | 1                         | 25                        | 0                         |

SIGNS REFLECTIVE TYPE II AND WOOD POSTS CONTINUED

| CATEGORY | SIGN NO. | ASSY # | SIGN CODE | MESSAGE                  | SIGN SIZE<br>IN x IN | 637.0202                 | 634.0612   | POSTS WOOD |            |            |            |
|----------|----------|--------|-----------|--------------------------|----------------------|--------------------------|------------|------------|------------|------------|------------|
|          |          |        |           |                          |                      | SIGNS REFLECTIVE TYPE II | 4X6 INCH   | 4X6 INCH   | 4X6 INCH   | 4X6 INCH   | 4X6 INCH   |
|          |          |        |           |                          |                      | SF                       | 12 FT EACH | 14 FT EACH | 16 FT EACH | 18 FT EACH | 20 FT EACH |
|          | 04-33    |        | W13-1     | 45 MPH                   | 18 x 18              | 2.25                     | ---        | ---        | ---        | ---        | ---        |
|          | 04-34    |        | W14-3     | NO PASSING ZONE          | 48 x 36              | 6.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 04-35    |        | R1-1      | STOP                     | 36 x 36              | 7.46                     | ---        | ---        | ---        | 1          | ---        |
|          | 04-36    |        | R1-1      | STOP                     | 36 x 36              | 7.46                     | ---        | ---        | ---        | 1          | ---        |
|          | 04-37    |        | R5-1      | DO NOT ENTER             | 30 x 30              | 6.25                     | ---        | ---        | ---        | 1          | ---        |
|          | 04-38    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 04-39    |        | W1-8      | > CHEVRON                | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 04-40    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 04-41    |        | W1-8      | > CHEVRON                | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 04-42    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 04-43    |        | W1-8      | > CHEVRON                | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 04-44    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 04-45    |        | W1-8      | > CHEVRON                | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 04-46    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 04-47    |        | W1-8      | > CHEVRON                | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 04-48    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 04-49    |        | W1-8      | > CHEVRON                | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 04-50    |        | W5-52R    | OBJECT MARKER            | 12 x 36              | 3.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 04-51    |        | I3-1      | SLOVAK VALLEY CREEK      | 78 x 24              | 13.00                    | ---        | ---        | 1          | 1          | ---        |
|          | 04-52    |        | W5-52L    | OBJECT MARKER            | 12 x 36              | 3.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 04-53    |        | W14-3     | NO PASSING ZONE          | 48 x 36              | 6.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 04-54    |        | W1-2R     | RIGHT CURVE              | 30 x 30              | 6.25                     | ---        | ---        | ---        | 1          | ---        |
|          | 04-55    |        | W13-1     | 35 MPH                   | 18 x 18              | 2.25                     | ---        | ---        | ---        | ---        | ---        |
|          | 04-56    |        | W8-70     | CENTERLINE RUMBLE STRIPS | 36 x 36              | 9.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 04-57    |        | W57-51    | NEXT 3 MILES             | 30 x 15              | 3.13                     | ---        | ---        | ---        | ---        | ---        |
|          | 04-58    |        | W8-70     | CENTERLINE RUMBLE STRIPS | 36 x 36              | 9.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 04-59    |        | W57-51    | NEXT 4 MILES             | 30 x 15              | 3.13                     | ---        | ---        | ---        | ---        | ---        |
|          | 05-01    |        | W1-6      | RIGHT ARROW              | 48 x 24              | 8.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 05-02    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 05-03    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 05-04    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 05-05    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 05-06    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 05-07    |        | W1-2L     | LEFT CURVE               | 30 x 30              | 6.25                     | ---        | ---        | ---        | 1          | ---        |
|          | 05-08    |        | W13-1     | 35 MPH                   | 18 x 18              | 2.25                     | ---        | ---        | ---        | ---        | ---        |
|          | 05-09    |        | W14-3     | NO PASSING ZONE          | 48 x 36              | 6.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 05-10    |        | W1-8      | > CHEVRON                | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 05-11    |        | W1-8      | > CHEVRON                | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 05-12    |        | W1-8      | > CHEVRON                | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 05-13    |        | W1-8      | > CHEVRON                | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 05-14    |        | W1-8      | > CHEVRON                | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 05-15    |        | W1-6      | LEFT ARROW               | 48 x 24              | 8.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 05-16    |        | W14-3     | NO PASSING ZONE          | 48 x 36              | 6.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 05-17    |        | W1-8      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 05-18    |        | W1-9      | < CHEVRON                | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          |          |        |           | SUBTOTAL                 |                      | 195.67                   | 0          | 11         | 1          | 16         | 0          |

SIGNS REFLECTIVE TYPE II AND WOOD POSTS CONTINUED

| CATEGORY | SIGN NO. | ASSY # | SIGN CODE | MESSAGE                             | SIGN SIZE<br>IN x IN | 637.0202         | 634.0612      | 634.0614      | POSTS WOOD    |               |               |
|----------|----------|--------|-----------|-------------------------------------|----------------------|------------------|---------------|---------------|---------------|---------------|---------------|
|          |          |        |           |                                     |                      | SIGNS REFLECTIVE | 4X6 INCH      | 4X6 INCH      | 634.0616      | 634.0618      | 634.0620      |
|          |          |        |           |                                     |                      | TYPE II<br>SF    | 12 FT<br>EACH | 14 FT<br>EACH | 16 FT<br>EACH | 18 FT<br>EACH | 20 FT<br>EACH |
|          | 05-19    |        | W1-10     | < CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          | 05-20    |        | R1-1      | STOP                                | 30 x 30              | 5.18             | ---           | ---           | 1             | 1             | ---           |
|          | 05-21    |        | W1-8      | < CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          | 05-22    |        | W1-6      | LEFT ARROW                          | 48 x 24              | 8.00             | ---           | ---           | ---           | ---           | ---           |
|          | 05-23    |        | W1-8      | < CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          | 05-24    |        | W1-8      | < CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          | 05-25    |        | W2-7R     | OFFSET INTERSECTION (RIGHT TO LEFT) | 30 x 30              | 6.25             | ---           | ---           | ---           | 1             | ---           |
|          | 05-26    |        | W1-2L     | LEFT S CURVE                        | 30 x 30              | 6.25             | ---           | ---           | ---           | 1             | ---           |
|          | 05-27    |        | W13-1     | 40 MPH                              | 18 x 18              | 2.25             | ---           | ---           | ---           | ---           | ---           |
|          | 05-28    |        | W1-2L     | LEFT S CURVE                        | 30 x 30              | 6.25             | ---           | ---           | ---           | 1             | ---           |
|          | 05-29    |        | W13-1     | 40 MPH                              | 18 x 18              | 2.25             | ---           | ---           | ---           | ---           | ---           |
|          | 05-30    |        | W2-7R     | OFFSET INTERSECTION (RIGHT TO LEFT) | 30 x 30              | 6.25             | ---           | ---           | ---           | 1             | ---           |
|          | 05-31    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | 1             | ---           | ---           | ---           |
|          | 05-32    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | 1             | ---           | ---           | ---           |
|          | 05-33    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | 1             | ---           | ---           | ---           |
|          | 05-34    |        | R1-1      | STOP                                | 30 x 30              | 5.18             | ---           | ---           | ---           | 1             | ---           |
|          | 05-35    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | 1             | ---           | ---           | ---           |
|          | 05-36    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | 1             | ---           | ---           | ---           |
|          | 05-37    |        | W1-6      | RIGHT ARROW                         | 48 x 24              | 8.00             | ---           | 1             | ---           | ---           | ---           |
|          | 05-38    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | 1             | ---           | ---           | ---           |
|          | 06-01    |        | W14-3     | NO PASSING ZONE                     | 48 x 36              | 6.00             | ---           | ---           | ---           | 1             | ---           |
|          | 06-02    |        | W1-8      | < CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          | 06-03    |        | W1-8      | < CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          | 06-04    |        | W1-8      | < CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          | 06-05    |        | W1-8      | < CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          | 06-06    |        | W1-8      | < CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          | 06-07    |        | W14-3     | NO PASSING ZONE                     | 48 x 36              | 6.00             | ---           | ---           | ---           | 1             | ---           |
|          | 06-08    |        | W1-2R     | RIGHT CURVE                         | 30 x 30              | 6.25             | ---           | ---           | ---           | 1             | ---           |
|          | 06-09    |        | W13-1     | 40 MPH                              | 18 x 18              | 2.25             | ---           | ---           | ---           | ---           | ---           |
|          | 06-10    |        | W1-6      | RIGHT ARROW                         | 48 x 24              | 8.00             | ---           | ---           | ---           | 1             | ---           |
|          | 06-11    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | 1             | ---           | ---           | ---           |
|          | 06-12    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | 1             | ---           | ---           | ---           |
|          | 06-13    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | 1             | ---           | ---           | ---           |
|          | 06-14    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | 1             | ---           | ---           | ---           |
|          | 06-15    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | 1             | ---           | ---           | ---           |
|          | 06-16    |        | W1-6      | LEFT ARROW                          | 48 x 24              | 8.00             | ---           | ---           | ---           | 1             | ---           |
|          | 06-17    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          | 06-18    |        | W1-8      | > CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          | 06-19    |        | W1-2L     | LEFT CURVE                          | 30 x 30              | 6.25             | ---           | ---           | ---           | 1             | ---           |
|          | 06-20    |        | W13-1     | 40 MPH                              | 18 x 18              | 2.25             | ---           | ---           | ---           | ---           | ---           |
|          | 06-21    |        | W14-3     | NO PASSING ZONE                     | 48 x 36              | 6.00             | ---           | ---           | ---           | 1             | ---           |
|          | 06-22    |        | W1-6      | LEFT ARROW                          | 48 x 24              | 8.00             | ---           | ---           | ---           | 1             | ---           |
|          | 06-23    |        | W1-6      | RIGHT ARROW                         | 48 x 24              | 8.00             | ---           | ---           | ---           | 1             | ---           |
|          | 06-24    |        | R1-1      | STOP                                | 30 x 30              | 5.18             | ---           | ---           | ---           | 1             | ---           |
|          | 06-25    |        | W1-8      | < CHEVRON                           | 18 x 24              | 3.00             | ---           | ---           | ---           | ---           | ---           |
|          |          |        |           |                                     | SUBTOTAL             | 197.04           | 0.00          | 12.00         | 1.00          | 16.00         | 0.00          |

SIGNS REFLECTIVE TYPE II AND WOOD POSTS CONTINUED

| CATEGORY | SIGN NO. | ASSY # | SIGN CODE | MESSAGE                | SIGN SIZE<br>IN x IN | 637.0202                       | 634.0612                  | 634.0614                  | POSTS WOOD                |                           |                           |
|----------|----------|--------|-----------|------------------------|----------------------|--------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|          |          |        |           |                        |                      | SIGNS REFLECTIVE TYPE II<br>SF | 4X6 INCH<br>12 FT<br>EACH | 4X6 INCH<br>14 FT<br>EACH | 4X6 INCH<br>16 FT<br>EACH | 4X6 INCH<br>18 FT<br>EACH | 4X6 INCH<br>20 FT<br>EACH |
|          | 06-26    |        | W1-8      | < CHEVRON              | 18 x 24              | 3.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 06-27    |        | W1-8      | < CHEVRON              | 18 x 24              | 3.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 06-28    |        | W1-8      | < CHEVRON              | 18 x 24              | 3.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 06-29    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 06-30    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 06-31    |        | W1-1L     | LEFT TURN              | 36 x 36              | 9.00                           | ---                       | ---                       | ---                       | ---                       | 1                         |
|          | 06-32    |        | W13-1     | 30 MPH                 | 24 x 24              | 4.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 06-33    |        | W14-3     | NO PASSING ZONE        | 48 x 36              | 6.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 06-34    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 06-35    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 06-36    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 06-37    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 06-38    |        | W14-1     | DEAD END               | 30 x 30              | 6.25                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-01    |        | W1-1R     | RIGHT TURN             | 36 x 36              | 9.00                           | ---                       | ---                       | ---                       | ---                       | 1                         |
|          | 07-02    |        | W13-1     | 30 MPH                 | 24 x 24              | 4.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 07-03    |        | W1-6      | LEFT ARROW             | 48 x 24              | 8.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-04    |        | W1-8      | < CHEVRON              | 18 x 24              | 3.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 07-05    |        | W1-8      | < CHEVRON              | 18 x 24              | 3.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 07-06    |        | W1-8      | < CHEVRON              | 18 x 24              | 3.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 07-07    |        | W1-8      | < CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 07-08    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 07-09    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 07-10    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 07-11    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 07-12    |        | W1-6      | RIGHT ARROW            | 48 x 24              | 8.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-13    |        | W2-2      | LEFT TURN INTERSECTION | 30 x 30              | 6.25                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-14    |        | W1-2R     | RIGHT CURVE            | 30 x 30              | 6.25                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-15    |        | W13-1     | 40 MPH                 | 18 x 18              | 2.25                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 07-16    |        | W1-6      | RIGHT ARROW            | 48 x 24              | 8.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-17    |        | W1-2L     | LEFT CURVE             | 30 x 30              | 6.25                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-18    |        | W13-1     | 40 MPH                 | 18 x 18              | 2.25                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 07-19    |        | R1-1      | STOP                   | 30 x 30              | 5.18                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-20    |        | W1-2R     | RIGHT CURVE            | 30 x 30              | 6.25                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-21    |        | W13-1     | 40 MPH                 | 18 x 18              | 2.25                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 07-22    |        | W2-2      | SIDE ROAD              | 30 x 30              | 6.25                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-23    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 07-24    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 07-25    |        | W1-8      | > CHEVRON              | 18 x 24              | 3.00                           | ---                       | ---                       | ---                       | ---                       | ---                       |
|          | 07-26    |        | W1-8      | < CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 07-27    |        | W1-8      | < CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 07-28    |        | W1-8      | < CHEVRON              | 18 x 24              | 3.00                           | ---                       | 1                         | ---                       | ---                       | ---                       |
|          | 07-29    |        | W1-6      | LEFT ARROW             | 48 x 24              | 8.00                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-30    |        | R1-1      | STOP                   | 30 x 30              | 5.18                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-31    |        | W2-2      | SIDE ROAD              | 30 x 30              | 6.25                           | ---                       | ---                       | ---                       | 1                         | ---                       |
|          | 07-32    |        | W1-2L     | LEFT CURVE             | 30 x 30              | 6.25                           | ---                       | ---                       | ---                       | 1                         | ---                       |
| SUBTOTAL |          |        |           |                        |                      | 200.11                         | 0                         | 14                        | 0                         | 15                        | 2                         |

SIGNS REFLECTIVE TYPE II AND WOOD POSTS CONTINUED

|          |          |        |           |             |           | 637.0202         | POSTS WOOD |            |            |            |            |
|----------|----------|--------|-----------|-------------|-----------|------------------|------------|------------|------------|------------|------------|
|          |          |        |           |             |           | SIGNS REFLECTIVE | 634.0612   | 634.0614   | 634.0616   | 634.0618   | 634.0620   |
|          |          |        |           |             |           | TYPE II          | 4X6 INCH   | 4X6 INCH   | 4X6 INCH   | 4X6 INCH   | 4X6 INCH   |
| CATEGORY | SIGN NO. | ASSY # | SIGN CODE | MESSAGE     | SIGN SIZE | SF               | 12 FT EACH | 14 FT EACH | 16 FT EACH | 18 FT EACH | 20 FT EACH |
|          | 07-33    |        | W13-1     | 40 MPH      | 18 x 18   | 2.25             | ---        | ---        | ---        | ---        | ---        |
|          | 07-34    |        | W1-6      | LEFT ARROW  | 48 x 24   | 8.00             | ---        | ---        | ---        | 1          | ---        |
|          | 07-35    |        | W1-2L     | LEFT CURVE  | 30 x 30   | 6.25             | ---        | ---        | ---        | 1          | ---        |
|          | 07-36    |        | W13-1     | 40 MPH      | 18 x 18   | 2.25             | ---        | ---        | ---        | ---        | ---        |
|          | 07-37    |        | W1-8      | > CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 07-38    |        | W1-8      | > CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 07-39    |        | W1-8      | > CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 07-40    |        | W1-8      | > CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 07-41    |        | W1-8      | > CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 07-42    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | 1          | ---        | ---        | ---        |
|          | 07-43    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | 1          | ---        | ---        | ---        |
|          | 07-44    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | 1          | ---        | ---        | ---        |
|          | 07-45    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | 1          | ---        | ---        | ---        |
|          | 07-46    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | 1          | ---        | ---        | ---        |
|          | 07-47    |        | W1-2R     | RIGHT CURVE | 30 x 30   | 6.25             | ---        | ---        | ---        | 1          | ---        |
|          | 07-48    |        | W13-1     | 35 MPH      | 18 x 18   | 2.25             | ---        | ---        | ---        | ---        | ---        |
|          | 07-49    |        | W1-8      | > CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 07-50    |        | W1-8      | > CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 07-51    |        | W1-8      | > CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 07-52    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | 1          | ---        | ---        | ---        |
|          | 07-53    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | 1          | ---        | ---        | ---        |
|          | 07-54    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | 1          | ---        | ---        | ---        |
|          | 07-55    |        | W1-2R     | RIGHT CURVE | 30 x 30   | 6.25             | ---        | ---        | ---        | 1          | ---        |
|          | 07-56    |        | W13-1     | 40 MPH      | 18 x 18   | 2.25             | ---        | ---        | ---        | ---        | ---        |
|          | 07-57    |        | W1-6      | RIGHT ARROW | 48 x 24   | 8.00             | ---        | ---        | ---        | 1          | ---        |
|          | 07-58    |        | W1-8      | > CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 07-59    |        | W1-8      | > CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 07-60    |        | W1-8      | > CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 07-61    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | 1          | ---        | ---        | ---        |
|          | 07-62    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | 1          | ---        | ---        | ---        |
|          | 07-63    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | 1          | ---        | ---        | ---        |
|          | 07-64    |        | W1-2L     | LEFT CURVE  | 30 x 30   | 6.25             | ---        | ---        | ---        | 1          | ---        |
|          | 07-65    |        | W13-1     | 35 MPH      | 18 x 18   | 2.25             | ---        | ---        | ---        | ---        | ---        |
|          | 07-66    |        | W1-6      | LEFT ARROW  | 48 x 24   | 8.00             | ---        | ---        | ---        | 1          | ---        |
|          | 07-67    |        | W1-6      | RIGHT ARROW | 48 x 24   | 8.00             | ---        | ---        | ---        | 1          | ---        |
|          | 07-68    |        | W1-3R     | S-CURVE     | 36 x 36   | 9.00             | ---        | ---        | ---        | ---        | 1          |
|          | 07-69    |        | W13-1     | 30 MPH      | 24 x 24   | 4.00             | ---        | ---        | ---        | ---        | ---        |
|          | 08-01    |        | W1-6      | RIGHT ARROW | 48 x 24   | 8.00             | ---        | ---        | ---        | 1          | ---        |
|          | 08-02    |        | W1-6      | LEFT ARROW  | 48 x 24   | 8.00             | ---        | ---        | ---        | 1          | ---        |
|          | 08-03    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 08-04    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 08-05    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 08-06    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 08-07    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
|          | 08-08    |        | W1-8      | < CHEVRON   | 18 x 24   | 3.00             | ---        | ---        | ---        | ---        | ---        |
| SUBTOTAL |          |        |           |             |           | 181.25           | 0          | 11         | 0          | 10         | 1          |

SIGNS REFLECTIVE TYPE II AND WOOD POSTS CONTINUED

| CATEGORY | SIGN NO. | ASSY # | SIGN CODE | MESSAGE            | SIGN SIZE<br>IN x IN | 637.0202                 | 634.0612   | 634.0614   | 634.0616   | 634.0618   | 634.0620   |
|----------|----------|--------|-----------|--------------------|----------------------|--------------------------|------------|------------|------------|------------|------------|
|          |          |        |           |                    |                      | SIGNS REFLECTIVE TYPE II | 4X6 INCH   | 4X6 INCH   | 4X6 INCH   | 4X6 INCH   | 4X6 INCH   |
|          |          |        |           |                    |                      | SF                       | 12 FT EACH | 14 FT EACH | 16 FT EACH | 18 FT EACH | 20 FT EACH |
|          | 08-09    |        | W1-8      | < CHEVRON          | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-10    |        | W1-8      | < CHEVRON          | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-11    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-12    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-13    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-14    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-15    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-16    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-17    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-18    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-19    |        | W1-6      | RIGHT ARROW        | 48 x 24              | 8.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 08-20    |        | W1-6      | LEFT ARROW         | 48 x 24              | 8.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 08-21    |        | W1-3R     | S-CURVE            | 36 x 36              | 9.00                     | ---        | ---        | ---        | ---        | 1          |
|          | 08-22    |        | W13-1     | 30 MPH             | 24 x 24              | 4.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-29    |        | R2-1      | SPEED LIMIT 55 MPH | 24 x 30              | 5.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 08-30    |        | W1-2L     | LEFT CURVE         | 30 x 30              | 6.25                     | ---        | ---        | ---        | 1          | ---        |
|          | 08-31    |        | W13-1     | 40 MPH             | 18 x 18              | 2.25                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-32    |        | W1-8      | > CHEVRON          | 30 x 36              | 7.50                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-33    |        | W1-8      | > CHEVRON          | 30 x 36              | 7.50                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-34    |        | W1-8      | > CHEVRON          | 30 x 36              | 7.50                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-35    |        | W1-8      | > CHEVRON          | 30 x 36              | 7.50                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-36    |        | W1-8      | > CHEVRON          | 30 x 36              | 7.50                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-37    |        | W1-8      | < CHEVRON          | 30 x 36              | 7.50                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-38    |        | W1-8      | < CHEVRON          | 30 x 36              | 7.50                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-39    |        | W1-8      | < CHEVRON          | 30 x 36              | 7.50                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-40    |        | W1-8      | < CHEVRON          | 30 x 36              | 7.50                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-41    |        | W1-8      | < CHEVRON          | 30 x 36              | 7.50                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-42    |        | W1-6      | LEFT ARROW         | 48 x 24              | 8.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 08-43    |        | W1-6      | RIGHT ARROW        | 48 x 24              | 8.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 08-44    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-45    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-46    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-47    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-48    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-49    |        | W1-8      | > CHEVRON          | 18 x 24              | 3.00                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-50    |        | W1-8      | < CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-51    |        | W1-8      | < CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-52    |        | W1-8      | < CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-53    |        | W1-8      | < CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-54    |        | W1-8      | < CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-55    |        | W1-8      | < CHEVRON          | 18 x 24              | 3.00                     | ---        | 1          | ---        | ---        | ---        |
|          | 08-56    |        | W3-5      | REDUCE SPEED 40    | 36 x 36              | 9.00                     | ---        | ---        | ---        | 1          | ---        |
|          | 08-57    |        | W1-2R     | RIGHT CURVE        | 30 x 30              | 6.25                     | ---        | ---        | ---        | 1          | ---        |
|          | 08-58    |        | W13-1     | 40 MPH             | 18 x 18              | 2.25                     | ---        | ---        | ---        | ---        | ---        |
|          | 08-59    |        | W1-6      | LEFT ARROW         | 48 x 24              | 8.00                     | ---        | ---        | ---        | 1          | ---        |
|          |          |        |           | SUBTOTAL           |                      | 225.00                   | 0          | 19         | 0          | 9          | 1          |

SIGNS REFLECTIVE TYPE II AND WOOD POSTS CONTINUED

| 637.0202   |          |        |                  |                                         |           |          |       |       |       |       |       |  |
|------------|----------|--------|------------------|-----------------------------------------|-----------|----------|-------|-------|-------|-------|-------|--|
| SIGNS      |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 634.0612   |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| REFLECTIVE |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 4X6 INCH   |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 12 FT      |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| EACH       |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 634.0614   |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 4X6 INCH   |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 14 FT      |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| EACH       |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 634.0616   |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 4X6 INCH   |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 16 FT      |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| EACH       |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 634.0618   |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 4X6 INCH   |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 18 FT      |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| EACH       |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 634.0620   |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 4X6 INCH   |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| 20 FT      |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| EACH       |          |        |                  |                                         |           |          |       |       |       |       |       |  |
| CATEGORY   | SIGN NO. | ASSY # | SIGN CODE        | MESSAGE                                 | SIGN SIZE | TYPE II  | 12 FT | 14 FT | 16 FT | 18 FT | 20 FT |  |
|            |          |        |                  |                                         | IN x IN   | SF       | EACH  | EACH  | EACH  | EACH  | EACH  |  |
|            | 08-60    |        | W1-6             | RIGHT ARROW                             | 48 x 24   | 8.00     | ---   | ---   | ---   | 1     | ---   |  |
|            | 08-61    |        | R2-1             | SPEED LIMIT 40 MPH                      | 24 x 30   | 5.00     | ---   | ---   | ---   | 1     | ---   |  |
|            | 08-62    |        | W1-2R            | RIGHT CURVE                             | 30 x 30   | 6.25     | ---   | ---   | ---   | 1     | ---   |  |
|            | 08-64    |        | R2-1             | SPEED LIMIT 40 MPH                      | 24 x 30   | 5.00     | ---   | ---   | ---   | 1     | ---   |  |
|            | 08-65    |        | W1-2L            | LEFT CURVE                              | 30 x 30   | 6.25     | ---   | ---   | ---   | 1     | ---   |  |
|            | 08-67    |        | D2-1             | BOYCEVILLE 8                            | 78 x 15   | 8.13     | ---   | ---   | 1     | 1     | ---   |  |
|            | 08-68    | J4-1   | M3-3, M1-6       | SOUTH 79                                | 24 x 36   | 6.00     | ---   | ---   | ---   | 1     | ---   |  |
|            | 08-69    |        | R2-1             | SPEED LIMIT 40                          | 24 x 30   | 5.00     | ---   | ---   | ---   | 1     | ---   |  |
|            | 08-70    |        | I2-3             | CONNORSVILLE UNINCORPORATED             | 72 x 24   | 12.00    | ---   | ---   | 1     | 1     | ---   |  |
|            | 08-71    | J1-3   | M4-6, M1-6, M2-1 | END 79, JCT 64, JCT COUNTY K            | 72 x 39   | 19.50    | ---   | ---   | ---   | 1     | 1     |  |
|            | 08-72    |        | R2-1             | SPEED LIMIT 40                          | 24 x 30   | 5.00     | ---   | ---   | ---   | 1     | ---   |  |
|            | 08-73    |        | D1-3             | CONNORSVILLE ^, <NEW RICHMOND, BLOOMER> | 96 x 42   | 28.00    | ---   | ---   | ---   | ---   | 2     |  |
|            | 08-74    |        | W3-1             | STOP AHEAD                              | 36 x 36   | 9.00     | ---   | ---   | ---   | ---   | 1     |  |
|            | 08-75    |        | W8-70            | CENTERLINE RUMBLE STRIPS                | 36 x 36   | 9.00     | ---   | ---   | ---   | 1     | ---   |  |
|            | 08-76    |        | W57-51           | NEXT 8 MILES                            | 30 x 15   | 3.13     | ---   | ---   | ---   | ---   | ---   |  |
|            |          |        |                  | SUBTOTAL                                |           | 135.25   | 0     | 0     | 2     | 12    | 4     |  |
|            |          |        |                  | TOTALS                                  |           | 2,134.55 | 6     | 107   | 22    | 154   | 13    |  |

REMOVING SIGNS TYPE II &  
REMOVING SMALL SIGN SUPPORTS

| BEING<br>REPLACED<br>WITH |          |                                                        | 638.2602                             | 638.3000                                   |
|---------------------------|----------|--------------------------------------------------------|--------------------------------------|--------------------------------------------|
| CATEGORY                  | SIGN NO. | SIGN MESSAGE                                           | REMOVING<br>SIGNS<br>TYPE II<br>EACH | REMOVING<br>SMALL SIGN<br>SUPPORTS<br>EACH |
| 0010                      | 01-02    | SCHOOL ZONE                                            | 1                                    | 1                                          |
|                           | 01-03    | DIAG. DOWN ARROW LEFT                                  | 1                                    | ---                                        |
|                           | 01-04    | DO NOT ENTER                                           | 1                                    | ---                                        |
|                           | 01-05    | STOP                                                   | 1                                    | 1                                          |
|                           | 01-06    | STOP                                                   | 1                                    | 1                                          |
|                           | 01-07    | JTH STH 79 ARROW, WEST STH 170 ARROW, EAST STH 170 ARR | 9                                    | 2                                          |
|                           | 01-08    | MENOMONIE, WHEELER, DOWNING                            | 3                                    | 1                                          |
|                           | 01-09    | RR XING                                                | 1                                    | 1                                          |
|                           | 01-10    | STOP AHEAD                                             | 1                                    | ---                                        |
|                           | 01-16    | SCHOOL ZONE                                            | 1                                    | 1                                          |
|                           | 01-17    | DIAG. DOWN ARROW LEFT                                  | 1                                    | ---                                        |
|                           | 01-15    | STOP                                                   | 1                                    | 1                                          |
|                           | 01-18    | STOP                                                   | 1                                    | 1                                          |
|                           | 01-19    | BRIDGE MARKER                                          | 1                                    | 1                                          |
|                           | 01-20    | TIFFANY CREEK                                          | 1                                    | 1                                          |
|                           | 01-21    | BRIDGE MARKER                                          | 1                                    | 1                                          |
|                           | 01-22    | SCHOOL SPEED LIMIT 15                                  | 1                                    | 1                                          |
|                           | 01-23    | SCHOOL ZONE                                            | 1                                    | ---                                        |
|                           | 01-24    | AHEAD                                                  | 1                                    | ---                                        |
|                           | 01-26    | ATV SNOWMOBILE ROUTE                                   | 1                                    | ---                                        |
|                           | 01-27    | ATV SNOWMOBILE ROUTE                                   | 1                                    | ---                                        |
|                           | 01-28    | STOP                                                   | 1                                    | 1                                          |
|                           | 01-31    | WEST STH 170 ARROW, NORTH STH 79 ARROW                 | 6                                    | 1                                          |
|                           | 01-33    | SCHOOL ZONE                                            | 1                                    | 1                                          |
|                           | 01-34    | AHEAD                                                  | 1                                    | ---                                        |
|                           | 01-36    | NO PARKING ZONE                                        | 1                                    | ---                                        |
|                           | 01-37    | SPEED LIMIT 25                                         | 1                                    | 1                                          |
|                           | 01-38    | ATV ROUTE                                              | 1                                    | 1                                          |
|                           | 01-39    | STOP                                                   | 1                                    | 1                                          |
|                           | 01-40    | STOP                                                   | 1                                    | 1                                          |
|                           | 01-41    | SCHOOL SPEED LIMIT 15                                  | 1                                    | 1                                          |
|                           | 01-42    | SCHOOL ZONE                                            | 1                                    | ---                                        |
|                           | 01-43    | DIAG. DOWN ARROW LEFT                                  | 1                                    | ---                                        |
|                           | 01-44    | STOP                                                   | 1                                    | 1                                          |
|                           | 01-46    | ATV ROUTE                                              | 1                                    | 1                                          |
|                           | 01-45    | BRIDGE MARKER                                          | 1                                    | 1                                          |
|                           | 01-47    | TIFFANY CREEK                                          | 1                                    | 1                                          |
|                           | 01-48    | NORTH STH 79                                           | 2                                    | 1                                          |
|                           | 01-49    | BRIDGE MARKER                                          | 1                                    | 1                                          |
|                           | 01-52    | ADOPT-A-HIGHWAY                                        | 1                                    | ---                                        |
|                           | 01-53    | SPEED LIMIT 35                                         | 1                                    | 1                                          |
|                           | 01-54    | STOP                                                   | 1                                    | 1                                          |
|                           | 01-55    | SPEED LIMIT 35                                         | 1                                    | 1                                          |
|                           | 01-57    | STOP                                                   | 1                                    | 1                                          |
|                           | 01-58    | SCHOOL ZONE                                            | 1                                    | 1                                          |
| SUBTOTAL                  |          |                                                        | 61                                   | 33                                         |

REMOVING SIGNS TYPE II &  
REMOVING SMALL SIGN SUPPORTS CONTINUED

| BEING<br>REPLACED<br>WITH |          | 638.2602                                       | 638.3000                             |                                            |
|---------------------------|----------|------------------------------------------------|--------------------------------------|--------------------------------------------|
| CATEGORY                  | SIGN NO. | SIGN MESSAGE                                   | REMOVING<br>SIGNS<br>TYPE II<br>EACH | REMOVING<br>SMALL SIGN<br>SUPPORTS<br>EACH |
|                           | 01-59    | DIAG. DOWN ARROW LEFT                          | 1                                    | ---                                        |
|                           | 01-60    | BOYCEVILLE POP. 1043                           | 1                                    | 2                                          |
|                           | ---      | COMPRESSION BRAKING (JAKE BREAKING) PROHIBITED | 1                                    | ---                                        |
|                           | ---      | SHARE THE ROAD FRIENDS OF STEVE BOLEY          | 1                                    | ---                                        |
|                           | ---      | NO PARKING ON ANY VILLAGE STREET               | 1                                    | ---                                        |
|                           | 01-61    | STOP                                           | 1                                    | 1                                          |
|                           | 01-63    | SCHOOL ZONE                                    | 1                                    | 1                                          |
|                           | 01-64    | AHEAD                                          | 1                                    | ---                                        |
|                           | 01-66    | SCHOOL SPEED LIMIT 15                          | 1                                    | 1                                          |
|                           | 01-67    | STOP                                           | 1                                    | 1                                          |
|                           | 01-68    | SCHOOL ZONE                                    | 1                                    | 1                                          |
|                           | 01-69    | DIAG. DOWN ARROW LEFT                          | 1                                    | ---                                        |
|                           | 02-01    | SCHOOL SPEED LIMIT 15                          | 1                                    | 1                                          |
|                           | 02-02    | SCHOOL ZONE                                    | 1                                    | 1                                          |
|                           | 02-03    | AHEAD                                          | 1                                    | ---                                        |
|                           | 02-06    | SPEED LIMIT 35                                 | 1                                    | 1                                          |
|                           | 02-07    | STOP                                           | 1                                    | 1                                          |
|                           | 02-08    | SPEED LIMIT 35 AHEAD                           | 1                                    | 1                                          |
|                           | 02-09    | SOUTH STH 79                                   | 2                                    | 1                                          |
|                           | 02-10    | STH 79 DOUBLE ARROW, CTH N ARROW               | 4                                    | 1                                          |
|                           | 02-11    | STOP                                           | 1                                    | 1                                          |
|                           | 02-12    | CTH N DOUBLE ARROW                             | 1                                    | 1                                          |
|                           | 02-13    | STOP                                           | 1                                    | 1                                          |
|                           | 02-14    | SPEED LIMIT 35                                 | 1                                    | 1                                          |
|                           | 02-16    | NO PASSING ZONE                                | 1                                    | 1                                          |
|                           | 02-17    | SPEED LIMIT 55                                 | 1                                    | 1                                          |
|                           | 02-18    | JCT CTH N                                      | 2                                    | 1                                          |
|                           | 02-19    | CTH N DOUBLE ARROW                             | 1                                    | 1                                          |
|                           | 02-20    | STOP                                           | 1                                    | 1                                          |
|                           | 02-21    | STH 79 DOUBLE ARROW, CTH N ARROW               | 5                                    | 1                                          |
|                           | 02-22    | NORTH STH 79                                   | 2                                    | 1                                          |
|                           | 02-23    | NO PASSING ZONE                                | 1                                    | 1                                          |
|                           | 02-24    | JCT CTH N                                      | 2                                    | 1                                          |
|                           | 02-25    | STOP                                           | 1                                    | 1                                          |
|                           | 02-26    | NO PASSING ZONE                                | 1                                    | 1                                          |
|                           | 02-27    | DOUBLE NIGHT ARROW                             | 1                                    | 1                                          |
|                           | 03-01    | BRIDGE MARKER                                  | 1                                    | 1                                          |
|                           | 03-02    | BRIDGE MARKER                                  | 1                                    | 1                                          |
|                           | 03-04    | NO PASSING ZONE                                | 1                                    | 1                                          |
|                           | 03-05    | ADOPT-A-HIGHWAY                                | 1                                    | ---                                        |
|                           | 03-06    | SOUTH FORK HAY RIVER                           | 1                                    | 1                                          |
|                           | 03-07    | BRIDGE MARKER                                  | 1                                    | 1                                          |
|                           | 03-08    | BRIDGE MARKER                                  | 1                                    | 1                                          |
|                           | 03-09    | CURVE LEFT                                     | 1                                    | 1                                          |
|                           | 03-10    | 30 MPH                                         | 1                                    | ---                                        |
| SUBTOTAL                  |          |                                                | 56                                   | 37                                         |

REMOVING SIGNS TYPE II &  
REMOVING SMALL SIGN SUPPORTS CONTINUED

| BEING<br>REPLACED<br>WITH |          | 638.2602<br>REMOVING<br>SIGNS<br>TYPE II<br>EACH | 638.3000<br>REMOVING<br>SMALL SIGN<br>SUPPORTS<br>EACH |
|---------------------------|----------|--------------------------------------------------|--------------------------------------------------------|
| CATEGORY                  | SIGN NO. | SIGN MESSAGE                                     |                                                        |
|                           | 03-11    | CHEVRON                                          | 11                                                     |
|                           | 03-13    | STOP                                             | 11                                                     |
|                           | 03-14    | NIGHT ARROW                                      | 11                                                     |
|                           | 03-15    | CHEVRON                                          | 11                                                     |
|                           | 03-16    | CHEVRON                                          | 11                                                     |
|                           | 03-17    | CHEVRON                                          | 11                                                     |
|                           | 03-23    | SCHOOL BUS STOP AHEAD                            | 11                                                     |
|                           | 03-24    | INTERSECTION                                     | 11                                                     |
|                           | 03-25    | CURVE RIGHT                                      | 11                                                     |
|                           | 03-26    | 30 MPH                                           | 1---                                                   |
|                           | 03-27    | NO PASSING ZONE                                  | 11                                                     |
|                           | 03-28    | NIGHT ARROW                                      | 11                                                     |
|                           | 03-36    | STOP                                             | 11                                                     |
|                           | 03-37    | NIGHT ARROW                                      | 11                                                     |
|                           | 03-38    | NO PASSING ZONE                                  | 11                                                     |
|                           | 03-39    | CURVE RIGHT                                      | 11                                                     |
|                           | 03-40    | 35 MPH                                           | 1---                                                   |
|                           | 03.48    | NIGHT ARROW                                      | 11                                                     |
|                           | 04-01    | CURVE LEFT                                       | 11                                                     |
|                           | 04-02    | 35 MPH                                           | 1---                                                   |
|                           | 04-03    | NO PASSING ZONE                                  | 11                                                     |
|                           | 04.14    | SOUTH STH 79                                     | 21                                                     |
|                           | 04-16    | CTH O ARROW                                      | 21                                                     |
|                           | 04-17    | NO PASSING ZONE                                  | 11                                                     |
|                           | 04-18    | CURVE LEFT                                       | 11                                                     |
|                           | 04-19    | 45 MPH                                           | 1---                                                   |
|                           | 04-20    | JCT CTH O                                        | 21                                                     |
|                           | 04-22    | NIGHT ARROW                                      | 11                                                     |
|                           | 04-23    | CTH O ARROW                                      | 21                                                     |
|                           | 04-25    | STH 79 DOUBLE ARROW                              | 21                                                     |
|                           | 04-26    | NORTH STH 79                                     | 21                                                     |
|                           | 04-28    | BRIDGE MARKER                                    | 11                                                     |
|                           | 04-29    | SLOVAK VALLEY CREEK                              | 11                                                     |
|                           | 04-30    | BRIDGE MARKER                                    | 11                                                     |
|                           | 04-31    | JCT CTH O                                        | 21                                                     |
|                           | 04-32    | CURVE RIGHT                                      | 11                                                     |
|                           | 04-33    | 45 MPH                                           | 1---                                                   |
|                           | ---      | NARROW BRIDGE                                    | 11                                                     |
|                           | 04-34    | NO PASSING ZONE                                  | 11                                                     |
|                           | 04-35    | STOP                                             | 11                                                     |
|                           | 04-36    | STOP                                             | 11                                                     |
|                           | 04-37    | DO NOT ENTER                                     | 11                                                     |
|                           | ---      | NARROW BRIDGE                                    | 11                                                     |
|                           | 04-27    | NIGHT ARROW                                      | 11                                                     |
|                           | 04-50    | BRIDGE MARKER                                    | 11                                                     |

SUBTOTAL 52 40

PROJECT NO: 8640-02-61

HWY: STH 79

COUNTY: DUNN

REMOVING SIGNS TYPE II &  
REMOVING SMALL SIGN SUPPORTS CONTINUED

| BEING<br>REPLACED<br>WITH |          | 638.2602<br>REMOVING<br>SIGNS<br>TYPE II<br>EACH | 638.3000<br>REMOVING<br>SMALL SIGN<br>SUPPORTS<br>EACH |
|---------------------------|----------|--------------------------------------------------|--------------------------------------------------------|
| CATEGORY                  | SIGN NO. | SIGN MESSAGE                                     |                                                        |
| 0010                      | 04-51    | SLOVAK VALLEY CREEK                              | 11                                                     |
|                           | 04-52    | BRIDGE MARKER                                    | 11                                                     |
|                           | 04-53    | NO PASSING ZONE                                  | 11                                                     |
|                           | 04-54    | CURVE RIGHT                                      | 11                                                     |
|                           | 04-55    | 35 MPH                                           | 1---                                                   |
|                           | 05-07    | CURVE LEFT                                       | 11                                                     |
|                           | 05-08    | 35 MPH                                           | 1---                                                   |
|                           | 05-09    | NO PASSING ZONE                                  | 11                                                     |
|                           | 05-16    | NO PASSING ZONE                                  | 11                                                     |
|                           | 05-20    | STOP                                             | 11                                                     |
|                           | 05-25    | INTERSECTION                                     | 11                                                     |
|                           | 05-26    | LEFT REVERSE CURVE                               | 11                                                     |
|                           | 05-27    | 40 MPH                                           | 1---                                                   |
|                           | 05-28    | LEFT REVERSE CURVE                               | 11                                                     |
|                           | 05-29    | 40 MPH                                           | 1---                                                   |
|                           | 05-30    | INTERSECTION                                     | 11                                                     |
|                           | 05-34    | STOP                                             | 11                                                     |
|                           | 06-01    | NO PASSING ZONE                                  | 11                                                     |
|                           | 06-07    | NO PASSING ZONE                                  | 11                                                     |
|                           | 06-08    | CURVE RIGHT                                      | 11                                                     |
|                           | 06-09    | 40 MPH                                           | 1---                                                   |
|                           | 06-19    | LEFT TURN                                        | 11                                                     |
|                           | 06-20    | 40 MPH                                           | 1---                                                   |
|                           | 06-21    | NO PASSING ZONE                                  | 11                                                     |
|                           | 06-23    | NIGHT ARROW                                      | 11                                                     |
|                           | 06-24    | STOP                                             | 11                                                     |
|                           | 06-31    | LEFT TURN                                        | 11                                                     |
|                           | 06-32    | 30 MPH                                           | 1---                                                   |
|                           | 06-33    | NO PASSING ZONE                                  | 1---                                                   |
|                           | 06-38    | DEAD END                                         | 11                                                     |
|                           | 07-01    | CURVE RIGHT                                      | 11                                                     |
|                           | 07-02    | 30 MPH                                           | 1---                                                   |
|                           | 07-14    | CURVE RIGHT                                      | 11                                                     |
|                           | 07-15    | 40 MPH                                           | 1---                                                   |
|                           | 07-17    | CURVE LEFT                                       | 11                                                     |
|                           | 07-19    | 41 MPH                                           | 1---                                                   |
|                           | 07-19    | STOP                                             | 11                                                     |
|                           | 07-20    | CURVE RIGHT                                      | 11                                                     |
|                           | 07-21    | 40 MPH                                           | 1---                                                   |
|                           | 07-30    | STOP                                             | 11                                                     |
|                           | 07-31    | T INTERSECTION                                   | 11                                                     |
|                           | 07-32    | CURVE LEFT                                       | 11                                                     |
|                           | 07-33    | 40 MPH                                           | 1---                                                   |
|                           | 07-35    | CURVE LEFT                                       | 11                                                     |
|                           | 07-36    | 40 MPH                                           | 1---                                                   |

SUBTOTAL 45 31

MISCELLANEOUS QUANTITIES

SHEET:

REMOVING SIGNS TYPE II &  
REMOVING SMALL SIGN SUPPORTS CONTINUED

| BEING<br>REPLACED<br>WITH |          |                                     | 638.2602                             | 638.3000                                   |
|---------------------------|----------|-------------------------------------|--------------------------------------|--------------------------------------------|
| CATEGORY                  | SIGN NO. | SIGN MESSAGE                        | REMOVING<br>SIGNS<br>TYPE II<br>EACH | REMOVING<br>SMALL SIGN<br>SUPPORTS<br>EACH |
|                           | 07-47    | CURVE RIGHT                         | 1                                    | 1                                          |
|                           | 07-48    | 35 MPH                              | 1                                    | ---                                        |
|                           | 07-55    | CURVE RIGHT                         | 1                                    | 1                                          |
|                           | 07-56    | 40 MPH                              | 1                                    | ---                                        |
|                           | 07-64    | CURVE LEFT                          | 1                                    | 1                                          |
|                           | 07-65    | 35 MPH                              | 1                                    | ---                                        |
|                           | 07-68    | ROAD CURVES AHEAD RT.               | 1                                    | 1                                          |
|                           | 07-69    | 30 MPH                              | 1                                    | ---                                        |
|                           | 08-01    | NIGHT ARROW                         | 1                                    | 1                                          |
|                           | 08-02    | NIGHT ARROW                         | 1                                    | 1                                          |
|                           | ---      | ROAD CURVES AHEAD RT.               | 1                                    | 1                                          |
|                           | ---      | 30 MPH                              | 1                                    | ---                                        |
|                           | 08-21    | CURVE LEFT                          | 1                                    | 1                                          |
|                           | 08-22    | 35 MPH                              | 1                                    | ---                                        |
|                           | 08-29    | SPEED LIMIT 55                      | 1                                    | 1                                          |
|                           | 08-30    | CURVE LEFT                          | 1                                    | 1                                          |
|                           | 08-31    | 40 MPH                              | 1                                    | ---                                        |
|                           | 08-42    | NIGHT ARROW                         | 1                                    | 1                                          |
|                           | 08-43    | NIGHT ARROW                         | 1                                    | 1                                          |
|                           | ---      | CURVE RIGHT                         | 1                                    | 1                                          |
|                           | ---      | 35 MPH                              | 1                                    | ---                                        |
|                           | 08-56    | SPEED LIMIT 40 AHEAD                | 1                                    | 1                                          |
|                           | 08-57    | CURVE RIGHT                         | 1                                    | 1                                          |
|                           | 08-58    | 40 MPH                              | 1                                    | ---                                        |
|                           | 08-61    | SPEED LIMIT 40                      | 1                                    | 1                                          |
|                           | 08-62    | CURVE RIGHT                         | 1                                    | 1                                          |
|                           | 08-63    | 40 MPH                              | 1                                    | ---                                        |
|                           | 08-64    | SPEED LIMIT 40                      | 1                                    | 1                                          |
|                           | 08-65    | CURVE LEFT                          | 1                                    | 1                                          |
|                           | 08-66    | 40 MPH                              | 1                                    | ---                                        |
|                           | 08-67    | BOYCEVILLE 8                        | 1                                    | ---                                        |
|                           | 08-68    | SOUTH STH 79                        | 1                                    | 1                                          |
|                           | 08-69    | SPEED LIMIT 40                      | 1                                    | 1                                          |
|                           | 08-70    | CONNORSVILLE UNINCORPORATED         | 1                                    | 2                                          |
|                           | 08-71    | END STH 79, JCT STH 64, JCT CTH K   | 6                                    | 2                                          |
|                           | 08-72    | SPEED LIMIT 40                      | 1                                    | 1                                          |
|                           | 08-73    | CONNORSVILLE, NEW RICHMOND, BLOOMER | 3                                    | 2                                          |
|                           | 08-74    | STOP AHEAD                          | 1                                    | 1                                          |
|                           |          | SUBTOTAL                            | 45                                   | 29                                         |
|                           |          | TOTAL                               | 259                                  | 170                                        |

3

3

| PAVEMENT MARKING EPOXY |               |                            |          |          |          |          |          |           |           |          |           |
|------------------------|---------------|----------------------------|----------|----------|----------|----------|----------|-----------|-----------|----------|-----------|
| CATEGORY               | STA. - STA.   | LOCATION                   | 646.0106 | 646.0106 | 646.0126 | 646.0406 | 647.0110 | 647.0566  | 647.0576  | 647.0726 | 647.0776  |
|                        |               |                            | 4-INCH   | 4-INCH   | 8-INCH   | SAME DAY | RAILROAD | STOP LINE | STOP LINE | DIAGONAL | CROSSWALK |
|                        |               |                            | (YELLOW) | (WHITE)  | (WHITE)  | (YELLOW) | CROSSING | 18-INCH   | 24-INCH   | 12-INCH  | 12-INCH   |
|                        |               |                            | LF       | LF       | LF       | LF       | EACH     | LF        | LF        | LF       | LF        |
| 0010                   | 0+12          | STH 170 WB RIGHT TURN LANE | ---      | ---      | 95       | ---      | ---      | ---       | ---       | ---      | ---       |
|                        | 0+33          | STH 170 WB RIGHT           | ---      | 86       | ---      | ---      | ---      | ---       | ---       | ---      | ---       |
|                        | 0+33          | STH 170 WB RIGHT           | ---      | 134      | ---      | ---      | ---      | ---       | ---       | ---      | ---       |
|                        | 0+24 - 440+88 | CENTERLINE                 | 55,270   | ---      | ---      | 55,270   | ---      | ---       | ---       | ---      | ---       |
|                        | 0+23 - 0+23   | LT ACROSS STH 170          | ---      | ---      | ---      | ---      | ---      | ---       | ---       | 127      | 95        |
|                        | 0+25          | STH 79 SB LEFT TURN & THRU | ---      | ---      | ---      | ---      | ---      | 14        | ---       | ---      | ---       |
|                        | 0+30          | STH 79 SB RIGHT TURN LANE  | ---      | ---      | ---      | ---      | ---      | 20        | ---       | ---      | ---       |
|                        | 0+45          | STH 79 NB RR X-ING         | ---      | ---      | ---      | ---      | ---      | ---       | 35        | ---      | ---       |
|                        | 0+45          | STH 79 SB RR X-ING         | ---      | ---      | ---      | ---      | ---      | ---       | 20        | ---      | ---       |
|                        | 2+28          | LT; ON MAIN ST             | ---      | ---      | ---      | ---      | ---      | 16        | ---       | ---      | ---       |
|                        | 2+40          | LT; ON MAIN ST             | ---      | ---      | ---      | ---      | ---      | ---       | ---       | ---      | 86        |
|                        | 2+75          | LT & RT                    | ---      | ---      | ---      | ---      | ---      | ---       | ---       | 127      | 94        |
|                        | 3+07          | LT                         | ---      | ---      | ---      | ---      | 1        | ---       | ---       | ---      | ---       |
|                        | 5+10          | LT & RT                    | ---      | ---      | ---      | ---      | ---      | ---       | ---       | 144      | 103       |
|                        | 5+21          | LT; ON TIFFANY ST          | ---      | ---      | ---      | ---      | ---      | 18        | ---       | ---      | ---       |
|                        | 5+32          | LT; ON TIFFANY ST          | ---      | ---      | ---      | ---      | ---      | ---       | ---       | ---      | 95        |
|                        | 12+12         | LT; ON EVENSON RD          | ---      | ---      | ---      | ---      | ---      | 14        | ---       | ---      | ---       |
|                        | 12+18         | LT; ON EVENSON RD          | ---      | ---      | ---      | ---      | ---      | ---       | ---       | ---      | 66        |
|                        | 18+44         | LT; ON GRANBAKKEN WAY      | ---      | ---      | ---      | ---      | ---      | 16        | ---       | ---      | ---       |
|                        | 18+54         | LT; ON GRANBAKKEN WAY      | ---      | ---      | ---      | ---      | ---      | ---       | ---       | ---      | 86        |
|                        | 23+84         | LT; ON NORDVEIEN DR        | ---      | ---      | ---      | ---      | ---      | 15        | ---       | ---      | ---       |
|                        | 23+92         | LT; ON NORDVEIEN DR        | ---      | ---      | ---      | ---      | ---      | ---       | ---       | ---      | 109       |
|                        | 24+43         | LT & RT                    | ---      | ---      | ---      | ---      | ---      | ---       | ---       | 127      | 86        |
|                        | 183+22        | CTH O ISLAND               | ---      | ---      | 50       | ---      | ---      | ---       | ---       | ---      | ---       |
|                        | 183+00        | LT; CTH O CENTERLINE       | 100      | ---      | ---      | ---      | ---      | ---       | ---       | ---      | ---       |
|                        | 183+36        | CTH O RIGHT TURN LANE      | ---      | ---      | ---      | ---      | ---      | 19        | ---       | ---      | ---       |
|                        | 440+88        | STH 79 NB                  | ---      | ---      | ---      | ---      | ---      | 20        | ---       | ---      | ---       |
|                        |               | SUBTOTAL                   | 55,370   | 220      |          |          |          |           |           |          |           |
|                        |               | TOTAL                      | 55,590   |          | 145      | 55,270   | 1        | 152       | 55        | 525      | 820       |

WHITE EPOXY PAVEMENT MARKING (4-INCH, 6-INCH, AND 8-INCH) SHOWN IN PLANS IS TO BE INSTALLED UNDER PROJECT 9227-01-18 AND IS SHOWN IN THE PLAN FOR INFORMATION ONLY

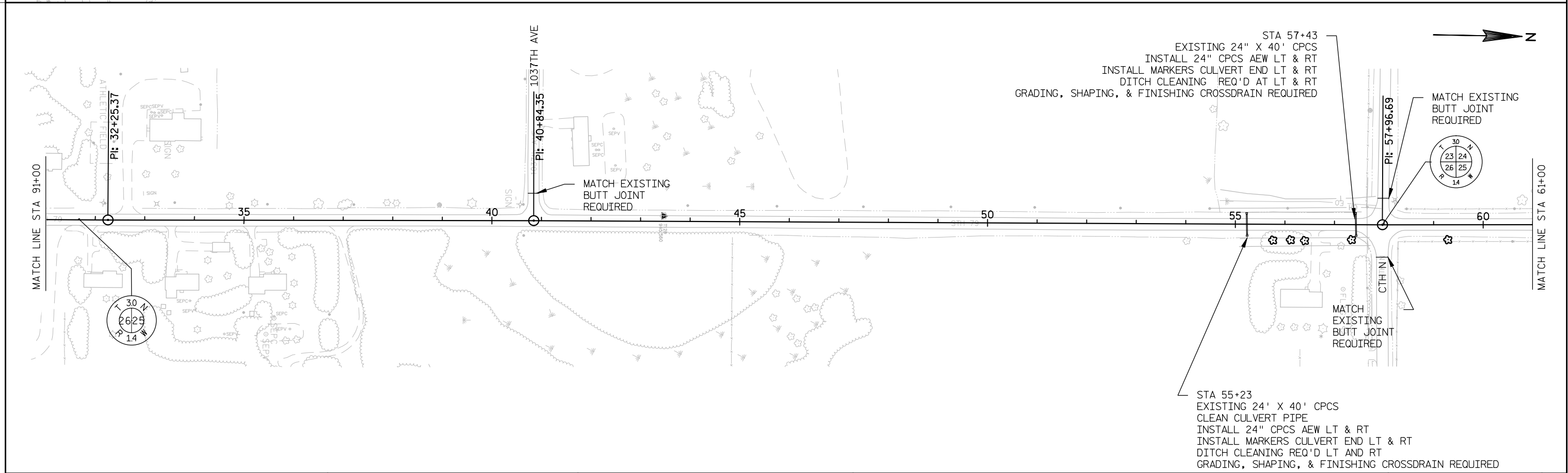
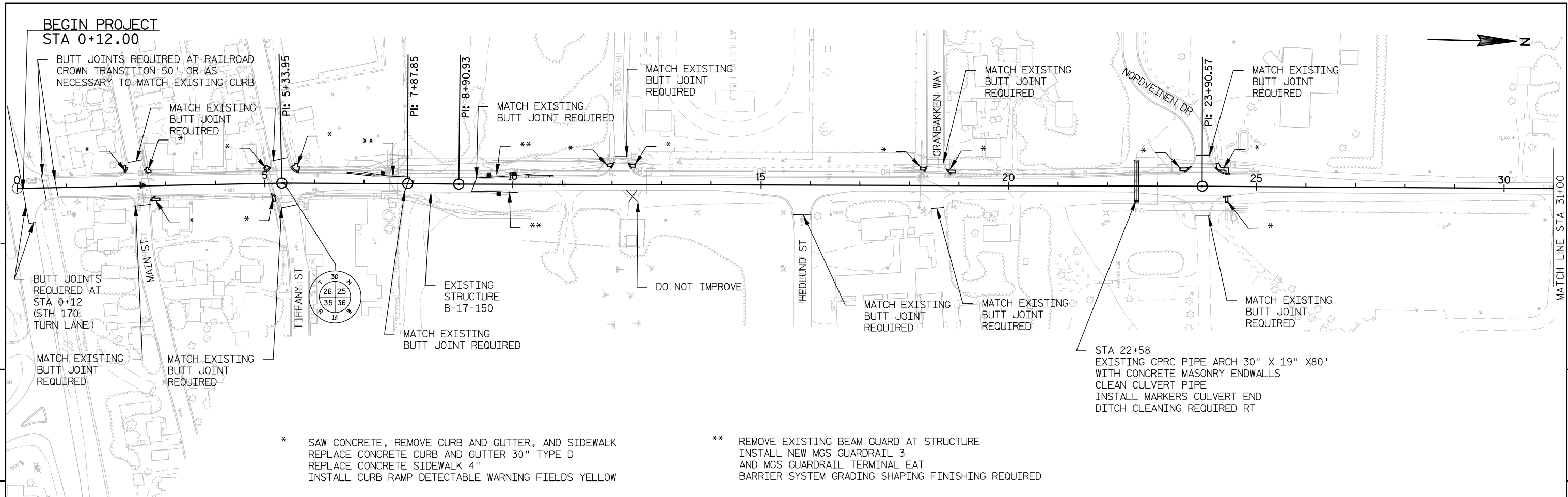
| CONSTRUCTION STAKING |                |                |              |  |
|----------------------|----------------|----------------|--------------|--|
| CATEGORY             | STA. - STA.    | 650.8000       | 650.9910     |  |
|                      |                | CONSTRUCTION   | CONSTRUCTION |  |
|                      |                | STAKING        | STAKING      |  |
|                      |                | RESURFACING    | SUPPLEMENTAL |  |
|                      |                | REFERENCE LINE | CONTROL      |  |
|                      |                | LF             | LS           |  |
| 0010                 | 0+00 TO 440+28 | 43,665         | 1            |  |
|                      | TOTAL          | 43,665         | 1            |  |

SAWING

| CATEGORY                 | STA. - STA. | LOCATION | REMARKS          | 690.0150                | 690.0250                 |
|--------------------------|-------------|----------|------------------|-------------------------|--------------------------|
|                          |             |          |                  | SAWING<br>ASPHALT<br>LF | SAWING<br>CONCRETE<br>LF |
| 0010                     | 0+00        |          | PROJECT START    | 56                      | ---                      |
|                          | 0+22        | RT & LT  | RR XING          | 40                      | ---                      |
|                          | 0+52        | RT & LT  | RR XING          | 40                      | ---                      |
|                          | 2+00        | LT       | CURB RAMP        | ---                     | 15                       |
|                          | 2+50        | RT & LT  | MAIN STREET      | 67                      | ---                      |
|                          | 2+75        | RT & LT  | CURB RAMP        | ---                     | 30                       |
|                          | 5+00        | RT & LT  | CURB RAMP        | ---                     | 30                       |
|                          | 5+25        | RT & LT  | TIFFANY STREET   | 75                      | ---                      |
|                          | 5+85        | LT       | CURB RAMP        | ---                     | 15                       |
|                          | 7+75 -7+90  | LT       | CURB VERTICAL    | ---                     | 5                        |
|                          | 9+45 - 9+60 | LT       | CURB VERTICAL    | ---                     | 5                        |
|                          | 11+75       | LT       | CURB RAMP        | ---                     | 15                       |
|                          | 12+10       | LT       | EVENSON ROAD     | 24                      | ---                      |
|                          | 12+50       | LT       | CURB RAMP        | ---                     | 15                       |
|                          | 15+90       | RT       | HEDLUND STREET   | 34                      | ---                      |
|                          | 18+00       | LT       | CURB RAMP        | ---                     | 15                       |
|                          | 18+50       | LT       | GRANBAKKEN DRIVE | 34                      | ---                      |
|                          | 18+90       | LT       | CURB RAMP        | ---                     | 15                       |
|                          | 23+40       | LT       | CURB RAMP        | ---                     | 15                       |
|                          | 24+00       | RT & LT  | NORDVEINEN DRIVE | 55                      | ---                      |
|                          | 24+50       | LT       | CURB RAMP        | ---                     | 15                       |
|                          | 24+60       | RT & LT  | CURB RAMP        | ---                     | 30                       |
|                          | 30+30       | LT       | DRIVEWAY         | 13                      | ---                      |
|                          | 31+00       | RT       | SCHOOL DRIVE WAY | 54                      | ---                      |
| CONTINUED IN NEXT COLUMN |             |          |                  | SUBTOTAL                | 492 220                  |

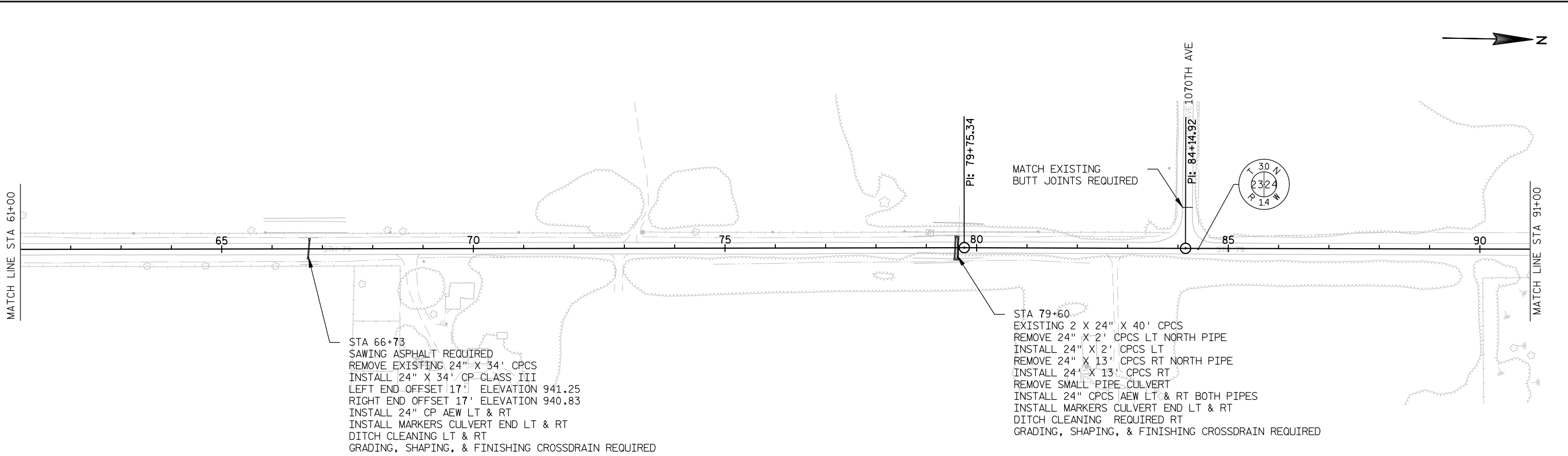
SAWING CONTINUED

| CATEGORY | STA. - STA. | LOCATION | REMARKS        | 690.0150                | 690.0250                 |
|----------|-------------|----------|----------------|-------------------------|--------------------------|
|          |             |          |                | SAWING<br>ASPHALT<br>LF | SAWING<br>CONCRETE<br>LF |
| 0010     | 33+50       | RT       | DRIVEWAY       | 13                      | ---                      |
|          | 40+80       | LT       | 1037 AVE.      | 20                      | ---                      |
|          | 56+60       | RT       | DRIVEWAY       | 15                      | ---                      |
|          | 58+00       | RT & LT  | CTH N          | 46                      | ---                      |
|          | 66+73       | RT & LT  | PIPE CROSSING  | 48                      | ---                      |
|          | 82+70       | RT       | DRIVEWAY       | 18                      | ---                      |
|          | 84+10       | LT       | 1070 TH STREET | 20                      | ---                      |
|          | 122+00      | RT       | 280 TH STREET  | 21                      | ---                      |
|          | 126+15      | RT       | DRIVEWAY       | 19                      | ---                      |
|          | 147+75      | LT       | 231 STREET     | 28                      | ---                      |
|          | 161+50      | RT       | DRIVEWAY       | 20                      | ---                      |
|          | 161+98      | RT & LT  | PIPE CROSSING  | 48                      | ---                      |
|          | 163+91      | RT & LT  | PIPE CROSSING  | 48                      | ---                      |
|          | 183+00      | RT       | CTH O          | 26                      | ---                      |
|          | 226+11      | RT & LT  | PIPE CROSSING  | 48                      | ---                      |
|          | 233+61      | RT & LT  | PIPE CROSSING  | 48                      | ---                      |
|          | 261+00      | RT       | TIFFANY ROAD   | 22                      | ---                      |
|          | 262+00      | LT       | 1150 TH STREET | 33                      | ---                      |
|          | 290+72      | RT & LT  | PIPE CROSSING  | 48                      | ---                      |
|          | 308+80      | RT       | DRIVEWAY       | 28                      | ---                      |
|          | 330+00      | RT       | 1198 TH STREET | 17                      | ---                      |
|          | 346+20      | RT       | 170 TH STREET  | 20                      | ---                      |
|          | 368+50      | LT       | 1205 TH STREET | 21                      | ---                      |
|          | 382+25      | RT       | DRIVEWAY       | 28                      | ---                      |
|          | 419+06      | RT & LT  | PIPE CROSSING  | 48                      | ---                      |
|          | 424+10      | LT       | DRIVEWAY       | 14                      | ---                      |
|          | 426+30      | LT       | DRIVEWAY       | 37                      | ---                      |
|          | 429+00      | LT       | DRIVEWAY       | 68                      | ---                      |
|          | 439+50      | LT       | DRIVEWAY       | 34                      | ---                      |
|          | 440+28      |          | END PAVING     | 24                      | ---                      |
|          |             |          |                | UNDISTRIBUTED           | 55 ---                   |
|          |             |          |                | SUBTOTAL                | 983 0                    |
|          |             |          |                | TOTAL                   | 1,475 220                |

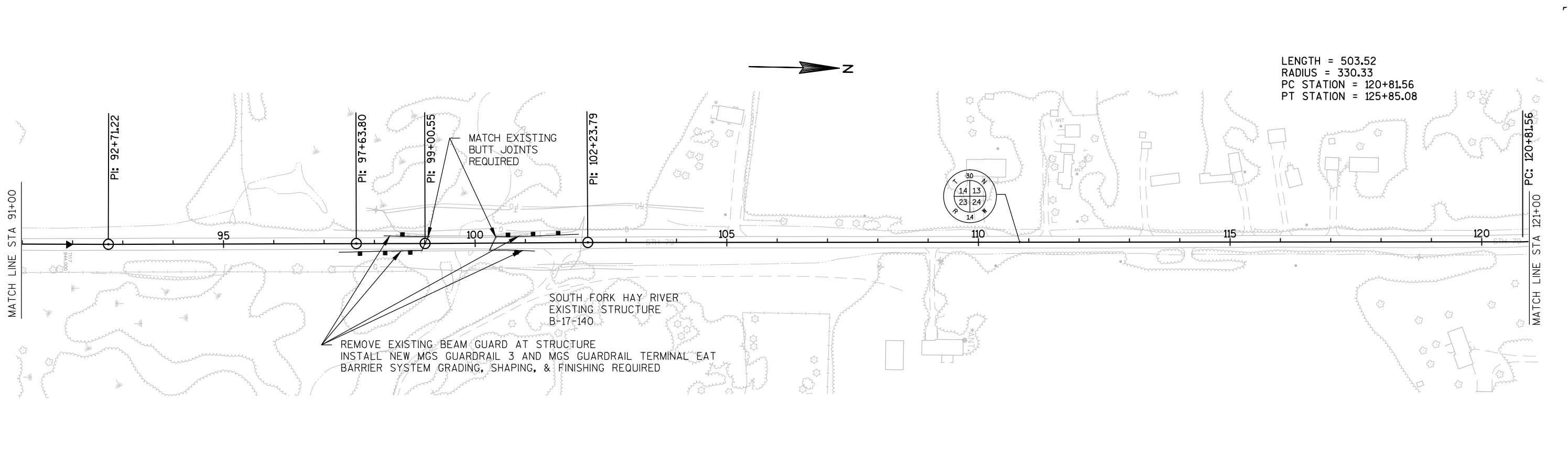


|                        |             |              |      |          |   |
|------------------------|-------------|--------------|------|----------|---|
| PROJECT NO: 8640-02-61 | HWY: STH 79 | COUNTY: DUNN | PLAN | SHEET 76 | E |
|------------------------|-------------|--------------|------|----------|---|

5



5



PROJECT NO:8640-02-61

HWY:STH 79

COUNTY:DUNN

PLAN

SHEET

77

E

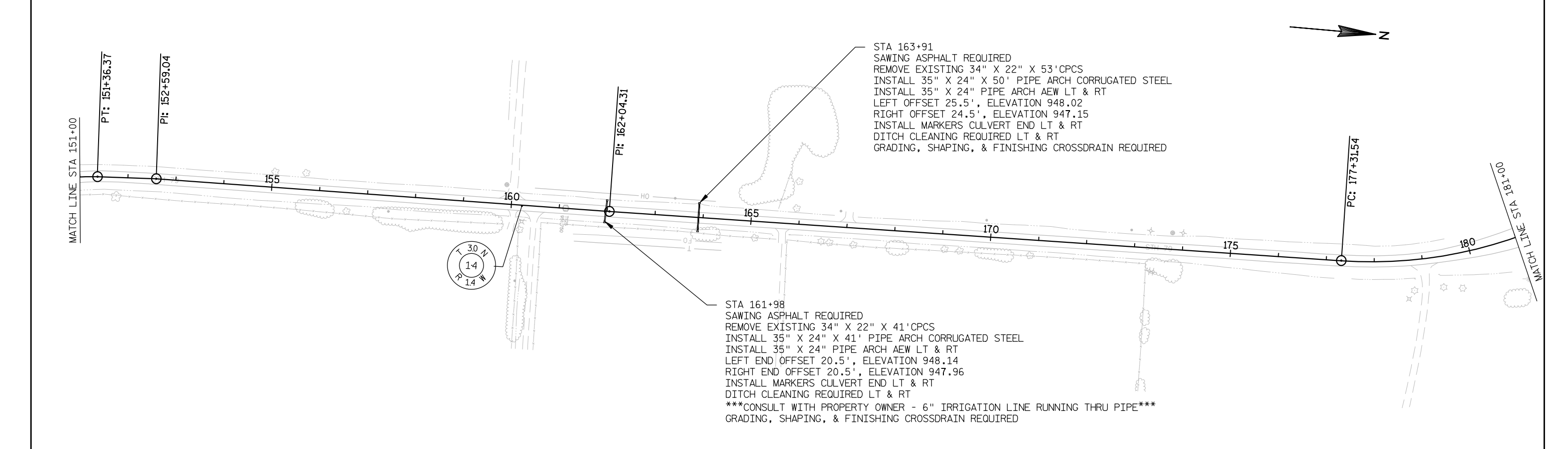
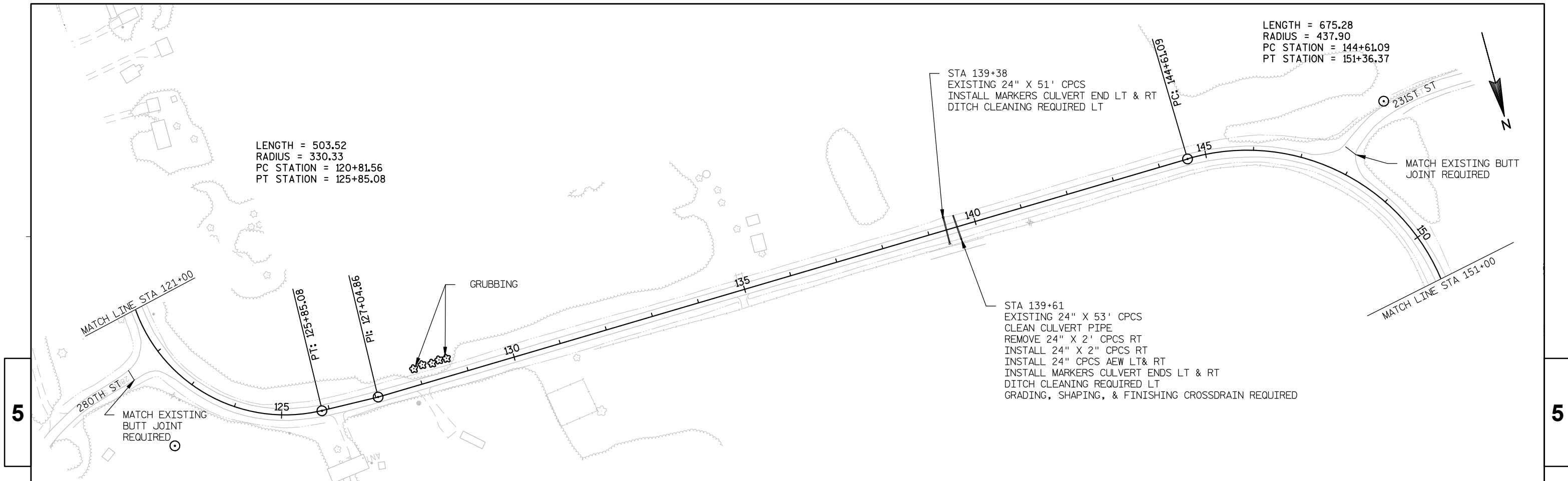
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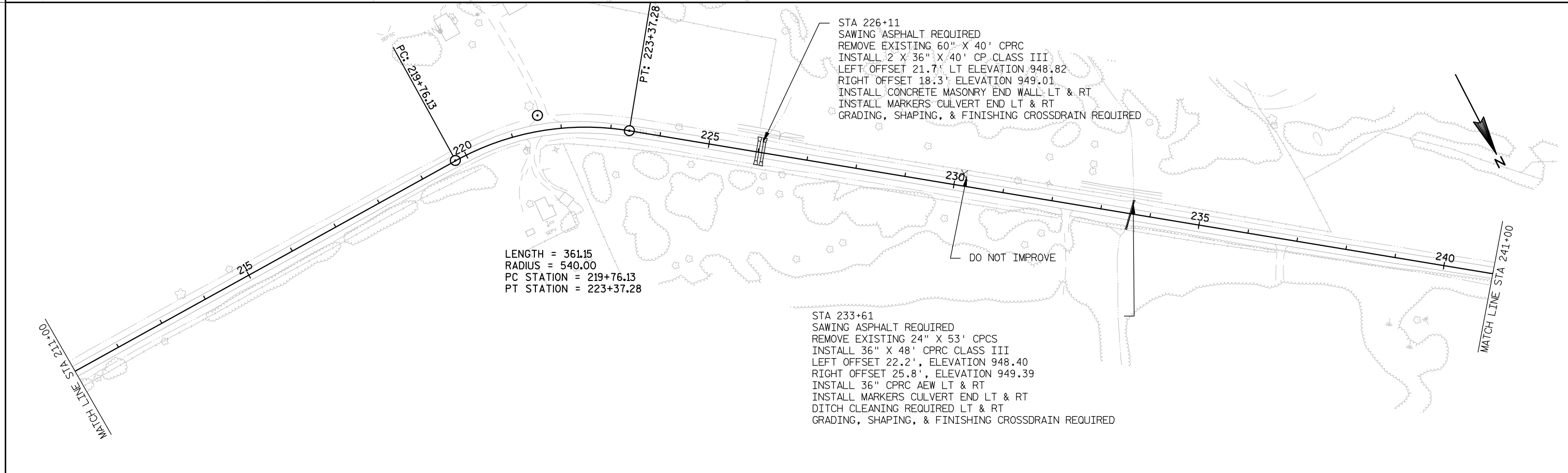
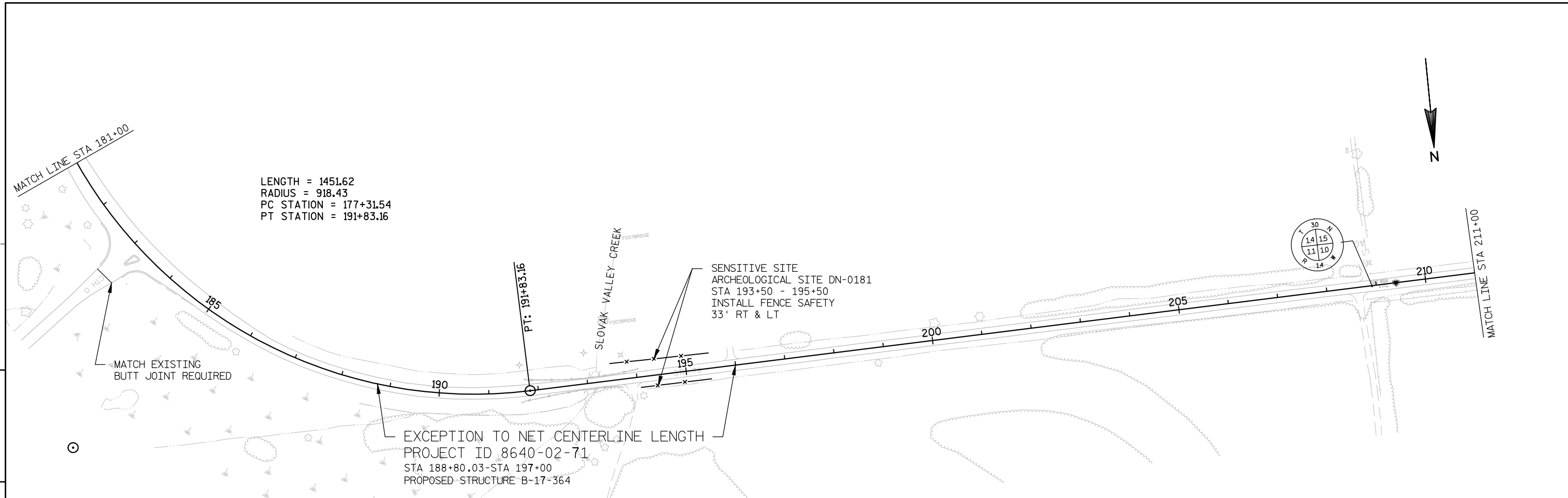
PLOT DATE : 4/4/2013 8:37 AM

PLOT BY : QUEST CIVIL ENG

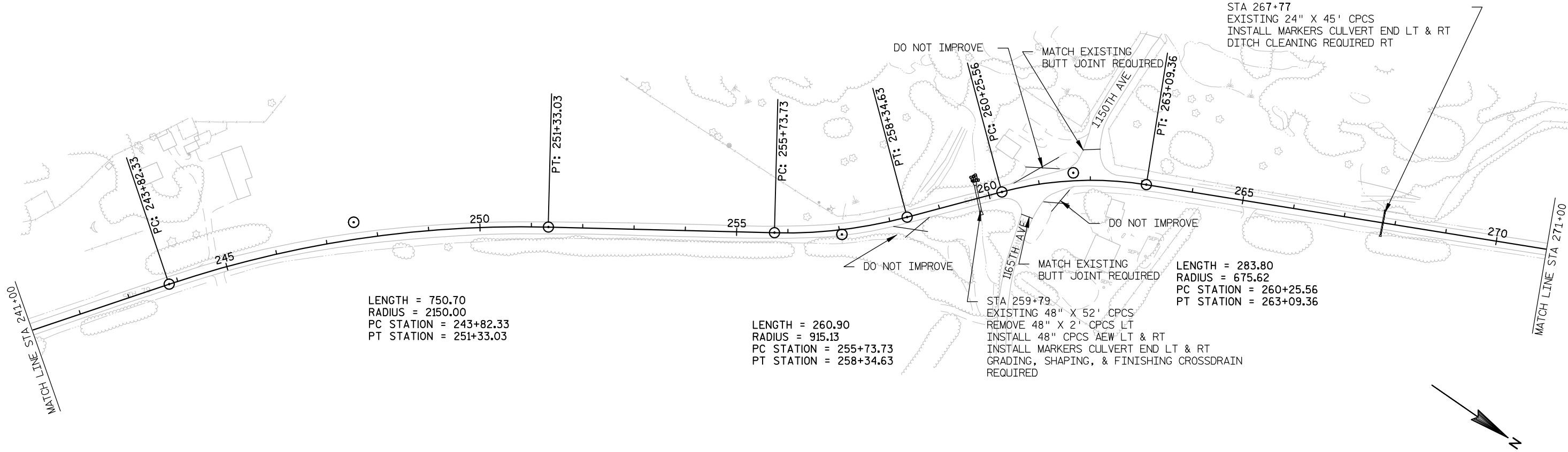
PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDs SHEET 44

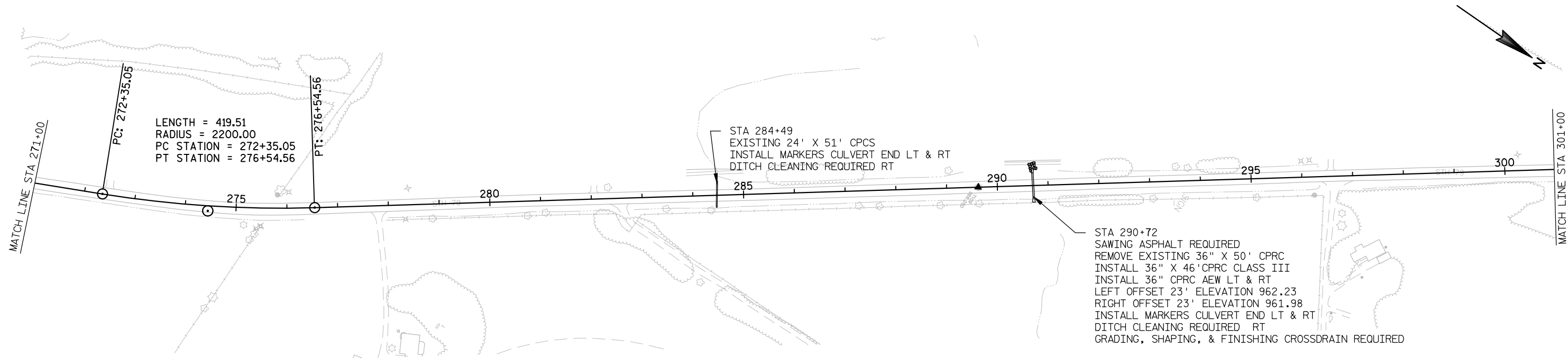


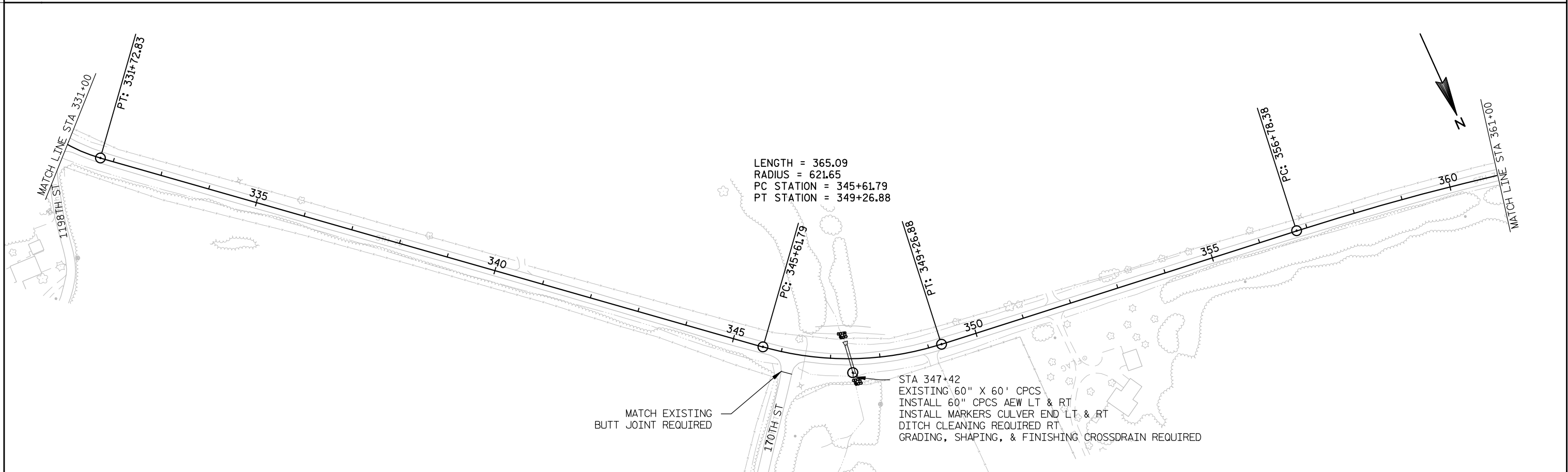
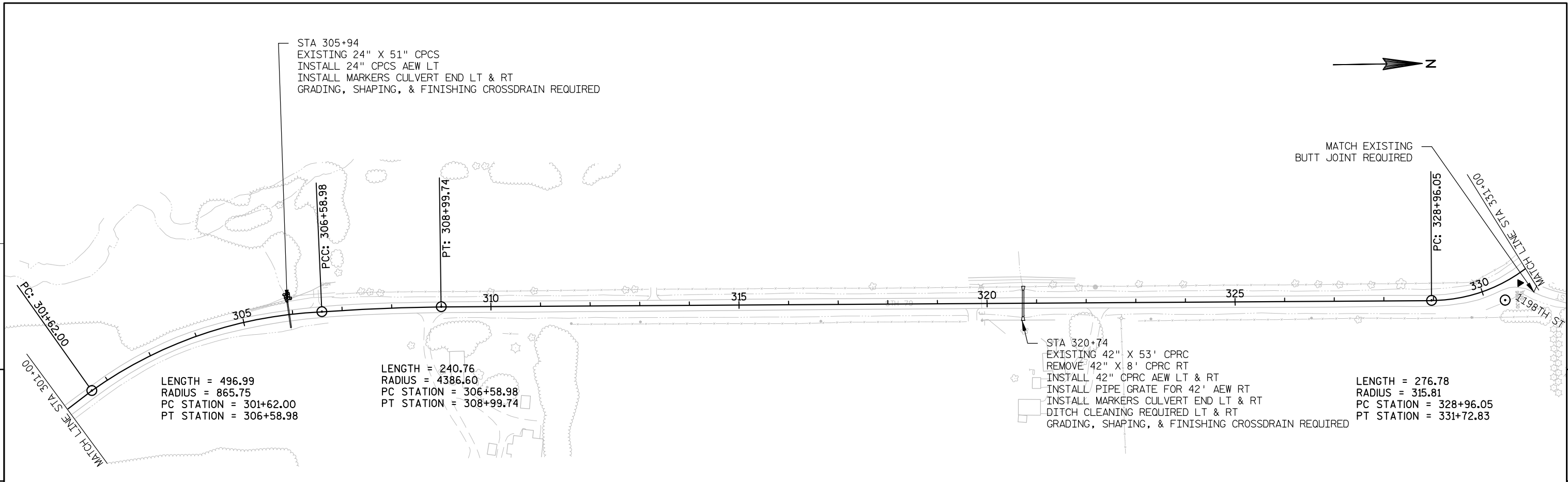


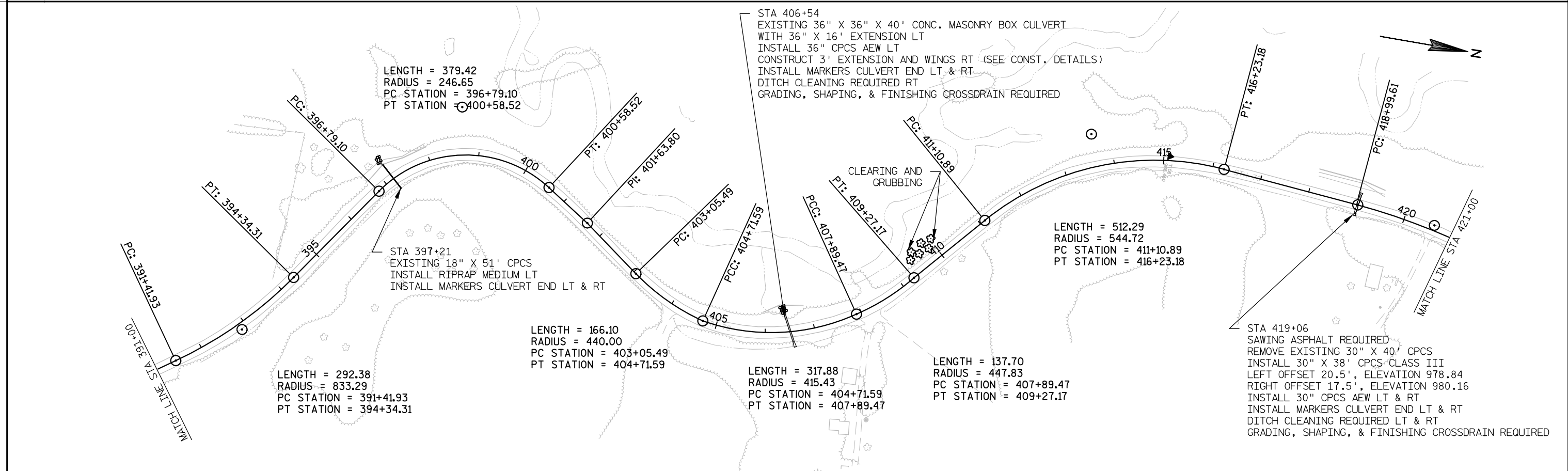
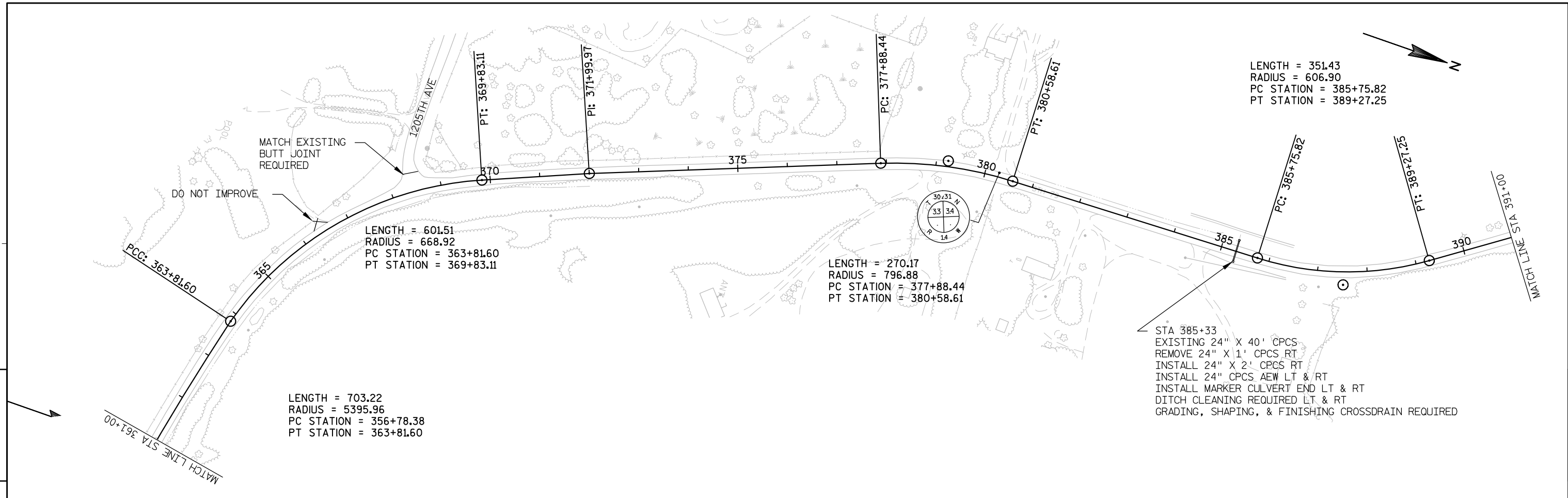
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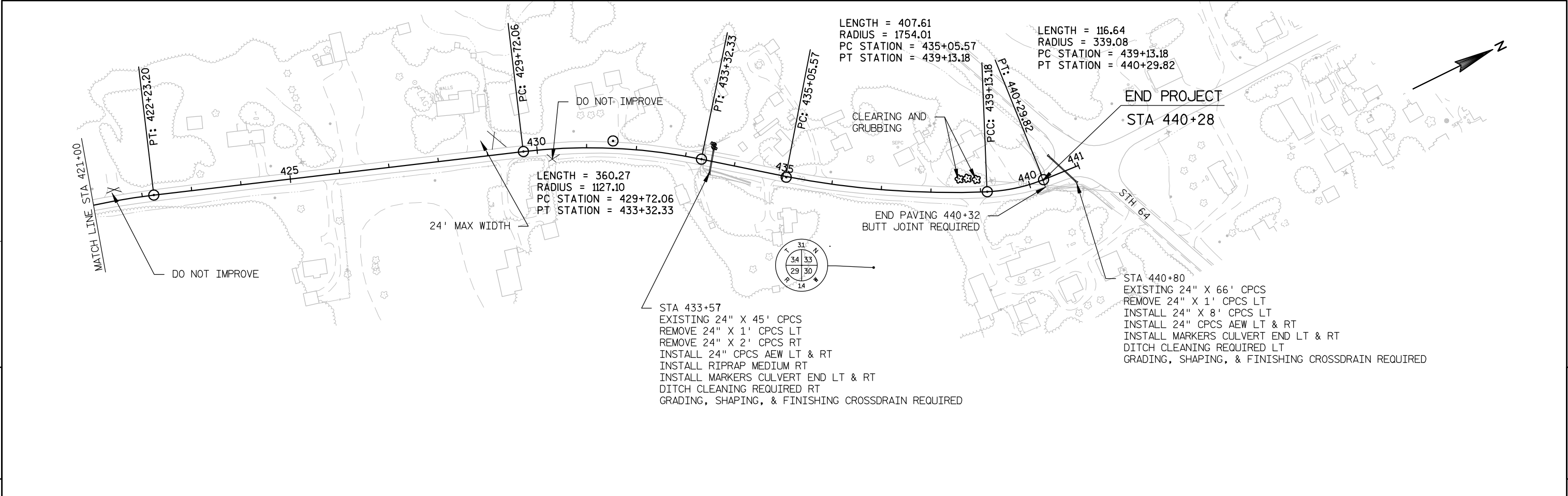
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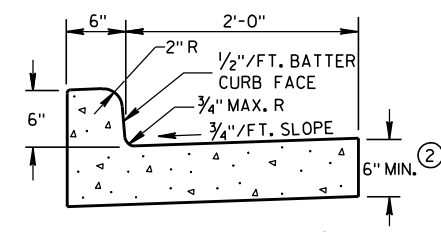
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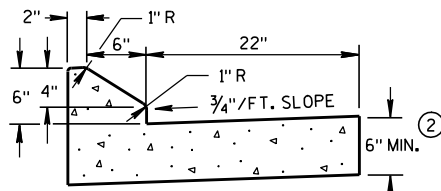
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Standard Detail Drawing List

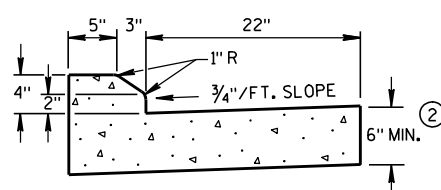
|           |                                                                                                    |
|-----------|----------------------------------------------------------------------------------------------------|
| 08D01-17  | CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES                                                   |
| 08D05-14A | CURB RAMPS TYPES 1 AND 1-A                                                                         |
| 08D05-14B | CURB RAMPS TYPES 2 AND 3                                                                           |
| 08D05-14C | CURB RAMPS TYPE 4A                                                                                 |
| 08D05-14D | CURB RAMPS TYPE 4B                                                                                 |
| 08D05-14E | CURB RAMPS TYPES 5, 6, 7A, 7B & 8                                                                  |
| 08E08-03  | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS                                    |
| 08E09-06  | SILT FENCE                                                                                         |
| 08E10-02  | INLET PROTECTION TYPE A, B, C AND D                                                                |
| 08F01-11  | APRON ENDWALLS FOR CULVERT PIPE                                                                    |
| 08F02-01  | APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE                                                   |
| 08F04-07  | JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL                                            |
| 08F10-01  | CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH                                           |
| 13A11-01A | 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING                                                     |
| 13A11-01B | 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING                                                     |
| 13B01-10  | PAVEMENT DETAILS FOR RAILROAD APPROACH                                                             |
| 14B42-02A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                                           |
| 14B42-02B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                                           |
| 14B42-02C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                                           |
| 14B44-01A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)                                           |
| 14B44-01B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)                                           |
| 14B44-01C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)                                           |
| 14B45-03A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-03B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-03C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-03D | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-03E | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-03F | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-03G | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-03H | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-03I | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-03J | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END                                                               |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END                                                               |
| 15C04-01  | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C06-05  | SIGNING & MARKING FOR TWO LANE BRIDGES                                                             |
| 15C08-15A | PAVEMENT MARKING (MAINLINE)                                                                        |
| 15C08-15B | PAVEMENT MARKING (INTERSECTIONS)                                                                   |
| 15C08-15F | PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)                                                 |
| 15C09-09A | SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS                          |
| 15C12-03  | TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)                                  |
| 15C19-01A | MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY                                         |
| 15C27-01  | DOUBLE ARROW WARNING SIGN PLACEMENT                                                                |
| 15D28-01  | TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY                               |
| 15D30-01  | TRAFFIC CONTROL, SIDEWALK CLOSURE                                                                  |



TYPES A & D (1)



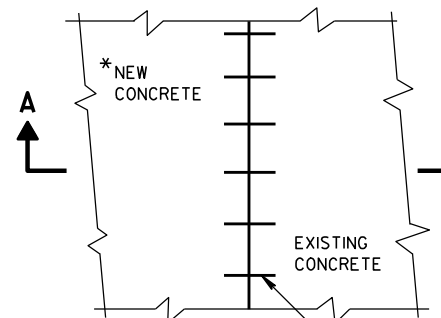
6" SLOPED CURB TYPES G & J (1)



4" SLOPED CURB TYPES G & J (1)

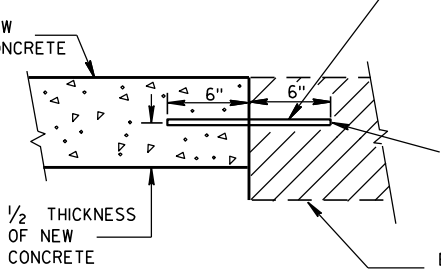
CONCRETE CURB & GUTTER 30"

\* NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

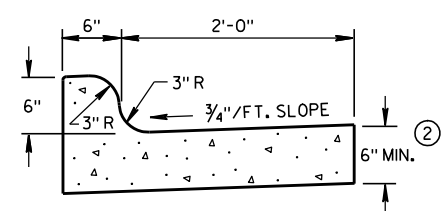


PLAN VIEW

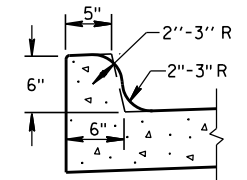
NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT.



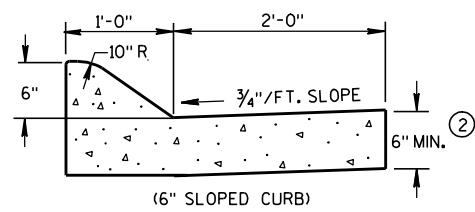
SECTION A-A  
TIE BARS DRILLED INTO EXISTING PAVEMENT



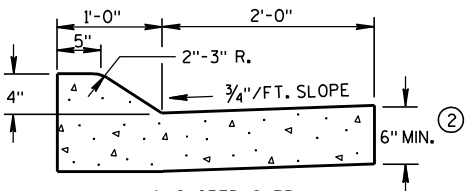
TYPES K & L (1)



OPTIONAL CURB SHAPE FOR TYPES K & L (1)

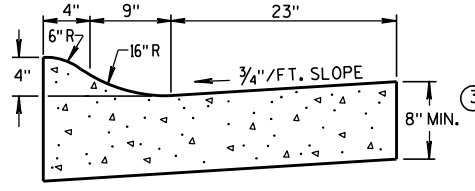


(6" SLOPED CURB)



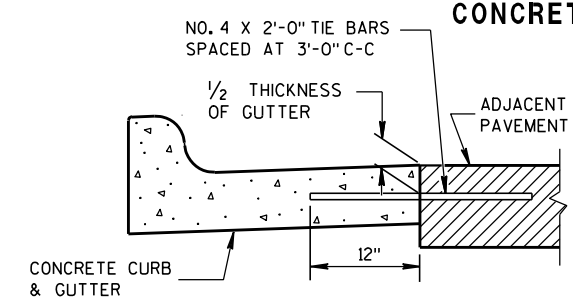
(4" SLOPED CURB)

TYPES A & D (1)

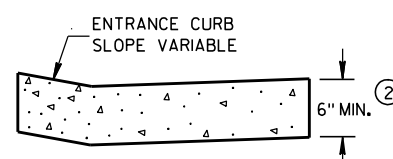


4" SLOPED CURB TYPES R & T (1) (4)

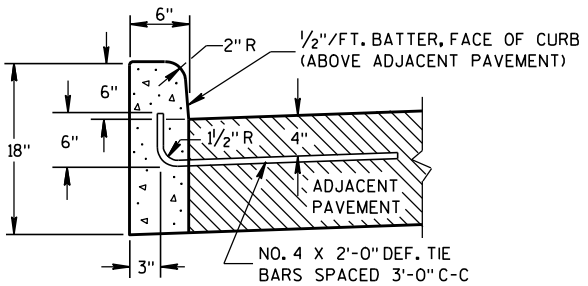
CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)

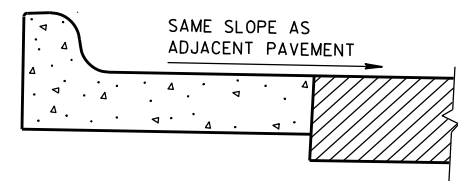


DRIVEWAY ENTRANCE CURB (WHEN DIRECTED BY THE ENGINEER)

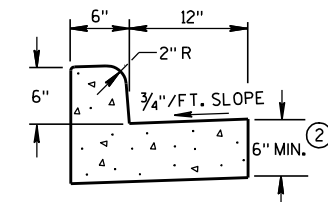


TYPES A & D (1)

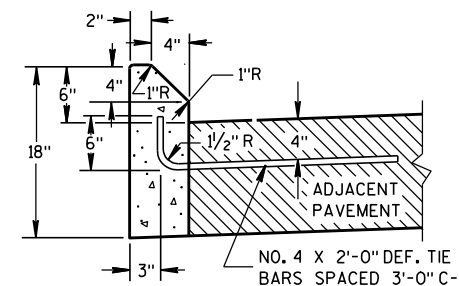
CONCRETE CURB



REVERSE SLOPE GUTTER (TYPICAL FOR ALL CURB & GUTTER TYPES)



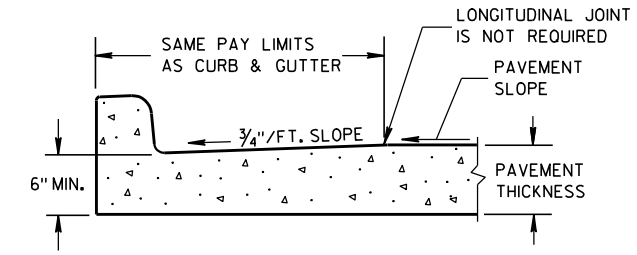
TYPES A & D  
CONCRETE CURB & GUTTER 18"



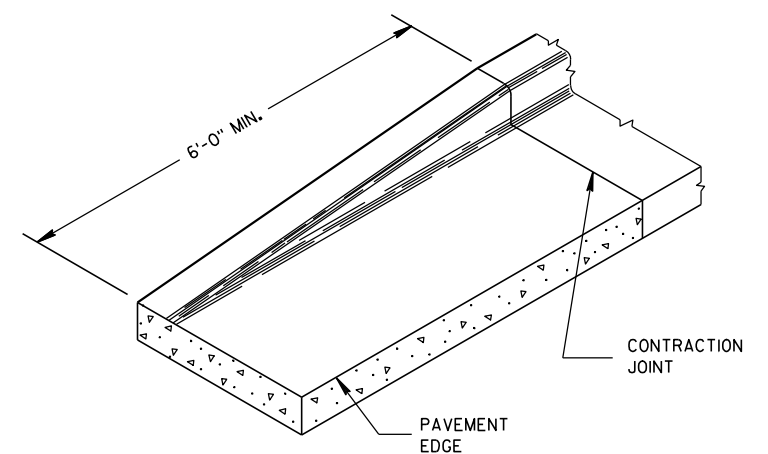
TYPES G & J (1)

GENERAL NOTES

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.
- INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.
- WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.
- UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.
- (1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
  - (2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
  - (3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
  - (4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
  - (5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

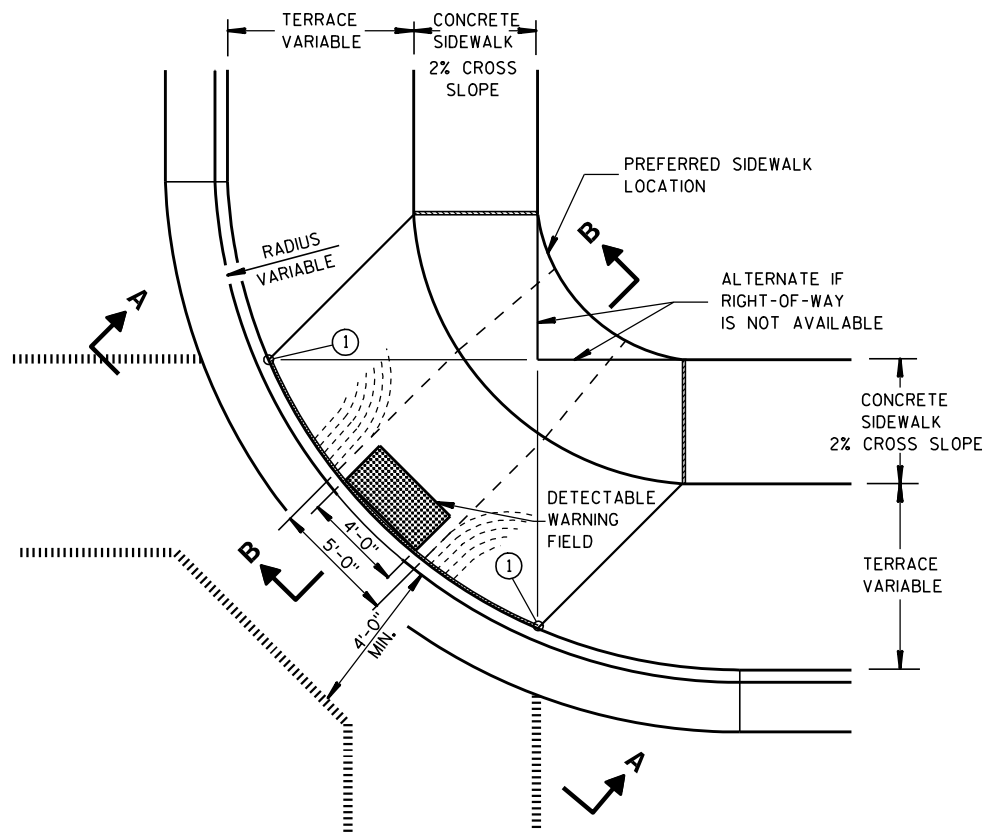


END SECTION CURB & GUTTER

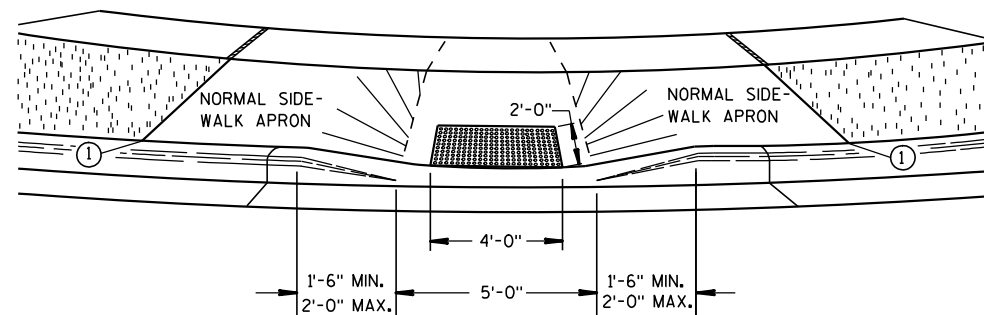
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

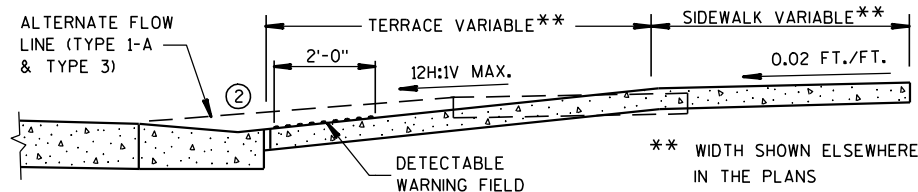
APPROVED  
9/4/08 /S/ Jerry H. 7-85 ENT  
DATE ROADWAY STANDARDS ENGINEER  
FHWA



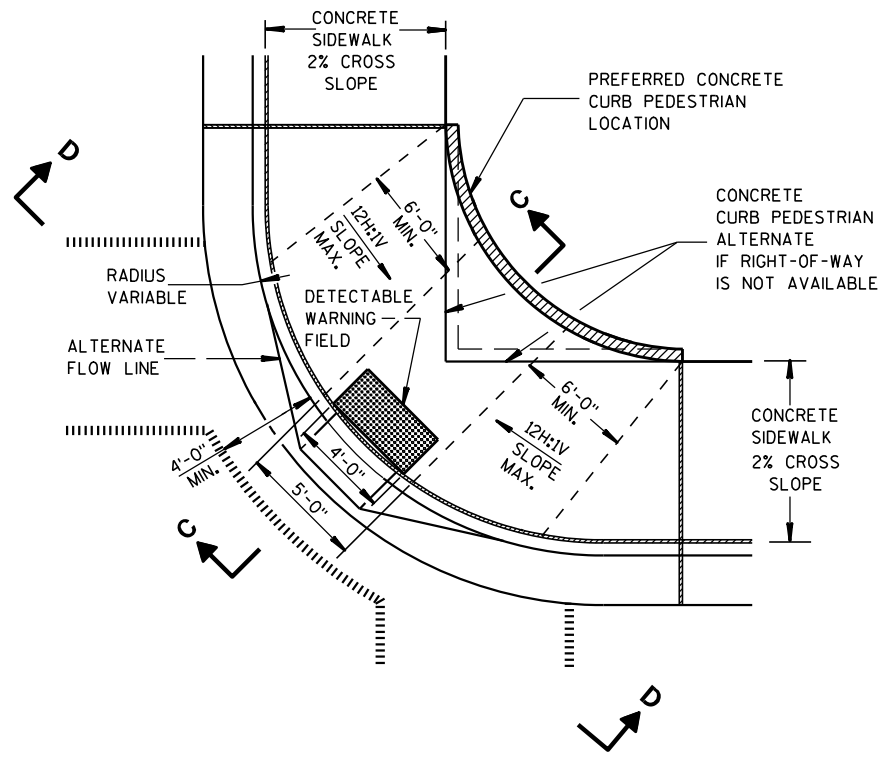
PLAN VIEW  
TYPE 1 RAMP  
(CENTER OF CORNER RADIUS)



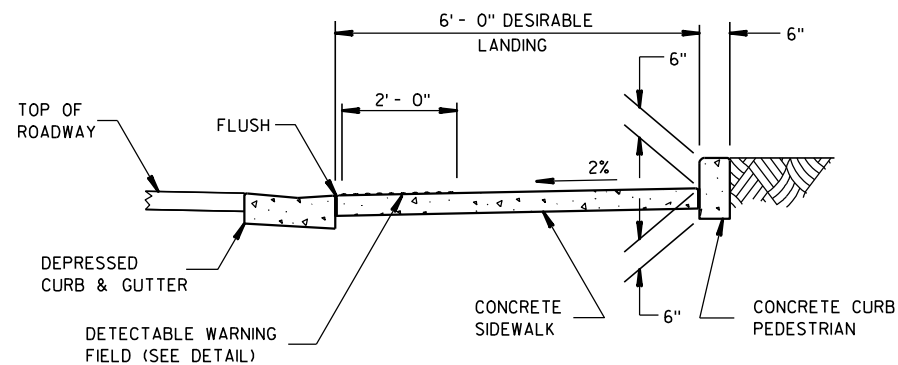
VIEW A-A



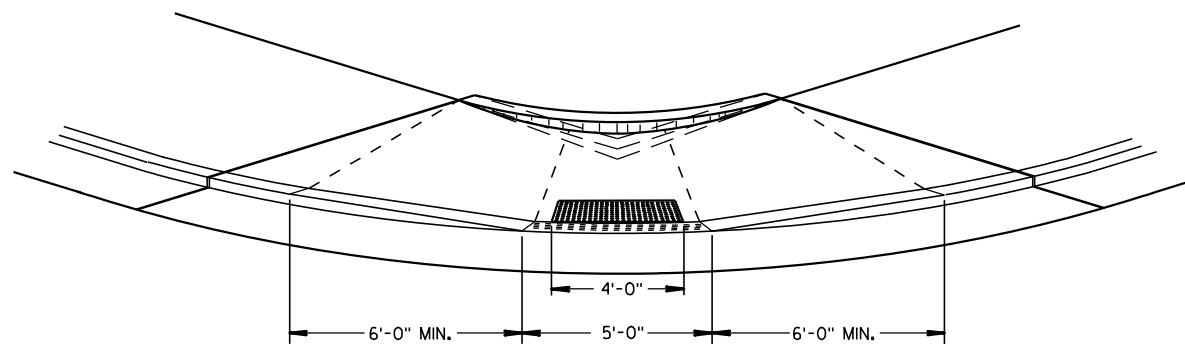
SECTION B-B



PLAN VIEW  
TYPE 1-A RAMP  
(NO TERRACE)



SECTION C-C



VIEW D-D

## 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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

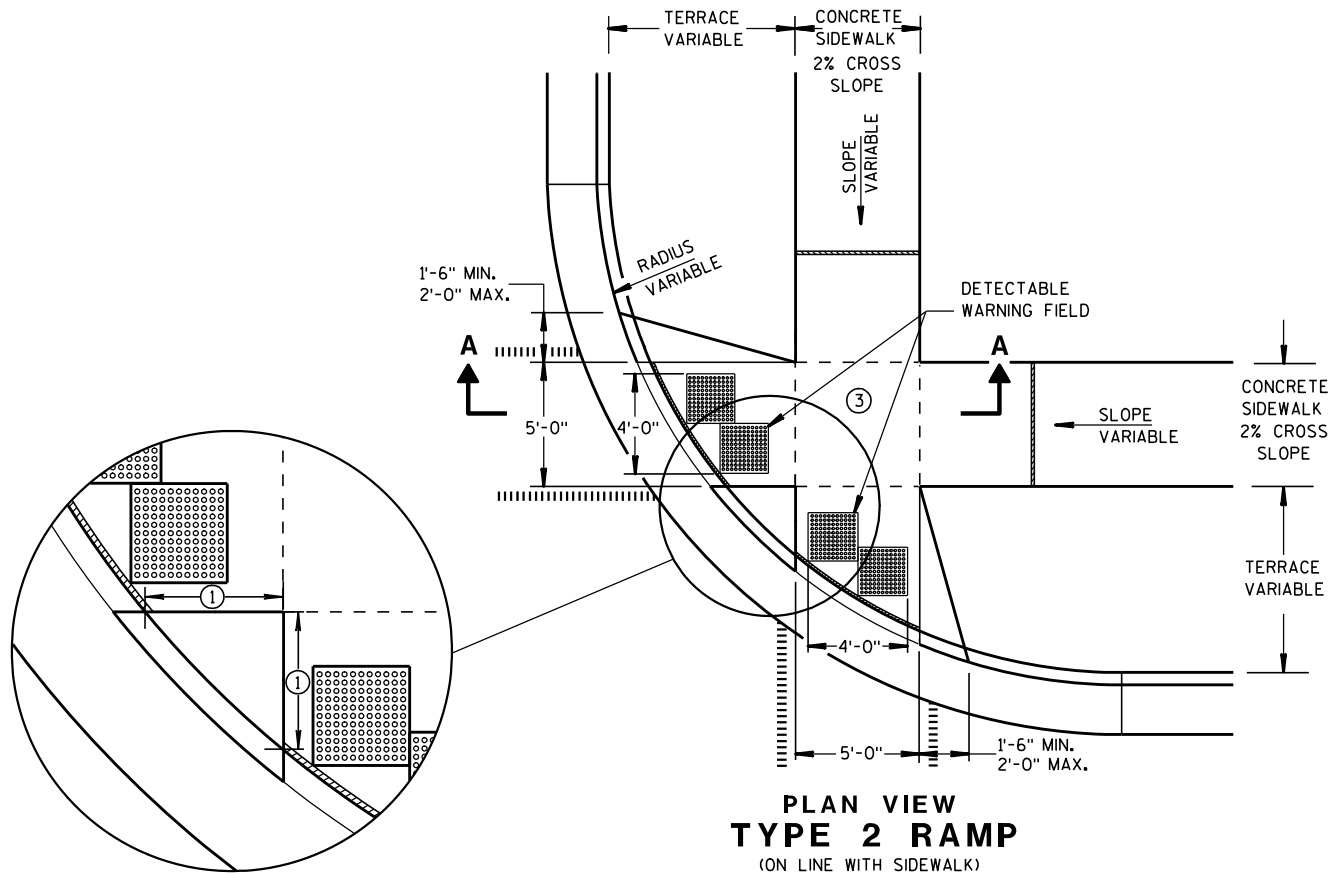
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

## LEGEND

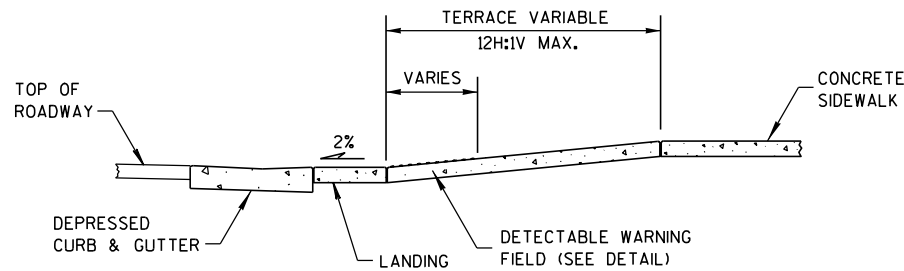
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS  
TYPES 1 AND 1-A

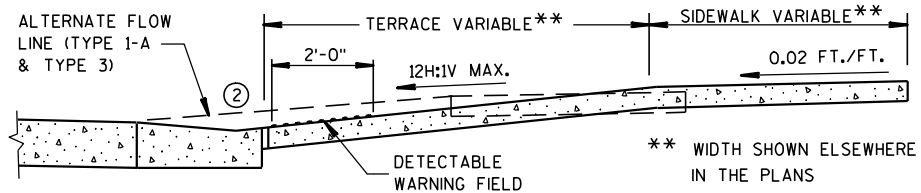
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



PLAN VIEW  
TYPE 2 RAMP  
(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

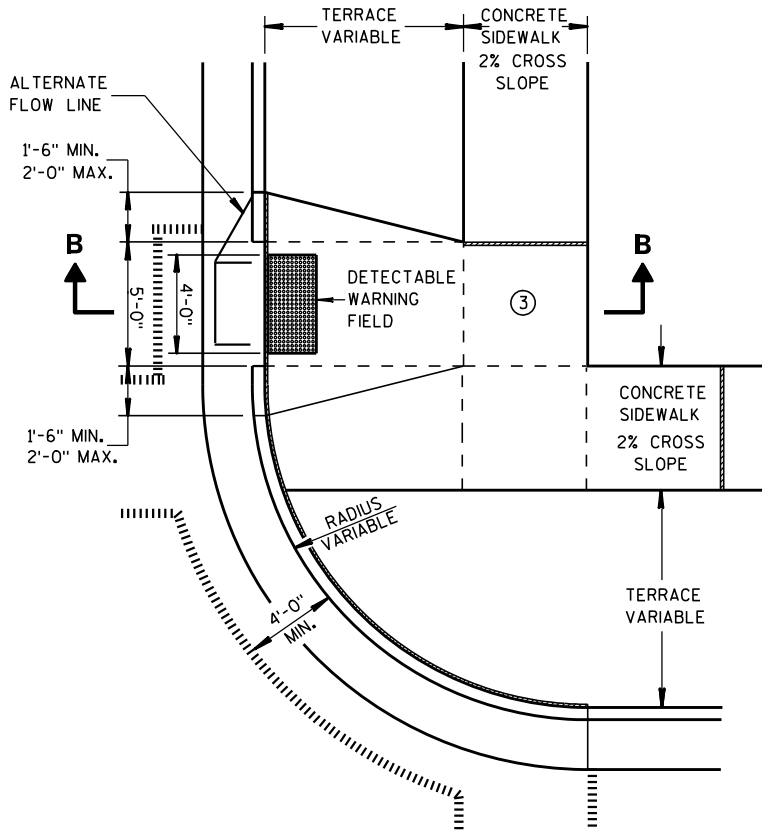
GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ PROVIDE LANDING AT TOP OF RAMP WITH NO MORE THAN 2% SLOPE IN ANY DIRECTION.

LEGEND

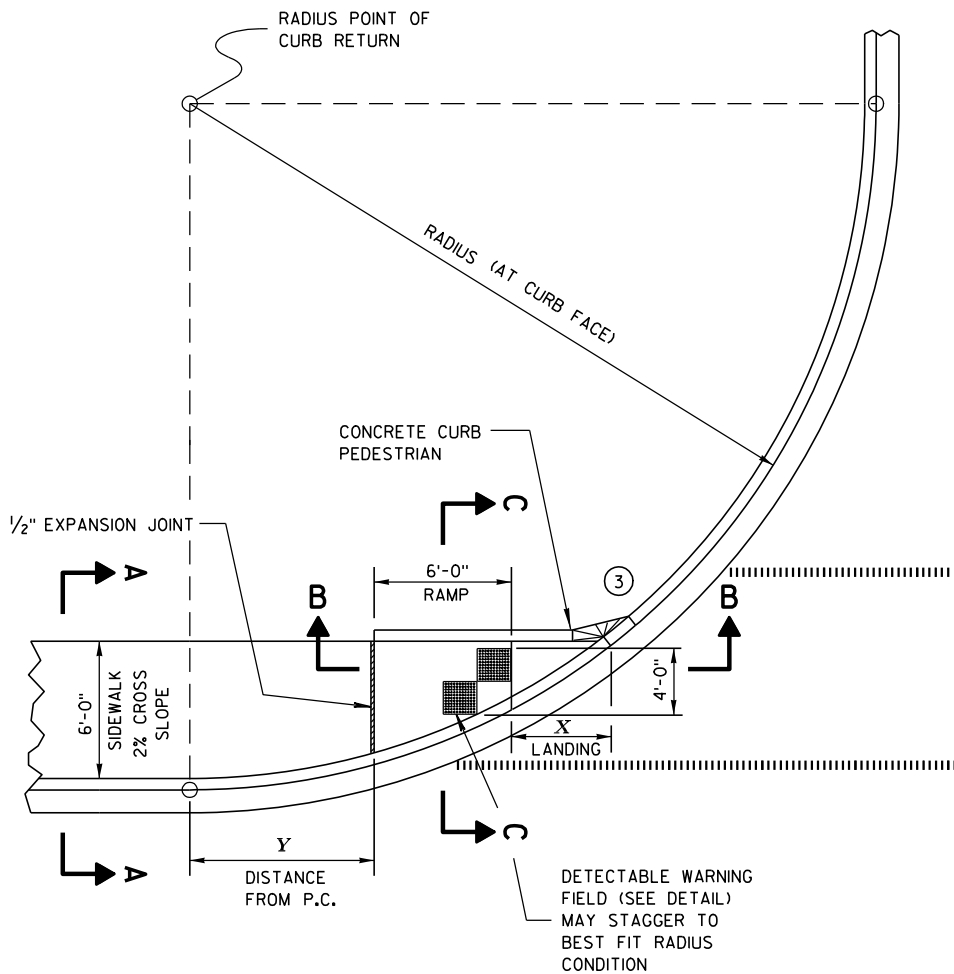
- ===== 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



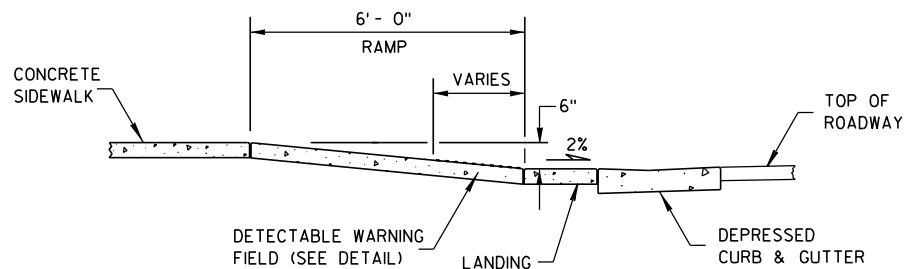
PLAN VIEW  
TYPE 3 RAMP  
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS  
TYPES 2 AND 3

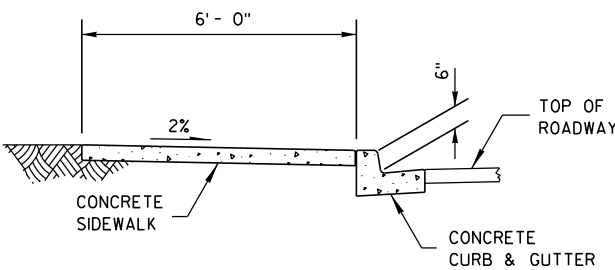
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



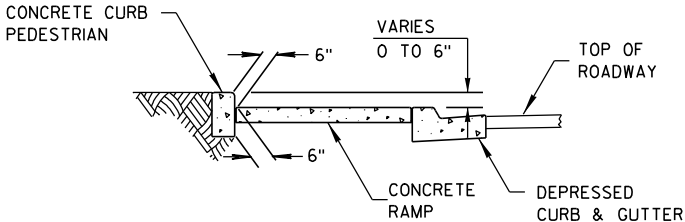
**CURB RAMP TYPE 4A**  
**PLAN VIEW**



**SECTION B-B**



**SECTION A-A**



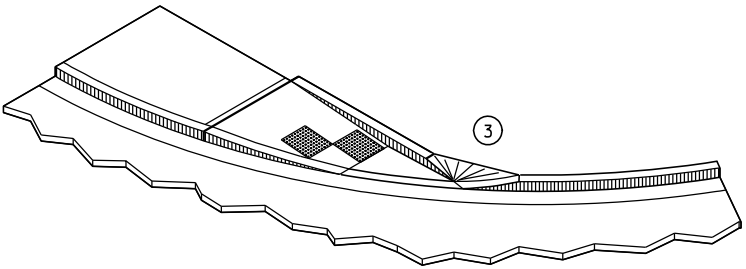
**SECTION C-C**

| RADIUS<br>(AT CURB FACE) | X           | Y          |
|--------------------------|-------------|------------|
| 20 FEET                  | 6'-13/4"    | 2'-7 1/4"  |
| 30 FEET                  | 7'-11 3/4"  | 4'-8 1/4"  |
| 40 FEET                  | 9'-5 1/4"   | 6'-5"      |
| 50 FEET                  | 10'-8 3/4"  | 7'-11 1/4" |
| 60 FEET                  | 11'-10 1/4" | 9'-3 1/2"  |

INTERMEDIATE RADII CAN BE INTERPOLATED

**GENERAL NOTES**

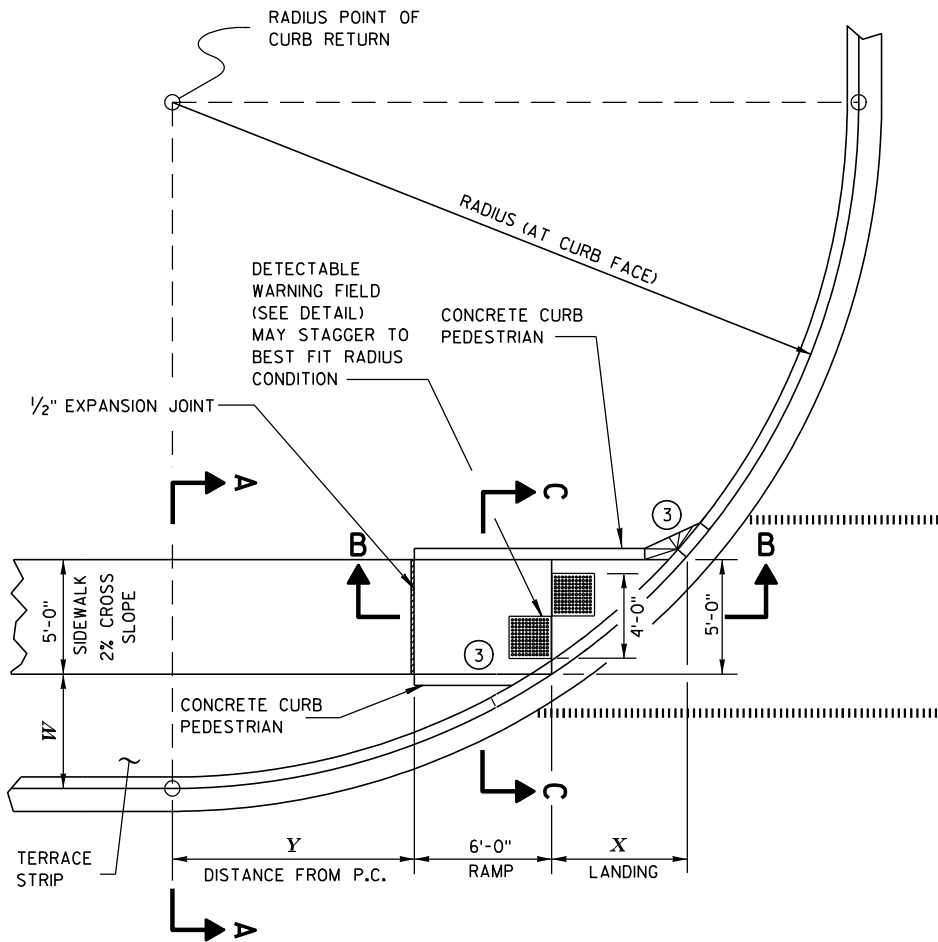
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.)  
DO NOT MARK TRANSITION NOSE.



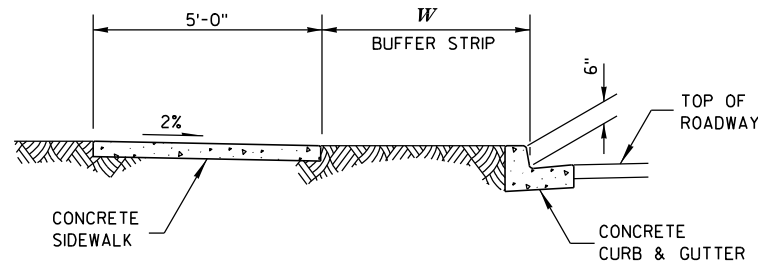
**ISOMETRIC VIEW**

- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
  - CONTRACTION JOINT FIELD LOCATED
  - PAVEMENT MARKING CROSSWALK (WHITE)

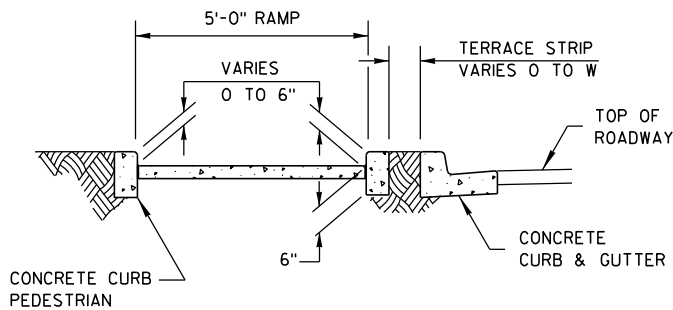
**CURB RAMPS**  
**TYPE 4A**



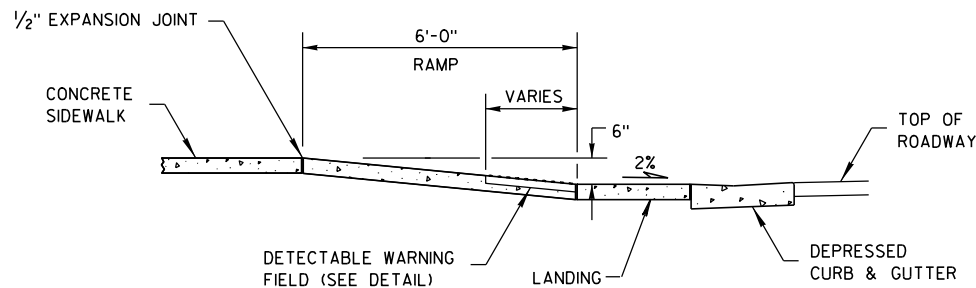
CURB RAMP TYPE 4B  
PLAN VIEW



SECTION A-A



SECTION C-C



SECTION B-B

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

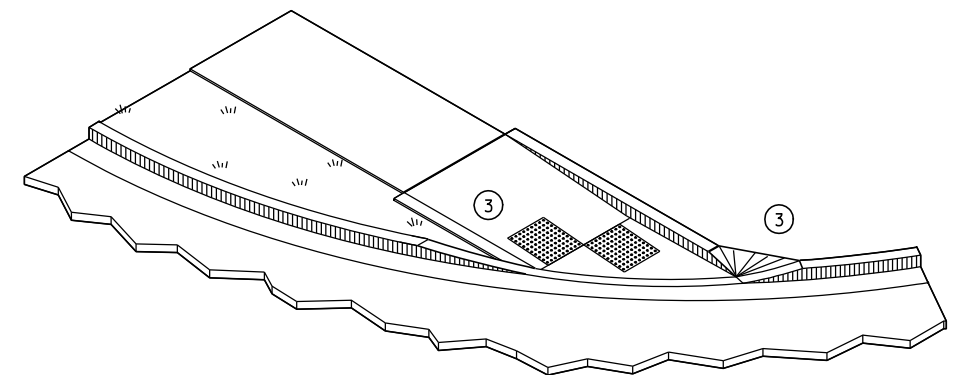
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.)  
DO NOT MARK TRANSITION NOSE.

| RADIUS<br>(AT CURB FACE) | W = 3'- 0"  |            | W = 4'- 0"  |             | W = 5'- 0"  |             | W = 6'- 0" |            | W = 7'- 0" |            |
|--------------------------|-------------|------------|-------------|-------------|-------------|-------------|------------|------------|------------|------------|
|                          | X           | Y          | X           | Y           | X           | Y           | X          | Y          | X          | Y          |
| 20 FEET                  | 5'-5 1/2"   | 4'-6 1/2"  | 4'-8 1/2"   | 6'-0"       | 4'-1"       | 7'-2 3/4"   | 3'-7"      | 8'-3 1/2"  | 3'-1 1/2"  | 9'-2 1/2"  |
| 30 FEET                  | 7'-3 3/4"   | 7'-1"      | 6'-5 1/2"   | 8'-11 1/2"  | 5'-9 1/4"   | 10'-7"      | 5'-2 1/2"  | 12'-0"     | 4'-8 3/4"  | 13'-3 1/4" |
| 40 FEET                  | 8'-9 1/2"   | 9'-2 1/2"  | 7'-10"      | 11'-5 1/4"  | 7'-1"       | 13'-4 1/2"  | 6'-5 3/4"  | 15'-3 1/4" | 5'-11 1/2" | 16'-7 1/4" |
| 50 FEET                  | 10'-3 1/4"  | 11'-3 1/4" | 9'-1 1/4"   | 13'-7 1/4"  | 8'-2 1/2"   | 15'-9 1/2"  | 7'-6 1/2"  | 17'-9"     | 6'-11 3/4" | 19'-6 1/4" |
| 60 FEET                  | 11'-2 1/2"  | 12'-8 3/4" | 10'-3 1/4"  | 15'-6 1/2"  | 9'-2 1/4"   | 17'-11 3/4" | 8'-5 3/4"  | 20'-1 3/4" | 7'-10 1/2" | 22'-1 1/2" |
| 70 FEET                  | 12'-2 3/4"  | 14'-3 1/4" | 11'-1 1/4"  | 17'-4"      | 10'-1"      | 19'-11 3/4" | 9'-3 3/4"  | 22'-4 1/4" | 8'-8 1/4"  | 24'-6 1/4" |
| 80 FEET                  | 13'-2"      | 15'-8 1/2" | 11'-10 1/2" | 18'-11 3/4" | 10'-10 3/4" | 21'-10"     | 10'-1"     | 24'-4 3/4" | 9'-5"      | 26'-8 3/4" |
| 90 FEET                  | 14'-1 1/2"  | 17'-1 1/2" | 12'-8 1/4"  | 20'-6 1/2"  | 11'-7 3/4"  | 23'-7"      | 10'-9 3/4" | 26'-3 3/4" | 10'-1 1/4" | 28'-9 1/2" |
| 100 FEET                 | 14'-10 1/2" | 18'-3 3/4" | 13'-5 1/2"  | 22'-0"      | 12'-4 1/4"  | 25'-2 3/4"  | 11'-5 3/4" | 28'-1 1/2" | 10'-9"     | 30'-9"     |

INTERMEDIATE RADII CAN BE INTERPOLATED



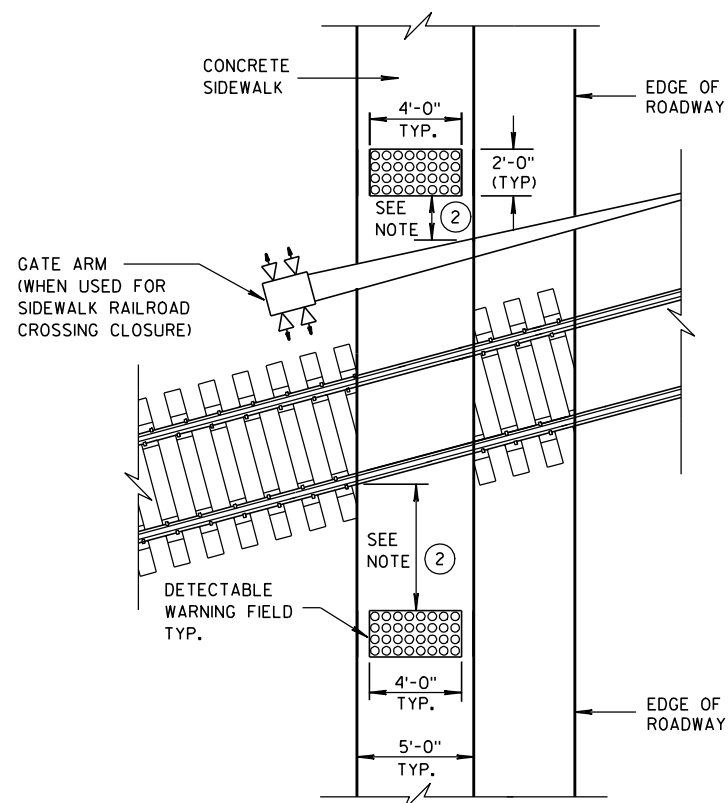
ISOMETRIC VIEW

LEGEND

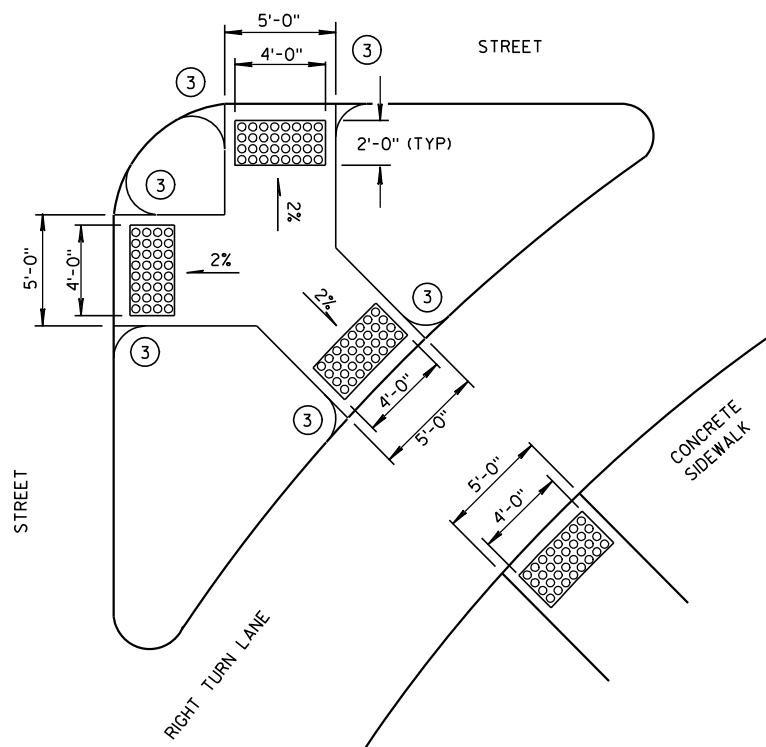
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS  
TYPE 4B

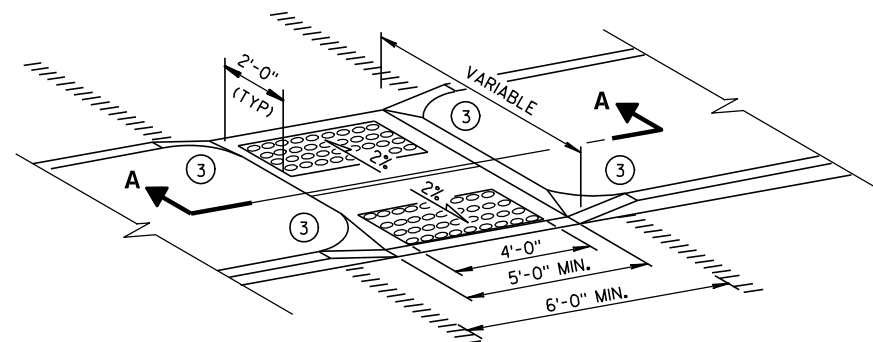
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



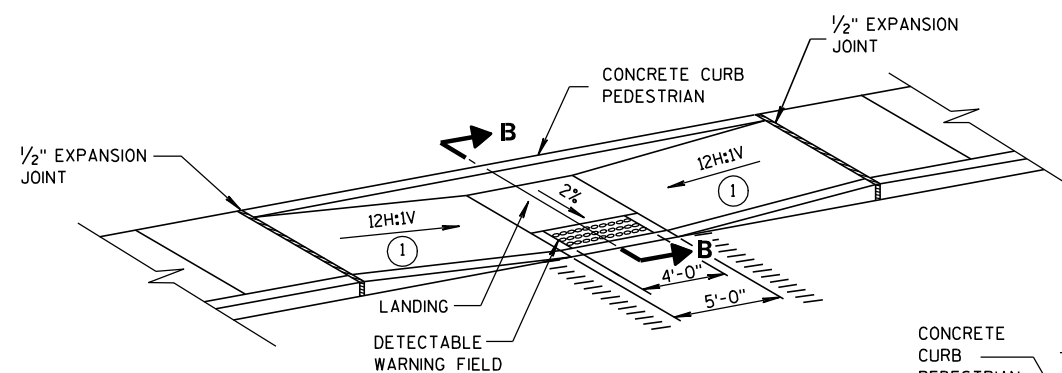
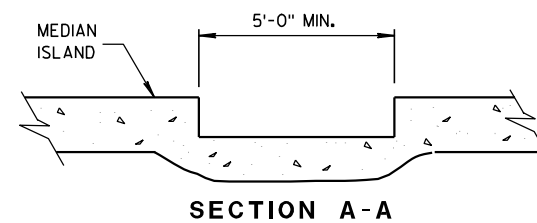
**TYPE 8**  
**DETECTABLE WARNINGS**  
**AT RAILROAD CROSSING**



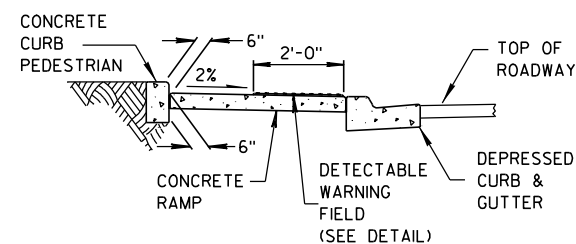
**TYPE 6**  
**DETECTABLE WARNING AT ISLANDS**



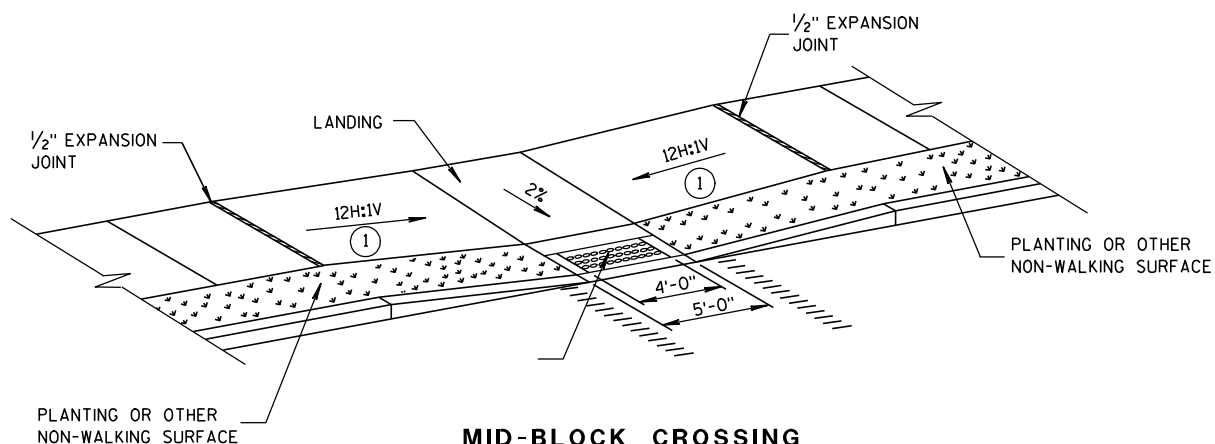
**MEDIAN ISLAND**  
**NON-ELEVATED CROSSING**  
**TYPE 5**



**MID-BLOCK CROSSING**  
**TYPE 7A**



**SECTION B-B**



**MID-BLOCK CROSSING**  
**TYPE 7B**

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS  
MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

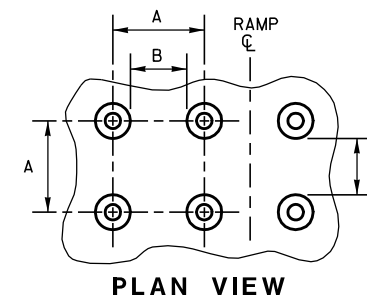
## GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

- ① SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ② THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET  $\pm$  0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

## LEGEND

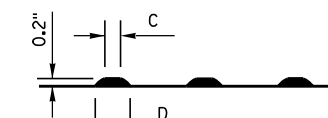
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)



**PLAN VIEW**

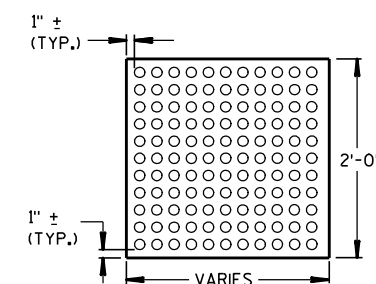
|   | MIN.  | MAX. |
|---|-------|------|
| A | 1.6"  | 2.4" |
| B | 0.65" | 1.5" |
| C | *     | *    |
| D | 0.9"  | 1.4" |

\* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



**ELEVATION VIEW**

## TRUNCATED DOMES DETECTABLE WARNING PATTERN DETAIL



**PLAN VIEW**

## DETECTABLE WARNING FIELD (TYPICAL)

**CURB RAMPS**  
**TYPES 5, 6, 7A, 7B & 8**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

2-9-10

DATE

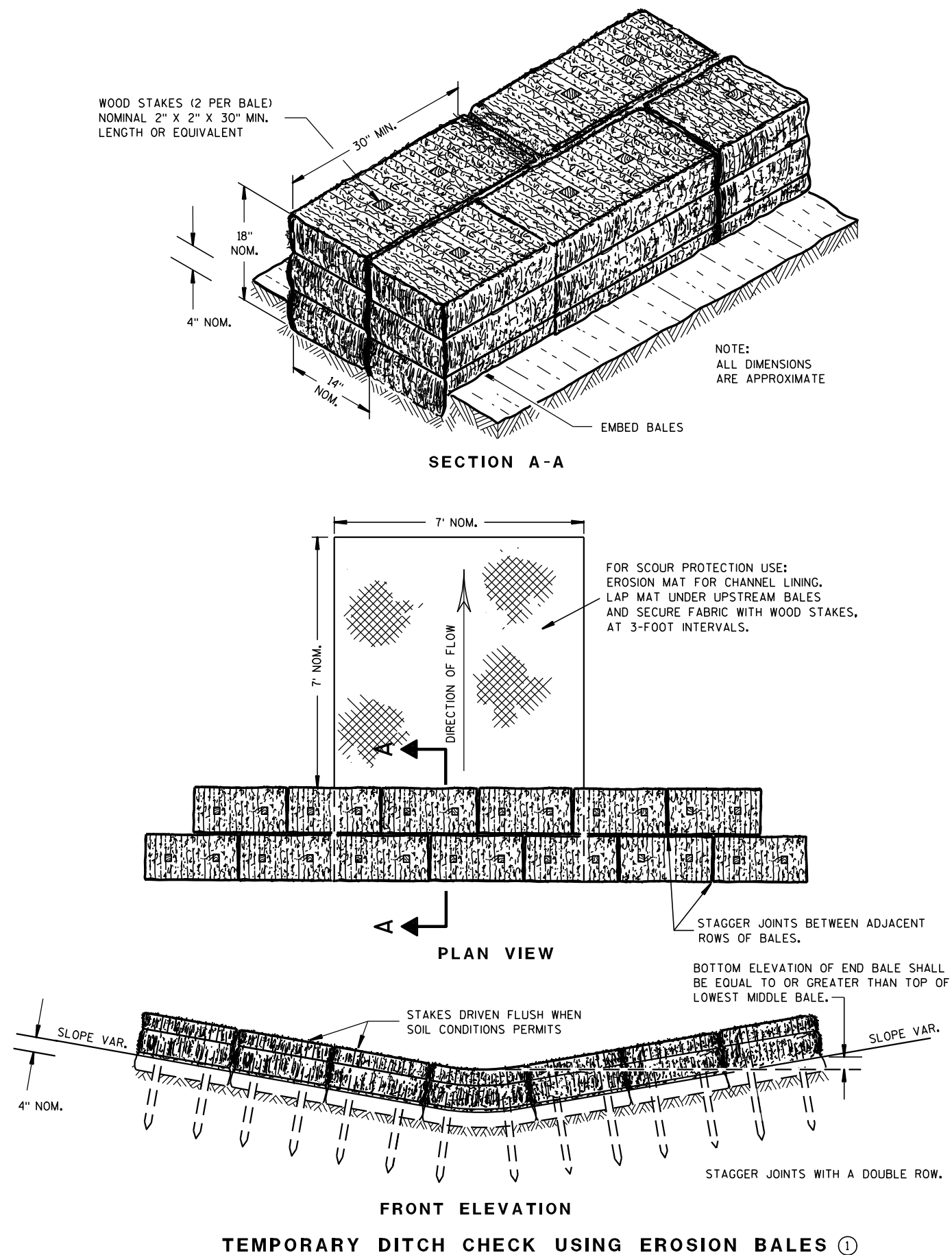
FHWA

/s/ Jerry H. Zogg

ROADWAY STANDARDS 90

ENGINEER

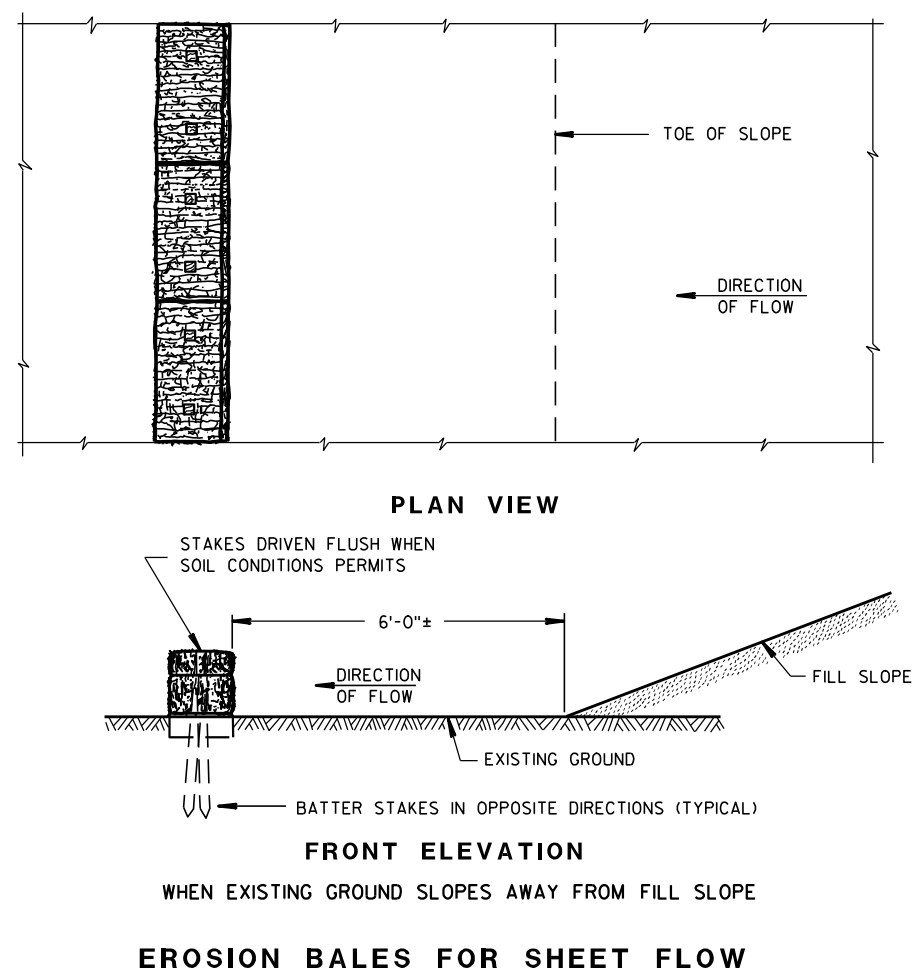
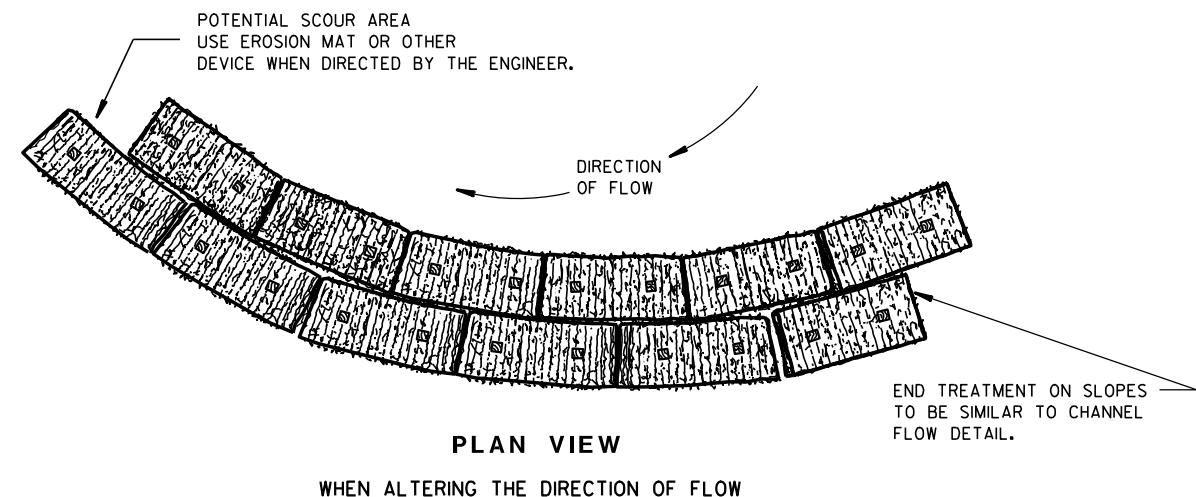
ENT



## 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

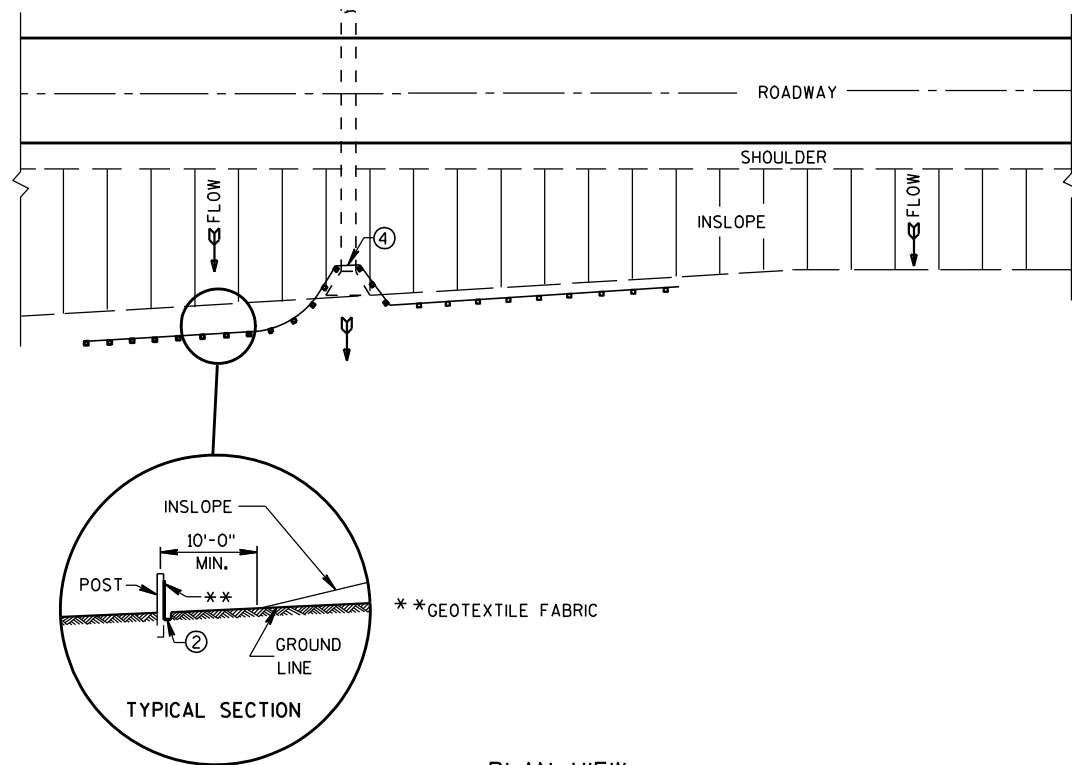
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02  
DATE/S/ Beth Connors  
CHIEF ROADWAY DEVELOPER

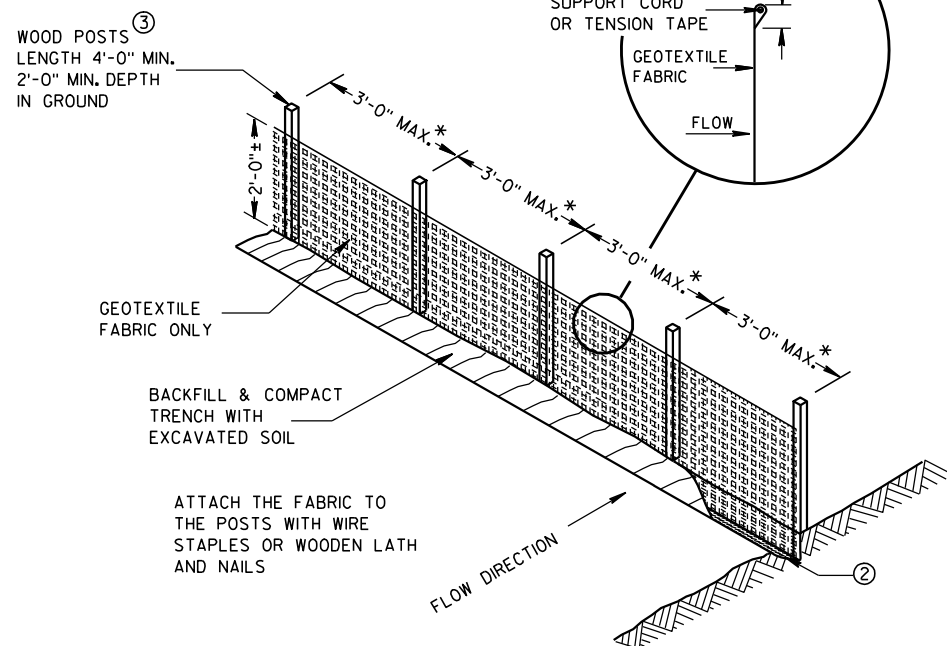
ENGINEER

FHWA



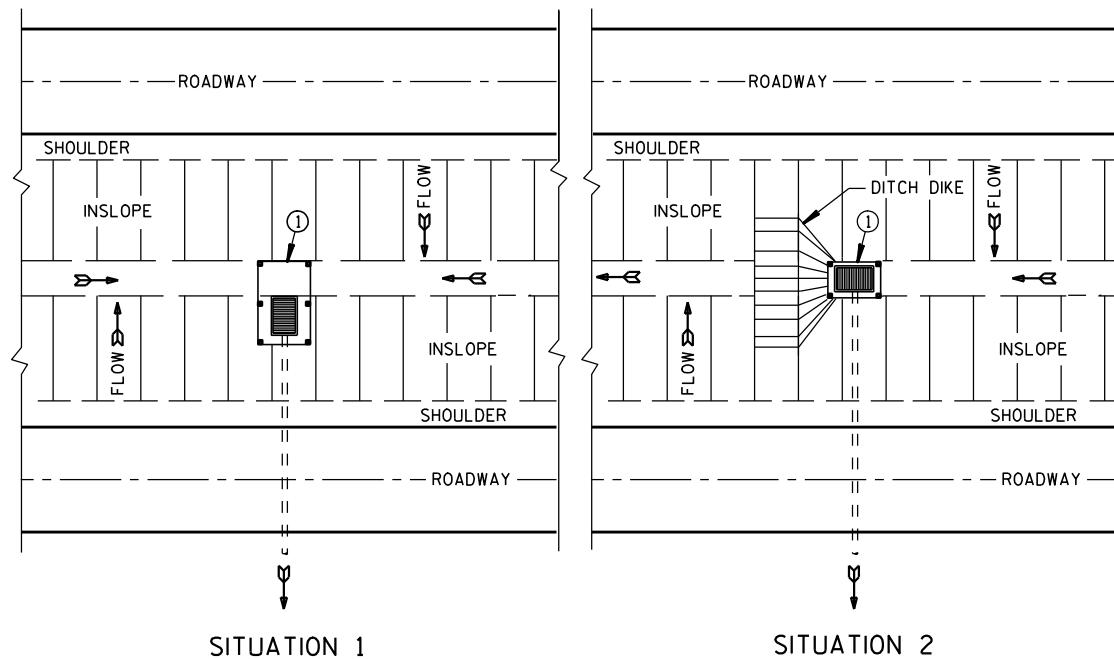
PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

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

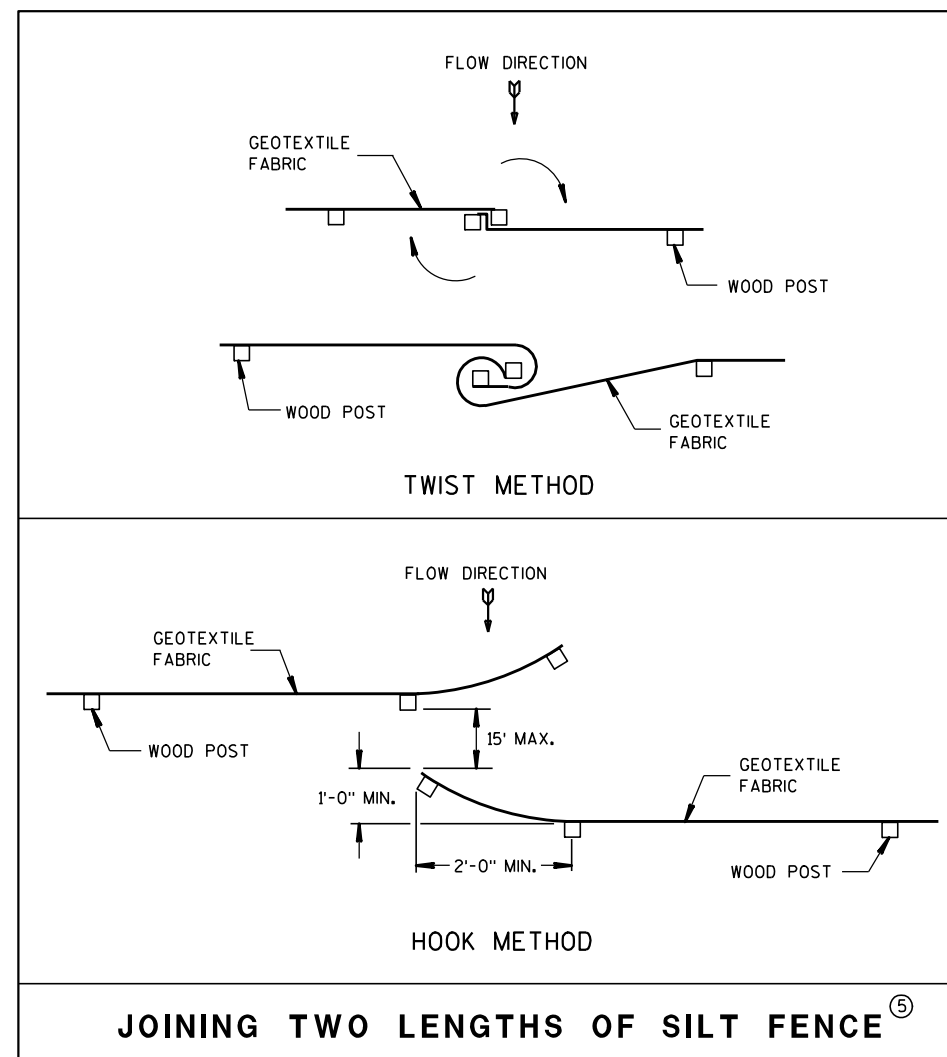


SILT FENCE

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



PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

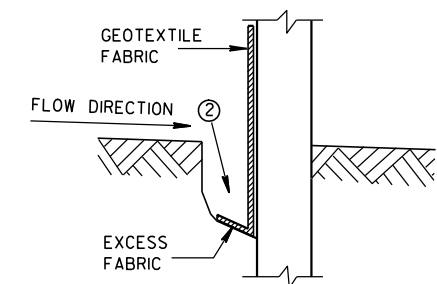


JOINING TWO LENGTHS OF SILT FENCE<sup>⑤</sup>

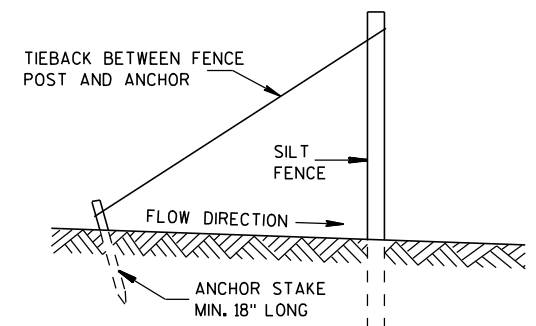
## GENERAL NOTES

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

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



TRENCH DETAIL



SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

## SILT FENCE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

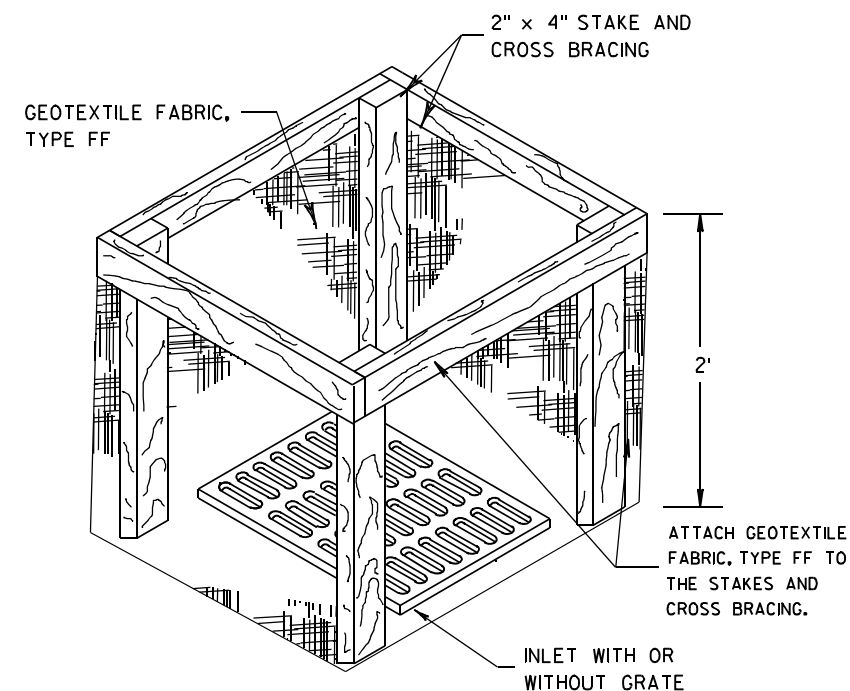
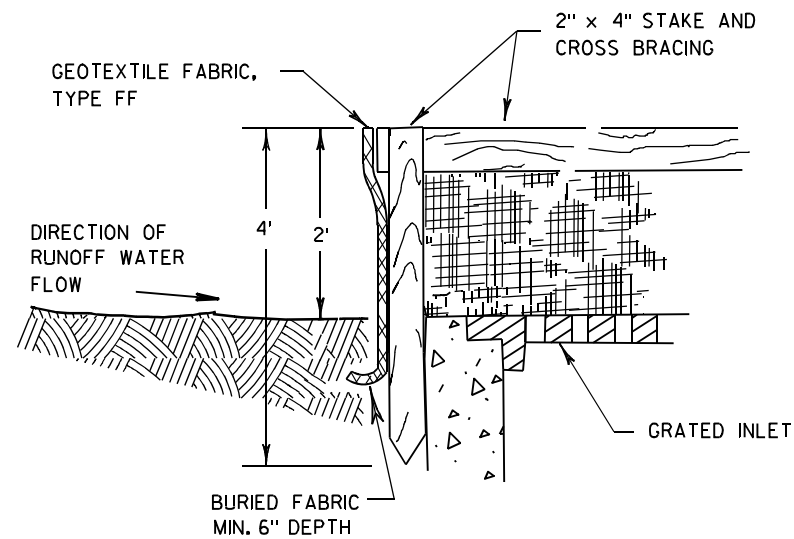
APPROVED

4-29-05  
DATE

FHWA

/S/ Beth Conn  
CHIEF ROADWAY DEVELOPER

ENGINEER



## INLET PROTECTION, TYPE A

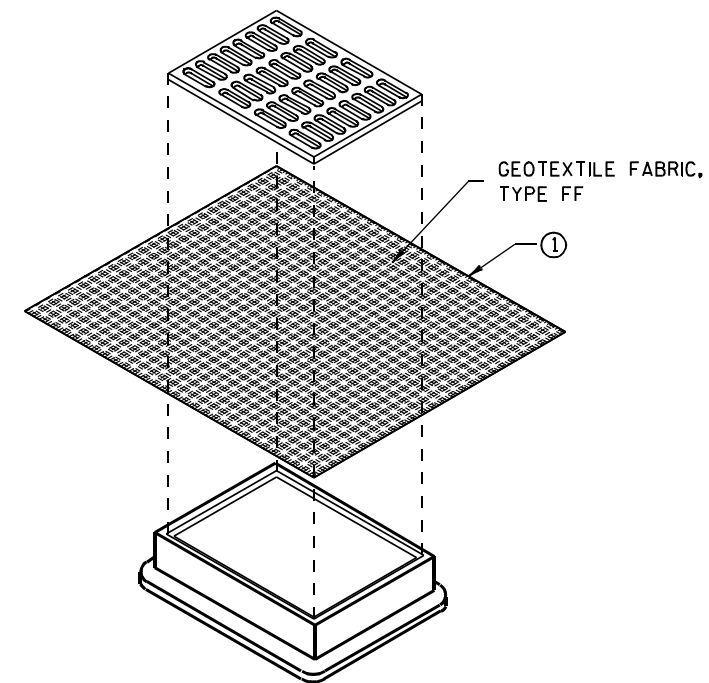
## GENERAL NOTES

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

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

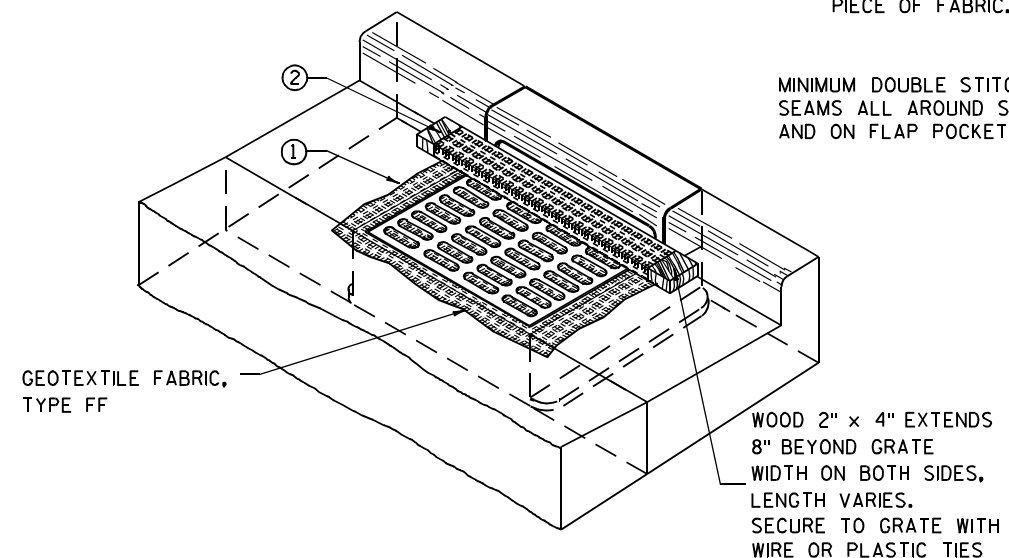
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



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

## INSTALLATION NOTES

## TYPE B & C

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

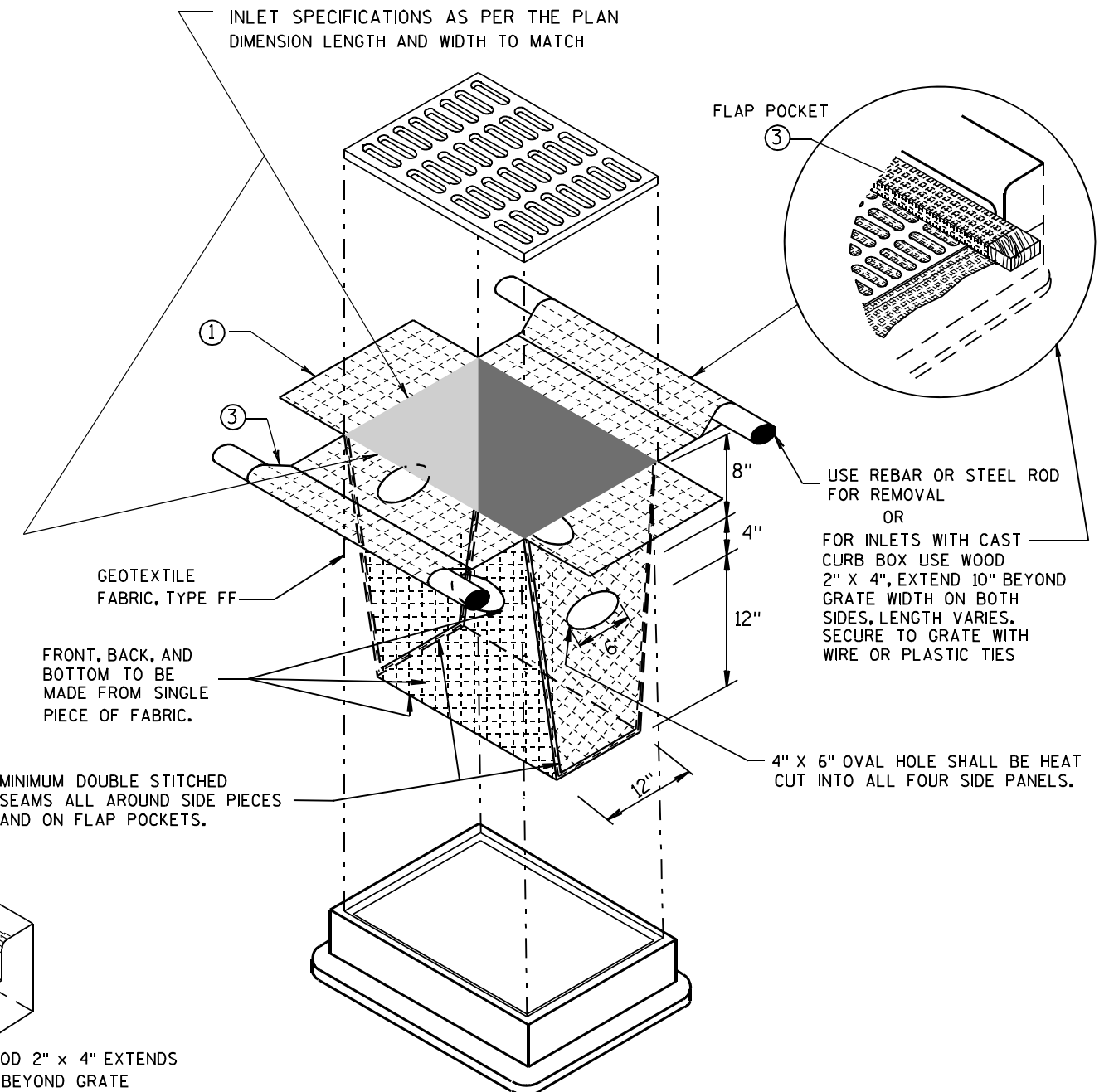
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

## TYPE D

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

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

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



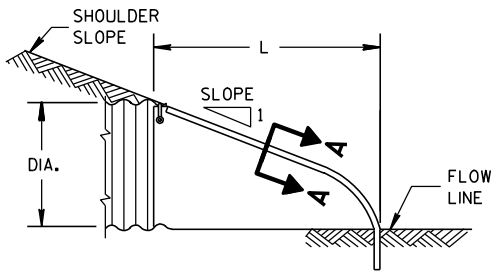
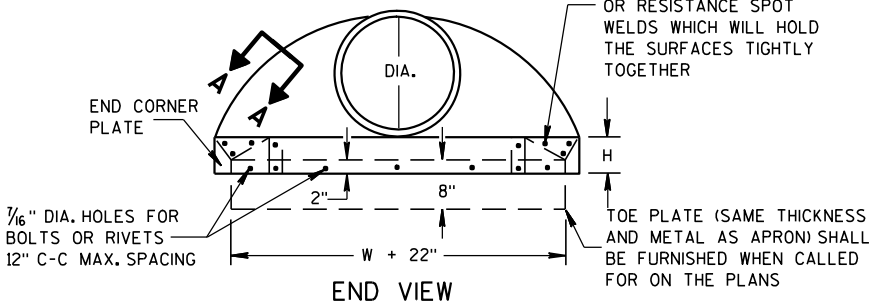
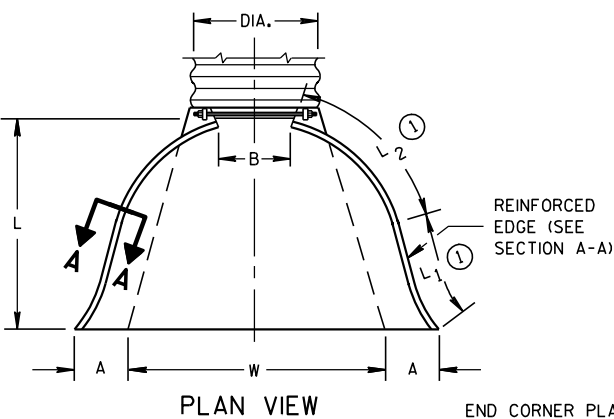
## INLET PROTECTION, TYPE D

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

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

| METAL APRON ENDWALLS |                         |       |                     |             |            |                |         |         |            |                  |  |       |
|----------------------|-------------------------|-------|---------------------|-------------|------------|----------------|---------|---------|------------|------------------|--|-------|
| PIPE DIA.<br>(IN.)   | MIN. THICK.<br>(Inches) |       | DIMENSIONS (Inches) |             |            |                |         |         |            | APPROX.<br>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. |

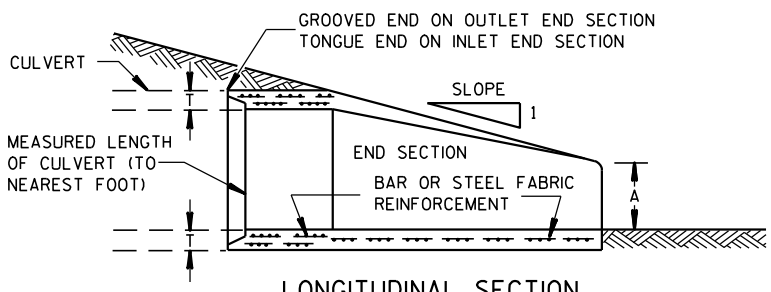
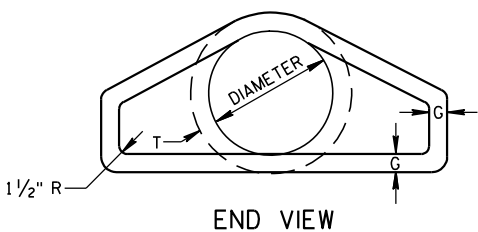
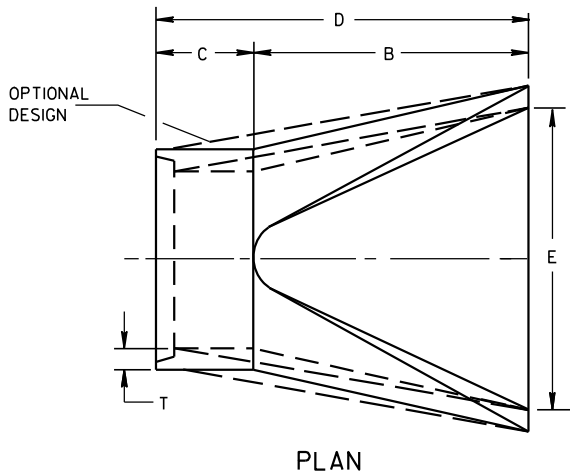
\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES



METAL ENDWALLS

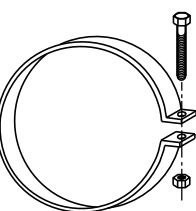
| REINFORCED CONCRETE APRON ENDWALLS |                     |        |        |           |            |     |       |                  |  |  |  |  |
|------------------------------------|---------------------|--------|--------|-----------|------------|-----|-------|------------------|--|--|--|--|
| PIPE DIA.<br>(IN.)                 | DIMENSIONS (Inches) |        |        |           |            |     |       | APPROX.<br>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

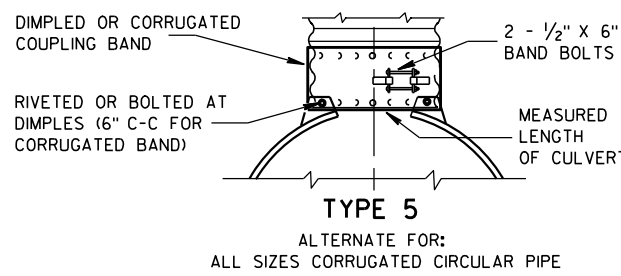
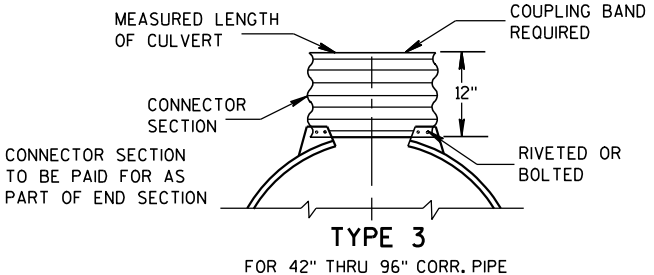
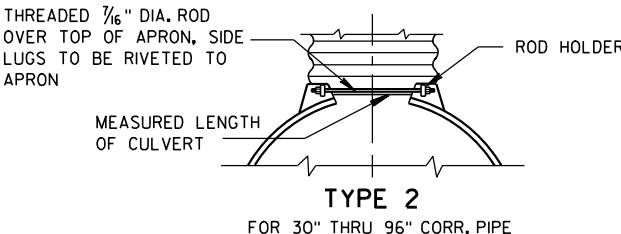
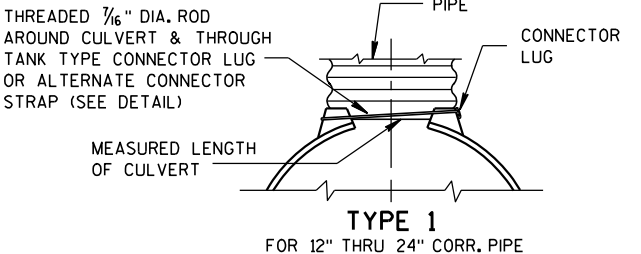


CONCRETE ENDWALLS

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



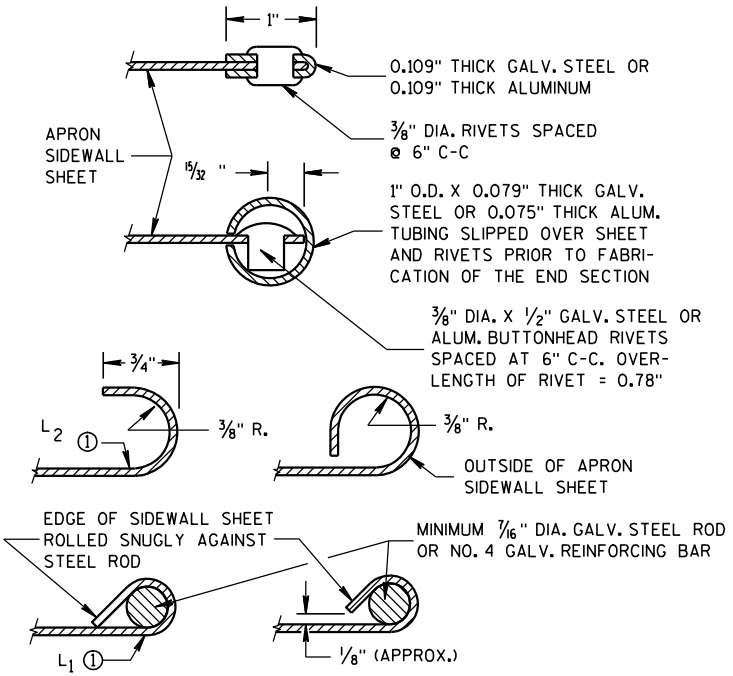
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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



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.

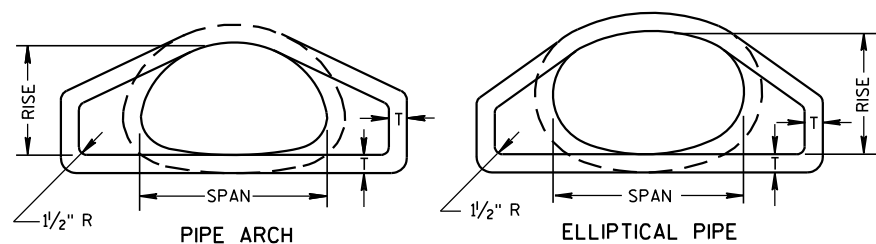
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

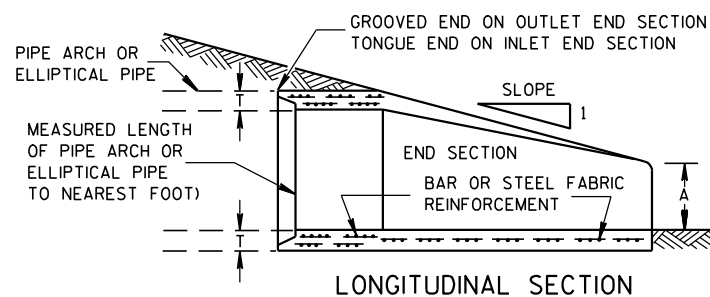
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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<br>DEPARTMENT OF TRANSPORTATION |                                                   |      |  |
| APPROVED<br>11/30/94<br>DATE                       | /S/ Rory L. Rhinehart<br>CHIEF ROADWAY DEVELOP 94 | NEER |  |
| FHWA                                               |                                                   |      |  |

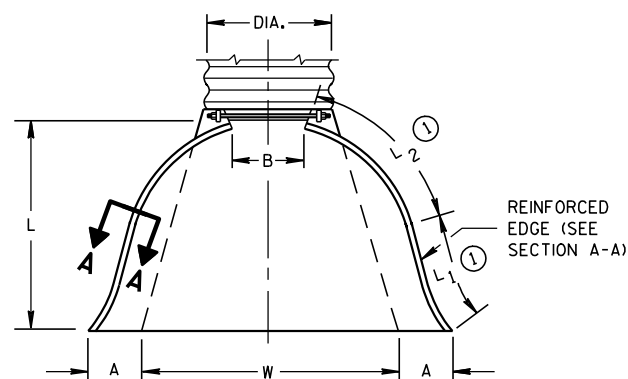


END VIEW



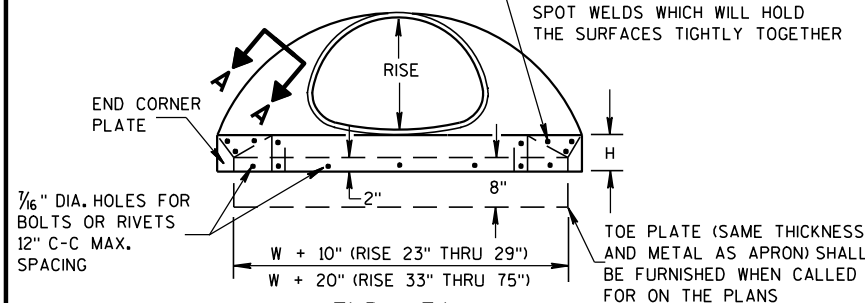
LONGITUDINAL SECTION

## CONCRETE ENDWALLS

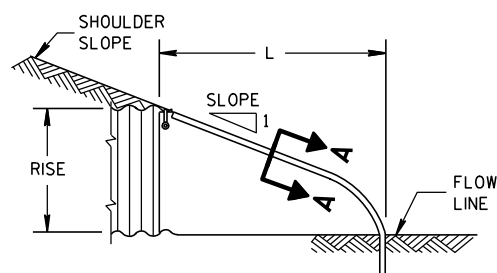
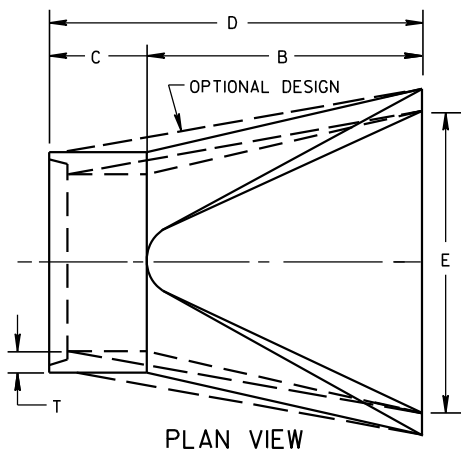


PLAN VIEW

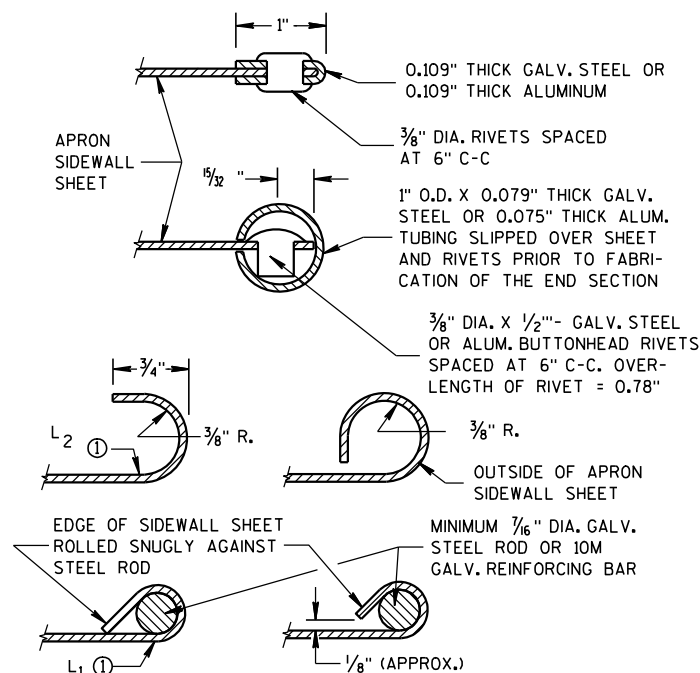
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW

SIDE ELEVATION  
METAL ENDWALLS

PLAN VIEW



SECTION A-A

| 2- 2/3" X 1/2" CORRUGATIONS |          |      |                      |       |                     |          |         |           |      |        |         |               |       |
|-----------------------------|----------|------|----------------------|-------|---------------------|----------|---------|-----------|------|--------|---------|---------------|-------|
| EQUIV. DIA. (Inches)        | (Inches) |      | MIN. THICK. (Inches) |       | DIMENSIONS (Inches) |          |         |           |      |        |         | APPROX. SLOPE | BODY  |
|                             | SPAN     | RISE | STEEL                | ALUM. | A (±1")             | B (MAX.) | H (±1") | L (±1/2") | L1 ① | L2 ①   | W (±2") |               |       |
| 15                          | 17       | 13   | .064                 | .060  | 7                   | 9        | 6       | 19        | 14   | 16     | 30      | 2 1/2 to 1    | 1 Pc. |
| 18                          | 21       | 15   | .064                 | .060  | 7                   | 10       | 6       | 23        | 14   | 19 3/8 | 36      | 2 1/2 to 1    | 1 Pc. |
| 21                          | 24       | 18   | .064                 | .060  | 8                   | 12       | 6       | 28        | 18   | 21 3/4 | 42      | 2 1/2 to 1    | 1 Pc. |
| 24                          | 28       | 20   | .064                 | .060  | 9                   | 14       | 6       | 32        | 18   | 27 1/2 | 48      | 2 1/2 to 1    | 1 Pc. |
| 30                          | 35       | 24   | .079                 | .075  | 10                  | 16       | 6       | 39        | 18   | 37 5/8 | 60      | 2 1/2 to 1    | 1 Pc. |
| 36                          | 42       | 29   | .079                 | .075  | 12                  | 18       | 8       | 46        | 24   | 45 3/8 | 75      | 2 1/2 to 1    | 1 Pc. |
| 42                          | 49       | 33   | .109                 | .105  | 13                  | 21       | 9       | 53        | 24   | 54 3/4 | 85      | 2 1/2 to 1    | 2 Pc. |
| 48                          | 57       | 38   | .109                 | .105  | 18                  | 26       | 12      | 63        | 24   | 68     | 90      | 2 1/2 to 1    | 3 Pc. |
| 54                          | 64       | 43   | .109                 | .105  | 18                  | 30       | 12      | 70        | 24   | 72 3/4 | 102     | 2 1/4 to 1    | 3 Pc. |
| 60                          | 71       | 47   | .109*                | .105* | 18                  | 33       | 12      | 77        | 30   | 82 1/4 | 114     | 2 1/4 to 1    | 3 Pc. |
| 66                          | 77       | 52   | .109*                | .105* | 18                  | 36       | 12      | 77        | —    | —      | 126     | 2 to 1        | 3 Pc. |
| 72                          | 83       | 57   | .109*                | .105* | 18                  | 39       | 12      | 77        | —    | —      | 138     | 2 to 1        | 3 Pc. |

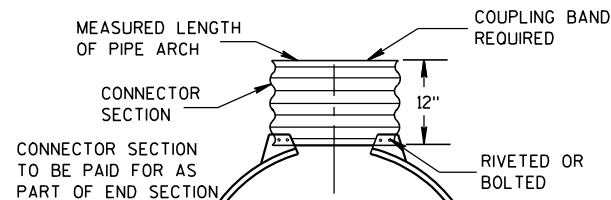
| 3" X 1" CORRUGATIONS |          |      |                      |       |                     |          |         |           |      |        |         |               |       |
|----------------------|----------|------|----------------------|-------|---------------------|----------|---------|-----------|------|--------|---------|---------------|-------|
| EQUIV. DIA. (Inches) | (Inches) |      | MIN. THICK. (Inches) |       | DIMENSIONS (Inches) |          |         |           |      |        |         | APPROX. SLOPE | BODY  |
|                      | SPAN     | RISE | STEEL                | ALUM. | A (±1")             | B (MAX.) | H (±1") | L (±1/2") | L1 ① | L2 ①   | W (±2") |               |       |
| 48                   | 53       | 41   | .109                 | .105  | 18                  | 26       | 12      | 63        | 24   | 72 3/4 | 90      | 2 1/2 to 1    | 2 Pc. |
| 54                   | 60       | 46   | .109                 | .105  | 18                  | 30       | 12      | 70        | 30   | 82 1/4 | 102     | 2 to 1        | 2 Pc. |
| 60                   | 66       | 51   | .109*                | .105* | 18                  | 33       | 12      | 77        | —    | —      | 114     | 1 1/2 to 1    | 3 Pc. |
| 66                   | 73       | 55   | .109*                | .105* | 18                  | 36       | 12      | 77        | —    | —      | 126     | 1 1/2 to 1    | 3 Pc. |
| 72                   | 81       | 59   | .109*                | .105* | 18                  | 39       | 12      | 77        | —    | —      | 138     | 2 to 1        | 3 Pc. |
| 78                   | 87       | 63   | .109*                | .105* | 22                  | 38       | 12      | 77        | —    | —      | 148     | 1 1/2 to 1    | 3 Pc. |
| 84                   | 95       | 67   | .109*                | .105* | 22                  | 34       | 12      | 77        | —    | —      | 162     | 1 1/2 to 1    | 3 Pc. |
| 90                   | 103      | 71   | .109*                | .105* | 22                  | 38       | 12      | 77        | —    | —      | 174     | 1 1/2 to 1    | 3 Pc. |
| 96                   | 112      | 75   | .109*                | .105* | 24                  | 40       | 12      | 77        | —    | —      | 174     | 1 1/2 to 1    | 3 Pc. |

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES

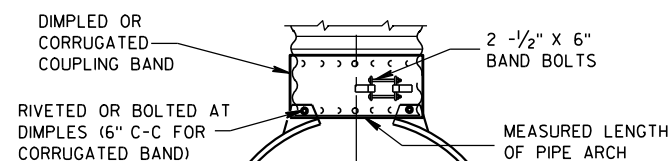
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:  
ALL SIZES CORRUGATED PIPE ARCHESNOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,  
AND CORRUGATED BAND FITS INSIDE ENDWALL.

## CONNECTION DETAILS

## REINFORCED CONCRETE PIPE ARCH

| EQUIV. DIA. (Inches) | DIMENSIONS (Inches) |         |       |         |    |    |     |     | APPROX. SLOPE |
|----------------------|---------------------|---------|-------|---------|----|----|-----|-----|---------------|
|                      | ** SPAN             | ** RISE | T     | A       | B  | C  | D   | E   |               |
| 24                   | 29                  | 18      | 3     | 8 1/2   | 39 | 33 | 72  | 48  | 3 to 1        |
| 30                   | 36                  | 22      | 3 1/2 | 9 1/2   | 50 | 46 | 96  | 60  | 3 to 1        |
| 36                   | 44                  | 27      | 4     | 11 1/8  | 60 | 36 | 96  | 72  | 3 to 1        |
| 42                   | 51                  | 31      | 4 1/2 | 15 1/16 | 60 | 36 | 96  | 78  | 3 to 1        |
| 48                   | 58                  | 36      | 5     | 21      | 60 | 36 | 96  | 84  | 3 to 1        |
| 54                   | 65                  | 40      | 5 1/2 | 25 1/2  | 60 | 36 | 96  | 90  | 3 to 1        |
| 60                   | 73                  | 45      | 6     | 31      | 60 | 36 | 96  | 96  | 3 to 1        |
| 72                   | 88                  | 54      | 7     | 31      | 60 | 39 | 99  | 120 | 2 to 1        |
| 84                   | 102                 | 62      | 8     | 28 1/2  | 83 | 19 | 102 | 144 | 2 to 1        |

## REINFORCED CONCRETE ELLIPTICAL PIPE

| EQUIV. DIA. (Inches) | DIMENSIONS (Inches) |         |       |        |    |    |    |    | APPROX. SLOPE |
|----------------------|---------------------|---------|-------|--------|----|----|----|----|---------------|
|                      | ** SPAN             | ** RISE | T     | A      | B  | C  | D  | E  |               |
| 24                   | 30                  | 19      | 3 1/4 | 8 1/2  | 39 | 33 | 72 | 48 | 3 to 1        |
| 30                   | 38                  | 24      | 3 3/4 | 9 1/2  | 54 | 18 | 72 | 60 | 3 to 1        |
| 36                   | 45                  | 29      | 4 1/2 | 11 1/8 | 60 | 24 | 84 | 72 | 2 1/2 to 1    |
| 42                   | 53                  | 34      | 5     | 15 1/4 | 60 | 36 | 96 | 78 | 2 1/2 to 1    |
| 48                   | 60                  | 38      | 5 1/2 | 21     | 60 | 36 | 96 | 84 | 2 1/2 to 1    |
| 54                   | 68                  | 43      | 6     | 25 1/2 | 60 | 36 | 96 | 90 | 2 1/2 to 1    |
| 60                   | 76                  | 48      | 6 1/2 | 30     | 60 | 36 | 96 | 96 | 2 1/2 to 1    |

\*\*NOMINAL SIZE

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH 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 ARCH 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 77" X 52" THROUGH 112" X 75" 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 ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR  
PIPE ARCH AND  
ELLIPTICAL PIPESTATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94

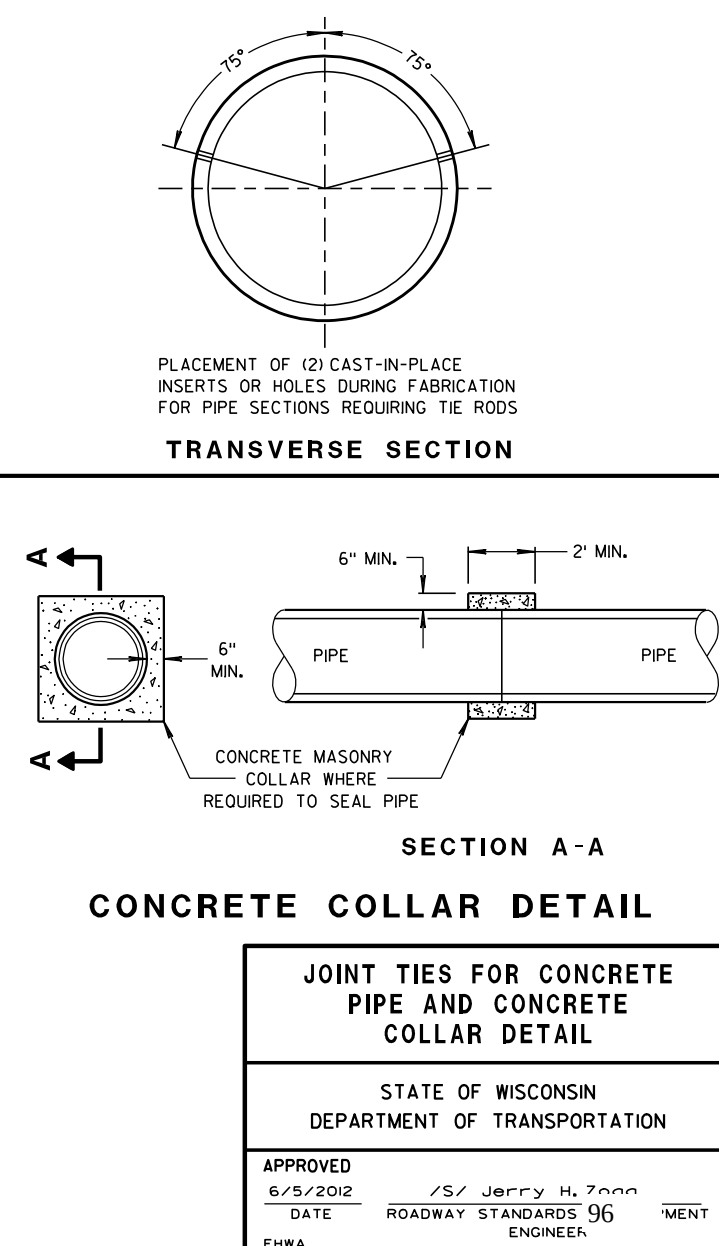
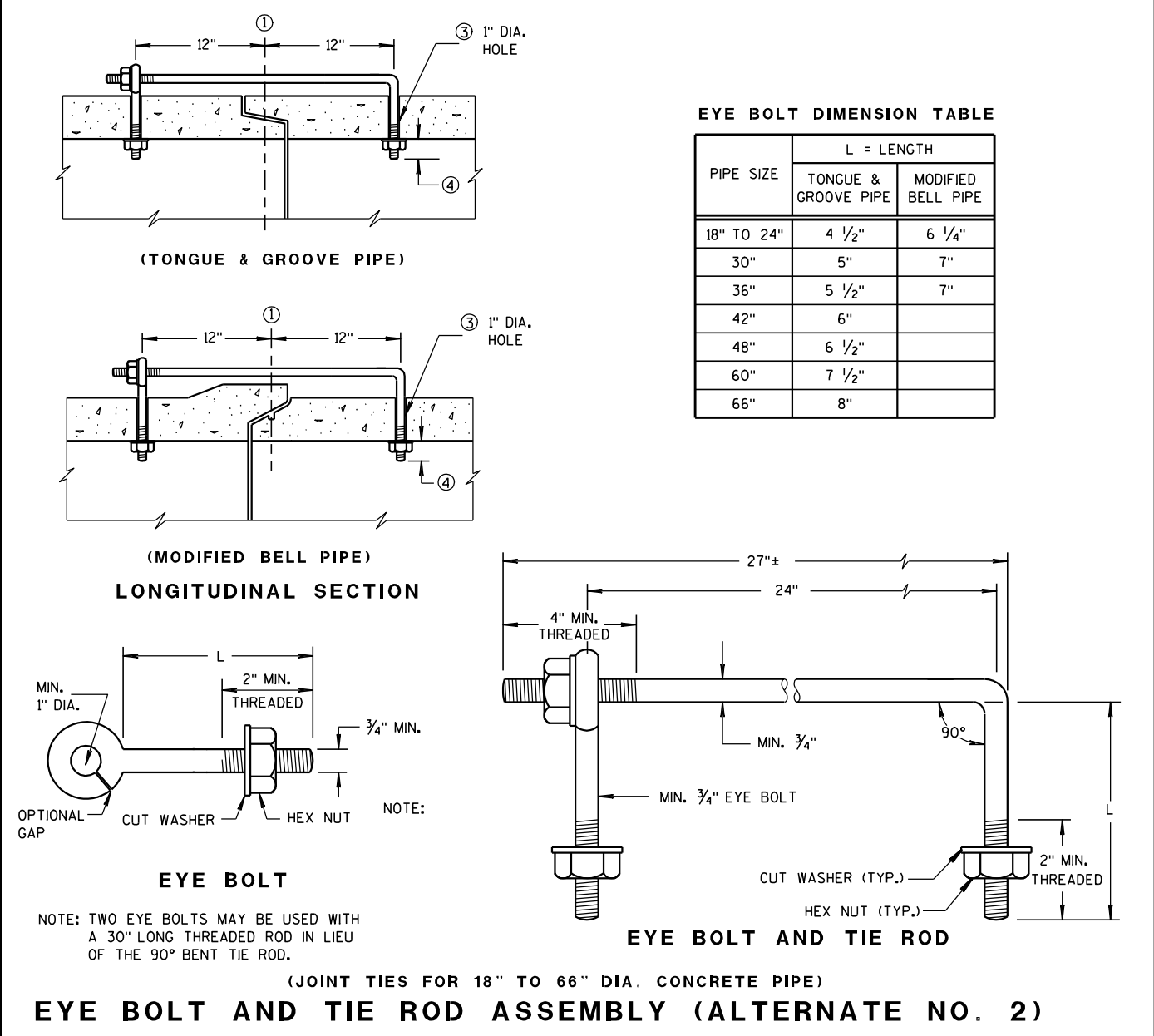
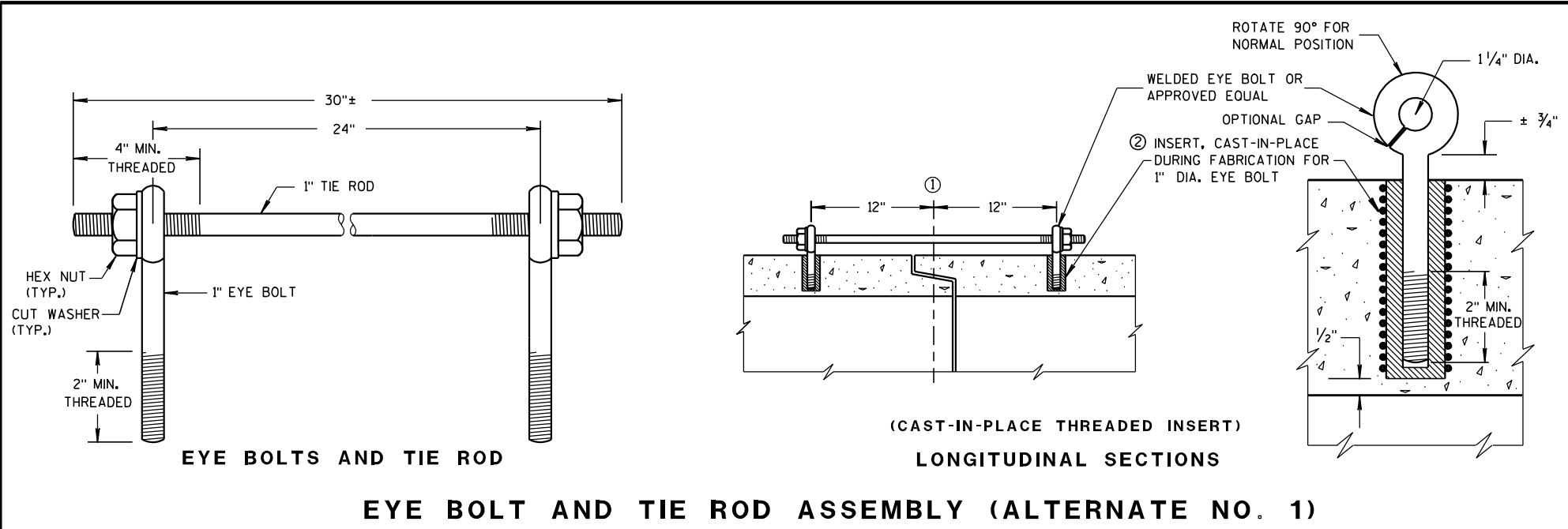
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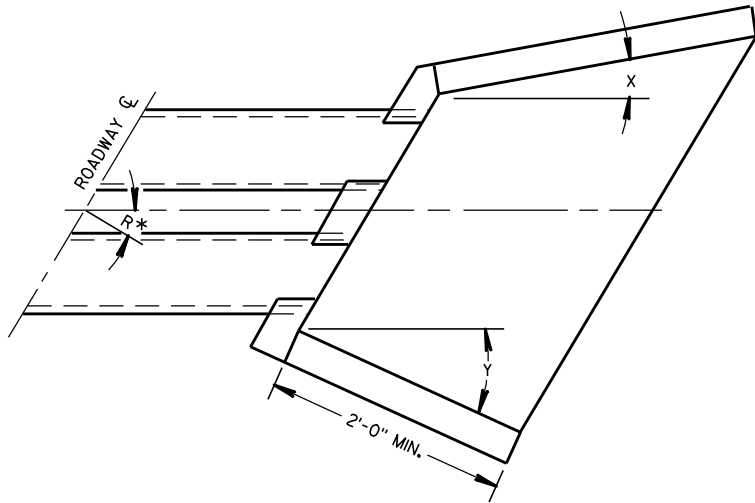
/S/ Rory L. Rhinehart

CHIEF ROADWAY DEVELOPER

ENGINEER

FHWA

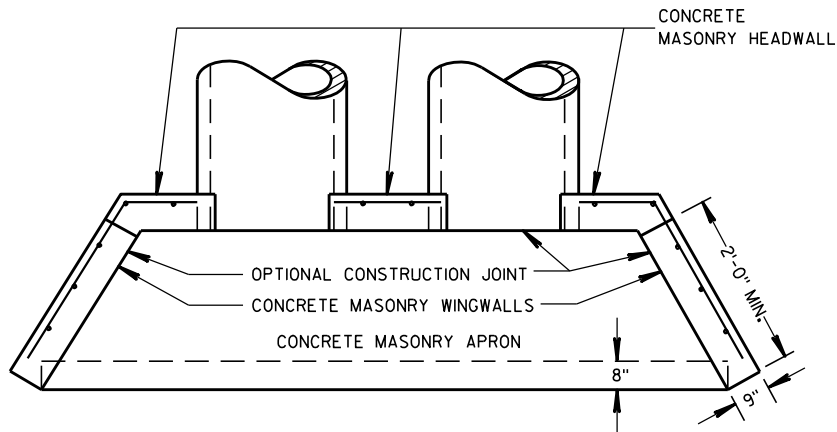




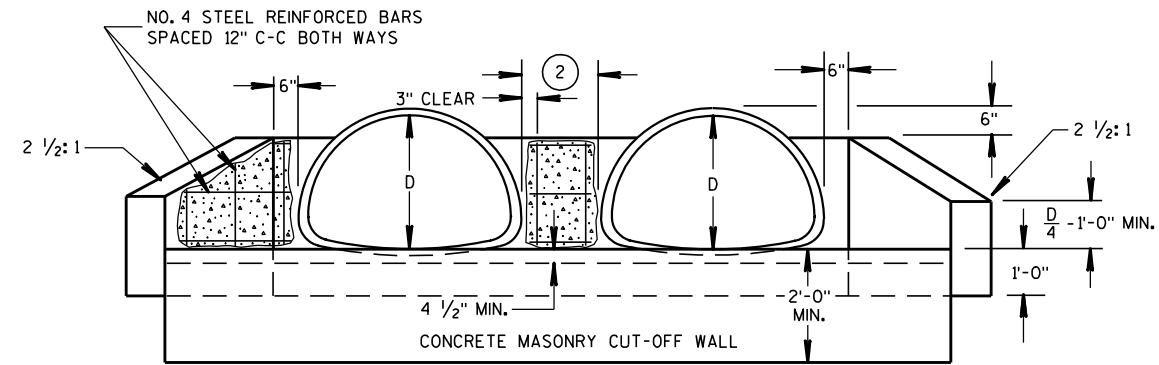
WINGWALL ANGLE DETAILS

| INLET    |     |     | OUTLET   |     |     |
|----------|-----|-----|----------|-----|-----|
| R*       | X   | Y   | R*       | X   | Y   |
| 0 - 7°   | 30° | 30° | 0 - 15°  | 15° | 15° |
| 8 - 22°  | 25° | "   | 16 - 45° | 10° | "   |
| 23 - 37° | 20° | "   | 46 - 75° | 5°  | "   |
| 38 - 52° | 15° | "   | OVER 75° | 0°  | "   |
| 53 - 67° | 10° | "   |          |     |     |
| 68 - 82° | 5°  | "   |          |     |     |
| OVER 82° | 0°  | "   |          |     |     |

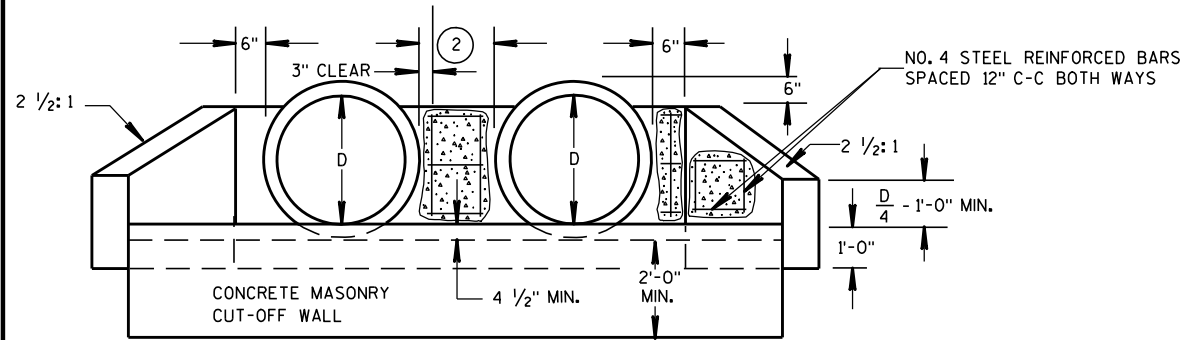
\*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD



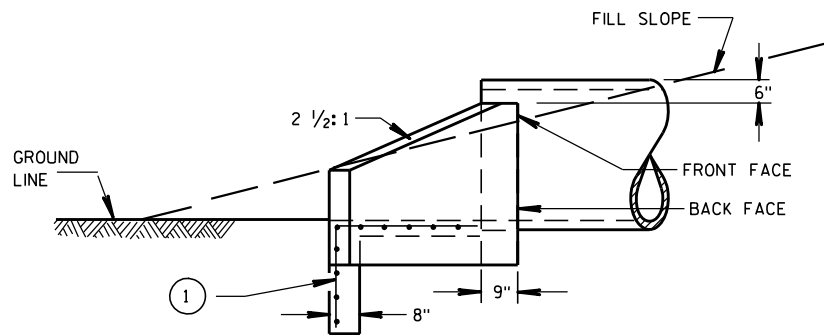
PLAN VIEW  
CULVERT PIPE AND PIPE ARCH



END ELEVATION  
PIPE ARCH



END ELEVATION  
CULVERT PIPE



SIDE ELEVATION  
CULVERT PIPE AND PIPE ARCH

# 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.

FILL SLOPES FLATTER THAN 2 1/2:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

① MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

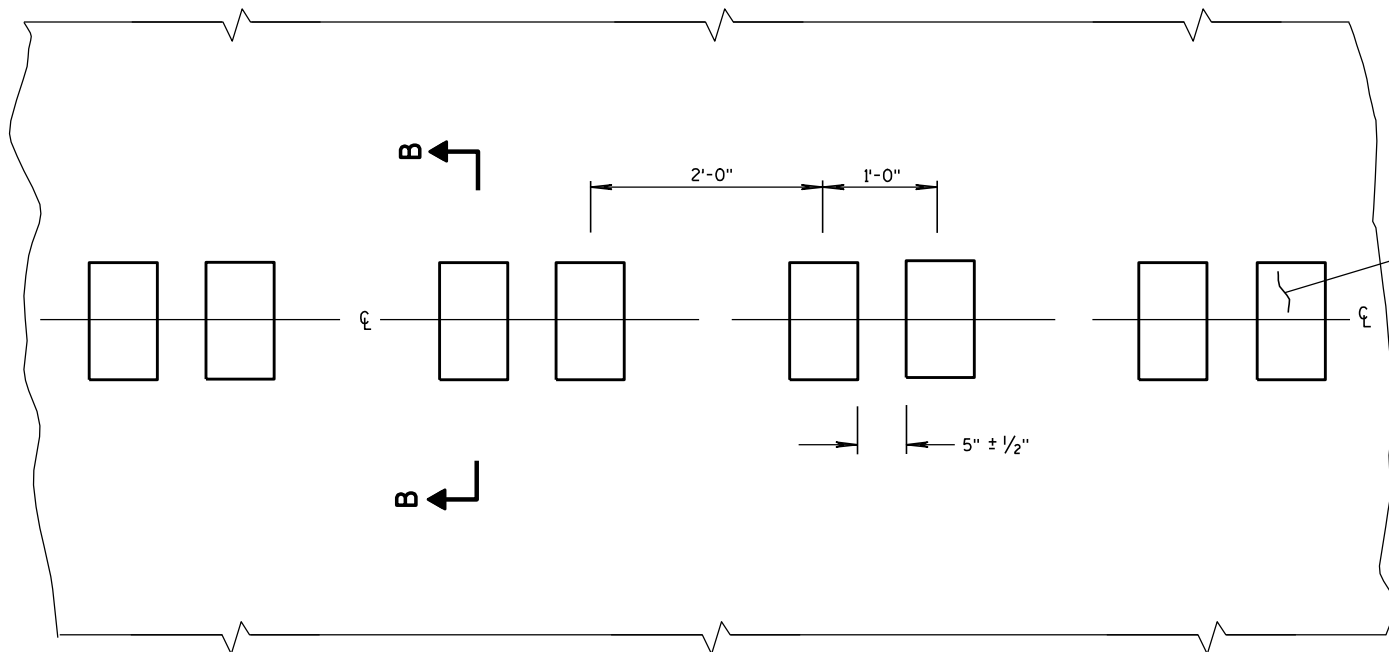
② THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

| DIAMETER OR SPAN        | SPACE            |
|-------------------------|------------------|
| UP TO AND INCLUDING 48" | 2'-0"            |
| OVER 48" TO 72"         | 1/2 DIA. OR SPAN |
| OVER 72"                | 3'-0"            |

CONCRETE MASONRY ENDWALLS  
FOR CULVERT PIPE AND  
PIPE ARCH

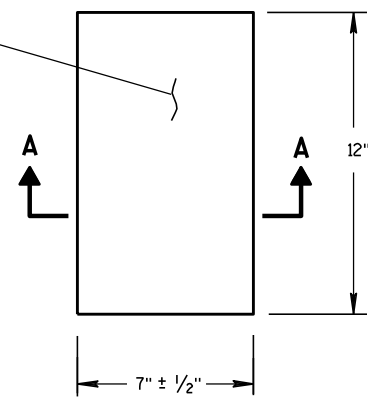
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
9/14/98 /S/ Rory L. Rhin...  
DATE CHIEF ROADWAY DEVELOPER  
FHWA



PLAN VIEW  
CENTER LINE WITH GROOVES

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP



PLAN VIEW  
(SINGLE GROOVE)

GENERAL NOTES

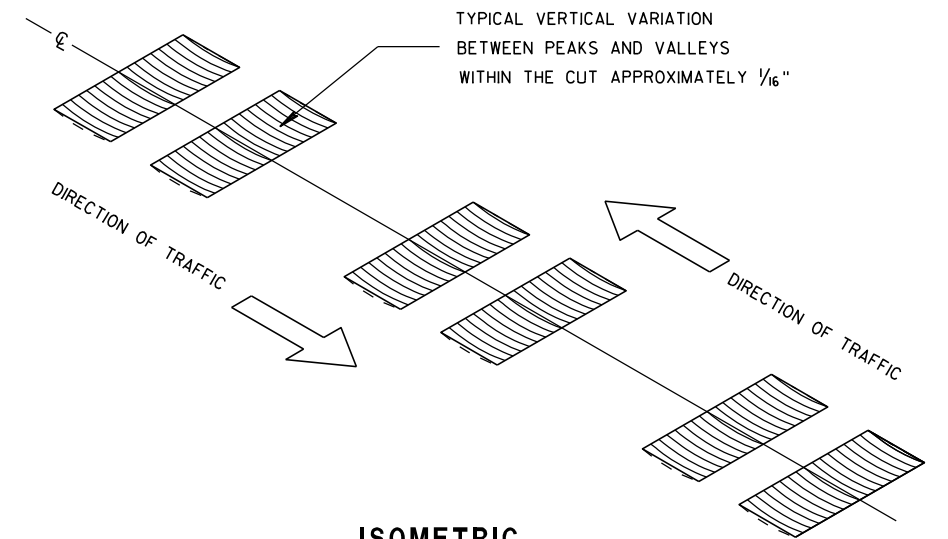
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTER LINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

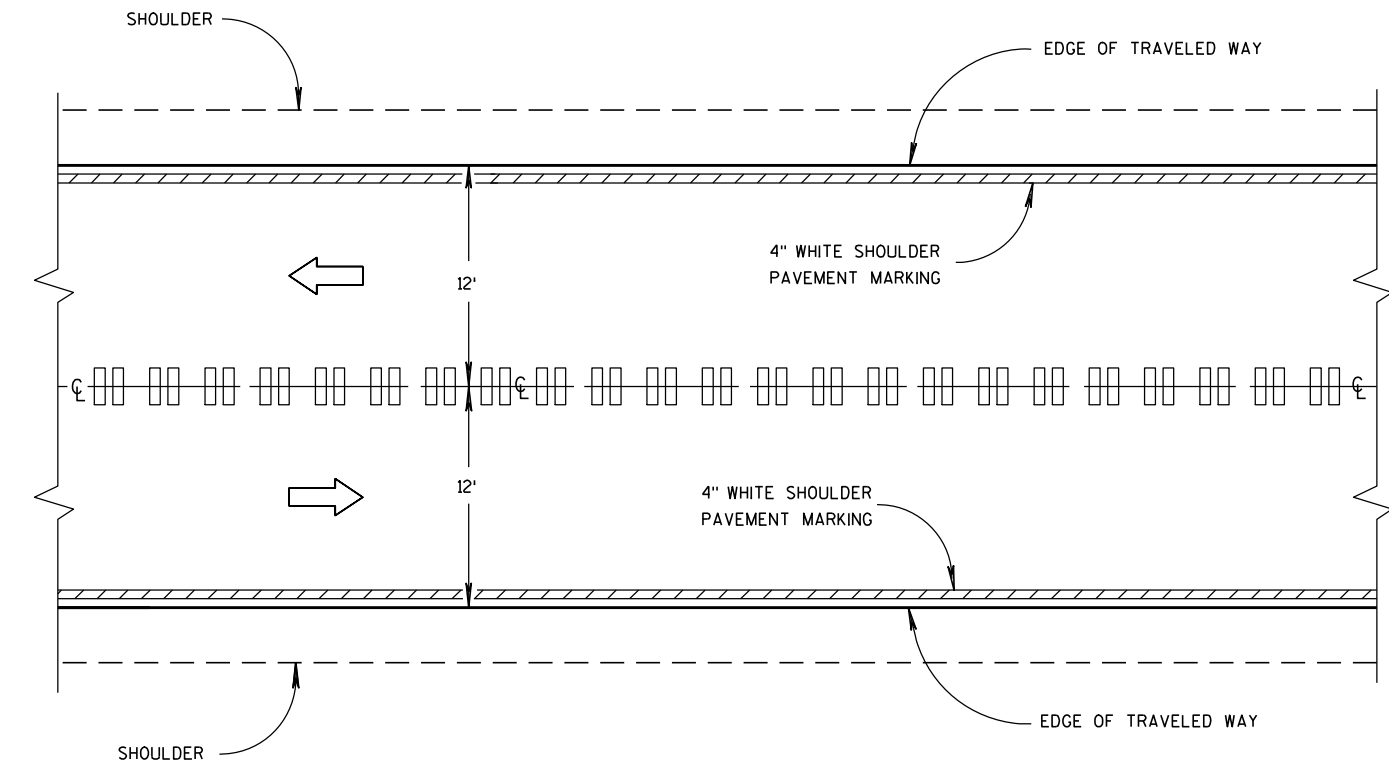
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

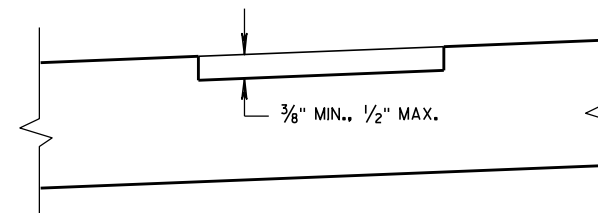
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



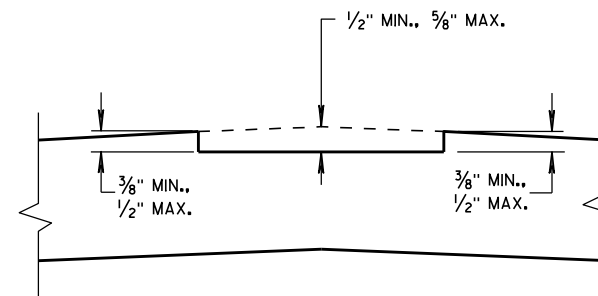
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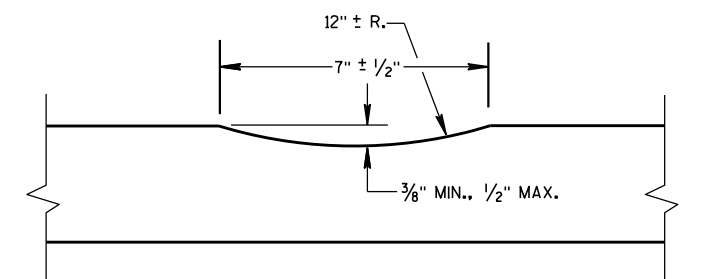
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B  
SUPERELEVATED ROADWAY



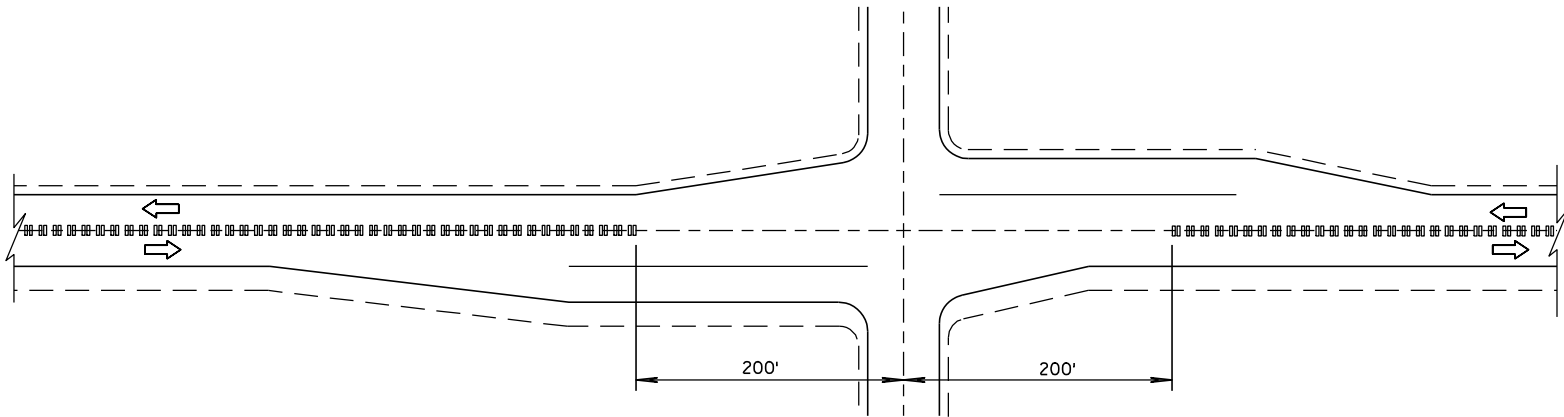
SECTION B-B  
CROWNED ROADWAY



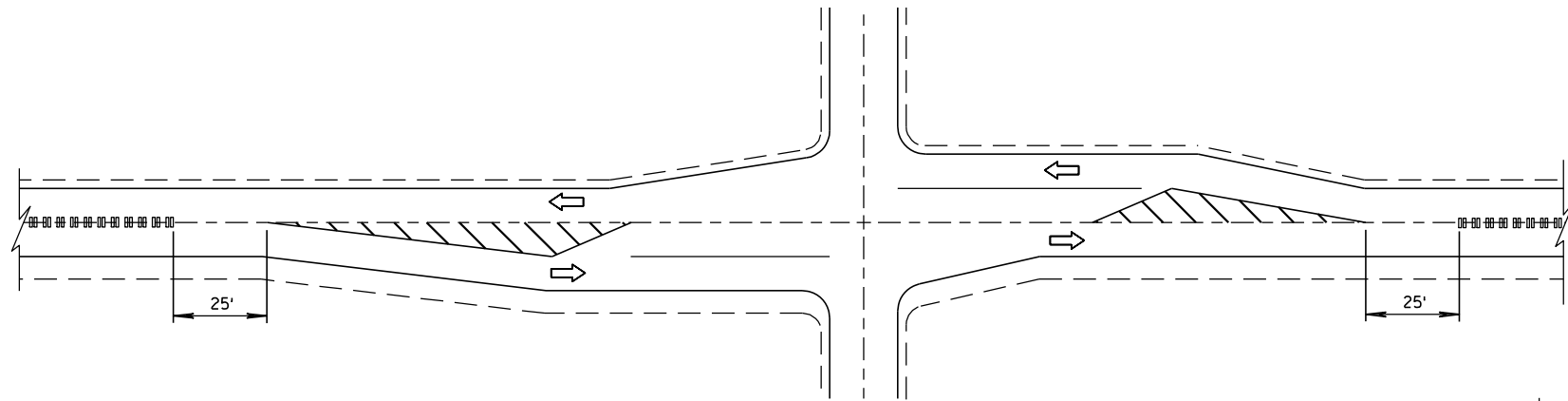
SECTION A-A

2-LANE RURAL  
CENTER LINE RUMBLE STRIP,  
MILLING

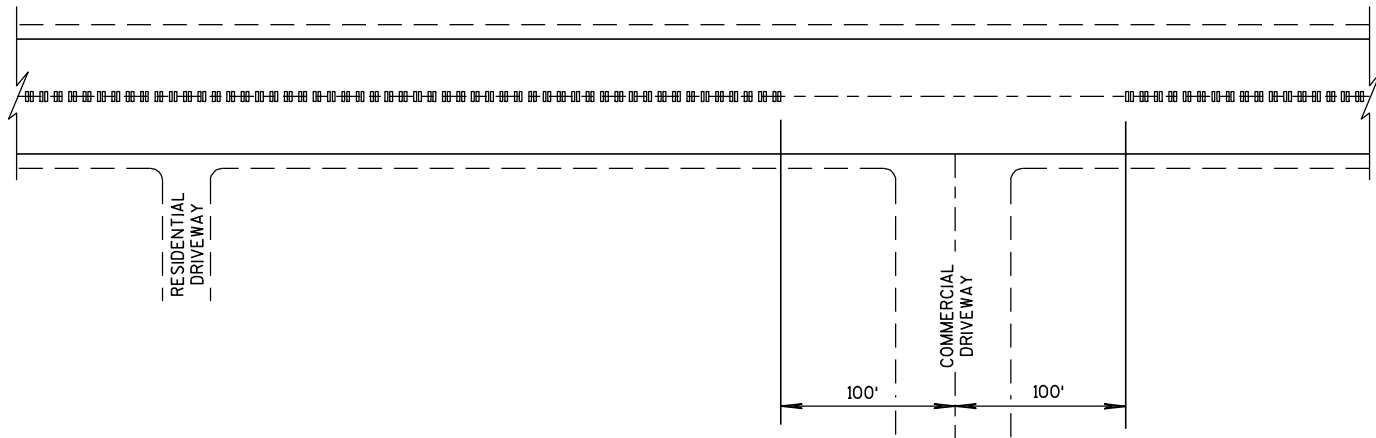
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



CENTER LINE GROOVES AT INTERSECTIONS

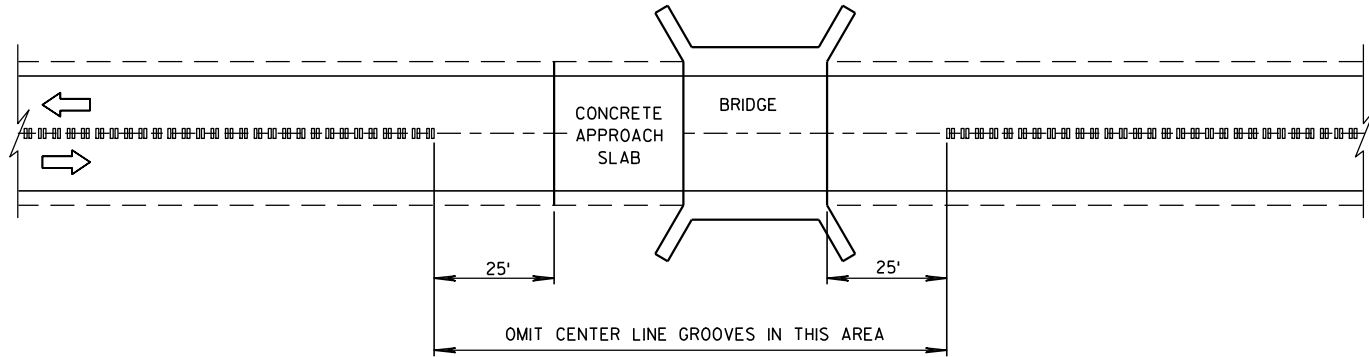


CENTER LINE GROOVES AT INTERSECTIONS  
(WITH LEFT TURN LANES)

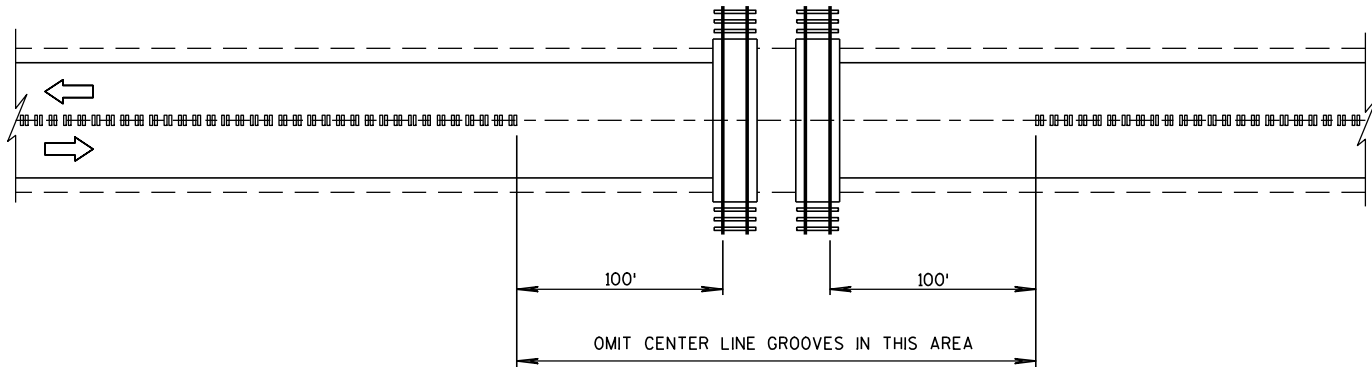


CENTER LINE GROOVES AT DRIVEWAYS<sup>①</sup>

① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.

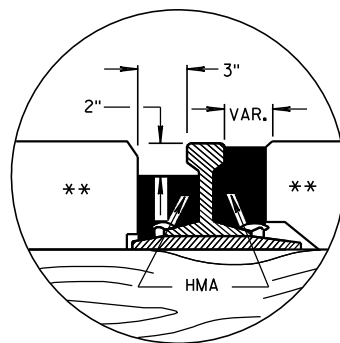
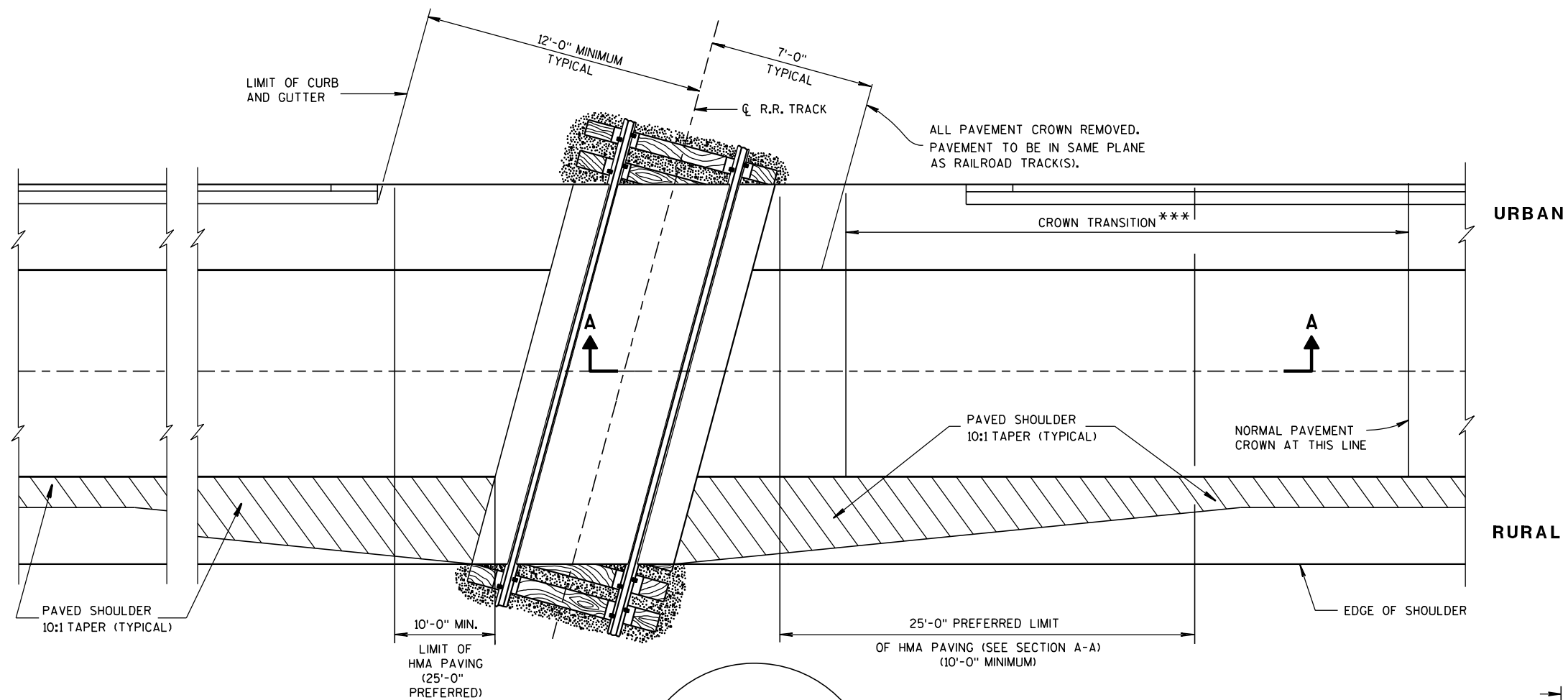


CENTER LINE GROOVES AT BRIDGES

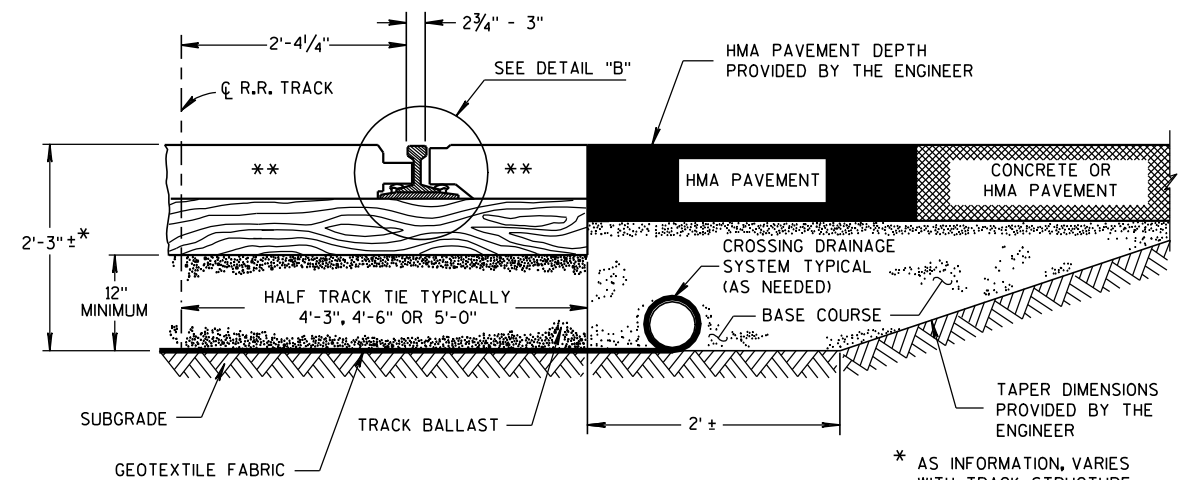


CENTER LINE GROOVES AT RAILROADS

|                                                      |                                                        |     |
|------------------------------------------------------|--------------------------------------------------------|-----|
| 2-LANE RURAL<br>CENTER LINE RUMBLE STRIP,<br>MILLING |                                                        |     |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION   |                                                        |     |
| APPROVED<br>8/28/2012<br>DATE                        | /S/ Jerry H. Zogg<br>ROADWAY STANDARDS 199<br>ENGINEER | ENT |
| FHWA                                                 |                                                        |     |

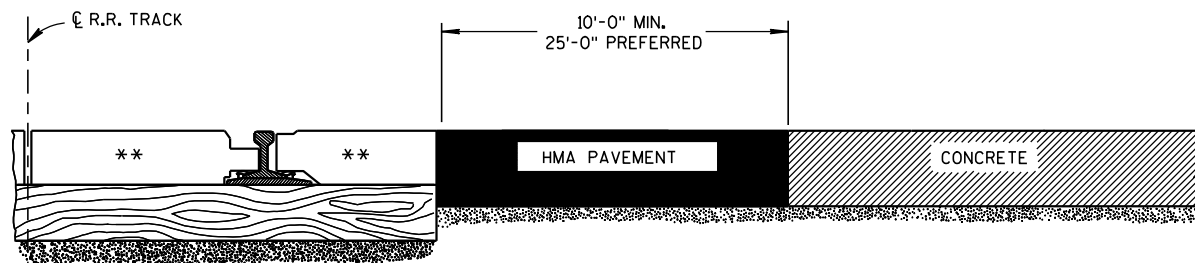


**DETAIL B**  
**HMA FLANGEWAY**  
**AND FIELD FILLERS**



**TYPICAL HALF SECTION**

\* AS INFORMATION, VARIES WITH TRACK STRUCTURE AND SOIL CONDITIONS



**SECTION A-A**  
**CONCRETE PAVEMENT APPROACH**



**SECTION A-A**  
**HMA PAVEMENT APPROACH**

**EXAMPLES OF PAVEMENT APPROACHES**

## 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.

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

HMA PAVEMENT APPROACHES AND HMA PAVEMENT CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

\*\* CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

\*\*\* CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.

## PAVEMENT DETAILS FOR RAILROAD APPROACH

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

8-28-09

DATE

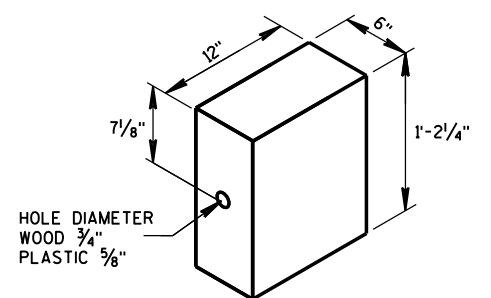
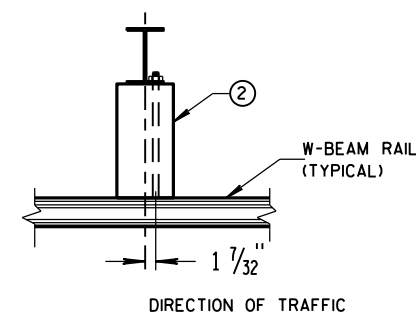
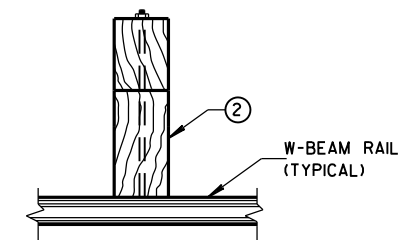
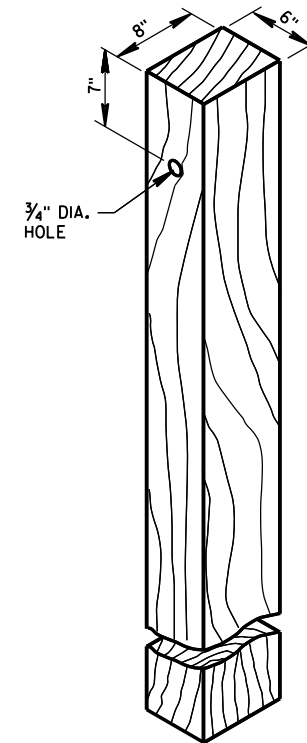
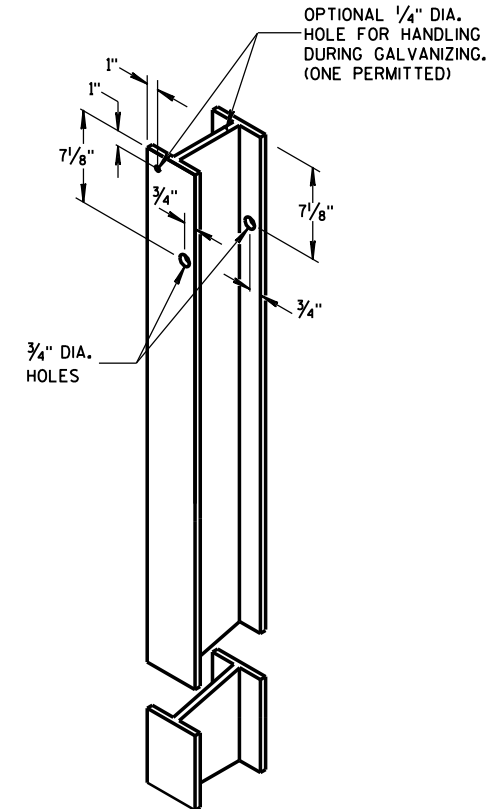
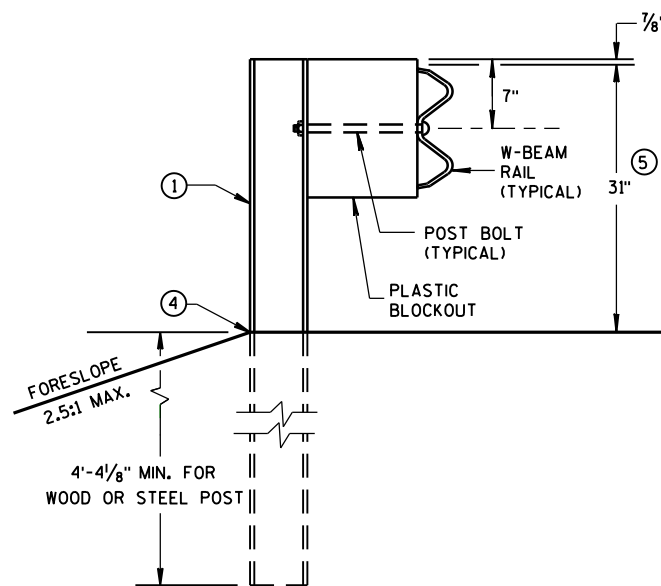
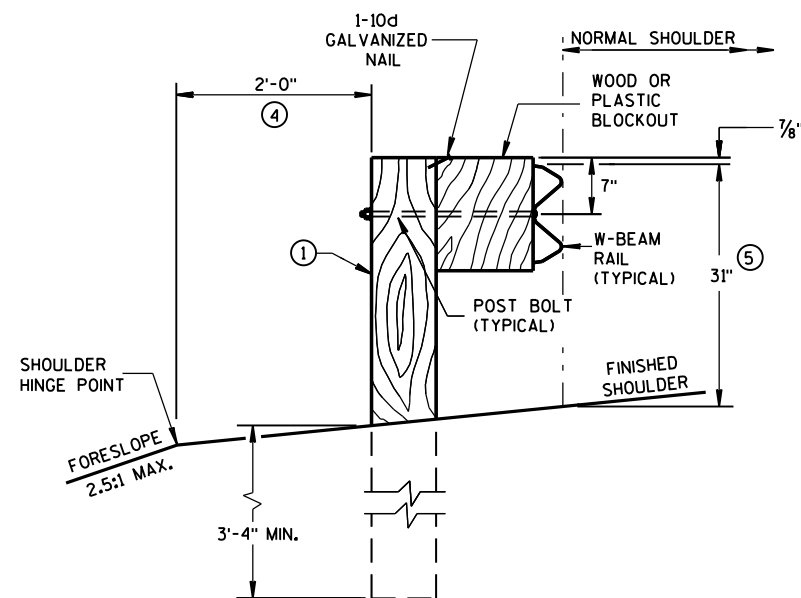
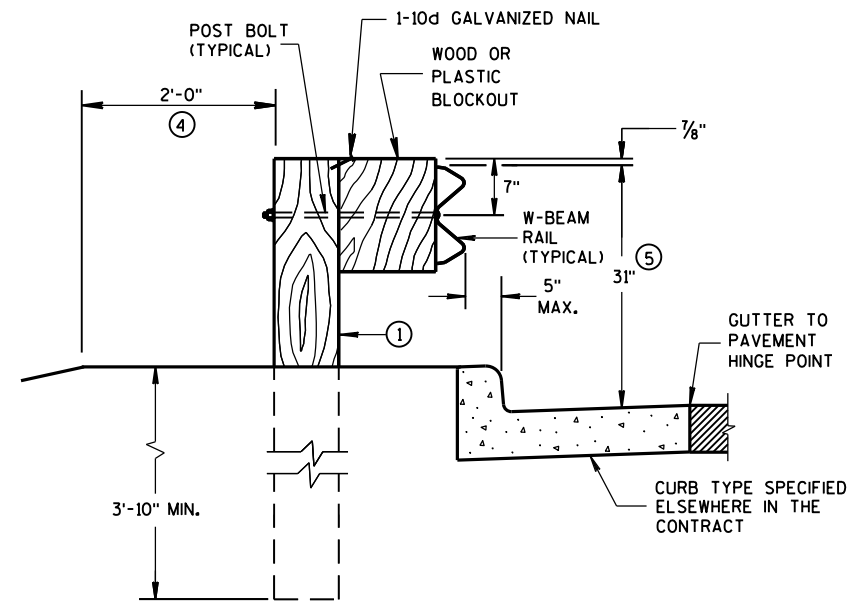
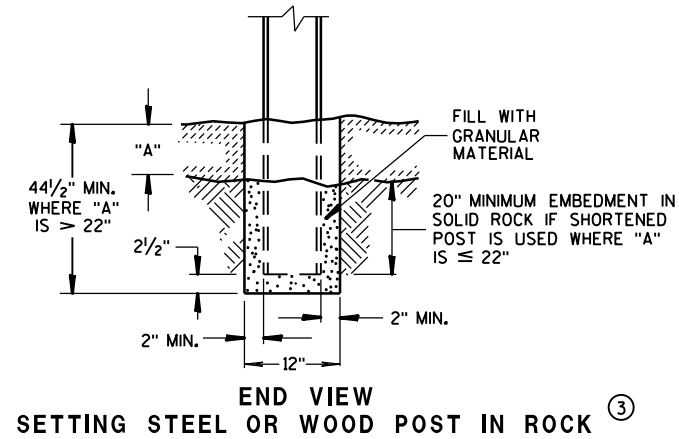
FHWA

/S/ Ronald E. Adams  
CHIEF, RAILROADS & HIGHWAYS DIVISION

SECTION

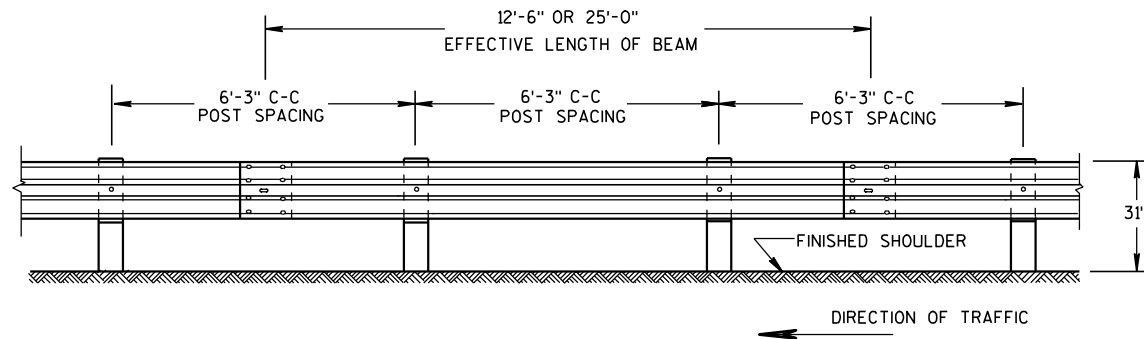
**S.D.D. 14 B 42-2a**

- S.D.D. 14 B 42-2a**



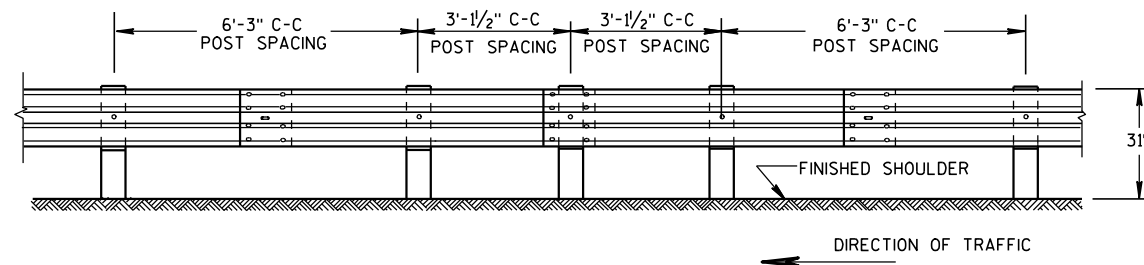
**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 101



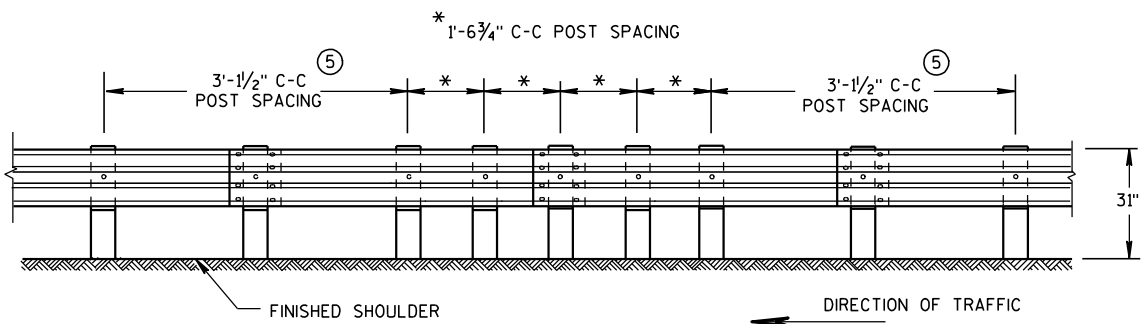
FRONT VIEW

## POST SPACING STANDARD INSTALLATION



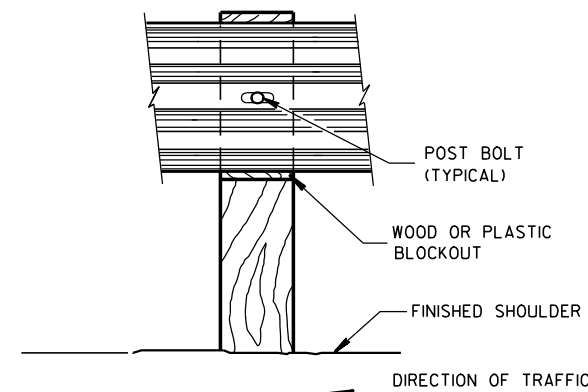
FRONT VIEW

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

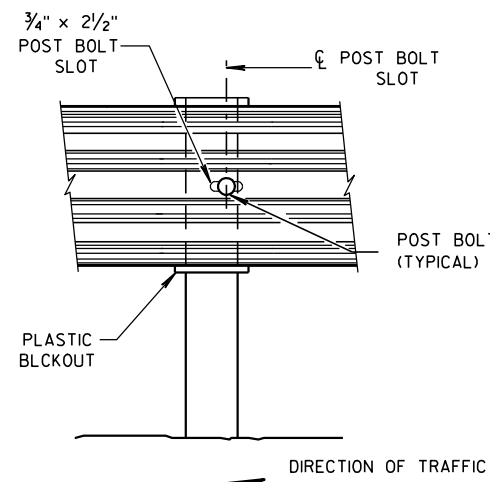


FRONT VIEW

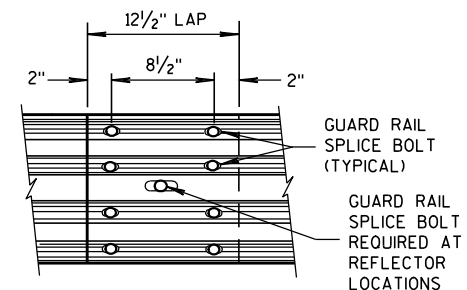
## QUARTER POST SPACING (QS)



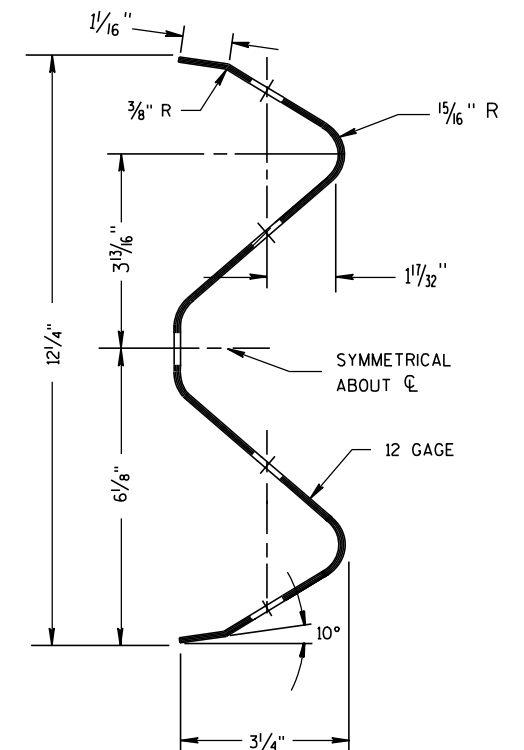
FRONT VIEW AT WOOD POST



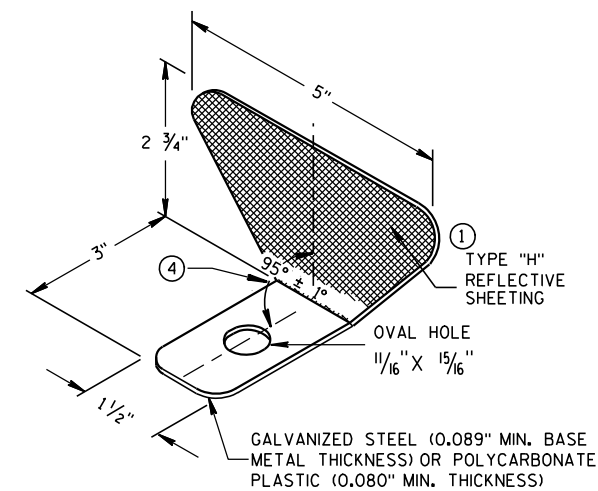
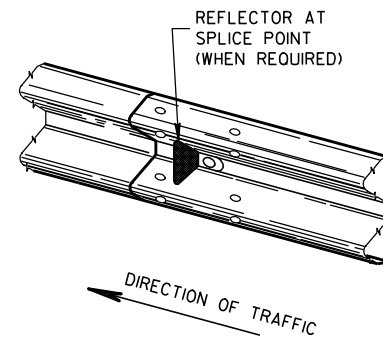
FRONT VIEW AT STEEL POST



FRONT VIEW  
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



## ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

## GENERAL NOTES

- 1 PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
- 2 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- 3 REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- 4 PROVIDE AN ANGLE OF BEND OF  $90^\circ \pm 1^\circ$  FOR TWO-SIDED REFLECTORS.
- 5 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A  $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES  $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND  $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

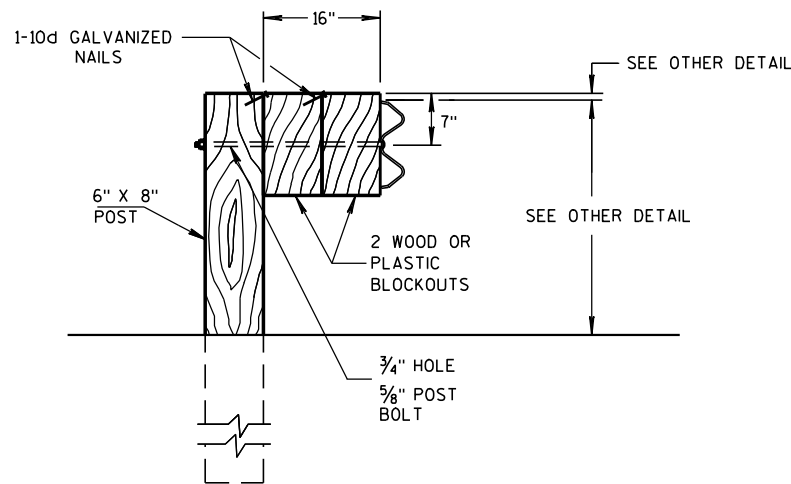
GUARD RAIL SPLICE BOLTS ARE A  $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES  $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

## REFLECTOR SPACING

|                 | BEAM GUARD LENGTH | REFLECTOR SPACING | NO. SURFACES REFLECTORIZED | MIN. NO. REFLECTORS |
|-----------------|-------------------|-------------------|----------------------------|---------------------|
| ONE WAY TRAFFIC | < 200'            | 50' C-C           | 1                          | 3                   |
|                 | > 200'            | 100' C-C          | 1                          |                     |
| TWO WAY TRAFFIC | < 200'            | 25' C-C           | 1                          | 6                   |
|                 | > 200'            | 50' C-C           | 1                          |                     |
| TWO WAY TRAFFIC | < 200'            | 50' C-C           | 2                          | 3                   |
|                 | > 200'            | 100' C-C          | 2                          |                     |

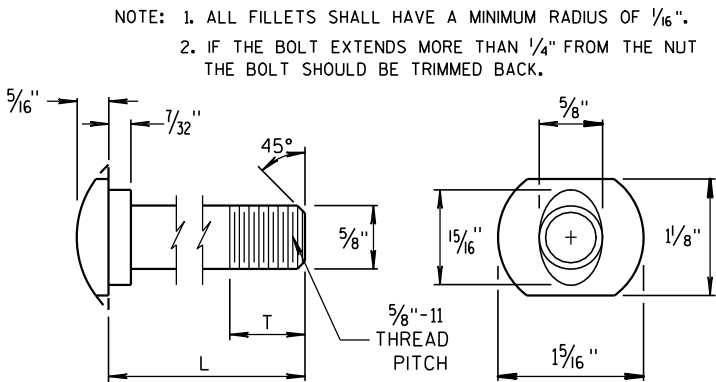
## MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

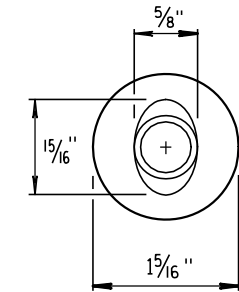


### DETAIL FOR 16" BLOCKOUT DEPTH

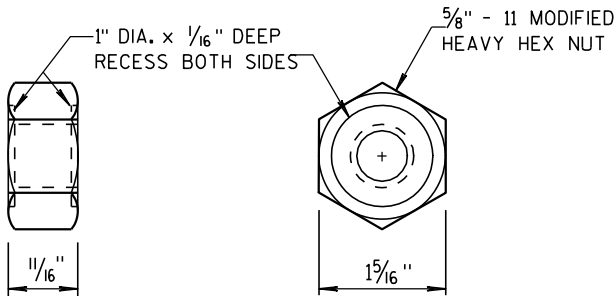
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



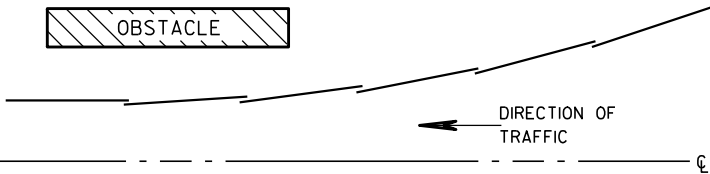
POST BOLT TABLE



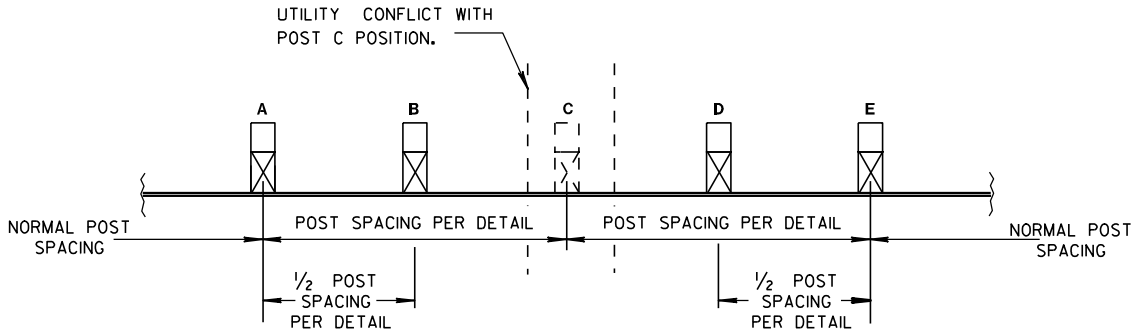
ALTERNATE BOLT HEAD



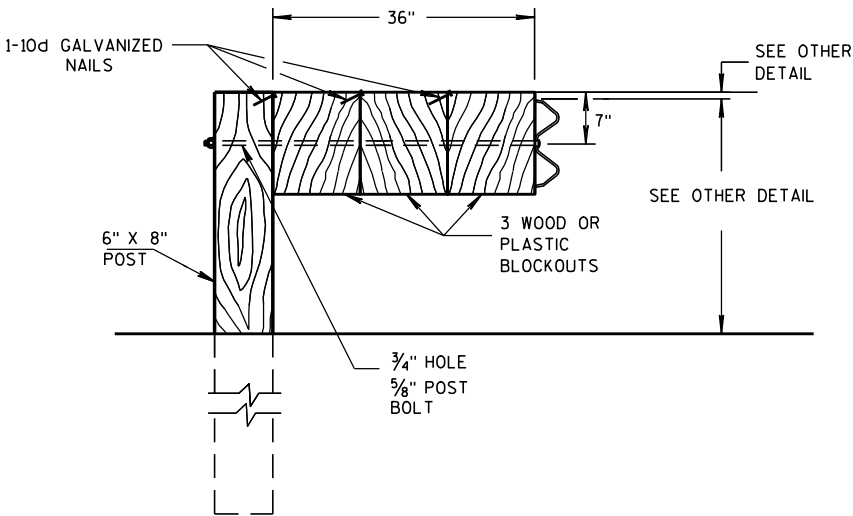
POST BOLT AND RECESS NUT



PLAN VIEW  
BEAM LAPPING DETAIL



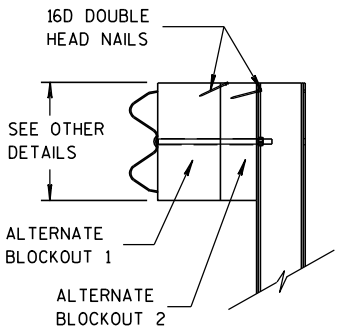
POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION



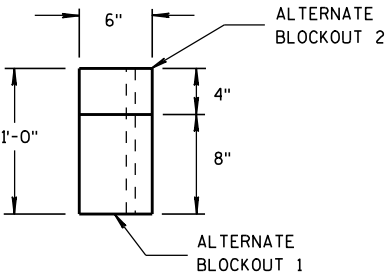
### DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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



SIDE VIEW



TOP VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 11/15/2011  
103  
ENT

103  
ENT

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER OF E.A.T.
- (F) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (G) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES, SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (H) DIMENSIONS MAY VARY, SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

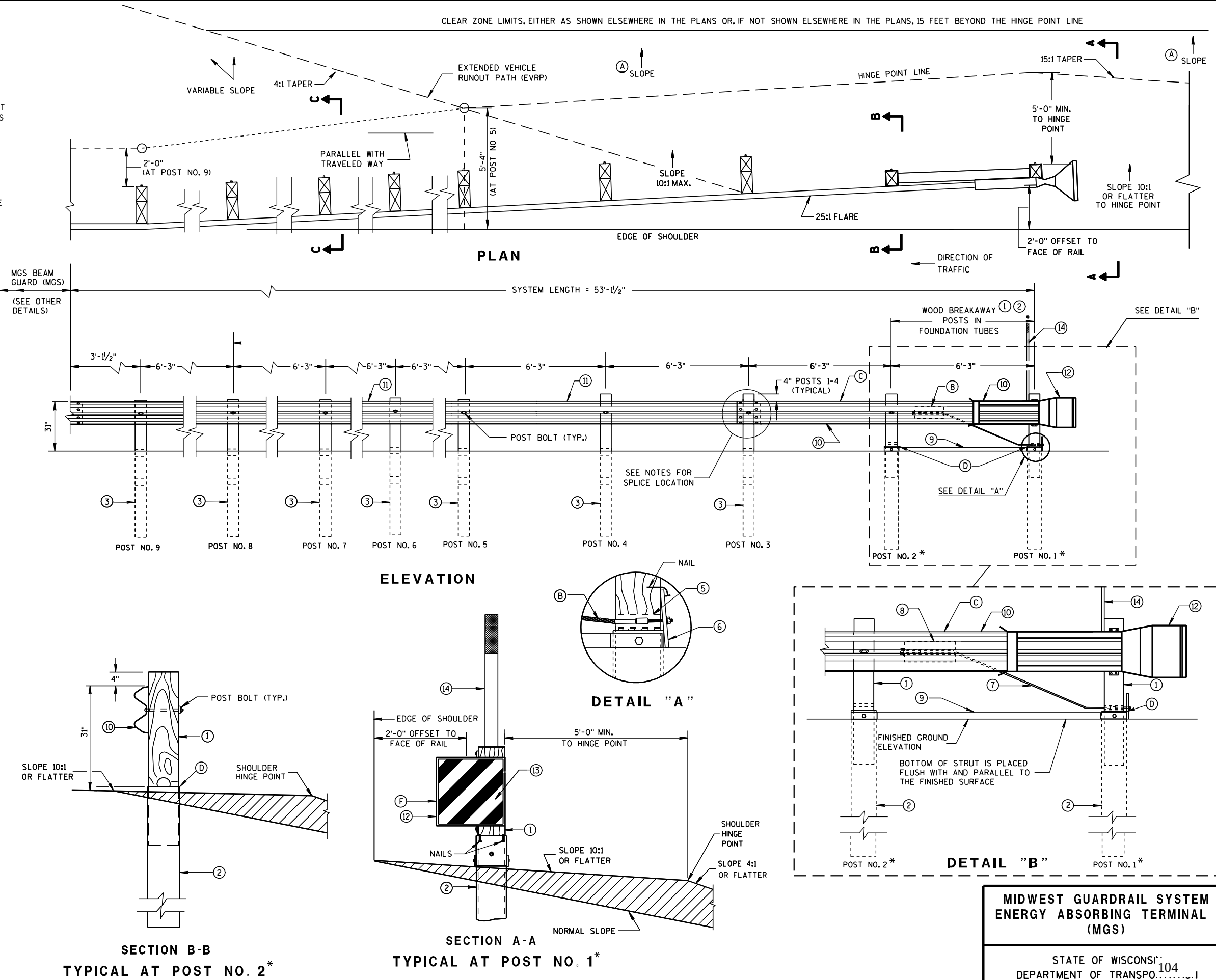
\* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

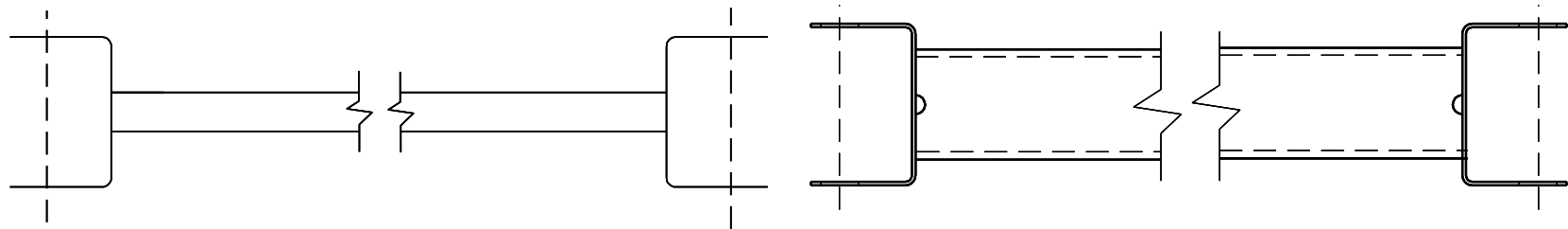
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

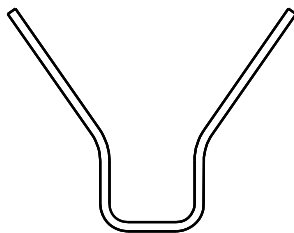
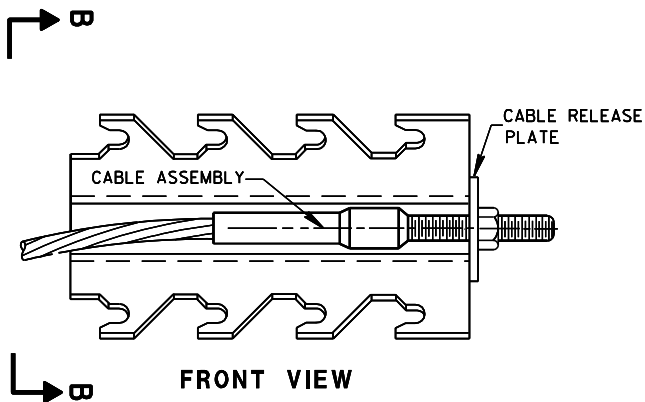
THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE ( $\pm \frac{3}{4}$ ")



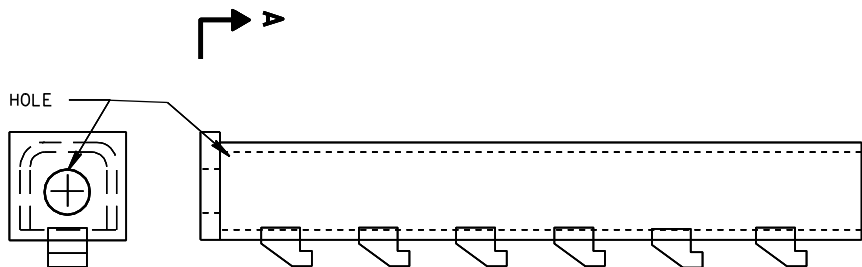


9 H

GENERIC GROUND STRUT



SECTION B-B



SECTION A-A

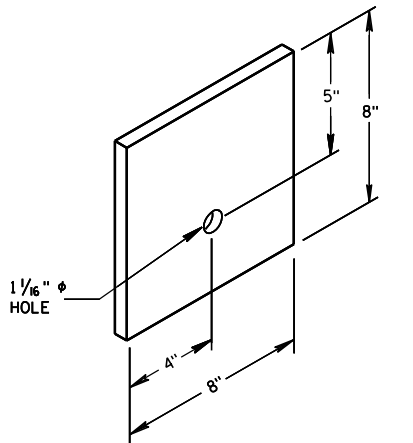
PLAN VIEW

8 H

GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

| PART NO.                                                                                     | DESCRIPTION                                                                                               |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION. |                                                                                                           |
| ①                                                                                            | WOOD BREAKAWAY POST                                                                                       |
| ②                                                                                            | 6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2                                             |
| ③                                                                                            | WOOD CRT                                                                                                  |
| ④                                                                                            | WOOD BLOCKOUT                                                                                             |
| ⑤                                                                                            | PIPE SLEEVE                                                                                               |
| ⑥                                                                                            | BEARING PLATE                                                                                             |
| ⑦                                                                                            | BCT CABLE ASSEMBLY                                                                                        |
| ⑧                                                                                            | ANCHOR CABLE BOX                                                                                          |
| ⑨                                                                                            | GROUND STRUT                                                                                              |
| ⑩                                                                                            | PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.                                                            |
| ⑪                                                                                            | STANDARD W-BEAM RAIL, MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.                                |
| ⑫                                                                                            | END SECTION EAT                                                                                           |
| ⑬                                                                                            | 0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER) |
| ⑭                                                                                            | EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)                                                     |

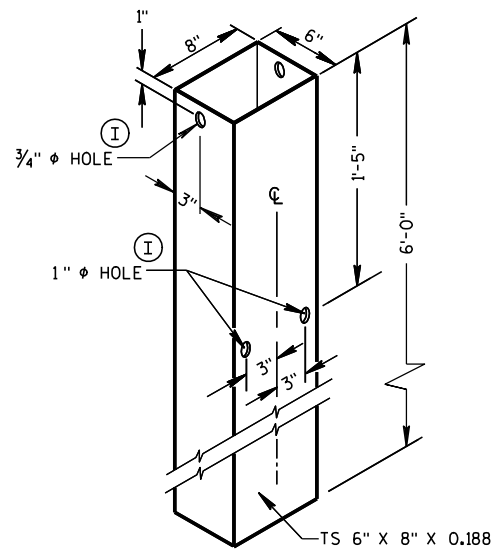


6

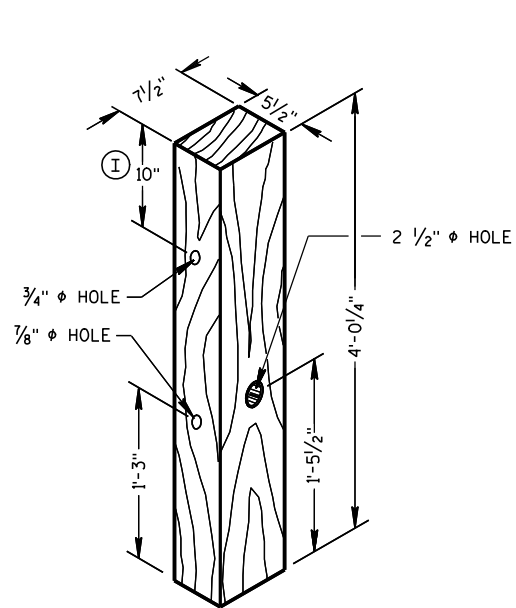
BEARING PLATE

MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)

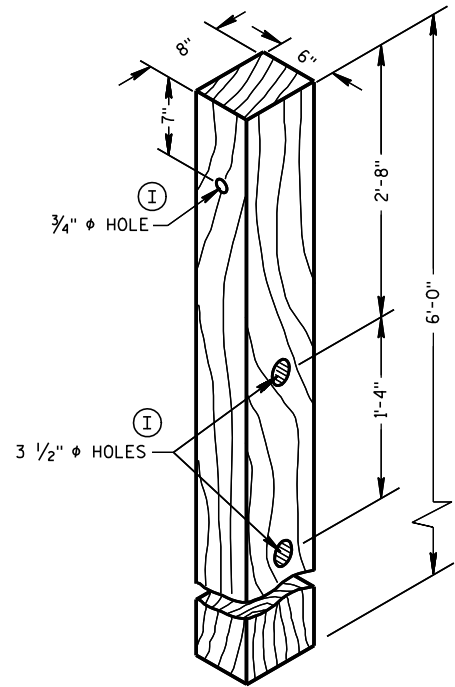
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



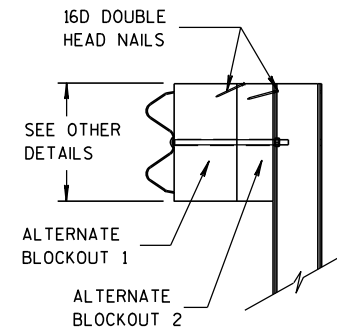
FOUNDATION TUBE ②



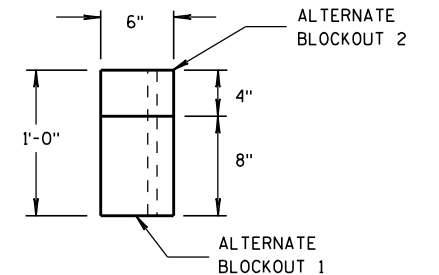
WOOD BREAKAWAY POST ①



WOOD CRT POST ③

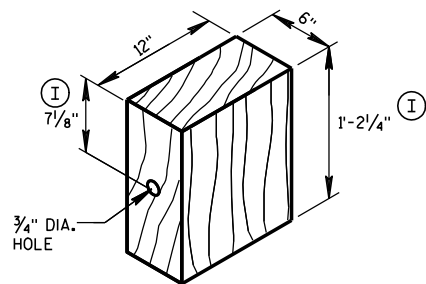


SIDE VIEW



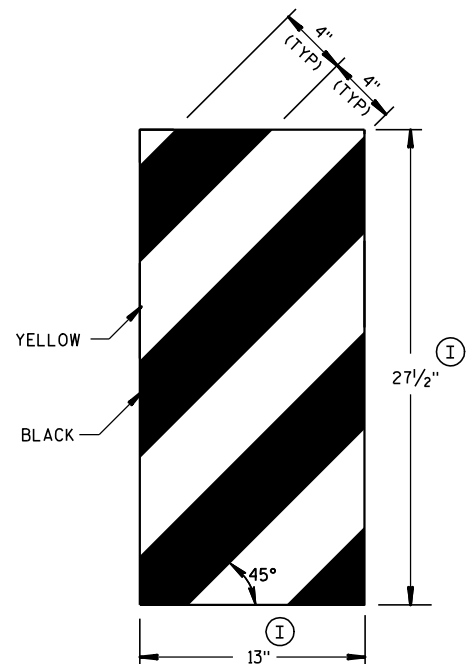
TOP VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

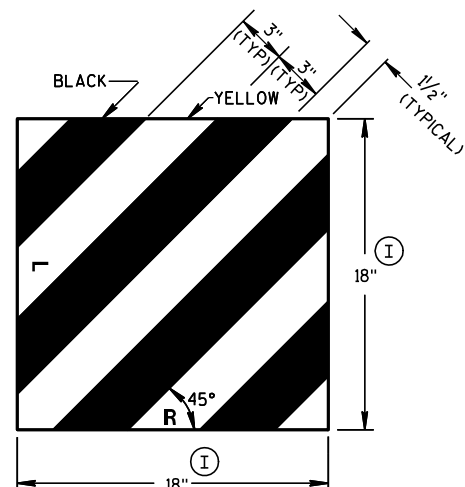


WOOD BLOCKOUT ④  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

YELLOW REFLECTIVE TAPE  
3" X 9" TYPE H  
REFLECTIVE SHEETING



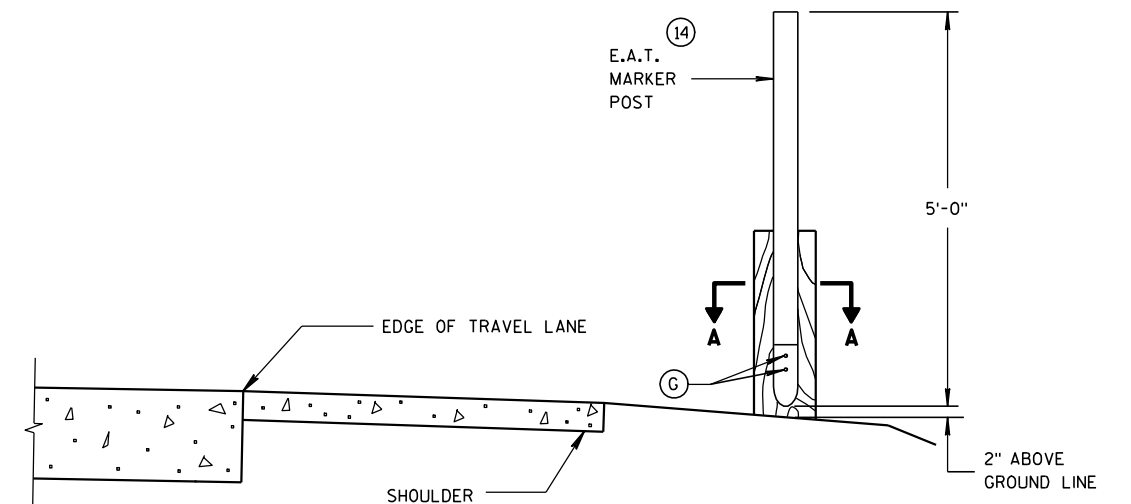
GENERIC REFLECTIVE SHEETING ⑬ ④



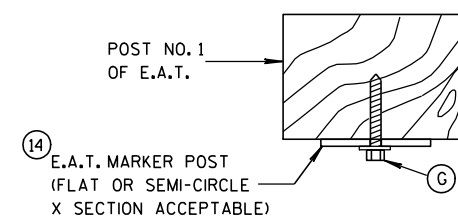
FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST ⑭



TYPICAL INSTALLATION OF E.A.T.  
MARKER POST BACKSIDE OF POST NO. 1  
(E.A.T. AND RAIL REMOVED FOR CLARITY)

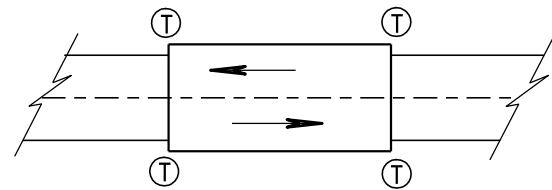


SECTION A-A

MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)

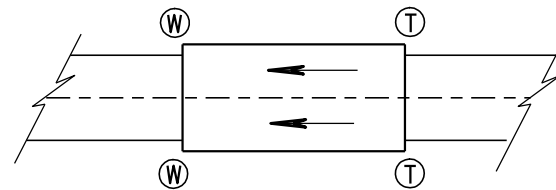
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/23/2011 DATE /S/ Jerry H. 3000  
DATE ROADWAY STANDARDS 106  
FHWA ENGINEER



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

## GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

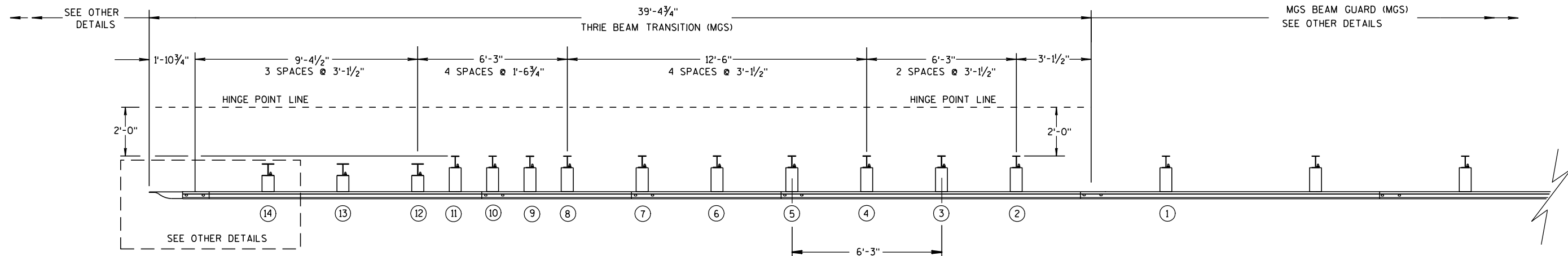
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

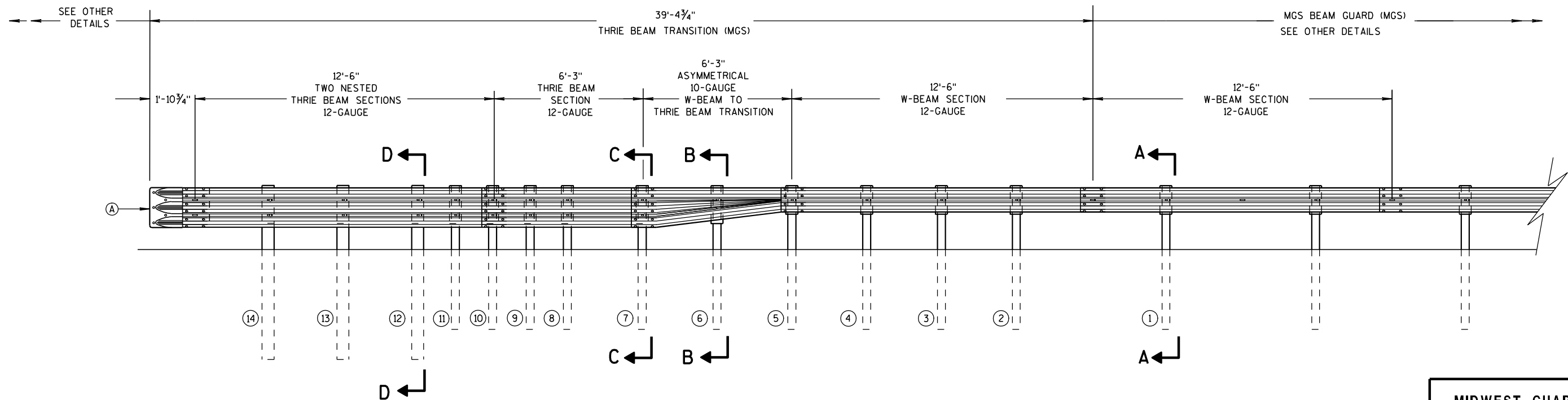
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

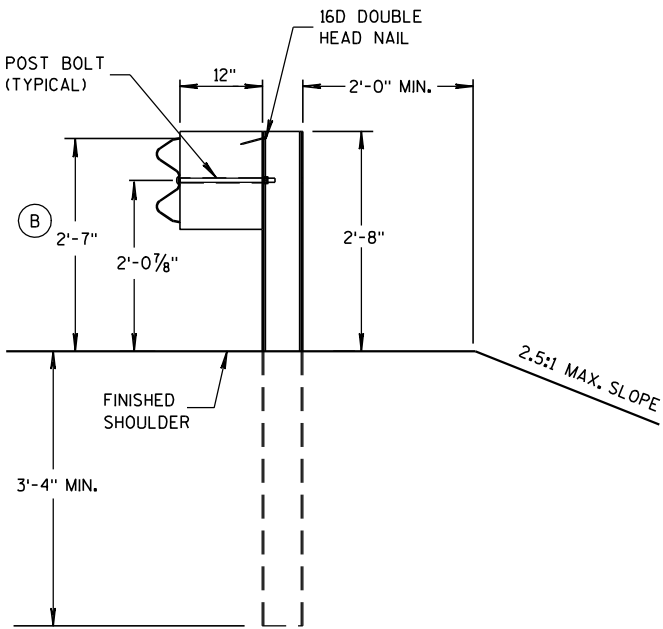
## MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

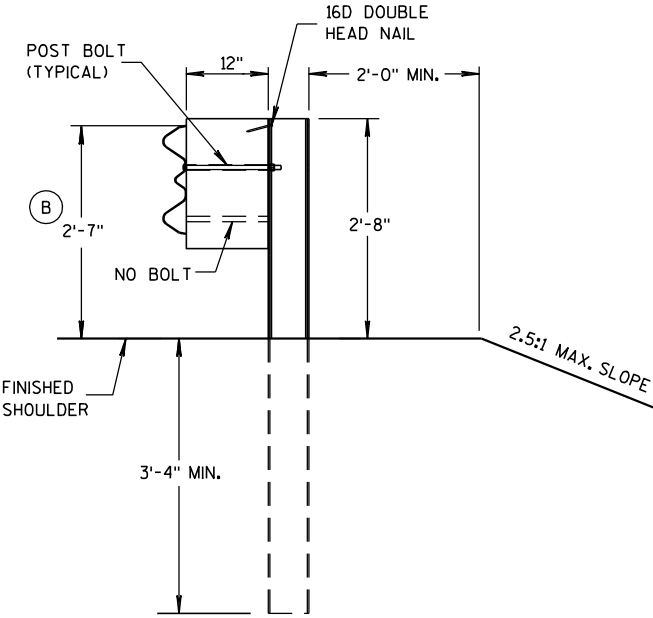
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
107

GENERAL NOTES

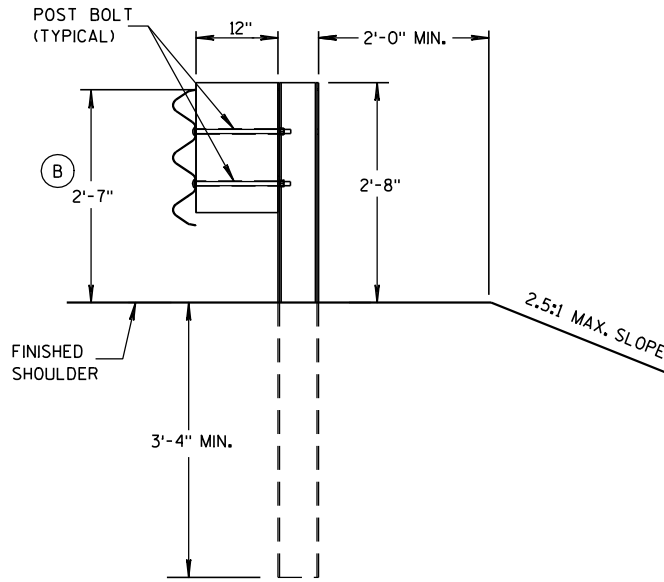
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS  $\pm 1"$ .



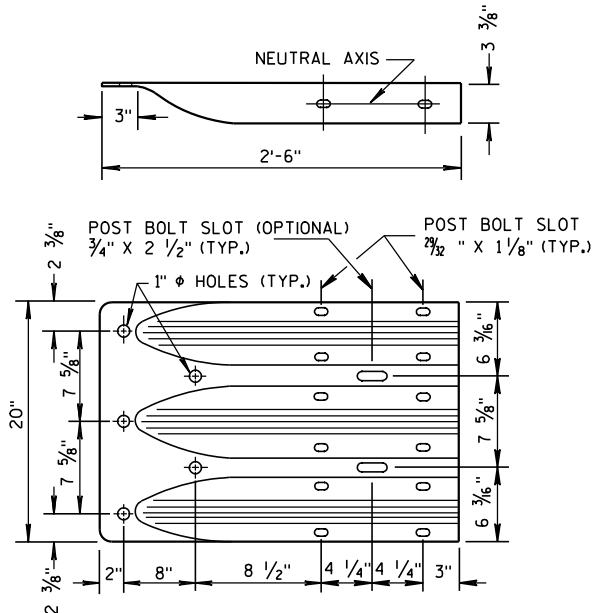
SECTION A-A  
POSTS 1-5



SECTION B-B  
POST 6



SECTION C-C  
POSTS 7-11



THRIE BEAM  
TERMINAL CONNECTOR

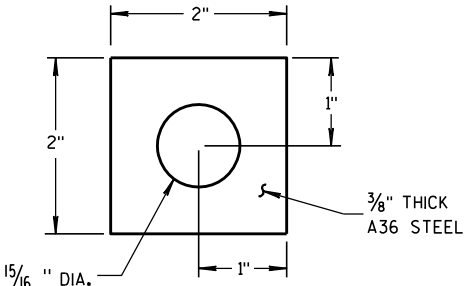
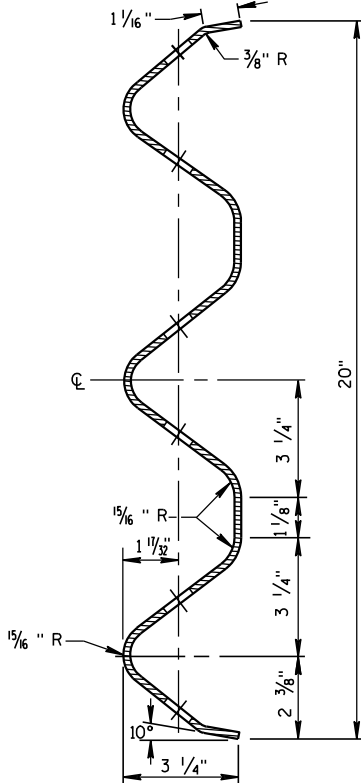
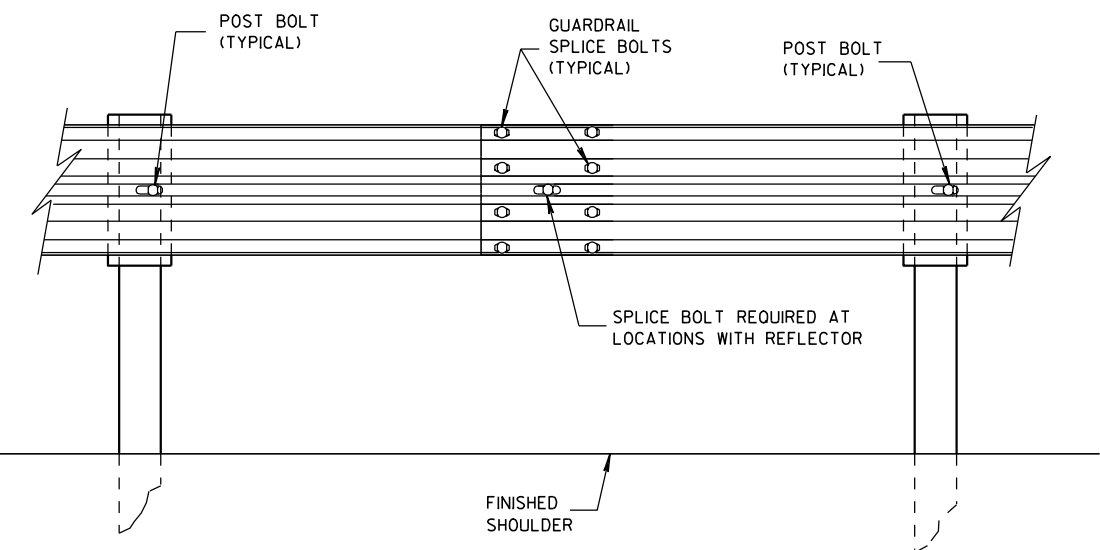


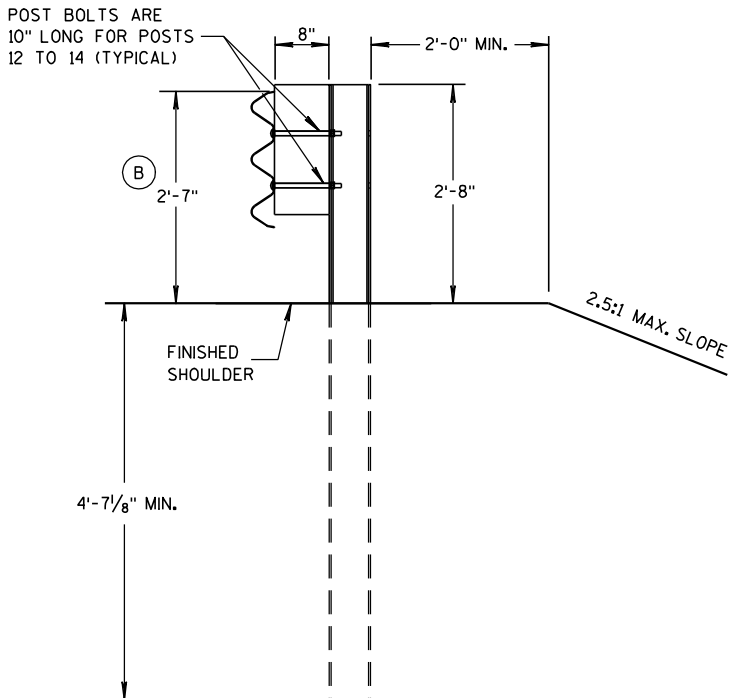
PLATE WASHER DETAIL



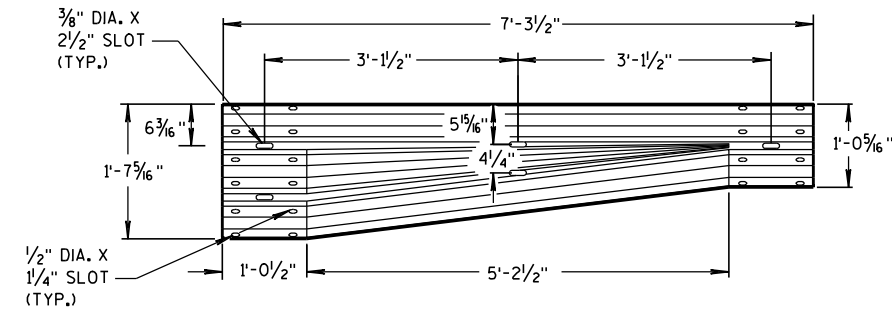
SECTION THRU THRIE  
BEAM RAIL ELEMENT



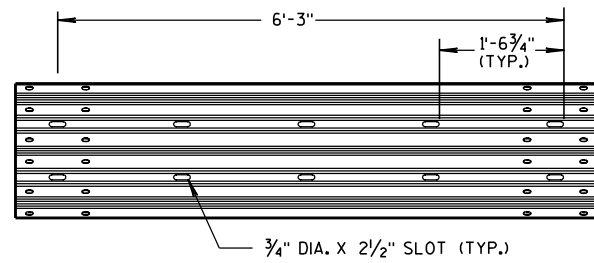
SPLICE DETAIL



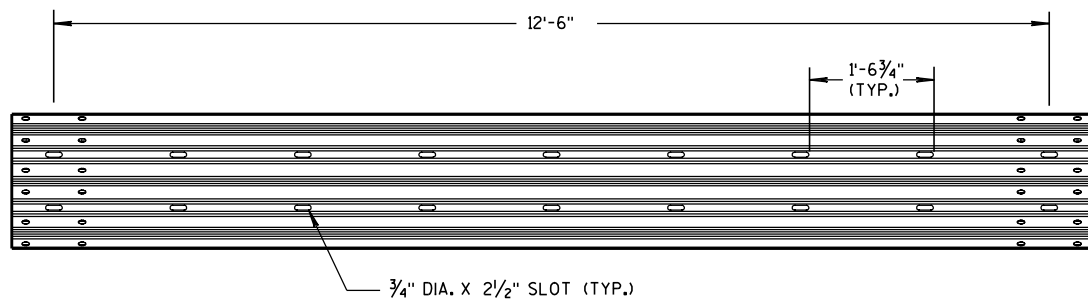
SECTION D-D  
POSTS 12-14



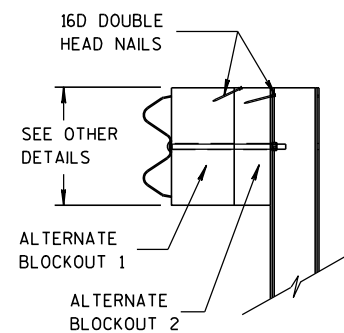
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

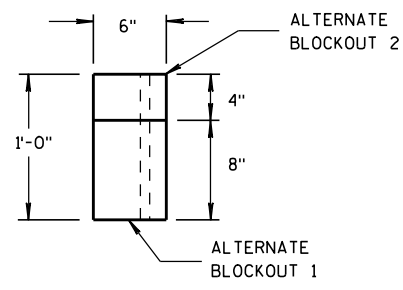


12'-6" THRIE BEAM SECTION

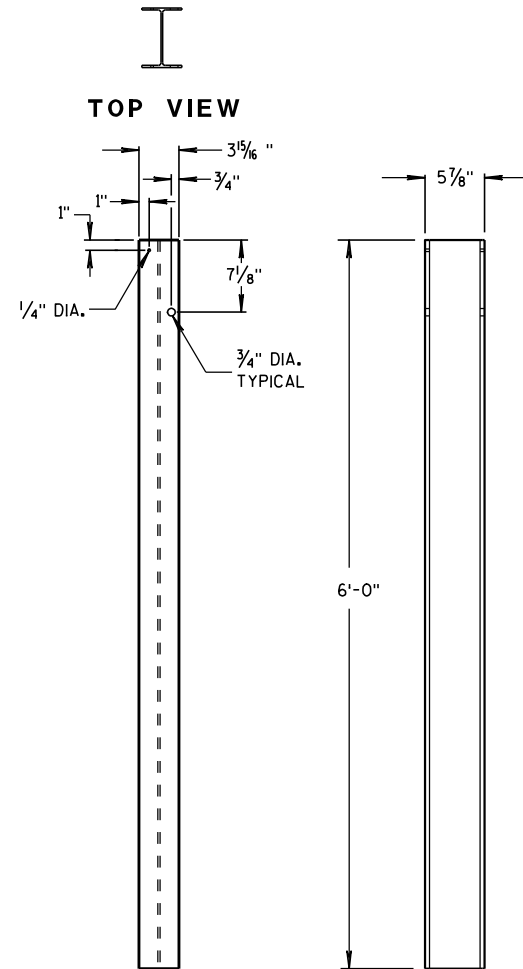


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



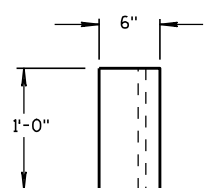
TOP VIEW



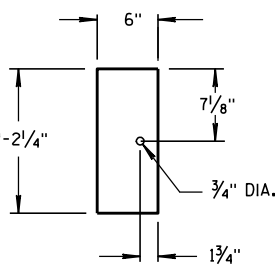
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

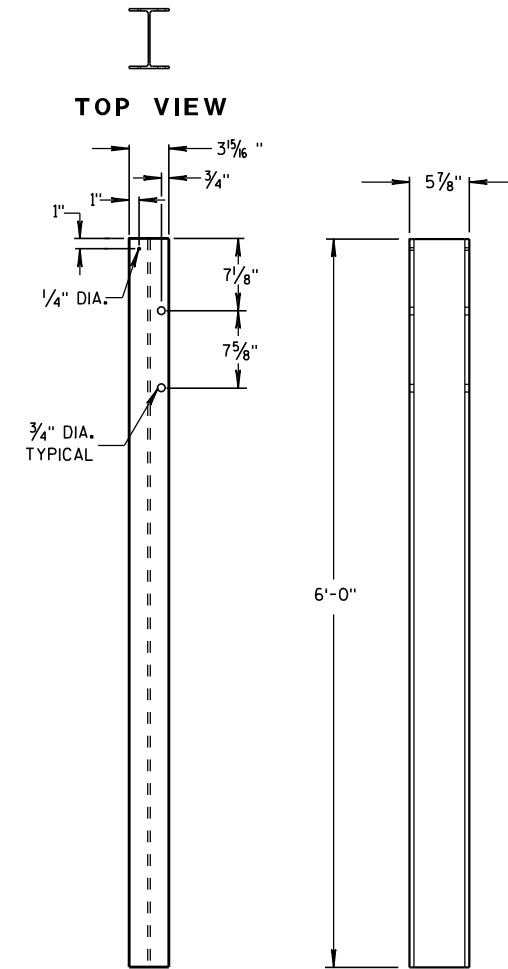


TOP VIEW



FRONT VIEW

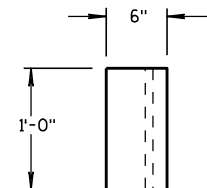
BLOCKOUT POSTS 1-5



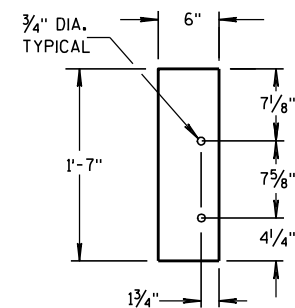
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11

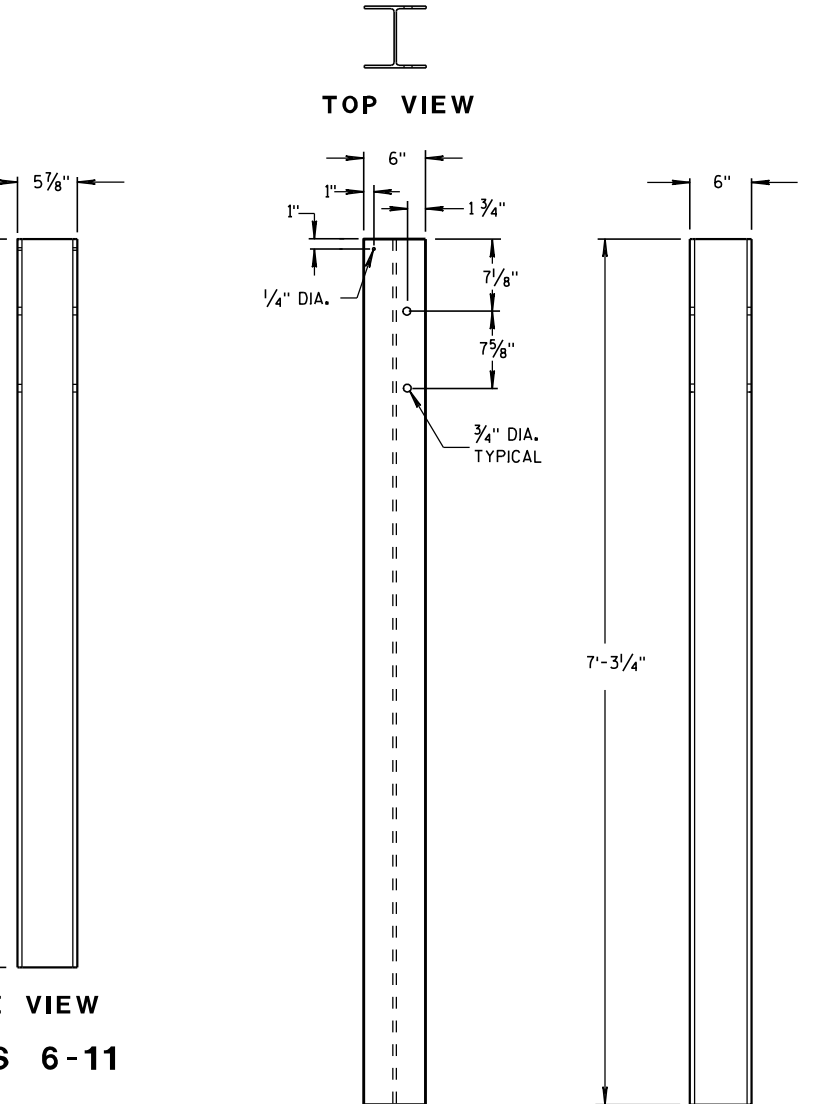


TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

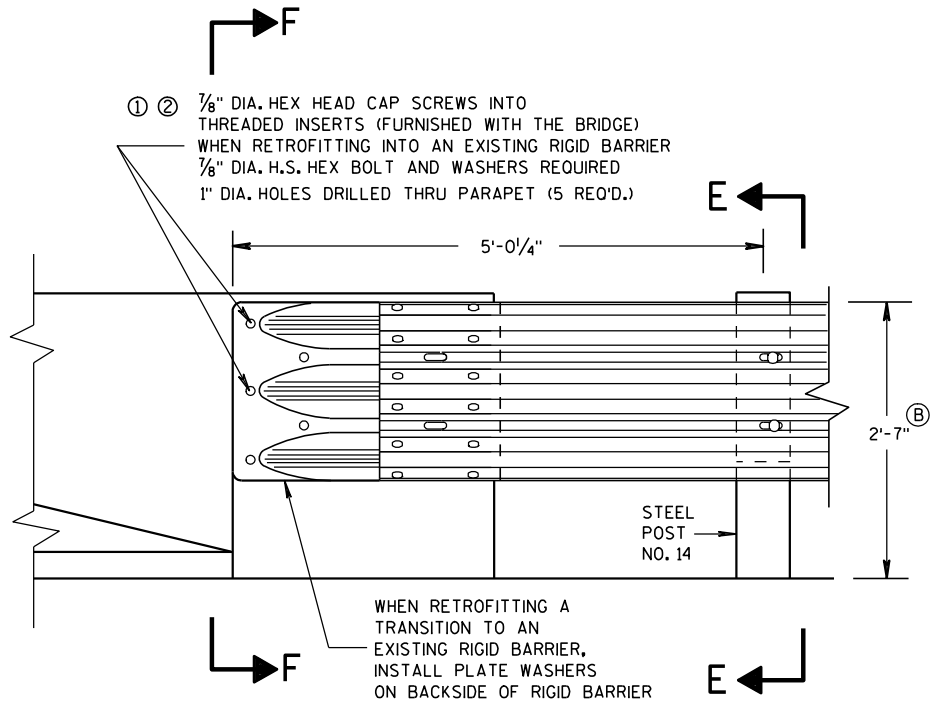
SIDE VIEW

STEEL POSTS 12-14

STEEL POST SIZES

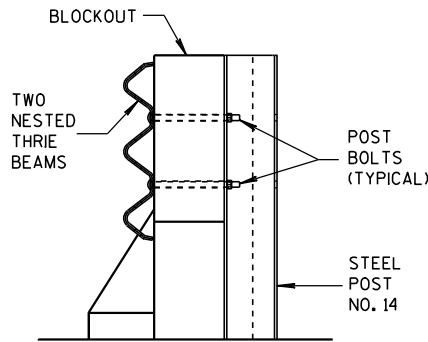
| POST NUMBER | SECTION TYPE | LENGTH  |
|-------------|--------------|---------|
| ①           | W6x9         | 72"     |
| ②           | W6x9         | 72"     |
| ③           | W6x9         | 72"     |
| ④           | W6x9         | 72"     |
| ⑤           | W6x9         | 72"     |
| ⑥           | W6x9         | 72"     |
| ⑦           | W6x9         | 72"     |
| ⑧           | W6x9         | 72"     |
| ⑨           | W6x9         | 72"     |
| ⑩           | W6x9         | 72"     |
| ⑪           | W6x9         | 72"     |
| ⑫           | W6x15        | 87 1/8" |
| ⑬           | W6x15        | 87 1/8" |
| ⑭           | W6x15        | 87 1/8" |

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)



FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE  
PARAPET WITH SQUARE ENDS

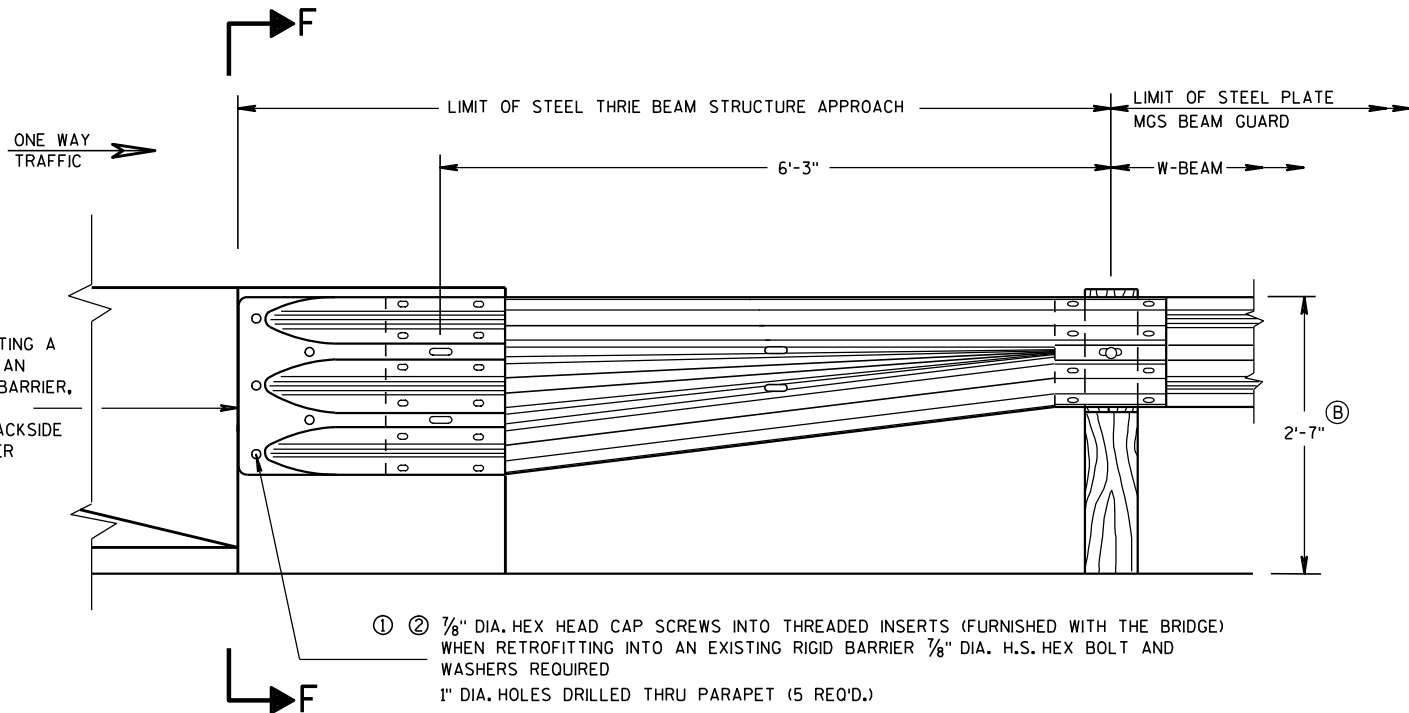


SECTION E-E

GENERAL NOTES

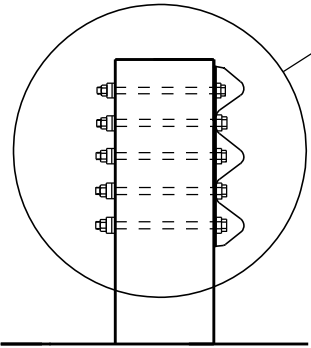
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS, BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- B TOLERANCE FOR TOP OF BEAM IS ± 1".

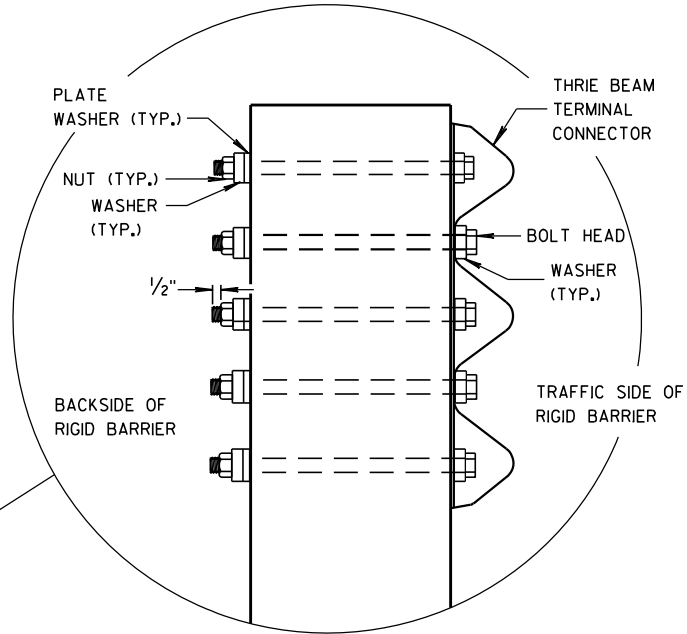


FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO  
BRIDGE PARAPETS WITH SQUARE ENDS  
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F

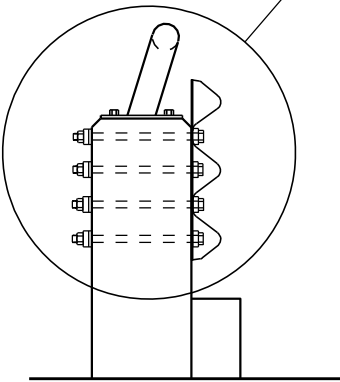
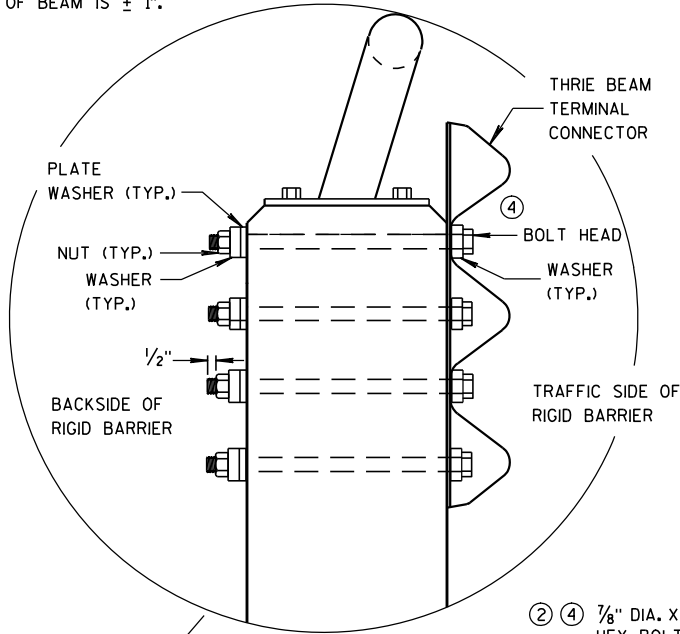


|                                                         |                                                        |
|---------------------------------------------------------|--------------------------------------------------------|
| MIDWEST GUARDRAIL SYSTEM<br>THRIE BEAM TRANSITION (MGS) |                                                        |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION      |                                                        |
| APPROVED<br>8/31/2012<br>DATE                           | /S/ Jerry H. Zapp<br>ROADWAY STANDARDS 110<br>ENGINEER |
| FHWA                                                    |                                                        |

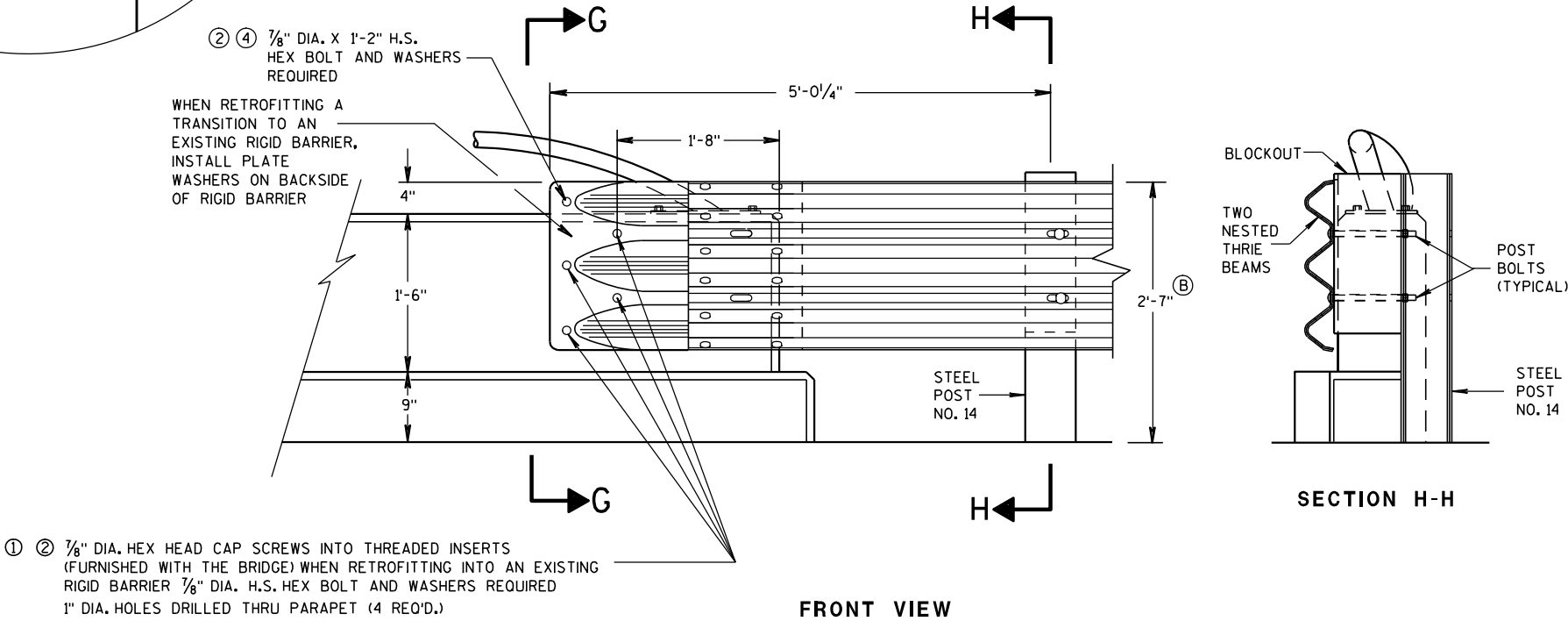
GENERAL NOTES

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

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X  $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3  $\frac{1}{2}$ ". BLOCK IS INCIDENTAL TO THE CONTRACT.
- ④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.
- Ⓑ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .

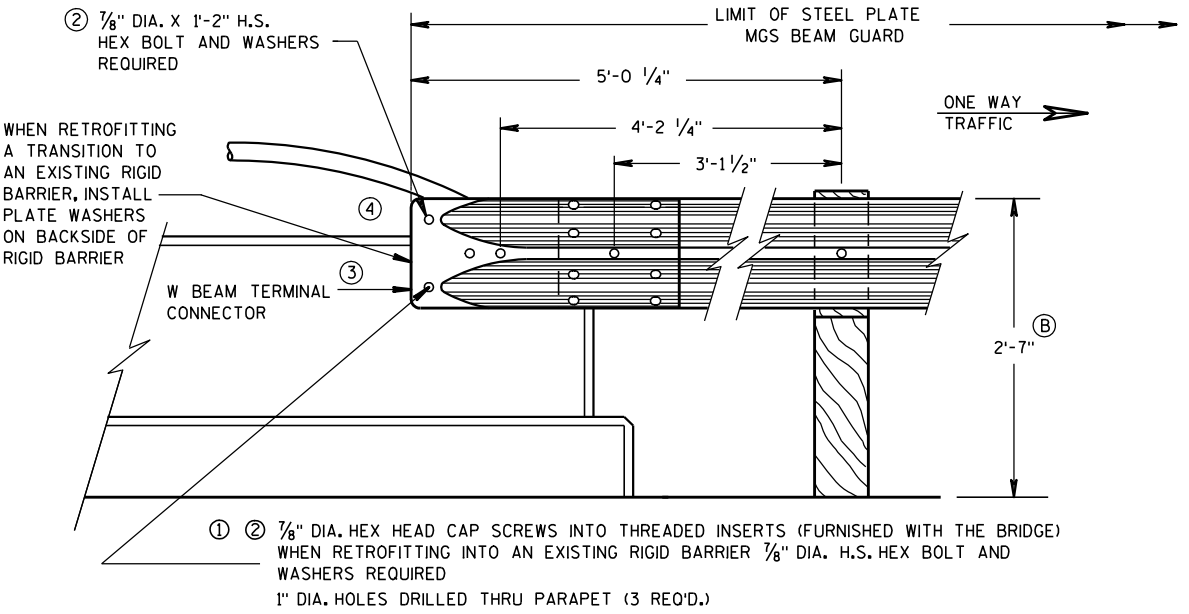


SECTION G-G



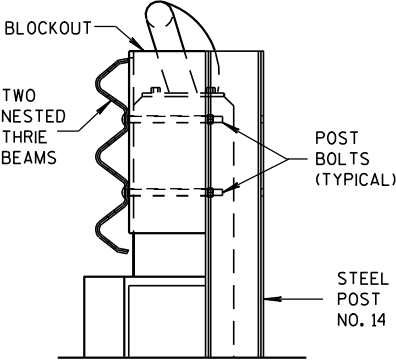
FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET  
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

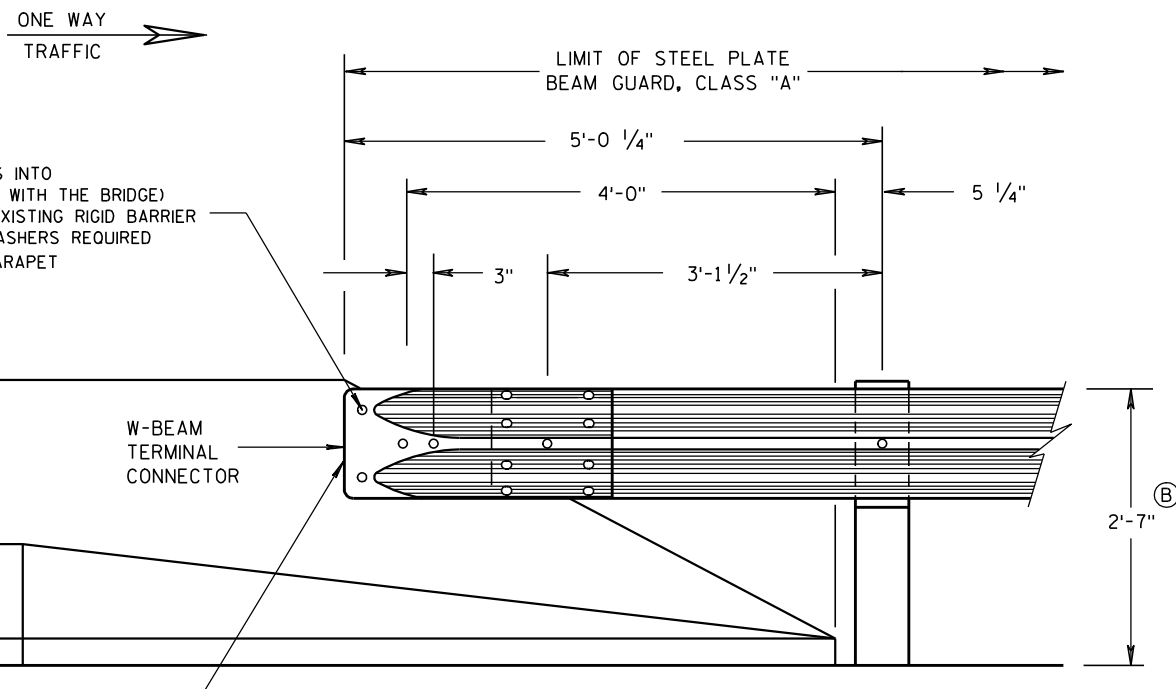


SECTION H-H

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
8-31-2012 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS 111 ENT  
FHWA ENGINEER



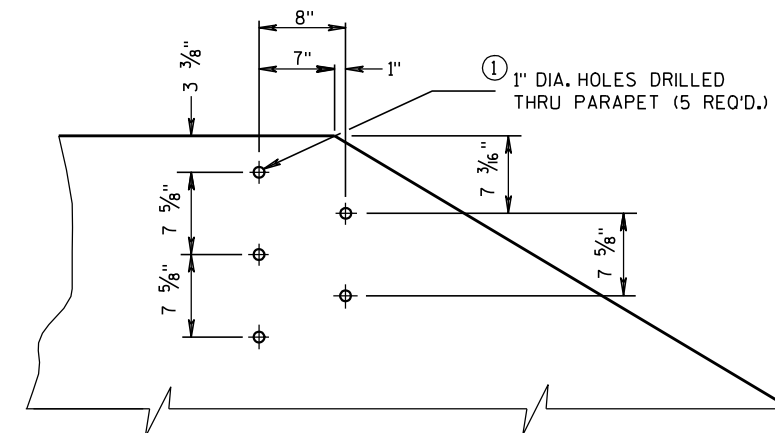
FRONT VIEW

### W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

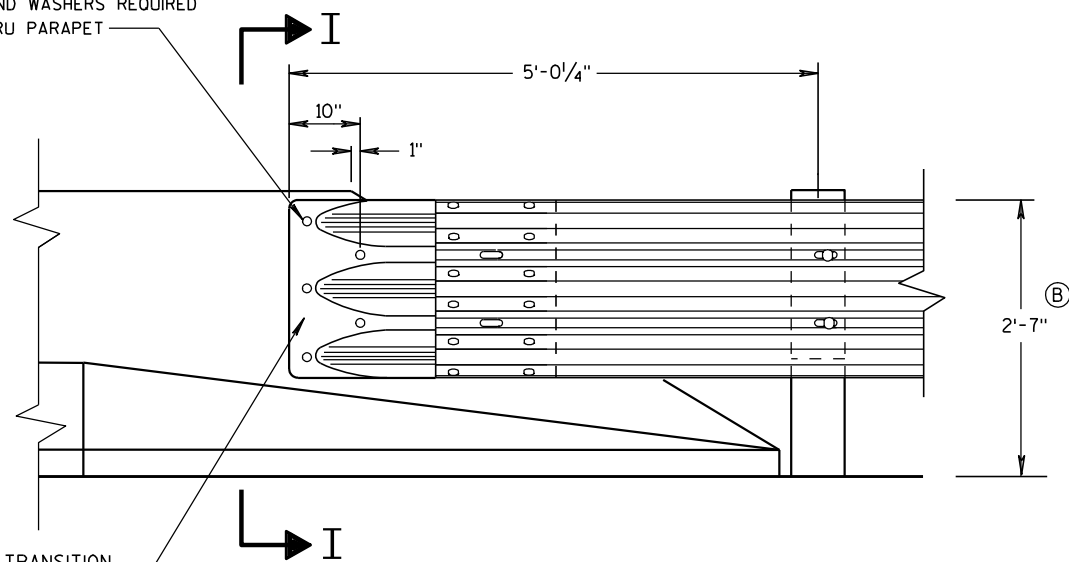
### GENERAL NOTES

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .



### DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

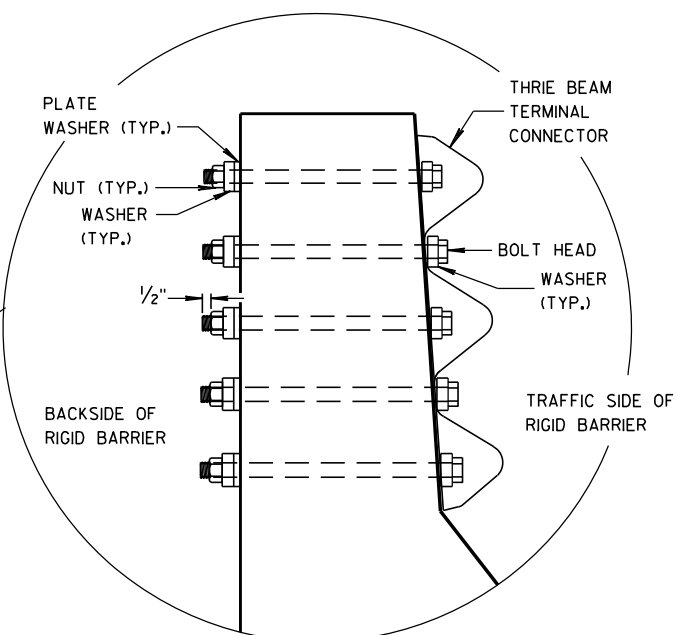
- ① ② 1/8" DIA. HEX HEAD CAP SCREWS INTO  
THREADED INSERTS (FURNISHED WITH THE BRIDGE)  
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER  
1/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED  
1" DIA. HOLES DRILLED THRU PARAPET  
(5 REQ'D.)



FRONT VIEW

### THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

SECTION I-I



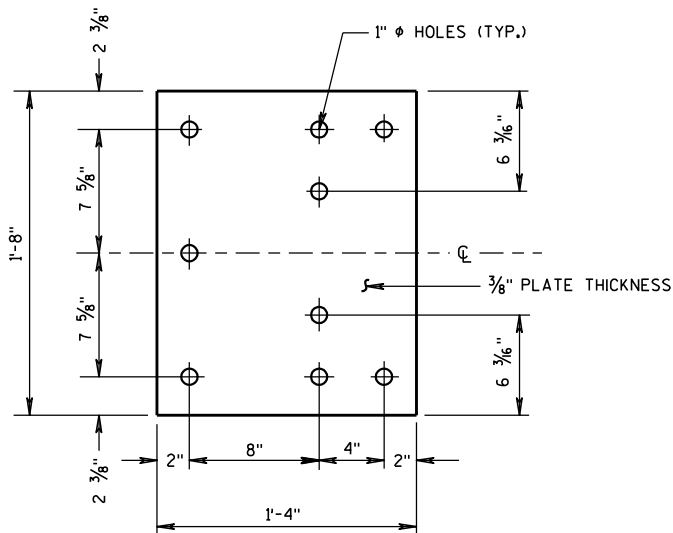
WHEN RETROFITTING A TRANSITION  
TO AN EXISTING RIGID BARRIER,  
INSTALL PLATE WASHERS ON  
BACKSIDE OF RIGID BARRIER.

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

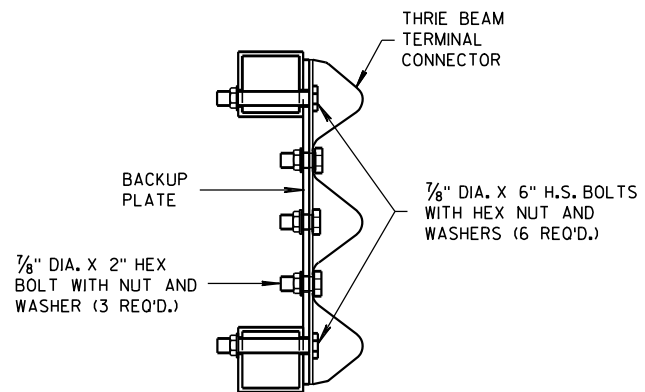
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
8/31/2012  
DATE  
FHWA

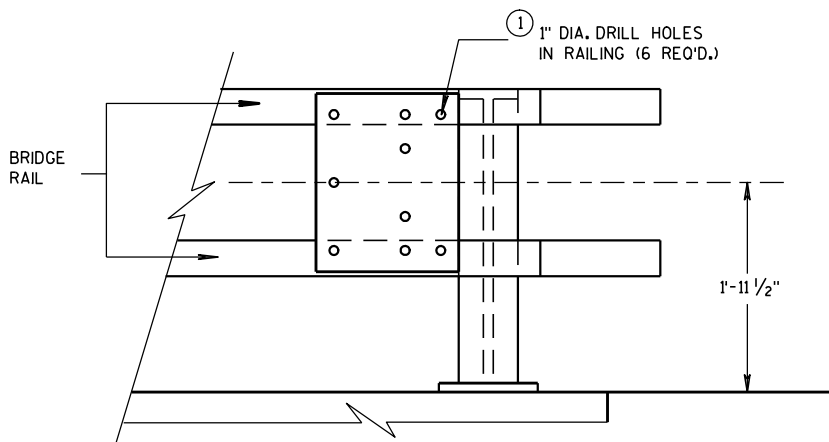
/S/ Jerry H. Zapp  
ROADWAY STANDARDS 112 ENT  
ENGINEER



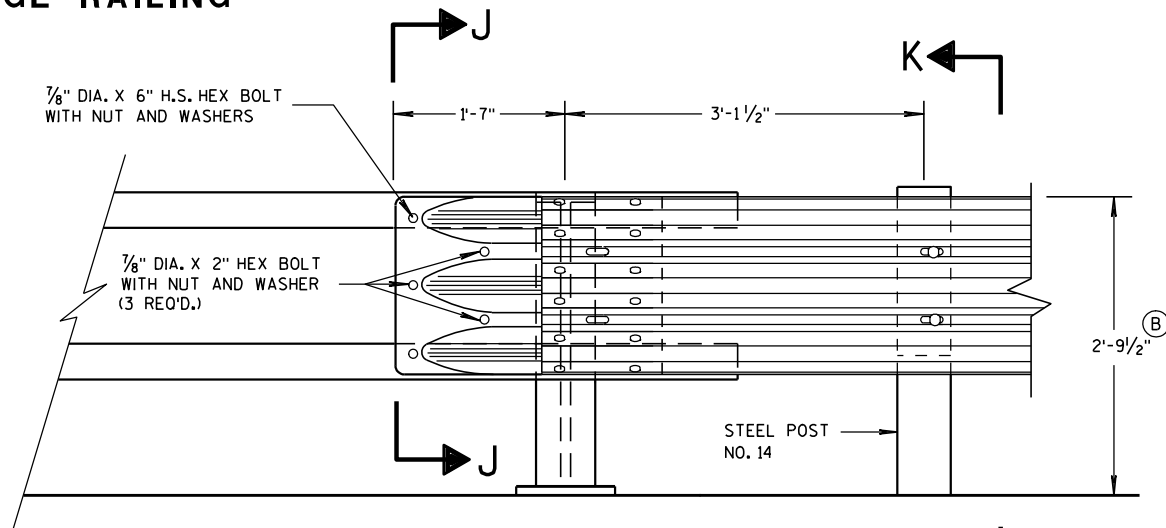
BACK-UP PLATE DETAIL



SECTION J-J

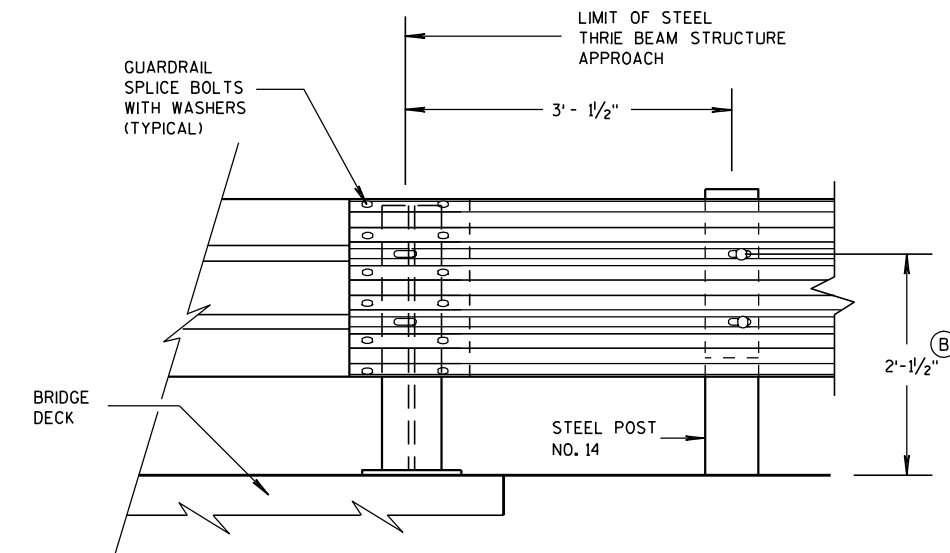


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



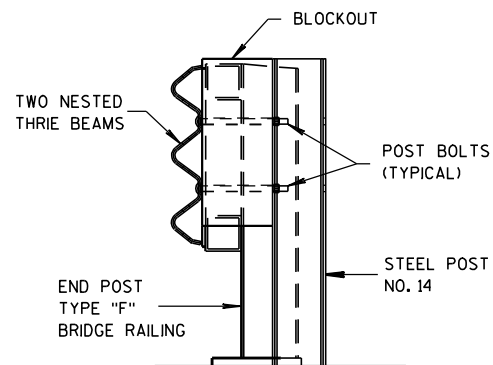
FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



SECTION K-K

## GENERAL NOTES

- ① DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
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/S/ Jerry H. Zeng

ROADWAY STANDARDS

ENGINEER

113

INT

## 6

**S.D.D. 14 B 45-3h**



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



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



### ANCHOR PLATE DETAIL, TYPE "M"



**S.D.D. 14 B 45-3h**



**S.D.D. 14 B 45-3h**



**S.D.D. 14 B 45-3h**



**S.D.D. 14 B 45-3h**

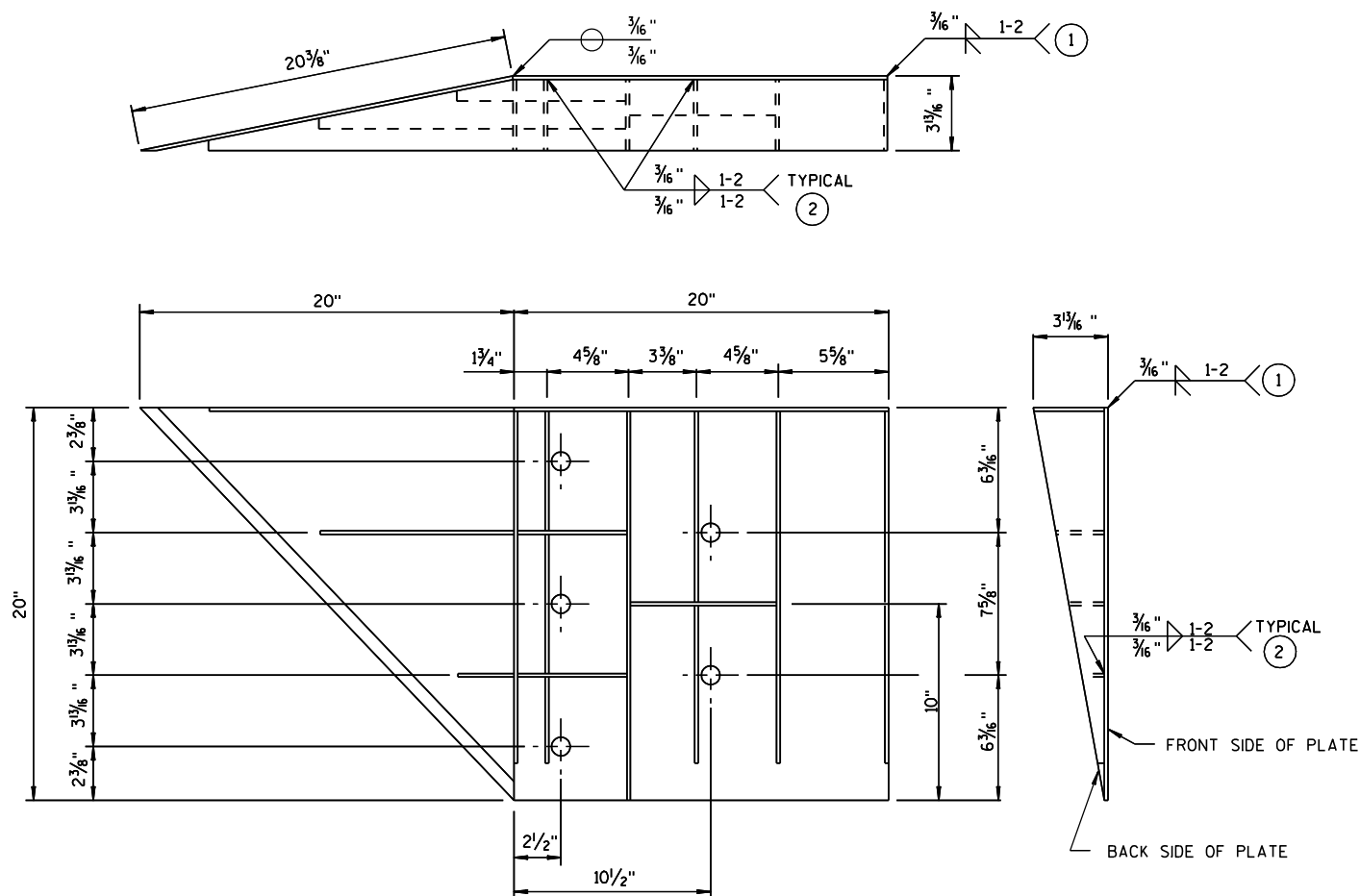


### THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

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8-31-2012 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS ENGINEER 114

6

**S.D.D. 14 B 45-3h**

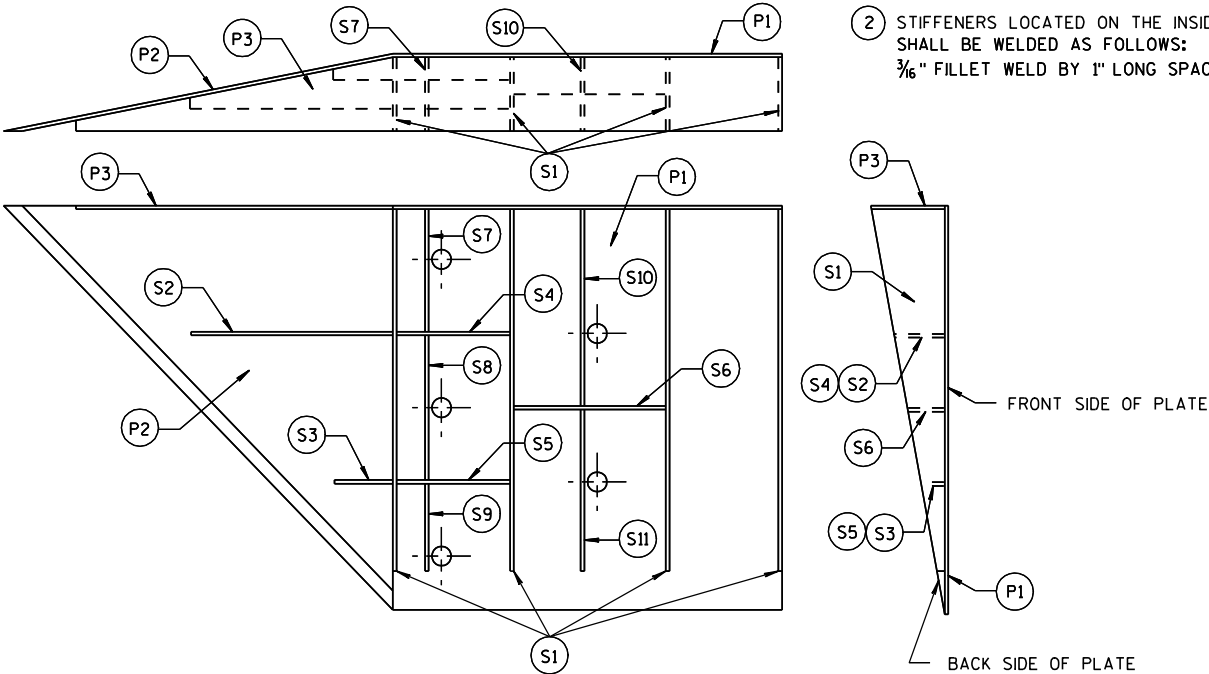


WELDING INSTRUCTION  
(VIEWED FROM BACK SIDE OF PLATE)

SINGLE SLOPE CONNECTION PLATE

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

PLATE AND STIFFENER IDENTIFICATION  
(VIEWED FROM BACK SIDE OF PLATE)



GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

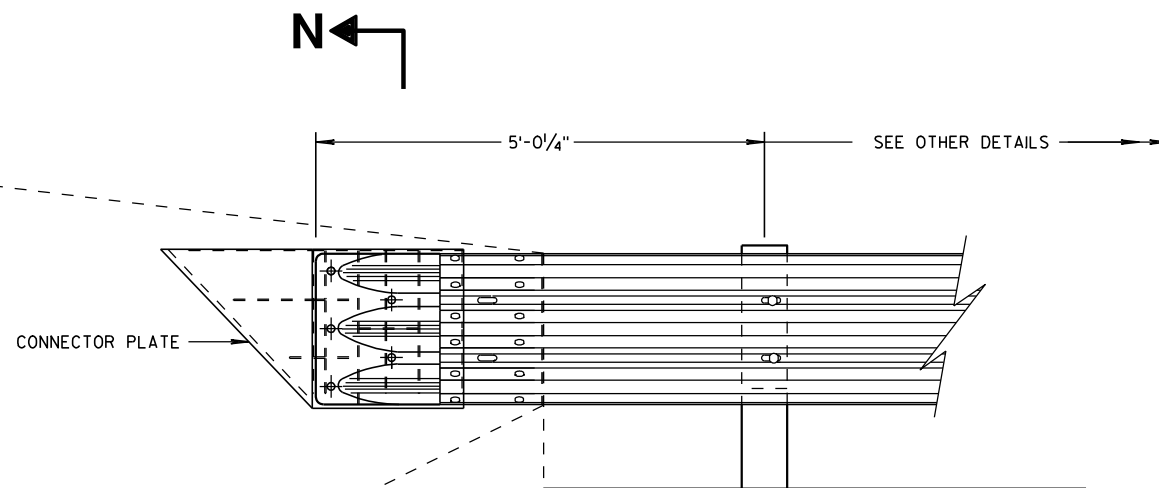
FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

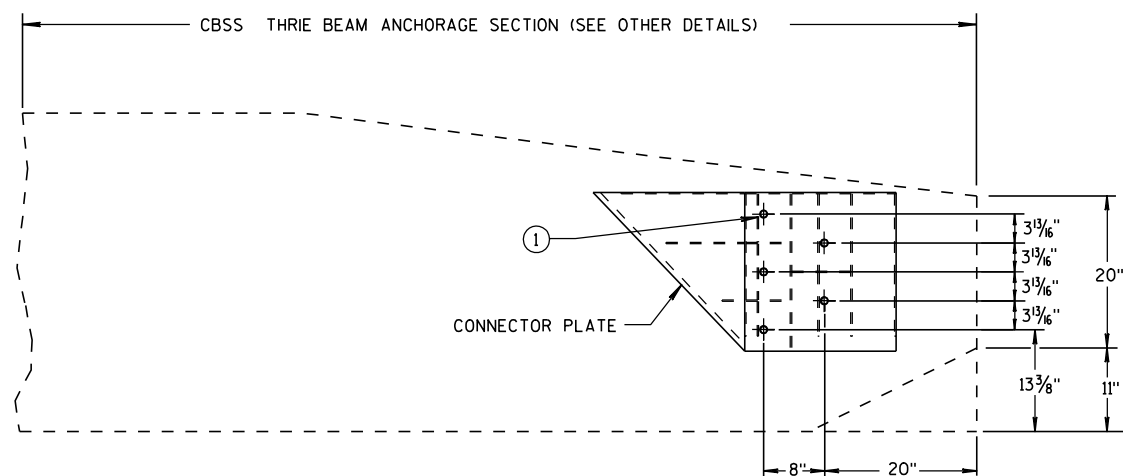
MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
8/31/2012 DATE /S/ Jerry H. 115 JENT  
FHWA ROADWAY STANDARDS ENGINEER



**THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER**

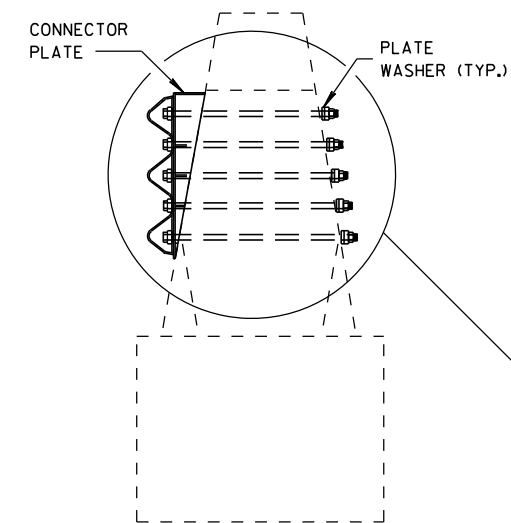


**SINGLE SLOPE CONNECTION PLATE PLACEMENT**

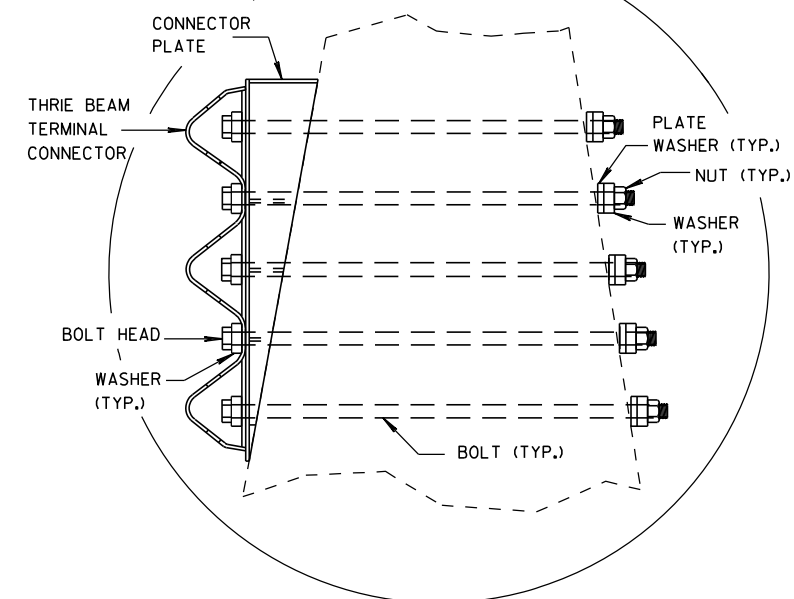
## GENERAL NOTES

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

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



**SECTION N-N**



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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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8/31/2012

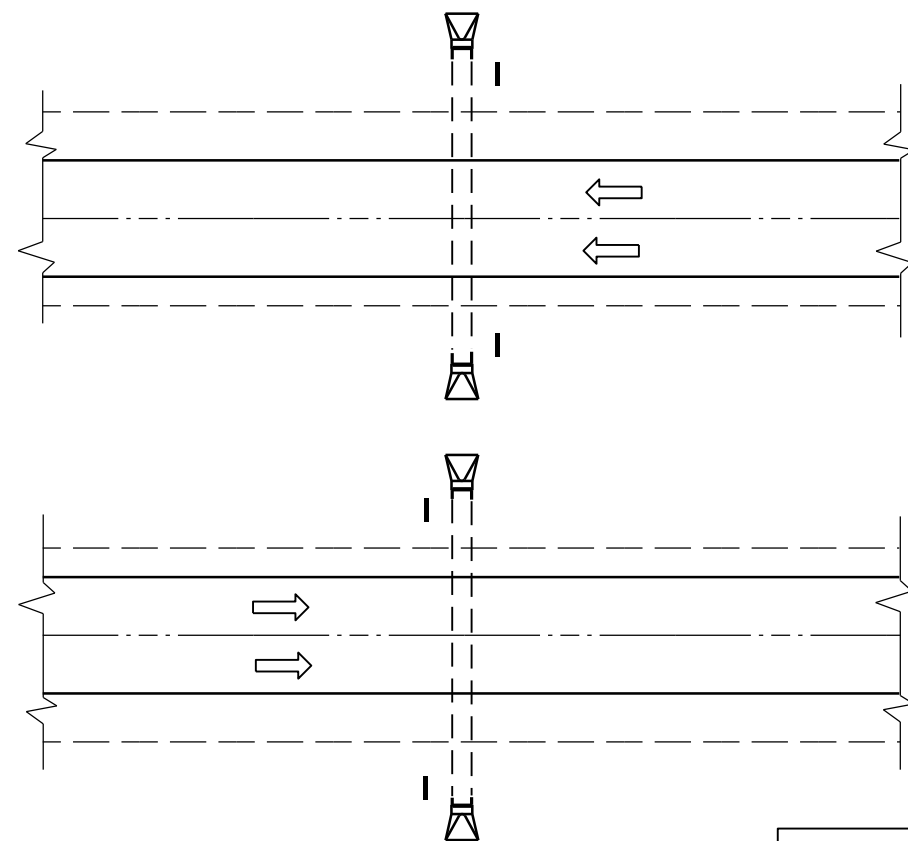
DATE

FHWA

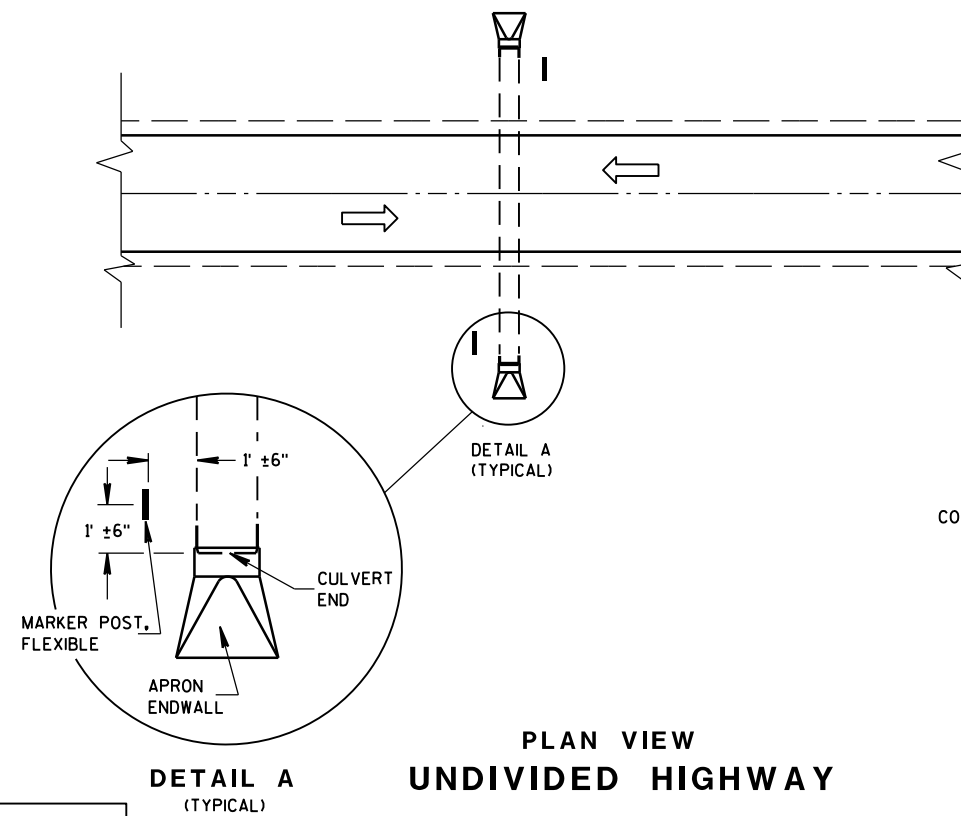
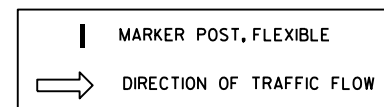
/S/ Jerry H. [Signature]

ROADWAY STANDARDS 116

ENGINEER



PLAN VIEW  
DIVIDED HIGHWAY

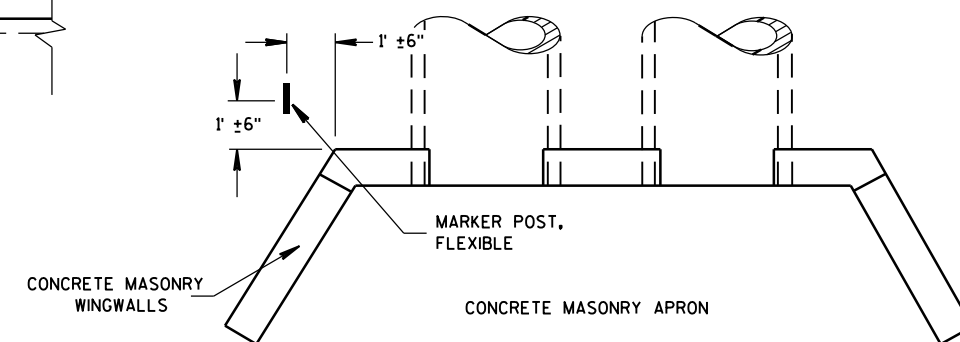


PLAN VIEW  
UNDIVIDED HIGHWAY

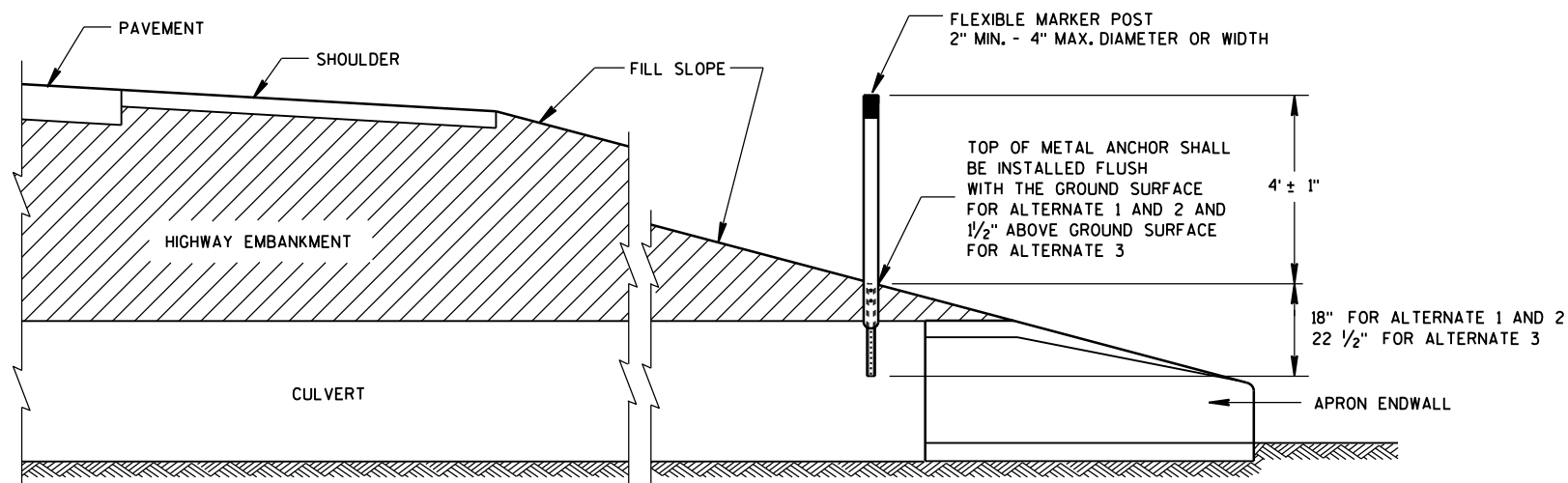
### FLEXIBLE MARKER POST LOCATION

### GENERAL NOTES

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



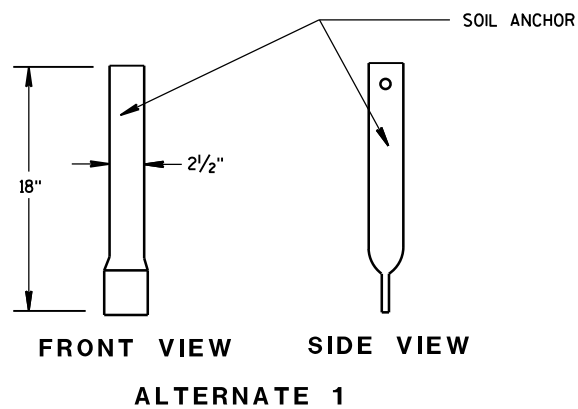
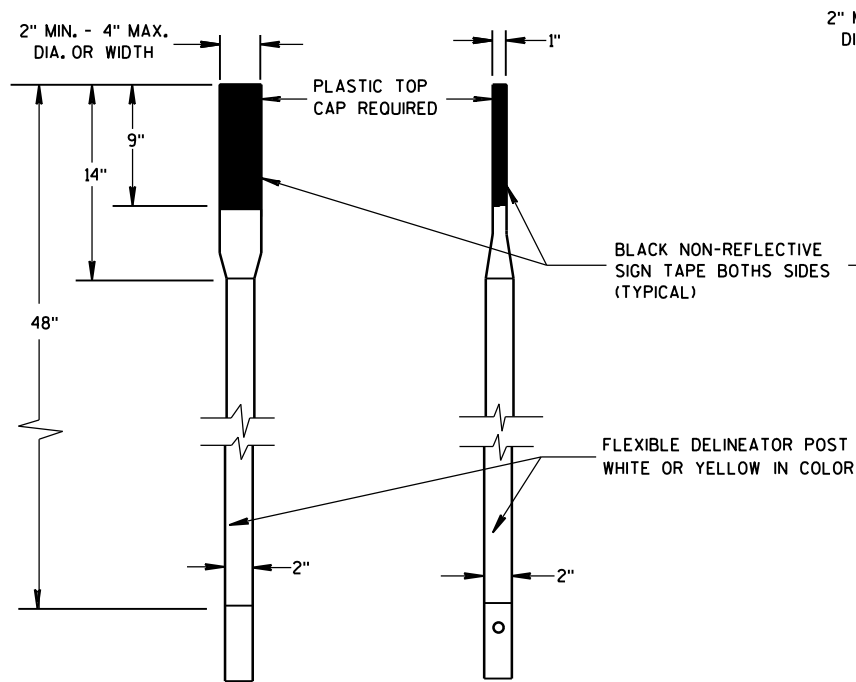
PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH



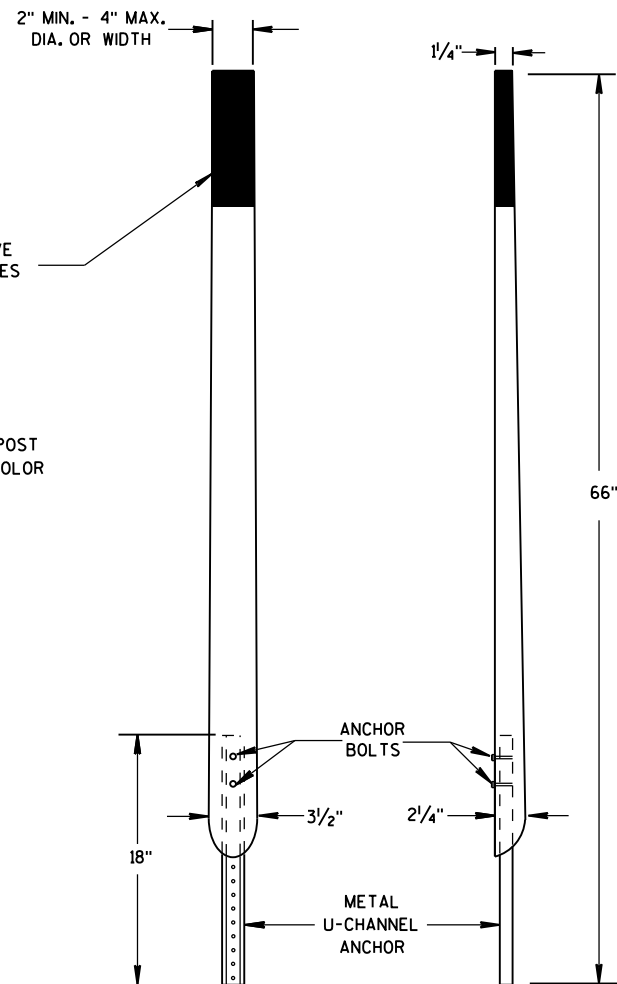
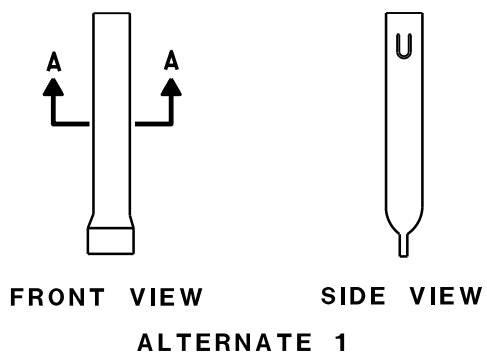
CROSS SECTION  
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST  
FOR CULVERT END

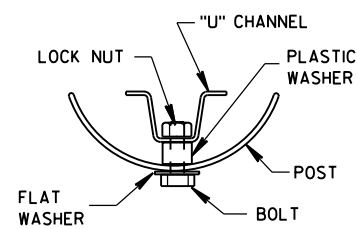
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 117



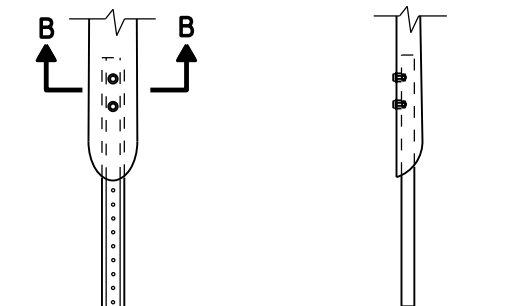
SECTION A-A

FRONT VIEW SIDE VIEW  
ALTERNATE 2

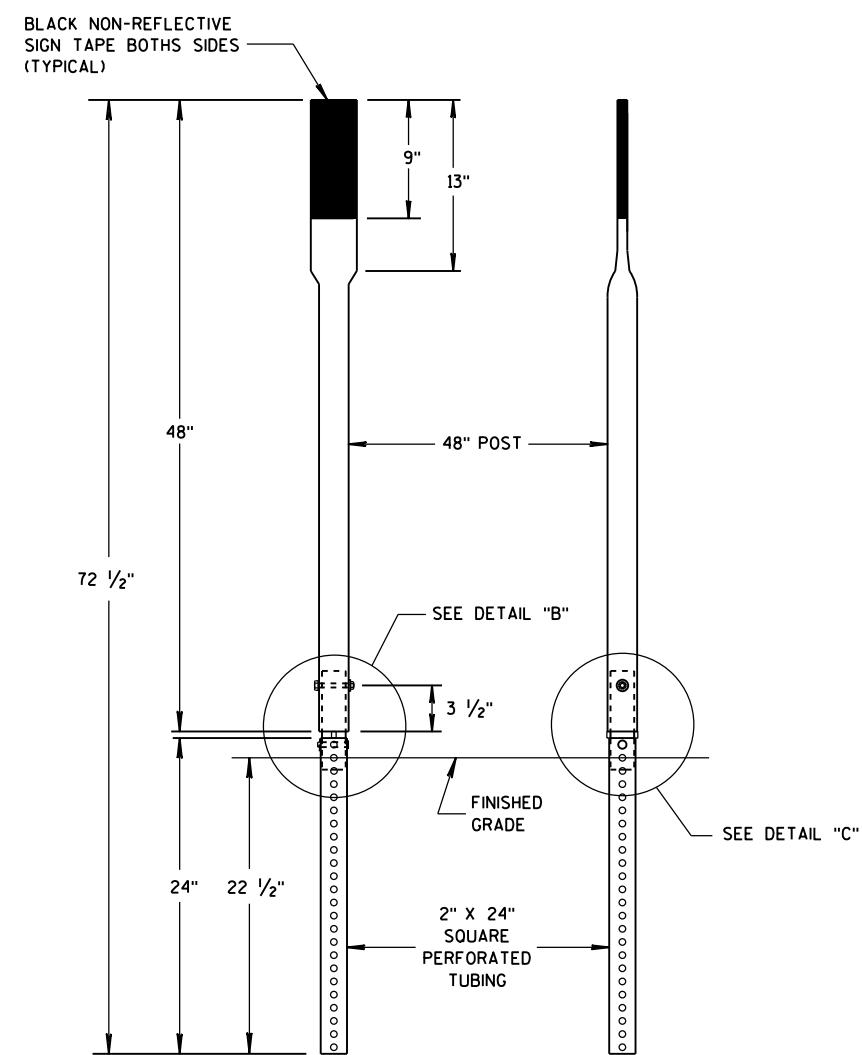
## FLEXIBLE MARKER POSTS



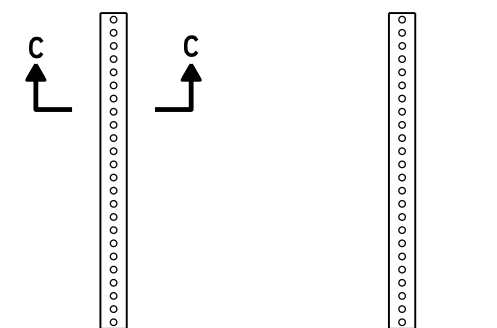
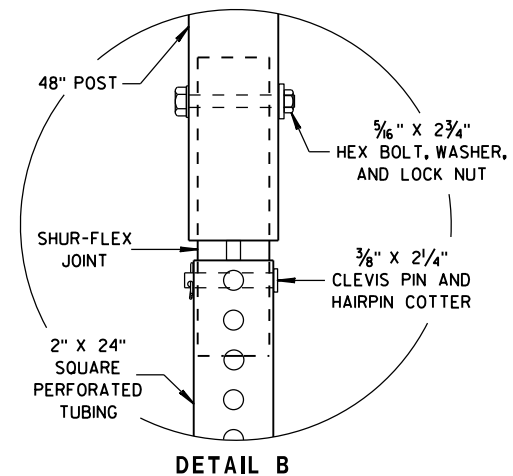
SECTION B-B

FRONT VIEW SIDE VIEW  
ALTERNATE 2

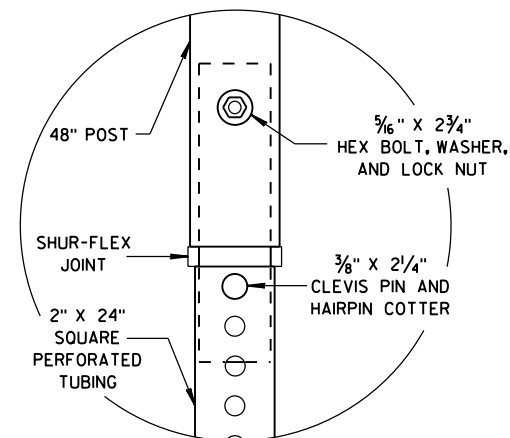
## FLEXIBLE MARKER POST ANCHORS

FRONT VIEW SIDE VIEW  
ALTERNATE 3

SECTION C-C

FRONT VIEW SIDE VIEW  
ALTERNATE 3

DETAIL B



DETAIL C

FLEXIBLE MARKER POST  
FOR CULVERT ENDSTATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

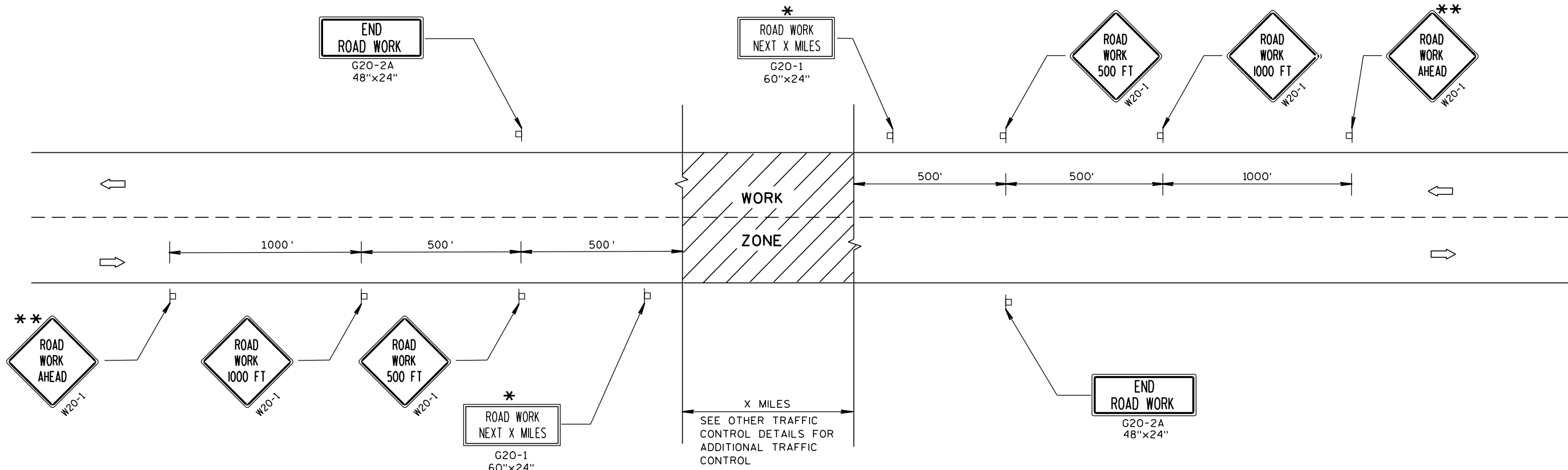
10/1/2012

DATE

FHWA

/S/ Travis Feltes  
STATE TRAFFIC ENGINEER 118

IGN



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

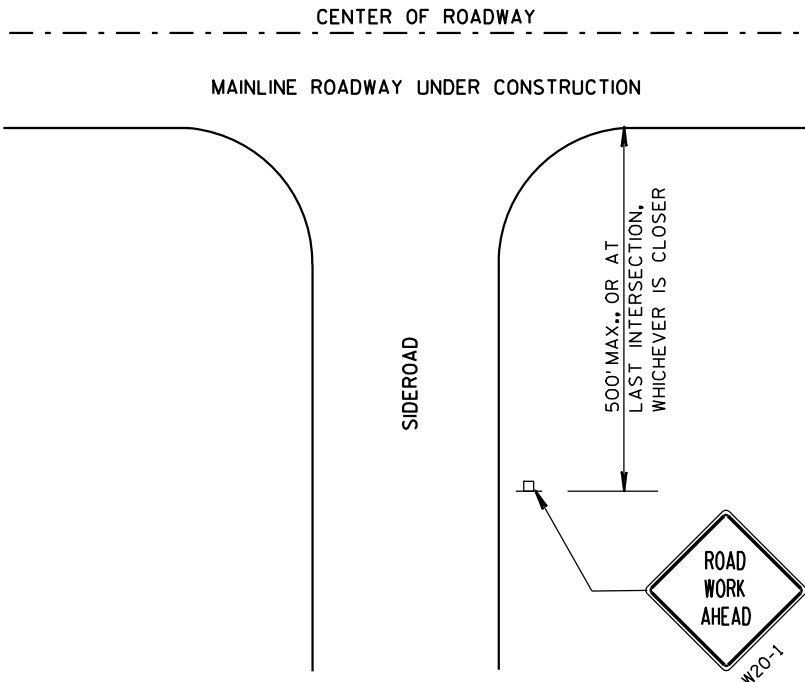
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

\* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

\*\* PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA OR SIGNING.



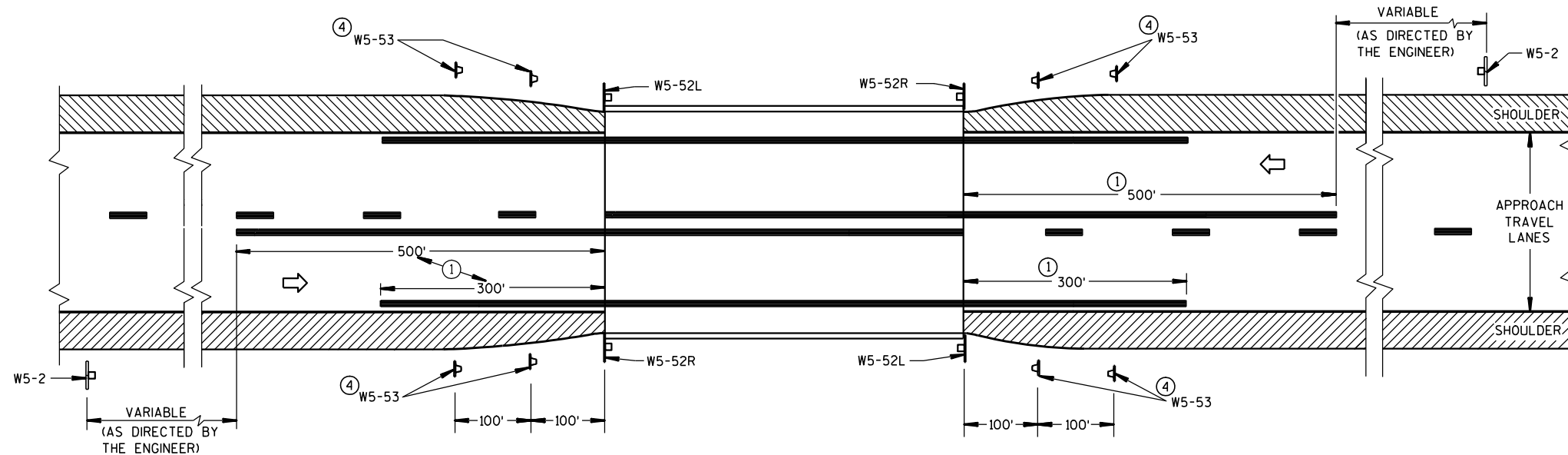
LEGEND

- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, ADVANCE  
WARNING SIGNS 45 M.P.H.  
OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

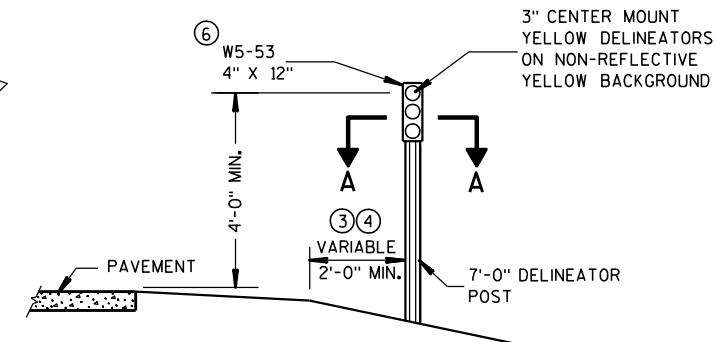
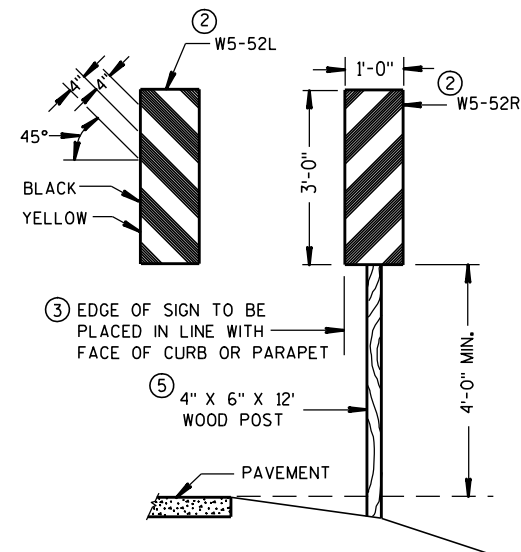
APPROVED  
5/23/00 /S/ Chester J. Neer  
DATE CHIEF SIGNS AND MARKINGS  
FHWA



### SITUATION 1

WARRANTING CRITERION:

BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET



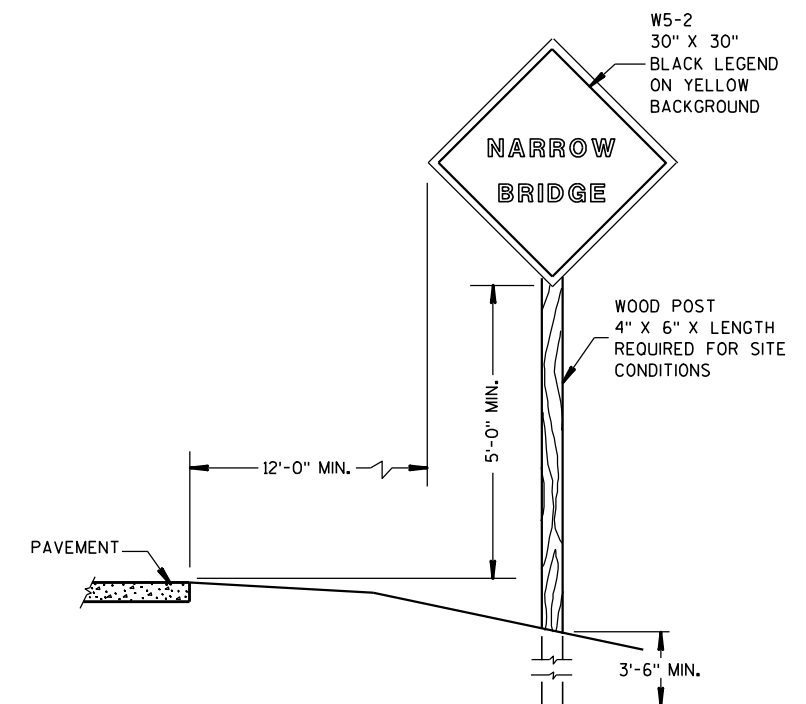
### OBJECT MARKER PLACEMENT

### GENERAL NOTES

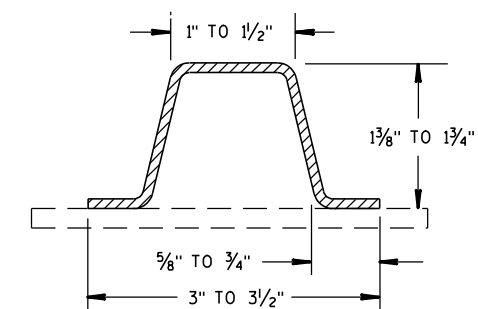
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R AND W5-52L SHALL BE COVERED WITH TYPE H REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ④ OBJECT MARKERS (W5-53) SHALL BE LOCATED ALONG A LINE FLARED AWAY FROM THE BRIDGE CORNER TO DELINEATE THE NARROWING OF THE SHOULDER OR BERM.
- ⑤ A 12 FOOT DELINEATOR POST MAY BE USED INSTEAD OF A WOOD POST.
- ⑥ NON-BID ITEM. INCIDENTAL TO OTHER ITEMS.

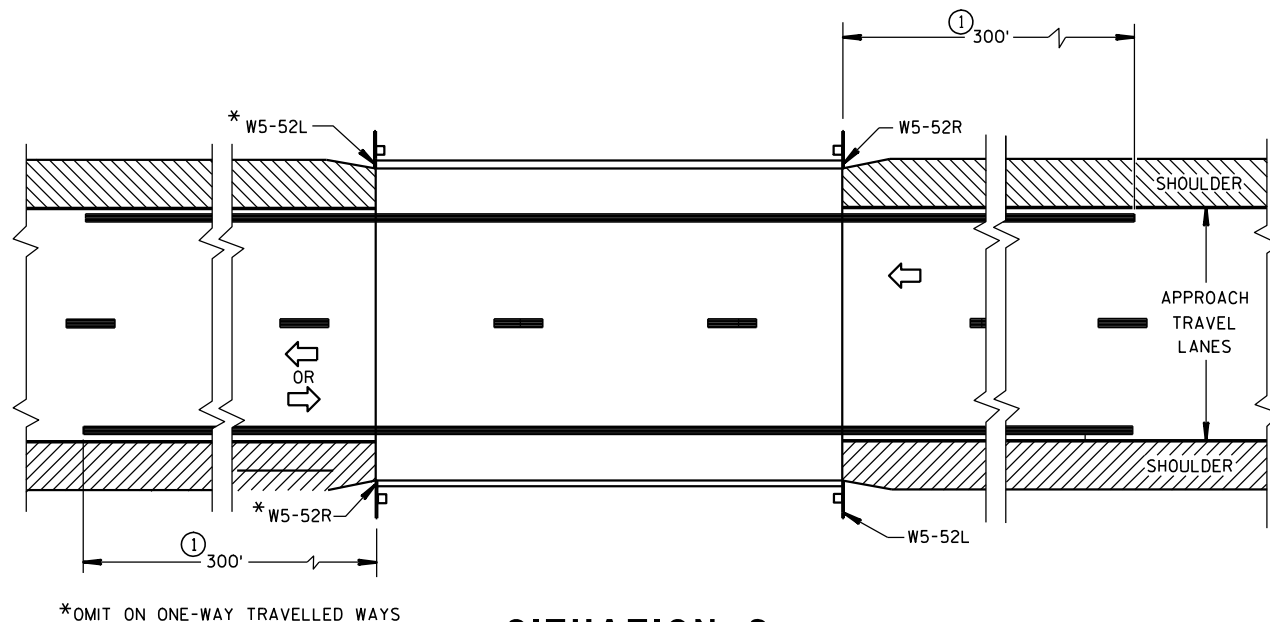


### SIGN PLACEMENT



### SECTION A-A

(MINIMUM WEIGHT 1.9 LBS. PER FT. AFTER GALVANIZING)



### SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.

### SIGNING & MARKING FOR TWO LANE BRIDGES

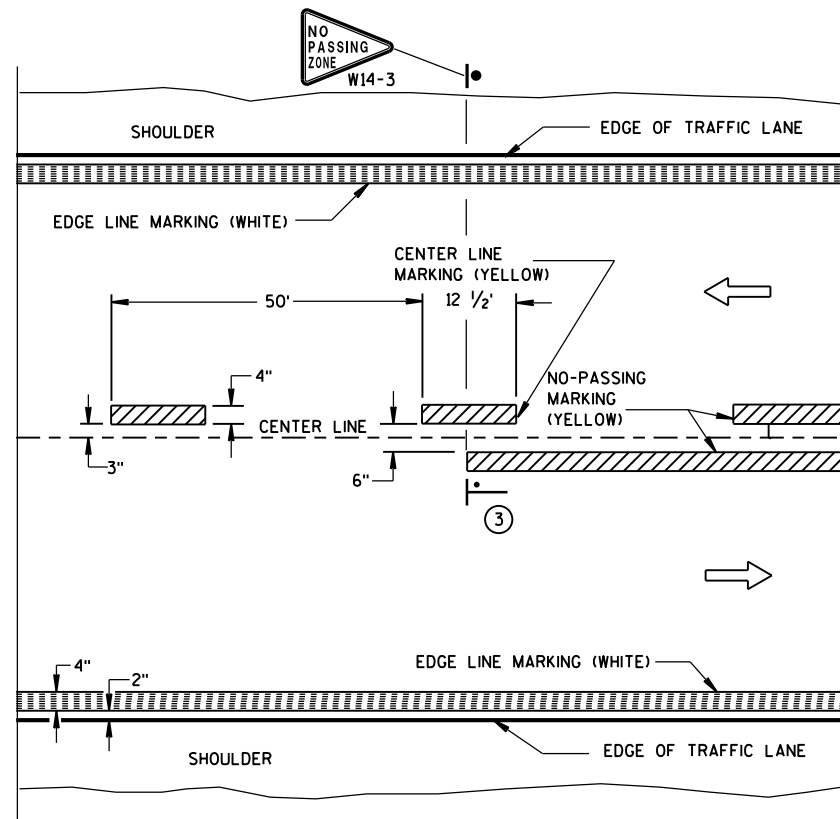
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DEPARTMENT OF TRANSPORTATION

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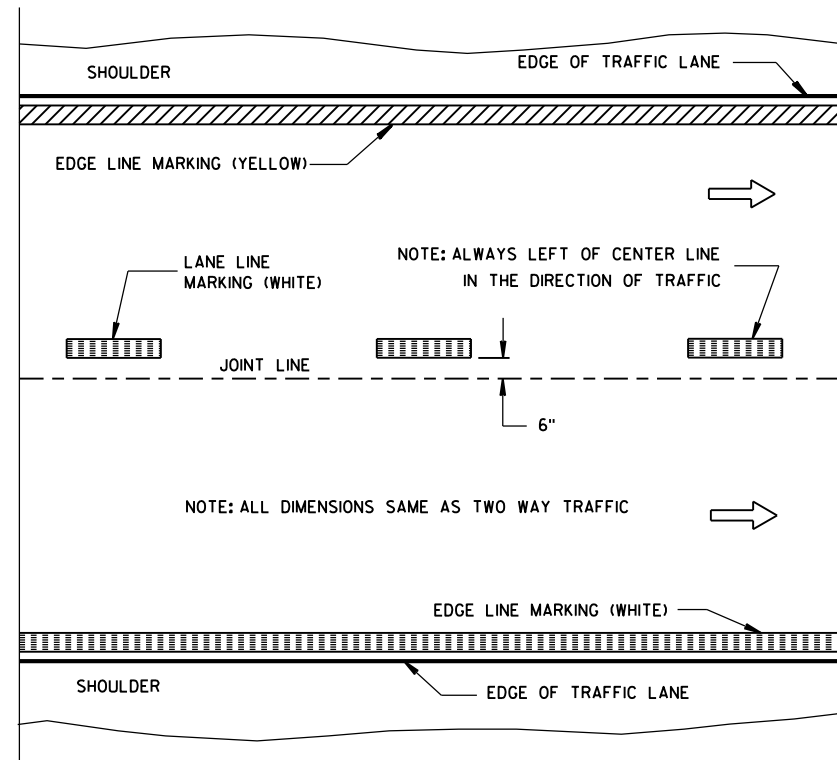
9/5/06  
DATE

FHWA

/S/ Thomas N. [Signature]  
STATE TRAFFIC ENGINE 120 SIGN

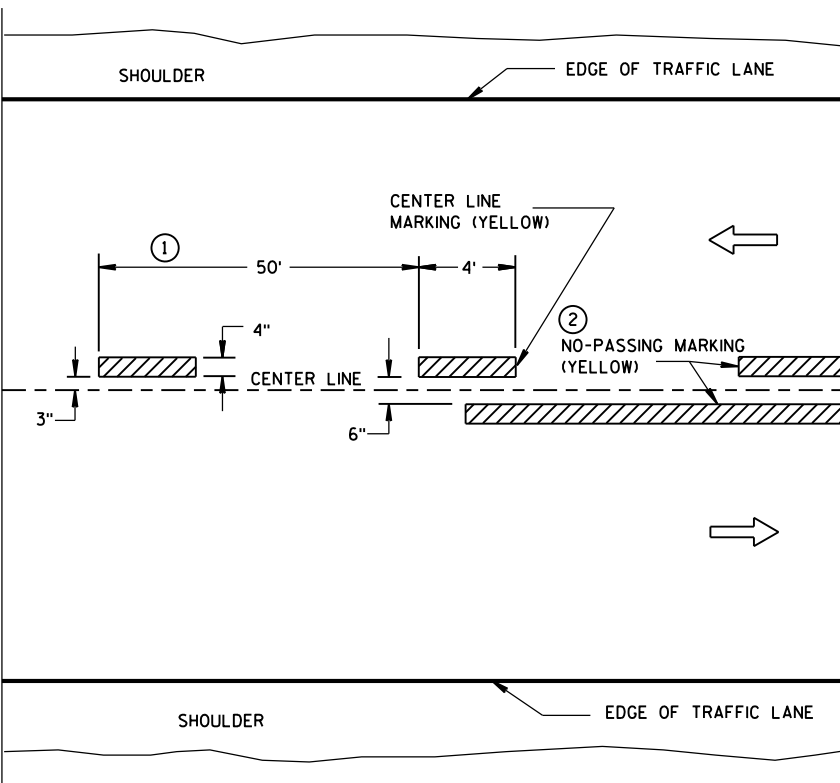


TWO WAY TRAFFIC

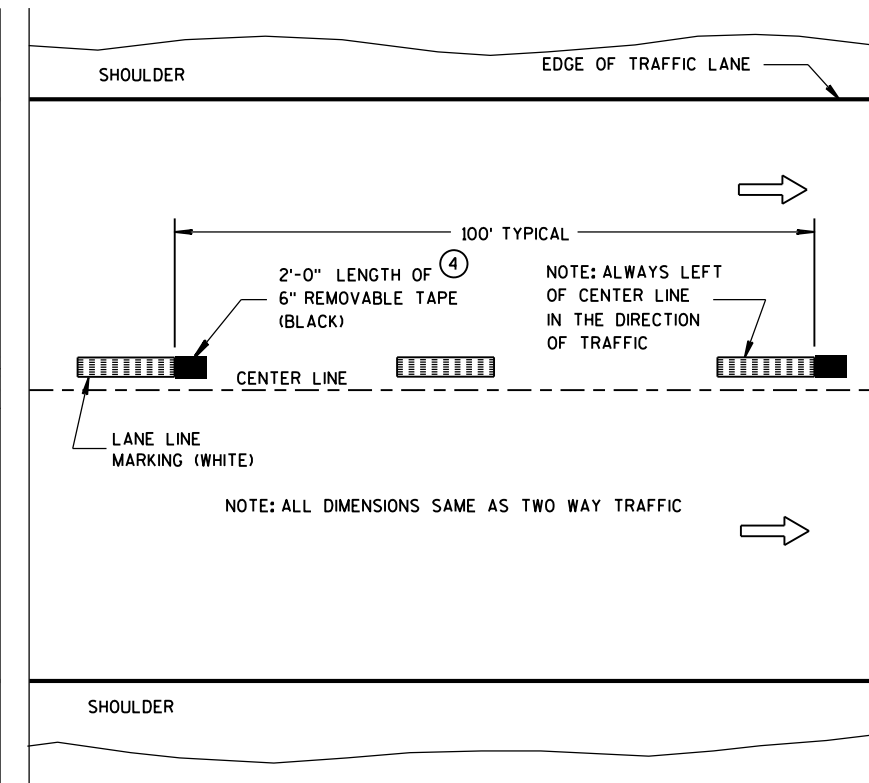


ONE WAY TRAFFIC

## PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING  
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

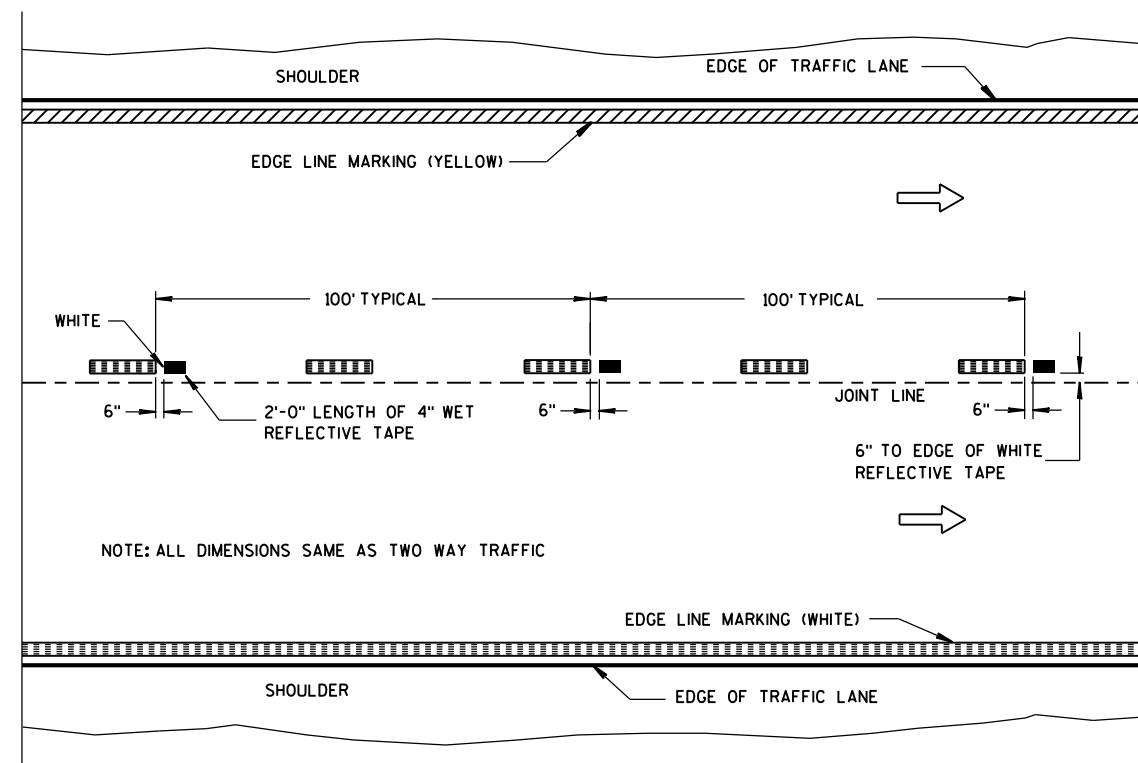
## GENERAL NOTES

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

- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

## NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO  
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

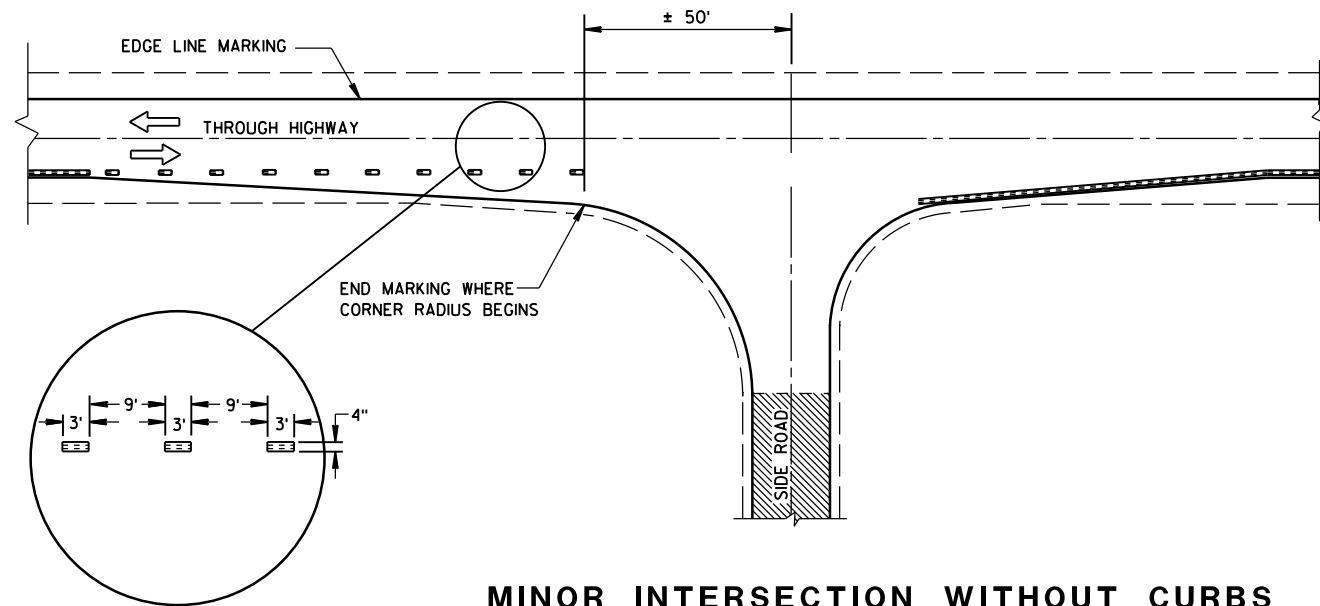
## LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING  
(MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

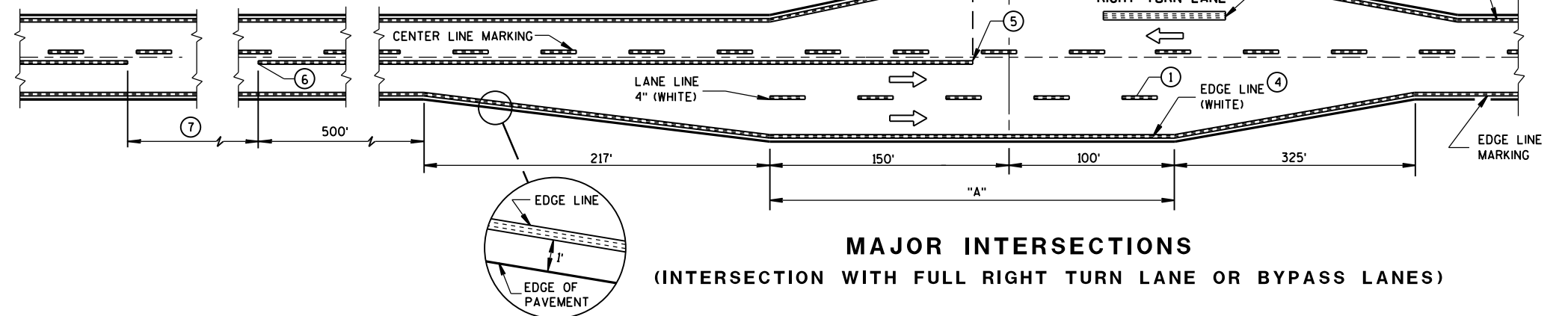
APPROVED  
10-1-2012 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINE 121 :SIGN  
FHWA



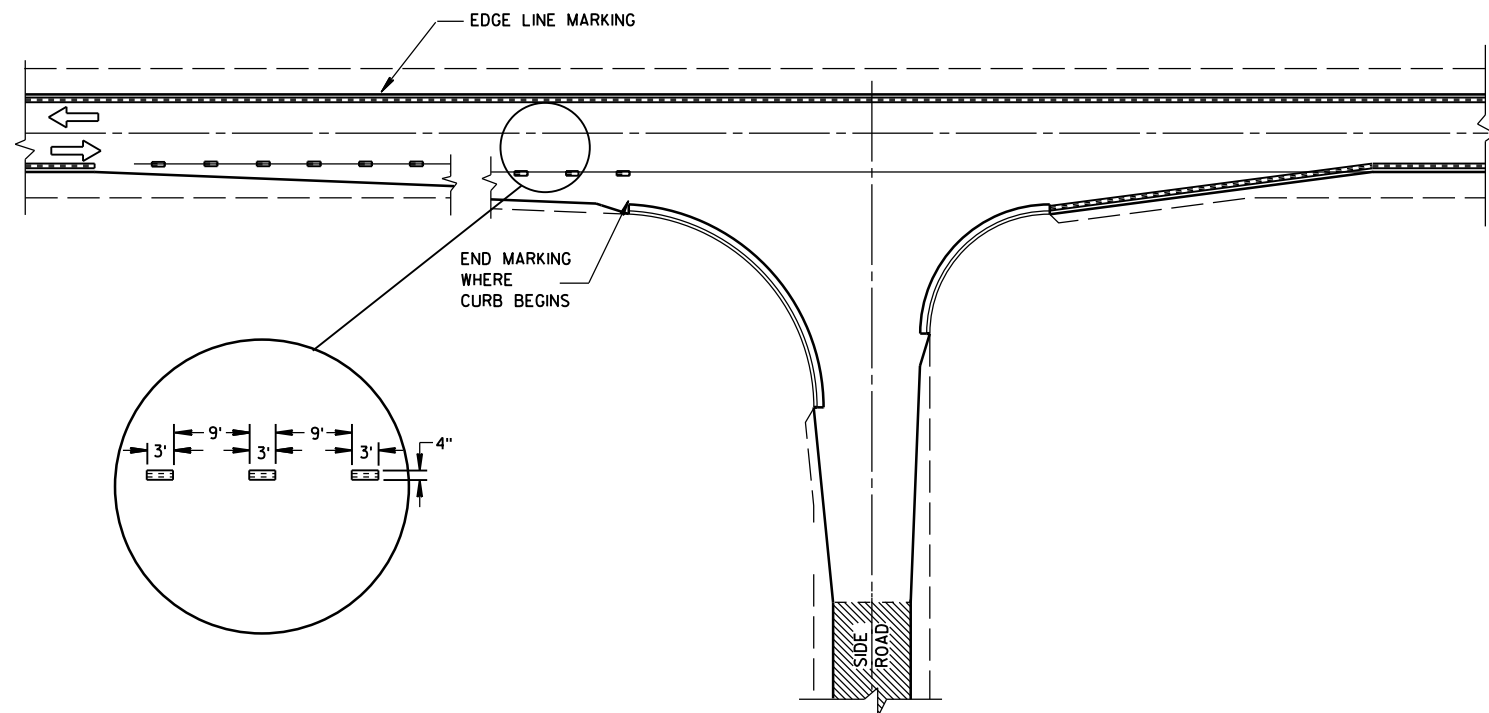
**MINOR INTERSECTION WITHOUT CURBS**

⑦

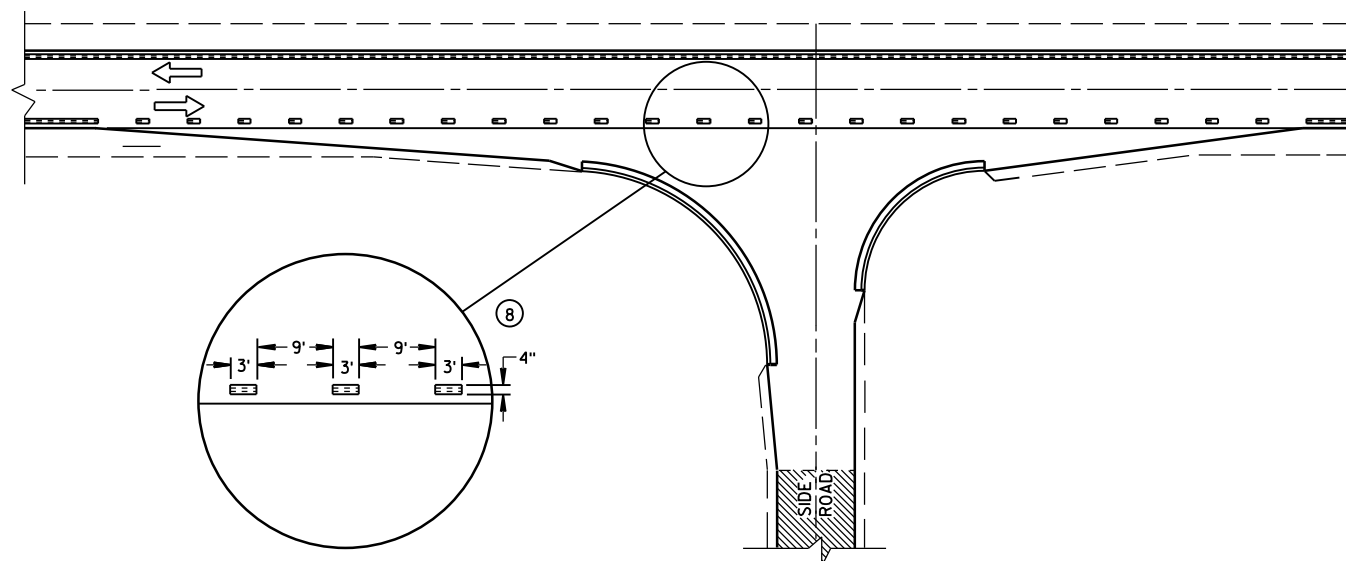
| POSTED SPEED (MPH) | MINIMUM DISTANCE BETWEEN ZONES (FEET) |
|--------------------|---------------------------------------|
| 25 - 30            | 528                                   |
| 35 - 40            | 528                                   |
| 45 - 50            | 686                                   |
| 55                 | 792                                   |



**MAJOR INTERSECTIONS**  
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



**MINOR INTERSECTION WITH CURBS**  
(TYPICAL MARKING)



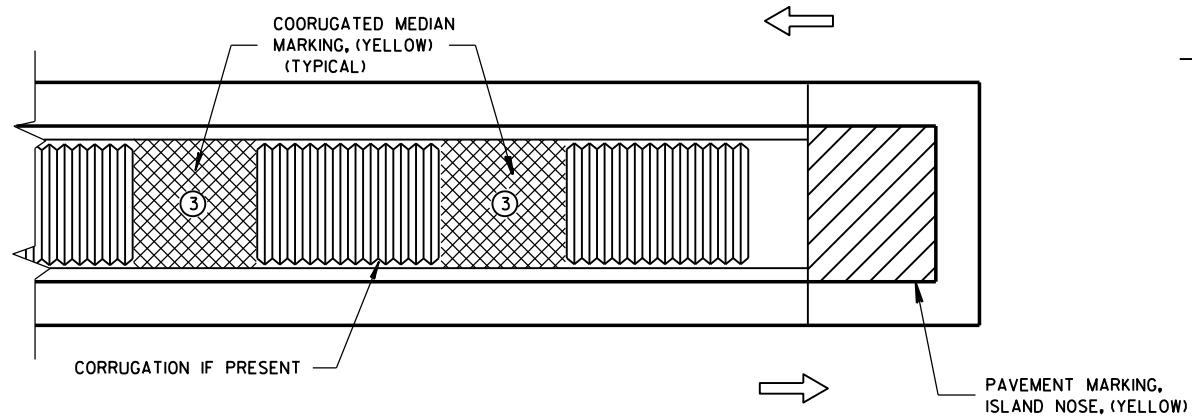
**MINOR INTERSECTION WITH CURBS**  
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

## GENERAL NOTES

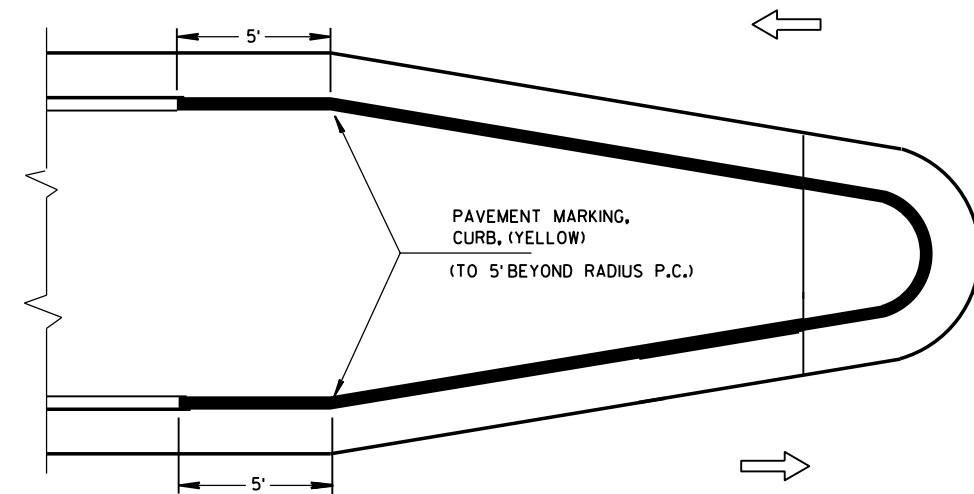
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
  - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
  - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
  - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
  - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
  - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
  - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
  - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL ( → ) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING  
(INTERSECTIONS)

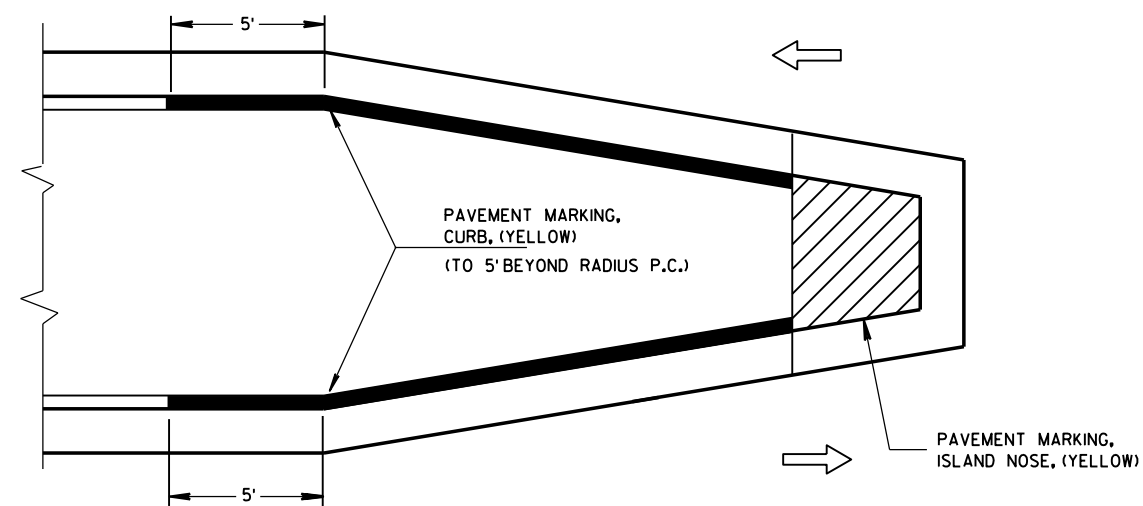
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 122



**MEDIAN ISLAND WITH SQUARE BLUNT NOSE**

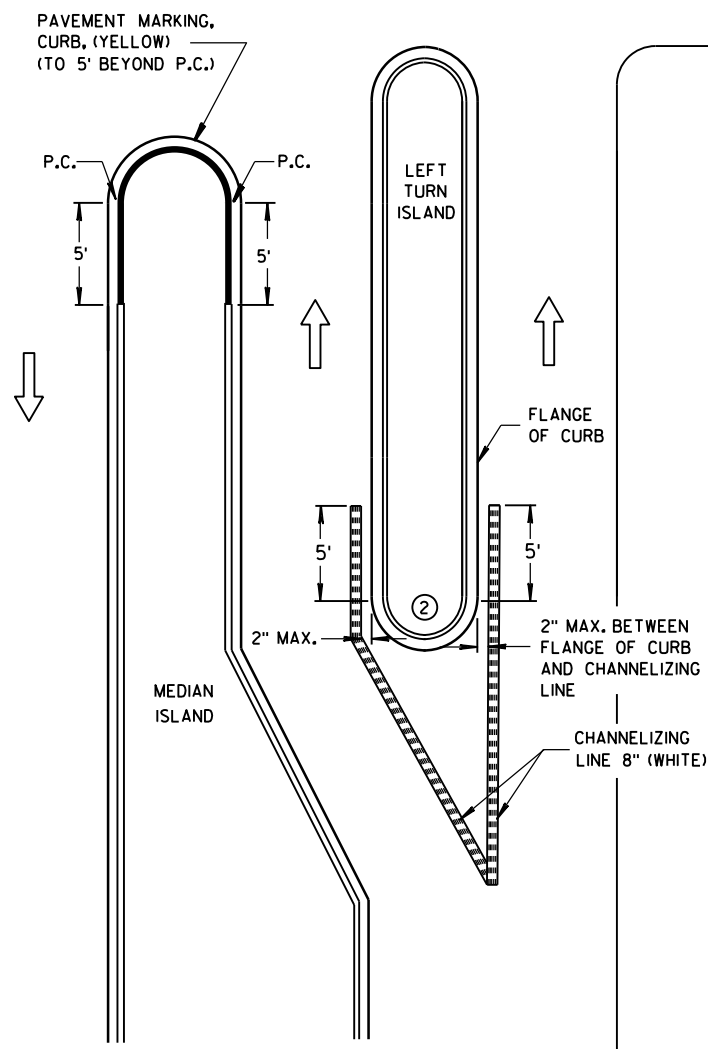


**MEDIAN ISLAND WITH ROUND BLUNT NOSE**



**MEDIAN ISLAND WITH SLOPED NOSE**

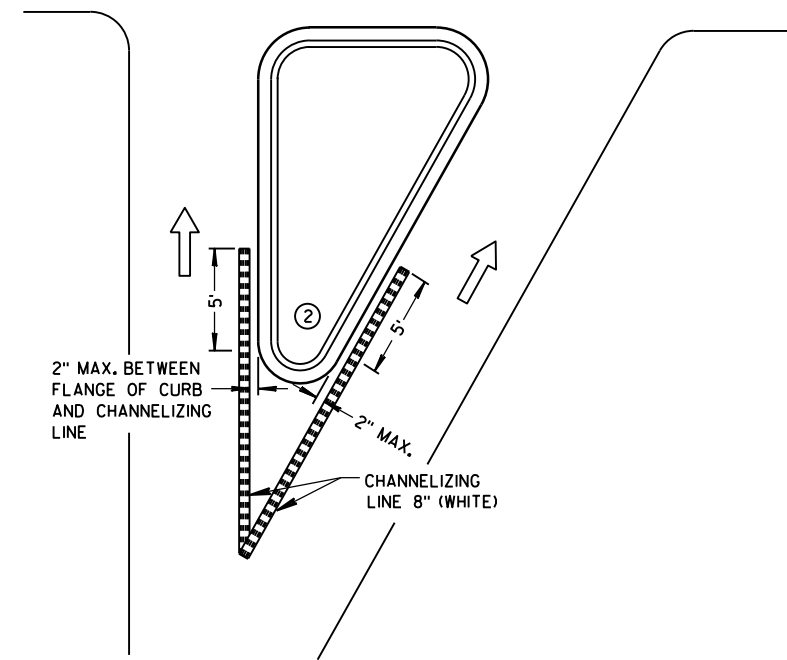
**TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS**



**LEFT TURN & MEDIAN ISLAND**

**GENERAL NOTES**

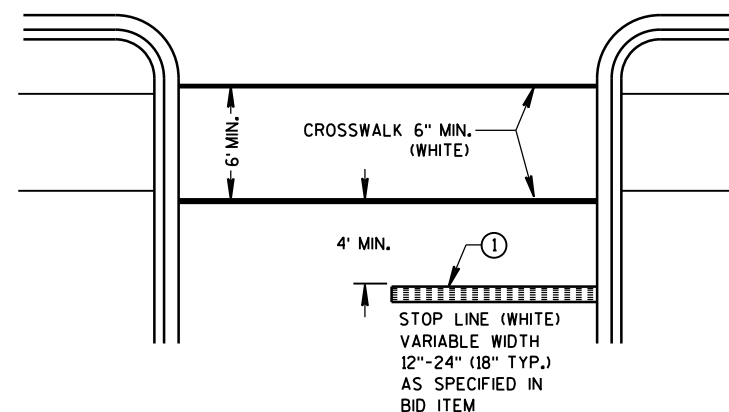
- ① STOP LINE IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ② DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- ③ WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN, THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



**RIGHT TURN ISLAND**

**LEGEND**

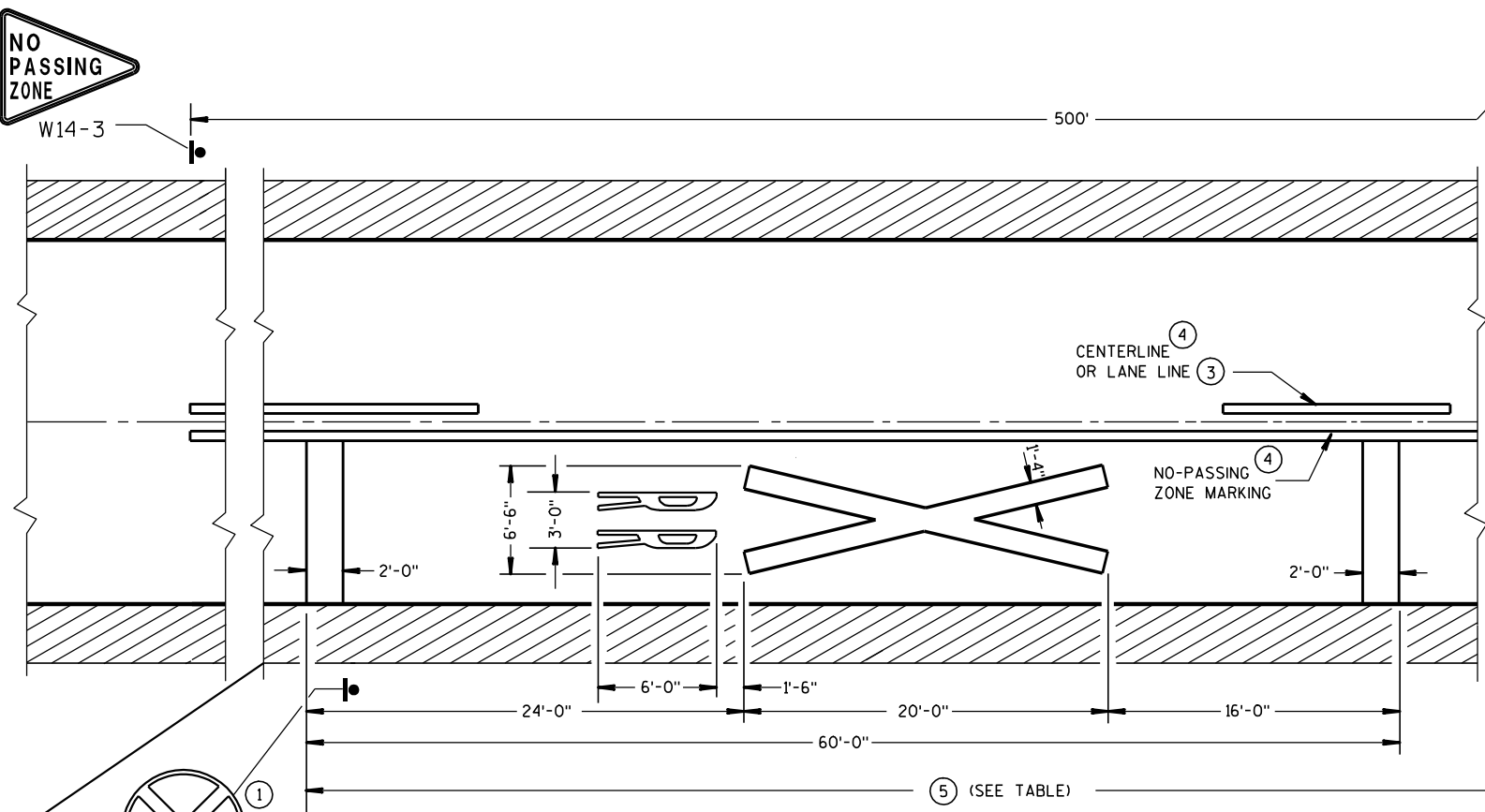
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL



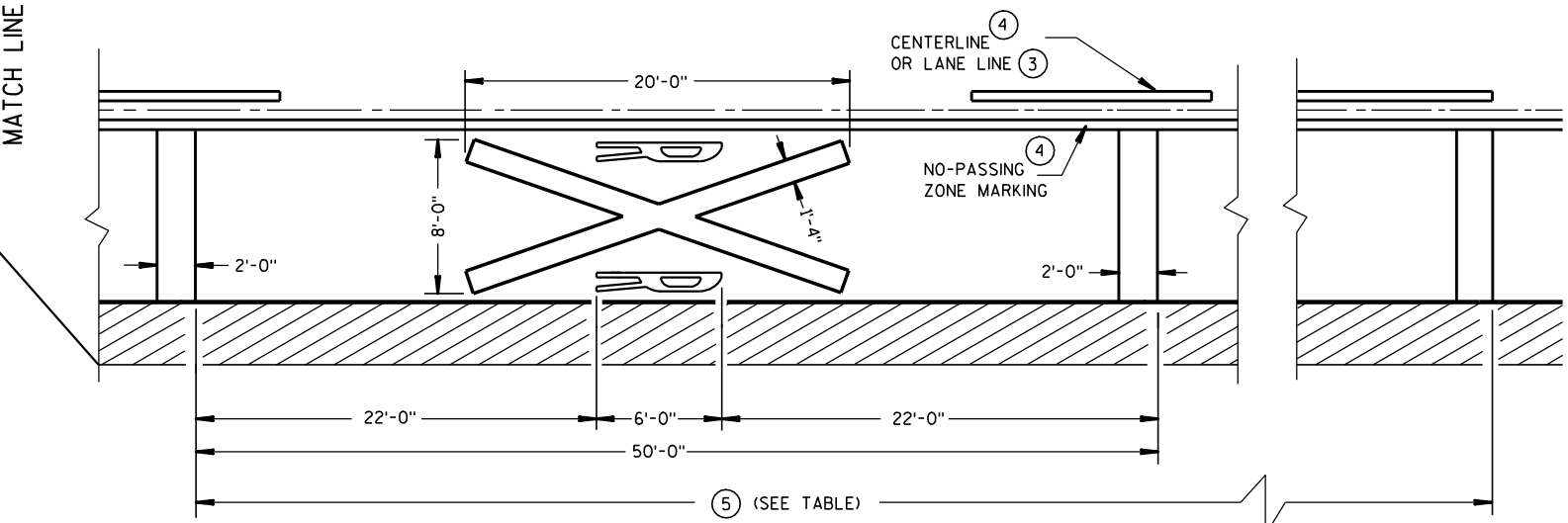
**STOP LINE AND CROSSWALK**

**PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 123



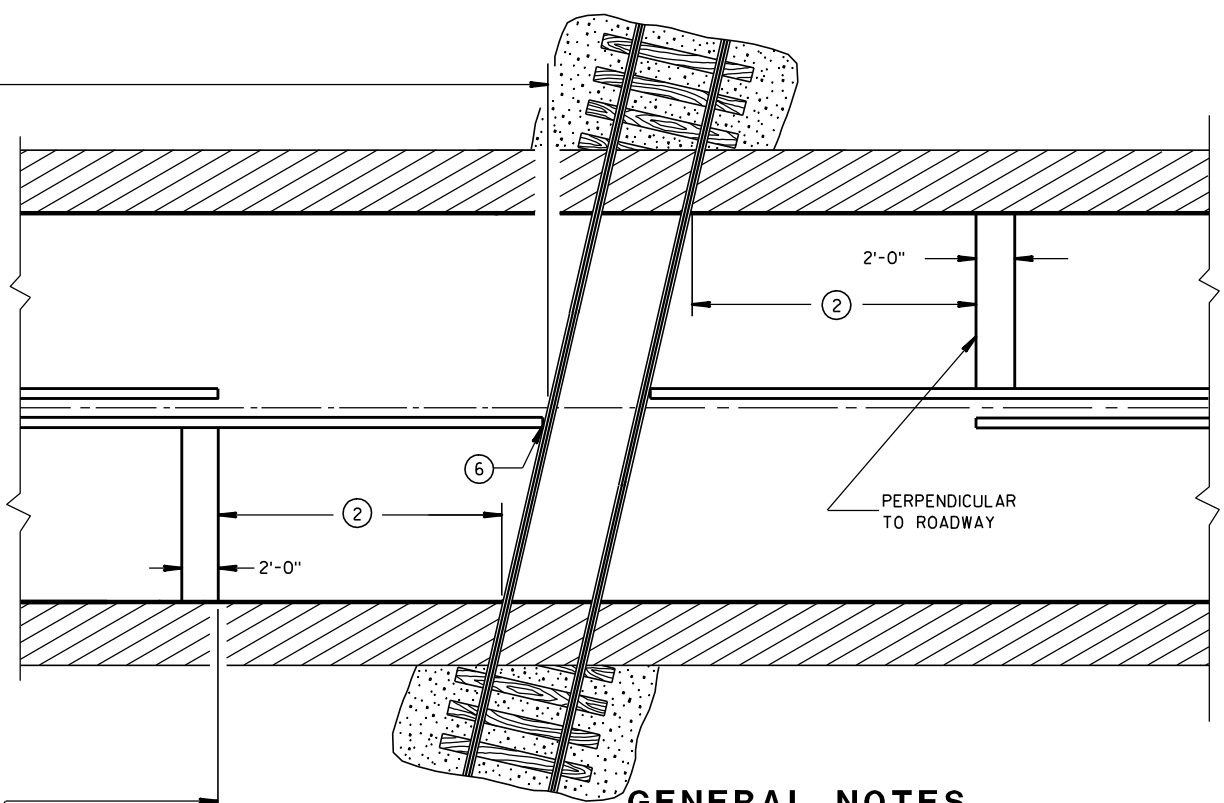
PREFERRED PAVEMENT MARKING



ALTERNATE PAVEMENT MARKING

| Posted Speed (M.P.H.) | Dimension Range (Feet) |
|-----------------------|------------------------|
| 25                    | 150*- 250              |
| 30                    | 200*- 300              |
| 35                    | 250*- 450              |
| 40                    | 300*- 500              |
| 45                    | 400*- 650              |
| 50                    | 550*- 800              |
| 55                    | 750*- 1000             |
| 60                    | 1000*- 1250            |
| 65                    | 1000*- 1250            |

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



GENERAL NOTES

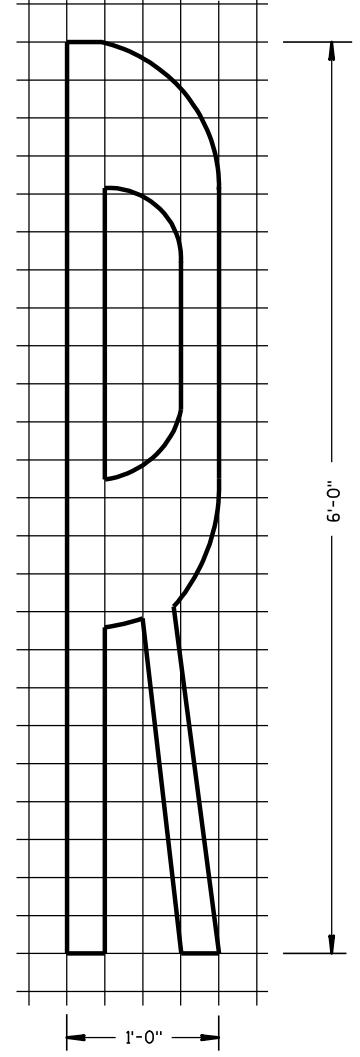
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A THREE-LANE ROADWAY SHOULD BE MARKED WITH A CENTERLINE FOR TWO-LANE APPROACH OPERATION ON THE APPROACH TO A CROSSING.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE. ALL LETTERS AND SYMBOLS SHALL BE IN CONFORMANCE WITH THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" (ADOPTED BY THE FEDERAL HIGHWAY ADMINISTRATION).

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

- ① A PORTION OF THE PAVEMENT MARKING SYMBOL SHOULD BE DIRECTLY OPPOSITE THE ADVANCE WARNING SIGN (W10-1).
- ② MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
- ③ REFLECTIVE WHITE.
- ④ REFLECTIVE YELLOW 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
- ⑤ TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- ⑥ FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.



SIGNING AND PAVEMENT MARKING  
DETAILS FOR RAILROAD-HIGHWAY  
GRADE CROSSINGS

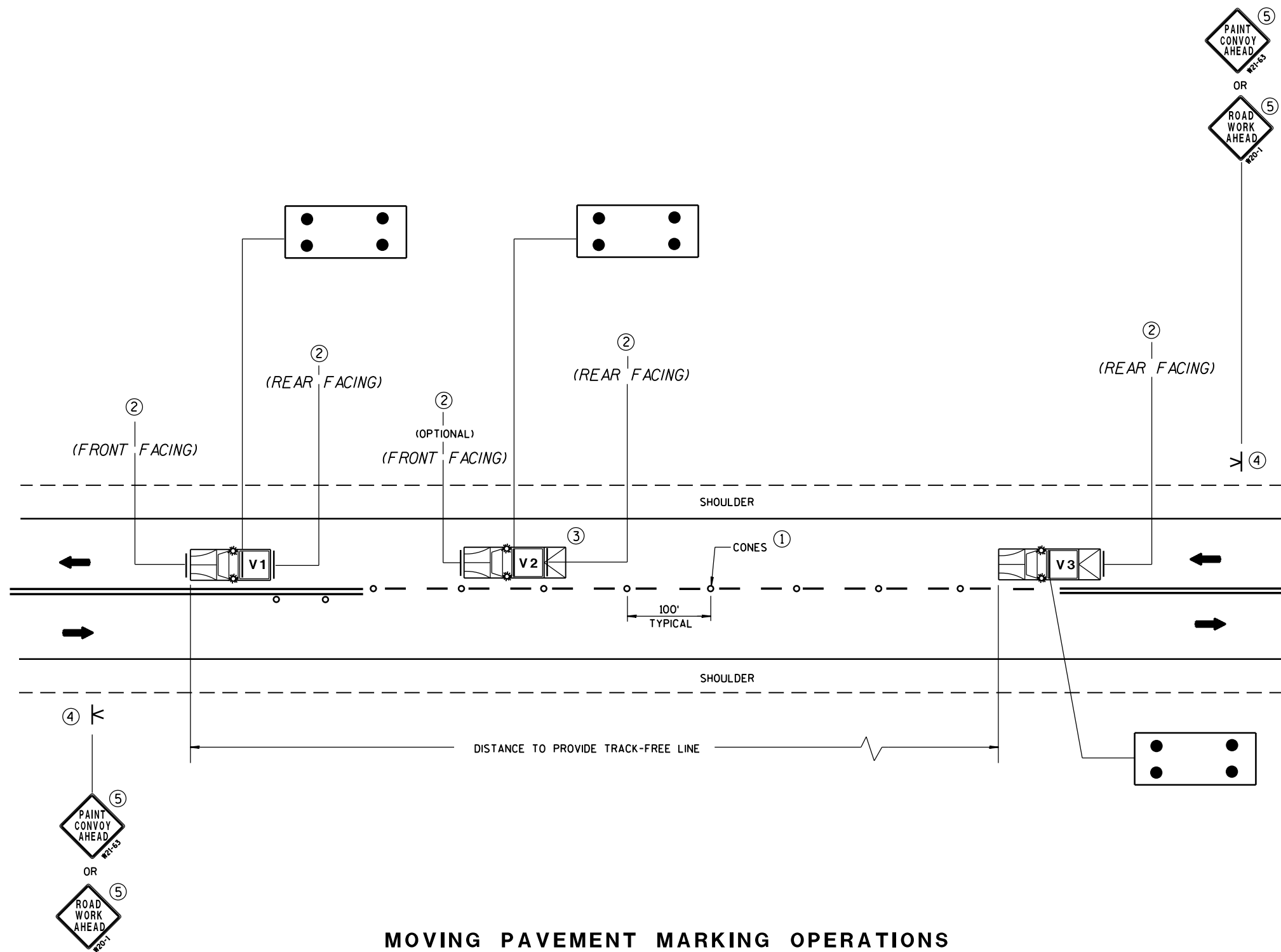
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
1-9-2012 /S/ Thomas N. [Signature]  
DATE STATE TRAFFIC ENGINEER 124 DESIGN  
FHWA

## 6



- S.D.D. 15 C 12-3**



## MOVING PAVEMENT MARKING OPERATIONS TWO-LANE TWO-WAY ROADWAY

### GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

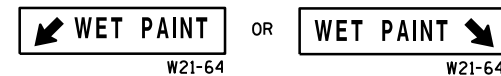
THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.



③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.

④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

### LEGEND

**V1** LEAD VEHICLE

**V2** SHADOW VEHICLE

**V3** TRAIL VEHICLE WITH TMA

**TMA** TRUCK-MOUNTED ATTENUATOR

**K** SIGN ON PORTABLE SUPPORT

**→** DIRECTION OF TRAVEL

**○** CONES

**⋮** FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING  
OPERATION  
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

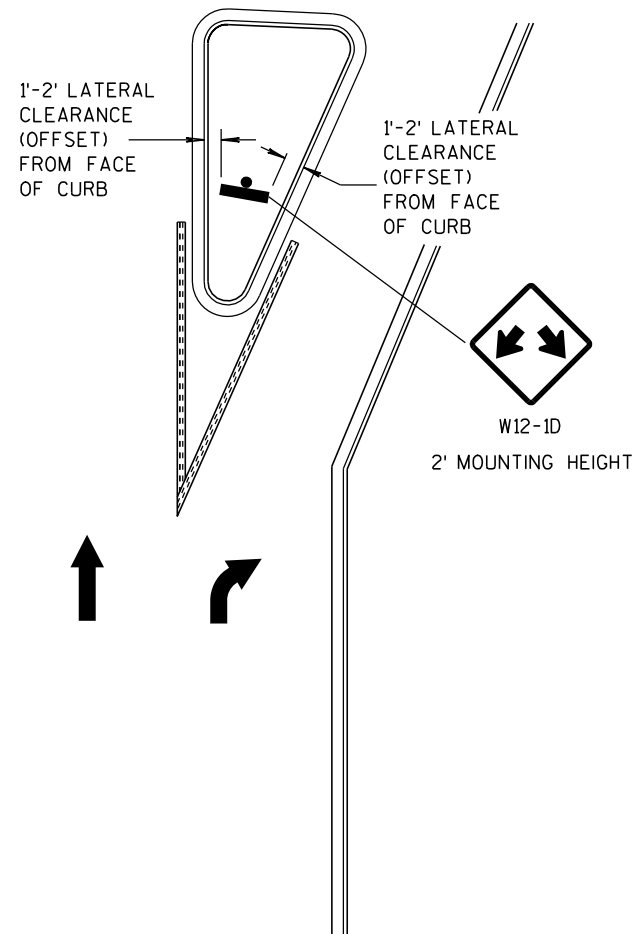
12/6/2011  
DATE

FHWA

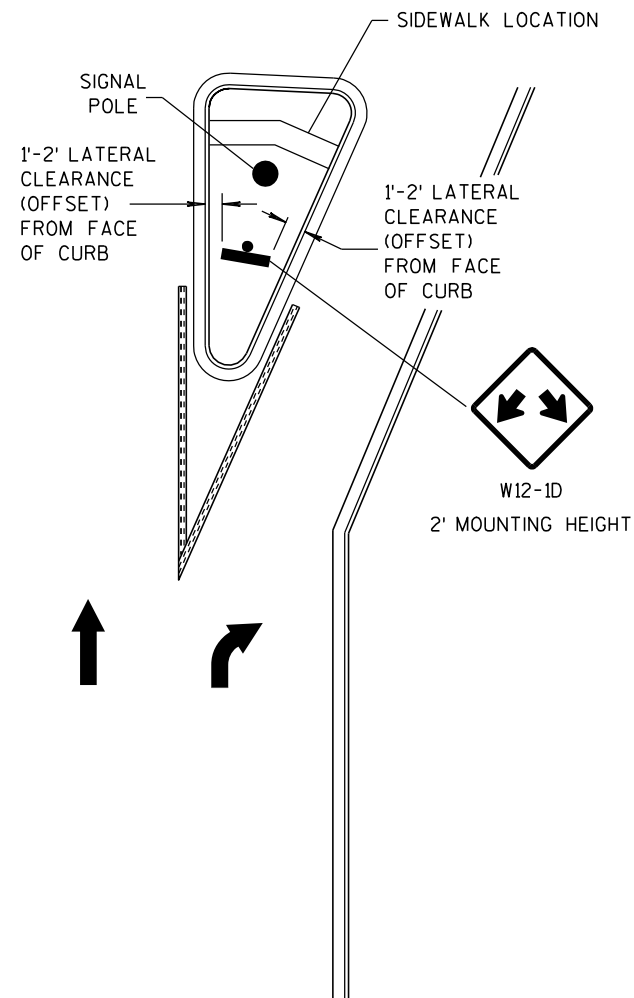
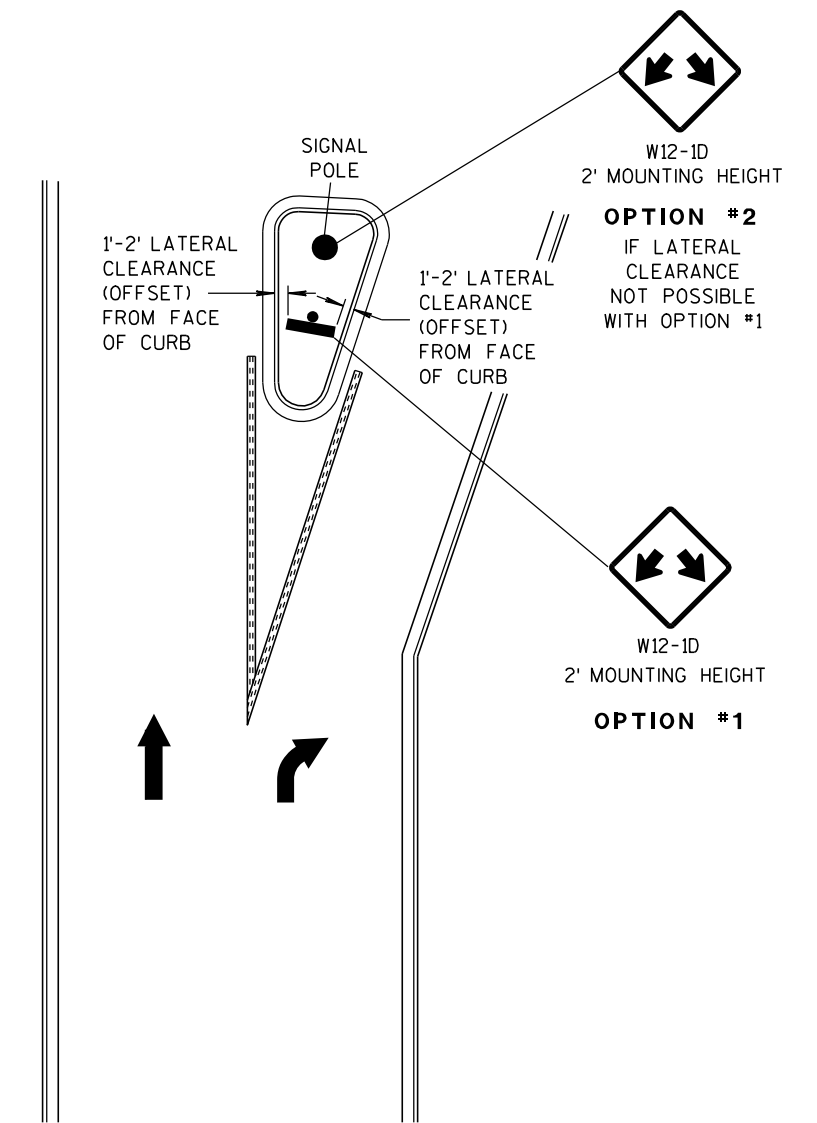
/s/ Thomas N. Notbohm  
STATE TRAFFIC ENGINEER

126

SIGN



LARGE RIGHT TURN ISLAND

LARGE RIGHT TURN ISLAND  
WITH SIGNAL POLE

SMALL RIGHT TURN ISLAND

**GENERAL NOTE**

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

**DOUBLE ARROW WARNING SIGN PLACEMENT****DOUBLE ARROW  
WARNING SIGN PLACEMENT**STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

10-22-08  
DATE

FHWA

/S/ Thomas N. Notbohm  
STATE TRAFFIC ENGINEER 127 IGN

GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

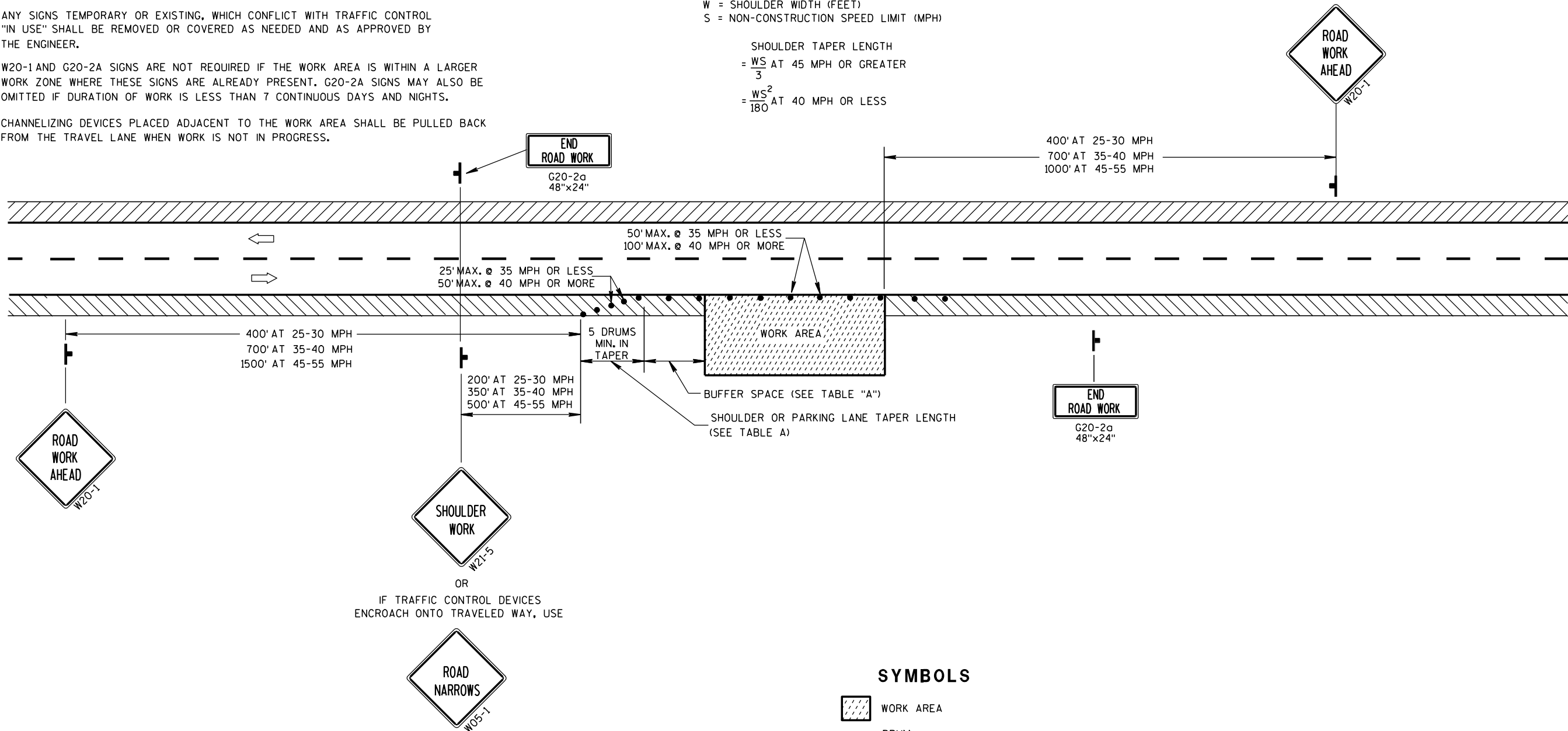
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

| SHOULDER TAPER LENGTH (FEET) |    |     |     |     | BUFFER SPACE (FEET) |
|------------------------------|----|-----|-----|-----|---------------------|
| S                            | W  | 4   | 6   | 8   |                     |
| 30                           | 20 | 30  | 40  | 50  | 85                  |
| 35                           | 30 | 45  | 55  | 70  | 120                 |
| 40                           | 40 | 55  | 75  | 90  | 170                 |
| 45                           | 60 | 90  | 120 | 150 | 220                 |
| 50                           | 70 | 100 | 135 | 170 | 280                 |
| 55                           | 75 | 110 | 150 | 185 | 335                 |

W = SHOULDER WIDTH (FEET)  
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

SHOULDER TAPER LENGTH  
=  $\frac{WS}{3}$  AT 45 MPH OR GREATER  
=  $\frac{WS^2}{180}$  AT 40 MPH OR LESS



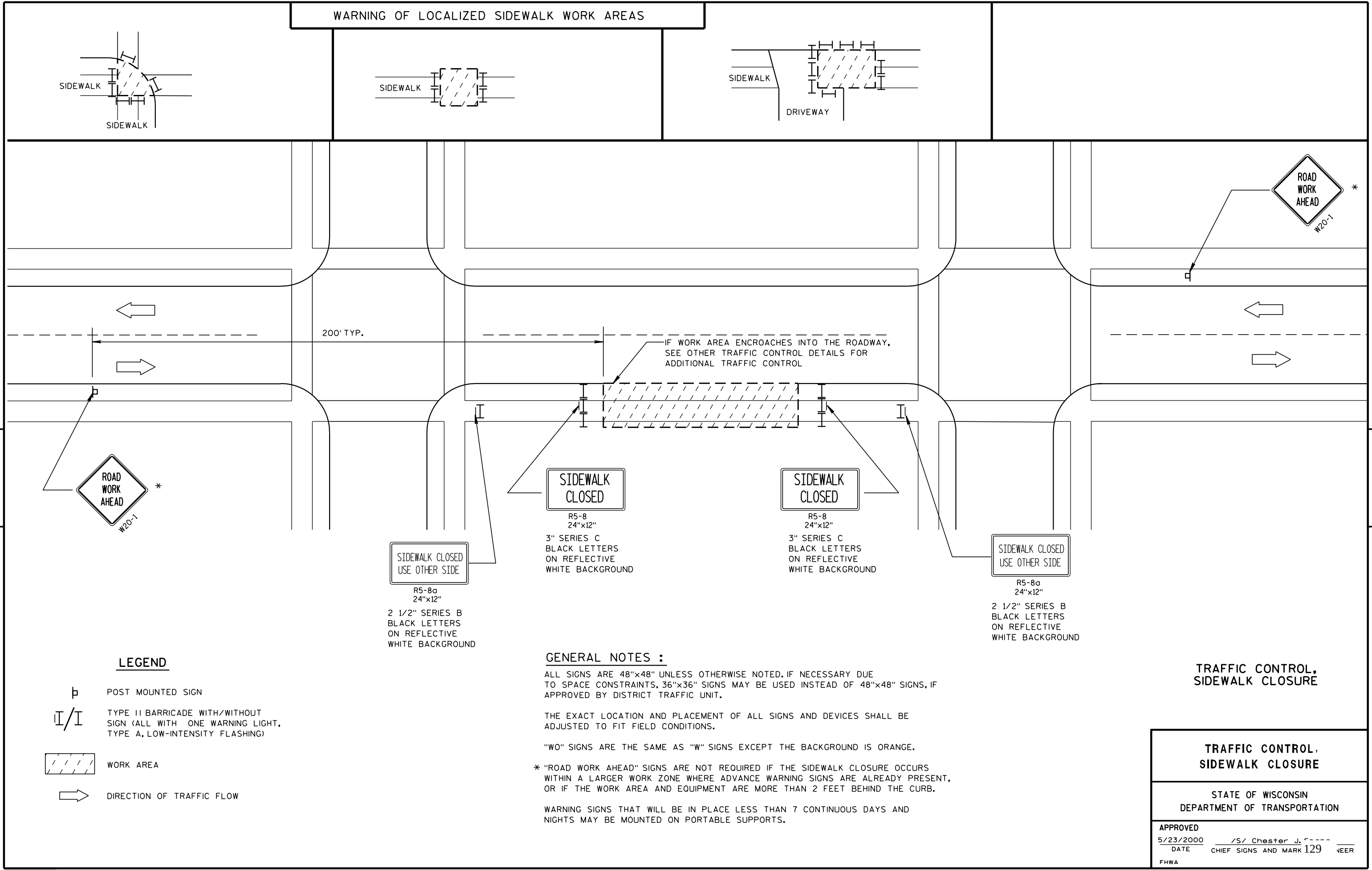
SYMBOLS

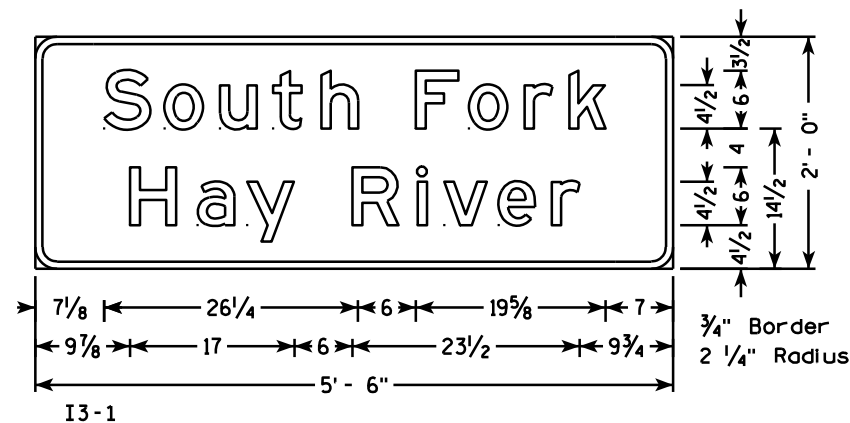
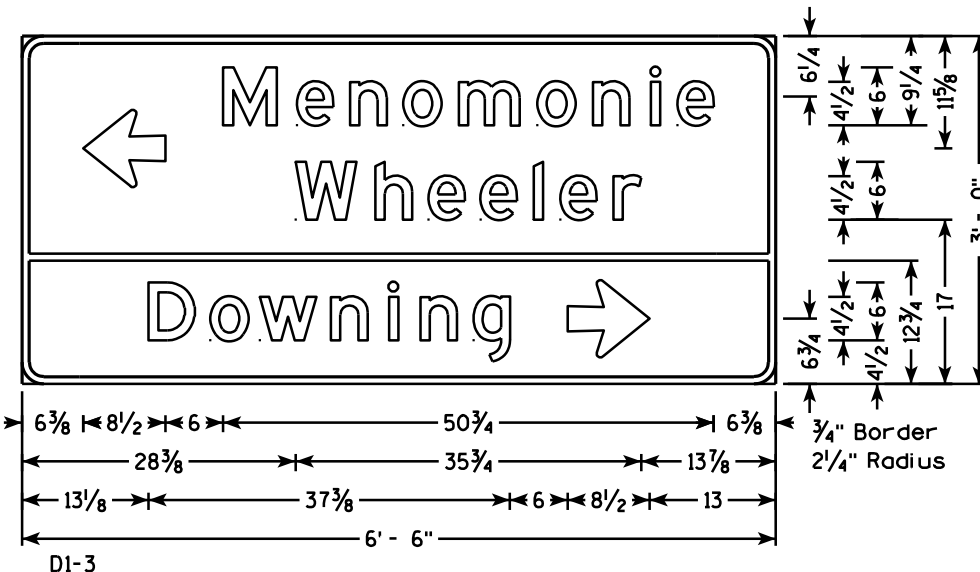
- WORK AREA
- DRUM
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL,  
WORK ON SHOULDER OR  
PARKING LANE,  
UNDIVIDED ROADWAY

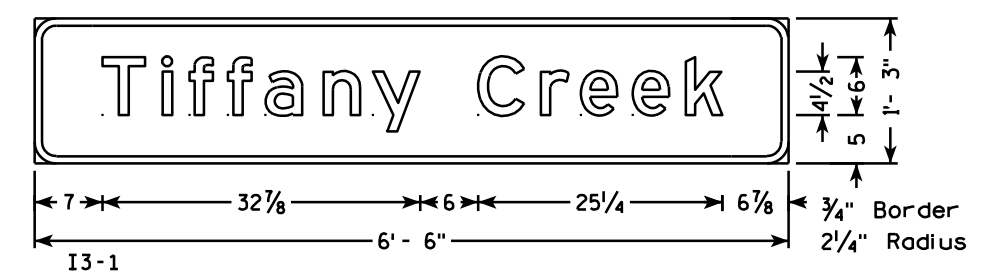
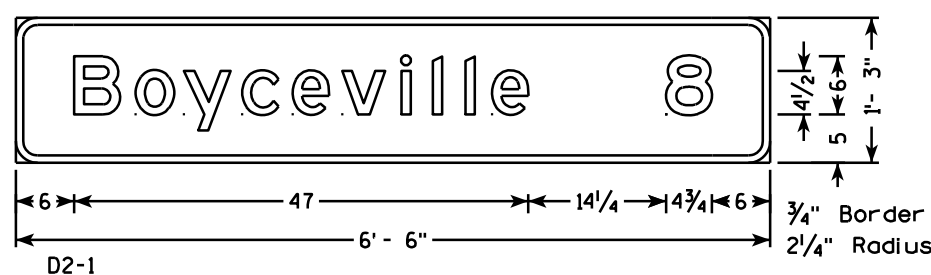
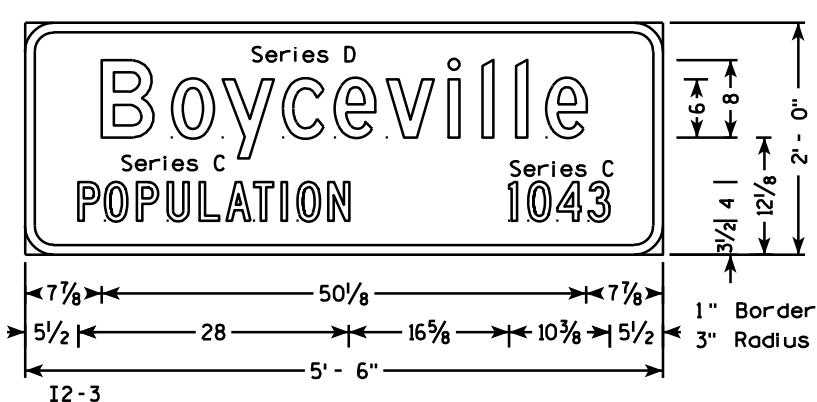
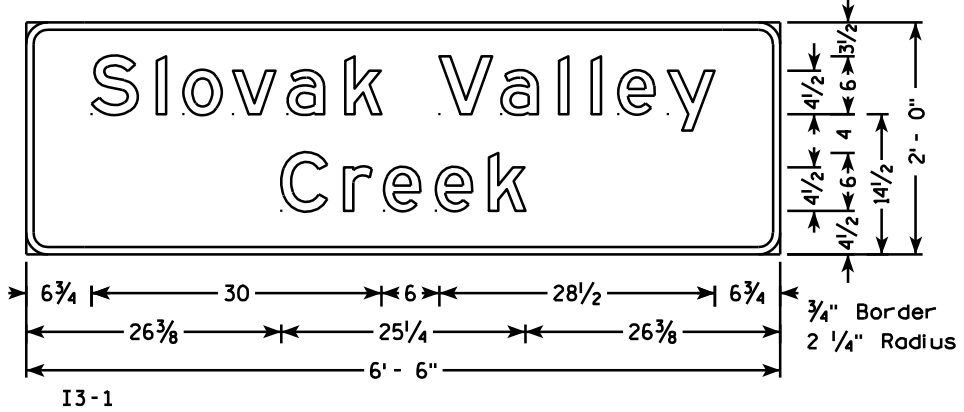
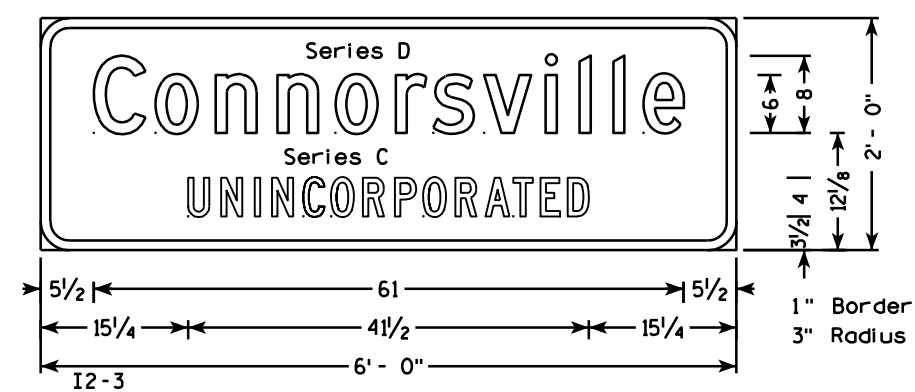
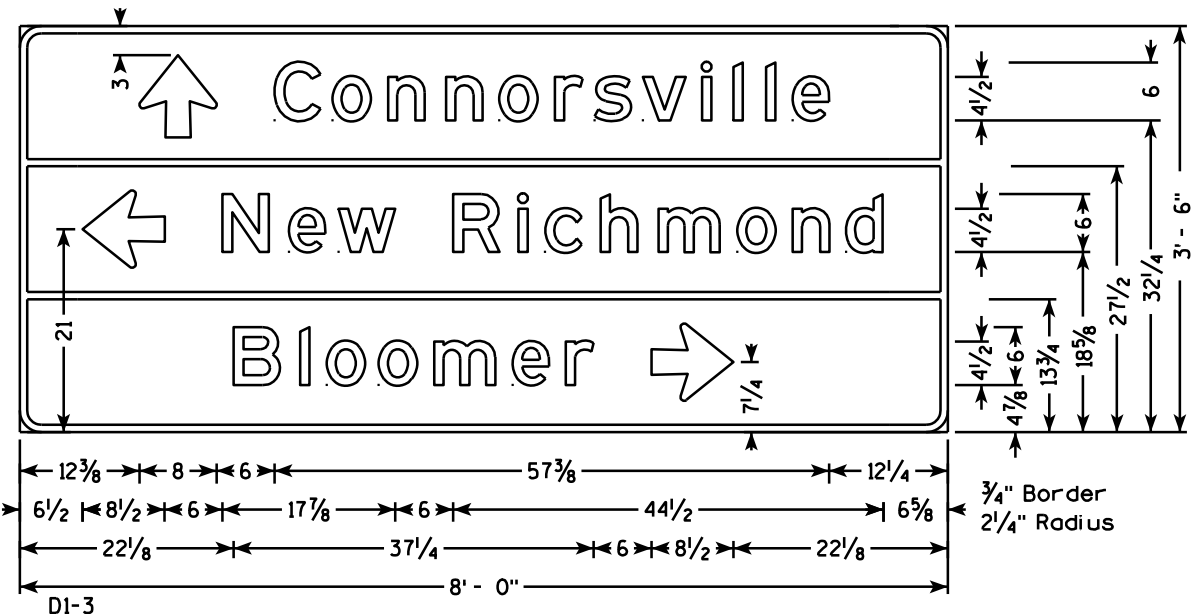
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/23/00 /S/ Chester J. NNEER  
DATE CHIEF SIGNS AND MARK 128  
FHWA

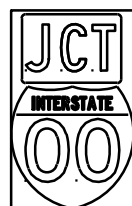




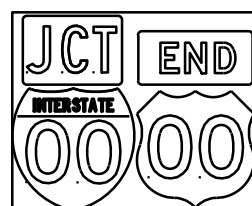
- NOTES**
1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
  2. Color:  
Background - Green  
Message - White
  3. Message Series - E except as noted



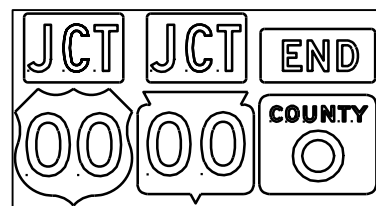
## TYPICAL ASSEMBLIES



J1-1



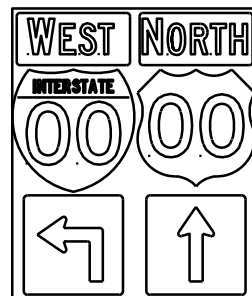
J1-2



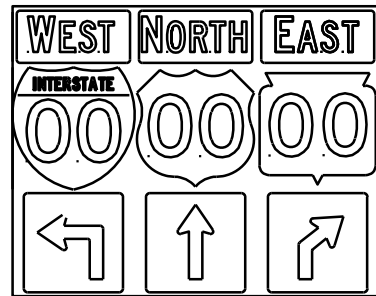
J1-3



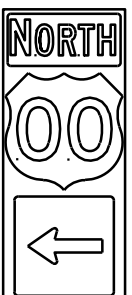
J2-1



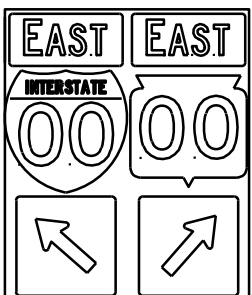
J2-2



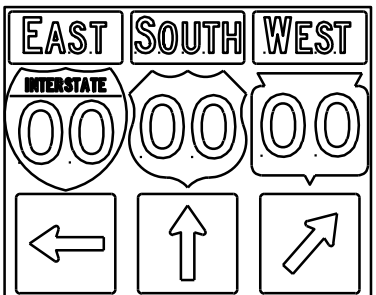
J2-3



J3-1



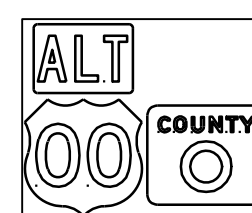
J3-2



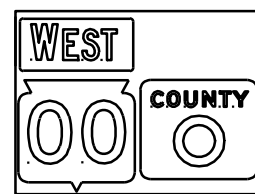
J3-3



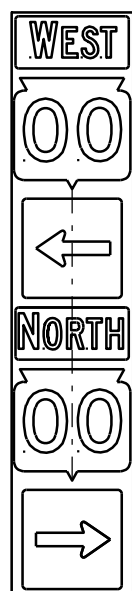
J4-1



J4-2

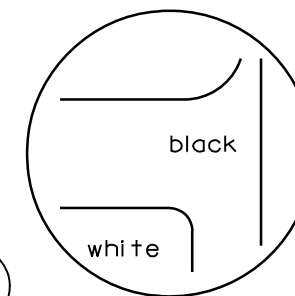
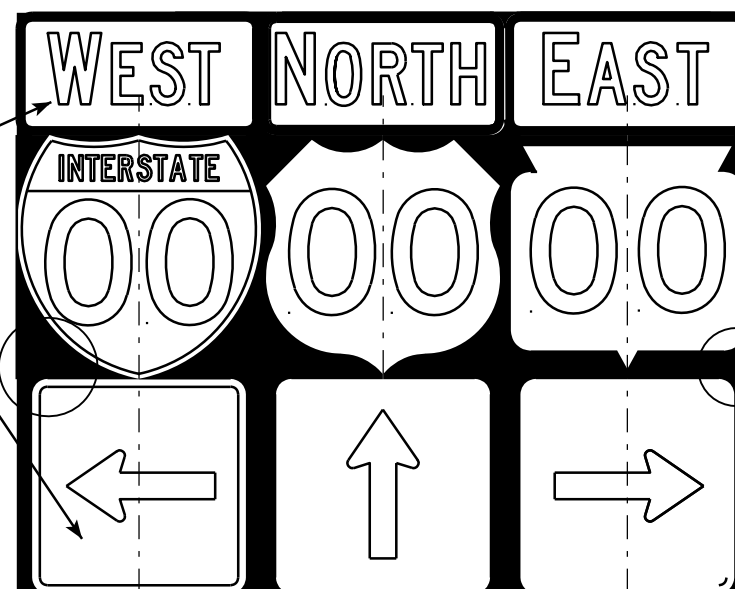
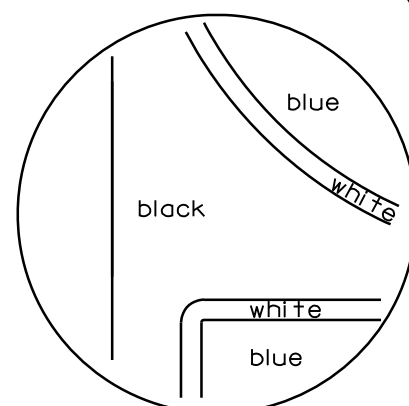


J4-2



JV

[blue background with interstate]



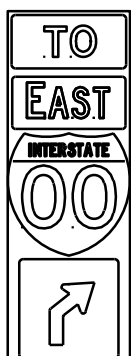
[black background]



J13-1



J12-1



J32-1



J33-1



J23-1



J22-1

## NOTES

- Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - Black Non-reflective  
Message - see Note 5
- Message Series - See Note 5
- Corners shall be square since base material is plywood.
- The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
- Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
- Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
- Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
- Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.

## ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Matthew R. Rauch*  
For State Traffic Engineer

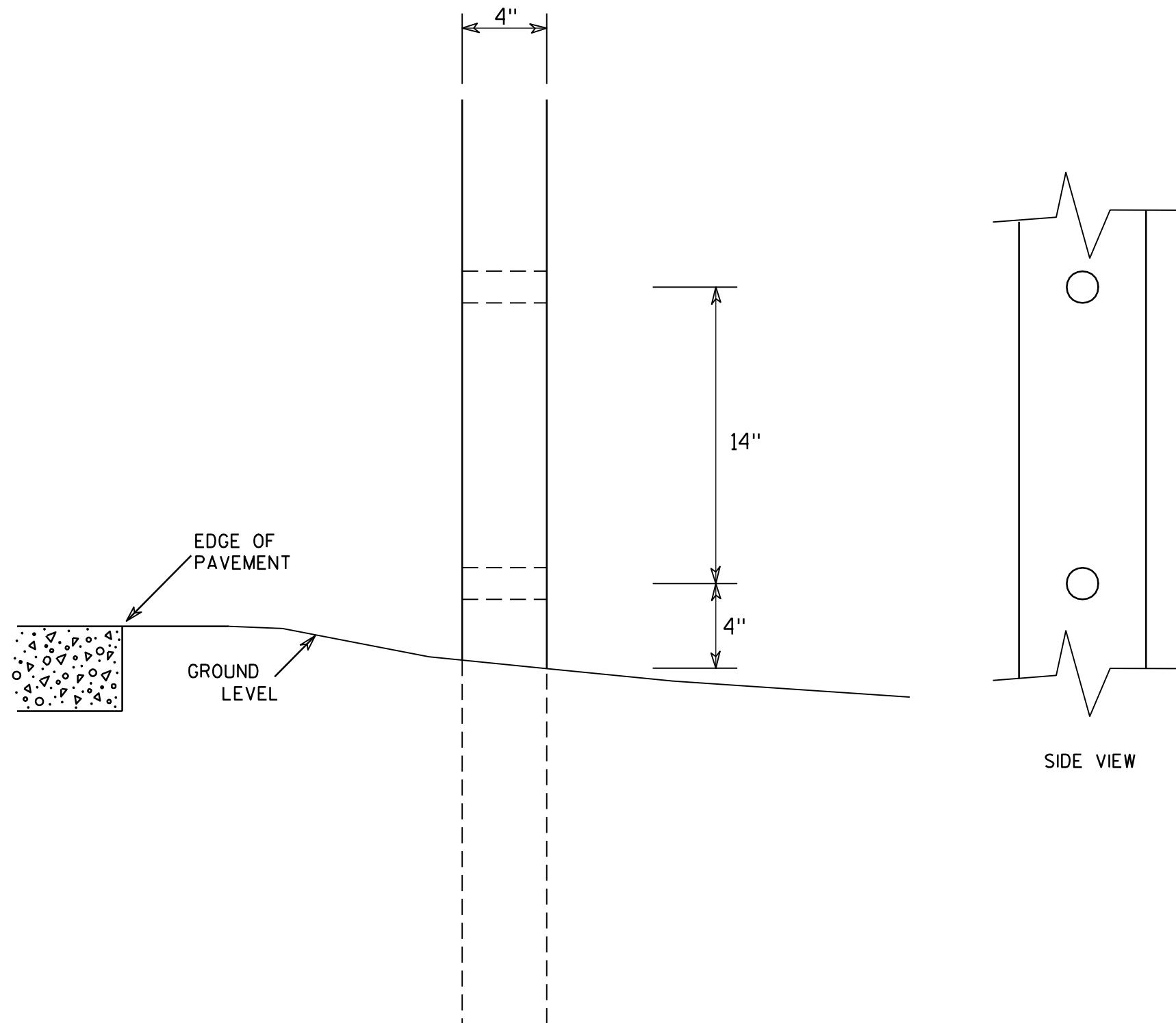
DATE 10/21/09

PLATE NO. A2-1S.6

PROJECT NO:

SHEET NO: 131

E



# GENERAL NOTES

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

## 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

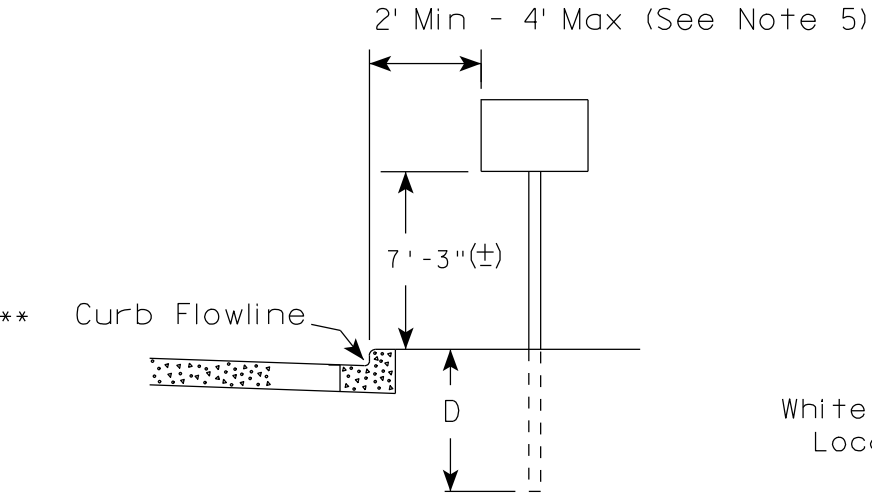
HWY:

COUNTY:

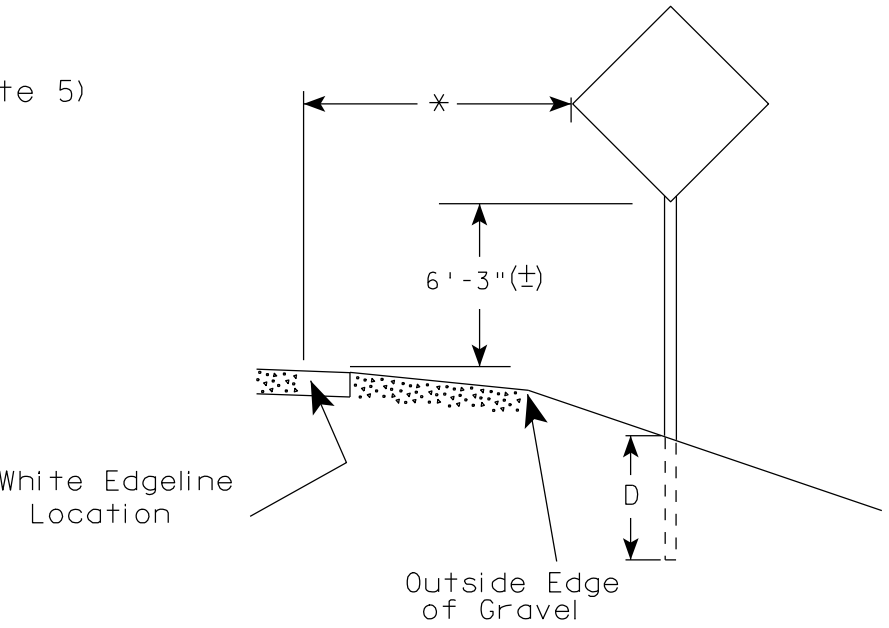
SHEET NO: 132

E

URBAN AREA



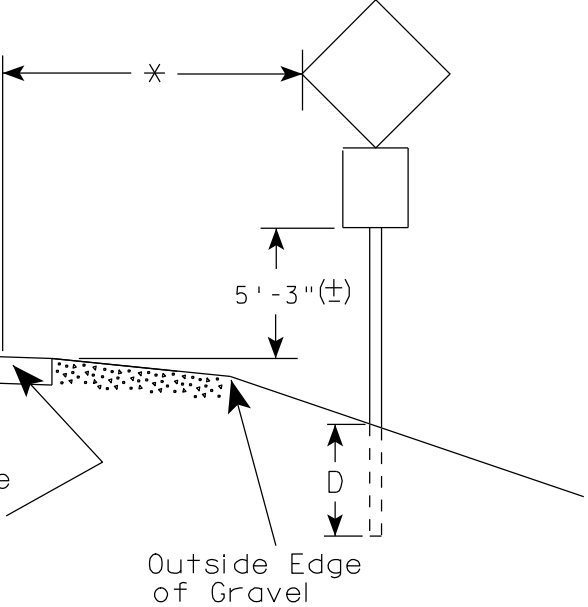
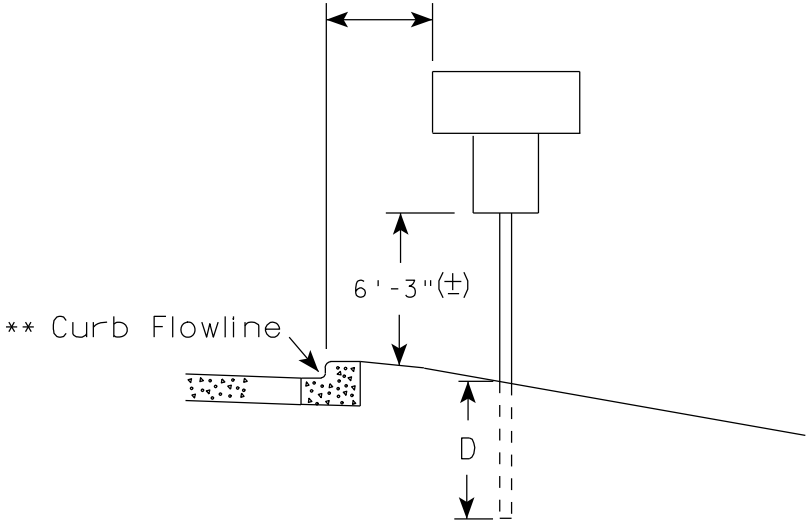
RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. 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 (A4-5) 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 stop signs (R1-1F) 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), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

2' Min - 4' Max (See Note 5)



POST EMBEDMENT DEPTH

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

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

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

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-3.16

# GENERAL NOTES

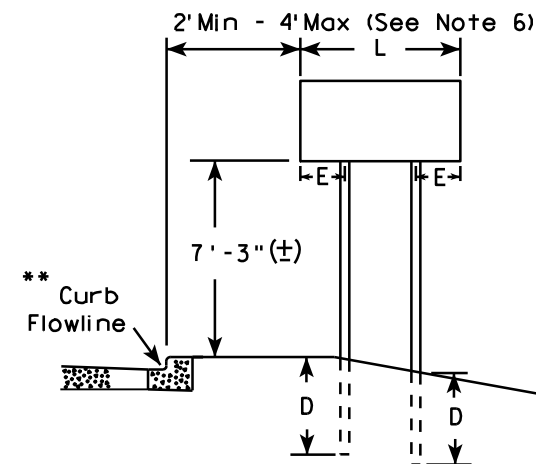
- For multiple post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
- 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), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" (±).

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

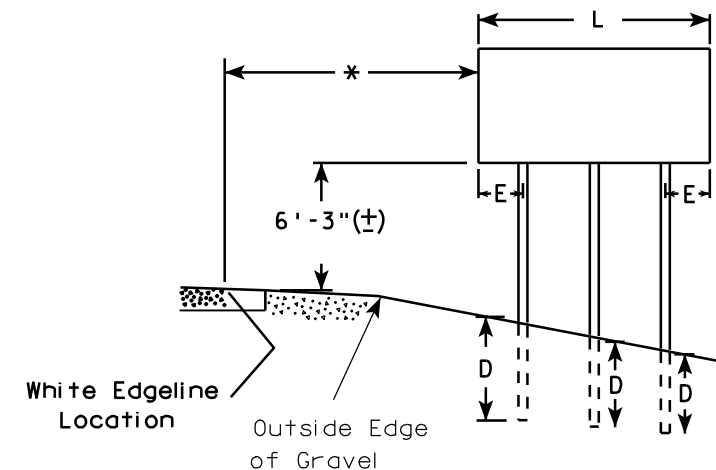
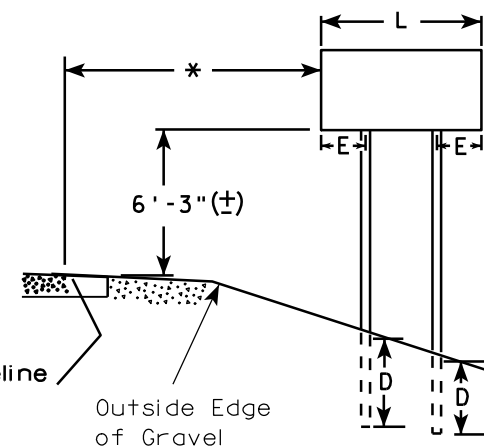
\*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of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

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

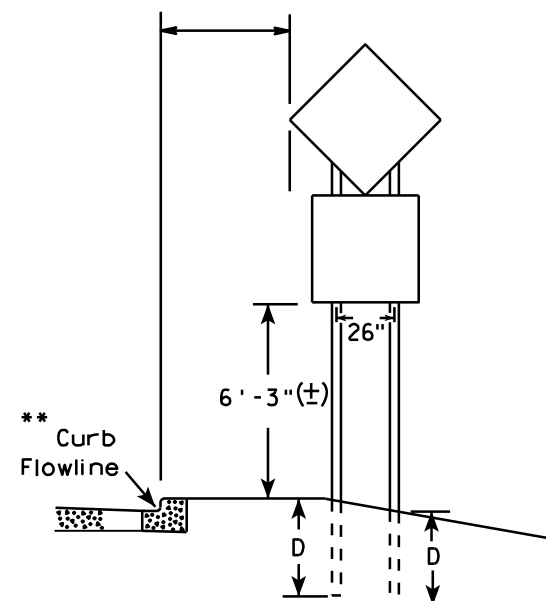
## URBAN AREA



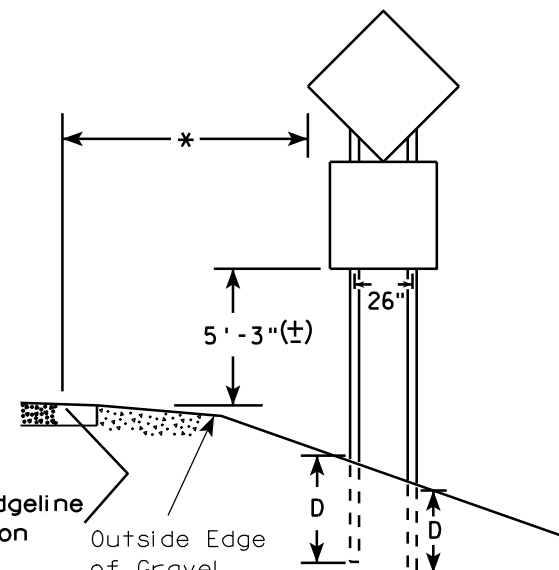
## RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

\*\*\*

| SIGN SHAPE OTHER THAN DIAMOND<br>(TWO POSTS REQUIRED) |     |
|-------------------------------------------------------|-----|
| L                                                     | E   |
| Greater than 48"<br>Less than 60"                     | 12" |
| 60" to 120"                                           | L/5 |

| SIGN SHAPE OTHER THAN DIAMOND<br>(THREE POSTS REQUIRED) |     |
|---------------------------------------------------------|-----|
| L                                                       | E   |
| Greater than 120"<br>less than 168"                     | 12" |

| SIGN SHAPE OTHER THAN DIAMOND<br>(FOUR POSTS REQUIRED) |     |
|--------------------------------------------------------|-----|
| L                                                      | E   |
| 168" and greater                                       | 12" |

## POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION  
OF TYPE II SIGNS  
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-4.11

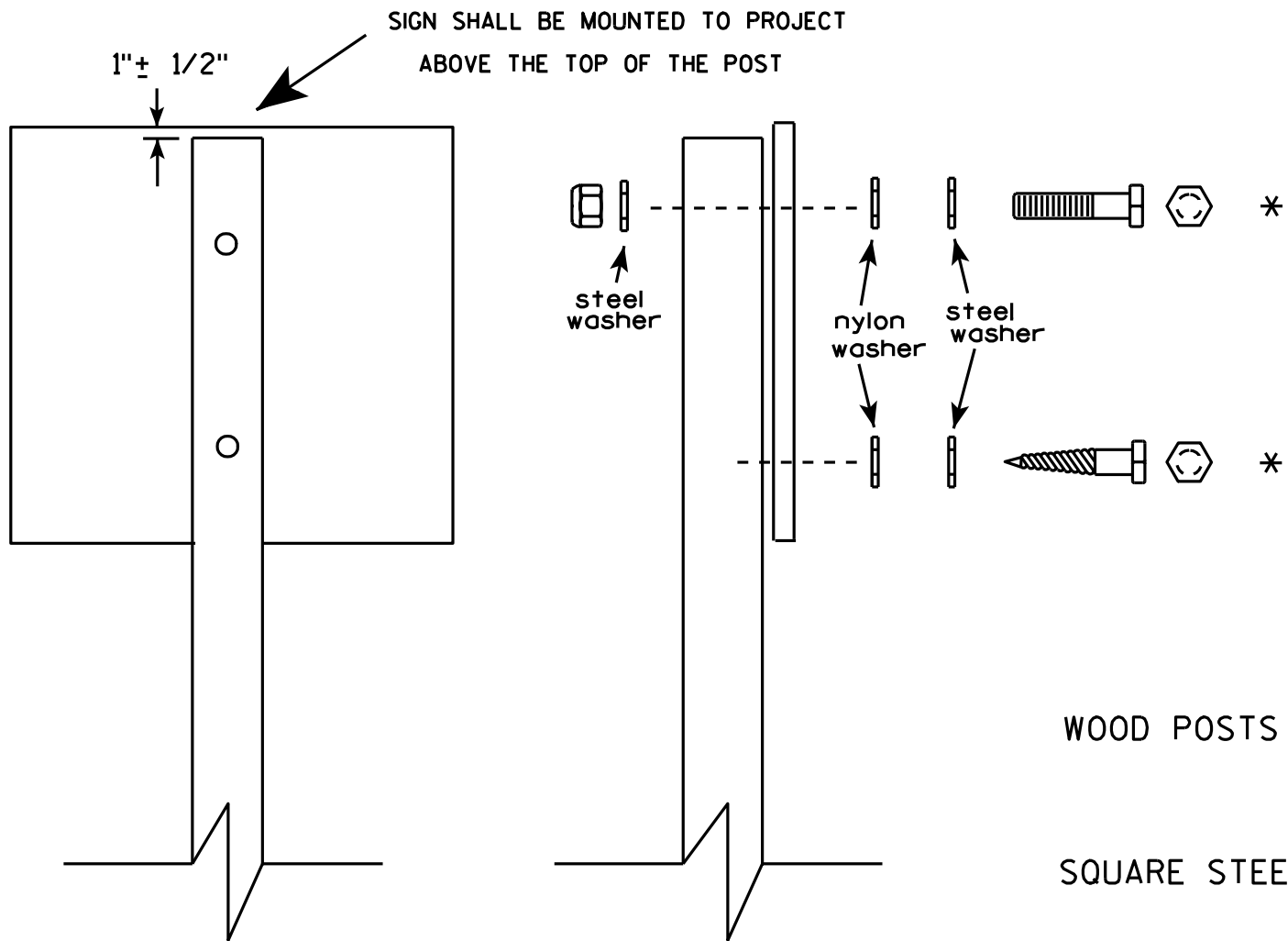
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 134

E

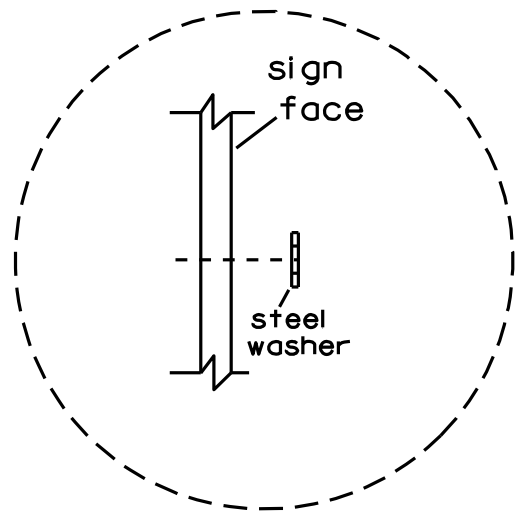


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

- 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.

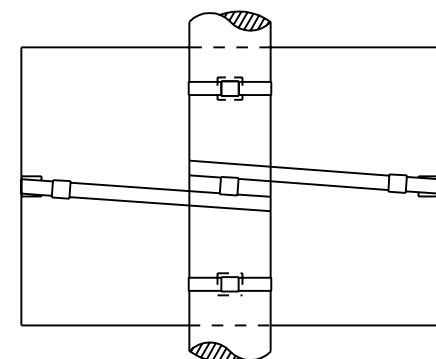
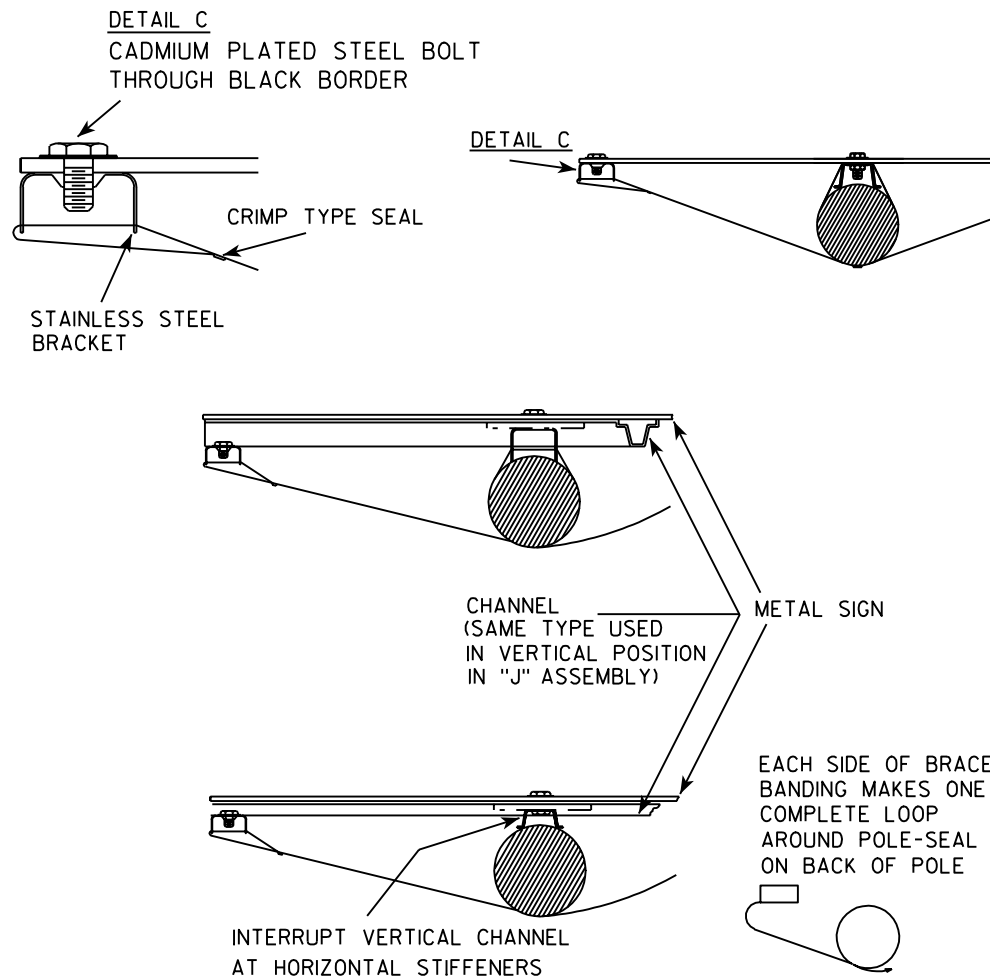


Washer Placement when Sign Has Other Than Type H or Type F Face

\* 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.

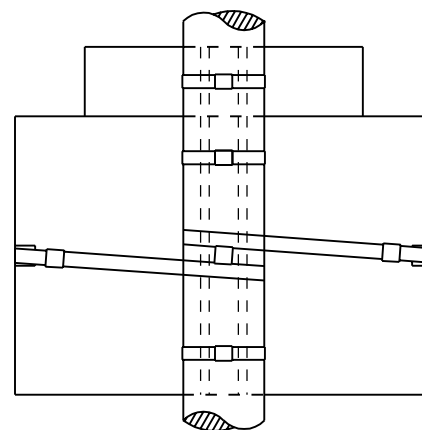
|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| ATTACHMENT OF SIGNS<br>TO POSTS  |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION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

# BRACE BANDING



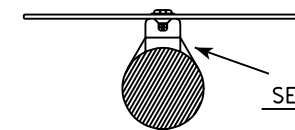
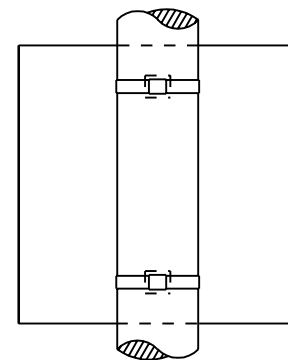
# BRACE BANDING

BRACE BANDING SHALL BE TIGHTENED FIRMLY  
BUT NOT SO TIGHT AS TO APPRECIABLY  
CURVE FACE OF SIGN.



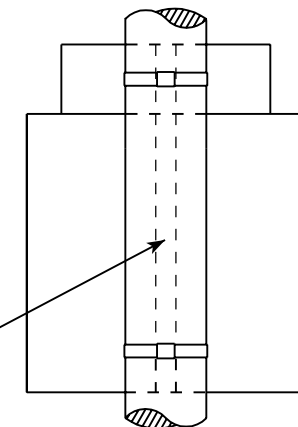
# BRACKET BANDING

## SINGLE SIGN

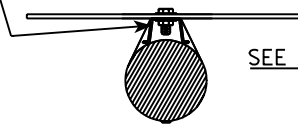


SEE DETAIL A

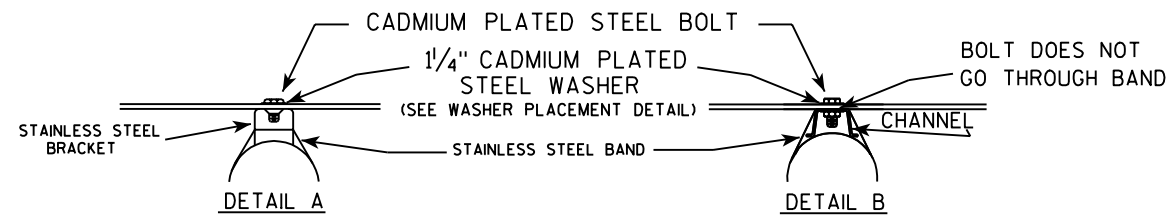
## "J" ASSEMBLY



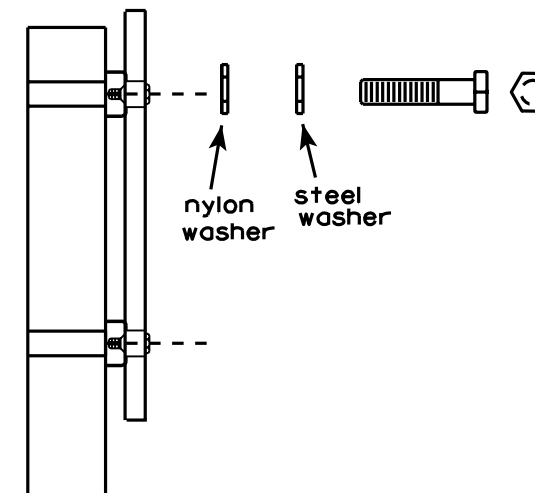
CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



SEE DETAIL B



# WASHER PLACEMENT



# WASHERS (ALL POSTS) -

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

# GENERAL NOTES

1. Signs 4' or greater in width shall have one brace band installed at the center of the sign.
2. Signs 3' or greater in height shall have three bracket bands installed. Signs less than 3' in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

# STANDARD SIGN SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 11/08/05 PLATE NO. A5-9.2

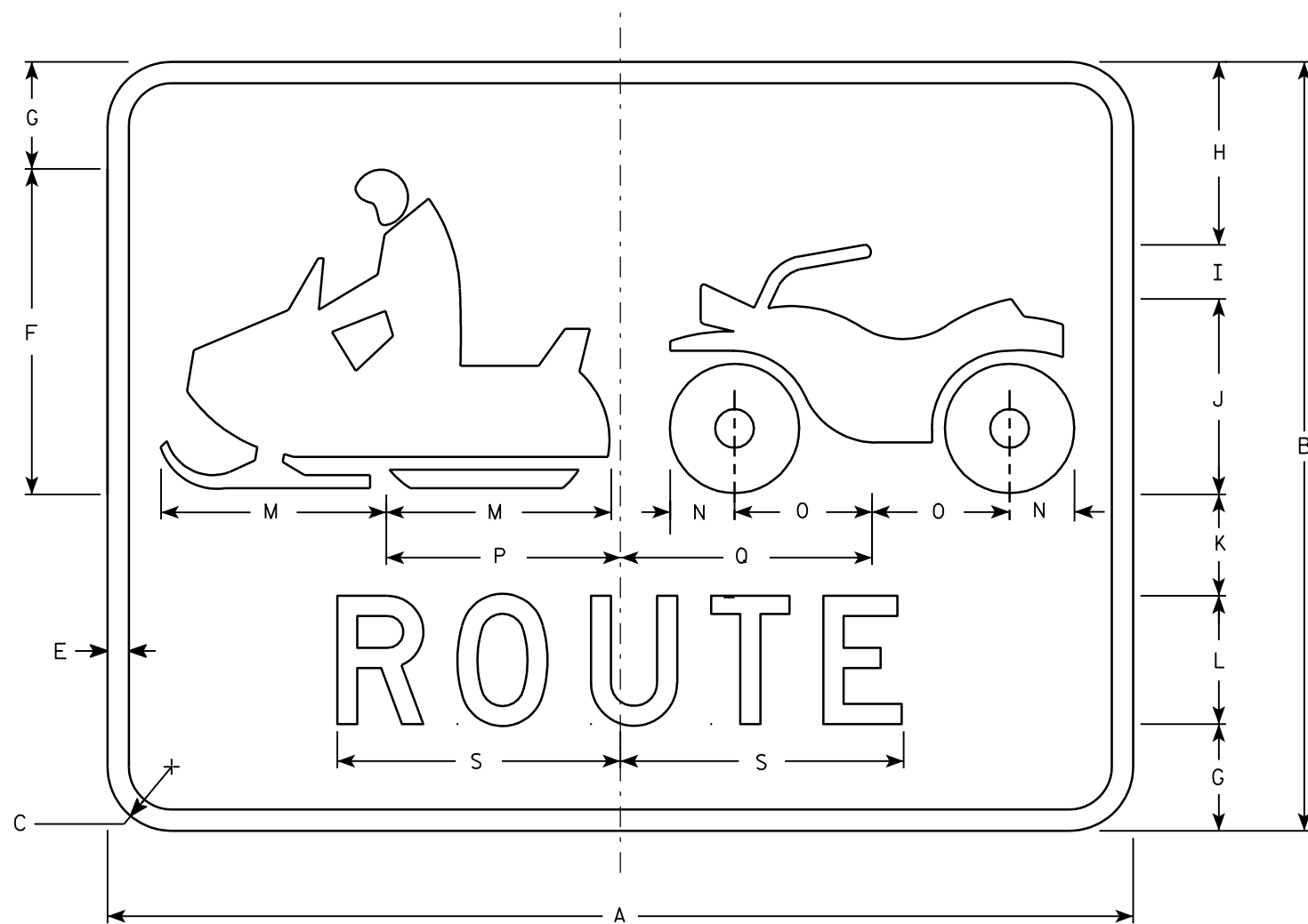
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 136

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 - Green  
Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

Metric equivalent  
for this sign is:

| SIZE |                 |
|------|-----------------|
| 1    |                 |
| 2    | 600 mm X 450 mm |
| 3    |                 |
| 4    |                 |
| 5    |                 |

| SIZE | A  | B  | C     | D | E   | F     | G     | H     | I     | J     | K     | L | M     | N     | O     | P     | Q     | R | S     | T | U | V | W | X | Y | Z | Area<br>sq. ft. | Area<br>m <sup>2</sup> |
|------|----|----|-------|---|-----|-------|-------|-------|-------|-------|-------|---|-------|-------|-------|-------|-------|---|-------|---|---|---|---|---|---|---|-----------------|------------------------|
| 1    |    |    |       |   |     |       |       |       |       |       |       |   |       |       |       |       |       |   |       |   |   |   |   |   |   |   |                 |                        |
| 2    | 24 | 18 | 1 1/2 |   | 1/2 | 7 5/8 | 2 1/2 | 4 1/4 | 1 1/4 | 4 5/8 | 2 3/8 | 3 | 5 1/4 | 1 1/2 | 3 1/4 | 5 1/2 | 5 7/8 |   | 6 5/8 |   |   |   |   |   |   |   | 3.0             | .28                    |
| 3    |    |    |       |   |     |       |       |       |       |       |       |   |       |       |       |       |       |   |       |   |   |   |   |   |   |   |                 |                        |
| 4    |    |    |       |   |     |       |       |       |       |       |       |   |       |       |       |       |       |   |       |   |   |   |   |   |   |   |                 |                        |
| 5    |    |    |       |   |     |       |       |       |       |       |       |   |       |       |       |       |       |   |       |   |   |   |   |   |   |   |                 |                        |

PROJECT NO:

FILE NAME : C:\Users\Projects\tr\_stdplate\D118.DGN

PLOT DATE : 28-SEP-2005 09:37

PLOT BY : DOTDZK

STANDARD SIGN

D11-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Christa J. Spang*  
for State Traffic Engineer

DATE 1/16/02

PLATE NO. D11-8.2

SHEET NO: 137

E

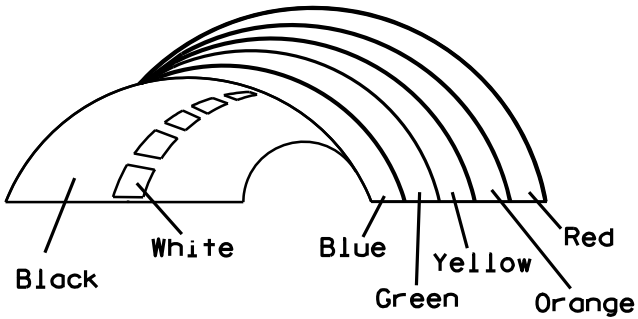
WISDOT/CADDs SHEET 42

7



\* VARIES

Background Colors of Symbol\*



\*1/4" Black Border between each color of rainbow and border of rainbow

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:  
Background - White  
Message - (See Note 5)
- 3. Message Series - (See Note 6)
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Border - Blue  
Line 1- Red  
Line 2 - Black  
Line 3-5 - Blue
- 6. Line 1- Dutch 8011L  
Line 2 - Series E  
Line 3-5 - Series C
- 7. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.

| SIZE | A  | B  | C     | D   | E   | F | G | H     | I     | J | K | L     | M      | N      | O     | P     | Q | R   | S      | T     | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|---|-------|-------|---|---|-------|--------|--------|-------|-------|---|-----|--------|-------|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |   |       |       |   |   |       |        |        |       |       |   |     |        |       |   |   |   |   |   |   |                 |
| 2    | 30 | 36 | 1 1/2 | 1/2 | 5/8 | 3 | 2 | 3 1/2 | 2 7/8 | 1 | 8 | 2 1/8 | 11 1/4 | 11 1/8 | 9 3/8 | 1 1/4 |   | 3/4 | 12 5/8 | 7 1/2 |   |   |   |   |   |   | 7.5             |
| 3    |    |    |       |     |     |   |   |       |       |   |   |       |        |        |       |       |   |     |        |       |   |   |   |   |   |   |                 |
| 4    |    |    |       |     |     |   |   |       |       |   |   |       |        |        |       |       |   |     |        |       |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |     |   |   |       |       |   |   |       |        |        |       |       |   |     |        |       |   |   |   |   |   |   |                 |

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 138

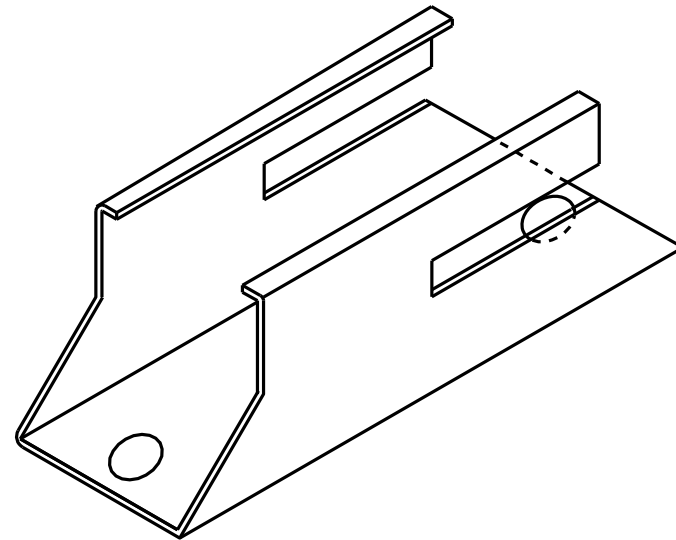
STANDARD SIGN  
I55-56

WISCONSIN DEPT OF TRANSPORTATION

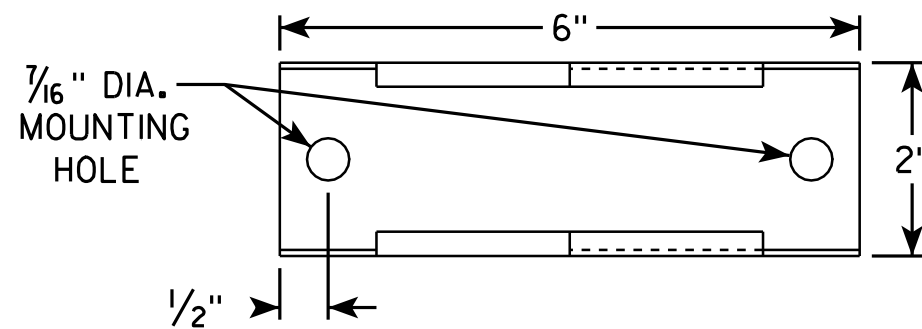
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 4/27/11 PLATE NO. I55-56.3

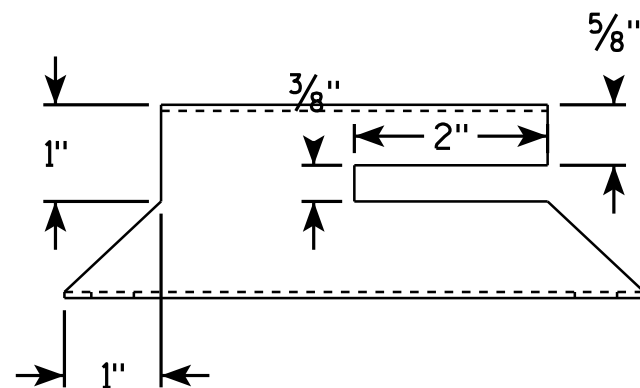
# ISOMETRIC VIEW



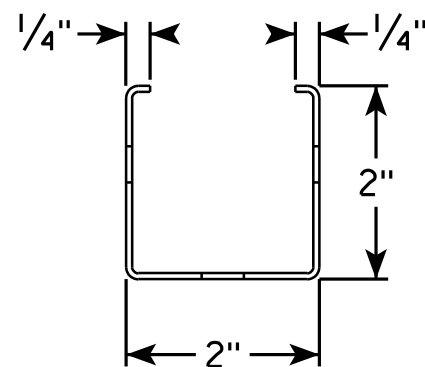
# TOP VIEW



# SIDE VIEW



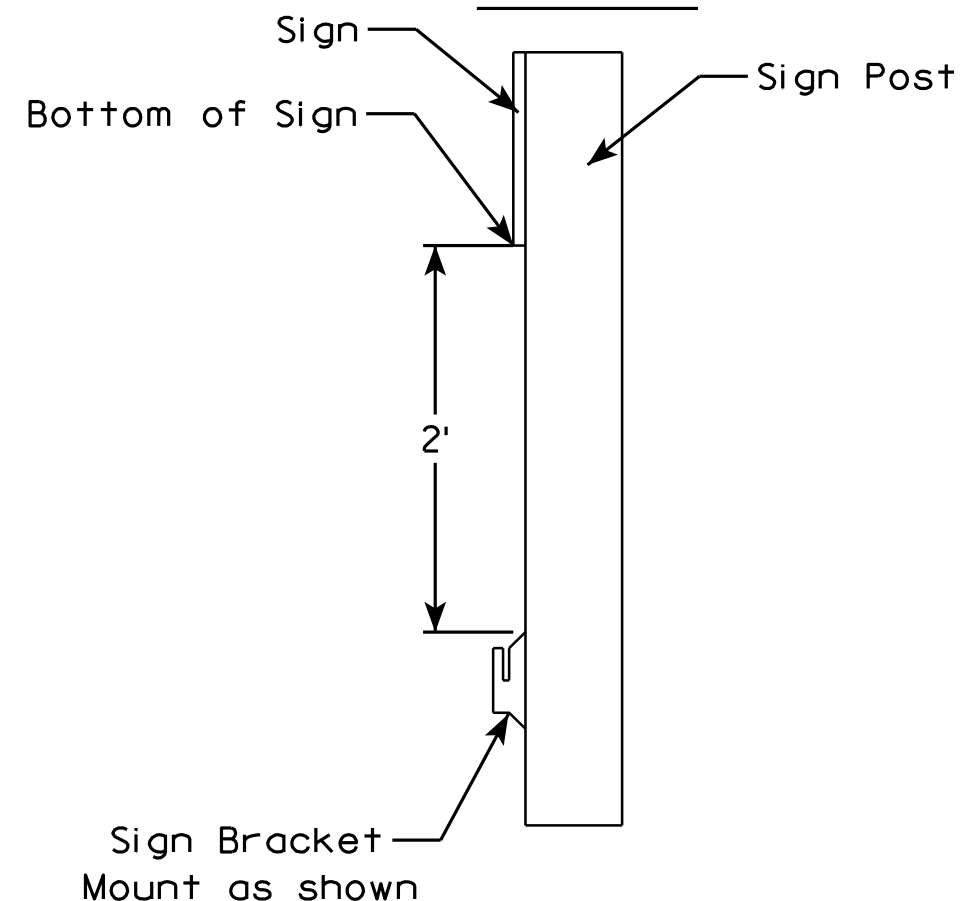
# END VIEW



# NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

# SIDE VIEW



ROLLUP SIGN BRACKET  
I55-56B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 2/5/10 PLATE NO. I55-56B.1

PROJECT NO:

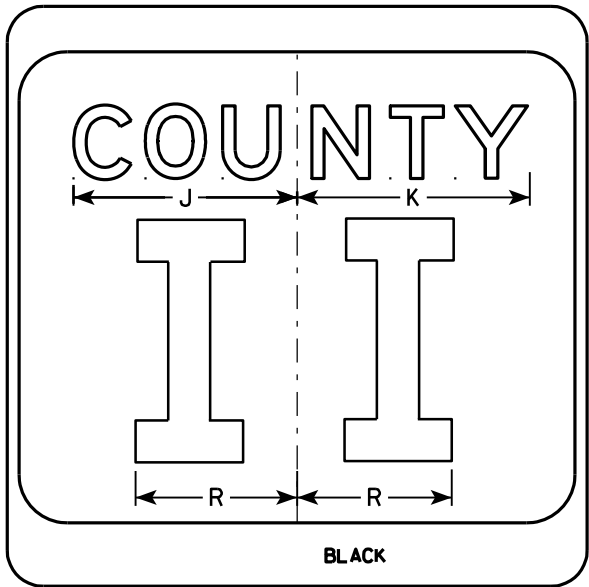
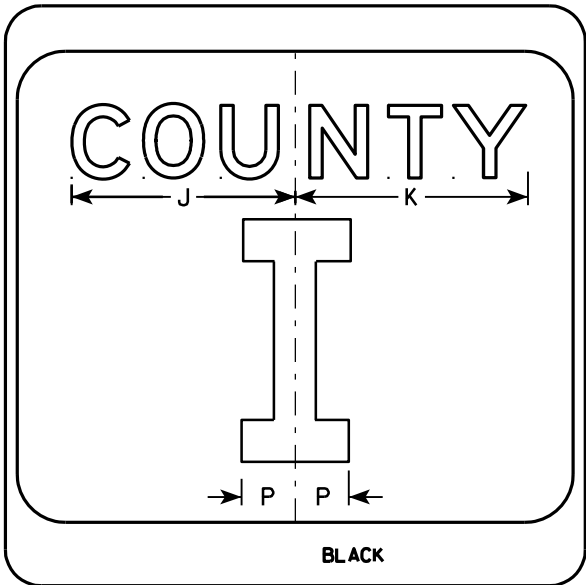
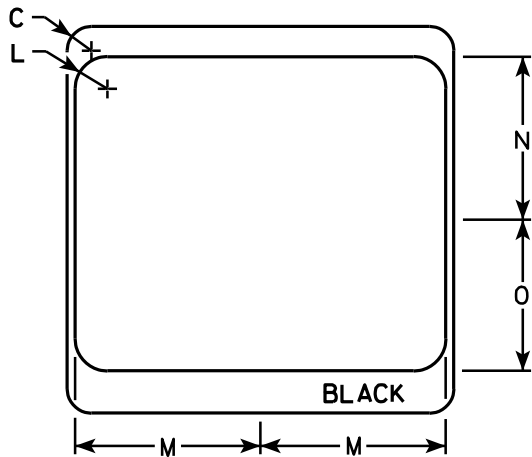
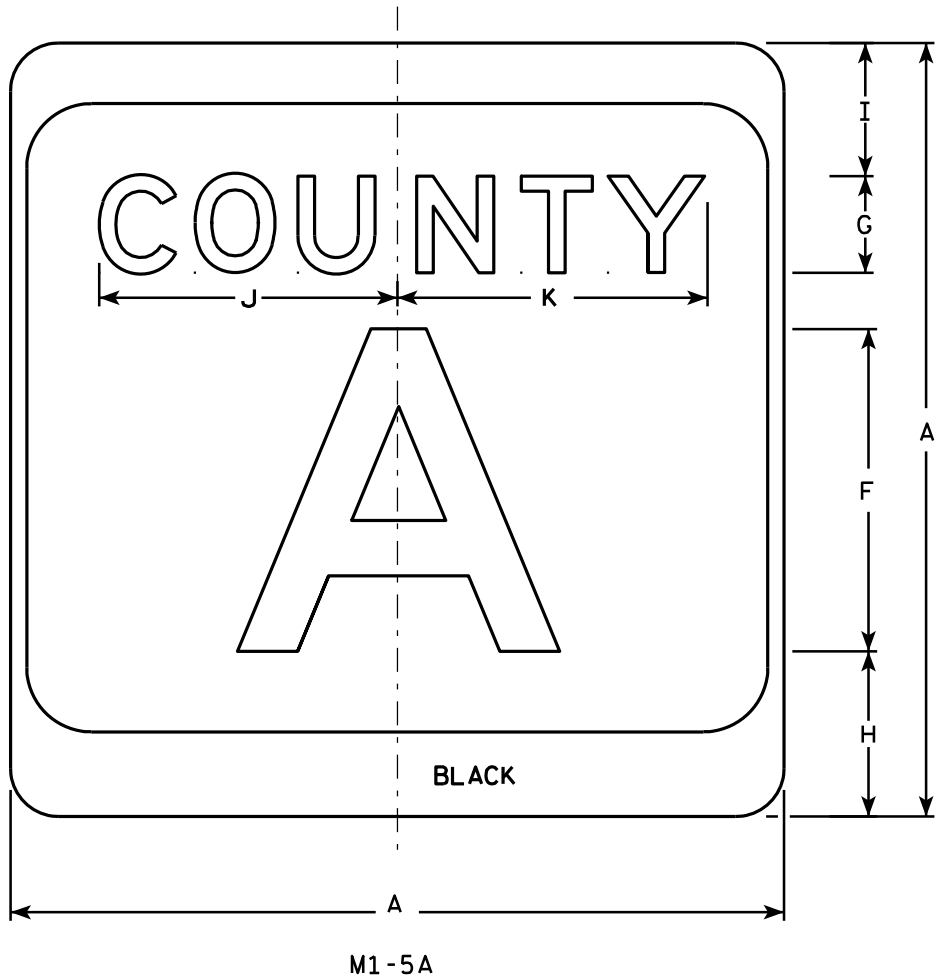
HWY:

COUNTY:

SHEET NO: 139

E

7



NOTES

- 1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:  
Background - White & Black - See Note 7  
Message - Black
- 3. Message Series - see Note 5
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Message Series E for 1 letter.  
Message Series D for 2 letters unless message is too big then Series C.  
Message Series C for 3 letters unless message is too big then Series B.
- 6. Substitute appropriate letters & optically center to achieve proper balance.
- 7. Permanent Signs  
Background - Type H Reflective  
Detour or temporary Signs  
Background - Reflective

| SIZE | A  | B | C     | D | E | F  | G | H     | I     | J      | K      | L | M      | N      | O     | P     | Q | R     | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|---|---|----|---|-------|-------|--------|--------|---|--------|--------|-------|-------|---|-------|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |   |       |   |   |    |   |       |       |        |        |   |        |        |       |       |   |       |   |   |   |   |   |   |   |   |                 |
| 2    | 24 |   | 1 1/2 |   |   | 10 | 3 | 5 1/8 | 4 1/8 | 9 1/4  | 9 5/8  | 2 | 11 1/2 | 10 1/8 | 9 3/8 | 2 1/4 |   | 6 5/8 |   |   |   |   |   |   |   |   | 4.0             |
| 3    | 36 |   | 2 1/4 |   |   | 16 | 4 | 7 5/8 | 5 5/8 | 12 1/4 | 12 7/8 | 3 | 17 1/8 | 15 1/4 | 14    | 3 3/8 |   | 10    |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 36 |   | 2 1/4 |   |   | 16 | 4 | 7 5/8 | 5 5/8 | 12 1/4 | 12 7/8 | 3 | 17 1/8 | 15 1/4 | 14    | 3 3/8 |   | 10    |   |   |   |   |   |   |   |   | 9.0             |
| 5    | 36 |   | 2 1/4 |   |   | 16 | 4 | 7 5/8 | 5 5/8 | 12 1/4 | 12 7/8 | 3 | 17 1/8 | 15 1/4 | 14    | 3 3/8 |   | 10    |   |   |   |   |   |   |   |   | 9.0             |

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 140

E

CTH MARKER

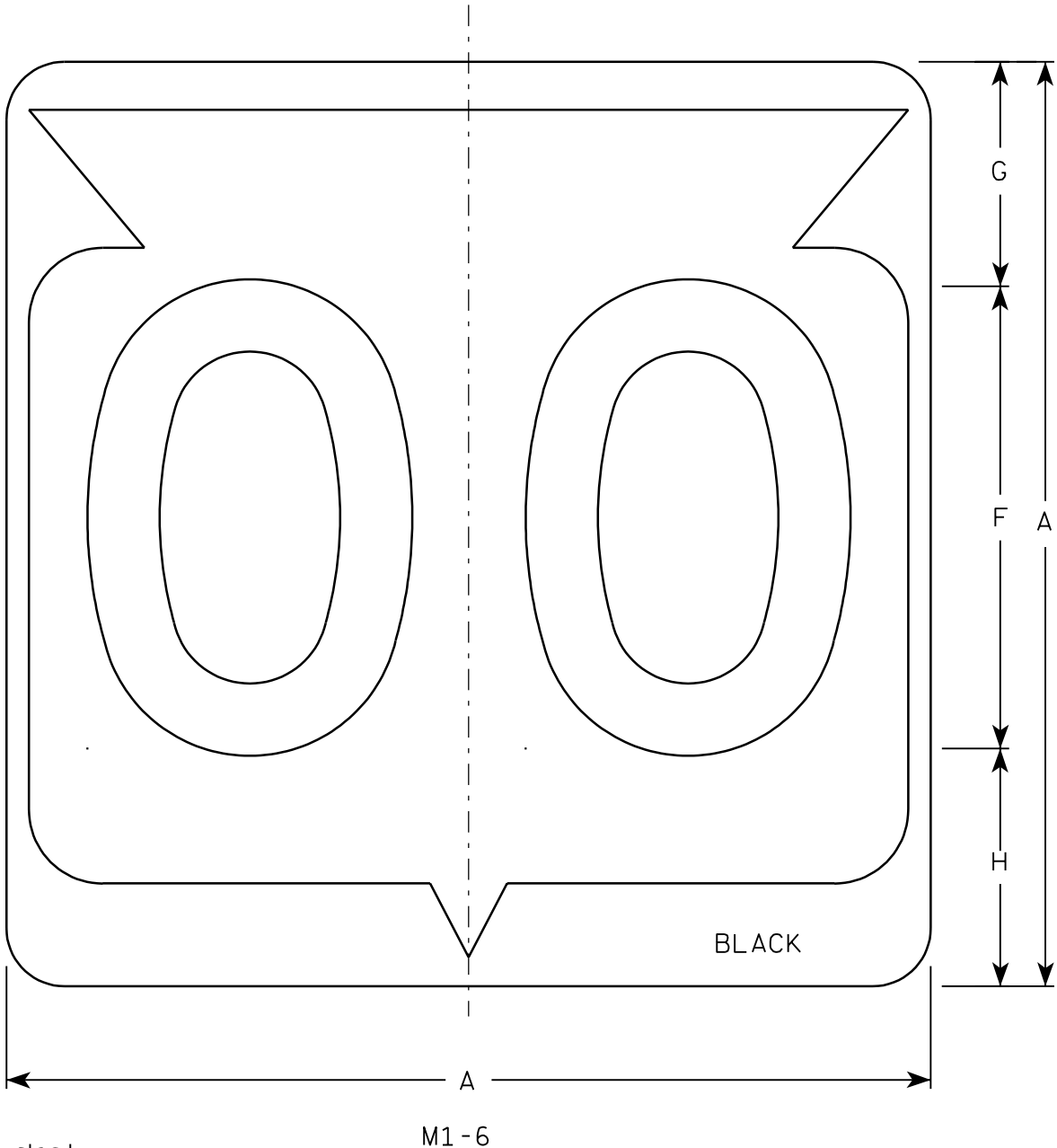
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

7



Metric equivalent  
for this sign is:

| SIZE |                 |
|------|-----------------|
| 1    |                 |
| 2    | 600 mm X 600 mm |
| 3    | 900 mm X 900 mm |
| 4    | 900 mm X 900 mm |
| 5    | 900 mm X 900 mm |

| SIZE | A  | B | C     | D | E | F  | G     | H     | I      | J     | K      | L      | M     | N     | O      | P      | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. | Area<br>m <sup>2</sup> |
|------|----|---|-------|---|---|----|-------|-------|--------|-------|--------|--------|-------|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|-----------------|------------------------|
| 1    |    |   |       |   |   |    |       |       |        |       |        |        |       |       |        |        |   |   |   |   |   |   |   |   |   |   |                 |                        |
| 2    | 24 |   | 1 1/2 |   |   | 12 | 5 1/2 | 6 1/2 | 10 1/4 | 2 1/2 | 8 7/8  | 11 1/2 | 1     | 1 7/8 | 11 1/4 | 21 7/8 |   |   |   |   |   |   |   |   |   |   | 4.0             | .36                    |
| 3    | 36 |   | 2 1/4 |   |   | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33     |   |   |   |   |   |   |   |   |   |   | 9.0             | .81                    |
| 4    | 36 |   | 2 1/4 |   |   | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33     |   |   |   |   |   |   |   |   |   |   | 9.0             | .81                    |
| 5    | 36 |   | 2 1/4 |   |   | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33     |   |   |   |   |   |   |   |   |   |   | 9.0             | .81                    |

PROJECT NO:

HWY:

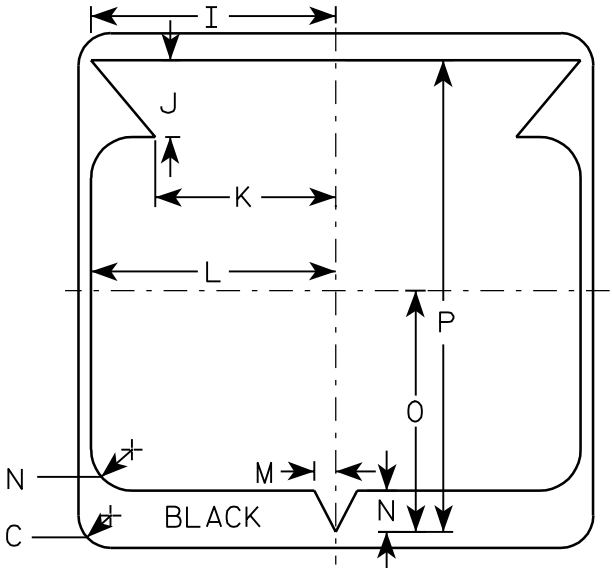
COUNTY:

SHEET NO: 141

E

NOTES

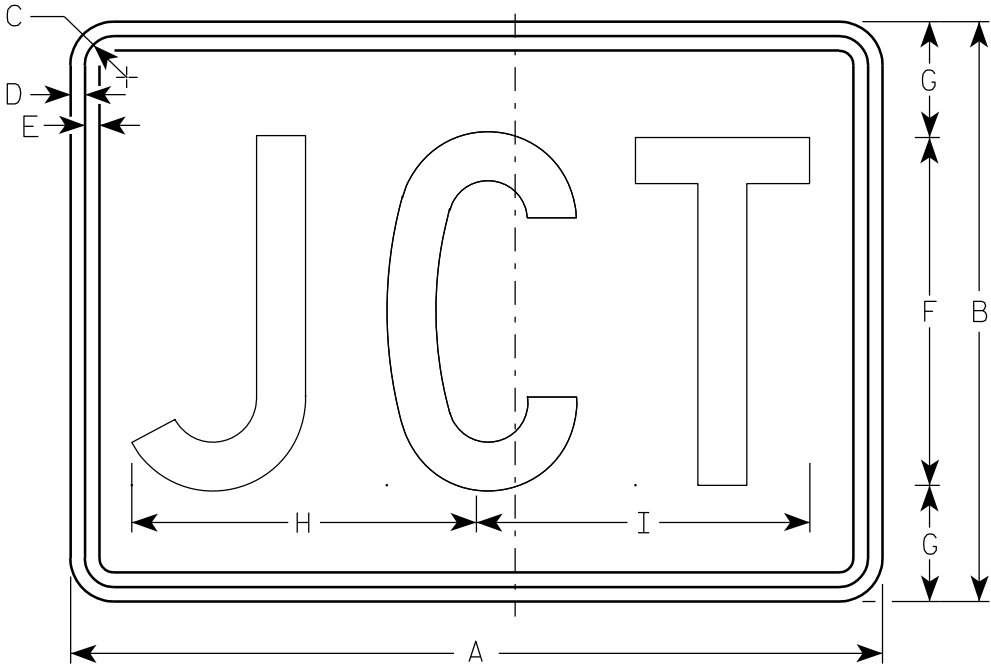
- Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - White & Black - See Note 6  
Message - Black
- Message Series - See note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
- Permanent Signs  
Background - Type H Reflective  
Detour or temporary Signs  
Background - Reflective



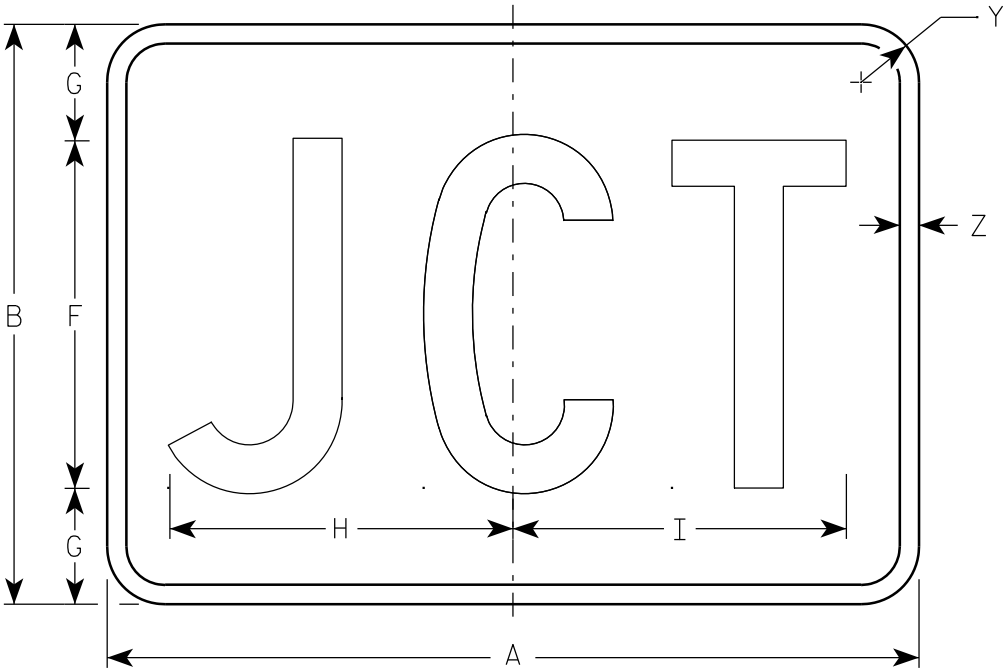
7

NOTES

1. Sign is Type II - See Note 5 - reference  
WIS DOT Standard Specification for HIGHWAY  
and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - See note 5  
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base  
material is plywood but borders shall be rounded  
as shown. When base material is metal, the  
corners and borders shall be rounded.
5. M2-1 Background - White - Type H Reflective  
(Detour or temporary Signs - Reflective)  
Message - Black  
MB2-1 Background - Blue  
Message - White - Type H Reflective  
(Detour or temporary Signs - Reflective)  
MG2-1 Background - Green  
Message - White - Type H Reflective  
MK2-1 Background - Green  
Message - White - Type H Reflective  
MM2-1 Background - White - Type H Reflective  
Message - Green  
MN2-1 Background - Brown  
Message - White - Type H Reflective  
MR2-1 Background - Brown  
Message - Yellow - Type H Reflective



M2-1  
MK2-1  
MM2-1  
MR2-1



MB2-1  
MG2-1  
MN2-1

Metric equivalent  
for this sign is:

| SIZE |                 |
|------|-----------------|
| 1    |                 |
| 2    | 525 mm X 375 mm |
| 3    | 750 mm X 525 mm |
| 4    | 750 mm X 525 mm |
| 5    | 750 mm X 525 mm |

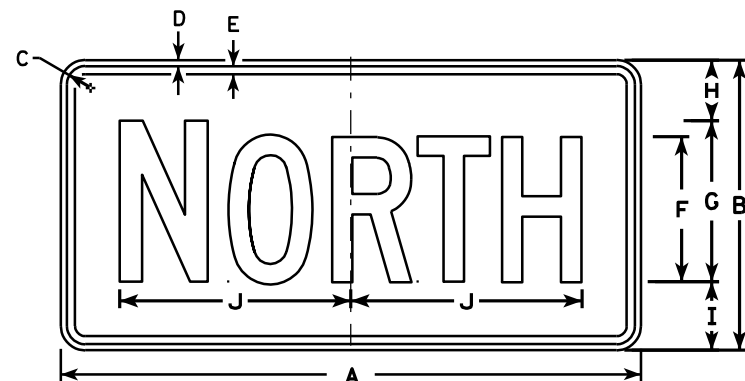
| SIZE | A  | B  | C     | D   | E   | F  | G | H      | I      | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y     | Z   | Area<br>sq. ft. | Area<br>m <sup>2</sup> |
|------|----|----|-------|-----|-----|----|---|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|-----|-----------------|------------------------|
| 1    |    |    |       |     |     |    |   |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |       |     |                 |                        |
| 2    | 21 | 15 | 1 1/8 | 3/8 | 3/8 | 9  | 3 | 8 7/8  | 8 5/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 1/2 | 1/2 | 2.20            | 0.20                   |
| 3    | 30 | 21 | 1 1/8 | 3/8 | 3/8 | 13 | 4 | 12 7/8 | 12 3/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 1/2 | 1/2 | 4.40            | 0.20                   |
| 4    | 30 | 21 | 1 1/8 | 3/8 | 3/8 | 13 | 4 | 12 7/8 | 12 3/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 1/2 | 1/2 | 4.40            | 0.20                   |
| 5    | 30 | 21 | 1 1/8 | 3/8 | 3/8 | 13 | 4 | 12 7/8 | 12 3/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 1/2 | 1/2 | 4.40            | 0.20                   |

STANDARD SIGN  
M2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Rauch*  
for State Traffic Engineer

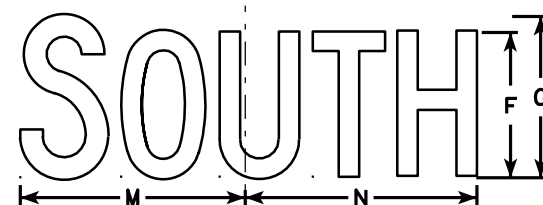
DATE 3/16/10 PLATE NO. M2-1.10



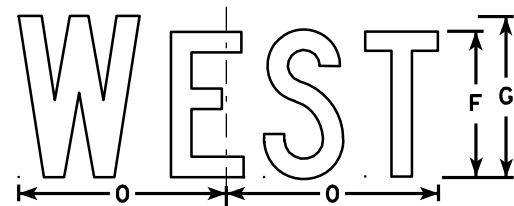
M3-1  
MK3-1  
M03-1



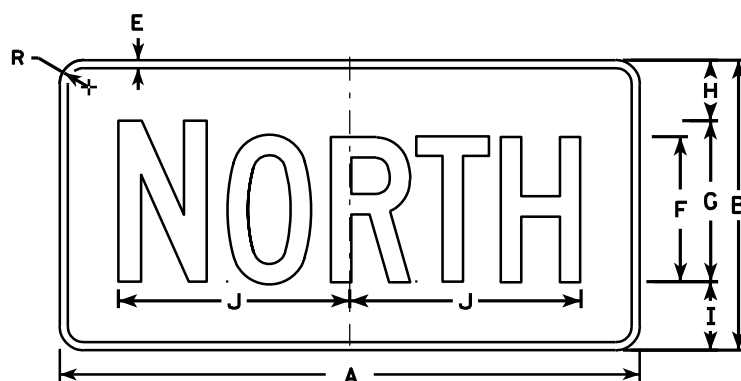
M3-2  
MK3-2  
M03-2



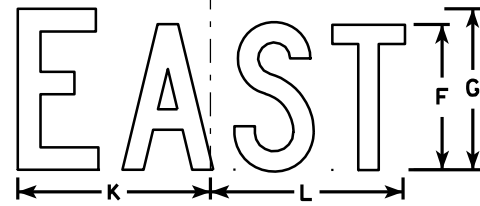
M3-3  
MK3-3  
M03-3



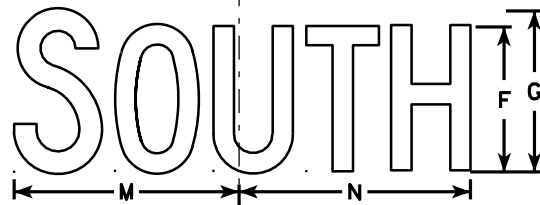
M3-4  
MK3-4  
M03-4



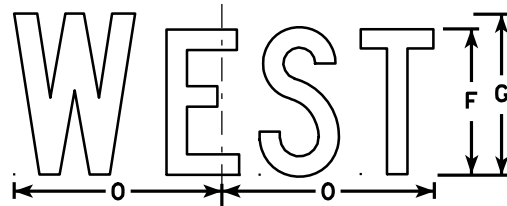
MB3-1  
MG3-1  
MM3-1  
MN3-1



MB3-2  
MG3-2  
MM3-2  
MN3-2



MB3-3  
MG3-3  
MM3-3  
MN3-3



MB3-4  
MG3-4  
MM3-4  
MN3-4

## NOTES

1. All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - See note 5  
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White - Type H Reflective (Detour or temporary signs - Reflective)  
Message - Black  
MB3-1 thru MB3-4 Background - Blue  
Message - White - Type H Reflective (Detour or temporary signs - Reflective)  
MG3-1 thru MG3-4 Background - Green  
Message - White - Type H Reflective  
MK3-1 thru MK3-4 Background - Green  
Message - White - Type H Reflective  
MM3-1 thru MM3-4 Background - White - Type H Reflective  
Message - Green  
MN3-1 thru MN3-4 Background - Brown  
Message - White - Type H Reflective  
M03-1 thru M03-4 Background - Orange - Reflective  
Message - Black
6. Note the first letter of each direction is larger than the remainder of the message.

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

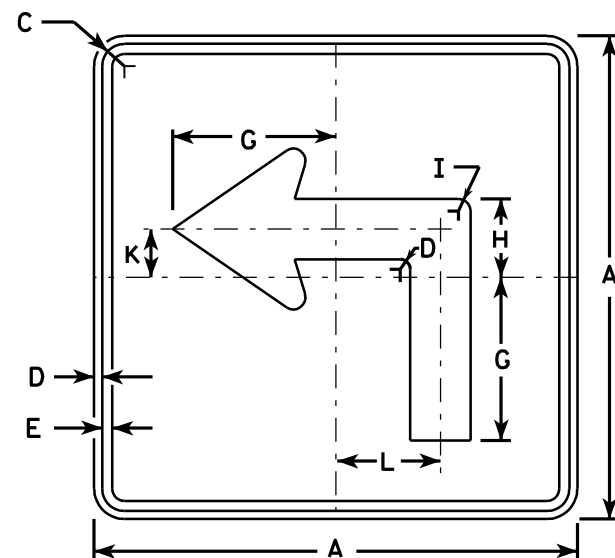
PROJECT NO: HWY: COUNTY: SHEET NO: 143 E

## STANDARD SIGNS M3-1 thru M3-4 SERIES

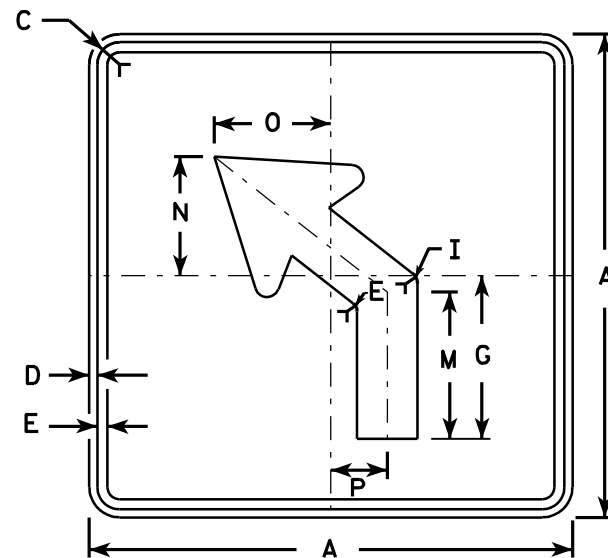
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

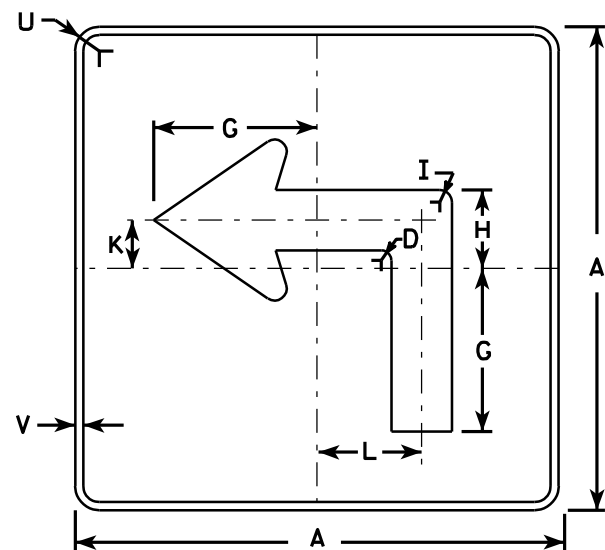
DATE 11/10/10 PLATE NO. M3-1.12



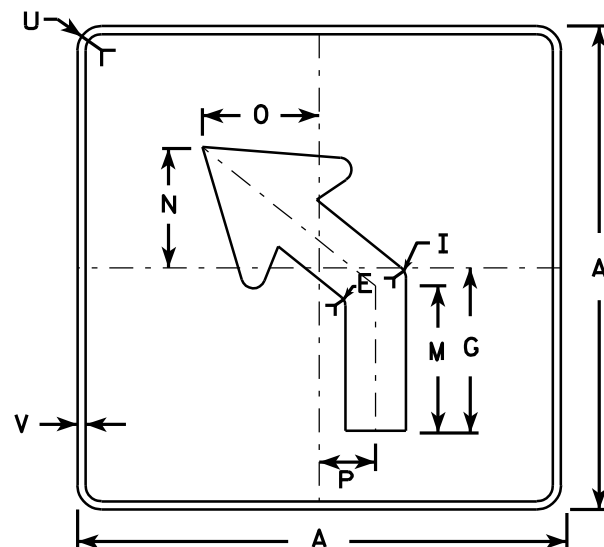
M5-1L  
MK5-1L  
MM5-1L  
MO5-1L  
MR5-1L



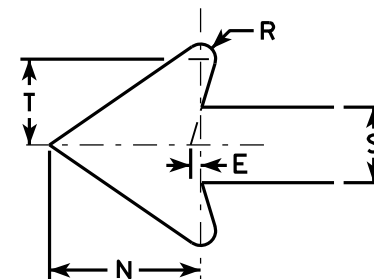
M5-2L  
MK5-2L  
MM5-2L  
MO5-2L  
MR5-2L



MB5-1L  
MG5-1L  
MN5-1L



MB5-2L  
MG5-2L  
MN5-2L



Metric equivalent  
for this sign is:

| SIZE |                 |
|------|-----------------|
| 1    |                 |
| 2    | 525 mm X 525 mm |
| 3    | 750 mm X 750 mm |
| 4    | 750 mm X 750 mm |
| 5    | 750 mm X 750 mm |

| SIZE | A  | B | C     | D   | E   | F | G      | H     | I   | J | K     | L     | M     | N     | O     | P     | Q | R   | S     | T     | U     | V   | W | X | Y | Z | Area<br>sq. ft. | Area<br>sq |
|------|----|---|-------|-----|-----|---|--------|-------|-----|---|-------|-------|-------|-------|-------|-------|---|-----|-------|-------|-------|-----|---|---|---|---|-----------------|------------|
| 1    |    |   |       |     |     |   |        |       |     |   |       |       |       |       |       |       |   |     |       |       |       |     |   |   |   |   |                 |            |
| 2    | 21 |   | 1 1/8 | 3/8 | 3/8 |   | 7      | 3 3/8 | 5/8 |   | 2 1/8 | 4 1/2 | 6 3/8 | 5 1/4 | 5     | 2 1/2 |   | 1/2 | 2 5/8 | 3     | 1 1/2 | 1/2 |   |   |   |   | 3.06            | 0.28       |
| 3    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 1/8 | 4 7/8 | 7/8 |   | 3     | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 |   | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 |   |   |   |   | 6.25            | 0.56       |
| 4    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 1/8 | 4 7/8 | 7/8 |   | 3     | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 |   | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 |   |   |   |   | 6.25            | 0.56       |
| 5    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 1/8 | 4 7/8 | 7/8 |   | 3     | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 |   | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 |   |   |   |   | 6.25            | 0.56       |

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 144

E

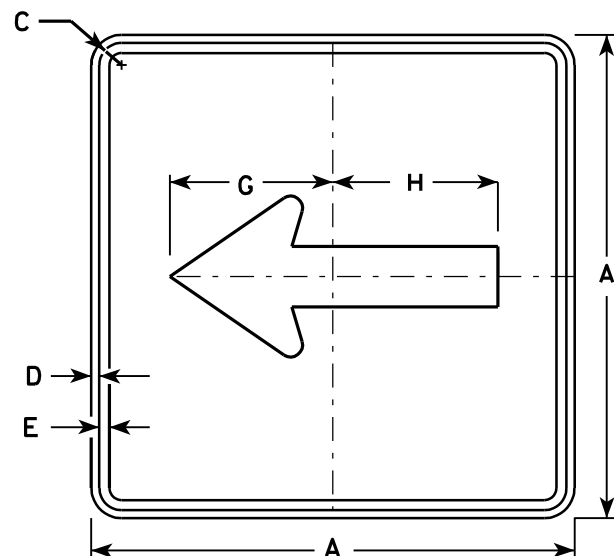
NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - See note 4  
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M5-1 and M5-2 Background - White - Type H Reflective (Detour or temporary Signs - Reflective)  
Message - Black  
MB5-1 and MB5-2 Background - Blue  
Message - White - Type H Reflective (Detour or temporary Signs - Reflective)  
MG5-1 and MG5-2 Background - Green  
Message - White - Type H Reflective  
MK5-1 and MK5-2 Background - Green  
Message - White Type H Reflective  
MM5-1 and MM5-2 Background - White - Type H Reflective  
Message - Green  
MN5-1 and MN5-2 Background - Brown  
Message - White - Type H Reflective  
MO5-1 and MO5-2 Background - Orange - Reflective  
Message - Black  
MR5-1 and MR5-2 Background - Brown  
Message - Yellow - Type H Reflective
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

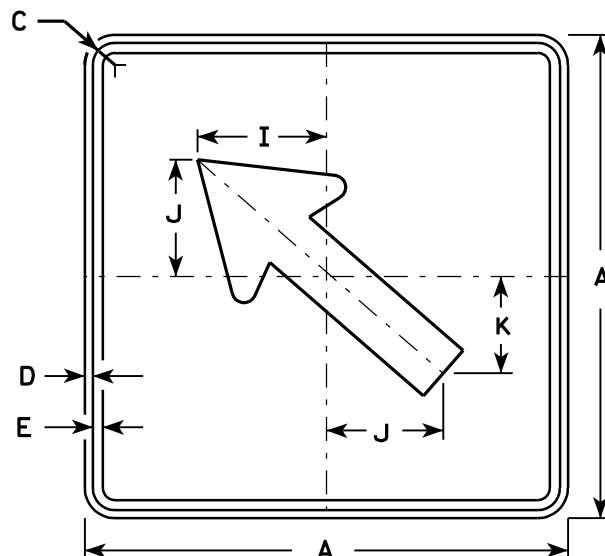
STANDARD SIGN  
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

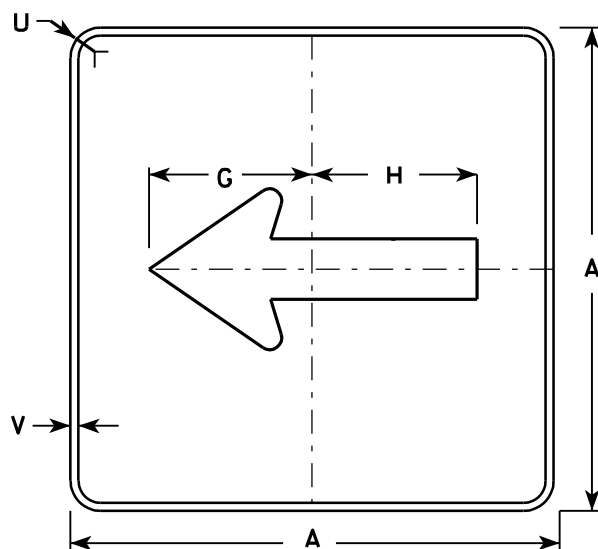
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 3/16/10 PLATE NO. M5-1.11



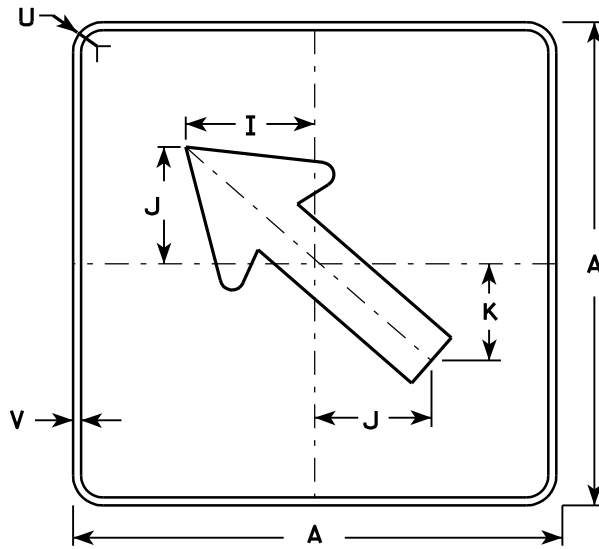
M6-1  
MK6-1  
MM6-1  
MO6-1  
MR6-1



M6-2  
MK6-2  
MM6-2  
MO6-2  
MR6-2



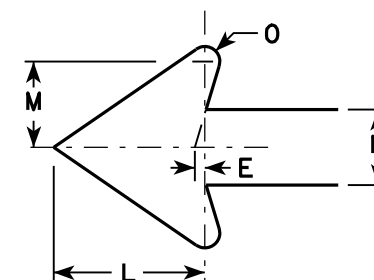
MB6-1  
MG6-1  
MN6-1



MB6-2  
MG6-2  
MN6-2

#### NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - See note 4  
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White - Type H Reflective  
(Detour or temporary Signs - Reflective)  
Message - Black  
MB6-1 and MB6-2 Background - Blue  
Message - White - Type H Reflective  
(Detour or temporary Signs - Reflective)  
MG6-1 and MG6-2 Background - Green  
Message - White - Type H Reflective  
MK6-1 and MK6-2 Background - Green  
Message - White - Type H Reflective  
MM6-1 and MM6-2 Background - White - Type H Reflective  
Message - Green  
MN6-1 and MN6-2 Background - Brown  
Message - White - Type H Reflective  
MO6-1 and MO6-2 Background - Orange - Reflective  
Message - Black  
MR6-1 and MR6-2 Background - Brown  
Message - Yellow - Type H Reflective



Metric equivalent  
for this sign is:

| SIZE |                 |
|------|-----------------|
| 1    |                 |
| 2    | 525 mm X 525 mm |
| 3    | 750 mm X 750 mm |
| 4    | 750 mm X 750 mm |
| 5    | 750 mm X 750 mm |

| SIZE | A  | B | C     | D   | E   | F | G      | H      | I     | J     | K     | L     | M     | N     | O   | P | Q | R | S | T | U     | V   | W | X | Y | Z | Area<br>sq. ft. | Area<br>m2 |
|------|----|---|-------|-----|-----|---|--------|--------|-------|-------|-------|-------|-------|-------|-----|---|---|---|---|---|-------|-----|---|---|---|---|-----------------|------------|
| 1    |    |   |       |     |     |   |        |        |       |       |       |       |       |       |     |   |   |   |   |   |       |     |   |   |   |   |                 |            |
| 2    | 21 |   | 1 1/8 | 3/8 | 3/8 |   | 7 1/2  | 7 1/8  | 5 5/8 | 5     | 4 1/4 | 5 1/4 | 3     | 2 5/8 | 1/2 |   |   |   |   |   | 1 1/2 | 1/2 |   |   |   |   | 3.06            | 0.28       |
| 3    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 3/4 | 10 1/4 | 8     | 7 1/4 | 6     | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 |   |   |   |   |   | 1 7/8 | 1/2 |   |   |   |   | 6.25            | 0.56       |
| 4    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 3/4 | 10 1/4 | 8     | 7 1/4 | 6     | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 |   |   |   |   |   | 1 7/8 | 1/2 |   |   |   |   | 6.25            | 0.56       |
| 5    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 3/4 | 10 1/4 | 8     | 7 1/4 | 6     | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 |   |   |   |   |   | 1 7/8 | 1/2 |   |   |   |   | 6.25            | 0.56       |

PROJECT NO:

HWY:

COUNTY:

#### STANDARD SIGN M6-1 & M6-2 SERIES

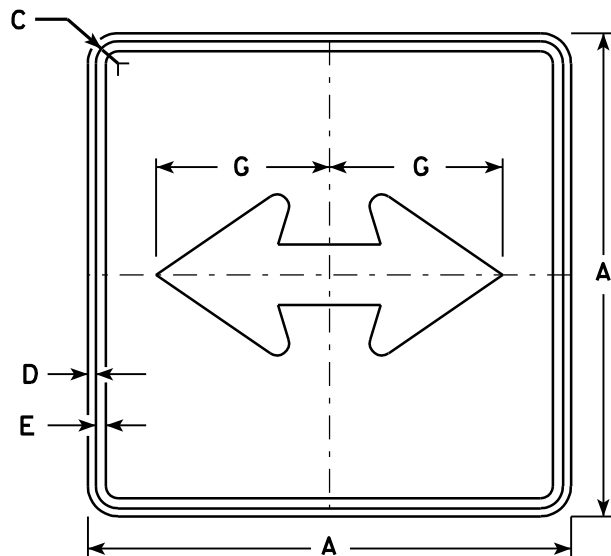
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

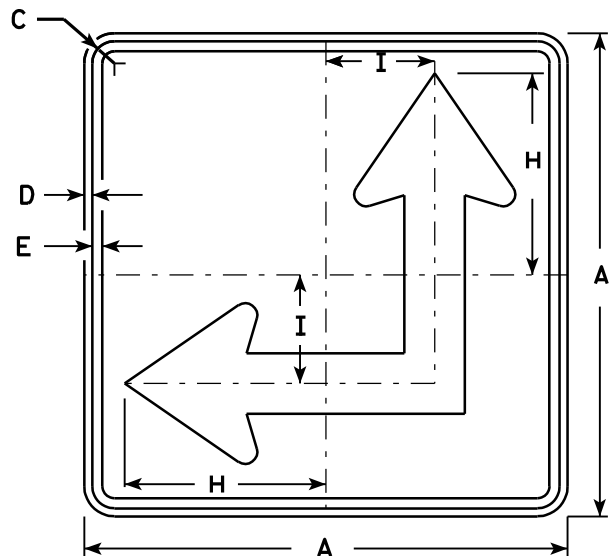
DATE 3/16/10 PLATE NO. M6-1.12

SHEET NO: 145

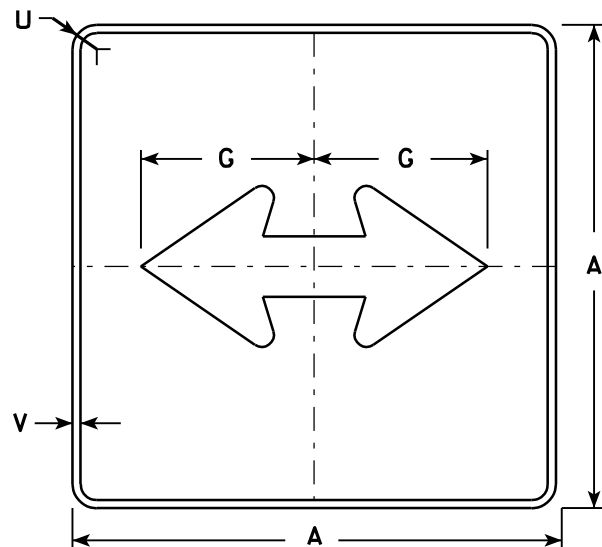
E



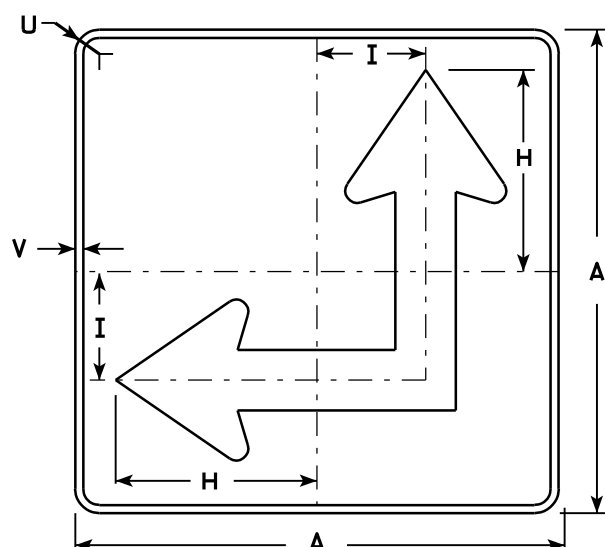
M6 - 4  
MK6 - 4  
MM6 - 4  
MO6 - 4  
MR6 - 4



M6 - 6  
MK6 - 6  
MM6 - 6  
MO6 - 6  
MR6 - 6



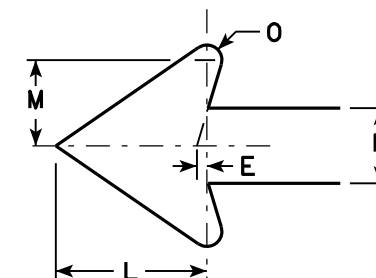
MB6 - 4  
MG6 - 4  
MN6 - 4



MB6 - 6  
MG6 - 6  
MN6 - 6

NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
  - Background - See Note 4
  - Message - See Note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-4 and M6-6
  - Background - White - Type H Reflective (Detour or temporary Signs - Reflective)
  - Message - Black
  - MB6-4 and MB6-6
    - Background - Blue
    - Message - White - Type H Reflective (Detour or temporary Signs - Reflective)
  - MG6-4 and MG6-6
    - Background - Green
    - Message - White - Type H Reflective
  - MK6-4 and MK6-6
    - Background - Green
    - Message - White - Type H Reflective
  - MM6-4 and MM6-6
    - Background - White - Type H Reflective
    - Message - Green
  - MN6-4 and MN6-6
    - Background - Brown
    - Message - White - Type H Reflective
  - MO6-4 and MO6-6
    - Background - Orange - Reflective
    - Message - Black
  - MR6-4 and MR6-6
    - Background - Brown
    - Message - Yellow - Type H Reflective
- M6-6R same as M6-6L except arrow points ahead and right.



Metric equivalent  
for this sign is:

| SIZE |                 |
|------|-----------------|
| 1    |                 |
| 2    | 525 mm X 525 mm |
| 3    | 750 mm X 750 mm |
| 4    | 750 mm X 750 mm |
| 5    | 750 mm X 750 mm |

| SIZE | A  | B | C     | D   | E   | F | G      | H      | I     | J | K | L     | M     | N     | O   | P | Q | R | S | T | U     | V   | W | X | Y | Z | Area<br>sq. ft. | Area<br>m <sup>2</sup> |
|------|----|---|-------|-----|-----|---|--------|--------|-------|---|---|-------|-------|-------|-----|---|---|---|---|---|-------|-----|---|---|---|---|-----------------|------------------------|
| 1    |    |   |       |     |     |   |        |        |       |   |   |       |       |       |     |   |   |   |   |   |       |     |   |   |   |   |                 |                        |
| 2    | 21 |   | 1 1/8 | 3/8 | 3/8 |   | 7 1/2  | 8 3/4  | 4 1/4 |   |   | 5 1/4 | 3     | 2 5/8 | 1/2 |   |   |   |   |   | 1 1/2 | 1/2 |   |   |   |   | 3.06            | 0.28                   |
| 3    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 3/4 | 12 1/2 | 6 3/4 |   |   | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 |   |   |   |   |   | 1 7/8 | 1/2 |   |   |   |   | 6.25            | 0.56                   |
| 4    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 3/4 | 12 1/2 | 6 3/4 |   |   | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 |   |   |   |   |   | 1 7/8 | 1/2 |   |   |   |   | 6.25            | 0.56                   |
| 5    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 3/4 | 12 1/2 | 6 3/4 |   |   | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 |   |   |   |   |   | 1 7/8 | 1/2 |   |   |   |   | 6.25            | 0.56                   |

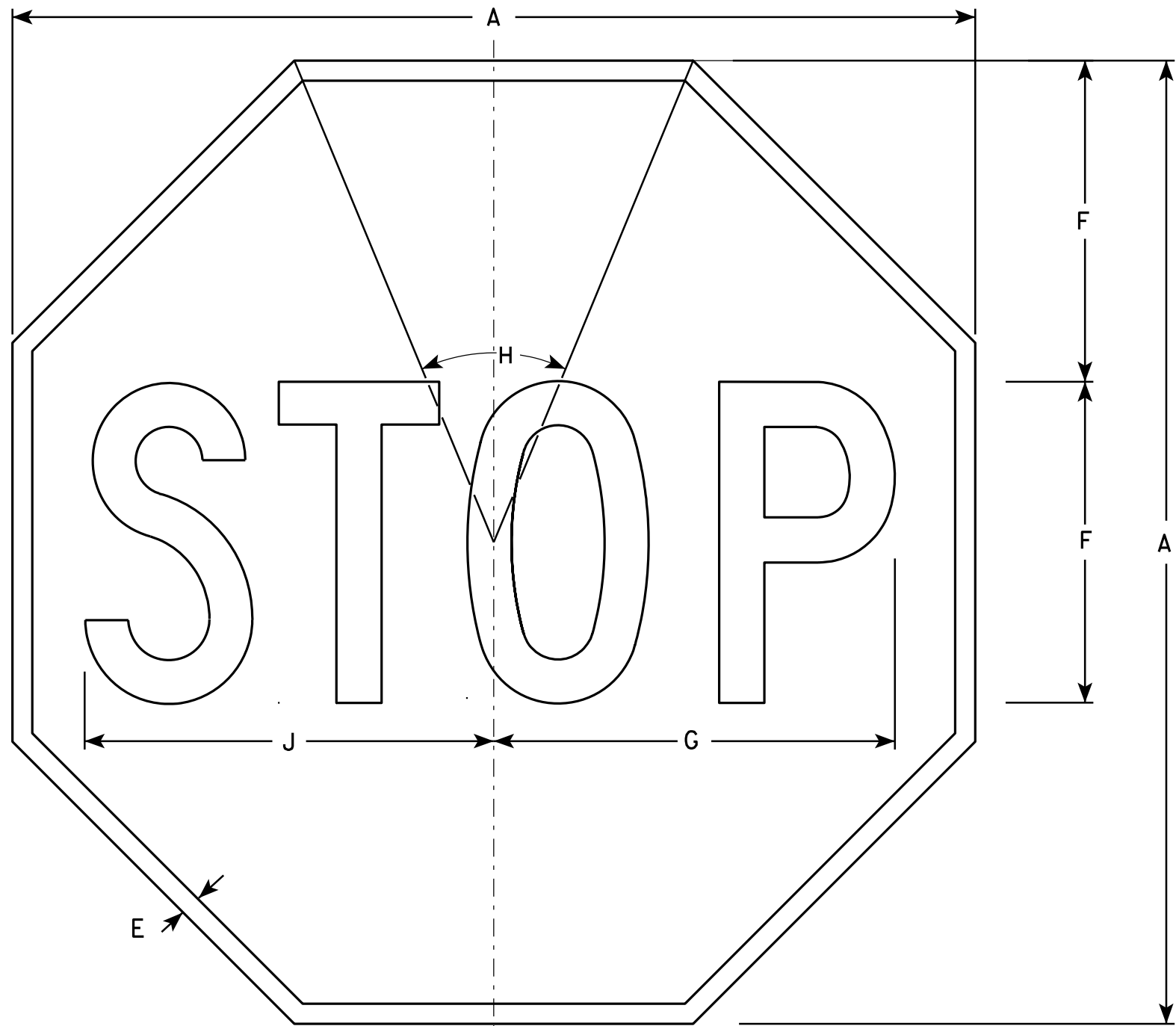
|             |      |         |  |               |   |
|-------------|------|---------|--|---------------|---|
| PROJECT NO: | HWY: | COUNTY: |  | SHEET NO: 146 | E |
|-------------|------|---------|--|---------------|---|

STANDARD SIGN  
M6 - 4 & M6 - 6  
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M6-4.7



**NOTES**

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

R1-1

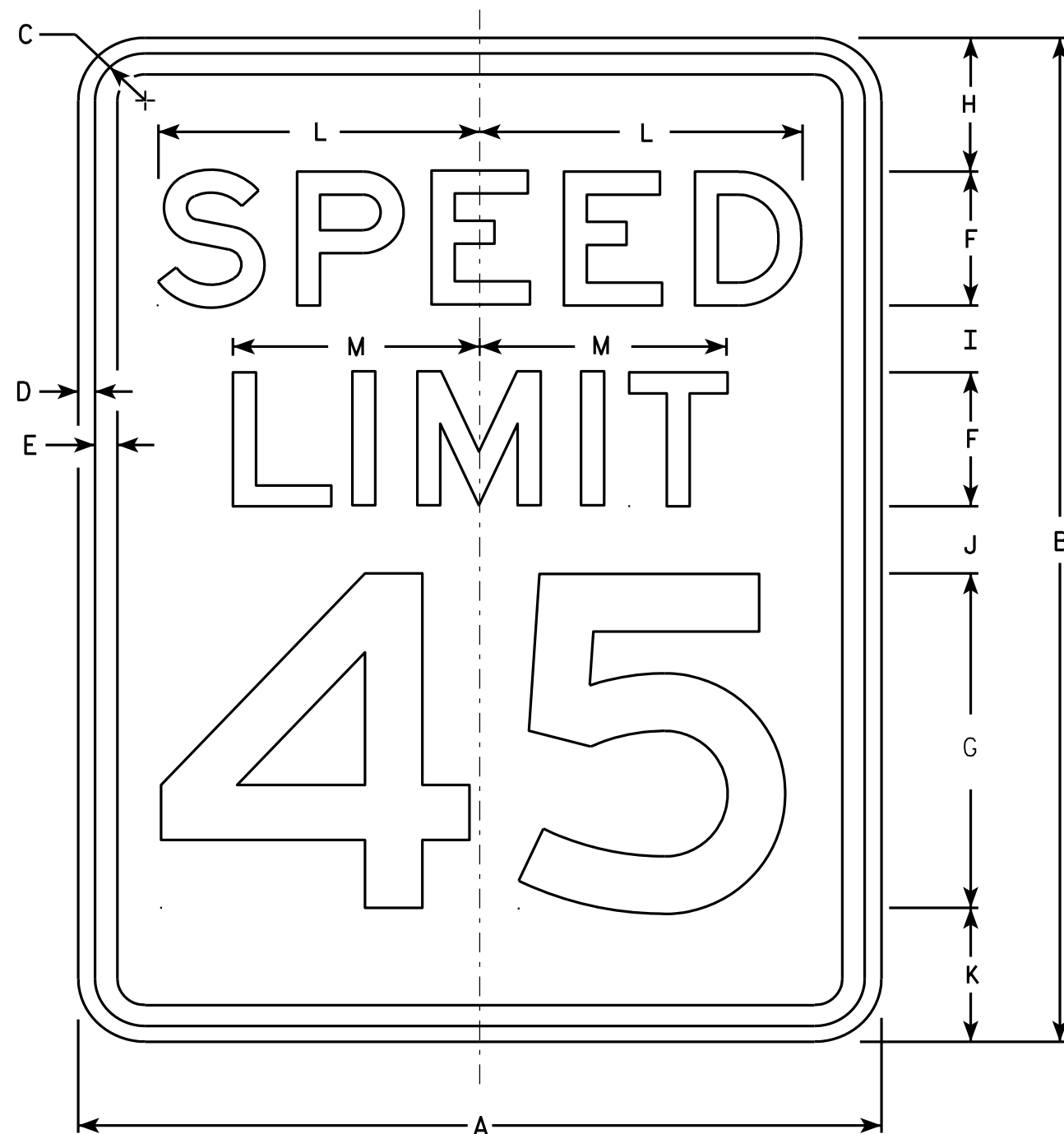
| SIZE | A  | B | C | D | E   | F  | G      | H   | I | J      | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|---|---|-----|----|--------|-----|---|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 24 |   |   |   | 3/8 | 8  | 10     | 45° |   | 10 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.31            |
| 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 12/03/10 PLATE NO. R1-1.12



### NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

R2-1

| 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    | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 3 | 8  | 3 | 2     | 2     | 3     | 7 1/4  | 5 1/2  |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 2S   | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 4 | 10 | 3 | 2 1/4 | 3 3/8 | 3 3/8 | 9 5/8  | 7 3/8  |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.0             |
| 2M   | 30 | 36 | 1 3/8 | 1/2 | 5/8 | 5 | 12 | 5 | 2 1/2 | 2 1/2 | 4     | 12     | 9 1/4  |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.5             |
| 3    | 36 | 48 | 1 3/8 | 1/2 | 5/8 | 6 | 14 | 6 | 5     | 5     | 6     | 14 3/8 | 11     |   |   |   |   |   |   |   |   |   |   |   |   |   | 12.0            |
| 4    | 36 | 48 | 1 3/8 | 1/2 | 5/8 | 6 | 14 | 6 | 5     | 5     | 6     | 14 3/8 | 11     |   |   |   |   |   |   |   |   |   |   |   |   |   | 12.0            |
| 5    | 48 | 60 | 2 1/4 | 3/4 | 1   | 8 | 20 | 6 | 4 1/2 | 6 3/4 | 6 3/4 | 19 1/4 | 14 5/8 |   |   |   |   |   |   |   |   |   |   |   |   |   | 20.0            |

STANDARD SIGN  
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 148

E



R2-6P

NOTES

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

| SIZE | A  | B  | C     | D   | E   | F | G     | H     | I      | J     | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|-------|--------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |       |       |        |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 24 | 18 | 1 1/8 | 3/8 | 3/8 | 4 | 3 1/2 | 3     | 7 5/8  | 9 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 2M   | 24 | 18 | 1 1/8 | 3/8 | 3/8 | 4 | 3 1/2 | 3     | 7 5/8  | 9 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 3    | 36 | 24 | 1 1/8 | 3/8 | 1/2 | 6 | 4 1/8 | 3 3/4 | 12     | 14    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.0             |
| 4    | 36 | 24 | 1 1/8 | 3/8 | 1/2 | 6 | 4 1/8 | 3 3/4 | 12     | 14    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.0             |
| 5    | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 7     | 6     | 15 1/8 | 19    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 12.0            |

STANDARD SIGN

R2-6P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

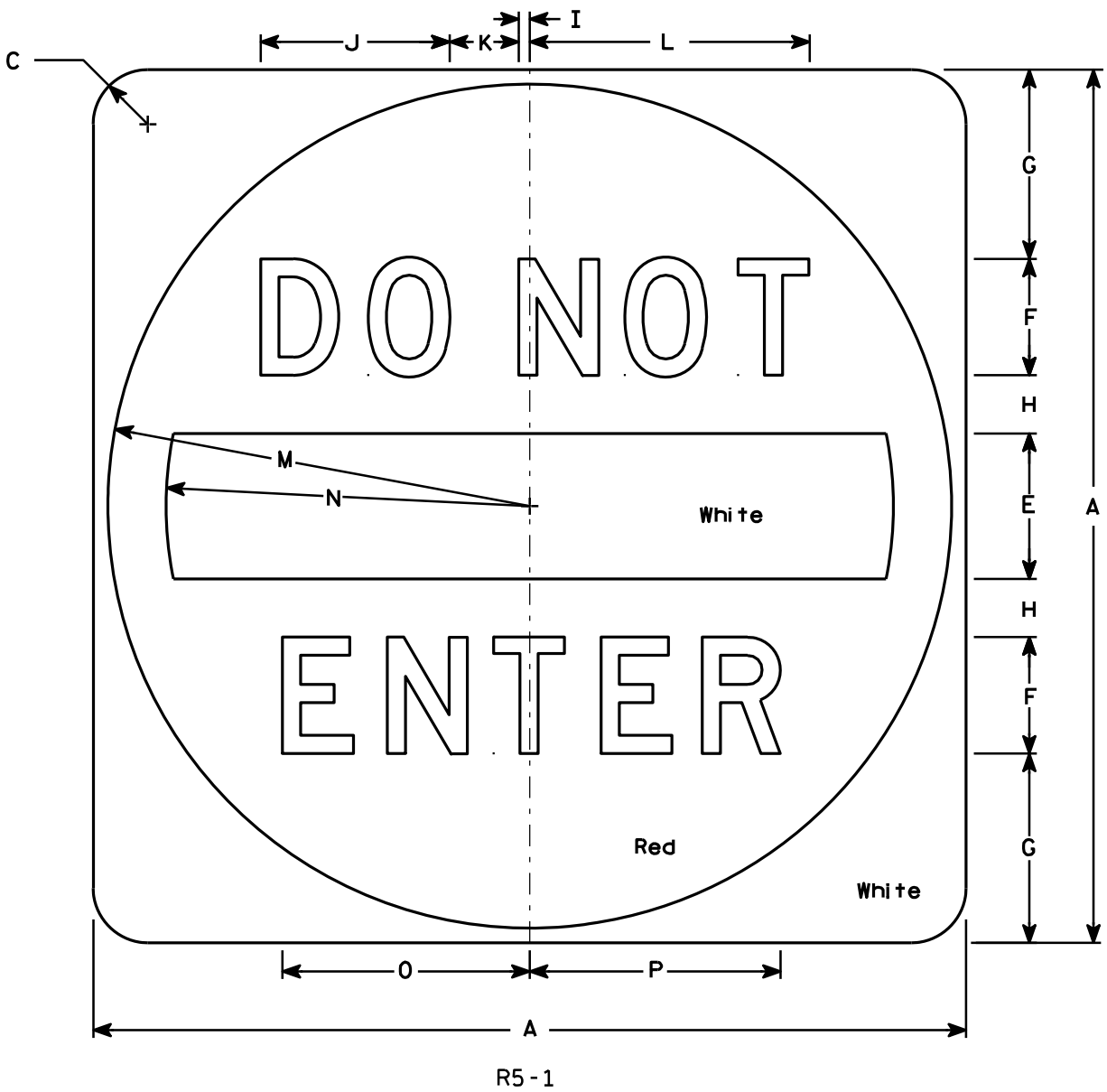
DATE 12/20/10 PLATE NO. R2-6P.2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:

Background - See detail

Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the corners shall be rounded.



| SIZE | A  | B | C     | D | E | F | G     | H     | I   | J     | K     | L      | M      | N      | O      | P      | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|---|---|---|-------|-------|-----|-------|-------|--------|--------|--------|--------|--------|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |   |       |   |   |   |       |       |     |       |       |        |        |        |        |        |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 30 |   | 1 7⁄8 |   | 5 | 4 | 6 1⁄2 | 2     | 3⁄8 | 6 1⁄2 | 2 3⁄8 | 9 5⁄8  | 14 1⁄2 | 12 1⁄2 | 8 1⁄2  | 8 5⁄8  |   |   |   |   |   |   |   |   |   |   | 6.26            |
| 2M   | 36 |   | 2 1⁄4 |   | 6 | 5 | 7 1⁄2 | 2 1⁄2 | 1⁄2 | 8 1⁄8 | 3     | 12 1⁄8 | 17 1⁄2 | 15     | 10 5⁄8 | 10 3⁄4 |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 2 1⁄4 |   | 6 | 5 | 7 1⁄2 | 2 1⁄2 | 1⁄2 | 8 1⁄8 | 3     | 12 1⁄8 | 17 1⁄2 | 15     | 10 5⁄8 | 10 3⁄4 |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 36 |   | 2 1⁄4 |   | 6 | 5 | 7 1⁄2 | 2 1⁄2 | 1⁄2 | 8 1⁄8 | 3     | 12 1⁄8 | 17 1⁄2 | 15     | 10 5⁄8 | 10 3⁄4 |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 5    | 48 |   | 3     |   | 8 | 6 | 11    | 3     | 5⁄8 | 9 3⁄4 | 3 5⁄8 | 14 1⁄2 | 23 1⁄2 | 20     | 12 3⁄4 | 12 7⁄8 |   |   |   |   |   |   |   |   |   |   | 16.0            |

STANDARD SIGN

R5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15



NOTES

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

| SIZE | A  | B  | C     | D   | E   | F | G     | H     | I      | J      | K      | L     | M  | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|-------|--------|--------|--------|-------|----|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |       |       |        |        |        |       |    |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 4 | 3 5/8 | 2 1/4 | 9 1/4  | 9 5/8  | 6 5/8  | 3 5/8 | 10 |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.0             |
| 2M   | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 4 | 3 5/8 | 2 1/4 | 9 1/4  | 9 5/8  | 6 5/8  | 3 5/8 | 10 |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.0             |
| 3    | 36 | 48 | 1 3/8 | 1/2 | 5/8 | 6 | 6     | 4     | 13 7/8 | 14 3/8 | 9 7/8  | 5 3/8 | 15 |   |   |   |   |   |   |   |   |   |   |   |   |   | 12.0            |
| 4    | 48 | 60 | 2 1/4 | 3/4 | 1   | 8 | 7 1/4 | 4 1/2 | 18 1/2 | 19 1/4 | 13 1/4 | 7 1/4 | 20 |   |   |   |   |   |   |   |   |   |   |   |   |   | 20.0            |
| 5    |    |    |       |     |     |   |       |       |        |        |        |       |    |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

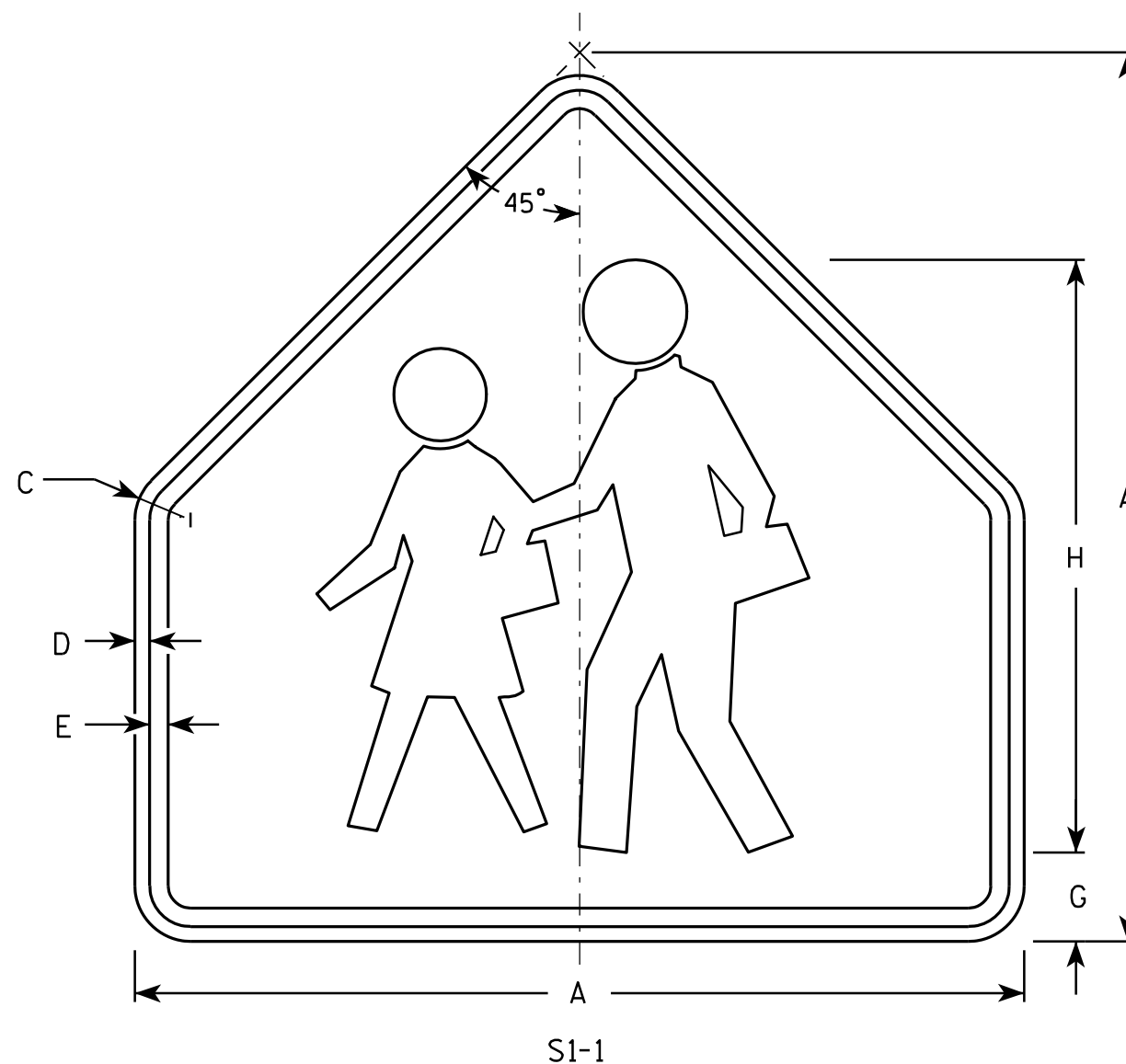
STANDARD SIGN  
R8-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R8-8.4

PROJECT NO: HWY: COUNTY: SHEET NO: 151 E



- 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-Green  
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.

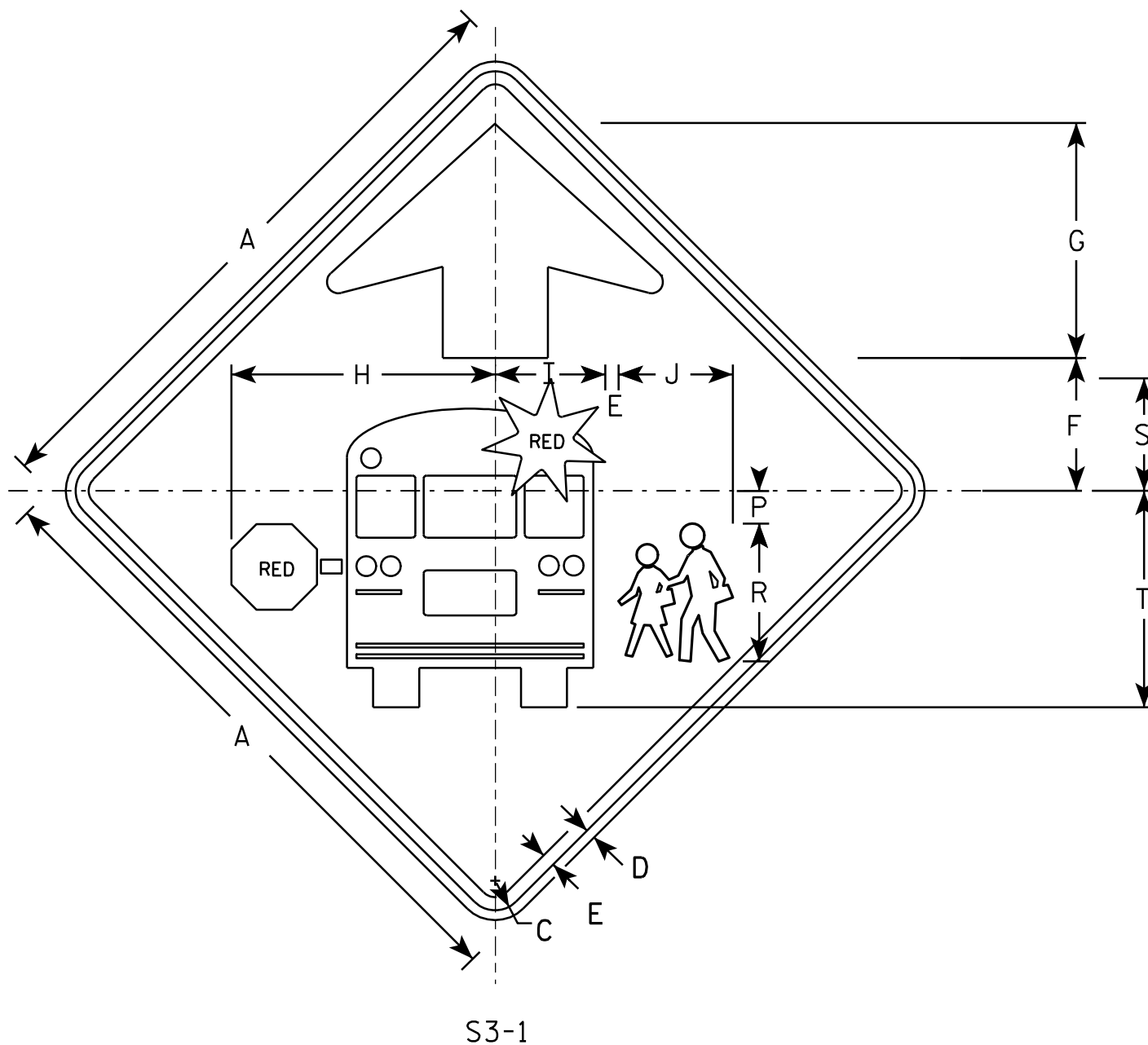
| SIZE | A  | B | C     | D   | E   | F | G     | H  | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|---|-------|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 3     | 20 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.69            |
| 2    | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 3 1/2 | 24 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.75            |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 3 1/2 | 24 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.75            |
| 4    | 48 |   | 2 1/4 | 3/4 | 1   |   | 4 3/4 | 32 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 12              |
| 5    |    |   |       |     |     |   |       |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
S1-1

WISCONSIN DEPT OF TRANSPORTATION

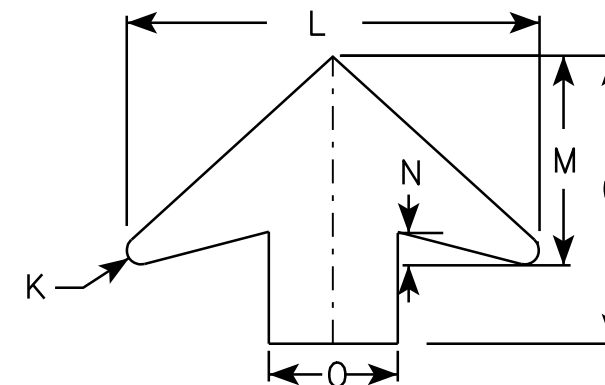
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 6/30/05 PLATE NO. S1-1.8

PROJECT NO: HWY: COUNTY: SHEET NO: 152 E



## NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
  - Background - YELLOW-GREEN
  - Message - BLACK except as noted
  - Circles except PEDS- RED BACKGROUND
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.

[illegible]

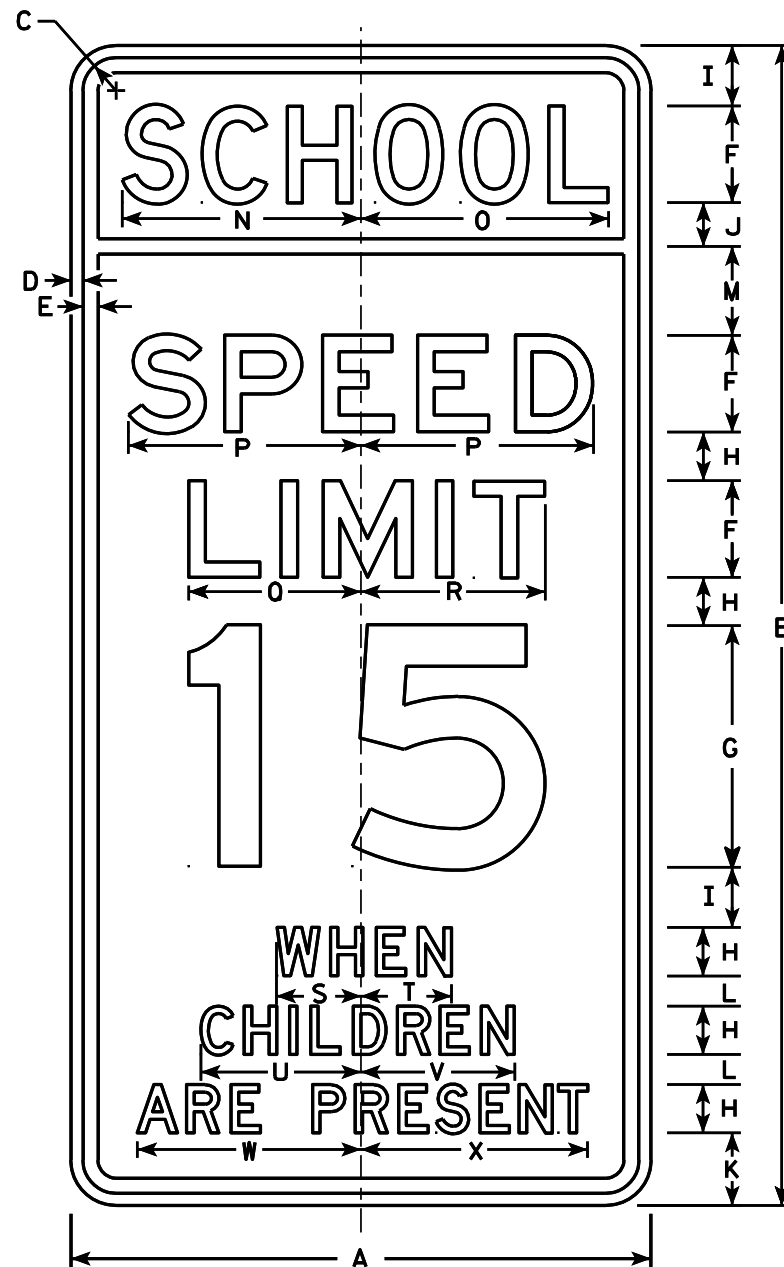
|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| STANDARD SIGN                    |                                                       |
| S3-1                             |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION |                                                       |
| APPROVED                         | <u>Matthew R. Rauch</u><br>for State Traffic Engineer |
| DATE <u>6/8/10</u>               | PLATE NO. <u>S3-1.6</u>                               |

Metric equivalent  
for this sign is:

| SIZE |                  |
|------|------------------|
| 1    |                  |
| 2    | 600 mm X 1200 mm |
| 3    | 900 mm X 1800 mm |
| 4    |                  |
| 5    |                  |

| SIZE | A  | B  | C   | D | E | F | G  | H | I   | J   | K   | L   | M   | N   | O    | P    | Q    | R    | S   | T   | U   | V   | W   | X    | Y | Z | Area<br>sq. ft. | Area<br>m <sup>2</sup> |
|------|----|----|-----|---|---|---|----|---|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|------|---|---|-----------------|------------------------|
| 1    |    |    |     |   |   |   |    |   |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |      |   |   |                 |                        |
| 2    | 24 | 48 | 1 ⅜ | ½ | ⅝ | 4 | 10 | 2 | 2 ½ | 1 ¾ | 3   | 1 ¼ | 3 ¾ | 9 ⅞ | 10 ¼ | 9 ⅝  | 7 ⅛  | 7 ⅝  | 3 ½ | 3 ⅜ | 6 ⅝ | 6 ⅜ | 9 ¼ | 9 ⅜  |   |   | 8.00            | 0.72                   |
| 3    | 36 | 72 | 2 ¼ | ¾ | 1 | 6 | 15 | 3 | 3 ¾ | 2 ¾ | 4 ½ | 1 ⅞ | 5 ½ | 15  | 15 ¼ | 14 ½ | 11 ¼ | 11 ½ | 5 ½ | 5 ¾ | 10  | 9 ¾ | 14  | 14 ⅛ |   |   | 18.00           | 1.62                   |
| 4    |    |    |     |   |   |   |    |   |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |      |   |   |                 |                        |
| 5    |    |    |     |   |   |   |    |   |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |      |   |   |                 |                        |

|             |  |  |      |  |  |         |  |  |               |  |  |   |
|-------------|--|--|------|--|--|---------|--|--|---------------|--|--|---|
| PROJECT NO: |  |  | HWY: |  |  | COUNTY: |  |  | SHEET NO: 154 |  |  | E |
|-------------|--|--|------|--|--|---------|--|--|---------------|--|--|---|



S4-51

### NOTES

- Sign is Type II - reference  
WIS DOT Standard Specification for HIGHWAY  
and STRUCTURE CONSTRUCTION latest edition. (See note 5).
- Color:  
Background - See note 5  
Message - Black
- Message Series - See note 6
- 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.
- Top panel (SCH00L) background - Yellow Green -Type F Reflective.  
Lower panel background - White -Type H Reflective.
- From top to bottom:  
Lines 1, 5, 6 & 7 are series D  
Lines 2, 3 & 4 are series E
- Line 4 substitute appropriate numerals and  
adjust spacing to achieve proper balance.

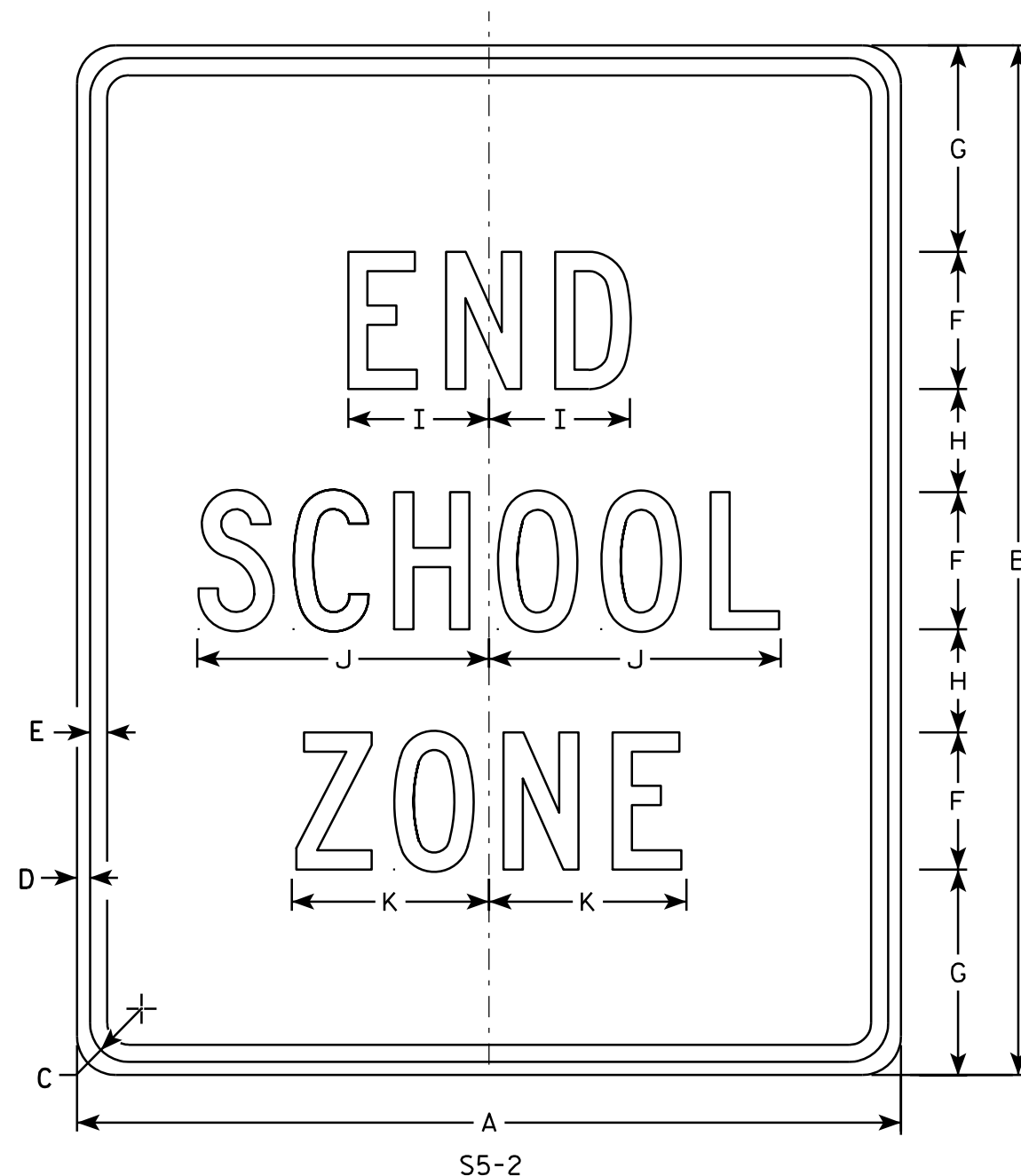
### STANDARD SIGN S4-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 4/26/10 PLATE NO. S4-51.9

7



### NOTES

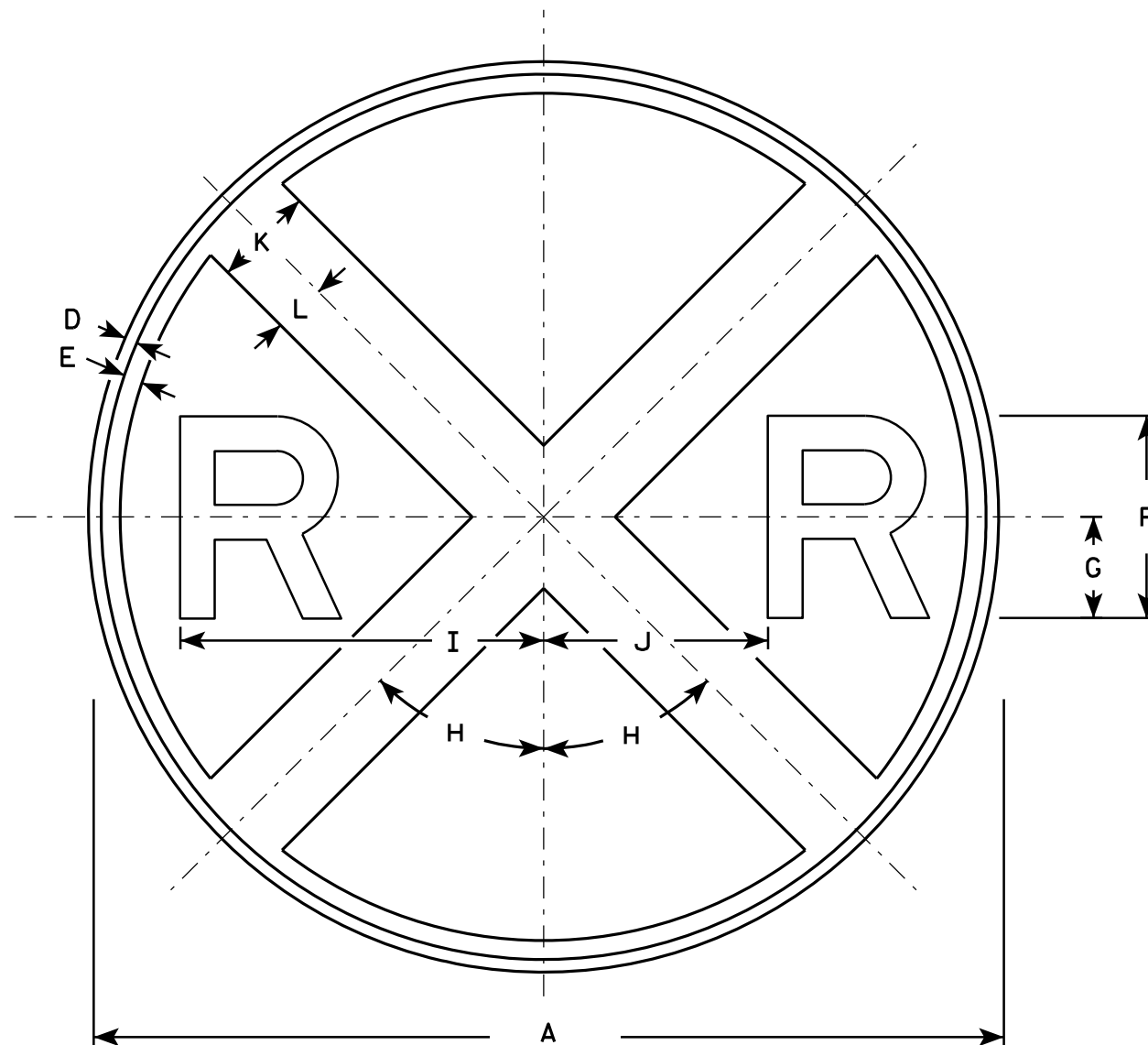
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded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

7

| SIZE | A  | B  | C     | D   | E   | F | G | H | I     | J      | K     | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|---|---|-------|--------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |   |   |       |        |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2    | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 4 | 6 | 3 | 4 1/8 | 8 1/2  | 5 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.0             |
| 3    | 36 | 42 | 1 5/8 | 5/8 | 3/4 | 6 | 7 | 5 | 6 1/8 | 12 5/8 | 8 5/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.5            |
| 4    |    |    |       |     |     |   |   |   |       |        |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |     |   |   |   |       |        |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| STANDARD SIGN<br>S5-2            |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION |                                                       |
| APPROVED                         | <i>Matthew R. Rauch</i><br>For State Traffic Engineer |
| DATE 3/8/11                      | PLATE NO. S5-2.2                                      |

|             |      |         |               |   |
|-------------|------|---------|---------------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: 155 | E |
|-------------|------|---------|---------------|---|



W10-1

NOTES

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

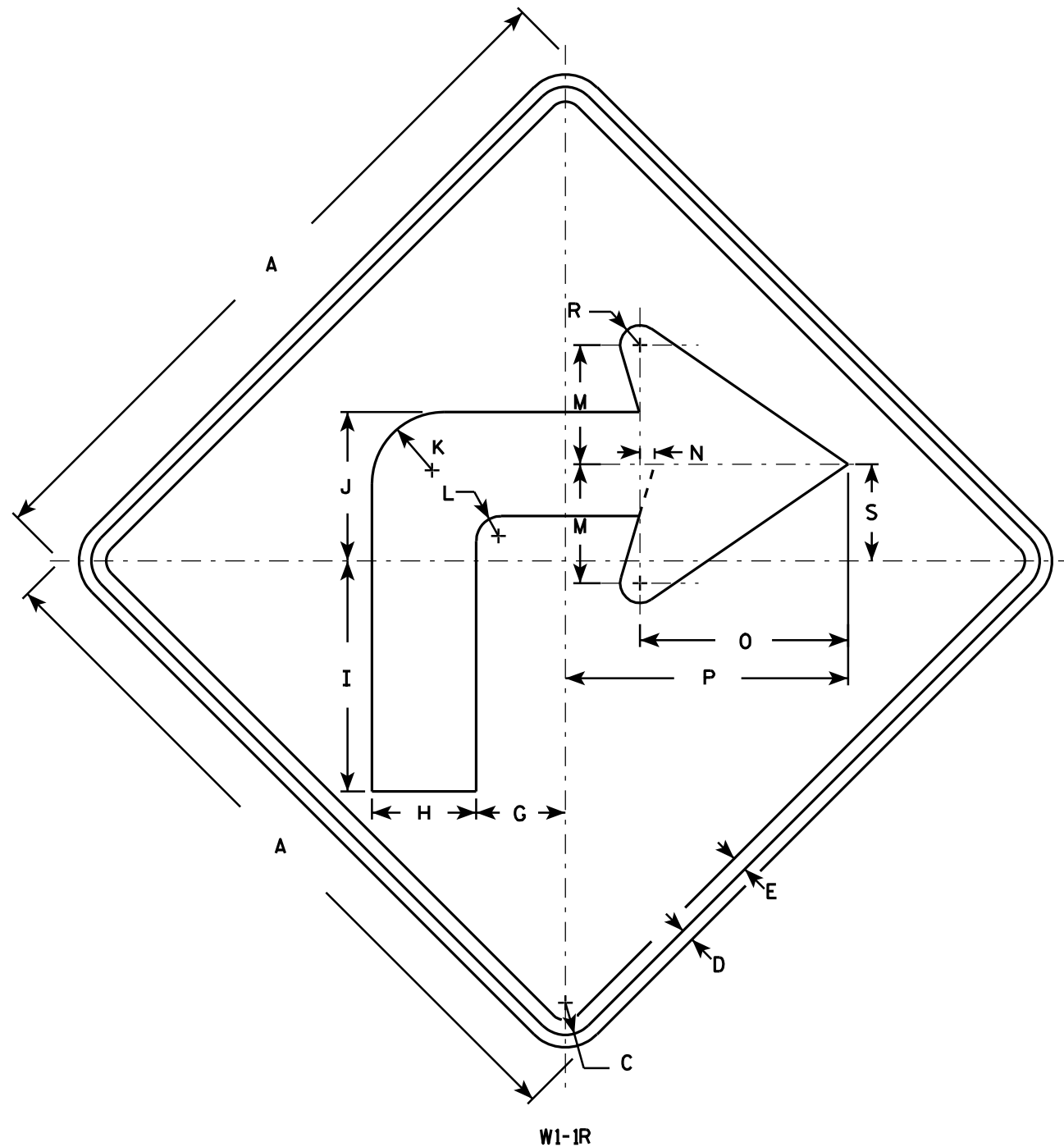
7

7

| SIZE | A  | B | C | D   | E     | F  | G     | H   | I      | J      | K | L     | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|---|-----|-------|----|-------|-----|--------|--------|---|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 30 |   |   | 3/8 | 5/8   | 7  | 3 1/2 | 45° | 12 3/8 | 7 1/8  | 3 | 1 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.91            |
| 2S   | 36 |   |   | 5/8 | 3/4   | 8  | 4     | 45° | 14 3/8 | 8 5/8  | 4 | 2     |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.07            |
| 2M   | 36 |   |   | 5/8 | 3/4   | 8  | 4     | 45° | 14 3/8 | 8 5/8  | 4 | 2     |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.07            |
| 3    |    |   |   |     |       |    |       |     |        |        |   |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 4    | 48 |   |   | 3/4 | 1 1/4 | 10 | 5     | 45° | 18 3/8 | 11 5/8 | 5 | 2 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 12.57           |
| 5    |    |   |   |     |       |    |       |     |        |        |   |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

|                                  |                                                 |
|----------------------------------|-------------------------------------------------|
| STANDARD SIGN                    |                                                 |
| W10-1                            |                                                 |
| WISCONSIN DEPT OF TRANSPORTATION |                                                 |
| APPROVED                         | <i>Matthew R. Rauch</i>                         |
| DATE 3/15/11                     | for State Traffic Engineer<br>PLATE NO. W10-1.7 |

|             |      |         |               |   |
|-------------|------|---------|---------------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: 156 | E |
|-------------|------|---------|---------------|---|



# NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - Yellow  
Message - Black
- 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.
- W1-1L is the same as W1-1R except the arrow is reversed along the vertical centerline.

| 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    | 24 |   | 1 1/8 | 3/8 | 1/2 |   | 3     | 3 1/2 | 7 3/4  | 5     | 2 1/2 | 7/8   | 4 | 1/2 | 7      | 9 1/2  |   | 5/8   | 3 1/4 |   |   |   |   |   |   |   | 4.0             |
| 2S   | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 4 1/2 | 5 1/4 | 11 5/8 | 7 1/2 | 3 5/8 | 1 1/4 | 6 | 3/4 | 10 1/2 | 14 1/4 |   | 1     | 4 7/8 |   |   |   |   |   |   |   | 9.0             |
| 2M   | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 4 1/2 | 5 1/4 | 11 5/8 | 7 1/2 | 3 5/8 | 1 1/4 | 6 | 3/4 | 10 1/2 | 14 1/4 |   | 1     | 4 7/8 |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 4 1/2 | 5 1/4 | 11 5/8 | 7 1/2 | 3 5/8 | 1 1/4 | 6 | 3/4 | 10 1/2 | 14 1/4 |   | 1     | 4 7/8 |   |   |   |   |   |   |   | 9.0             |
| 4    | 48 |   | 2 1/4 | 3/4 | 1   |   | 6     | 7     | 15 1/2 | 10    | 4 7/8 | 1 5/8 | 8 | 1   | 14     | 19     |   | 1 1/4 | 6 1/2 |   |   |   |   |   |   |   | 16.0            |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   |   | 6     | 7     | 15 1/2 | 10    | 4 7/8 | 1 5/8 | 8 | 1   | 14     | 19     |   | 1 1/4 | 6 1/2 |   |   |   |   |   |   |   | 16.0            |

## STANDARD SIGN

W1-1

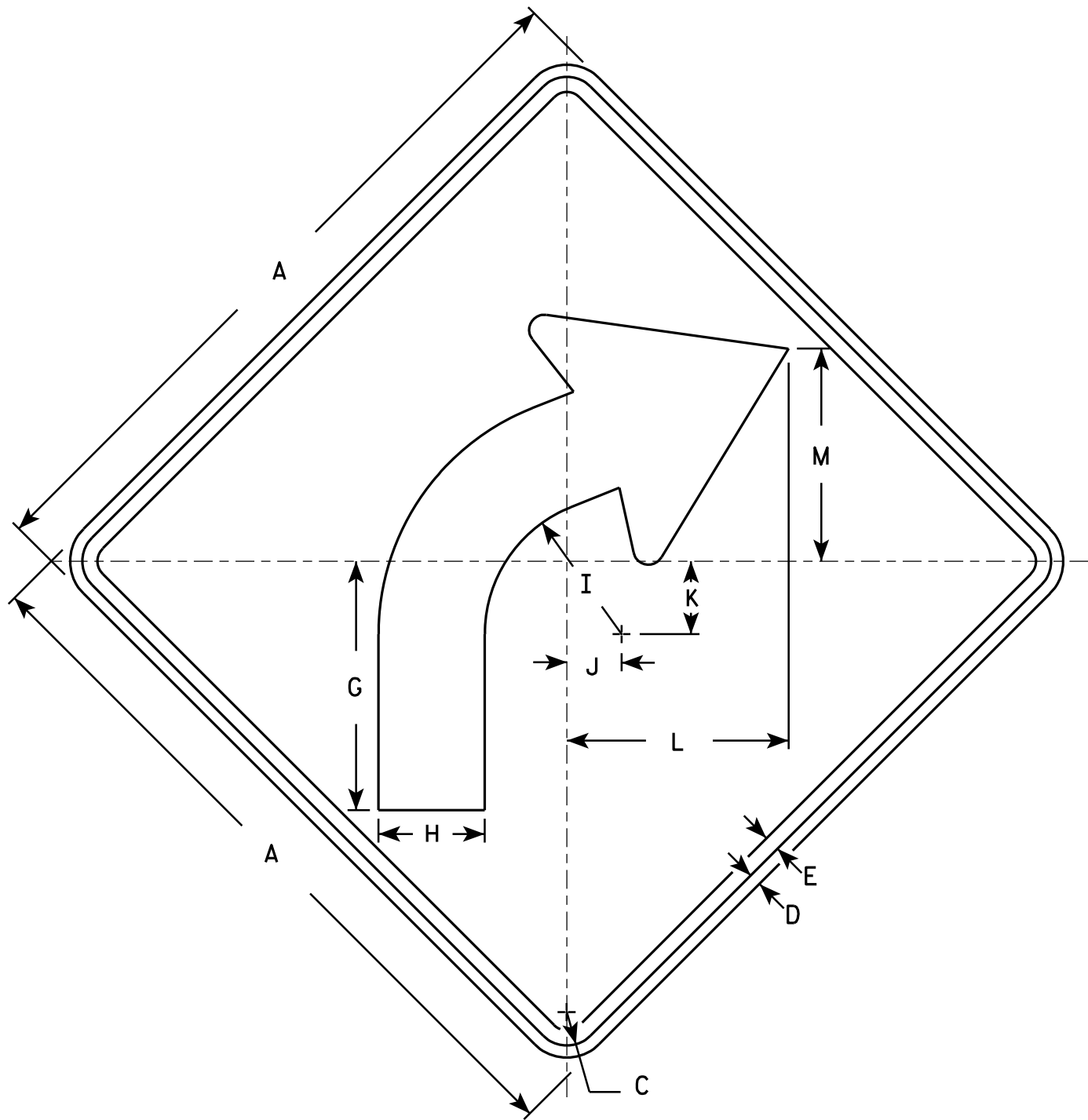
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 5/15/12 PLATE NO. W1-1.11

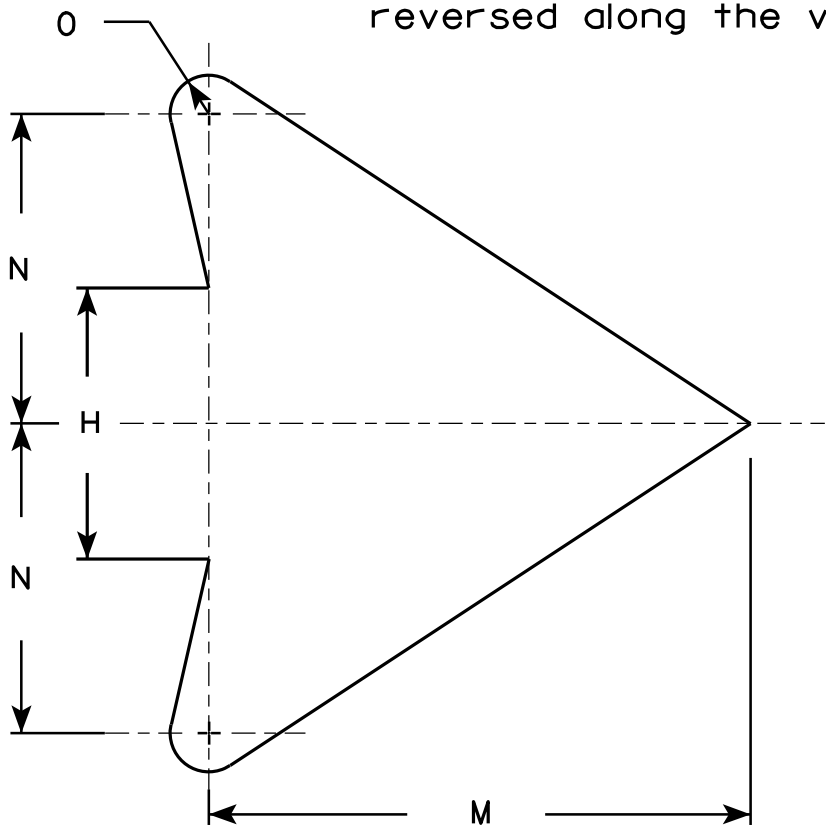
PROJECT NO: HWY: COUNTY: SHEET NO: 157 E

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. W1-2L is the same as W1-2R except the arrow is  
reversed along the vertical centerline.



W1-2R



ARROW DETAIL

| SIZE | A  | B | C     | D   | E   | F | G      | H     | I     | J     | K     | L      | M      | N | O   | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|---|--------|-------|-------|-------|-------|--------|--------|---|-----|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 24 |   | 1 1/8 | 3/8 | 1/2 |   | 8 1/4  | 3 1/2 | 4 1/2 | 1 3/4 | 2 3/8 | 7 1/4  | 7      | 4 | 1/2 |   |   |   |   |   |   |   |   |   |   |   | 4.0             |
| 2S   | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 1/4 | 4 3/8 | 5 5/8 | 2 1/4 | 3     | 9 1/8  | 8 3/4  | 5 | 5/8 |   |   |   |   |   |   |   |   |   |   |   | 6.25            |
| 2M   | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   |   | 16 1/2 | 7     | 9     | 3 1/2 | 4 5/8 | 14 1/2 | 14     | 8 | 1   |   |   |   |   |   |   |   |   |   |   |   | 16.0            |

STANDARD SIGN  
W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/15/12

PLATE NO. W1-2.10

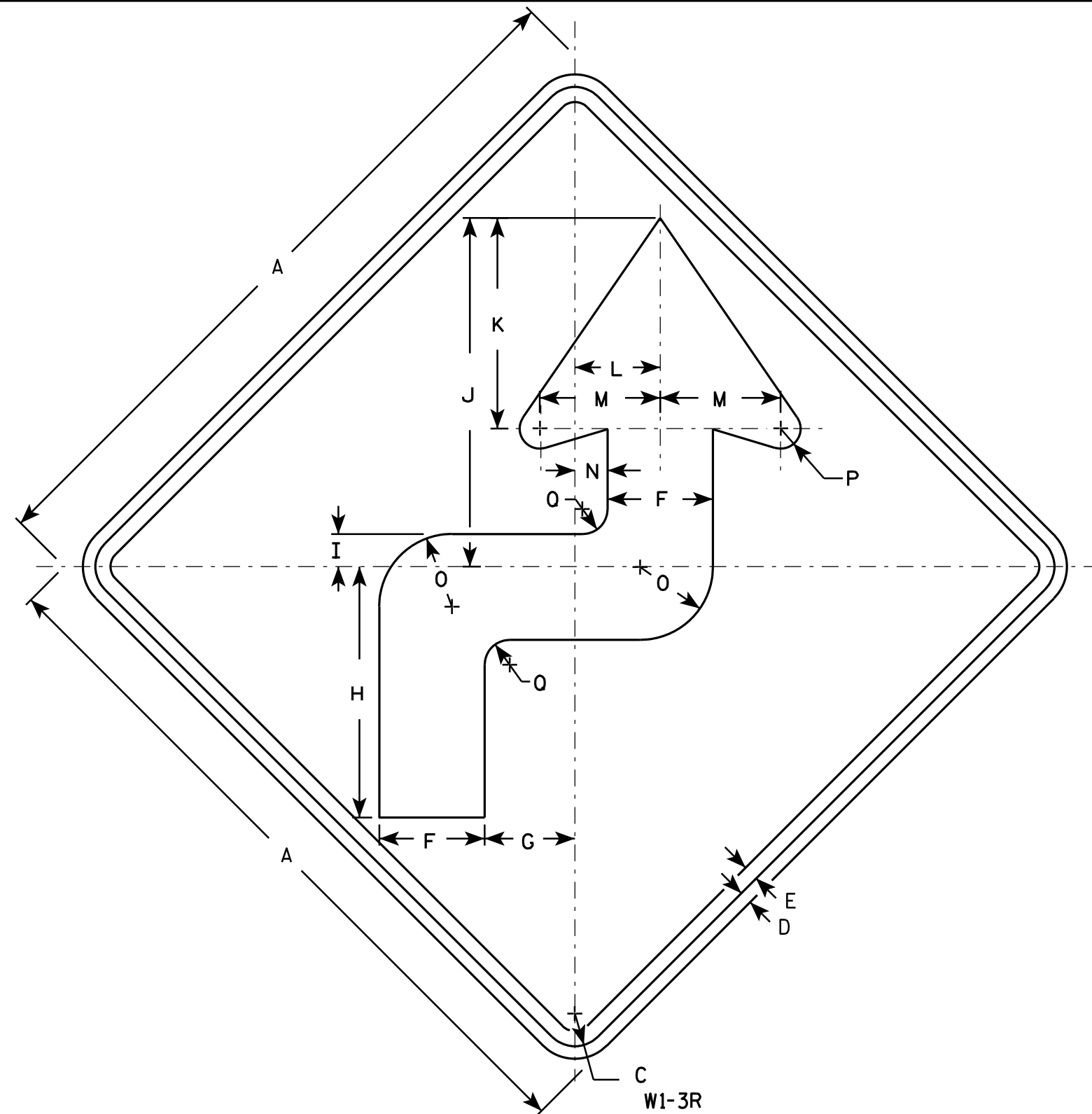
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 158

E



### 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. W1-3L is the same as W1-3R except the arrow is reversed along the vertical centerline.

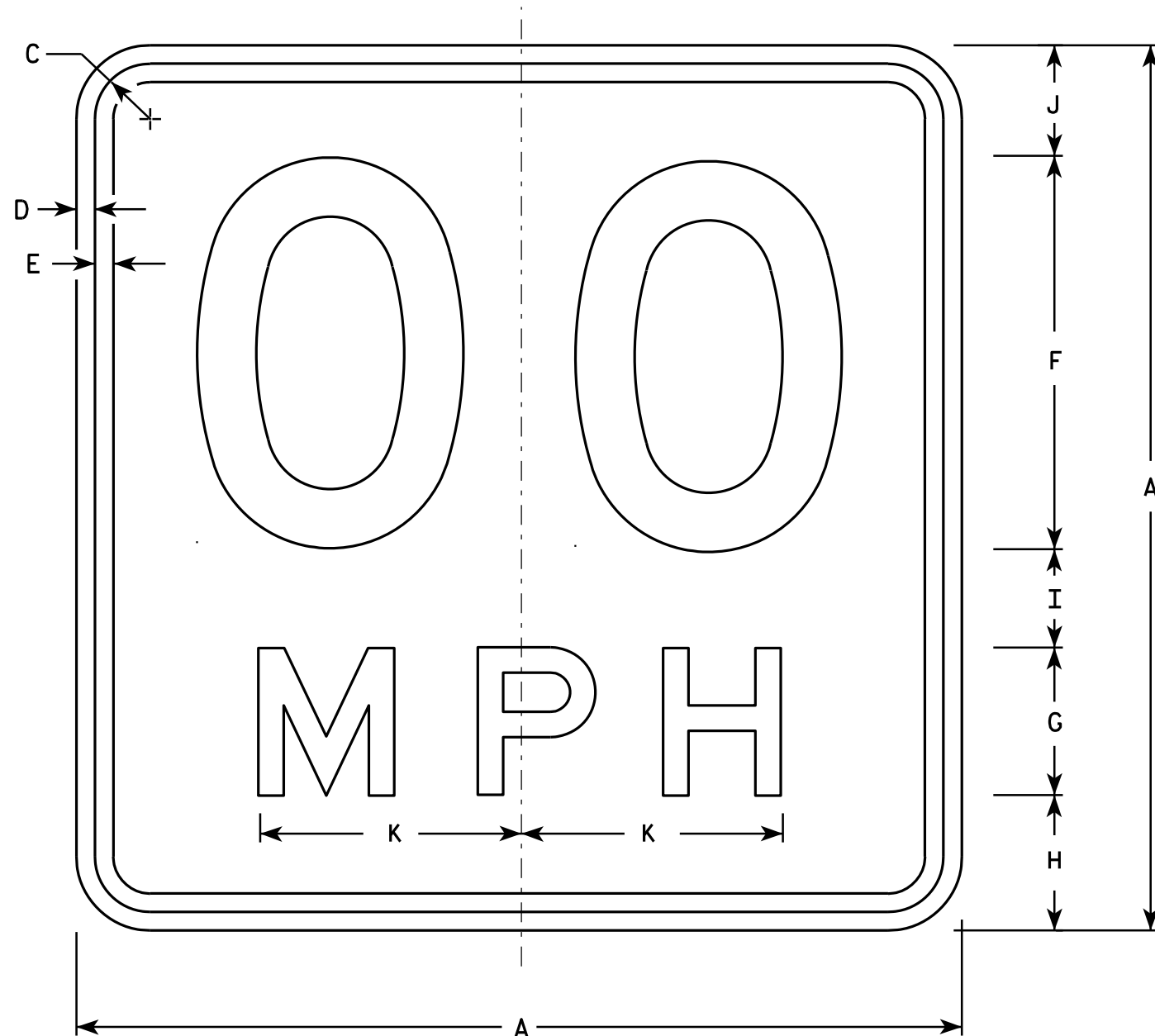
| SIZE | A  | B | C     | D   | E   | F     | G     | H      | I     | J      | K      | L     | M | N     | O     | P     | Q     | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|-------|-------|--------|-------|--------|--------|-------|---|-------|-------|-------|-------|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 24 |   | 1 1/8 | 3/8 | 1/2 | 3 1/2 | 3     | 8 3/8  | 1 1/8 | 11 5/8 | 7      | 2 3/4 | 4 | 1 1/8 | 2 1/2 | 5/8   | 7/8   |   |   |   |   |   |   |   |   |   | 4.0             |
| 2S   | 36 |   | 1 5/8 | 5/8 | 3/4 | 5 1/4 | 4 1/2 | 12 1/2 | 1 5/8 | 17 3/8 | 10 1/2 | 4 1/4 | 6 | 1 5/8 | 3 5/8 | 1     | 1 1/4 |   |   |   |   |   |   |   |   |   | 9.0             |
| 2M   | 36 |   | 1 5/8 | 5/8 | 3/4 | 5 1/4 | 4 1/2 | 12 1/2 | 1 5/8 | 17 3/8 | 10 1/2 | 4 1/4 | 6 | 1 5/8 | 3 5/8 | 1     | 1 1/4 |   |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 | 5 1/4 | 4 1/2 | 12 1/2 | 1 5/8 | 17 3/8 | 10 1/2 | 4 1/4 | 6 | 1 5/8 | 3 5/8 | 1     | 1 1/4 |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 36 |   | 1 5/8 | 5/8 | 3/4 | 5 1/4 | 6     | 12 1/2 | 1 5/8 | 17 3/8 | 10 1/2 | 4 1/4 | 6 | 1 5/8 | 3 5/8 | 1     | 1 1/4 |   |   |   |   |   |   |   |   |   | 9.0             |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   | 7     | 6     | 16 5/8 | 2 1/4 | 23 1/4 | 14     | 5 5/8 | 8 | 2 1/8 | 4 7/8 | 1 1/4 | 1 5/8 |   |   |   |   |   |   |   |   |   | 16.0            |

### STANDARD SIGN W1-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 5/17/12 PLATE NO. W1-3.8

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: 159 **E**



### 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. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D  
Line 2 is Series E

W13-1

\* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.  
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

| 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    | 18 |   | 1 1/8 | 3/8 | 3/8 | 8  | 3 | 2 3/4 | 2     | 2 1/4 | 5 3/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.25            |
| * 2S | 18 |   | 1 1/8 | 3/8 | 3/8 | 8  | 3 | 2 3/4 | 2     | 2 1/4 | 5 3/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.25            |
| * 2M | 18 |   | 1 1/8 | 3/8 | 3/8 | 8  | 3 | 2 3/4 | 2     | 2 1/4 | 5 3/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.25            |
| 3    | 24 |   | 1 1/8 | 3/8 | 1/2 | 10 | 4 | 4     | 2 3/4 | 3 1/4 | 6 5/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.00            |
| 4    | 36 |   | 1 5/8 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4     | 4 1/2 | 10 5/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 9.00            |
| 5    | 36 |   | 1 5/8 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4     | 4 1/2 | 10 5/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 9.00            |

### STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO:

HWY:

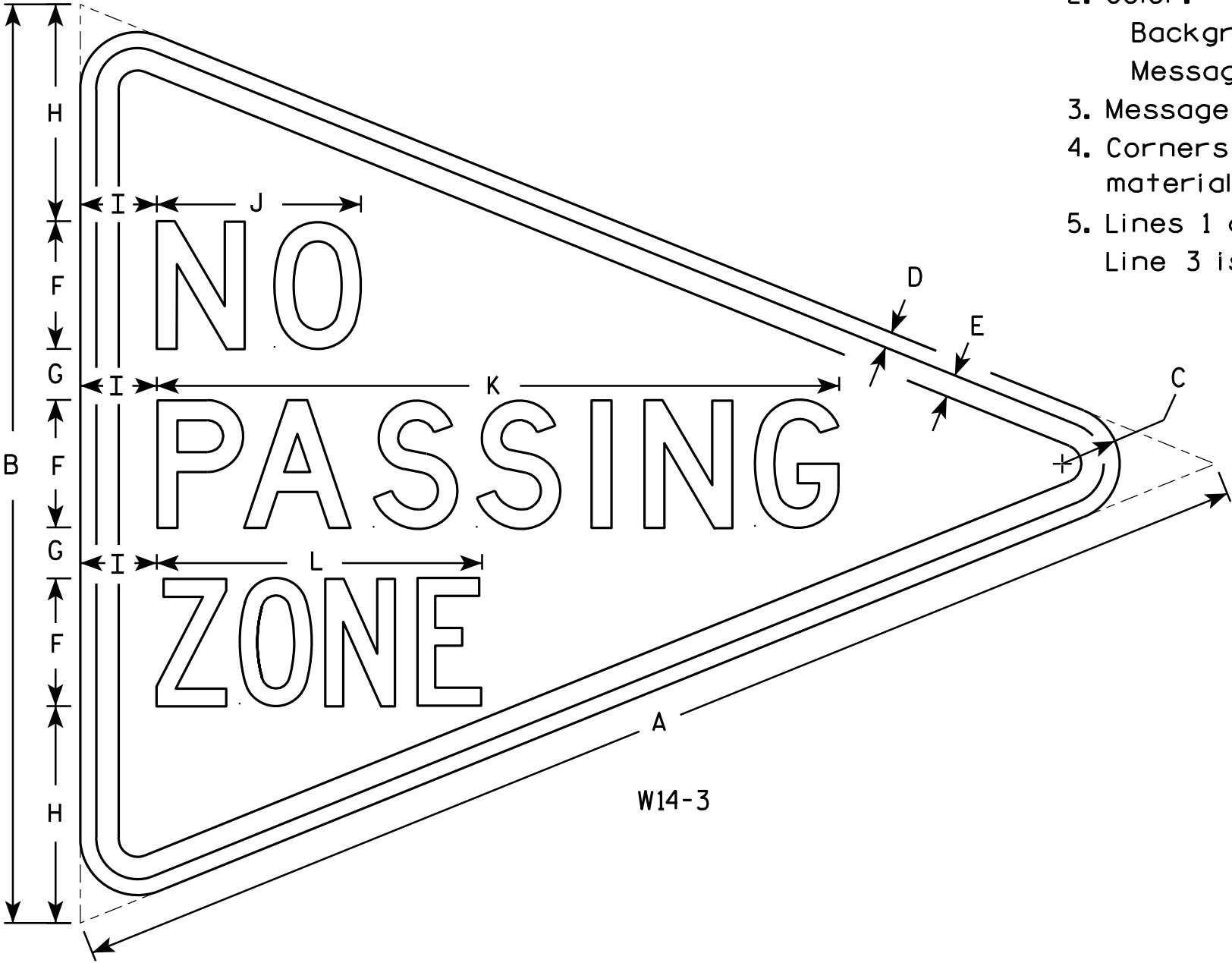
COUNTY:

SHEET NO: 160

E

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. Message Series - See note 5
- 4. Corners and borders shall be rounded on all base materials for this sign.
- 5. Lines 1 and 2 are Series D.  
Line 3 is series C.



W14-3

| SIZE | A  | B  | C     | D   | E     | F | G | H     | I | J      | K      | L      | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-------|---|---|-------|---|--------|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |       |   |   |       |   |        |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 48 | 36 | 2 1/4 | 5/8 | 7/8   | 5 | 2 | 8 1/2 | 3 | 8      | 26 3/4 | 12 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.0             |
| 2M   | 48 | 36 | 2 1/4 | 5/8 | 7/8   | 5 | 2 | 8 1/2 | 3 | 8      | 26 3/4 | 12 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.0             |
| 3    | 64 | 48 | 3     | 3/4 | 1 1/4 | 6 | 3 | 12    | 4 | 10 3/4 | 33 5/8 | 16 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.7            |
| 4    |    |    |       |     |       |   |   |       |   |        |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |       |   |   |       |   |        |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

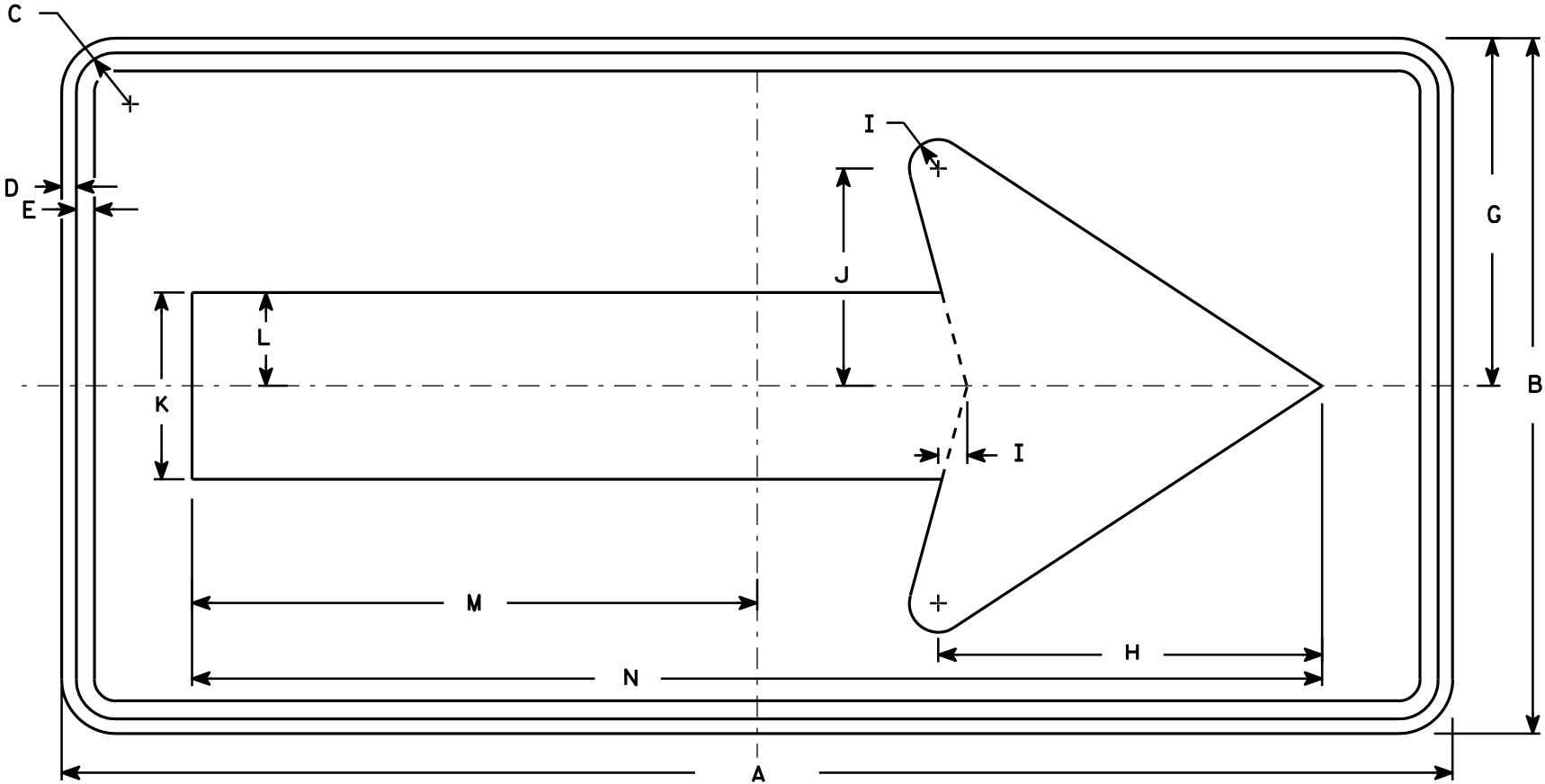
DATE 6/7/10 PLATE NO. W14-3.9

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.



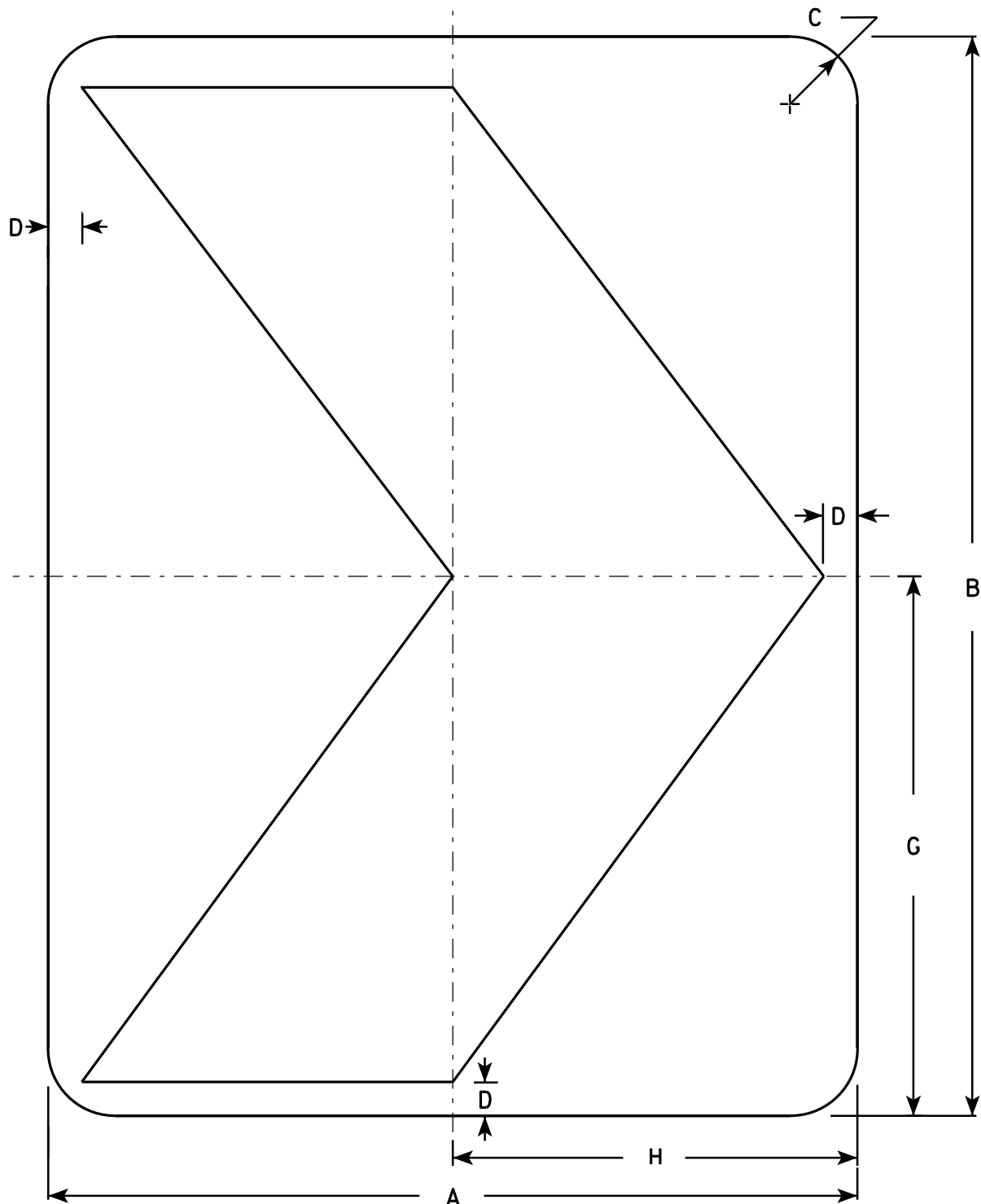
W1-6

| SIZE | A  | B  | C     | D   | E   | F | G  | H      | I     | J     | K     | L     | M      | N      | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|----|--------|-------|-------|-------|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 36 | 18 | 1 1/8 | 3/8 | 3/8 |   | 9  | 10     | 3/4   | 5 5/8 | 4 3/4 | 2 3/8 | 14 5/8 | 29 1/4 |   |   |   |   |   |   |   |   |   |   |   |   | 4.5             |
| 2S   | 48 | 24 | 1 3/8 | 1/2 | 5/8 |   | 12 | 13 1/4 | 1     | 7 1/2 | 6 1/2 | 3 1/4 | 19 1/2 | 39     |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 2M   | 48 | 24 | 1 3/8 | 1/2 | 5/8 |   | 12 | 13 1/4 | 1     | 7 1/2 | 6 1/2 | 3 1/4 | 19 1/2 | 39     |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 3    | 60 | 30 | 1 3/8 | 1/2 | 5/8 |   | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8     | 4     | 24 3/8 | 48 3/4 |   |   |   |   |   |   |   |   |   |   |   |   | 12.5            |
| 4    | 60 | 30 | 1 3/8 | 1/2 | 5/8 |   | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8     | 4     | 24 3/8 | 48 3/4 |   |   |   |   |   |   |   |   |   |   |   |   | 12.5            |
| 5    | 96 | 48 | 2 1/4 | 3/4 | 1   |   | 24 | 26 1/2 | 2     | 15    | 13    | 6 1/2 | 39     | 78     |   |   |   |   |   |   |   |   |   |   |   |   | 32.0            |

STANDARD SIGN  
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 6/7/10 PLATE NO. W1-6.8



W1-8

### 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.

| 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    | 12 | 18 | 1 1/2 | 1/2   |   |   | 9  | 6  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1.5             |
| 2S   | 18 | 24 | 1 1/2 | 3/4   |   |   | 12 | 9  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 2M   | 18 | 24 | 1 1/2 | 3/4   |   |   | 12 | 9  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 3    | 24 | 30 | 1 1/2 | 1     |   |   | 15 | 12 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.0             |
| 4    | 30 | 36 | 1 7/8 | 1 1/4 |   |   | 18 | 15 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.5             |
| 5    | 36 | 48 | 2 1/4 | 1 1/2 |   |   | 24 | 18 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 12.0            |

### STANDARD SIGN

W1-8

WISCONSIN DEPT OF TRANSPORTATION

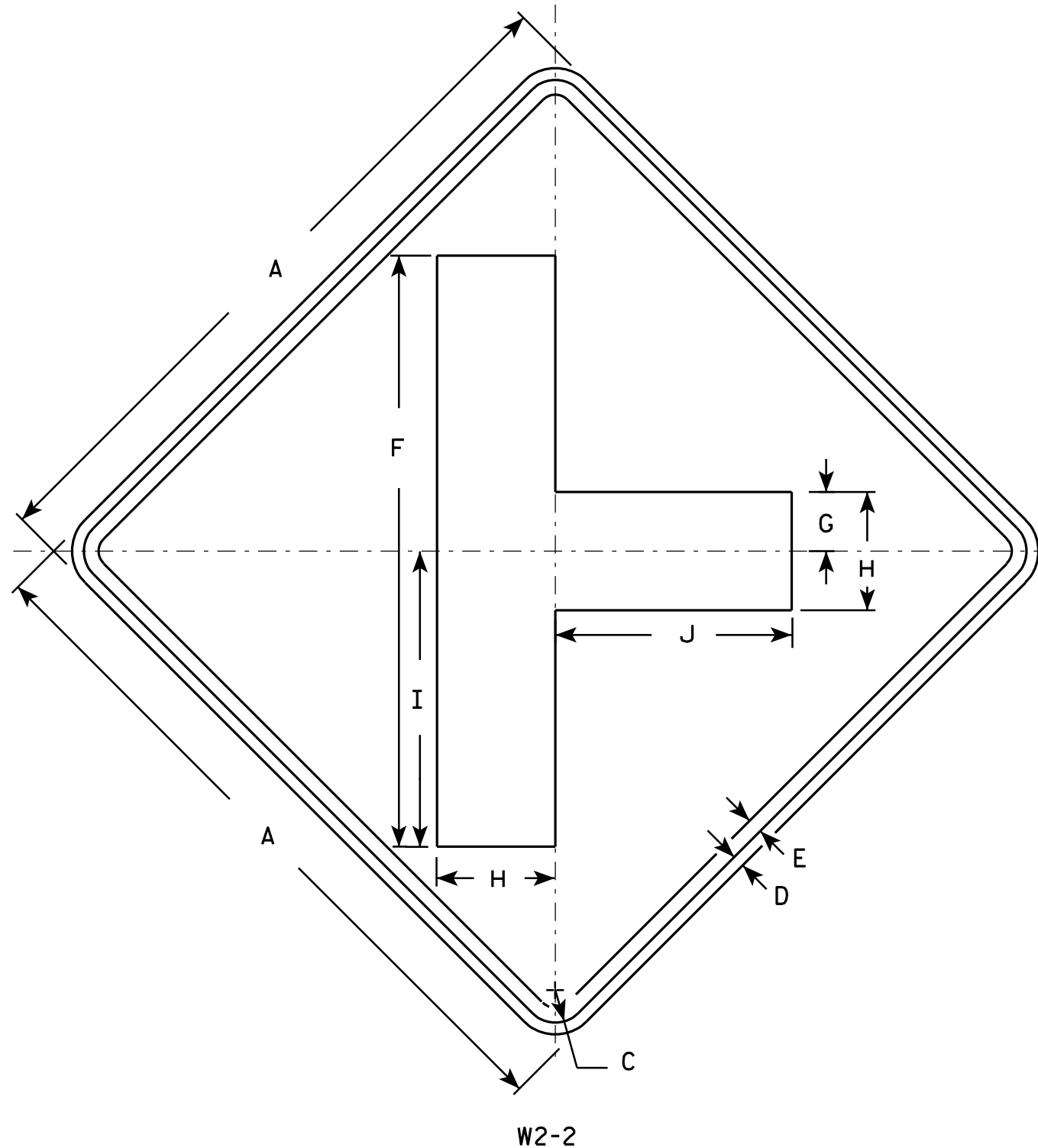
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-8.6

PROJECT NO:

SHEET NO: 163

E



# 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.

| 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    | 24 |   | 1 1/8 | 3/8 | 1/2 | 20 | 2     | 4 | 10     | 8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.0             |
| 2S   | 30 |   | 1 3/8 | 1/2 | 5/8 | 25 | 2 1/2 | 5 | 12 1/2 | 10 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.25            |
| 2M   | 30 |   | 1 3/8 | 1/2 | 5/8 | 25 | 2 1/2 | 5 | 12 1/2 | 10 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.25            |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 | 30 | 3     | 6 | 15     | 12 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 48 |   | 2 1/4 | 3/4 | 1   | 40 | 4     | 8 | 20     | 16 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 16.0            |
| 5    |    |   |       |     |     |    |       |   |        |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

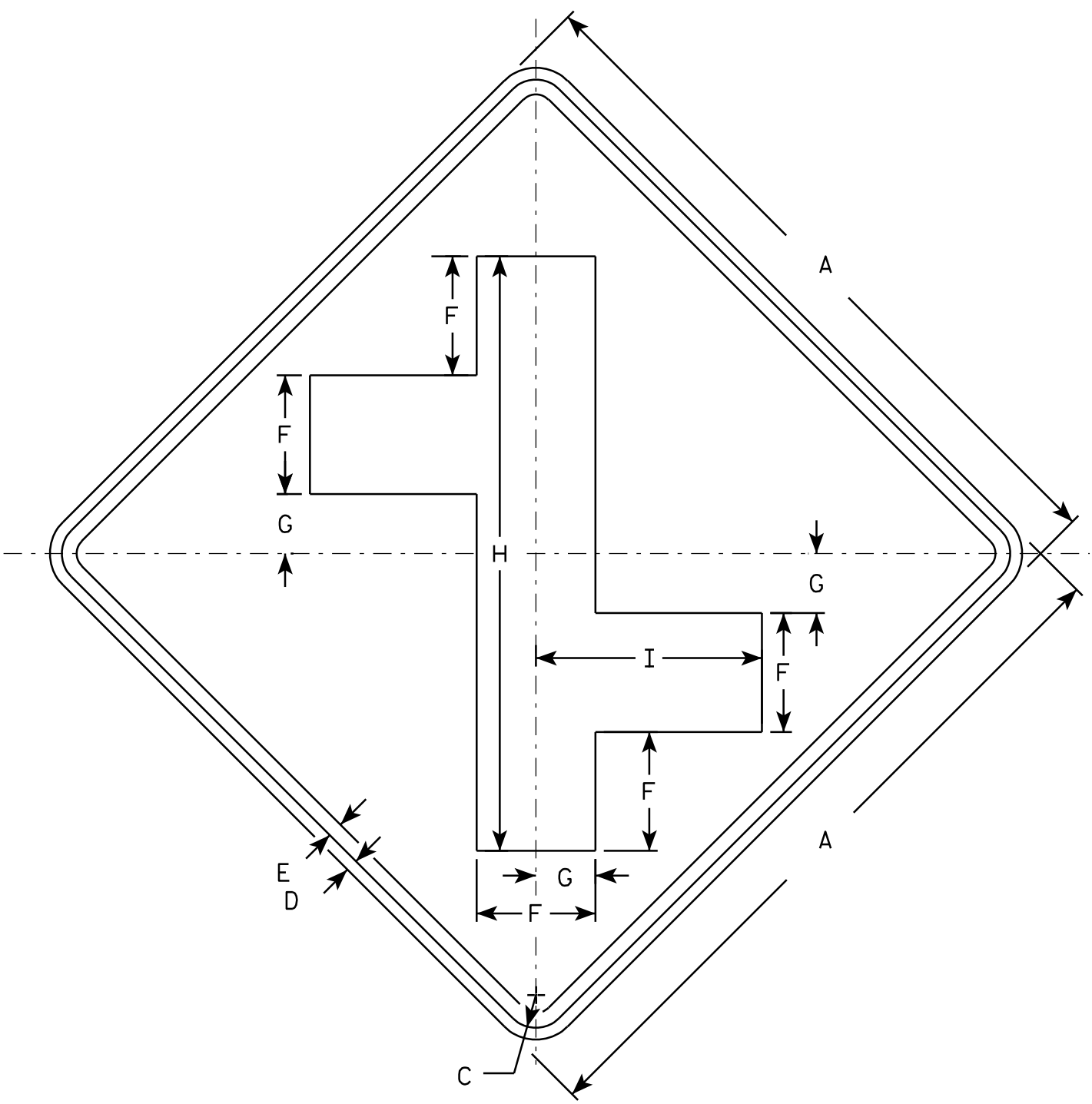
## STANDARD SIGN W2-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-2.6

PROJECT NO: HWY: COUNTY: SHEET NO: 164 E



W2-7R

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.

| 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   | 30 |   | 1 3/8 | 1/2 | 5/8 | 5 | 2 1/2 | 25 | 9 1/2  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.25            |
| 2M   | 30 |   | 1 3/8 | 1/2 | 5/8 | 5 | 2 1/2 | 25 | 9 1/2  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.25            |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 | 6 | 3     | 30 | 11 3/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 48 |   | 2 1/4 | 3/4 | 1   | 8 | 4     | 40 | 15 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 16.0            |
| 5    |    |   |       |     |     |   |       |    |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

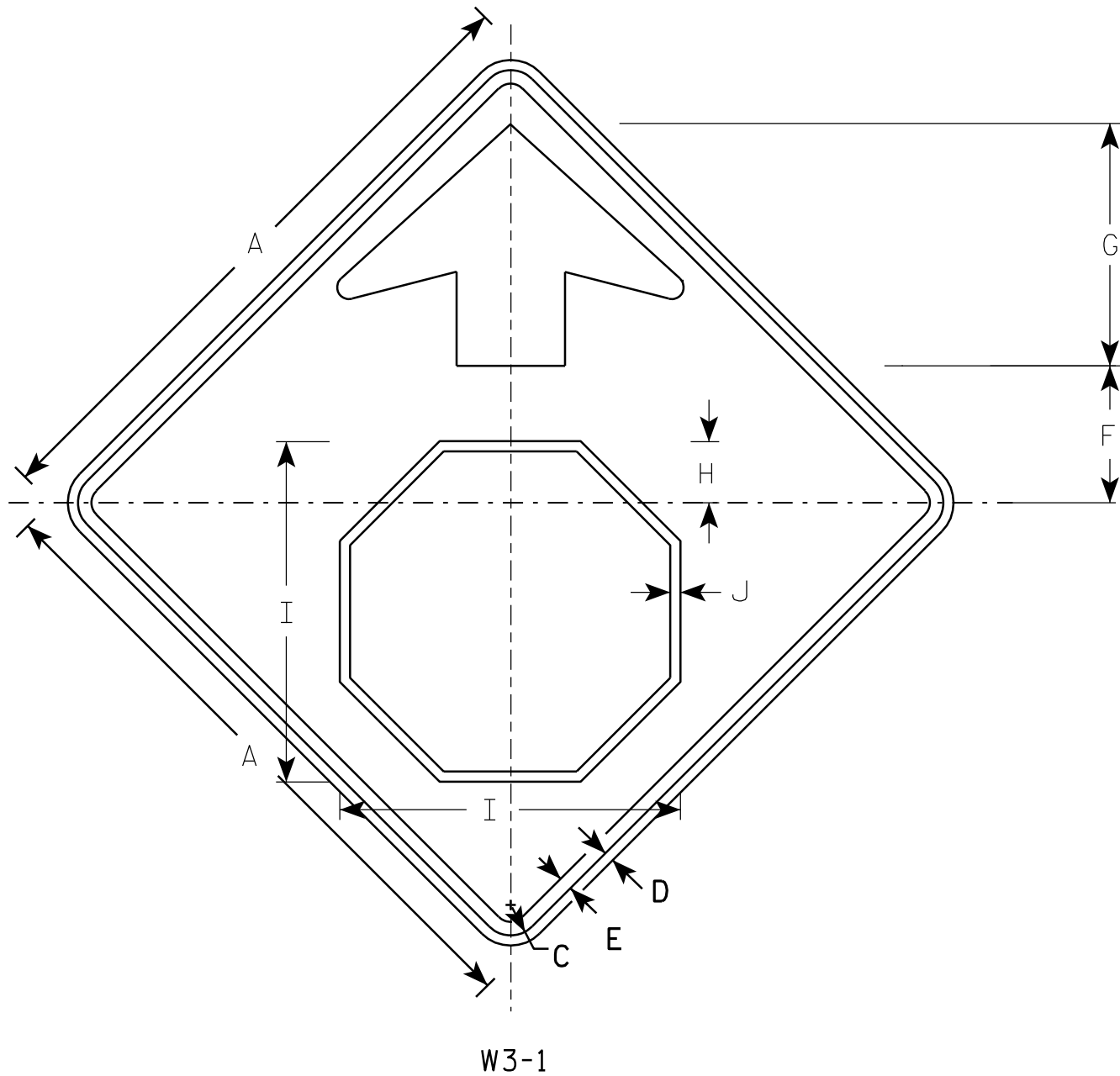
STANDARD SIGN  
W2-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

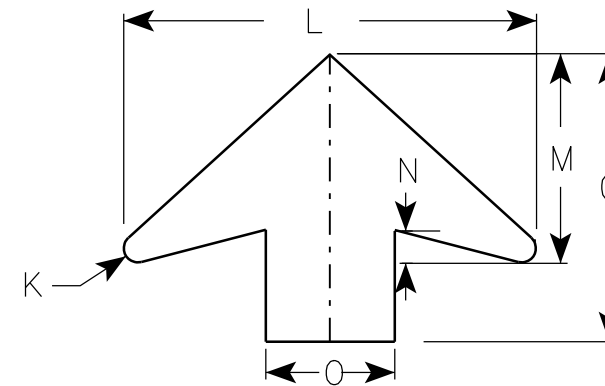
DATE 5/29/12 PLATE NO. W2-7R.2

|             |      |         |               |   |
|-------------|------|---------|---------------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: 165 | E |
|-------------|------|---------|---------------|---|



### NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - YELLOW  
Arrow & Border - BLACK  
Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

| SIZE | A  | B | C     | D   | E   | F     | G      | H     | I      | J   | K   | L      | M     | N     | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|-------|--------|-------|--------|-----|-----|--------|-------|-------|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 30 |   | 1 3/8 | 1/2 | 5/8 | 6 1/4 | 11 1/4 | 2 7/8 | 15 3/4 | 1/2 | 1/2 | 16     | 8     | 1 1/4 | 5 |   |   |   |   |   |   |   |   |   |   |   | 6.25            |
| 2S   | 36 |   | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19     | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 2M   | 36 |   | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19     | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19     | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 48 |   | 2 1/4 | 3/4 | 1   | 10    | 17 7/8 | 4 1/2 | 25 1/8 | 3/4 | 7/8 | 25 5/8 | 13    | 2     | 8 |   |   |   |   |   |   |   |   |   |   |   | 16.0            |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   | 10    | 17 7/8 | 4 1/2 | 25 1/8 | 3/4 | 7/8 | 25 5/8 | 13    | 2     | 8 |   |   |   |   |   |   |   |   |   |   |   | 16.0            |

PROJECT NO:

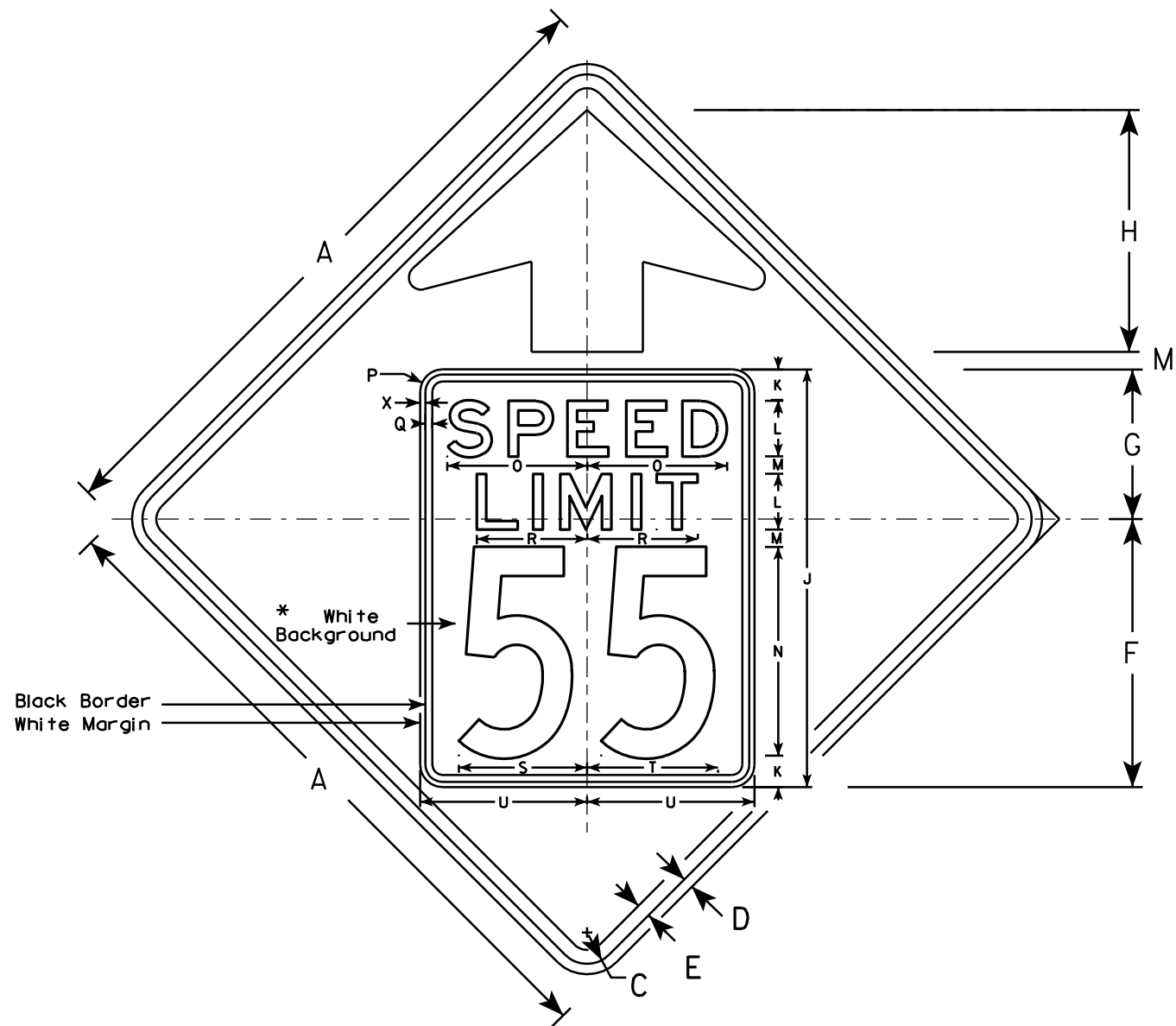
STANDARD SIGN  
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 6/7/10 PLATE NO. W3-1.12

SHEET NO: 166

E

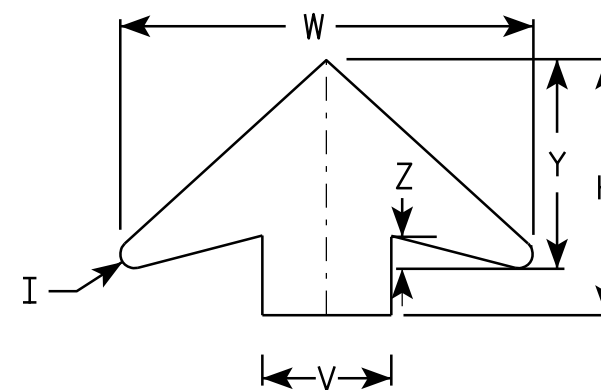


W3-5

### 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. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

\*Speed Limit Sign shall have a White Background



ARROW DETAIL

| SIZE | A  | B | C     | D   | E   | F      | G      | H      | I   | J  | K     | L | M     | N  | O     | P     | Q   | R     | S     | T     | U  | V | W      | X   | Y     | Z     | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|--------|--------|--------|-----|----|-------|---|-------|----|-------|-------|-----|-------|-------|-------|----|---|--------|-----|-------|-------|-----------------|
| 1    |    |   |       |     |     |        |        |        |     |    |       |   |       |    |       |       |     |       |       |       |    |   |        |     |       |       |                 |
| 2S   | 36 |   | 1 5/8 | 5/8 | 3/4 | 14 1/2 | 9 1/2  | 11 1/2 | 5/8 | 24 | 2     | 3 | 1     | 12 | 7 1/8 | 1 1/2 | 3/8 | 5 3/4 | 7 1/4 | 7 1/8 | 9  | 6 | 19 1/4 | 3/8 | 9 3/4 | 1 5/8 | 9.0             |
| 2M   | 36 |   | 1 5/8 | 5/8 | 3/4 | 14 1/2 | 9 1/2  | 11 1/2 | 5/8 | 24 | 2     | 3 | 1     | 12 | 7 1/8 | 1 1/2 | 3/8 | 5 3/4 | 7 1/4 | 7 1/8 | 9  | 6 | 19 1/4 | 3/8 | 9 3/4 | 1 5/8 | 9.0             |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 | 14 1/2 | 9 1/2  | 11 1/2 | 5/8 | 24 | 2     | 3 | 1     | 12 | 7 1/8 | 1 1/2 | 3/8 | 5 3/4 | 7 1/4 | 7 1/8 | 9  | 6 | 19 1/4 | 3/8 | 9 3/4 | 1 5/8 | 9.0             |
| 4    | 48 |   | 2 1/4 | 3/4 | 1   | 19 1/4 | 10 3/4 | 17 3/8 | 7/8 | 30 | 2 1/4 | 4 | 1 1/4 | 15 | 10    | 1 5/8 | 1/2 | 8     | 9 1/4 | 9 3/8 | 12 | 8 | 25 5/8 | 3/8 | 13    | 2     | 16.0            |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   | 19 1/4 | 10 3/4 | 17 3/8 | 7/8 | 30 | 2 1/4 | 4 | 1 1/4 | 15 | 10    | 1 5/8 | 1/2 | 8     | 9 1/4 | 9 3/8 | 12 | 8 | 25 5/8 | 3/8 | 13    | 2     | 16.0            |

### STANDARD SIGN

W3-5

WISCONSIN DEPT OF TRANSPORTATION

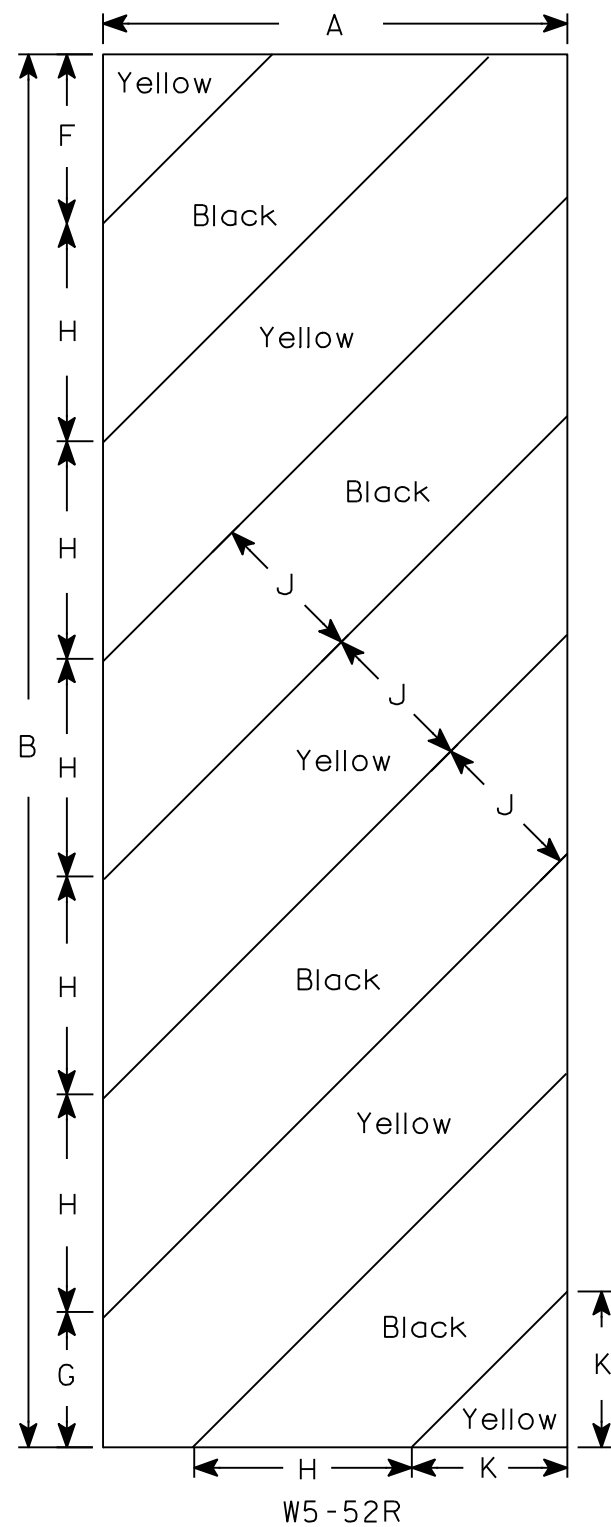
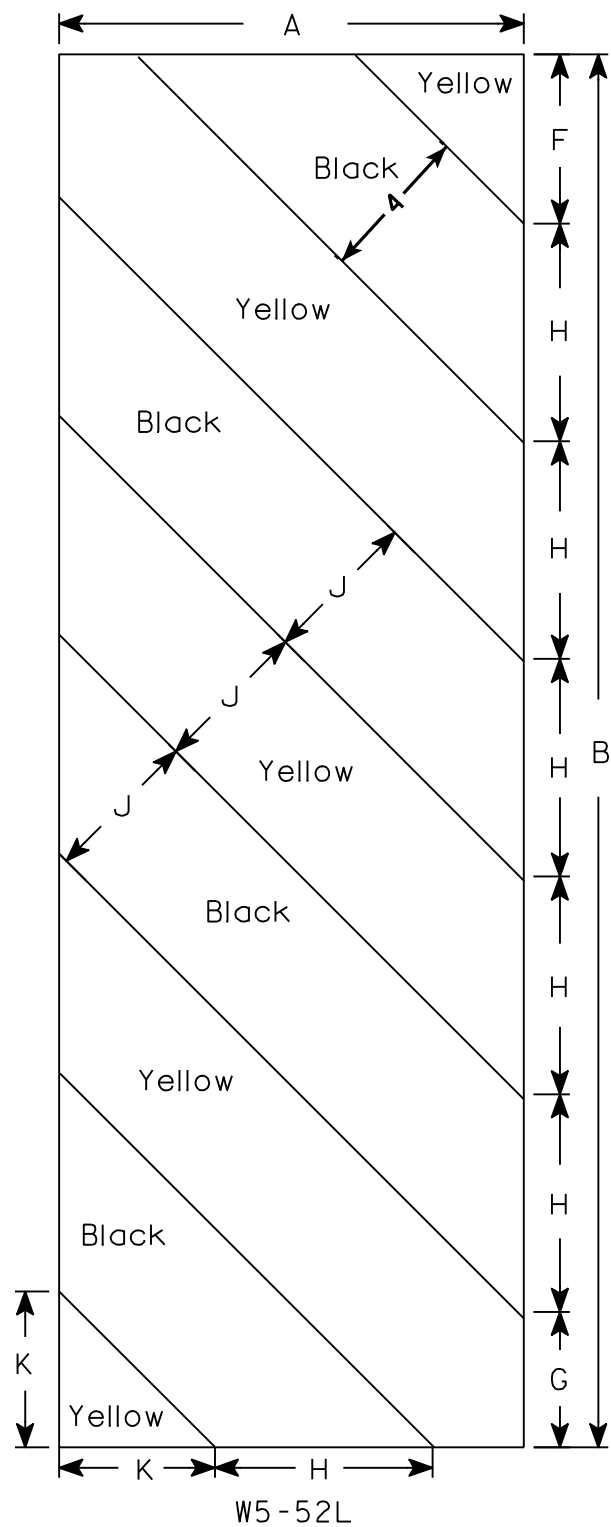
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 167

E



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.

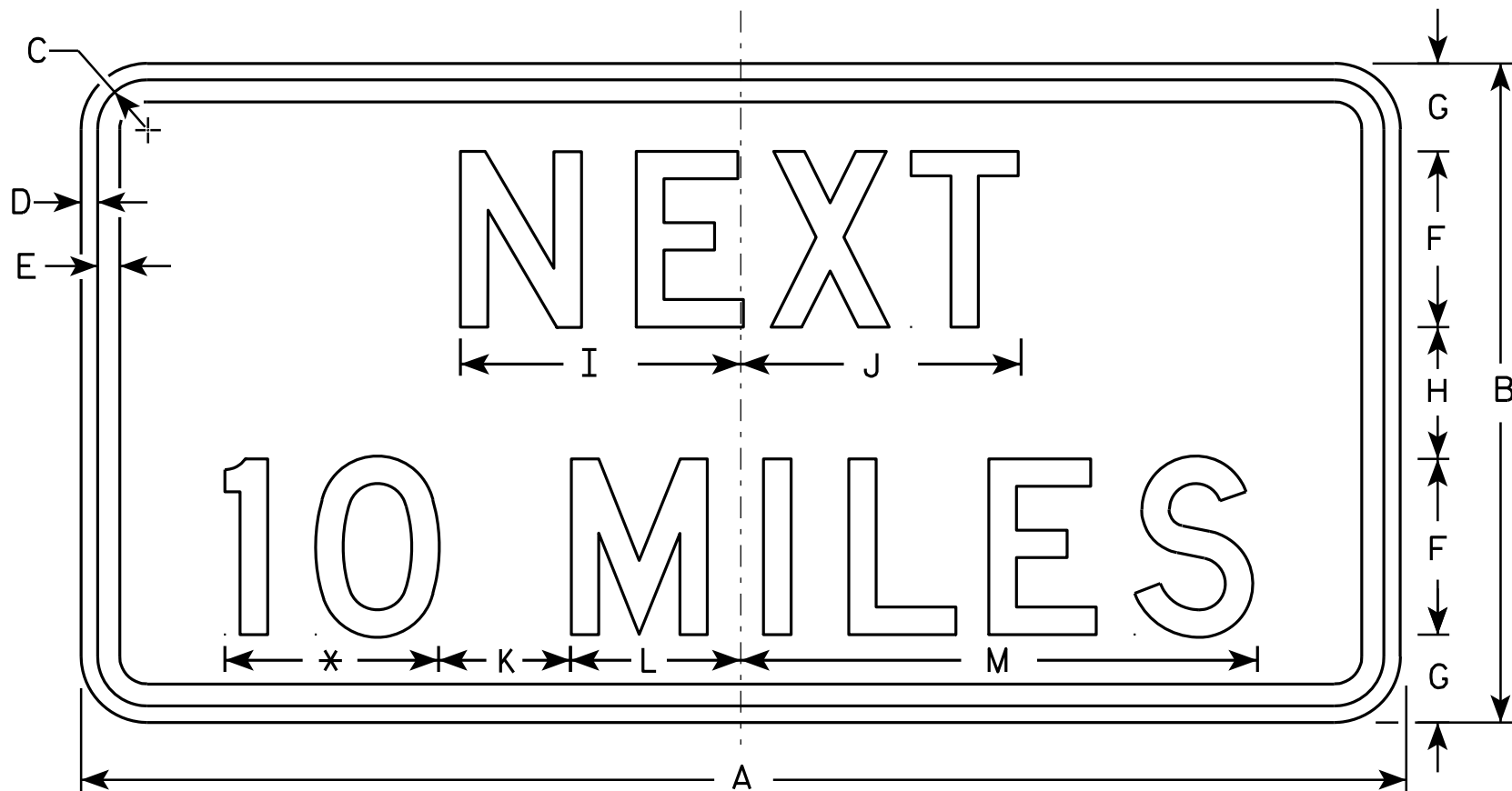
| SIZE | A  | B  | C | D | E | F     | G     | H     | I   | J | K      | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|---|---|---|-------|-------|-------|-----|---|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 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 5⁄16 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 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



W57-51

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

\* See note 5

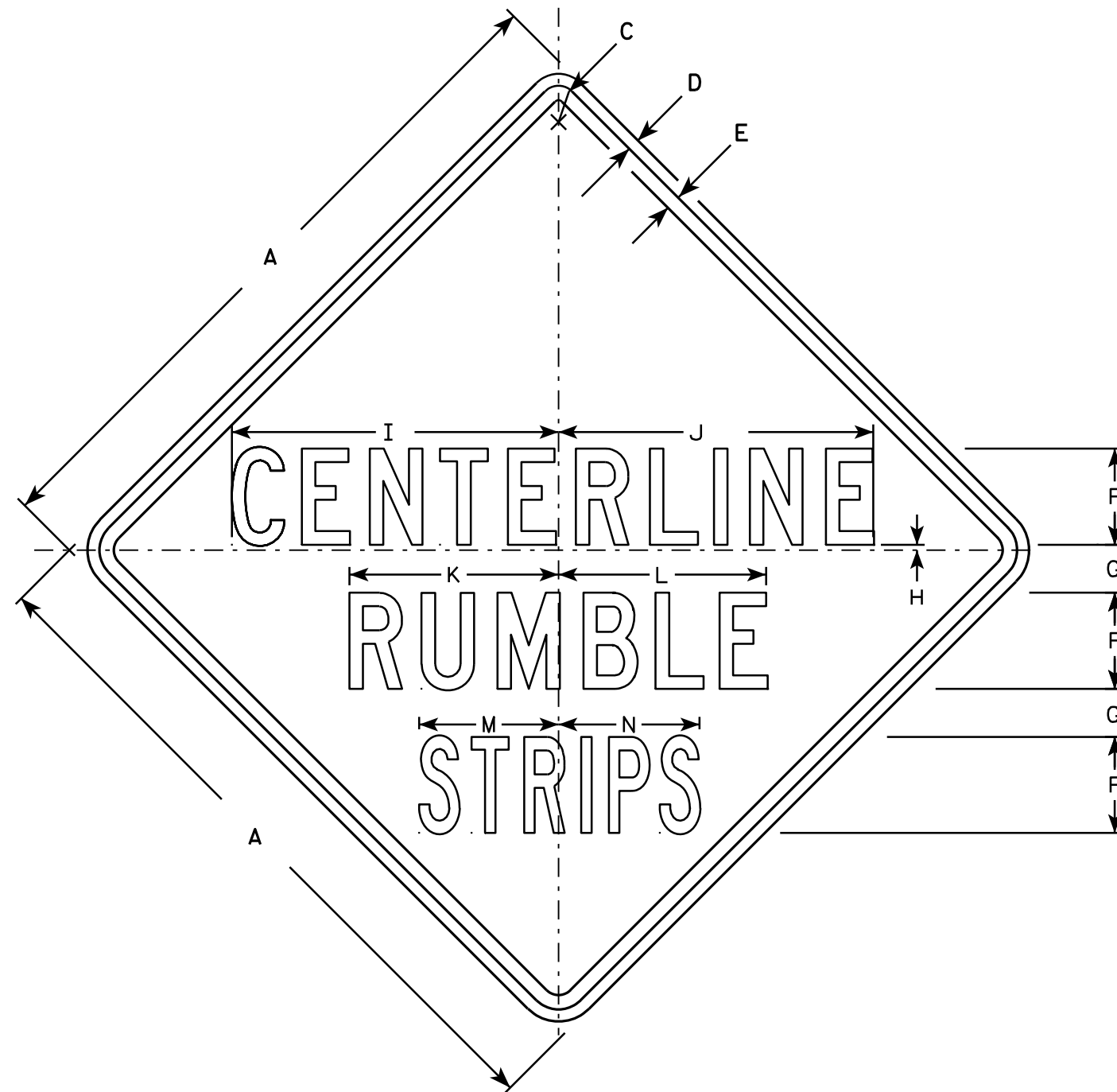
| SIZE | A  | B  | C     | D   | E   | F | G     | H     | I     | J      | K | L     | M      | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|-------|-------|--------|---|-------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 3 | 1 3/4 | 2 1/2 | 5     | 5 1/8  | 3 | 2 3/4 | 9 5/8  |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.0             |
| 2S   | 30 | 15 | 1 1/8 | 3/8 | 1/2 | 4 | 2     | 3     | 6 3/8 | 6 3/8  | 3 | 3 7/8 | 11 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.13            |
| 2M   | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 5 | 2 5/8 | 2 3/4 | 7 7/8 | 8      | 5 | 4 1/8 | 15 3/8 |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.5             |
| 3    | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 5 | 2 5/8 | 2 3/4 | 7 7/8 | 8      | 5 | 4 1/8 | 15 3/8 |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.5             |
| 4    | 48 | 24 | 1 3/8 | 1/2 | 5/8 | 6 | 3 1/2 | 5     | 10    | 10 1/8 | 6 | 5 5/8 | 19     |   |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 5    | 48 | 24 | 1 3/8 | 1/2 | 5/8 | 6 | 3 1/2 | 5     | 10    | 10 1/8 | 6 | 5 5/8 | 19     |   |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |

STANDARD SIGN  
W57-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/18/11 PLATE NO. W57-51.8



W8-70

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - YELLOW  
Message - BLACK
3. Message Series - SEE NOTE 5.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 and 2 are Series C.  
Line 3 is Series B.

| SIZE | A  | B | C     | D   | E   | F | G     | H   | I  | J      | K      | L      | M     | N     | O | P | O | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|---|-------|-----|----|--------|--------|--------|-------|-------|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |   |       |     |     |   |       |     |    |        |        |        |       |       |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 36 |   | 1 5⁄8 | 5⁄8 | 3⁄4 | 5 | 2 1⁄2 | 1⁄4 | 17 | 16 3⁄8 | 10 7⁄8 | 10 3⁄4 | 7 1⁄4 | 7 3⁄8 |   |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 2M   | 36 |   | 1 5⁄8 | 5⁄8 | 3⁄4 | 5 | 2 1⁄2 | 1⁄4 | 17 | 16 3⁄8 | 10 7⁄8 | 10 3⁄4 | 7 1⁄4 | 7 3⁄8 |   |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 1 5⁄8 | 5⁄8 | 3⁄4 | 5 | 2 1⁄2 | 1⁄4 | 17 | 16 3⁄8 | 10 7⁄8 | 10 3⁄4 | 7 1⁄4 | 7 3⁄8 |   |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    |    |   |       |     |     |   |       |     |    |        |        |        |       |       |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |   |       |     |     |   |       |     |    |        |        |        |       |       |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
W8-70

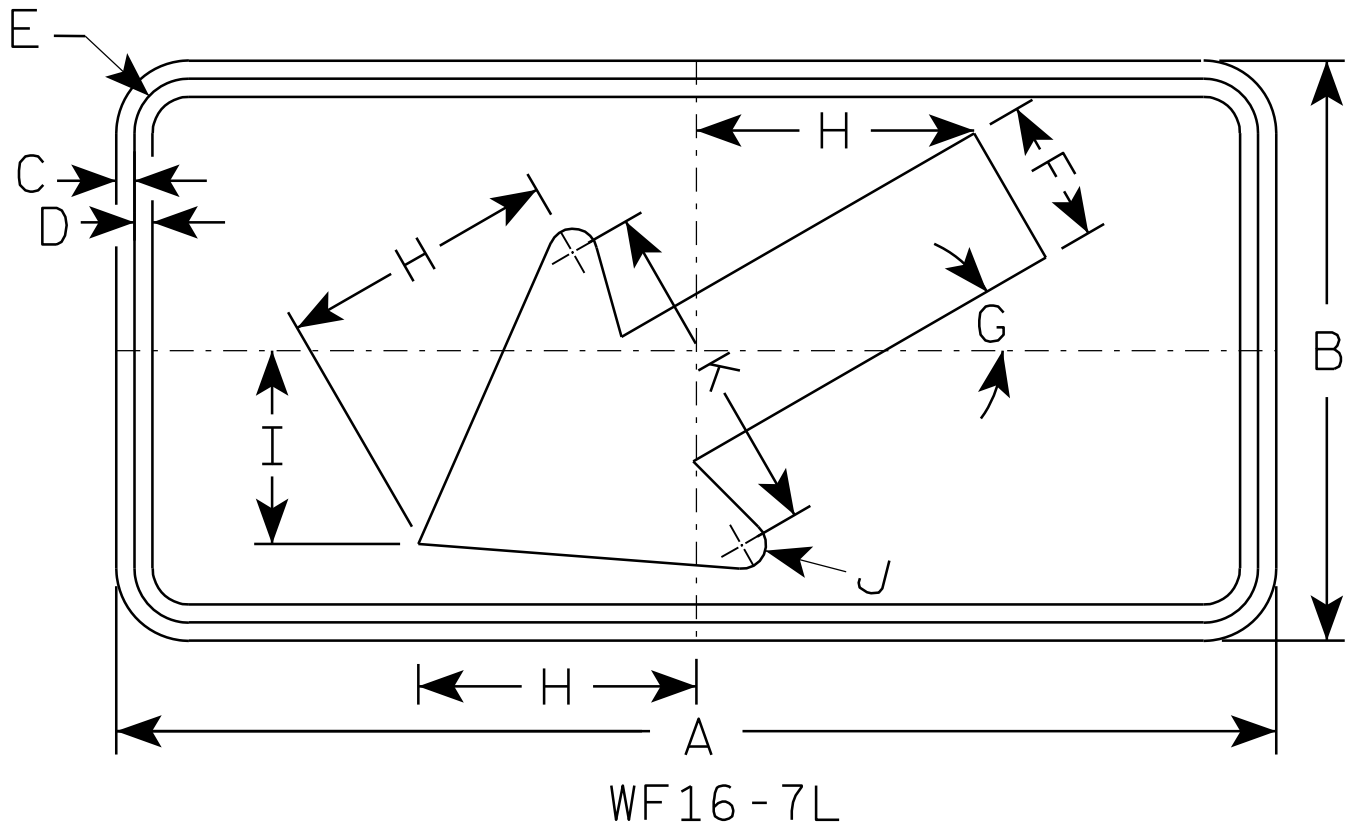
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/23/11 PLATE NO.W8-70.2

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-Green  
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. WF16-7R are the same as WF-16-7L except the arrow is reversed along the vertical centerline.

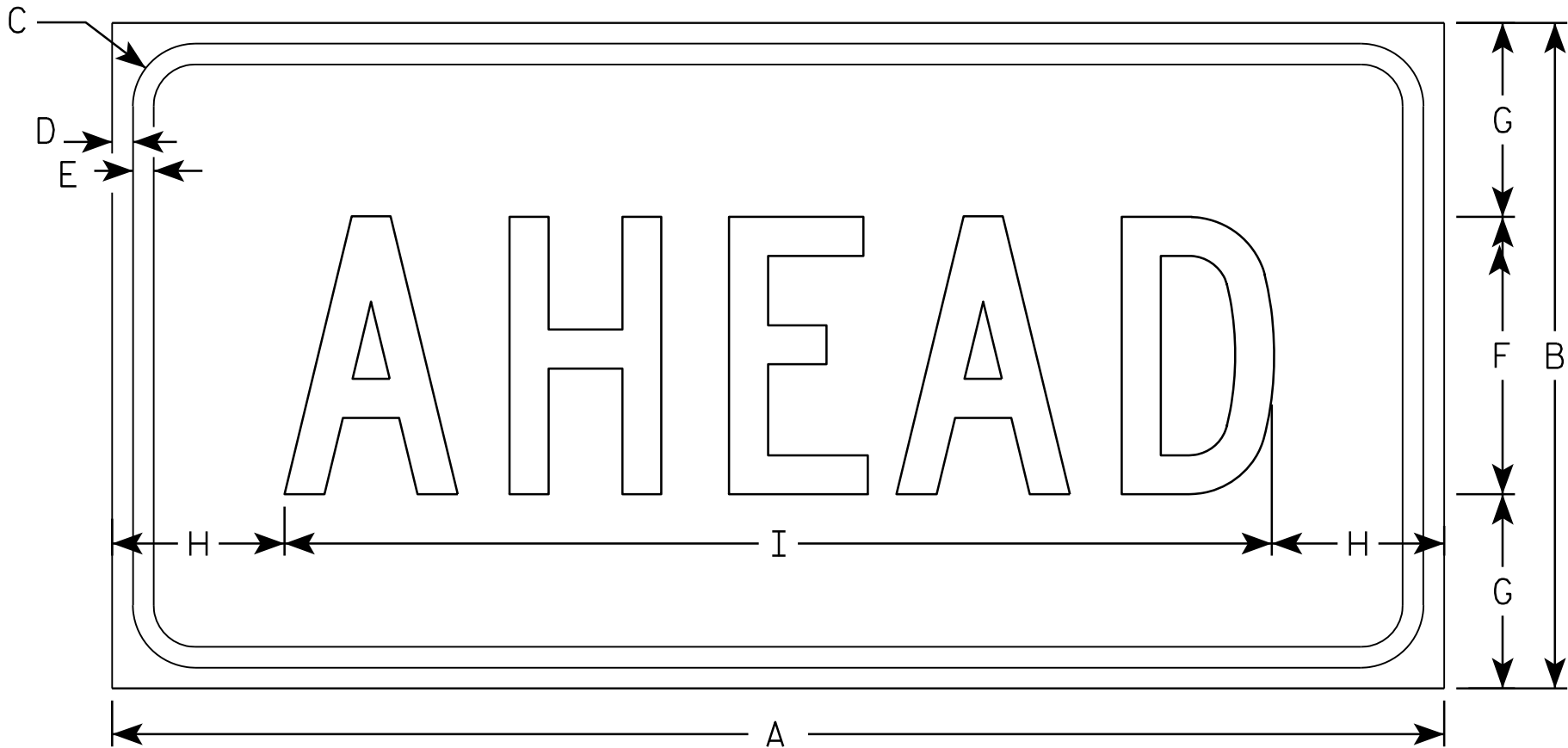


| SIZE | A  | B  | C   | D   | E     | F     | G   | H      | I | J   | K      | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-----|-----|-------|-------|-----|--------|---|-----|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 24 | 12 | 3/8 | 3/8 | 1 1/8 | 3     | 30° | 5 3/4  | 4 | 1/2 | 7      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.0             |
| 2S   | 30 | 18 | 3/8 | 1/2 | 1 1/8 | 4 1/2 | 30° | 8 1/2  | 6 | 5/8 | 10 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 2M   | 30 | 18 | 3/8 | 1/2 | 1 1/8 | 4 1/2 | 30° | 8 1/2  | 6 | 5/8 | 10 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 3    | 30 | 18 | 3/8 | 1/2 | 1 1/8 | 4 1/2 | 30° | 8 1/2  | 6 | 5/8 | 10 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 4    | 48 | 24 | 1/2 | 5/8 | 1 3/8 | 6     | 30° | 11 1/2 | 8 | 1   | 14     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 5    |    |    |     |     |       |       |     |        |   |     |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| STANDARD SIGN                    |                                                       |
| WF16-7                           |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION |                                                       |
| APPROVED                         | <i>Matthew R. Rauch</i><br>for State Traffic Engineer |
| DATE 12/21/10                    | PLATE NO. WF16-7.3                                    |

|             |      |         |               |   |
|-------------|------|---------|---------------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: 171 | E |
|-------------|------|---------|---------------|---|

7



WF16-9P

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-Green  
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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    | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 5  | 3 1/2 | 3 1/8 | 17 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.0             |
| 2S   | 30 | 18 | 1 1/8 | 3/8 | 1/2 | 7  | 5 1/2 | 2 3/4 | 24 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 2M   | 30 | 18 | 1 1/8 | 3/8 | 1/2 | 7  | 5 1/2 | 2 3/4 | 24 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 3    | 30 | 18 | 1 1/8 | 3/8 | 1/2 | 7  | 3 1/2 | 2 3/4 | 24 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 4    | 48 | 24 | 1 3/8 | 1/2 | 5/8 | 10 | 7     | 6 1/8 | 35 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 5    |    |    |       |     |     |    |       |       |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN

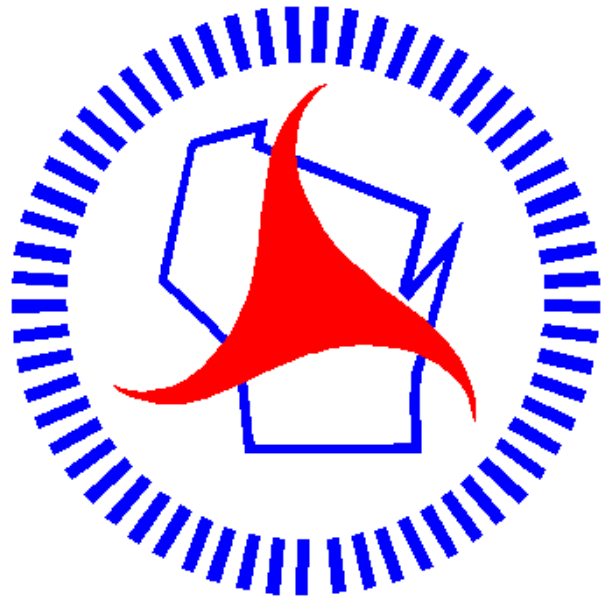
WF16-9P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/29/2012 PLATE NO. WF16-9P.4

## Notes



## *Wisconsin Department of Transportation*

Dedicated people creating transportation solutions  
through innovation and exceptional service.

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

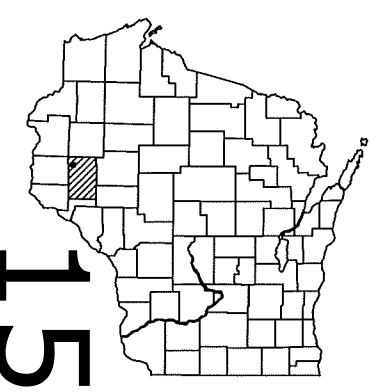
EAU JUNE 2013  
PROJECT ID: 8640-02-71  
WITH: 8640-02-61

COUNTY: DUNN

ORDER OF SHEETS

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

TOTAL SHEETS = 72



DESIGN DESIGNATION

|              |      |   |        |
|--------------|------|---|--------|
| A.A.D.T.     | 2010 | = | 500    |
| A.A.D.T.     | 2013 | = | 550    |
| A.A.D.T.     | 2023 | = | 600    |
| A.A.D.T.     | 2033 | = | 700    |
| D.H.V.       | 2033 | = | 39     |
| D.D.         |      | = | 60/40  |
| T.           |      | = | 6.7%   |
| DESIGN SPEED |      | = | 60 MPH |
| ESALS        |      | = | ---    |

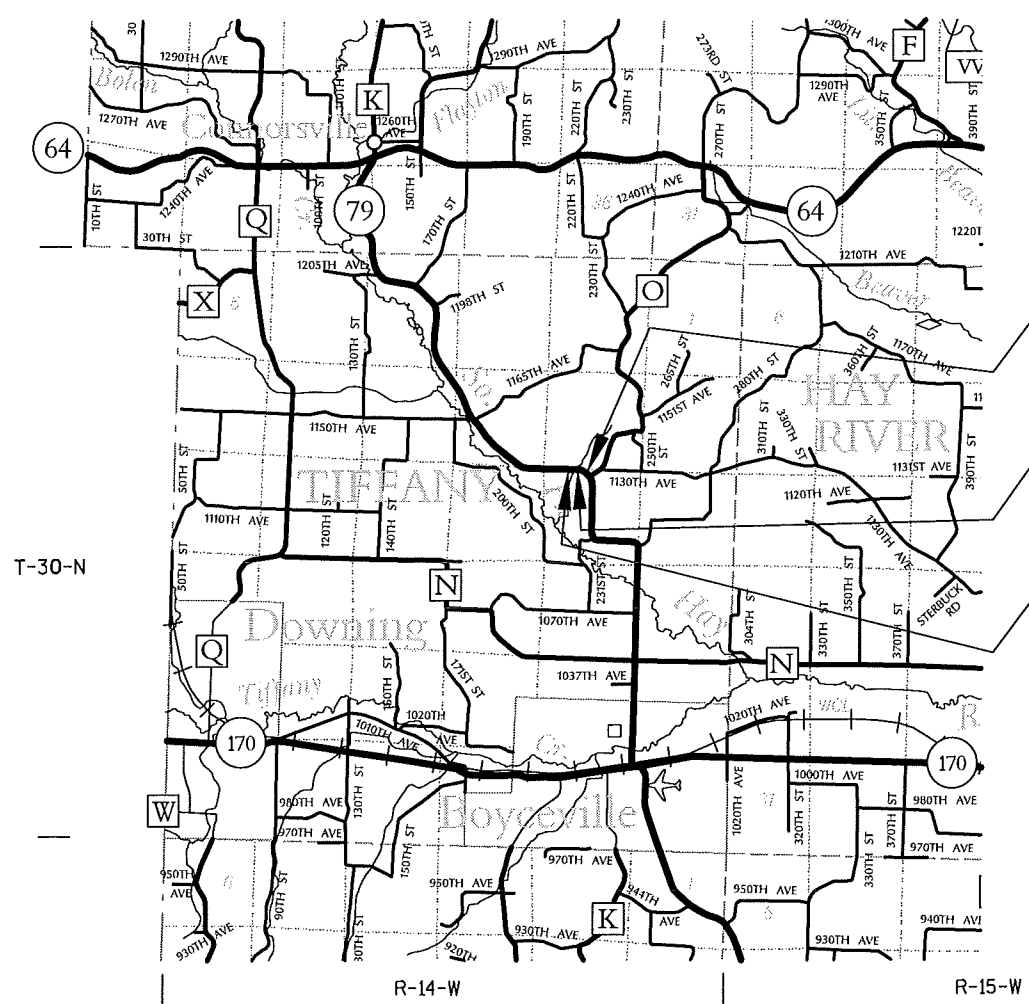
CONVENTIONAL SYMBOLS

|                                |           |
|--------------------------------|-----------|
| PLAN                           |           |
| CORPORATE LIMITS               | ////      |
| PROPERTY LINE                  | ---       |
| LOT LINE                       | - - - -   |
| LIMITED HIGHWAY EASEMENT       | L - - - - |
| EXISTING RIGHT OF WAY          | ---       |
| PROPOSED OR NEW R/W LINE       | ---       |
| SLOPE INTERCEPT                | ---       |
| 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                             | --- |
| CULVERT (Profile View)                      | --- |
| UTILITIES                                   |     |
| ELECTRIC                                    | --- |
| FIBER OPTIC                                 | --- |
| GAS                                         | --- |
| SANITARY SEWER                              | --- |
| STORM SEWER                                 | --- |
| TELEPHONE                                   | --- |
| WATER                                       | --- |
| UTILITY PEDESTAL                            | --- |
| POWER POLE                                  | --- |
| TELEPHONE POLE                              | --- |

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PLAN OF PROPOSED IMPROVEMENT  
BOYCEVILLE - CONNORSVILLE  
SLOVAK VALLEY CREEK BRIDGE: B-17-0364  
STH 79  
DUNN COUNTY

STATE PROJECT NUMBER  
8640-02-71



BEGIN PROJECT  
STA. 188+80.03  
Y= 248,235.37  
X= 130,274.30

STRUCTURE  
B-17-0364  
(SLOVAK VALLEY CREEK)

END PROJECT  
STA. 197+00.00  
Y= 248,280.07  
X= 129,549.52

R-14-W  
LAYOUT  
SCALE 0 1 MI.  
TOTAL NET LENGTH OF CENTERLINE = 0.155 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DUNN COUNTY.

| STATE PROJECT | FEDERAL PROJECT |          |
|---------------|-----------------|----------|
|               | PROJECT         | CONTRACT |
| 8640-02-71    |                 |          |
|               |                 |          |
|               |                 |          |
|               |                 |          |

ORIGINAL PLANS PREPARED BY

**M Squared Engineering, LLC**  
...where engineering solutions meet water quality...  
W62 N215 Washington Avenue  
Cedarburg, WI 53012  
Phone: (262)376-4246 www.msquaredengineering.com Fax: (262)375-2274

**WISCONSIN**  
JONATHAN E. SCHREINER  
E-38303  
PT WASHINGTON, WI  
PROFESSIONAL ENGINEER

01/08/2012 (Date)  
(Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

|                     |                            |
|---------------------|----------------------------|
| Surveyor            | M SQUARED ENGINEERING, LLC |
| Designer            | M SQUARED ENGINEERING, LLC |
| Project Manager     | TOU YANG                   |
| Regional Examiner   | DANIEL QJIBWAY             |
| Regional Supervisor | DAVE SOLBERG               |
| C.O. Examiner       |                            |

APPROVED FOR THE DEPARTMENT  
DATE: 1/31/13 (Signature)

E

GENERAL NOTES:

- 1. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM ALL UTILITY LOCATIONS.
- 2. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER IN THE FIELD.
- 3. THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.
- 4. WETLANDS EXIST WITHIN THE PROJECT AREA. DO NOT DISTURB THE EXISTING GROUND OUTSIDE THE SLOPE INTERCEPTS WITHIN THE LIMITS OF THE WETLAND.
- 5. DO NOT OPERATE EQUIPMENT, EXCAVATE OR PLACE FILL WITHIN THE EXISTING STREAM.
- 6. DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 6-INCH TOPSOILED, FERTILIZED, SEEDED AND MULCHED.

UTILITY CONTACTS:

CENTURYLINK - COMMUNICATION LINE  
ATTN: BRUCE LARSON  
20 S WILSON AVE  
RICE LAKE, WI 54868  
PHONE: 715-234-5573  
EMAIL: bruce.larson@centurylink.com

DUNN COUNTY ELECTRIC COOPERATIVE - ELECTRIC POWER  
ATTN: JERRY BUSS  
PO BOX 220  
MENOMONIE, WI 54751  
PHONE: 715-232-5528

XCEL ENERGIES - ELECTRIC POWER/GAS  
ATTN: NANCY DOTSON  
1414 W HAMILTON AVE  
PO BOX 8  
EAU CLAIRE WI 54702  
PHONE: 715-737-2574  
EMAIL: nancy.j.dotson@xcelenergy.com

VIKING GAS TRAMMISSION CO - GAS  
ATTN: FONY RICCI  
13506 CTY 00  
CHIPPEWA FALLS WI 54729  
PHONE: 715-726-2282

WE ENERGIES - GAS/PETROLEUM  
ATTN: DAN SANDE  
333 W EVERETT ST A299  
MILWAUKEE WI 53203  
PHONE: 414-221-4578  
EMAIL: Dan.Sande@we-energies.com



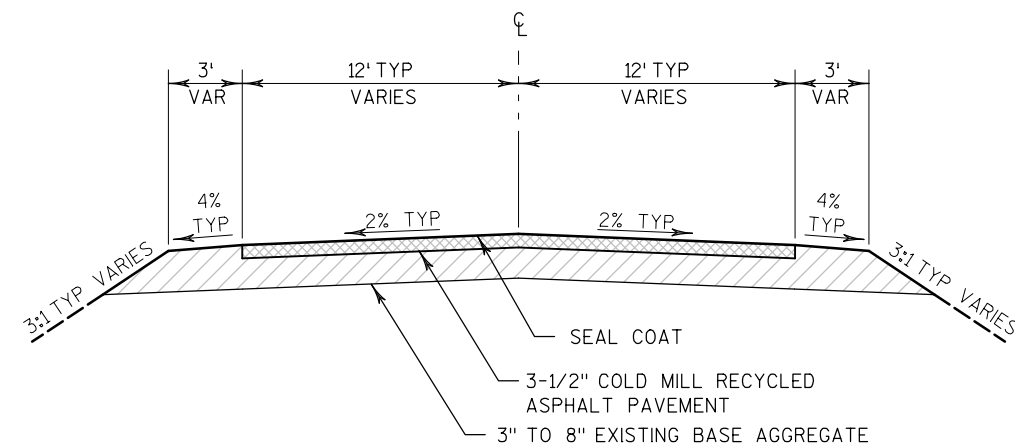
Call 811 3 Work Days Before You Dig  
or Toll Free (800) 242-8511  
Hearing Impaired TDD (800) 542-2289  
www.DiggersHotline.com

WISCONSIN DEPT. OF NATURAL RESOURCES CONTACT:

WISCONSIN DEPT. OF NATURAL RESOURCES  
ATTN: NICK SCHAFF  
1300 CLAIREMONT AVE  
EAU CLAIRE WI 54701  
PHONE: 715-839-1609  
EMAIL: nicholas.schaff@wisconsin.gov

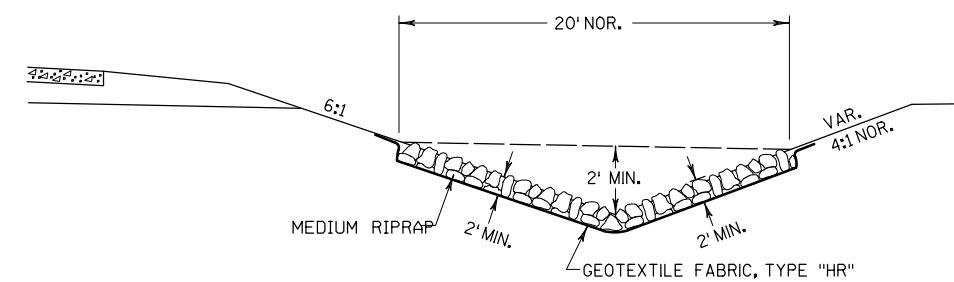
LIST OF STANDARD ABBREVIATIONS

|            |                         |               |                       |            |                 |             |                 |
|------------|-------------------------|---------------|-----------------------|------------|-----------------|-------------|-----------------|
| Δ          | CENTRAL ANGLE OR DELTA  | LB            | POUND                 | DIA        | DIAMETER        | RD          | ROAD            |
| AADT       | ANNUAL AVERAGE DAILY    | LC            | LONG CHORD OF CURVE   | DISCH      | DISCHARGE       | RR          | RAILROAD        |
| AC         | ASPHALT CEMENT          | LIN FT AND LF | LINEAR FOOT           | DIST       | DISTRICT        | RT          | RIGHT           |
| ADT        | AVERAGE DAILY TRAFFIC   | LS            | LUMP SUM              | DWY        | DRIVEWAY        | SB          | SOUTH BOUND     |
| AECPRC     | APRON ENDWALL FOR CULV  | LT            | LEFT                  | EAT        | ENERGY          | SDD         | STANDARD        |
| AEW        | APRON ENDWALL           | M             | MARSH                 | EB         | EASTBOUND       | SE          | SUPERELEVATION  |
| AGG        | AGGREGATE               | MAINT         | MAINTENANCE           | EBS        | EXCAVATING      | SF OR SQ FT | SQUARE FEET     |
| ASPH       | ASPHALTIC               | MATL          | MATERIAL              | EL OR ELEV | ELEVATION       | SHLDR       | SHOULDER        |
| AVG        | AVERAGE                 | MAX           | MAXIMUM               | ENT        | ENTRANCE        | SPECS       | SPECIFICATIONS  |
| BAD        | BASE AGGREGATE DENSE    | MIN           | MINIMUM               | EOP        | EDGE OF         | STA         | STATION         |
| BM         | BENCH MARK              | N             | NORTH                 | ESALS      | EQUIVALENT      | STH         | STATE TRUNK     |
| C&G        | CURB AND GUTTER         | NB            | NORTHBOUND            | EW         | ENDWALL         | SY OR SQ YD | SQUARE YARD     |
| CABC       | CRUSHED AGGREGATE BASE  | NC            | NORMAL CROWN          | EXC        | EXCAVATION      | T OR TAN    | TANGENT         |
| CE         | COMMERCIAL ENTRANCE     | NO            | NUMBER                | EXIST      | EXISTING        | T           | TRUCKS (PERCENT |
| CL OR C/L  | CENTER LINE             | NW OR NW      | NORMAL WATER          | FE         | FIELD ENTRANCE  | T OR TN     | TOWN            |
| CO         | COUNTY                  | OD            | OUTSIDE DIAMETER      | FERT       | FERTILIZE       | TEL         | TELEPHONE       |
| CONC       | CONCRETE                | PAVT          | PAVEMENT              | FG         | FINISHED GRADE  | TYP         | TYPICAL         |
| CP         | CULVERT PIPE            | PC            | POINT OF CURVATURE    | FL OR F/L  | FLOW LINE       | V           | VELOCITY OR     |
| CPCP       | CULVERT PIPE CORRUGATED | PD OR PED     | PEDISTAL              | FO         | FIBEROPTIC      | VAR         | VARIABLE        |
| CPCS       | CULVERT PIPE CORRUGATED | PE            | PRIVATE ENTRANCE      | FP         | FENCE POST      | VC          | VERTICAL CURVE  |
| CPRC       | CULVERT PIPE REINFORCED | PI            | POINT OF INTERSECTION | FT         | FOOT            | VPC         | VERTICAL POINT  |
| CPRCHE     | CULV PIPE REIN CONC     | PL            | PROPERTY LINE         | GAL        | GALLON          | VPI         | VERTICAL POINT  |
| CTH        | COUNTY TRUNK HIGHWAY    | PP            | POWER POLE            | HMA        | HOT MIX         | VPT         | VERTICAL POINT  |
| CULV       | CULVERT                 | PROJ          | PROJECT               | ID         | INSIDE DIAMETER | W           | WATER           |
| CWT        | HUNDREDWEIGHT           | PROP          | PROPOSED              | INV        | INVERT          | WB          | WESTBOUND       |
| CY OR CUYD | CUBIC YARD              | PT            | POINT OF TANGENCY     | IP         | IRON PIPE OR    | X           | EAST GRID       |
| D          | DEGREE OF CURVE         | R             | RADIUS                | JCT        | JUNCTION        | Y           | NORTH GRID      |
| DG         | DITCH GRADE             | R/L           | REFERENCE LINE        | L          | LENGTH          |             |                 |
| DHV        | DESIGN HOUR VOLUME      | R/W           | RIGHT-OF-WAY          |            |                 |             |                 |

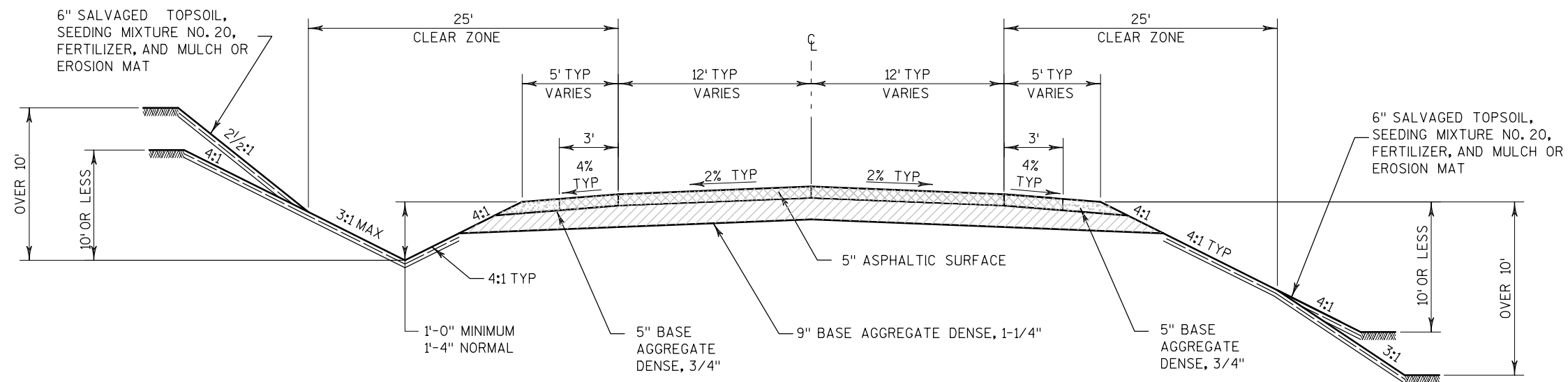


### EXISTING TYPICAL SECTION - STH 79

STA 188+80 TO STA 197+00  
NOTE: STA 193+00 TO STA 193+22 (STRUCTURE B-17-365)



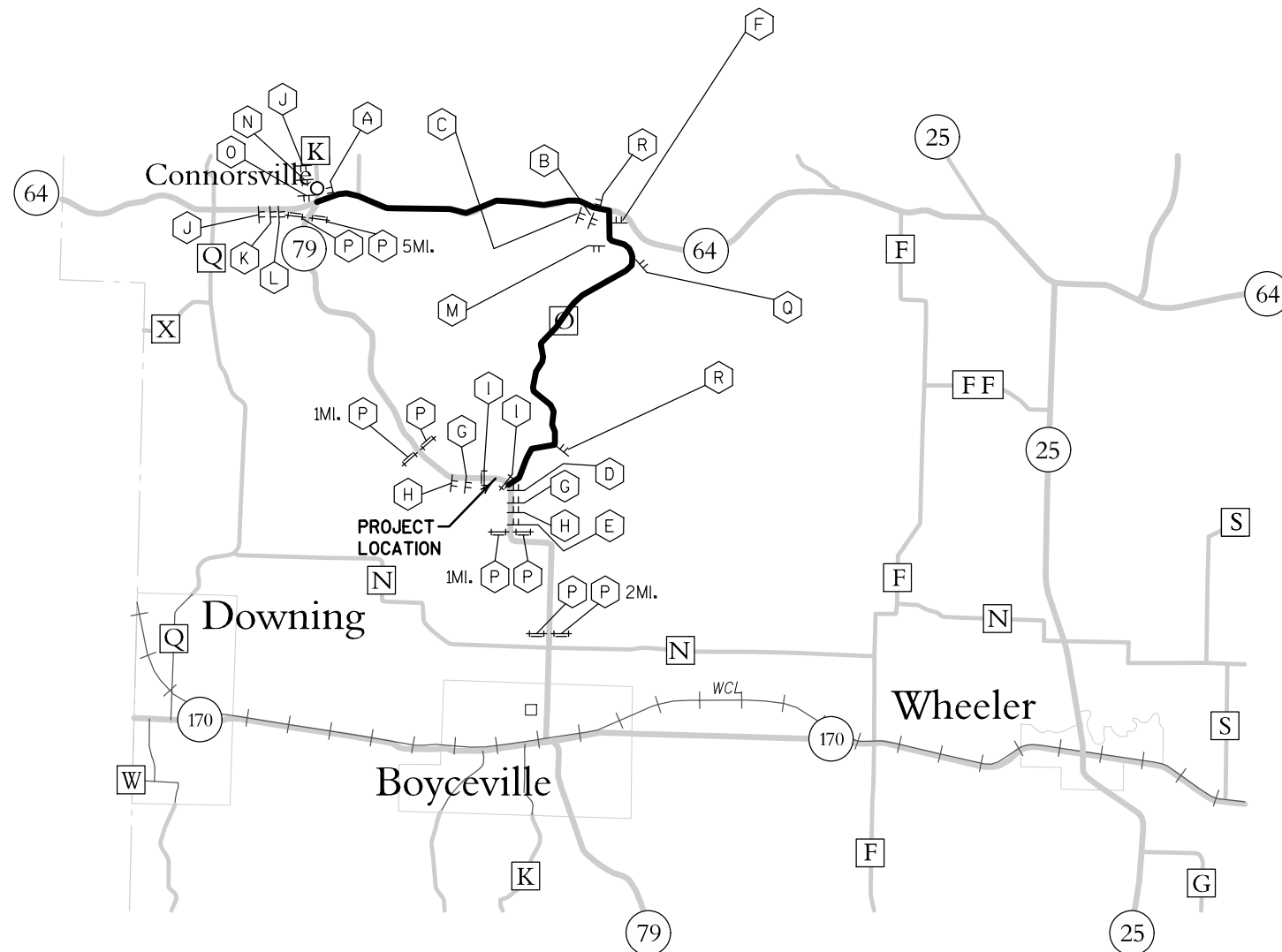
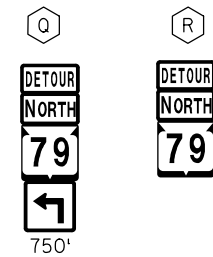
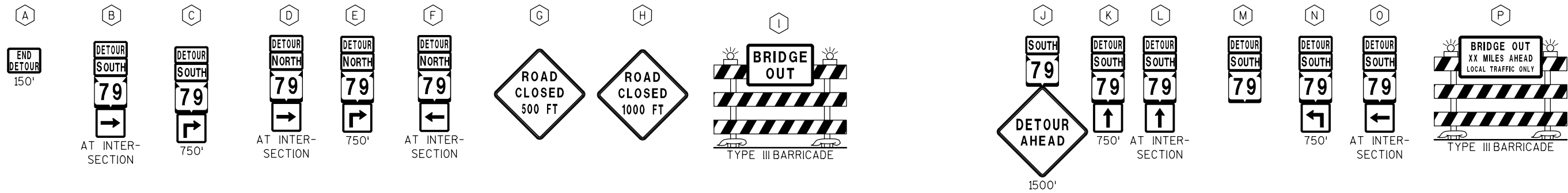
### DETAIL OF MEDIUM RIPRAP DITCH



### PROPOSED TYPICAL SECTION - STH 79

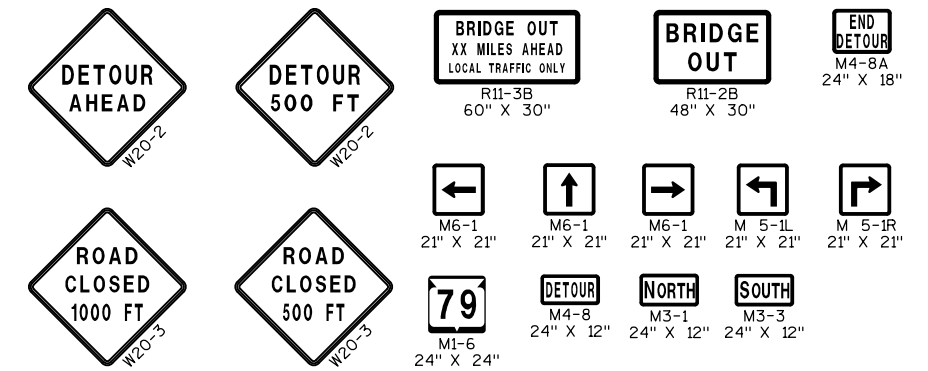
STA 188+80 TO STA 197+00  
NOTE: STA 192+93 TO STA 193+29 (STRUCTURE B-17-364)

| STA - STA          | CURVE DIRECTION | INSIDE SHOULDER TYPE | APPROX EXIST. SUPERELEVATION |    | TARGET SUPER. | ROTATE ON HIGH, C/L OR LOW SIDE OF CURVE |
|--------------------|-----------------|----------------------|------------------------------|----|---------------|------------------------------------------|
|                    |                 |                      | LT                           | RT |               |                                          |
| 188+80.03 - 191+00 | LT              | BASE AGG. DENSE 3/4" | 6%                           | 6% | 5.70%         | C/L                                      |
| 191+00 - 191+50    | LT              | BASE AGG. DENSE 3/4" | 5%                           | 3% | 5.20%         | C/L                                      |



## SIGN CODE AND SIZE:

(ALL SIGNS ARE 48"x48" UNLESS NOTED OTHERWISE)

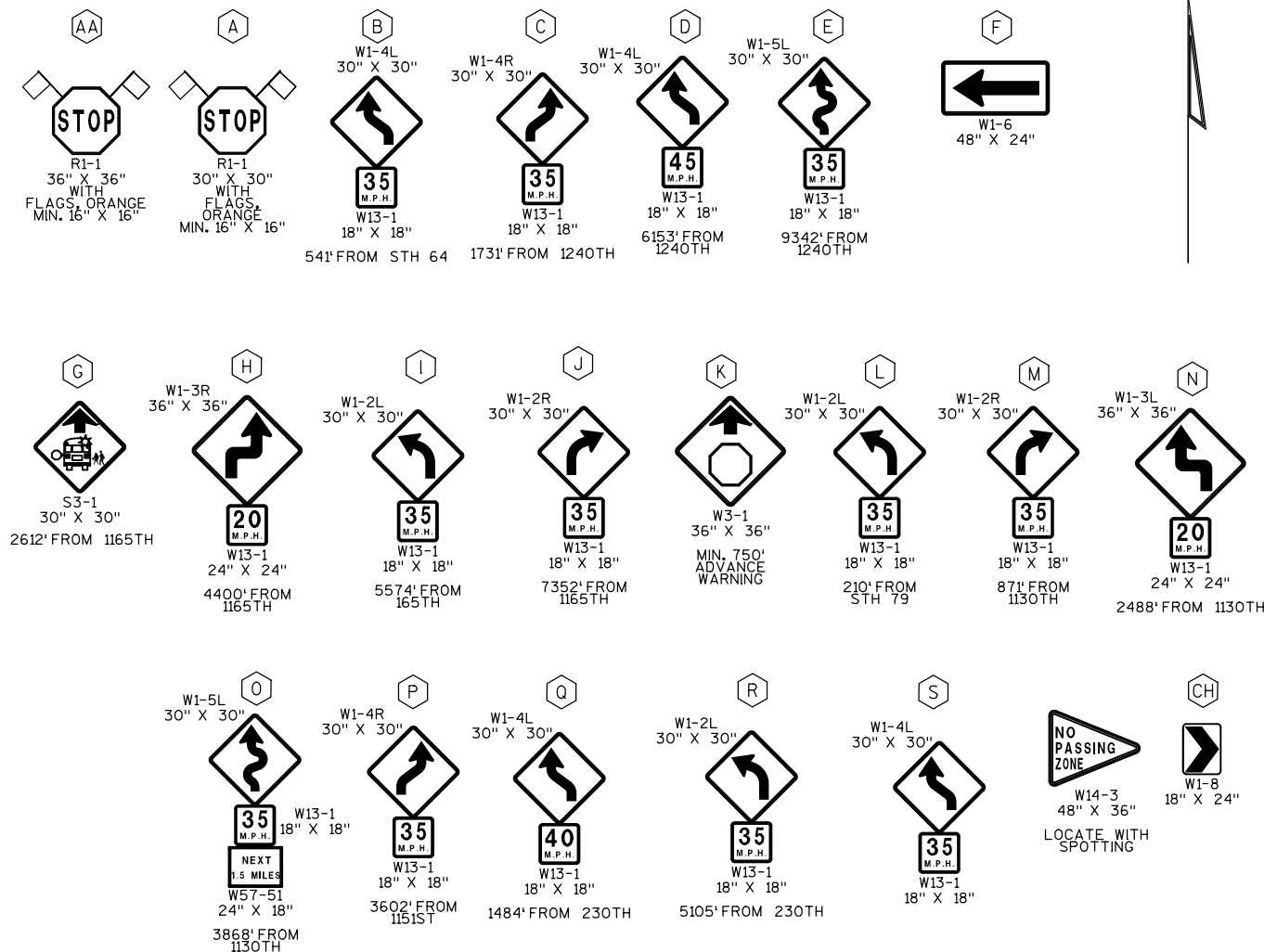
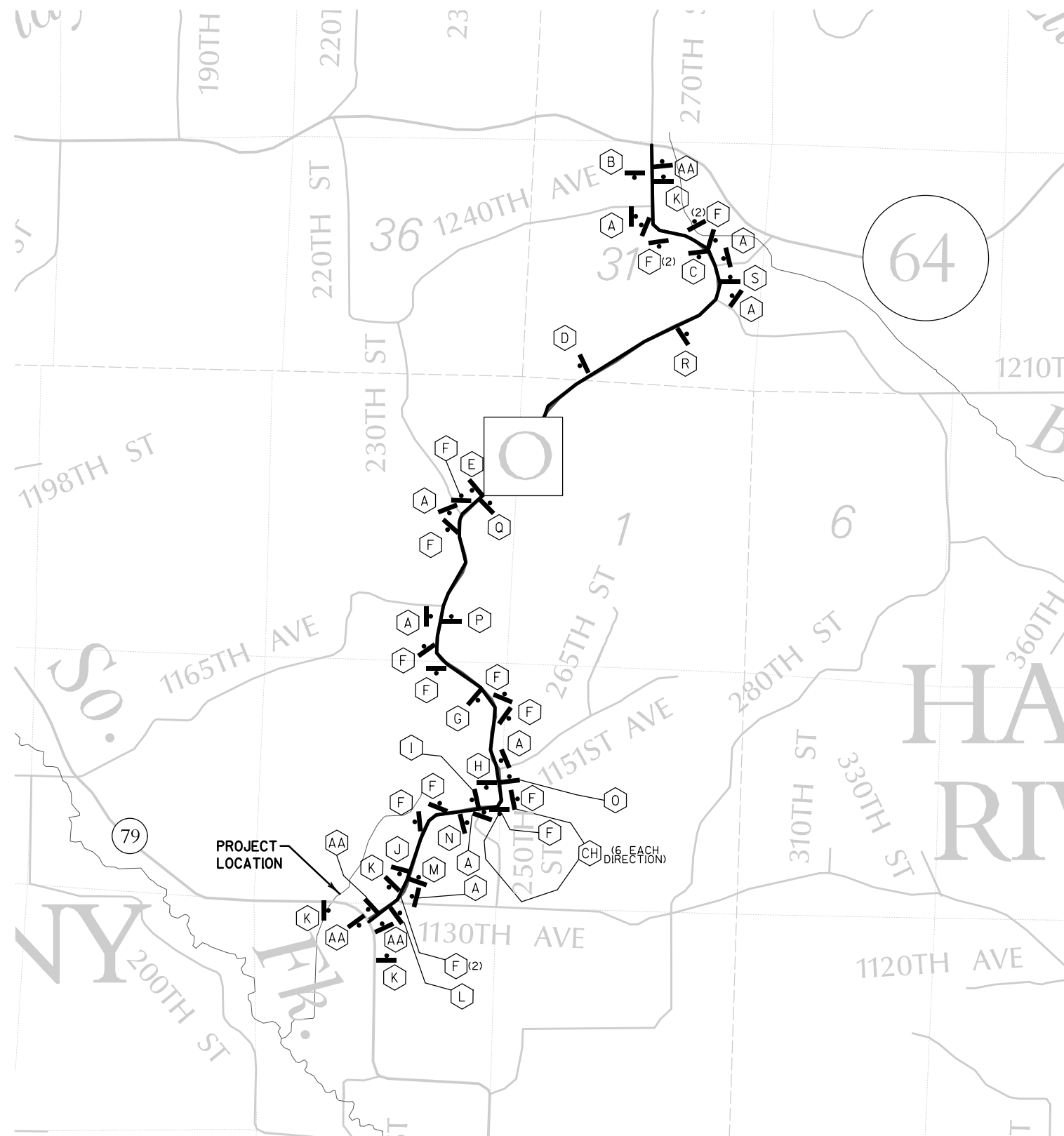


## LEGEND:

- STH 79 DETOUR ROUTE
- SIGN MOUNTED ON TEMPORARY POST
- TYPE III BARRICADE WITH SIGN

## GENERAL NOTES:

- "WO" IS TYPE "W" WITH REFLECTIVE ORANGE BACKGROUND.
- TYPE III BARRICADES SHALL BE 8' WIDE UNLESS OTHERWISE APPROVED BY THE ENGINEER IN THE FIELD.
- THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER IN THE FIELD.
- NOT TO SCALE.



## LEGEND:

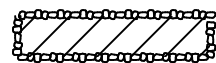
- STH 79 DETOUR ROUTE
- ✕ SIGN MOUNTED ON 4"X6"X16' POST

## GENERAL NOTES:

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

NOT TO SCALE.

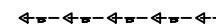
## LEGEND:



MEDIUM RIPRAP



SILT FENCE



TURBIDITY BARRIER



WETLAND BOUNDARY



WETLAND AREA

EX. DITCH BOTTOM/  
EDGE OF CHANNEL

PROP. DITCH BOTTOM



EXISTING RIGHT-OF-WAY



PROPOSED RIGHT-OF-WAY

SLOPE INTERCEPT (TYP)

PROPOSED RIGHT-OF-WAY

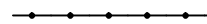
MATCH LINE 194+00

LIMITS OF HEAVY DUTY RIP-RAP, SEE  
STRUCTURE B-17-364 GENERAL PLAN

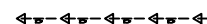
## LEGEND:



MEDIUM RIPRAP



SILT FENCE



TURBIDITY BARRIER



WETLAND BOUNDARY



WETLAND AREA

EX. DITCH BOTTOM/  
EDGE OF CHANNEL

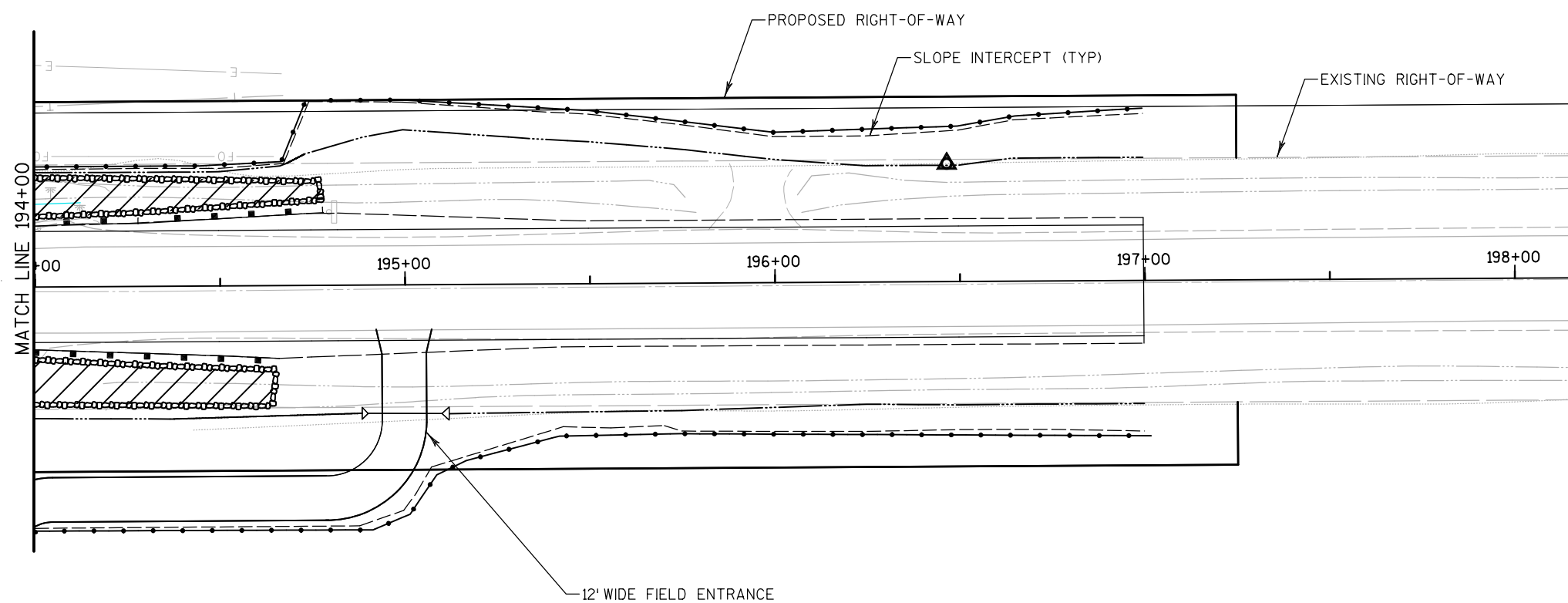
PROP. DITCH BOTTOM



EXISTING RIGHT-OF-WAY



PROPOSED RIGHT-OF-WAY



3

| DATE 17APR13 |            | E S T I M A T E O F Q U A N T I T I E S                     |      |            |            |
|--------------|------------|-------------------------------------------------------------|------|------------|------------|
| LINE         |            | 8640-02-71                                                  |      |            |            |
| NUMBER       | ITEM       | ITEM DESCRIPTION                                            | UNIT | TOTAL      | QUANTITY   |
| 0010         | 201.0105   | CLEARING                                                    | STA  | 8.000      | 8.000      |
| 0030         | 201.0205   | GRUBBING                                                    | STA  | 8.000      | 8.000      |
| 0060         | 203.0500.S | REMOVING OLD STRUCTURE OVER WATERWAY (STATION) 01. 193+11   | LS   | 1.000      | 1.000      |
| 0120         | 204.0165   | REMOVING GUARDRAIL                                          | LF   | 395.000    | 395.000    |
| 0140         | 205.0100   | EXCAVATION COMMON **p**                                     | CY   | 1,822.000  | 1,822.000  |
| 0150         | 206.1000   | EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-17-0364 | LS   | 1.000      | 1.000      |
| 0160         | 208.0100   | BORROW                                                      | CY   | 143.000    | 143.000    |
| 0170         | 210.0100   | BACKFILL STRUCTURE                                          | CY   | 140.000    | 140.000    |
| 0200         | 213.0100   | FINISHING ROADWAY (PROJECT) 02. 8640-02-71                  | EACH | 1.000      | 1.000      |
| 0210         | 305.0110   | BASE AGGREGATE DENSE 3/4-INCH                               | TON  | 220.000    | 220.000    |
| 0220         | 305.0120   | BASE AGGREGATE DENSE 1 1/4-INCH                             | TON  | 1,355.000  | 1,355.000  |
| 0240         | 455.0605   | TACK COAT                                                   | GAL  | 54.000     | 54.000     |
| 0250         | 465.0105   | ASPHALTIC SURFACE                                           | TON  | 600.000    | 600.000    |
| 0280         | 465.0315   | ASPHALTIC FLUMES                                            | SY   | 11.000     | 11.000     |
| 0300         | 502.0100   | CONCRETE MASONRY BRIDGES                                    | CY   | 143.000    | 143.000    |
| 0310         | 502.3200   | PROTECTIVE SURFACE TREATMENT                                | SY   | 165.000    | 165.000    |
| 0360         | 505.0405   | BAR STEEL REINFORCEMENT HS BRIDGES                          | LB   | 3,800.000  | 3,800.000  |
| 0370         | 505.0605   | BAR STEEL REINFORCEMENT HS COATED BRIDGES                   | LB   | 16,180.000 | 16,180.000 |
| 0380         | 516.0500   | RUBBERIZED MEMBRANE WATERPROOFING                           | SY   | 18.000     | 18.000     |
| 0560         | 550.2104   | PILING CIP CONCRETE 10 3/4 X 0.25-INCH                      | LF   | 700.000    | 700.000    |
| 0600         | 606.0200   | RIPRAP MEDIUM                                               | CY   | 558.000    | 558.000    |
| 0610         | 606.0300   | RIPRAP HEAVY                                                | CY   | 105.000    | 105.000    |
| 0640         | 612.0406   | PIPE UNDERDRAIN WRAPPED 6-INCH                              | LF   | 140.000    | 140.000    |
| 0660         | 614.0150   | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD                | EACH | 4.000      | 4.000      |
| 0670         | 614.2300   | MGS GUARDRAIL 3                                             | LF   | 427.000    | 427.000    |
| 0680         | 614.2500   | MGS THRIE BEAM TRANSITION                                   | LF   | 84.000     | 84.000     |
| 0690         | 614.2610   | MGS GUARDRAIL TERMINAL EAT                                  | EACH | 4.000      | 4.000      |
| 0720         | 619.1000   | MOBILIZATION                                                | EACH | 0.330      | 0.330      |
| 0750         | 625.0500   | SALVAGED TOPSOIL                                            | SY   | 3,071.000  | 3,071.000  |
| 0760         | 627.0200   | MULCHING                                                    | SY   | 3,071.000  | 3,071.000  |
| 0770         | 628.1504   | SILT FENCE                                                  | LF   | 1,450.000  | 1,450.000  |
| 0780         | 628.1520   | SILT FENCE MAINTENANCE                                      | LF   | 1,450.000  | 1,450.000  |
| 0790         | 628.1905   | MOBILIZATIONS EROSION CONTROL                               | EACH | 2.000      | 2.000      |
| 0800         | 628.1910   | MOBILIZATIONS EMERGENCY EROSION CONTROL                     | EACH | 2.000      | 2.000      |
| 0830         | 628.6005   | TURBIDITY BARRIERS                                          | SY   | 180.000    | 180.000    |
| 0870         | 629.0210   | FERTILIZER TYPE B                                           | CWT  | 2.000      | 2.000      |
| 0880         | 630.0120   | SEEDING MIXTURE NO. 20                                      | LB   | 83.000     | 83.000     |
| 0930         | 634.0616   | POSTS WOOD 4X6-INCH X 16-FT                                 | EACH | 44.000     | 44.000     |
| 0960         | 637.0202   | SIGNS REFLECTIVE TYPE II                                    | SF   | 430.250    | 430.250    |
| 0990         | 642.5001   | FIELD OFFICE TYPE B                                         | EACH | 0.200      | 0.200      |
| 1010         | 643.0100   | TRAFFIC CONTROL (PROJECT) 02. 8640-02-71                    | EACH | 1.000      | 1.000      |
| 1030         | 643.0420   | TRAFFIC CONTROL BARRICADES TYPE III                         | DAY  | 600.000    | 600.000    |
| 1040         | 643.0705   | TRAFFIC CONTROL WARNING LIGHTS TYPE A                       | DAY  | 1,200.000  | 1,200.000  |
| 1050         | 643.0900   | TRAFFIC CONTROL SIGNS                                       | DAY  | 660.000    | 660.000    |
| 1060         | 643.2000   | TRAFFIC CONTROL DETOUR (PROJECT) 02. 8640-02-71             | EACH | 1.000      | 1.000      |
| 1070         | 643.3000   | TRAFFIC CONTROL DETOUR SIGNS                                | DAY  | 3,180.000  | 3,180.000  |
| 1080         | 645.0120   | GEOTEXTILE FABRIC TYPE HR                                   | SY   | 1,380.000  | 1,380.000  |
| 1090         | 646.0106   | PAVEMENT MARKING EPOXY 4-INCH                               | LF   | 88,510.000 | 88,510.000 |
| 1130         | 647.0566   | PAVEMENT MARKING STOP LINE EPOXY 18-INCH                    | LF   | 24.000     | 24.000     |

3

3

|              |          |                                                                    |                                         |         |          |
|--------------|----------|--------------------------------------------------------------------|-----------------------------------------|---------|----------|
| DATE 17APR13 |          |                                                                    | E S T I M A T E O F Q U A N T I T I E S |         |          |
| LINE         |          |                                                                    | 8640-02-71                              |         |          |
| NUMBER       | ITEM     | ITEM DESCRIPTION                                                   | UNIT                                    | TOTAL   | QUANTITY |
| 1170         | 648.0100 | LOCATING NO-PASSING ZONES                                          | MI                                      | 4.000   | 4.000    |
| 1190         | 650.4500 | CONSTRUCTION STAKING SUBGRADE                                      | LF                                      | 783.000 | 783.000  |
| 1200         | 650.5000 | CONSTRUCTION STAKING BASE                                          | LF                                      | 783.000 | 783.000  |
| 1220         | 650.6500 | CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-17-0364    | LS                                      | 1.000   | 1.000    |
| 1250         | 650.9910 | CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 02. 8640-02-71 | LS                                      | 1.000   | 1.000    |
| 1260         | 650.9920 | CONSTRUCTION STAKING SLOPE STAKES                                  | LF                                      | 783.000 | 783.000  |
| 1290         | 715.0502 | INCENTIVE STRENGTH CONCRETE STRUCTURES                             | DOL                                     | 858.000 | 858.000  |

3

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| CLEARING AND GRUBBING |         |         |          |                             |                             |
|-----------------------|---------|---------|----------|-----------------------------|-----------------------------|
| CATEGORY              | STATION |         | LOCATION | 201.0105<br>CLEARING<br>STA | 201.0205<br>GRUBBING<br>STA |
| 0010                  | 189+00  | -197+00 | LT/RT    | 8                           | 8                           |
| TOTAL                 |         |         |          | 8                           | 8                           |

| REMOVING GUARDRAIL |         |    |         |          |                                         |
|--------------------|---------|----|---------|----------|-----------------------------------------|
| CATEGORY           | STATION | TO | STATION | LOCATION | 204.0165<br>REMOVING<br>GUARDRAIL<br>LF |
| 0010               | 191+72  | -  | 193+04  | LT       | 132                                     |
|                    | 191+62  | -  | 192+98  | RT       | 136                                     |
|                    | 193+24  | -  | 194+05  | LT       | 81                                      |
|                    | 193+15  | -  | 193+61  | RT       | 46                                      |
| TOTAL              |         |    |         |          | 395                                     |

| EXCAVATION COMMON |         |    |         |                                                 |
|-------------------|---------|----|---------|-------------------------------------------------|
| CATEGORY          | STATION | TO | STATION | 205.0100<br>EXCAVATION<br>COMMON<br>**P**<br>CY |
| 0010              | 188+80  | -  | 197+00  | 1822                                            |
| TOTAL             |         |    |         | 1822                                            |

| BORROW   |         |    |         |                          |
|----------|---------|----|---------|--------------------------|
| CATEGORY | STATION | TO | STATION | 208.0100<br>BORROW<br>CY |
| 0010     | 188+80  | -  | 197+00  | 143                      |
| TOTAL    |         |    |         | 143                      |

3

| BASE AGGREGATE |         |    |         |          |                                                        |                                                          |
|----------------|---------|----|---------|----------|--------------------------------------------------------|----------------------------------------------------------|
| CATEGORY       | STATION | TO | STATION | LOCATION | 305.0110<br>BASE<br>AGGREGATE<br>DENSE 3/4-INCH<br>TON | 305.0120<br>BASE<br>AGGREGATE<br>DENSE 1 1/4 INCH<br>TON |
| 0010           | 188+80  | -  | 197+00  | LT/RT    | 220                                                    | 1355                                                     |
| TOTAL          |         |    |         |          | 220                                                    | 1355                                                     |

| ASPHALT PAVING |         |    |         |          |                                 |                                         |
|----------------|---------|----|---------|----------|---------------------------------|-----------------------------------------|
| CATEGORY       | STATION | TO | STATION | LOCATION | 455.0605<br>TACK<br>COAT<br>GAL | 465.0105<br>ASPHALTIC<br>SURFACE<br>TON |
| 0010           | 188+80  | -  | 197+00  | LT/RT    | 54                              | 600                                     |
| TOTAL          |         |    |         |          | 54                              | 600                                     |

| ASPHALTIC FLUMES |         |      |                                      |
|------------------|---------|------|--------------------------------------|
| CATEGORY         | STATION | LOC. | 465.0315<br>ASPHALTIC<br>FLUME<br>SY |
| 0010             | 192+75  | RT   | 4.0                                  |
|                  | 192+85  | LT   | 2.0                                  |
|                  | 193+35  | RT   | 3.0                                  |
|                  | 193+50  | LT   | 2.0                                  |
| TOTAL            |         |      | 11.0                                 |

| STEEL PLATE BEAM GUARD |         |    |         |          |                                              |                                      |                                                      |
|------------------------|---------|----|---------|----------|----------------------------------------------|--------------------------------------|------------------------------------------------------|
| CATEGORY               | STATION | TO | STATION | LOCATION | 614.2500<br>MGS<br>THRIE<br>TRANSITION<br>LF | 614.2300<br>MGS<br>GUARDRAIL 3<br>LF | 614.2610<br>MGS<br>GUARDRAIL<br>TERMINAL EAT<br>EACH |
| 0010                   | 191+55  | -  | 192+91  | LT       | 10                                           | 75                                   | 1                                                    |
|                        | 189+75  | -  | 192+79  | RT       | 10                                           | 243                                  | 1                                                    |
|                        | 193+43  | -  | 194+78  | LT       | 10                                           | 75                                   | 1                                                    |
|                        | 193+31  | -  | 194+67  | RT       | 10                                           | 75                                   | 1                                                    |
| TOTAL                  |         |    |         |          | 84                                           | 427                                  | 4                                                    |

3

| MOBILIZATION |                                |
|--------------|--------------------------------|
| CATEGORY     | 619.1000<br>MOBILIZATION<br>EA |
| 0010         | 0.33                           |
|              |                                |
| FIELD OFFICE |                                |
| CATEGORY     | 642.5001<br>FIELD OFFICE<br>EA |
| 0010         | 0.2                            |

| EROSION CONTROL |         |    |         |          |                        |                                       |                     |                                 |                            |                                          |                                                       |
|-----------------|---------|----|---------|----------|------------------------|---------------------------------------|---------------------|---------------------------------|----------------------------|------------------------------------------|-------------------------------------------------------|
| CATEGORY        | STATION | TO | STATION | LOCATION | 606.0200               | 645.0120                              | 628.1504            | 628.1520                        | 628.6005                   | 628.1905                                 | 628.1910                                              |
|                 |         |    |         |          | RIPRAP<br>MEDIUM<br>CY | GEOTEXTILE<br>FABRIC<br>TYPE HR<br>SY | SILT<br>FENCE<br>LF | SILT FENCE<br>MAINTENANCE<br>LF | TURBIDITY<br>BARRIER<br>SY | MOBILIZATIONS<br>EROSION CONTROL<br>EACH | MOBILIZATIONS<br>EMERGENCY<br>EROSION CONTROL<br>EACH |
| 0010            | 188+70  | -  | 193+00  | LT       | -                      | -                                     | 430                 | -                               | -                          | -                                        | -                                                     |
|                 | 188+70  | -  | 192+75  | RT       | -                      | -                                     | 405                 | -                               | -                          | -                                        | -                                                     |
|                 | 193+50  | -  | 195+90  | LT       | -                      | -                                     | 240                 | -                               | -                          | -                                        | -                                                     |
|                 | 193+30  | -  | 197+05  | RT       | -                      | -                                     | 375                 | -                               | -                          | -                                        | -                                                     |
|                 | 191+60  | -  | 193+00  | LT       | 93                     | 187                                   | -                   | -                               | -                          | -                                        | -                                                     |
|                 | 189+75  | -  | 193+00  | RT       | 271                    | 542                                   | -                   | -                               | -                          | -                                        | -                                                     |
|                 | 193+35  | -  | 194+80  | LT       | 97                     | 193                                   | -                   | -                               | -                          | -                                        | -                                                     |
|                 | 193+25  | -  | 194+70  | RT       | 97                     | 193                                   | -                   | -                               | -                          | -                                        | -                                                     |
|                 | 193+00  |    |         | LT/RT    | -                      | -                                     | -                   | -                               | 90                         | -                                        | -                                                     |
|                 | 193+20  |    |         | LT/RT    | -                      | -                                     | -                   | -                               | 90                         | -                                        | -                                                     |
| UNDISTRIBUTED   |         |    |         | -        | -                      | -                                     | 1450                | -                               | 2                          | 2                                        |                                                       |
| TOTAL           |         |    |         |          | 558                    | 1115                                  | 1450                | 1450                            | 180                        | 2                                        | 2                                                     |

3

| SEEDING AND MULCH |         |    |         |                                                |                         |                                         |                                       |
|-------------------|---------|----|---------|------------------------------------------------|-------------------------|-----------------------------------------|---------------------------------------|
| CATEGORY          | STATION | TO | STATION | 630.0120<br>SEEDING<br>MIXTURE<br>NO. 20<br>LB | 627.0200<br>MULCH<br>SY | 629.0210<br>FERTILIZER<br>TYPE B<br>CWT | 625.0500<br>SALVAGED<br>TOPSOIL<br>SY |
| 0010              | 188+80  | -  | 197+00  | 83                                             | 3071                    | 2                                       | 3071                                  |
| TOTAL             |         |    |         | 83                                             | 3071                    | 2                                       | 3071                                  |

| LOCATING NO-PASSING ZONES |                                    |                                                   |
|---------------------------|------------------------------------|---------------------------------------------------|
| CATEGORY                  | LOCATION                           | 648.0100<br>LOCATING<br>NO-PASSING<br>ZONES<br>MI |
| 0010                      | CTH 0 DETOUR FROM STH 79 TO STH 64 | 4                                                 |
|                           |                                    | 4                                                 |

| PAVEMENT MARKING |              |                                                         |                                                          |                                                              |
|------------------|--------------|---------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------|
| CATEGORY         | LOCATION     | 646.0106<br>PAVEMENT<br>MARKING EPOXY<br>4" WHITE<br>LF | 646.0106<br>PAVEMENT<br>MARKING EPOXY<br>4" YELLOW<br>LF | 647.0566<br>PAVEMENT MARKING<br>STOP LINE<br>EPOXY 18"<br>LF |
| 0010             | CTH 0 DETOUR | 46484                                                   | 42026                                                    |                                                              |
|                  | CTH 0/STH 79 |                                                         |                                                          | 12                                                           |
|                  | CTH 0/STH 64 |                                                         |                                                          | 12                                                           |
|                  |              | 46484                                                   | 42026                                                    | 24                                                           |

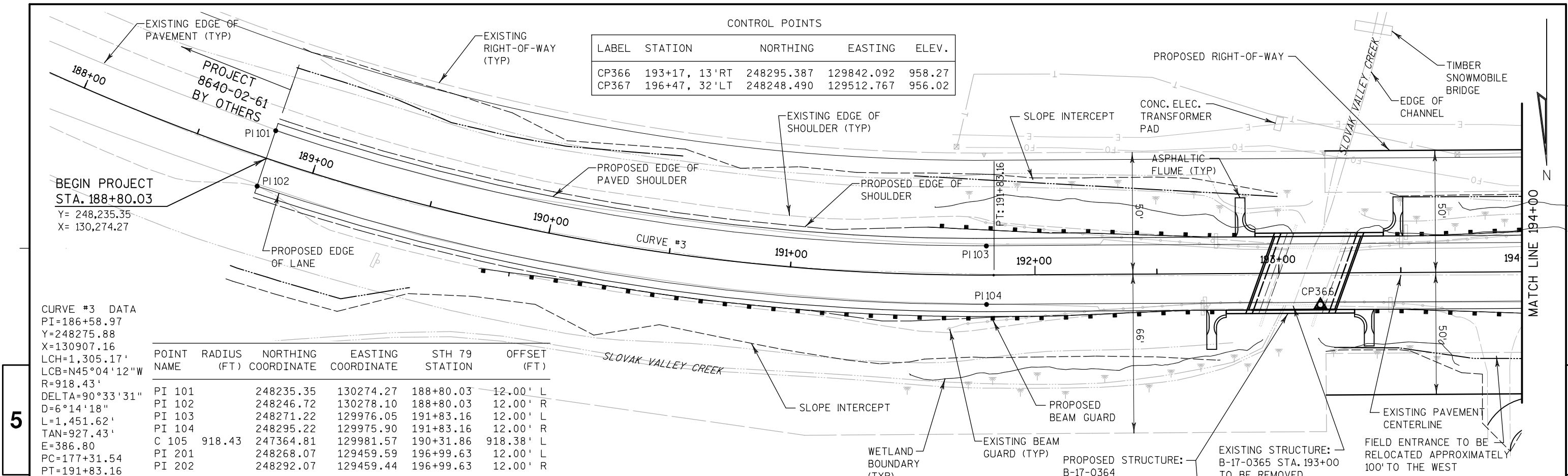
| TRAFFIC CONTROL |         |                                                   |                                                          |                                            |                                              |                                                        |                                              |
|-----------------|---------|---------------------------------------------------|----------------------------------------------------------|--------------------------------------------|----------------------------------------------|--------------------------------------------------------|----------------------------------------------|
| CATEGORY        | SIGN    | 643.0100<br>TRAFFIC<br>CONTROL<br>PROJECT<br>EACH | 643.2000<br>TRAFFIC<br>CONTROL DETOUR<br>PROJECT<br>EACH | 643.0420<br>BARRICADES<br>TYPE III<br>DAYS | 643.0705<br>WARNING LIGHTS<br>TYPE A<br>DAYS | 643.3000<br>TRAFFIC CONTROL<br>DETOUR<br>SIGNS<br>DAYS | 643.0900<br>TRAFFIC CONTROL<br>SIGNS<br>DAYS |
| 0010            | PROJECT | 1                                                 | 1                                                        | 600                                        | 1200                                         | 3180                                                   | 660                                          |

| CONSTRUCTION STAKING |                                                   |                                                   |                                                |                                                       |
|----------------------|---------------------------------------------------|---------------------------------------------------|------------------------------------------------|-------------------------------------------------------|
| CATEGORY             | 650.9910<br>CONSTRUCTION<br>STAKING CONTROL<br>EA | 650.4500<br>CONTRUCTION<br>STAKING SUBGRADE<br>LF | 650.5000<br>CONSTRUCTION<br>STAKING BASE<br>LF | 650.9920<br>CONTRUCTION STAKING<br>SLOPE STAKES<br>LF |
| 0010                 | 1                                                 | 783                                               | 783                                            | 783                                                   |

3

3

| TYPE II SIGNING |       |                    |                       |          |    |           |       |                             |                                |                                       |
|-----------------|-------|--------------------|-----------------------|----------|----|-----------|-------|-----------------------------|--------------------------------|---------------------------------------|
| CATEGORY        | SIGN  | SIGN CODE          | MESSAGE               | QUANTITY | IN | DIMENSION |       | 637.0202                    | 634.0616                       | NOTES                                 |
|                 |       |                    |                       |          |    | X         | IN    | SIGNS REFLECTIVE TYPE II SF | POSTS WOOD 4X6 INCH 16 FT EACH |                                       |
| 0010            | A*    | R1-1               | STOP                  | 8        | 30 | X         | 30    | 0*                          | 0*                             | * EXISTING LOCAL ROAD SIGNS TO REMAIN |
|                 | AA    | R1-1               | STOP                  | 4        | 36 | X         | 36    | 36.00                       | 4                              |                                       |
|                 | B     | W1-4L              | LEFT REVERSE CURVE    | 1        | 30 | X         | 30    | 6.25                        | 1                              |                                       |
|                 |       | W13-1              | 35 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
|                 | C     | W1-4R              | RIGHT REVERSE CURVE   | 1        | 30 | X         | 30    | 6.25                        | 1                              |                                       |
|                 |       | W13-1              | 35 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
|                 | D     | W1-4L              | LEFT REVERSE CURVE    | 1        | 30 | X         | 30    | 6.25                        | 1                              |                                       |
|                 |       | W13-1              | 45 MPH                | 1        | 18 | X         | 28    | 3.50                        |                                |                                       |
|                 | E     | W1-5L              | LEFT WINDING ROAD     | 1        | 30 | X         | 30    | 6.25                        | 1                              |                                       |
|                 |       | W13-1              | 35 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
|                 | F     | W1-6               | NIGHT ARROW LEFT      | 8        | 48 | X         | 24    | 64.00                       | 8                              |                                       |
|                 |       | W1-6               | NIGHT ARROW RIGHT     | 8        | 48 | X         | 24    | 64.00                       | 8                              |                                       |
|                 | G     | S3-1               | SCHOOL BUS STOP AHEAD | 1        | 36 | X         | 36    | 9.00                        | 1                              |                                       |
|                 | H     | W1-3R              | RIGHT REVERSE TURN    | 1        | 36 | X         | 36    | 9.00                        | 1                              |                                       |
|                 |       | W13-1              | 20 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
|                 | I     | W1-2L              | CURVE LEFT            | 1        | 30 | X         | 30    | 6.25                        | 1                              |                                       |
|                 |       | W13-1              | 35 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
|                 | J     | W1-2R              | CURVE RIGHT           | 1        | 30 | X         | 30    | 6.25                        | 1                              |                                       |
|                 |       | W13-1              | 35 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
|                 | K     | W3-1               | STOP AHEAD            | 4        | 36 | X         | 36    | 36.00                       | 4                              |                                       |
|                 | L     | W1-2L              | LEFT CURVE            | 1        | 30 | X         | 30    | 6.25                        | 1                              |                                       |
|                 |       | W13-1              | 35 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
|                 | M     | W1-2R              | RIGHT CURVE           | 1        | 30 | X         | 30    | 6.25                        | 1                              |                                       |
|                 |       | W13-1              | 35 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
|                 | N     | W1-3L              | LEFT REVERSE TURN     | 1        | 36 | X         | 36    | 9.00                        | 1                              |                                       |
|                 |       | W13-1              | 20 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
|                 | O     | W1-5L              | LEFT WINDING ROAD     | 1        | 30 | X         | 30    | 6.25                        | 1                              |                                       |
|                 |       | W13-1              | 35 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
|                 |       | W7-3aP             | NEXT 1.5 MILES        | 1        | 24 | X         | 18    | 3.00                        |                                |                                       |
|                 | P     | W1-4R              | RIGHT REVERSE CURVE   | 1        | 30 | X         | 30    | 6.25                        | 1                              |                                       |
|                 |       | W13-1              | 35 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
|                 | Q     | W1-4L              | LEFT REVERSE CURVE    | 1        | 30 | X         | 30    | 6.25                        | 1                              |                                       |
|                 |       | W13-1              | 40 MPH                | 1        | 18 | X         | 18    | 2.25                        |                                |                                       |
| R               | W1-2L | CURVE LEFT         | 1                     | 30       | X  | 30        | 6.25  | 1                           |                                |                                       |
|                 | W13-1 | 35 MPH             | 1                     | 18       | X  | 18        | 2.25  |                             |                                |                                       |
| S               | W1-4L | LEFT REVERSE CURVE | 1                     | 30       | X  | 30        | 6.25  | 1                           |                                |                                       |
|                 | W13-1 | 35 MPH             | 1                     | 18       | X  | 18        | 2.25  |                             |                                |                                       |
| **              | W14-3 | NO PASSING ZONE    | 4                     | 48       | X  | 36        | 48.00 | 4                           | LOCATE WITH SPOTTING           |                                       |
| CH              | W1-8  | CHEVRON LEFT       | 6                     | 18       | X  | 24        | 18.00 |                             |                                |                                       |
| CH              | W1-8  | CHEVRON RIGHT      | 6                     | 18       | X  | 24        | 18.00 |                             |                                |                                       |
| TOTALS          |       |                    |                       | 72       |    |           |       | 430.25                      | 44                             |                                       |



| CONTROL POINTS |               |            |            |        |
|----------------|---------------|------------|------------|--------|
| LABEL          | STATION       | NORTHING   | EASTING    | ELEV.  |
| CP366          | 193+17, 13'RT | 248295.387 | 129842.092 | 958.27 |
| CP367          | 196+47, 32'LT | 248248.490 | 129512.767 | 956.02 |

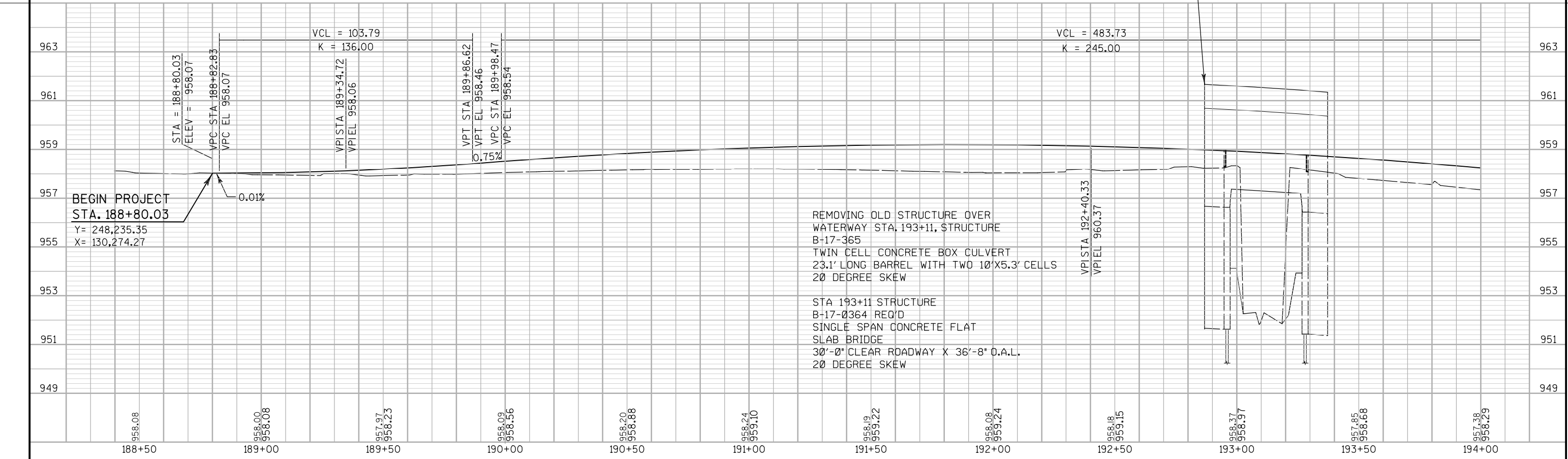
BEGIN PROJECT  
STA. 188+80.03  
Y= 248,235.35  
X= 130,274.27

CURVE #3 DATA  
PI=186+58.97  
Y=248275.88  
X=130907.16  
LCH=1,305.17'  
LCB=N45°04'12"W  
R=918.43'  
DELTA=90°33'31"  
D=6°14'18"  
L=1,451.62'  
TAN=927.43'  
E=386.80  
PC=177+31.54  
PT=191+83.16

| POINT NAME | RADIUS (FT) | NORTHING COORDINATE | EASTING COORDINATE | STH 79 STATION | OFFSET (FT) |
|------------|-------------|---------------------|--------------------|----------------|-------------|
| PI 101     |             | 248235.35           | 130274.27          | 188+80.03      | 12.00' L    |
| PI 102     |             | 248246.72           | 130278.10          | 188+80.03      | 12.00' R    |
| PI 103     |             | 248271.22           | 129976.05          | 191+83.16      | 12.00' L    |
| PI 104     |             | 248295.22           | 129975.90          | 191+83.16      | 12.00' R    |
| C 105      | 918.43      | 247364.81           | 129981.57          | 190+31.86      | 918.38' L   |
| PI 201     |             | 248268.07           | 129459.59          | 196+99.63      | 12.00' L    |
| PI 202     |             | 248292.07           | 129459.44          | 196+99.63      | 12.00' R    |

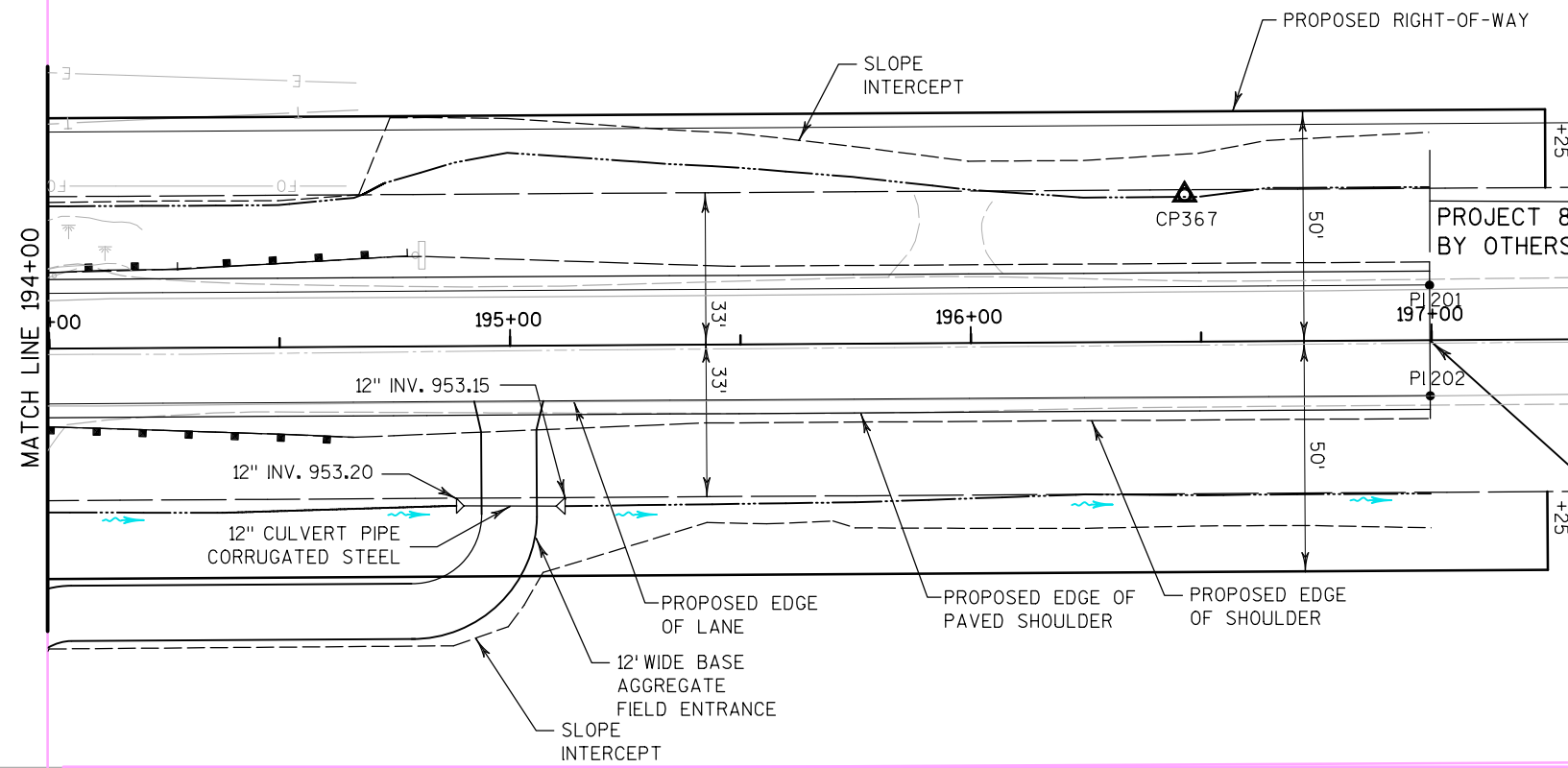
5

5



BEGIN PROJECT  
STA. 188+80.03  
Y= 248,235.35  
X= 130,274.27

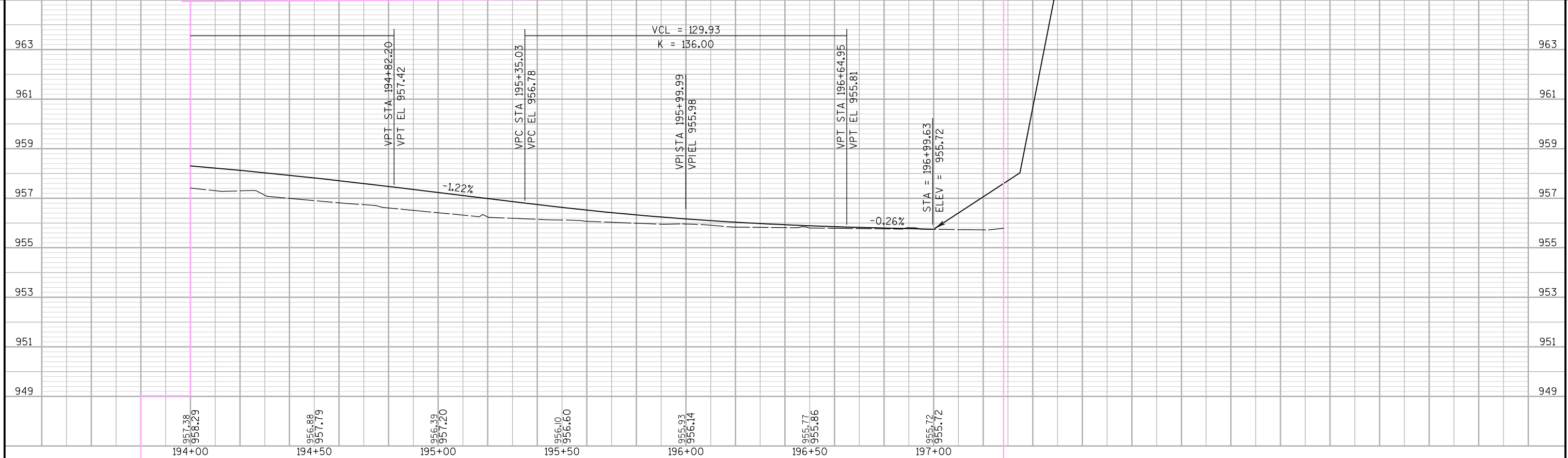
|        |        |        |        |        |        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 958.08 | 958.00 | 957.97 | 958.09 | 958.20 | 958.24 | 958.19 | 958.08 | 958.18 | 958.37 | 957.85 | 957.38 |
| 188+50 | 189+00 | 189+50 | 190+00 | 190+50 | 191+00 | 191+50 | 192+00 | 192+50 | 193+00 | 193+50 | 194+00 |



| POINT NAME | RADIUS (FT) | NORTHING COORDINATE | EASTING COORDINATE | STH 79 STATION | OFFSET (FT) |
|------------|-------------|---------------------|--------------------|----------------|-------------|
| PI 101     |             | 248235.35           | 130274.27          | 188+80.03      | 12.00' L    |
| PI 102     |             | 248246.72           | 130278.10          | 188+80.03      | 12.00' R    |
| PI 103     |             | 248271.22           | 129976.05          | 191+83.16      | 12.00' L    |
| PI 104     |             | 248295.22           | 129975.90          | 191+83.16      | 12.00' R    |
| C 105      | 918.43      | 247364.81           | 129981.57          | 190+31.86      | 918.38' L   |
| PI 201     |             | 248268.07           | 129459.59          | 196+99.63      | 12.00' L    |
| PI 202     |             | 248292.07           | 129459.44          | 196+99.63      | 12.00' R    |

| CONTROL POINTS |                |            |            |        |
|----------------|----------------|------------|------------|--------|
| LABEL          | STATION        | NORTHING   | EASTING    | ELEV.  |
| CP366          | 193+17, 13' RT | 248295.387 | 129842.092 | 958.27 |
| CP367          | 196+47, 32' LT | 248248.490 | 129512.767 | 956.02 |

END PROJECT  
STA. 196+99.63  
Y= 248,280.07  
X= 129,549.52

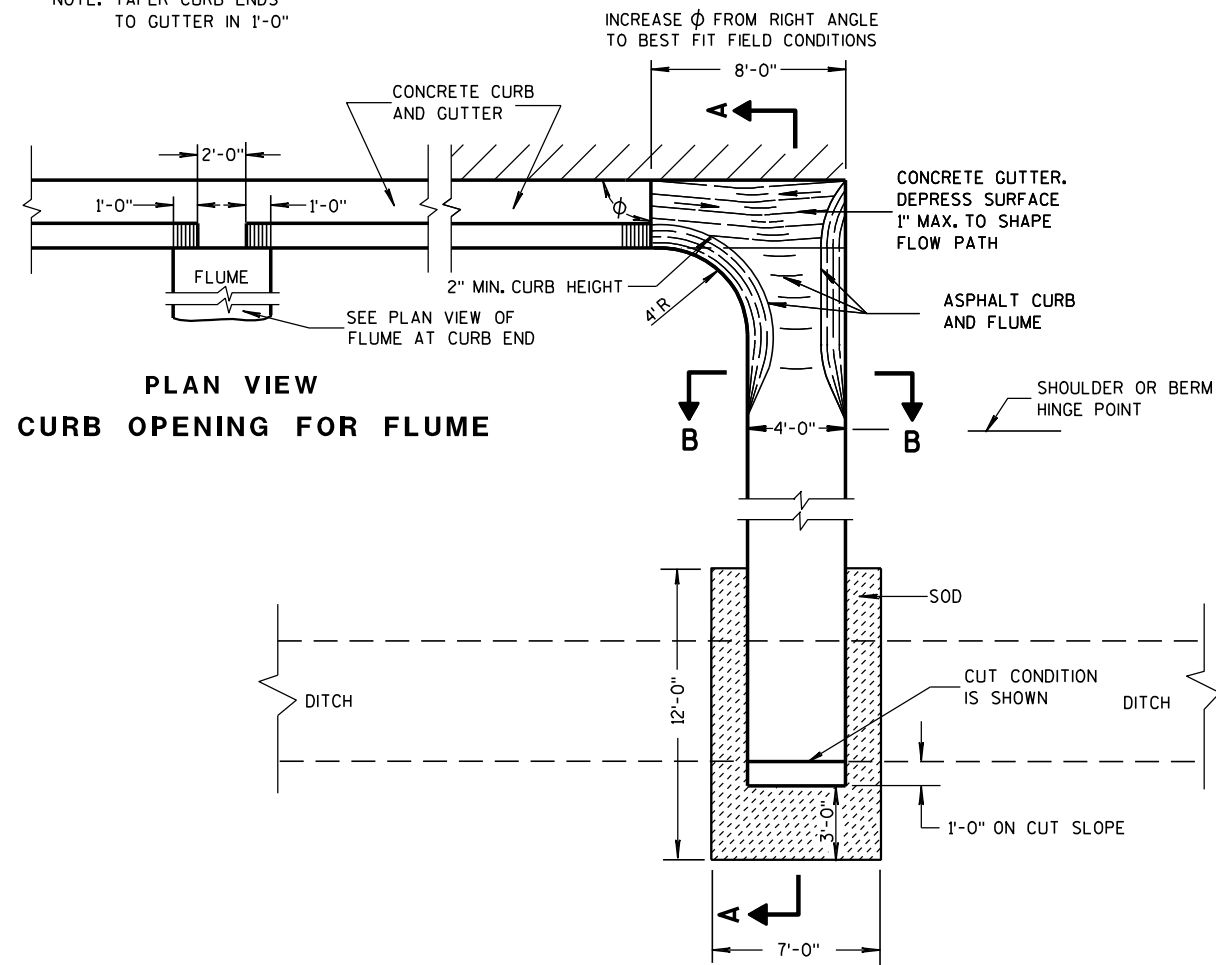


Standard Detail Drawing List

|           |                                                          |
|-----------|----------------------------------------------------------|
| 08D04-05  | CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES               |
| 08E09-06  | SILT FENCE                                               |
| 08E11-02  | TURBIDITY BARRIER                                        |
| 12A03-10  | NAME PLATE (STRUCTURES)                                  |
| 14B42-02A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                 |
| 14B42-02B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                 |
| 14B42-02C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                 |
| 14B44-01A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-01B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-01C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B45-03A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-03B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-03C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-03D | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-03E | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-03F | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-03G | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-03H | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-03I | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 14B45-03J | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)     |
| 15C02-04A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES               |
| 15C02-04B | BARRICADES AND SIGNS FOR MAINLINE CLOSURES               |
| 15C02-04C | DETOUR SIGNING FOR MAINLINE CLOSURES                     |
| 15C06-05  | SIGNING & MARKING FOR TWO LANE BRIDGES                   |
| 15C08-15A | PAVEMENT MARKING (MAINLINE)                              |
| 15C08-15B | PAVEMENT MARKING (INTERSECTIONS)                         |

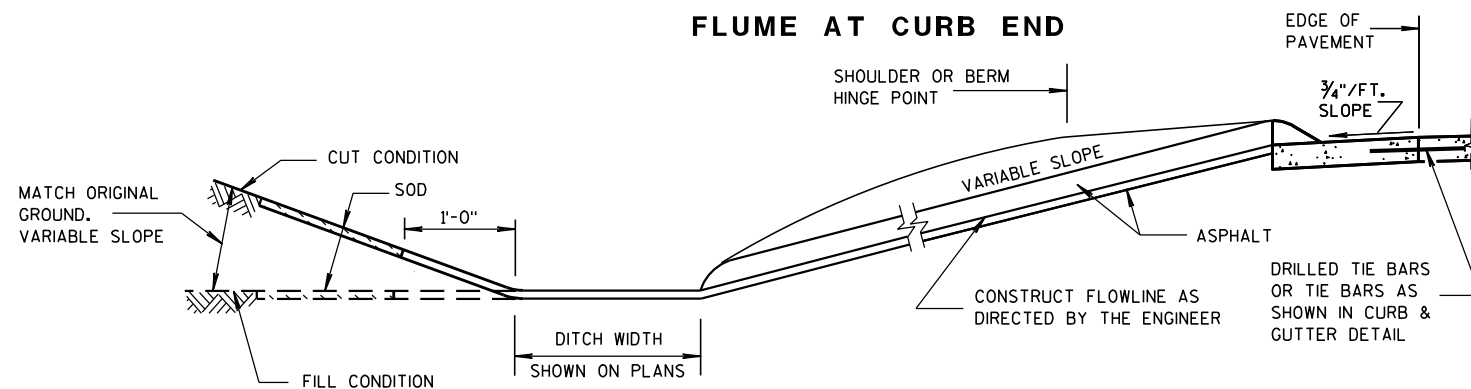
## ASPHALTIC FLUME

NOTE: TAPER CURB ENDS  
TO GUTTER IN 1'-0"

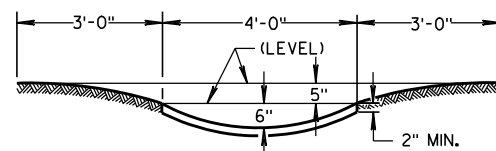


PLAN VIEW  
CURB OPENING FOR FLUME

PLAN VIEW  
FLUME AT CURB END



SECTION A-A



SECTION B-B

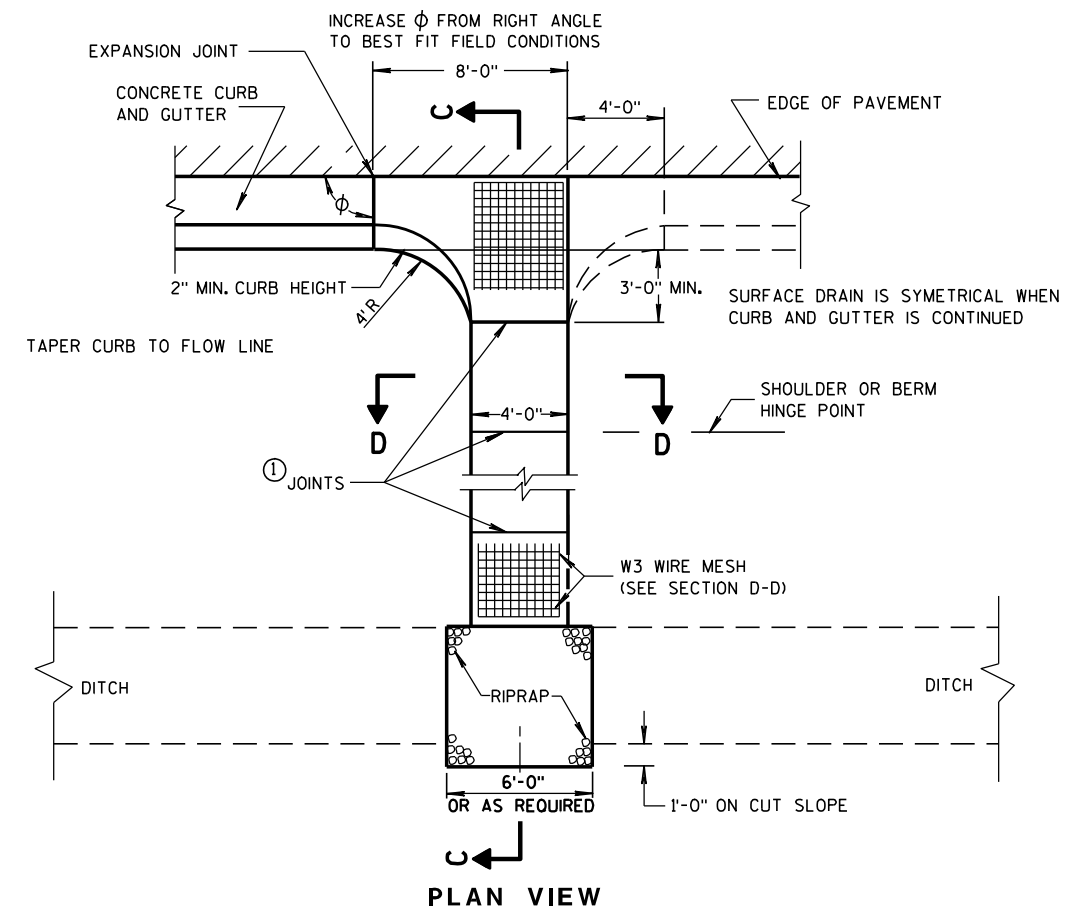
## GENERAL NOTES

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

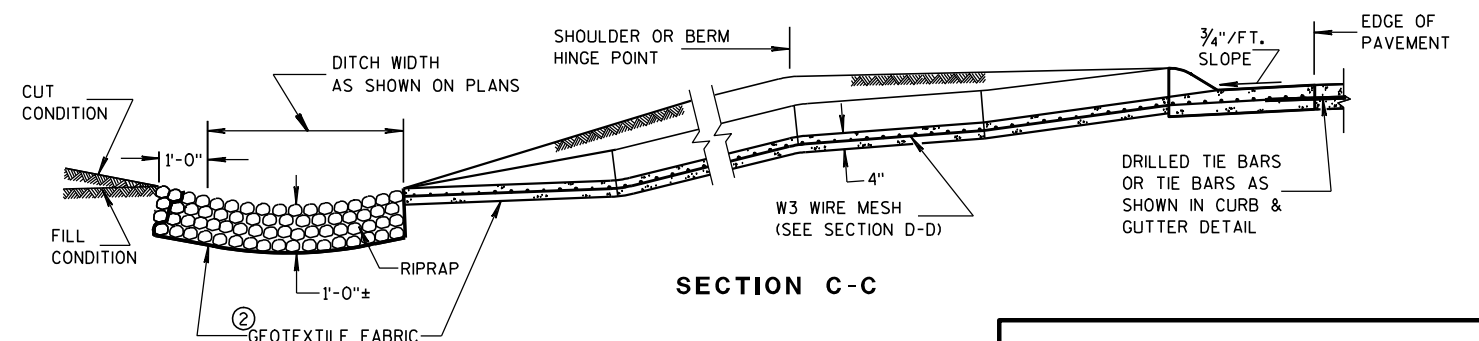
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE 1/8" TO 1/4" INCH WIDE BY 1 1/2" INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

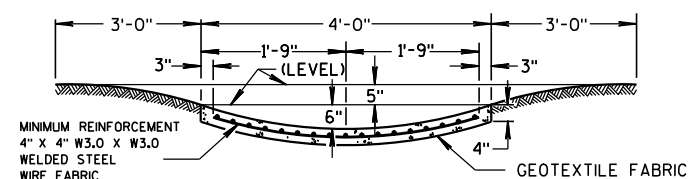
## ③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

## CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

9-4-08

DATE

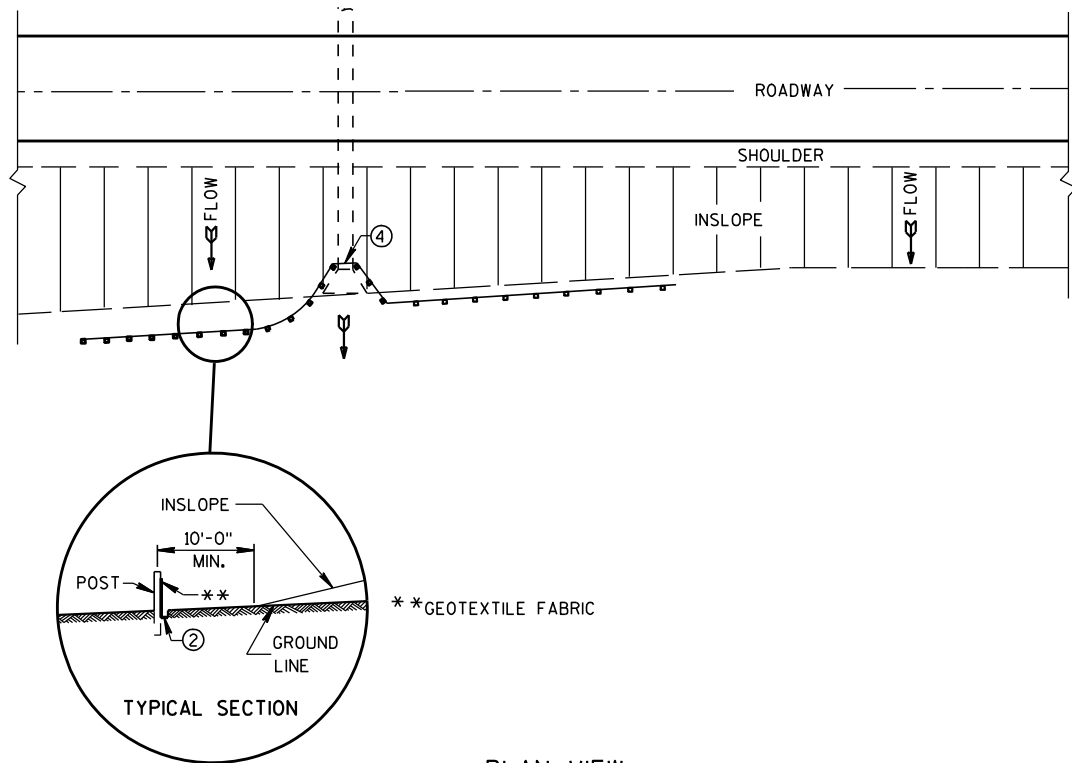
FHWA

/S/ Jerry H. Zapp

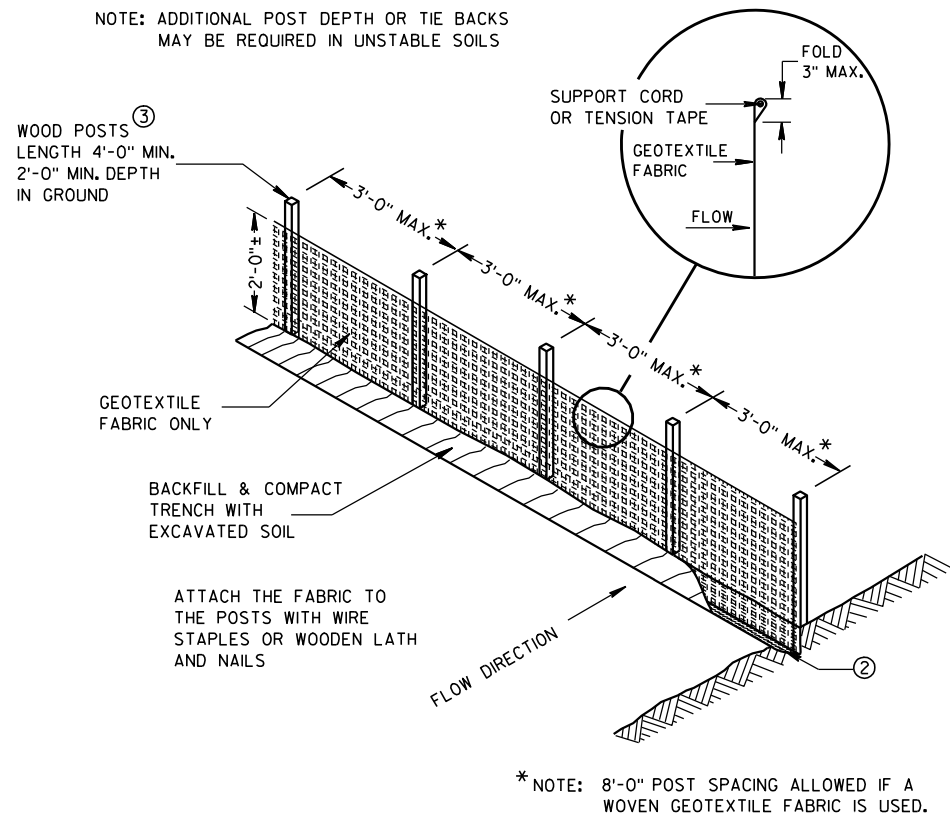
ROADWAY STANDARDS 16

ENGINEER

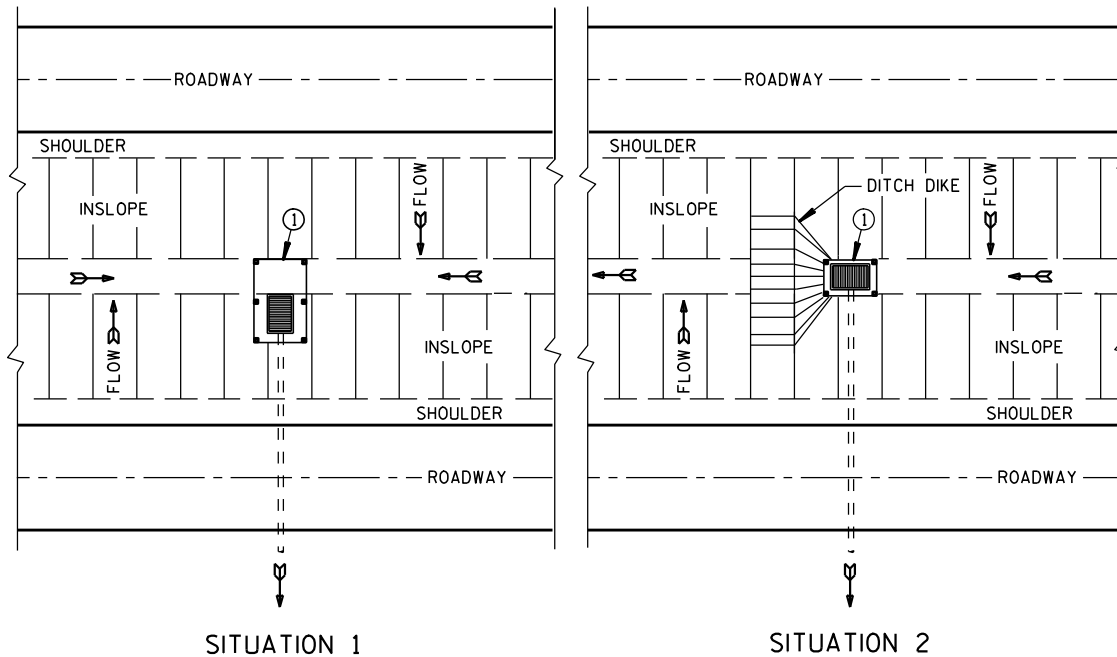
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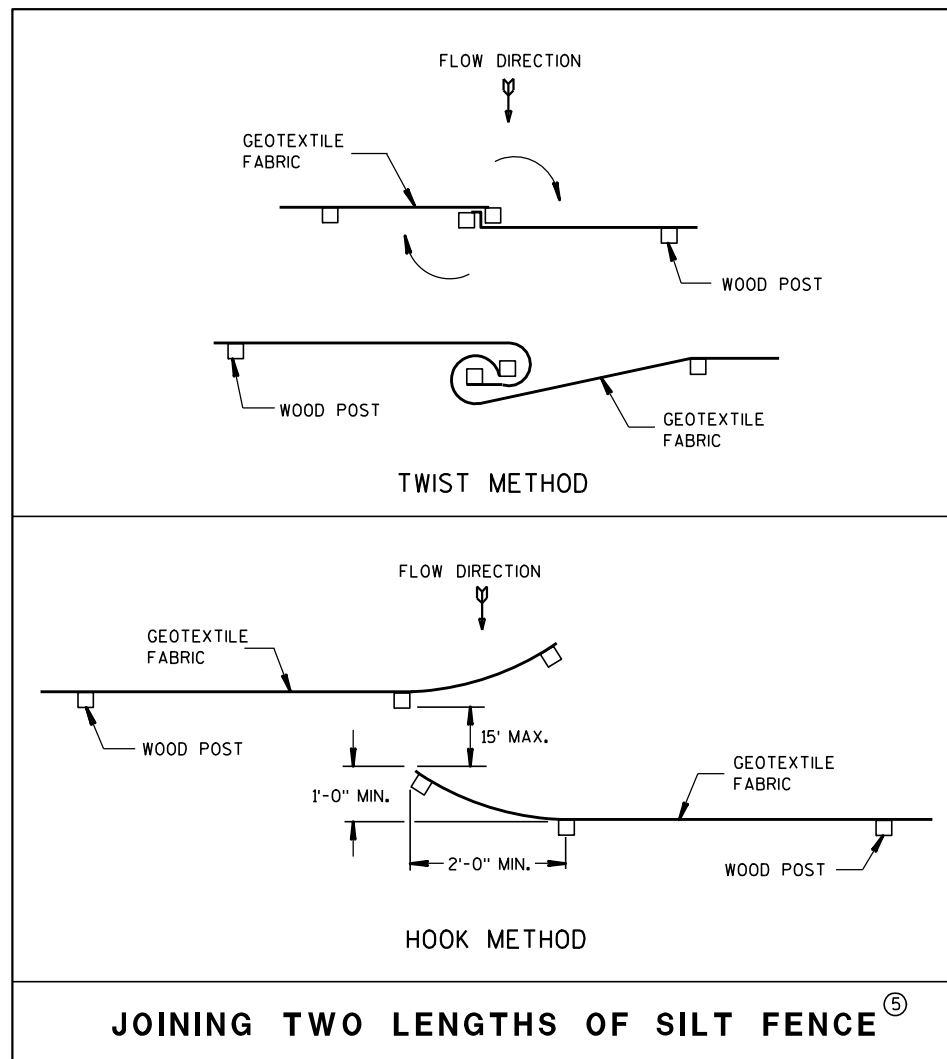
PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

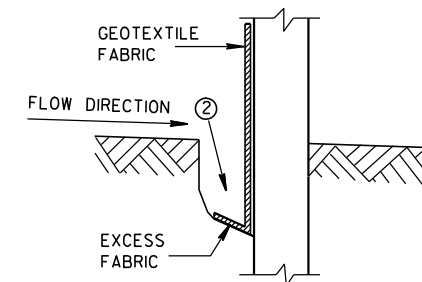


JOINING TWO LENGTHS OF SILT FENCE

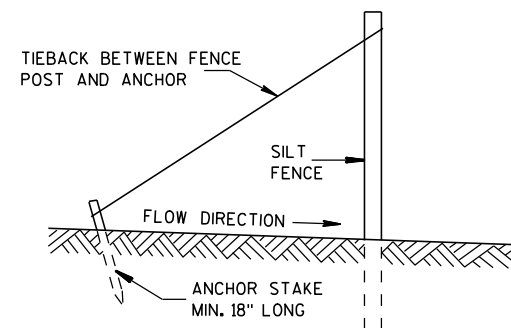
GENERAL NOTES

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.

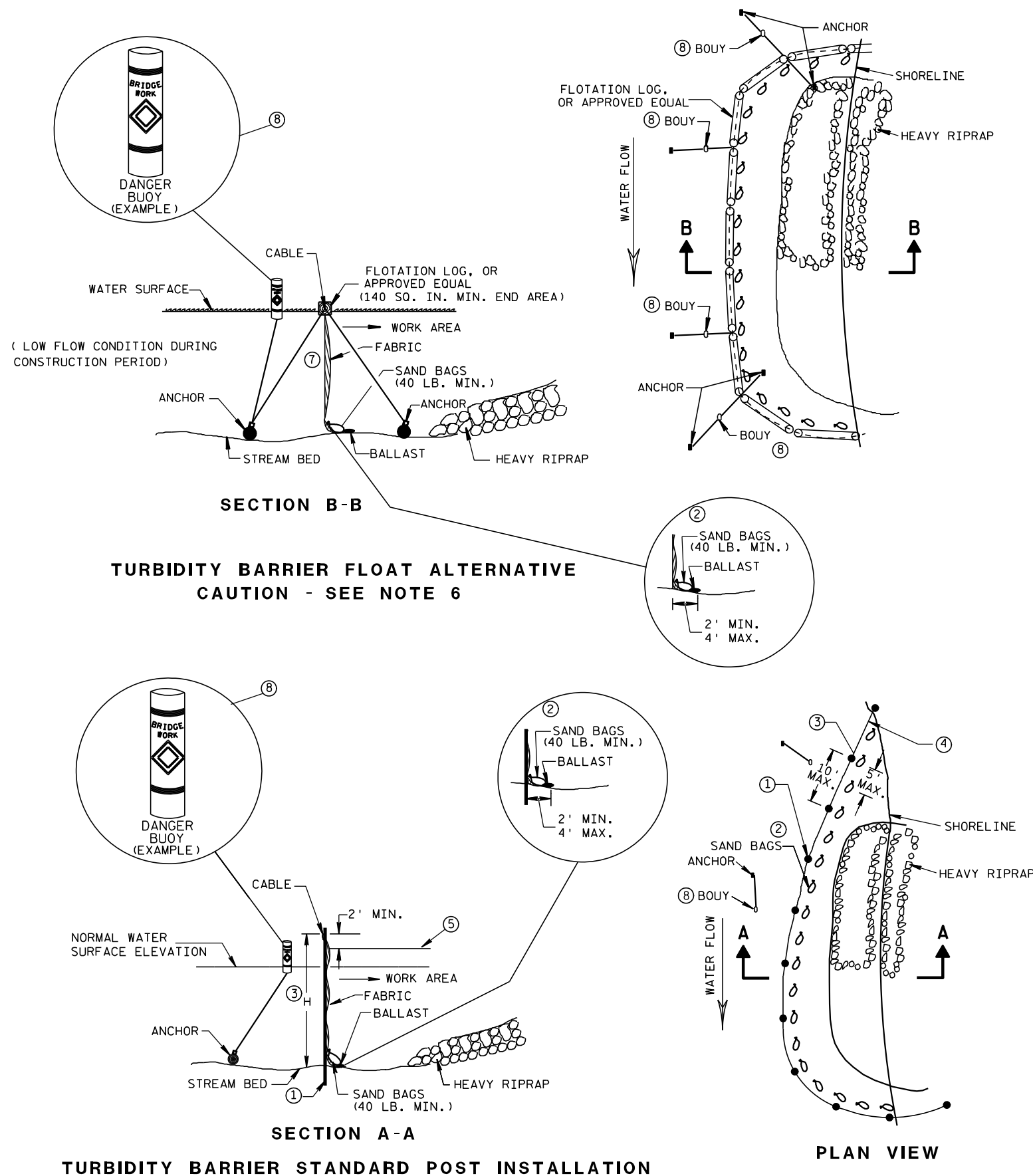


TRENCH DETAIL



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 Conn<br>CHIEF ROADWAY DEVELOPER |
| FHWA                                               | ENGINEER                                 |

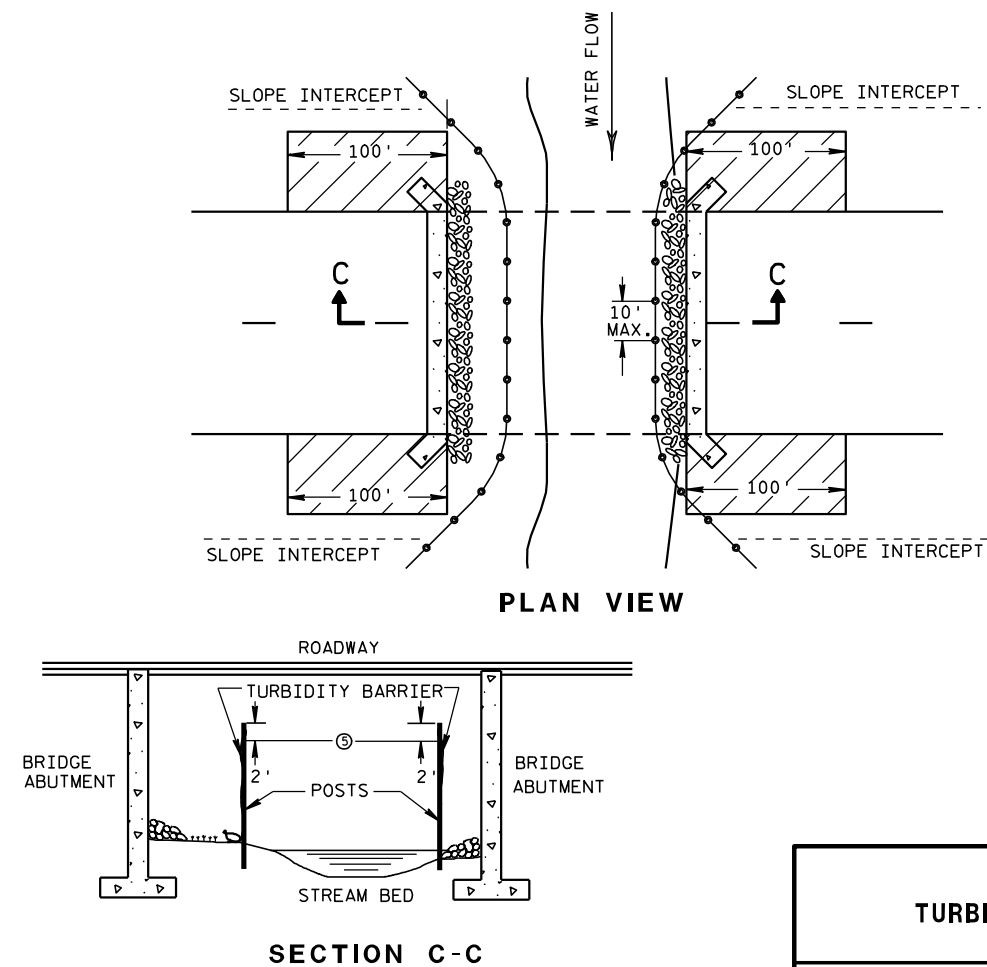


## GENERAL NOTES

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

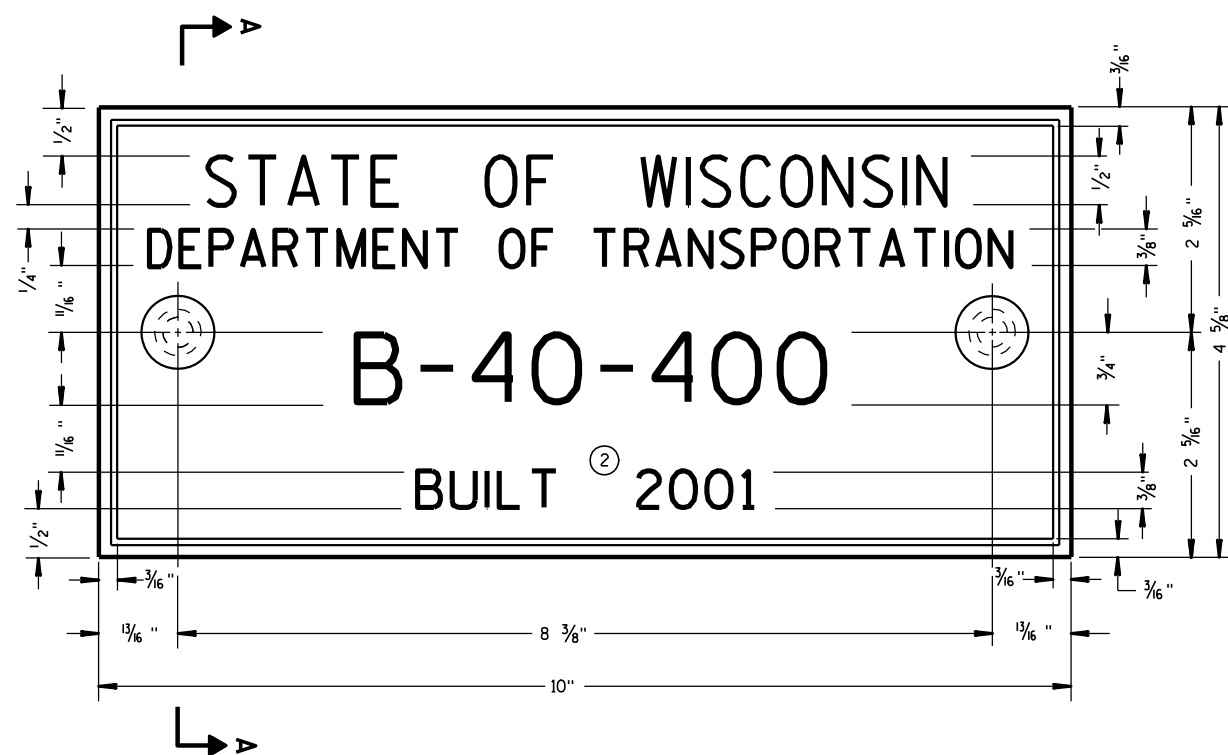
DATE

/S/ Beth Conn

CHIEF ROADWAY DEVELOPER

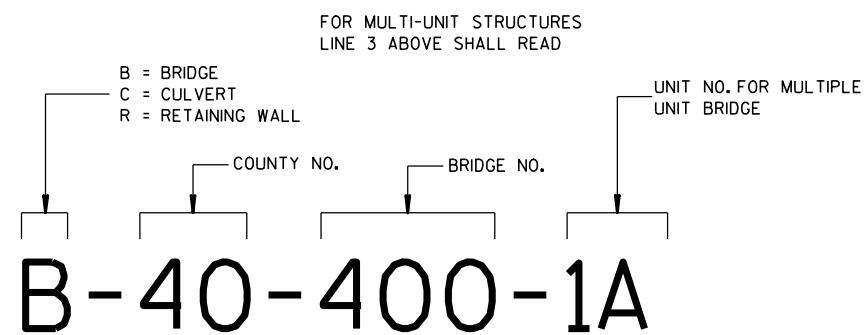
FWHA

18 INEER



## TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



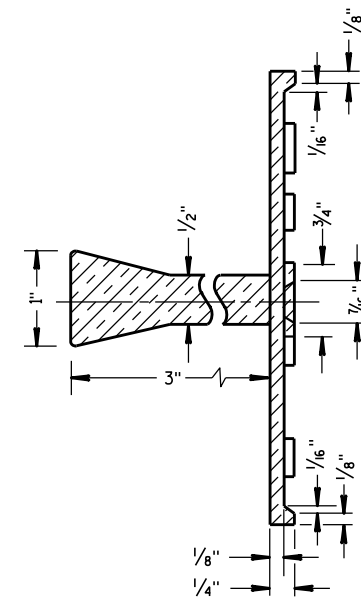
**NUMBERING DESIGNATION**  
**MULTI-UNIT STRUCTURES**

## GENERAL NOTES

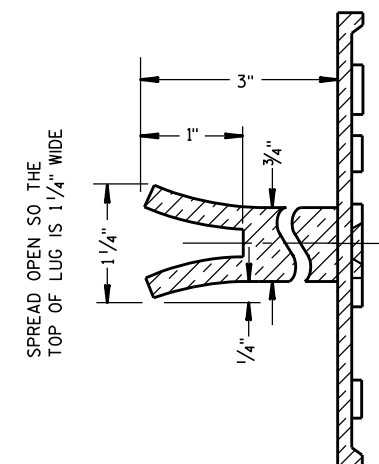
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

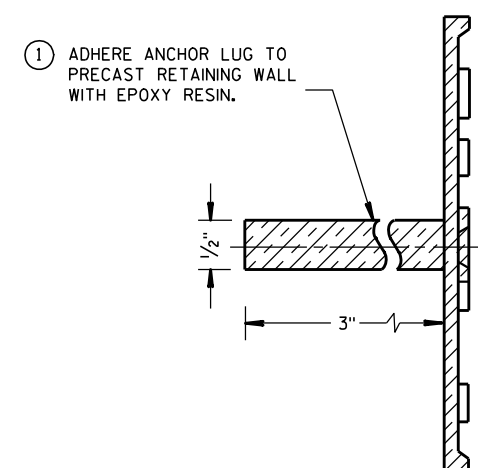
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



**SECTION A-A**



### ALTERNATE LUG



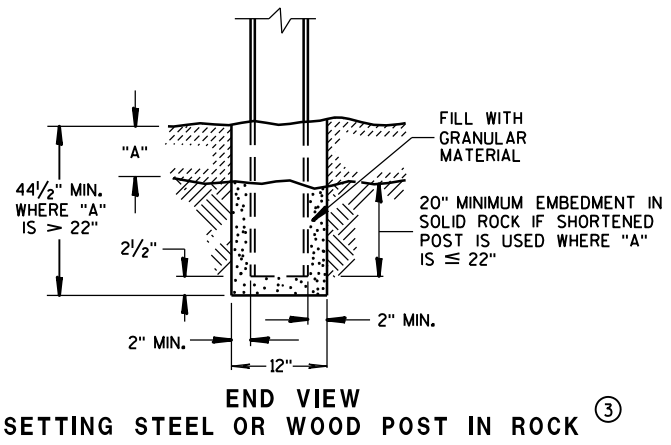
### ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

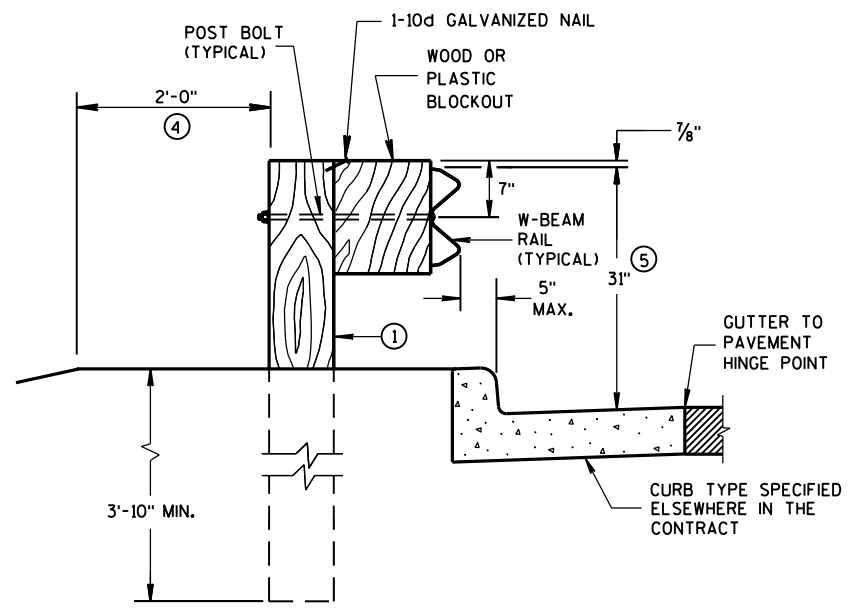
|                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|
| <b>NAME PLATE<br/>(STRUCTURES)</b>                 |                                                    |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                    |
| APPROVED<br><u>3/26/10</u><br>DATE                 | <u>/S/ Scot Beck</u><br>CHIEF STRUCTURAL DEVELOPER |
| FHWA                                               | IEER                                               |

GENERAL NOTES

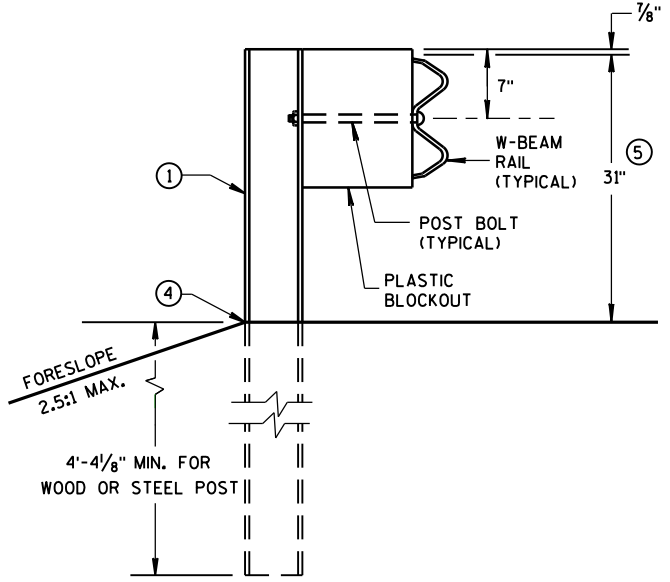
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2 INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".



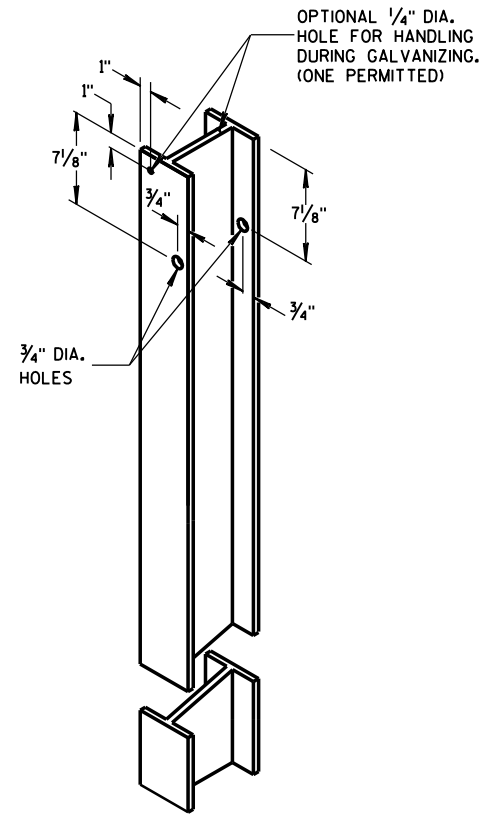
END VIEW  
SETTING STEEL OR WOOD POST IN ROCK ③



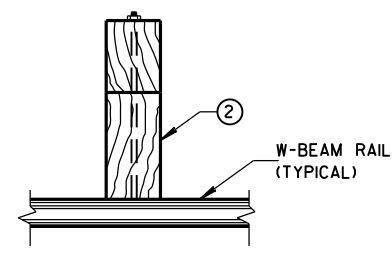
END VIEW  
LOCATED ALONG A CURBED ROADWAY



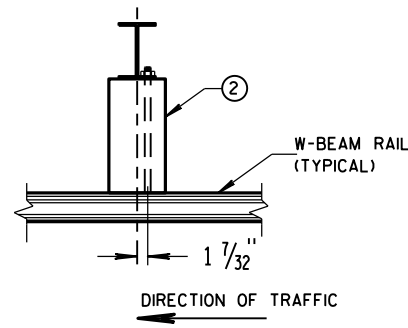
END VIEW  
MGS LONGER POST AT HALFPST SPACING W BEAM (K)



STEEL POST &  
HOLE PUNCHING DETAIL  
(w6X9) ①



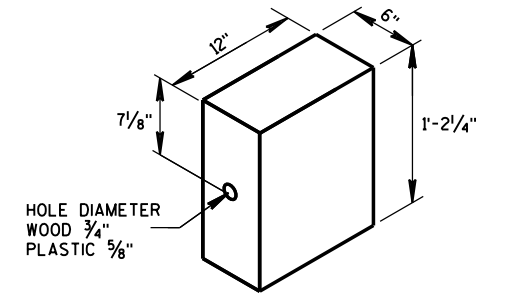
PLAN VIEW  
WOOD POST,  
BLOCKOUT & BEAM



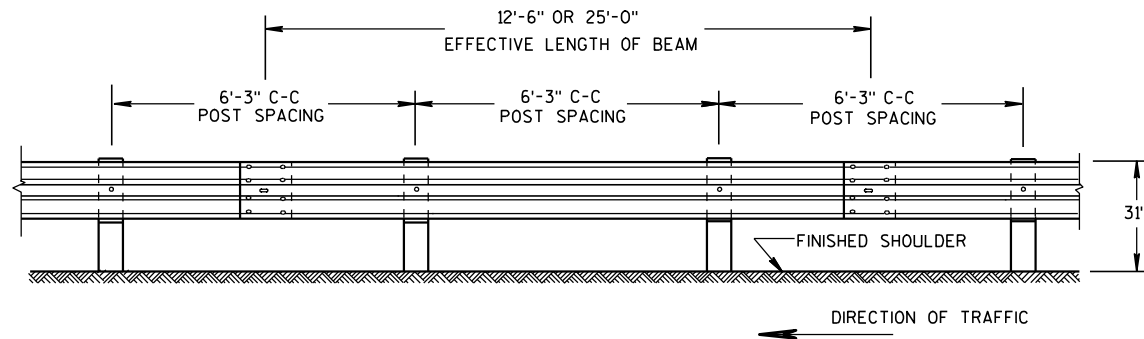
PLAN VIEW  
STEEL POST,  
PLASTIC BLOCKOUT & BEAM



WOOD POST  
(6" X 8") NOMINAL ①

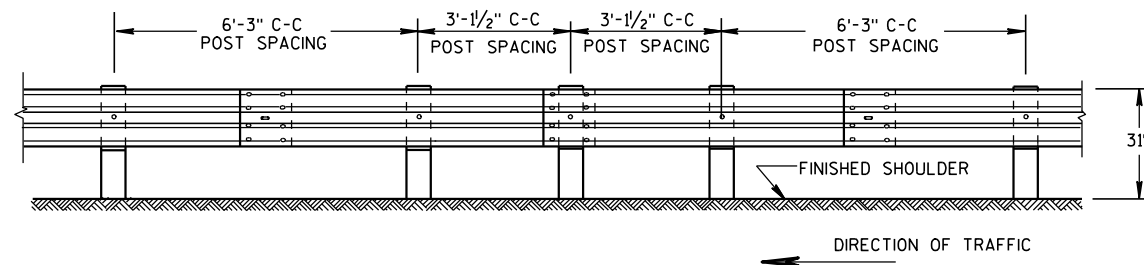


WOOD OR  
PLASTIC BLOCKOUT ②



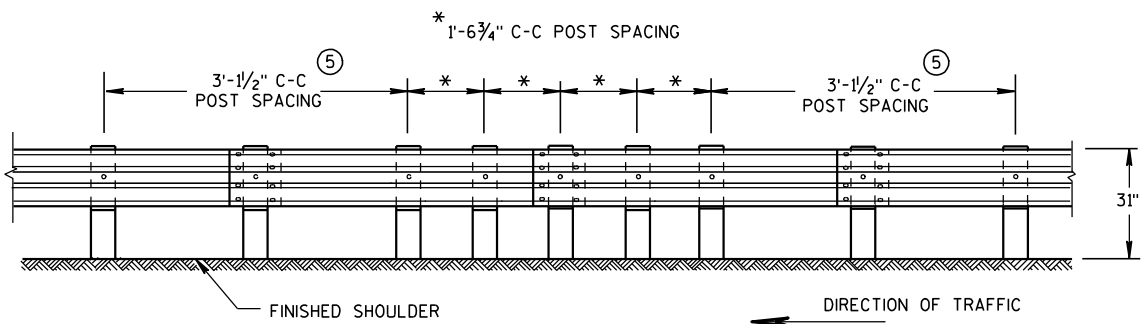
FRONT VIEW

### POST SPACING STANDARD INSTALLATION



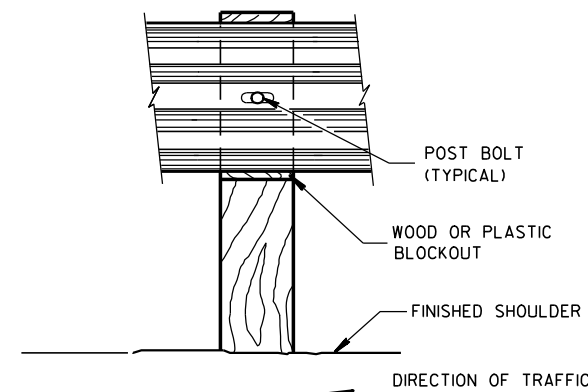
FRONT VIEW

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

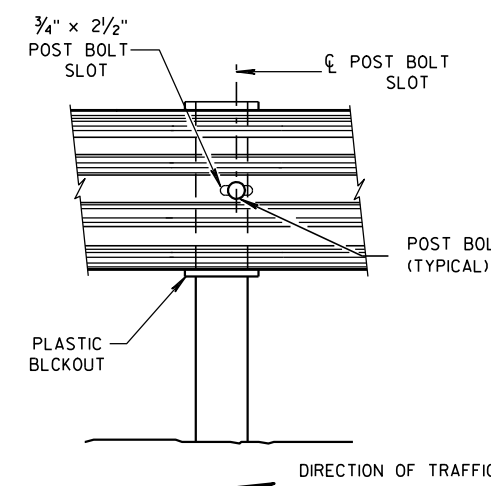


FRONT VIEW

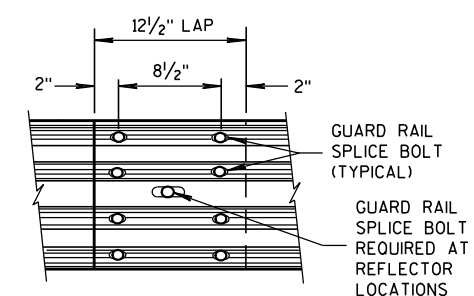
### QUARTER POST SPACING (QS)



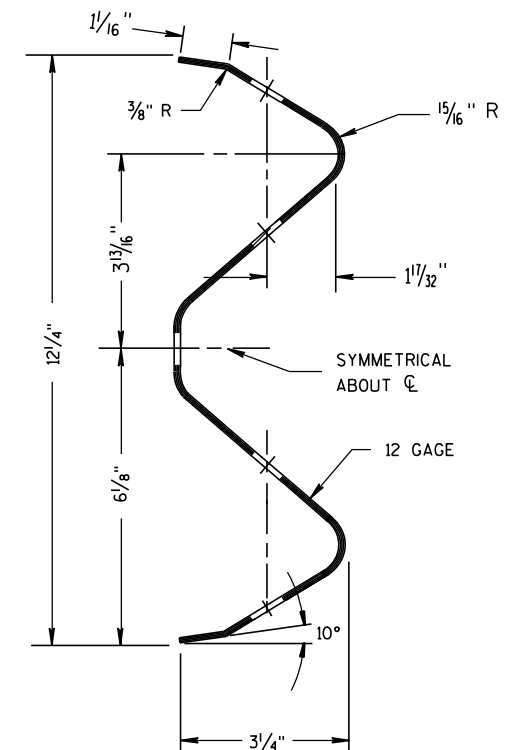
FRONT VIEW AT WOOD POST



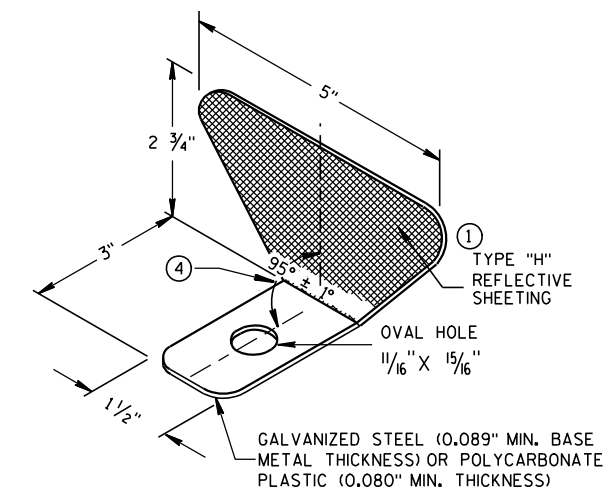
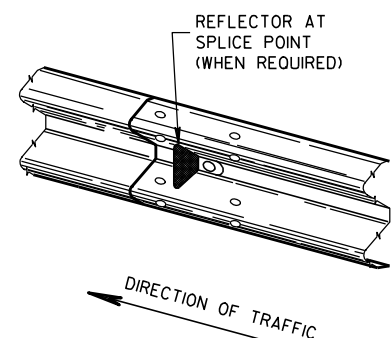
FRONT VIEW AT STEEL POST



FRONT VIEW  
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



### ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

### GENERAL NOTES

- 1 PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
- 2 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- 3 REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- 4 PROVIDE AN ANGLE OF BEND OF  $90^\circ \pm 1^\circ$  FOR TWO-SIDED REFLECTORS.
- 5 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A  $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES  $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND  $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

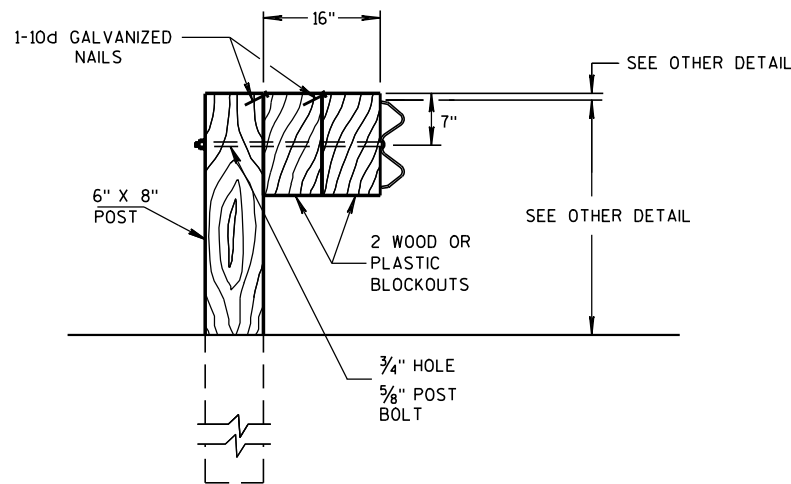
GUARD RAIL SPLICE BOLTS ARE A  $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES  $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

### REFLECTOR SPACING

|                 | BEAM GUARD LENGTH | REFLECTOR SPACING | NO. SURFACES REFLECTORIZED | MIN. NO. REFLECTORS |
|-----------------|-------------------|-------------------|----------------------------|---------------------|
| ONE WAY TRAFFIC | < 200'            | 50' C-C           | 1                          | 3                   |
|                 | > 200'            | 100' C-C          | 1                          |                     |
| TWO WAY TRAFFIC | < 200'            | 25' C-C           | 1                          | 6                   |
|                 | > 200'            | 50' C-C           | 1                          |                     |
| TWO WAY TRAFFIC | < 200'            | 50' C-C           | 2                          | 3                   |
|                 | > 200'            | 100' C-C          | 2                          |                     |

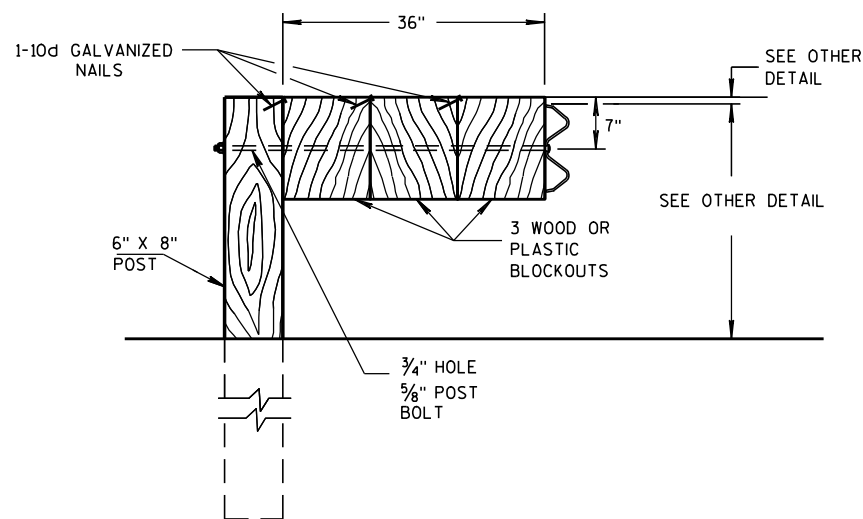
### MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



### DETAIL FOR 16" BLOCKOUT DEPTH

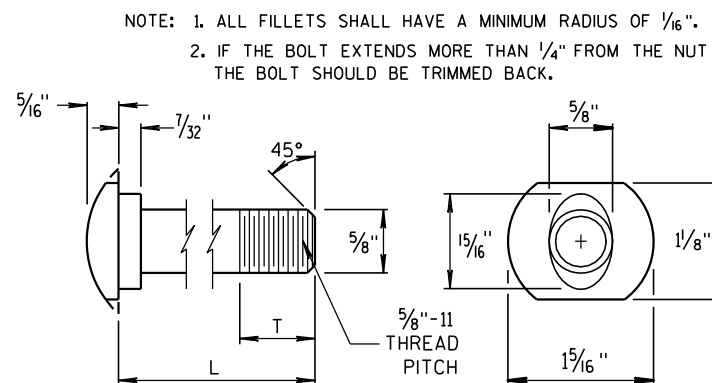
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



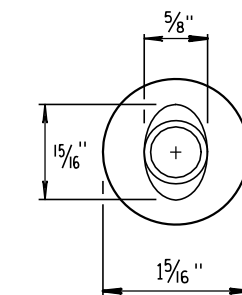
### DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

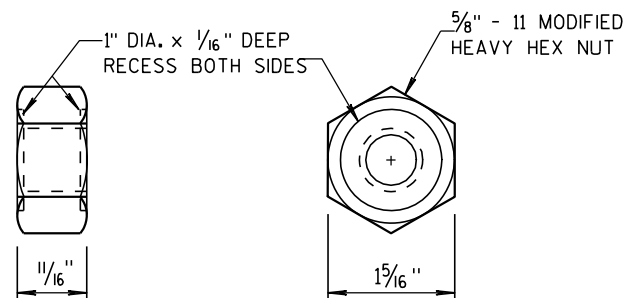
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



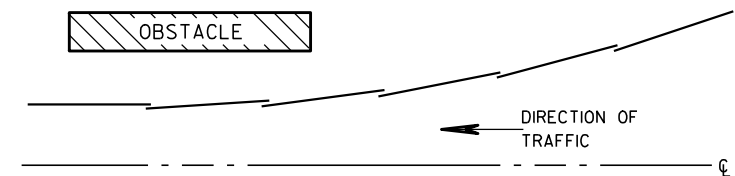
POST BOLT TABLE



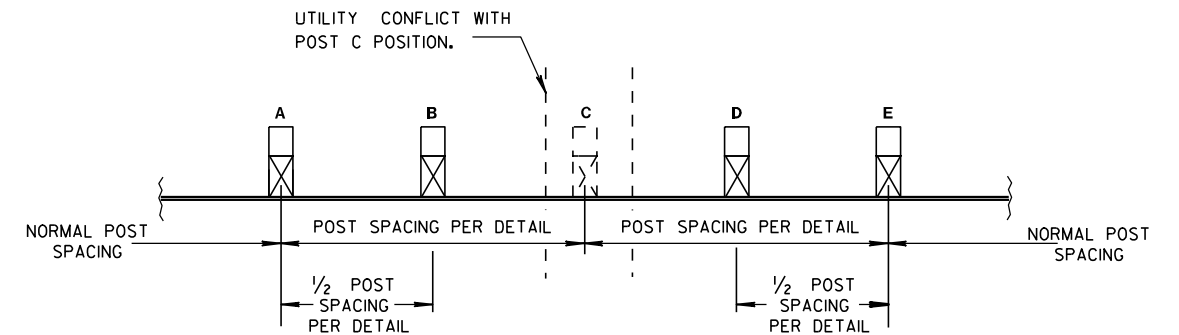
ALTERNATE BOLT HEAD



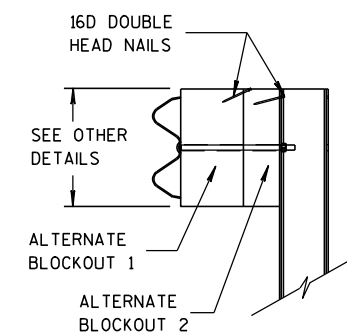
POST BOLT AND RECESS NUT



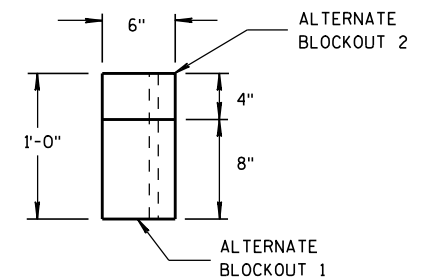
PLAN VIEW  
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011

DATE

FHWA

/S/ Jerry H. Z...

ROADWAY STANDARDS

ENGINEER

ENT

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.
- (F) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

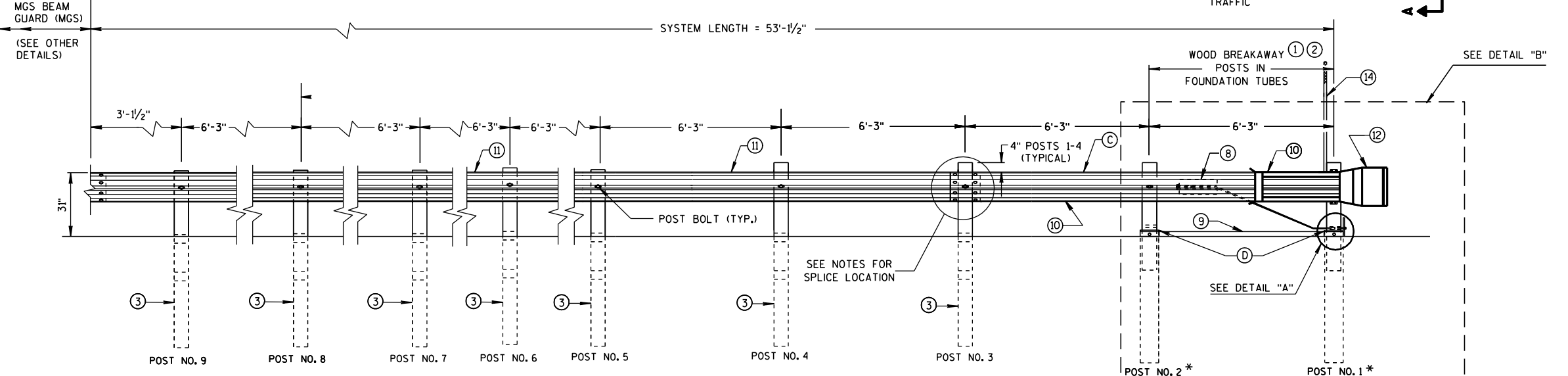
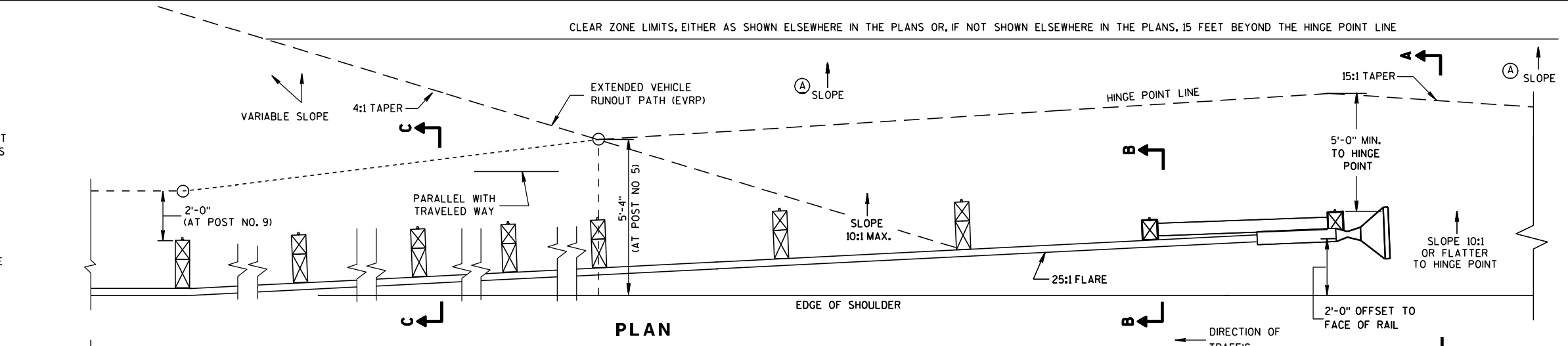
\* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

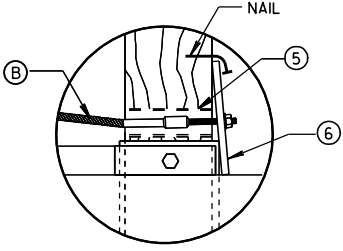
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

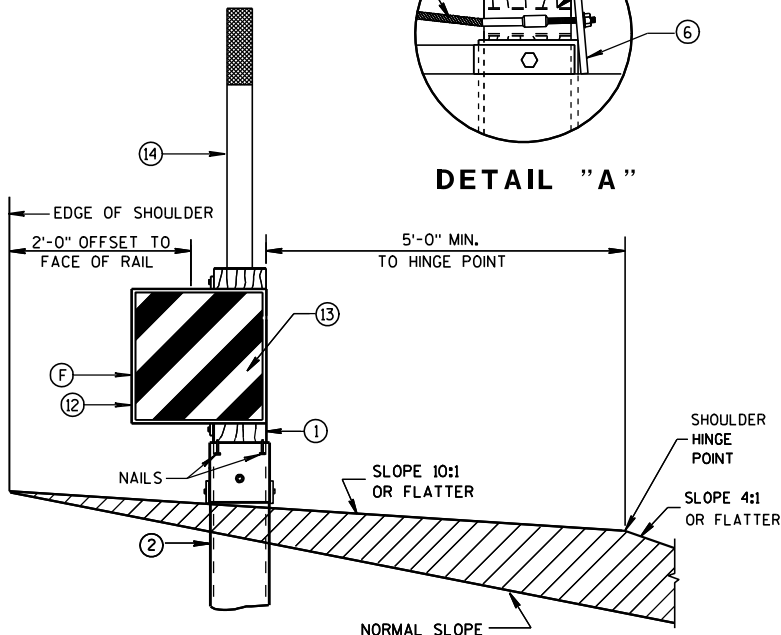
THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE ( $\pm \frac{3}{4}$ ")



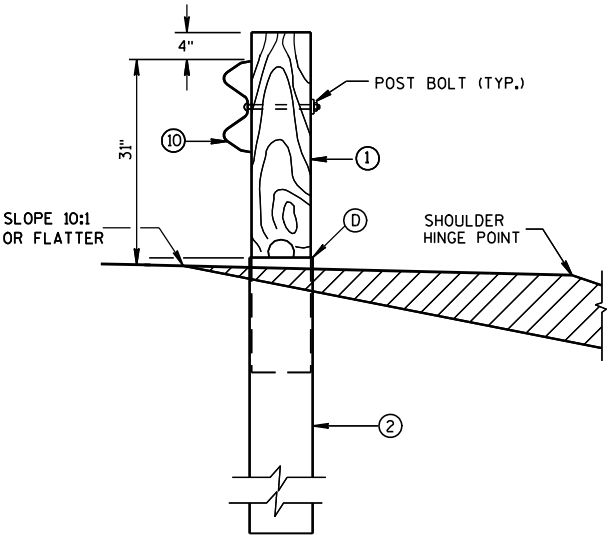
ELEVATION



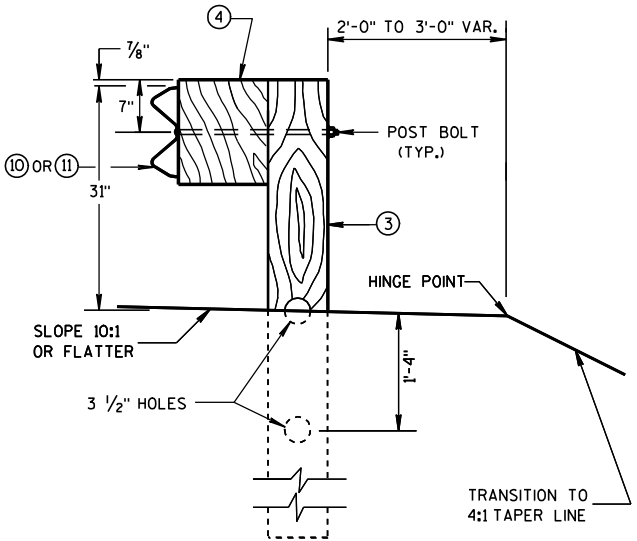
DETAIL "A"



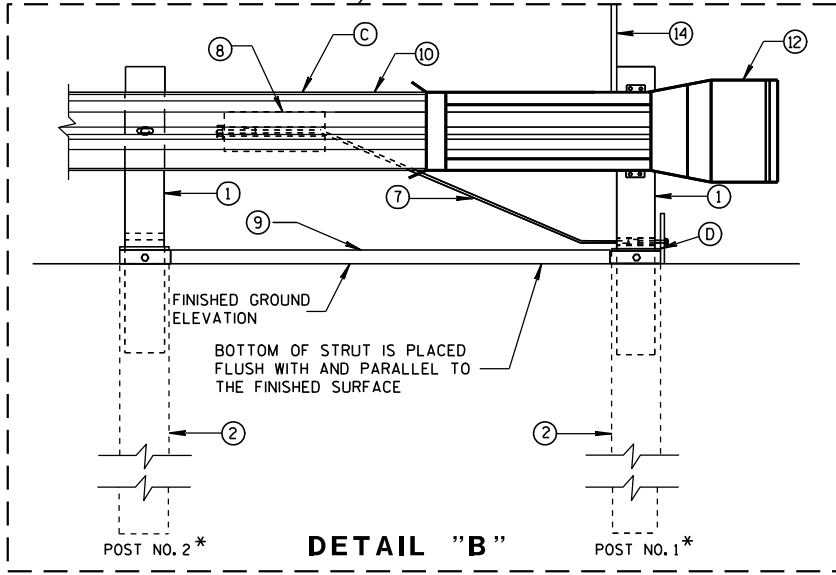
SECTION A-A  
TYPICAL AT POST NO. 1\*



SECTION B-B  
TYPICAL AT POST NO. 2\*



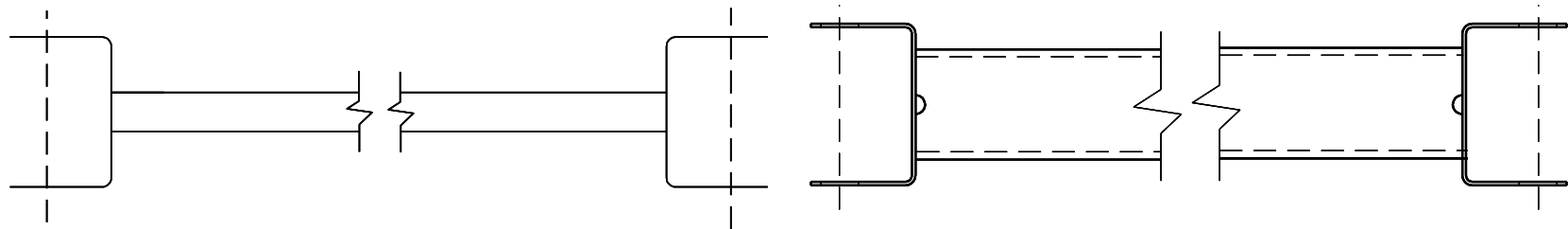
SECTION C-C  
TYPICAL AT POST NOS. 3-9



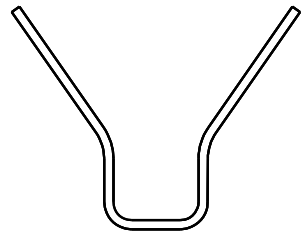
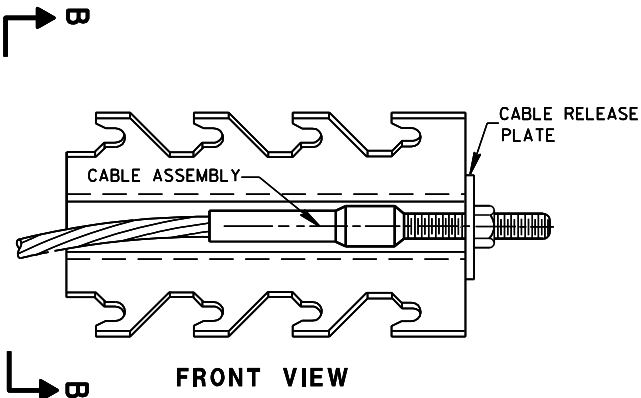
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)

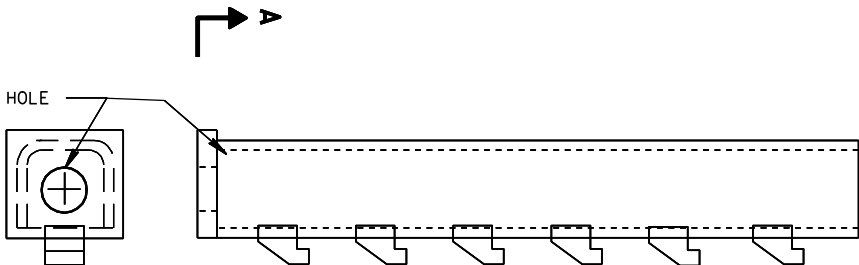
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



9 H  
GENERIC GROUND STRUT



SECTION B-B



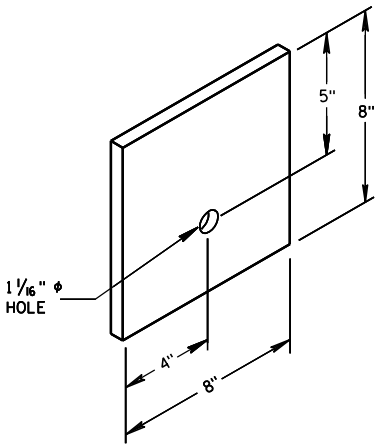
SECTION A-A

PLAN VIEW

8 H  
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

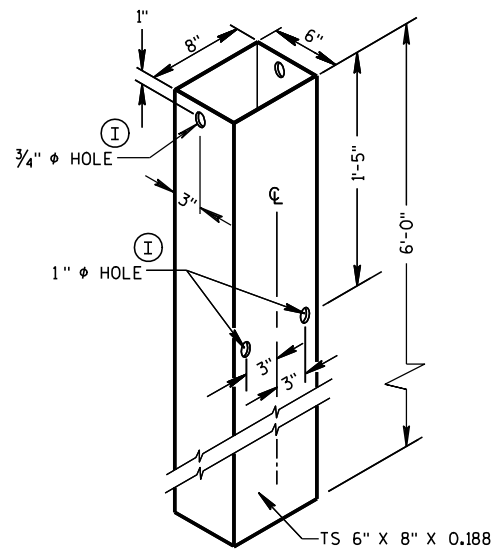
| PART NO. | DESCRIPTION                                                                                               |
|----------|-----------------------------------------------------------------------------------------------------------|
|          | MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.              |
| ①        | WOOD BREAKAWAY POST                                                                                       |
| ②        | 6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2                                             |
| ③        | WOOD CRT                                                                                                  |
| ④        | WOOD BLOCKOUT                                                                                             |
| ⑤        | PIPE SLEEVE                                                                                               |
| ⑥        | BEARING PLATE                                                                                             |
| ⑦        | BCT CABLE ASSEMBLY                                                                                        |
| ⑧        | ANCHOR CABLE BOX                                                                                          |
| ⑨        | GROUND STRUT                                                                                              |
| ⑩        | PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.                                                            |
| ⑪        | STANDARD W-BEAM RAIL, MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.                                |
| ⑫        | END SECTION EAT                                                                                           |
| ⑬        | 0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER) |
| ⑭        | EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)                                                     |



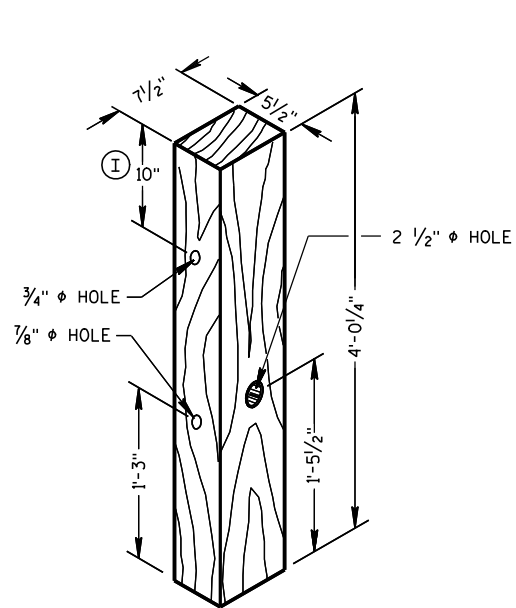
6  
BEARING PLATE

MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)

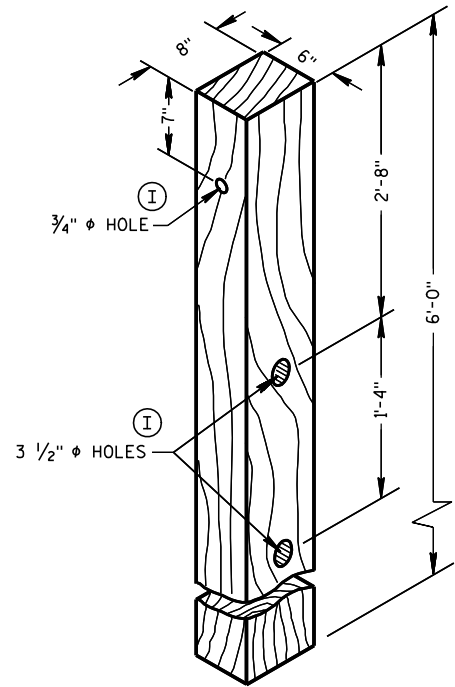
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



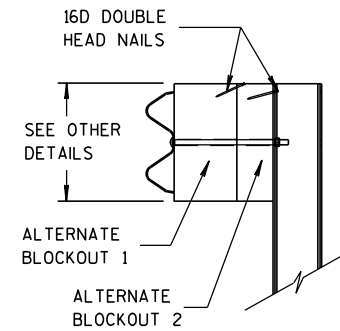
FOUNDATION TUBE ②



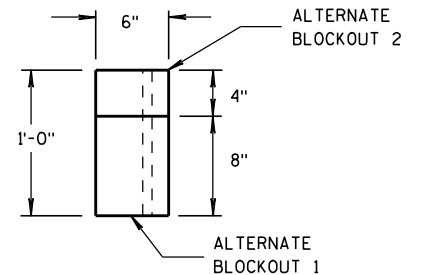
WOOD BREAKAWAY POST ①



WOOD CRT POST ③

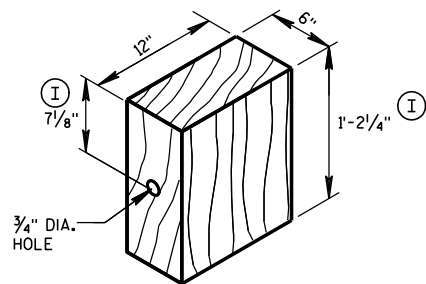


SIDE VIEW



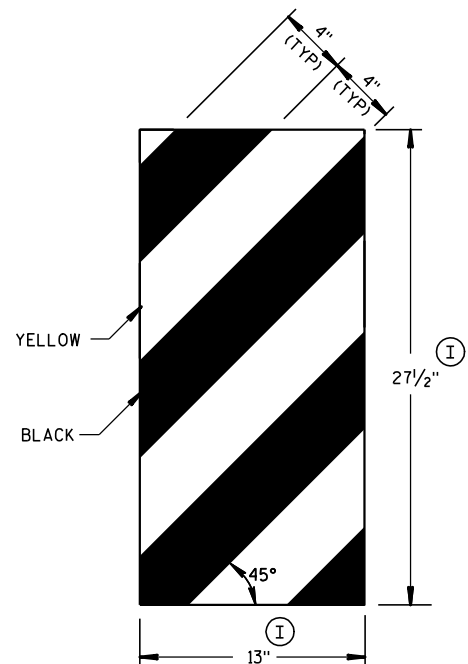
TOP VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

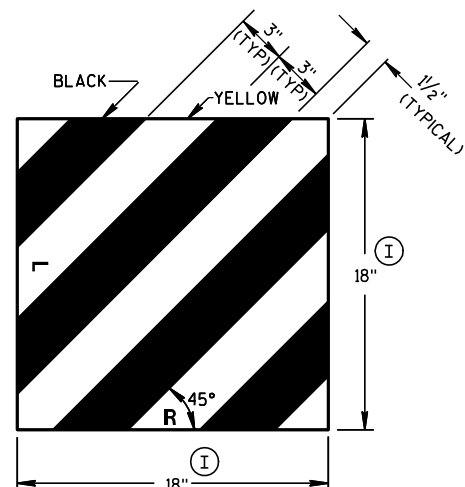


WOOD BLOCKOUT ④

YELLOW REFLECTIVE TAPE  
3" X 9" TYPE H  
REFLECTIVE SHEETING



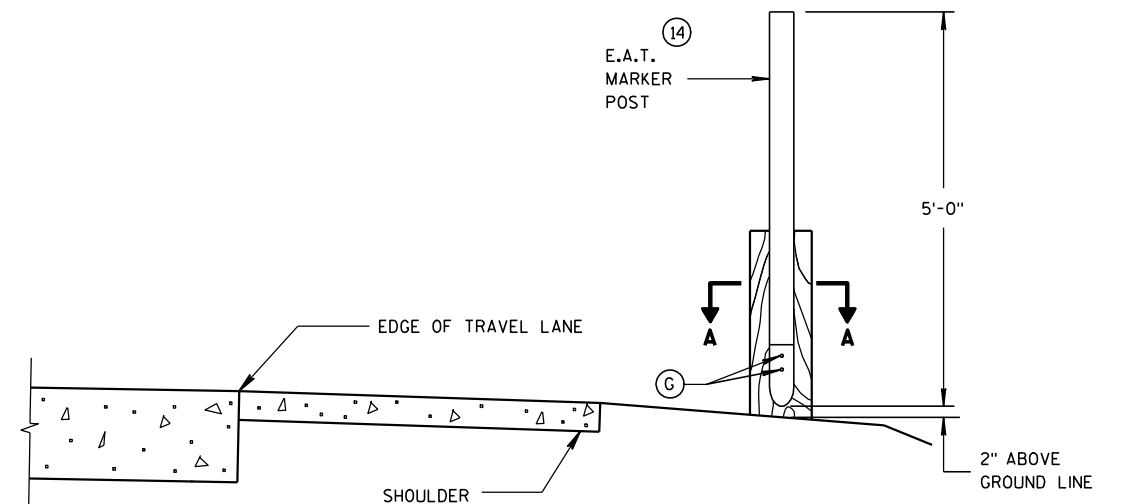
GENERIC REFLECTIVE SHEETING ⑬ ④



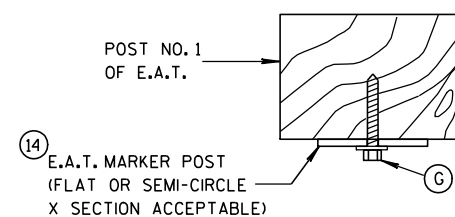
FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST ⑭



TYPICAL INSTALLATION OF E.A.T.  
MARKER POST BACKSIDE OF POST NO. 1  
(E.A.T. AND RAIL REMOVED FOR CLARITY)

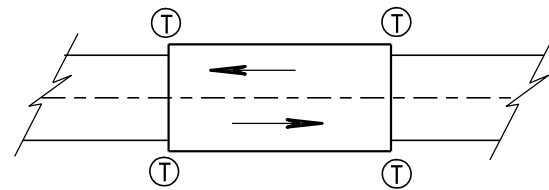


SECTION A-A

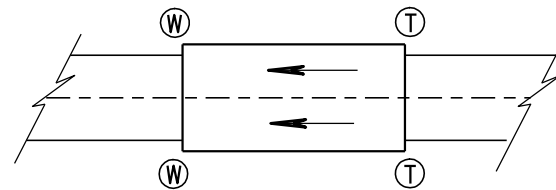
MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/23/2011 /S/ Jerry H. 3000  
DATE ROADWAY STANDARDS 25 CENT  
FHWA ENGINEER



TWO WAY TRAFFIC



ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

## GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

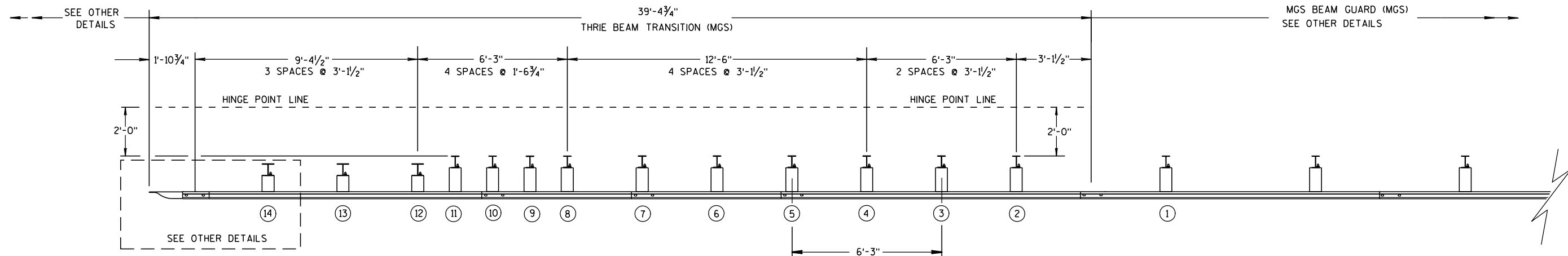
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

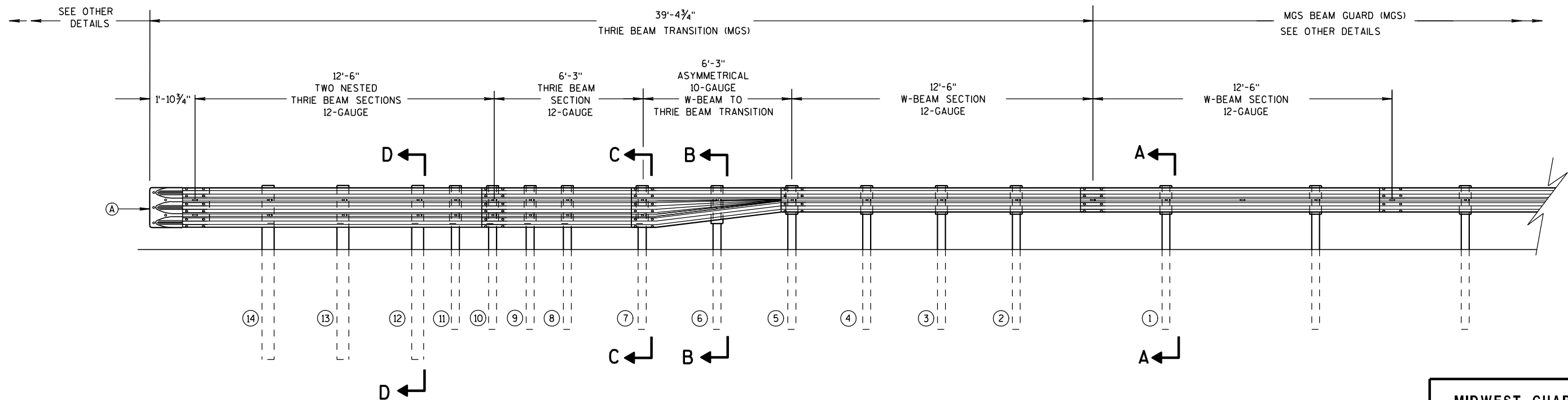
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

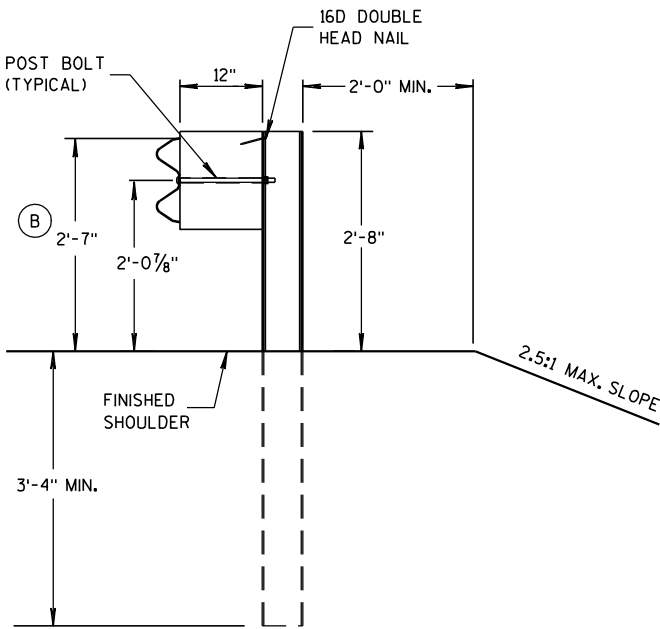
## MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

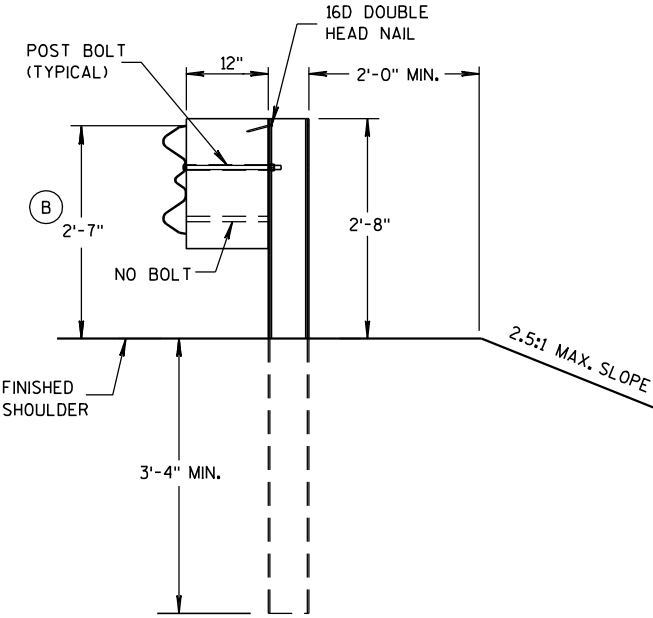
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

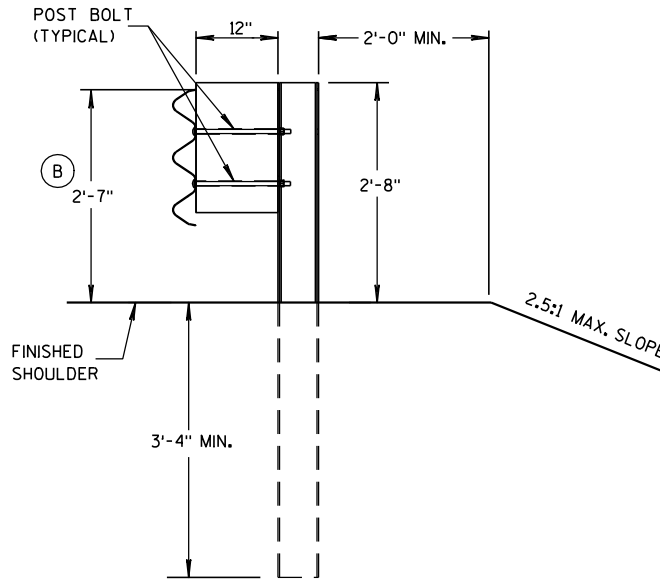
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS  $\pm 1"$ .



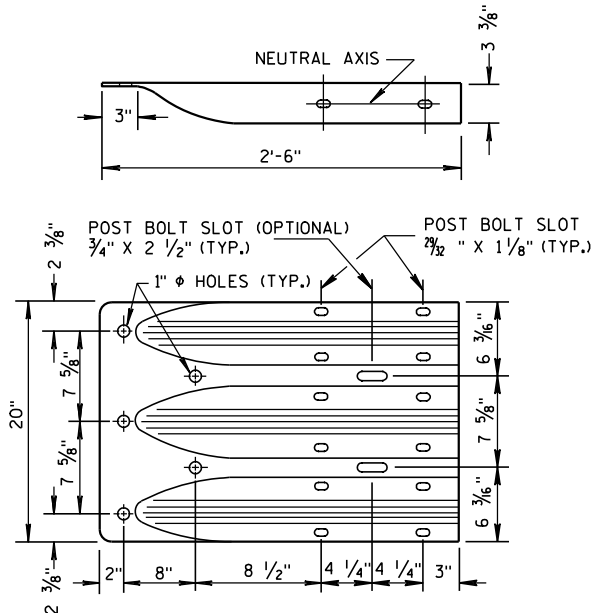
SECTION A-A  
POSTS 1-5



SECTION B-B  
POST 6



SECTION C-C  
POSTS 7-11



THRIE BEAM  
TERMINAL CONNECTOR

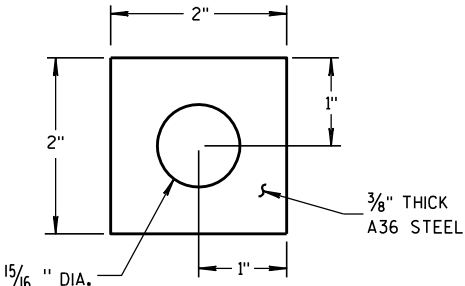
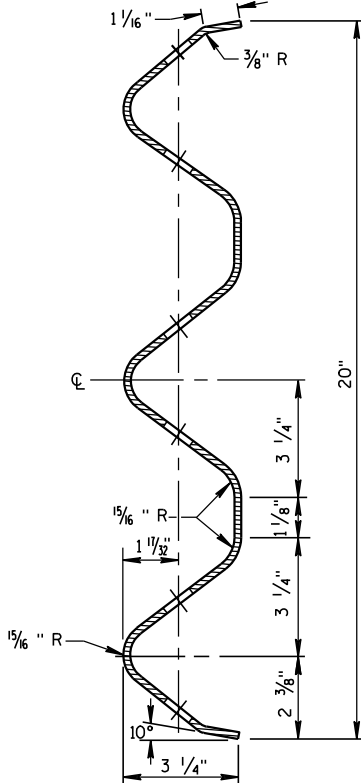
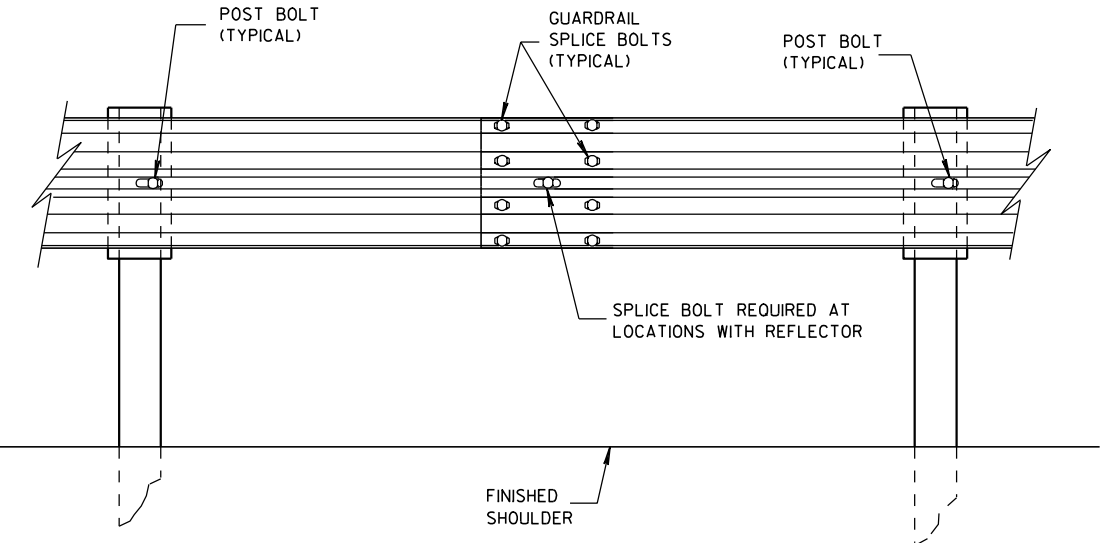


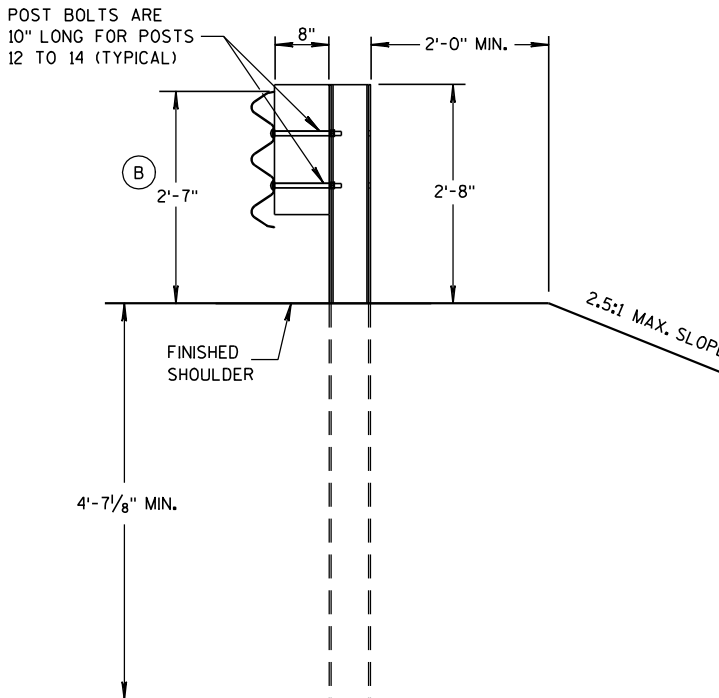
PLATE WASHER DETAIL



SECTION THRU THRIE  
BEAM RAIL ELEMENT



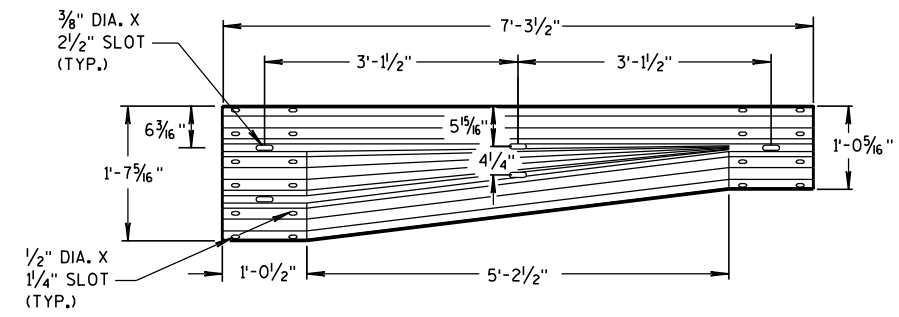
SPLICE DETAIL



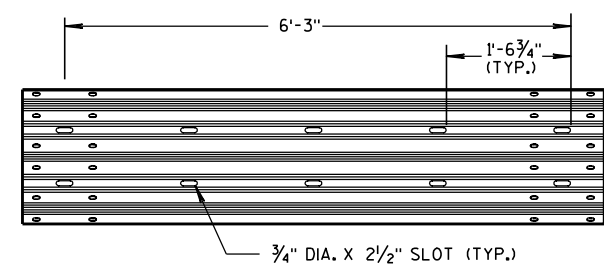
SECTION D-D  
POSTS 12-14

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

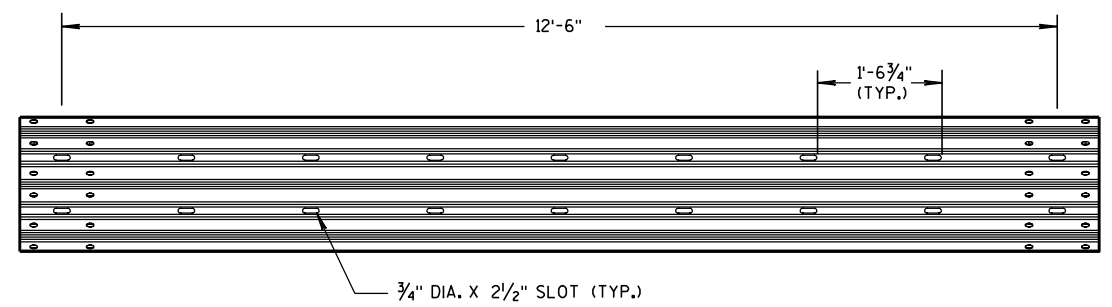
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



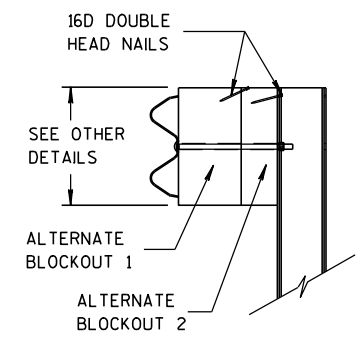
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

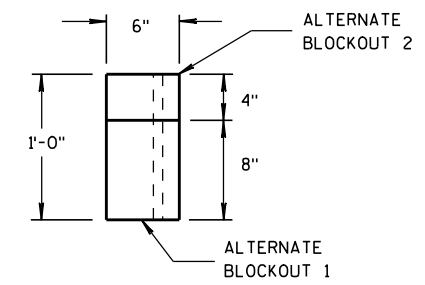


12'-6" THRIE BEAM SECTION

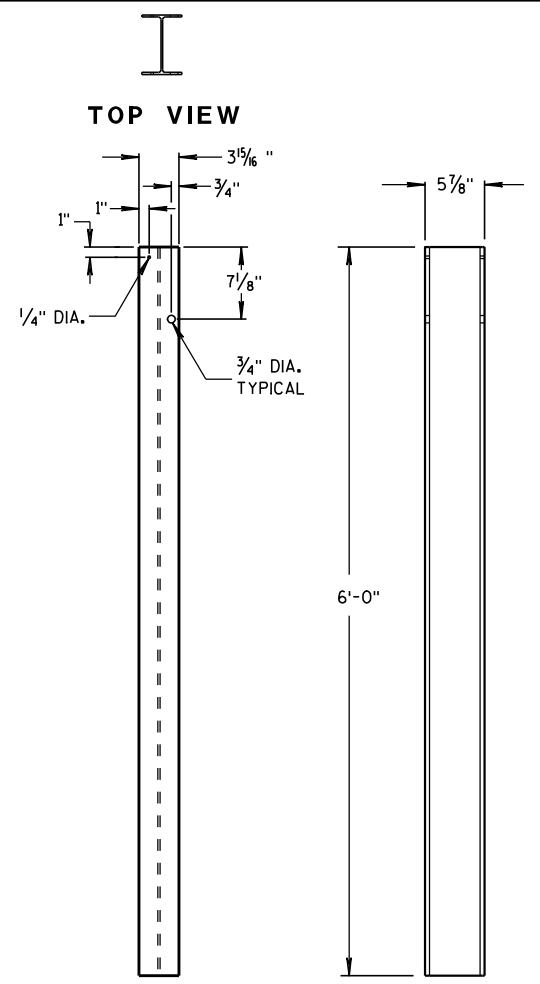


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



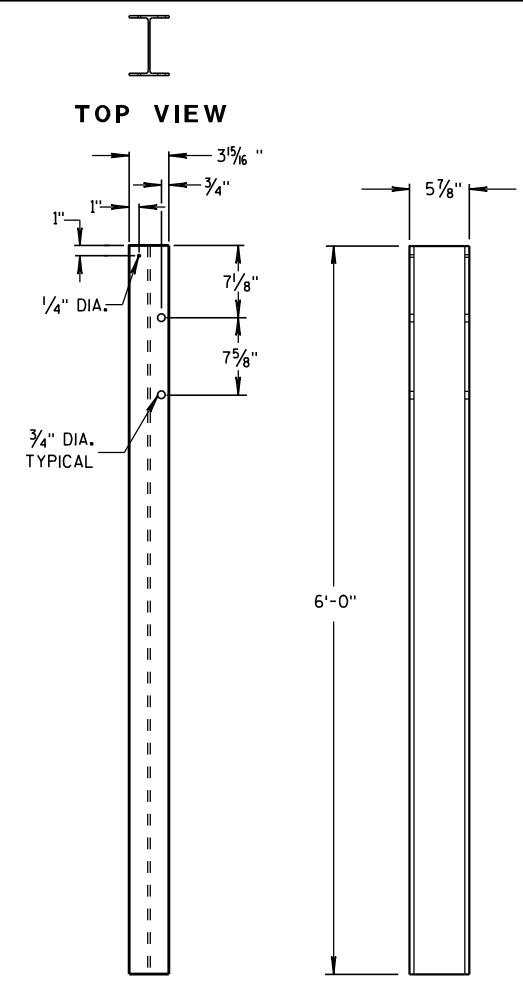
TOP VIEW



FRONT VIEW

SIDE VIEW

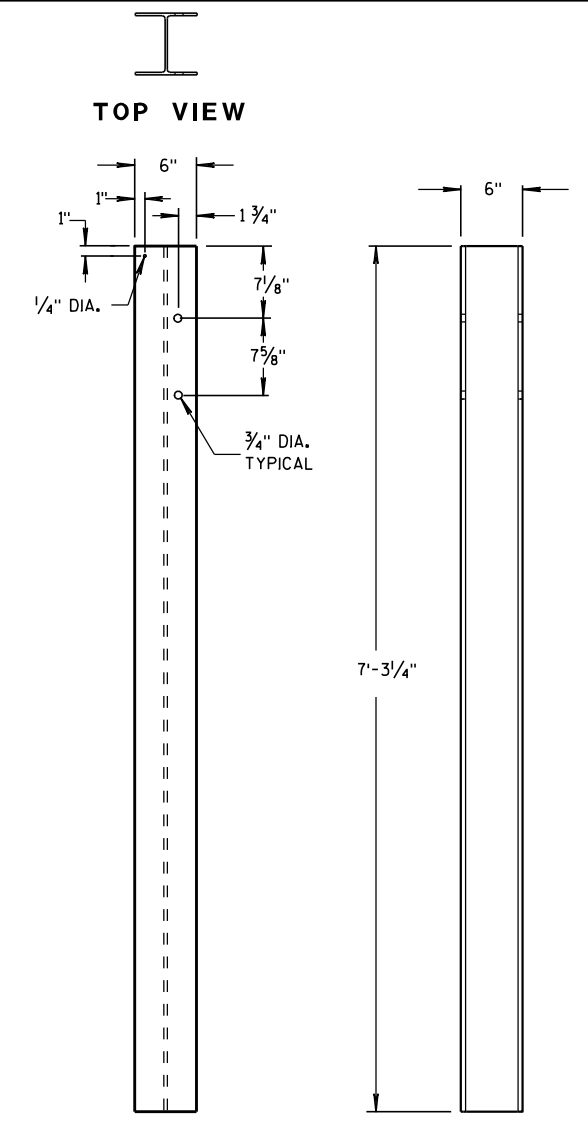
STEEL POSTS 1-5



FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11

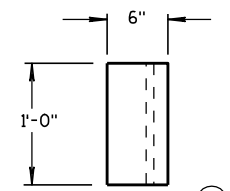


FRONT VIEW

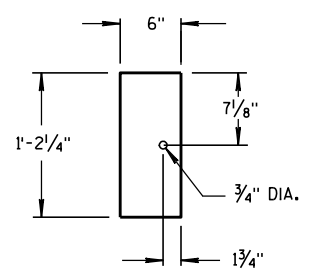
SIDE VIEW

STEEL POSTS 12-14

① WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

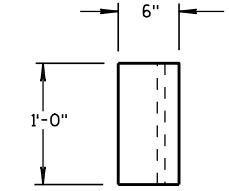


TOP VIEW

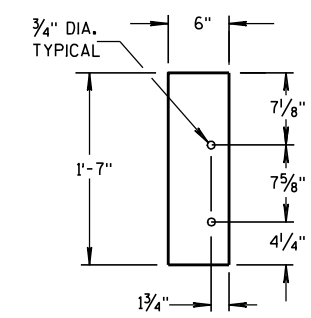


FRONT VIEW

BLOCKOUT POSTS 1-5

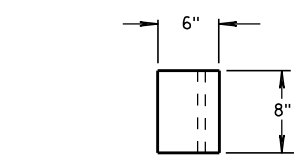


TOP VIEW

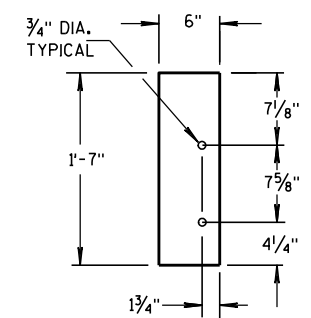


FRONT VIEW

BLOCKOUT POSTS 6-11



TOP VIEW



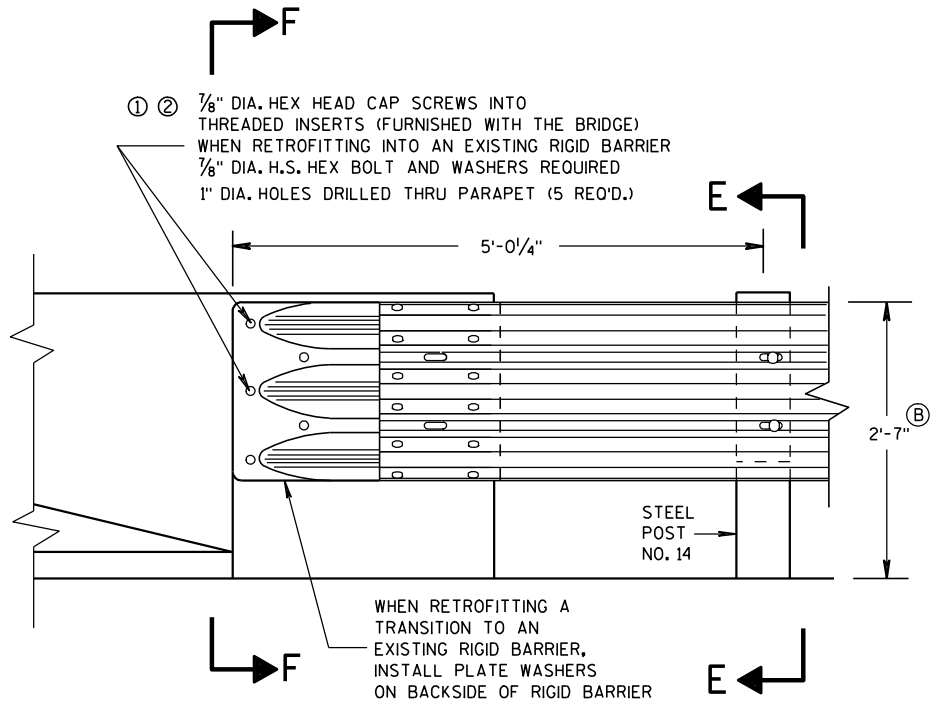
FRONT VIEW

BLOCKOUT POSTS 12-14

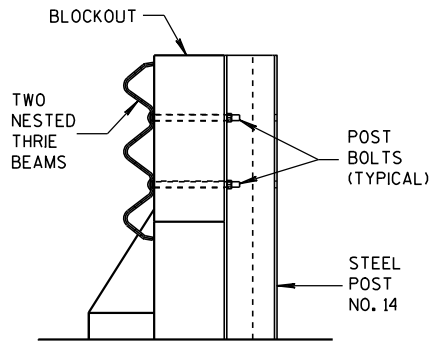
STEEL POST SIZES

| POST NUMBER | SECTION TYPE | LENGTH  |
|-------------|--------------|---------|
| ①           | W6x9         | 72"     |
| ②           | W6x9         | 72"     |
| ③           | W6x9         | 72"     |
| ④           | W6x9         | 72"     |
| ⑤           | W6x9         | 72"     |
| ⑥           | W6x9         | 72"     |
| ⑦           | W6x9         | 72"     |
| ⑧           | W6x9         | 72"     |
| ⑨           | W6x9         | 72"     |
| ⑩           | W6x9         | 72"     |
| ⑪           | W6x9         | 72"     |
| ⑫           | W6x15        | 87 1/8" |
| ⑬           | W6x15        | 87 1/8" |
| ⑭           | W6x15        | 87 1/8" |

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)



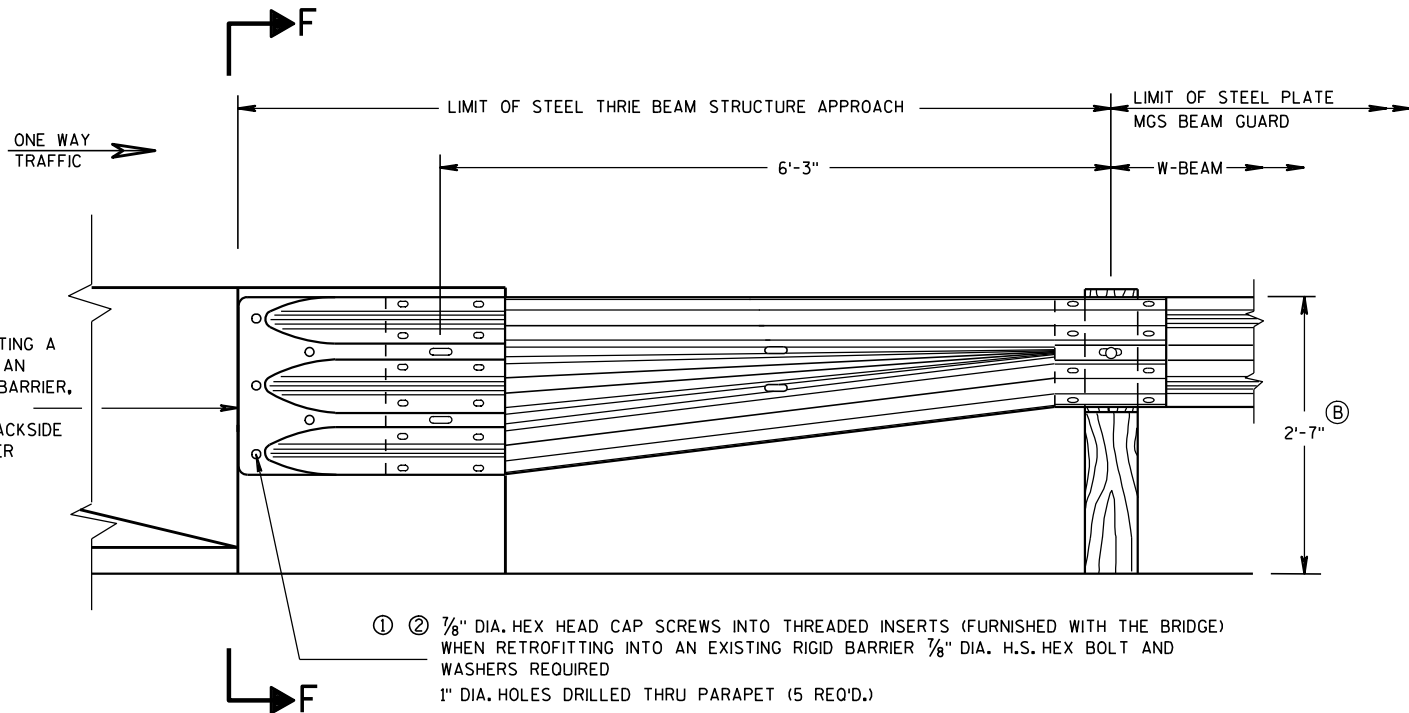
FRONT VIEW  
THRIE BEAM CONNECTION TO BRIDGE  
PARAPET WITH SQUARE ENDS



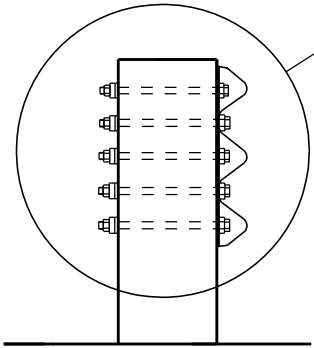
SECTION E-E

GENERAL NOTES

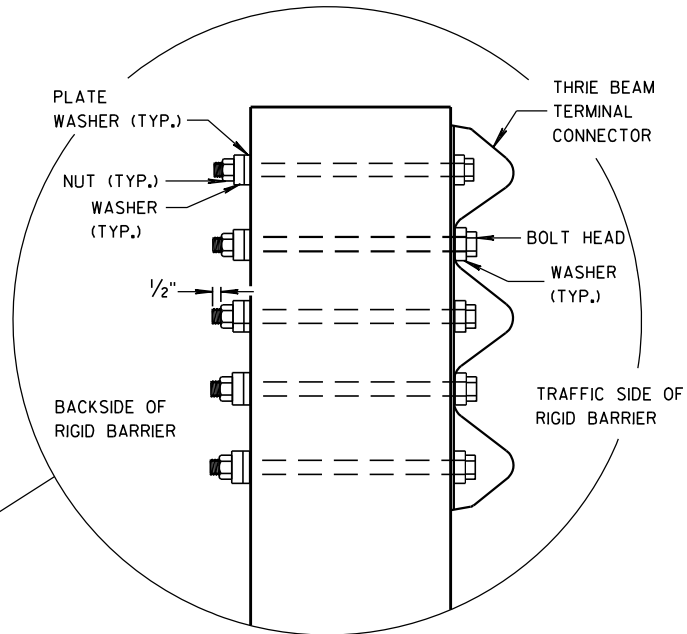
- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
  - ② BOLTS MAY BE A325 BOLTS OR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



FRONT VIEW  
W BEAM TRANSITION AND CONNECTION TO  
BRIDGE PARAPETS WITH SQUARE ENDS  
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F

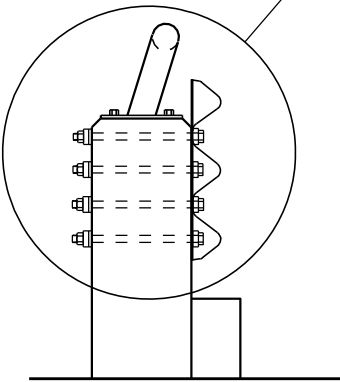
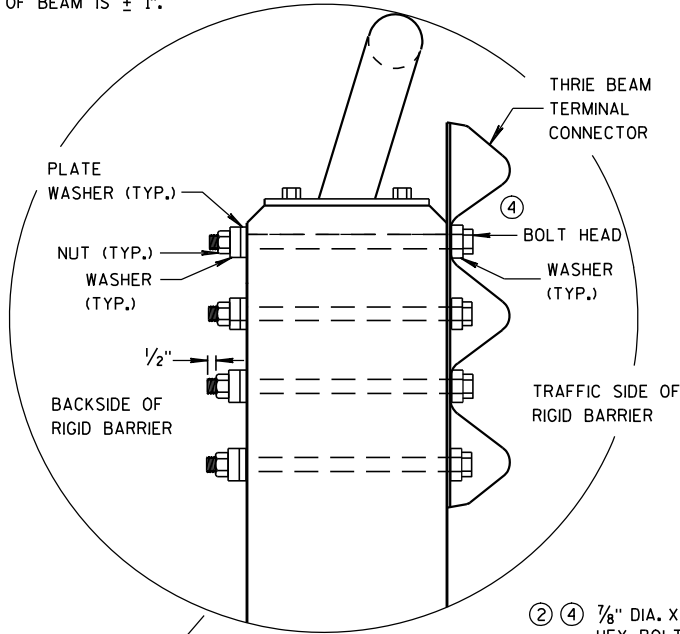


|                                                         |           |                   |             |
|---------------------------------------------------------|-----------|-------------------|-------------|
| MIDWEST GUARDRAIL SYSTEM<br>THRIE BEAM TRANSITION (MGS) |           |                   |             |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION      |           |                   |             |
| APPROVED                                                | 8/31/2012 | /S/ Jerry H. Zapp | ENT         |
|                                                         | DATE      | ROADWAY STANDARDS | 29 ENGINEER |
| FHWA                                                    |           |                   |             |

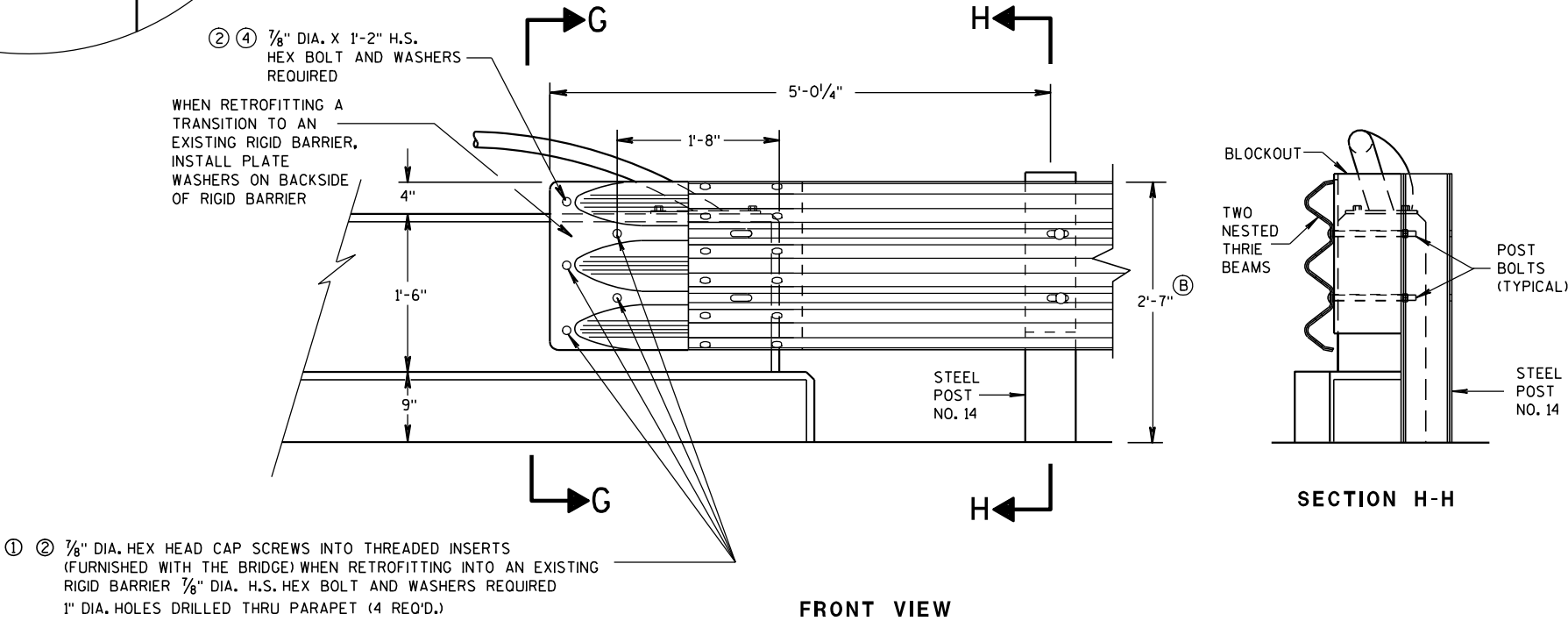
GENERAL NOTES

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

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X  $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3  $\frac{1}{2}$ ". BLOCK IS INCIDENTAL TO THE CONTRACT.
- ④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.
- ⑤ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .

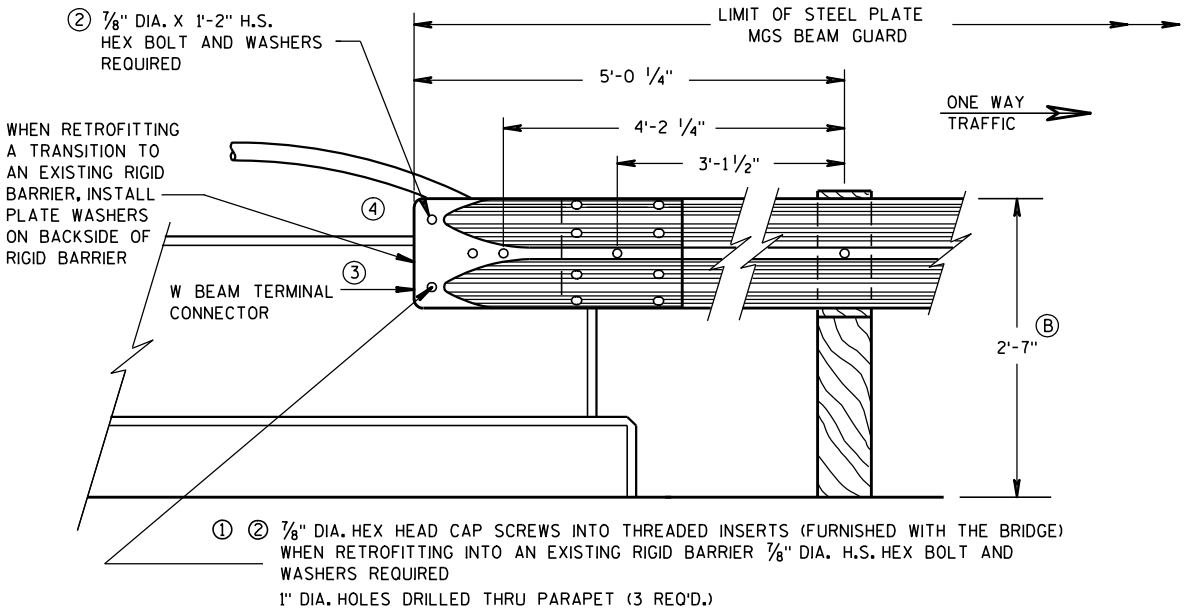


SECTION G-G



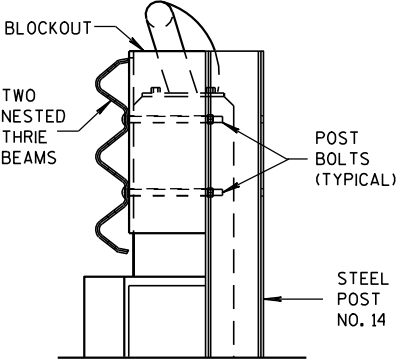
FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET  
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

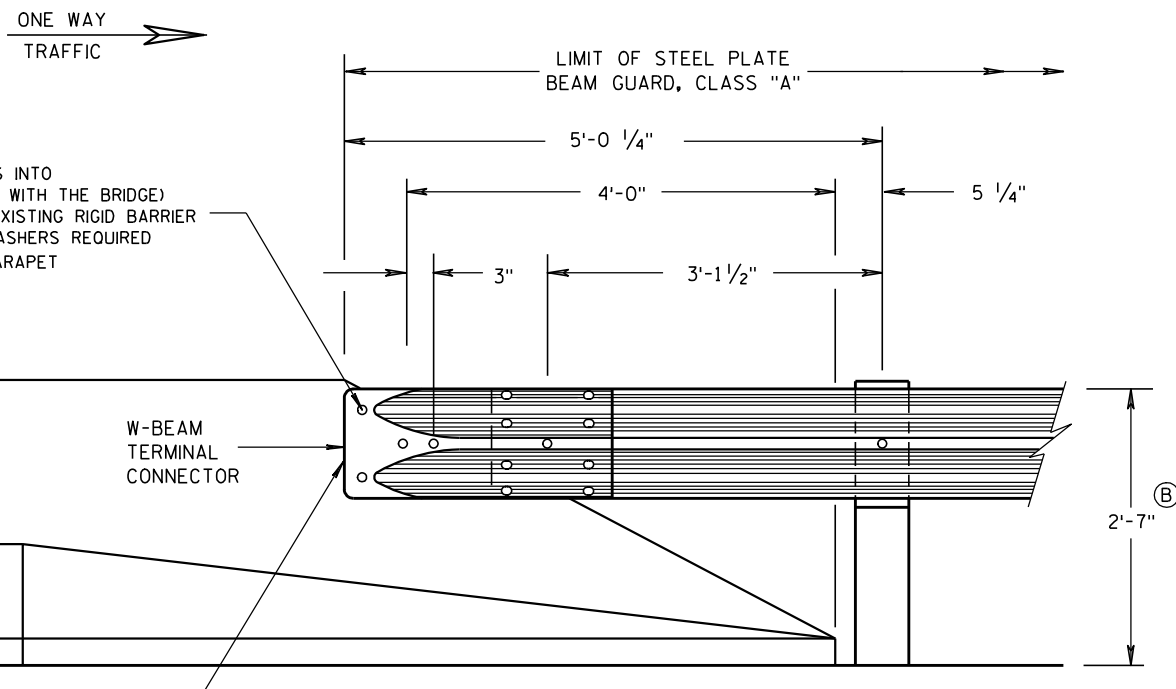


SECTION H-H

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
8-31-2012 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS (30) ENT  
FHWA ENGINEER



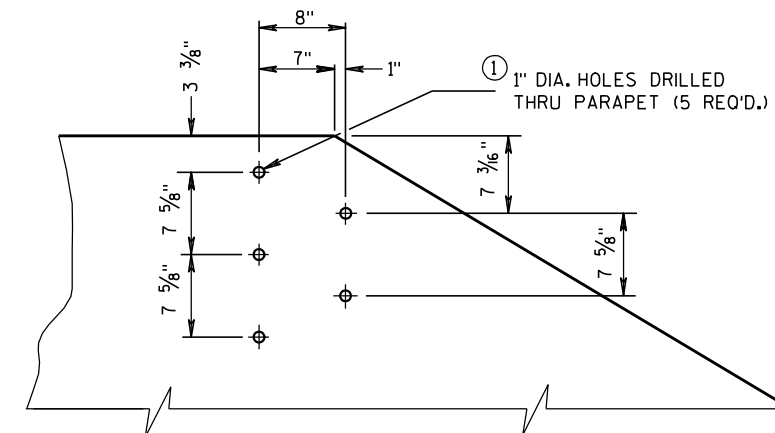
FRONT VIEW

### W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

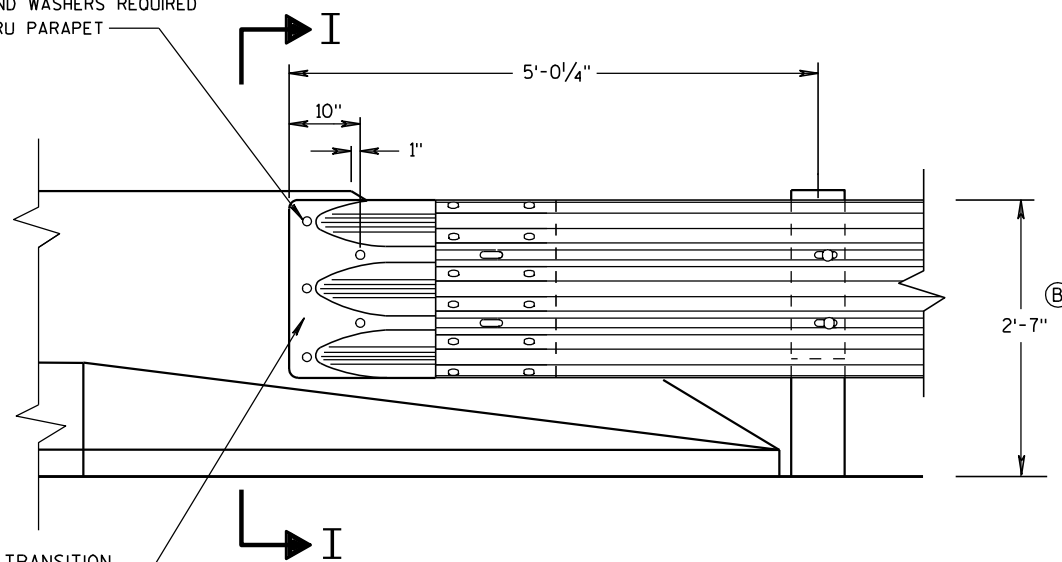
### GENERAL NOTES

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .



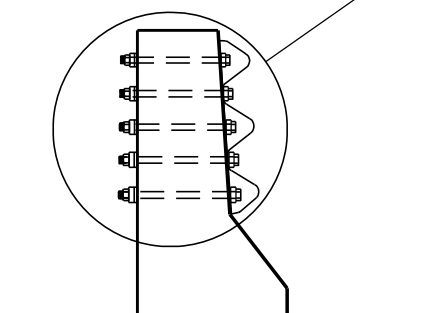
### DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

- ① ② 1/8" DIA. HEX HEAD CAP SCREWS INTO  
THREADED INSERTS (FURNISHED WITH THE BRIDGE)  
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER  
1/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED  
1" DIA. HOLES DRILLED THRU PARAPET  
(5 REQ'D.)

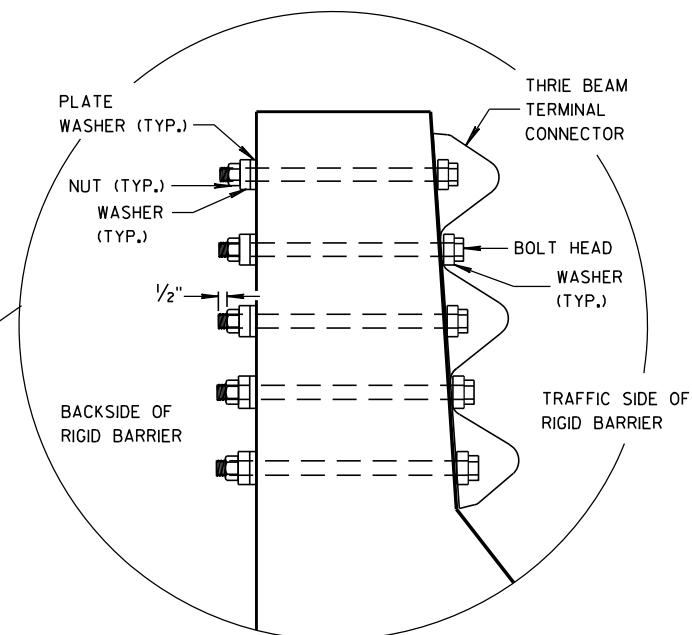


FRONT VIEW

### THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS



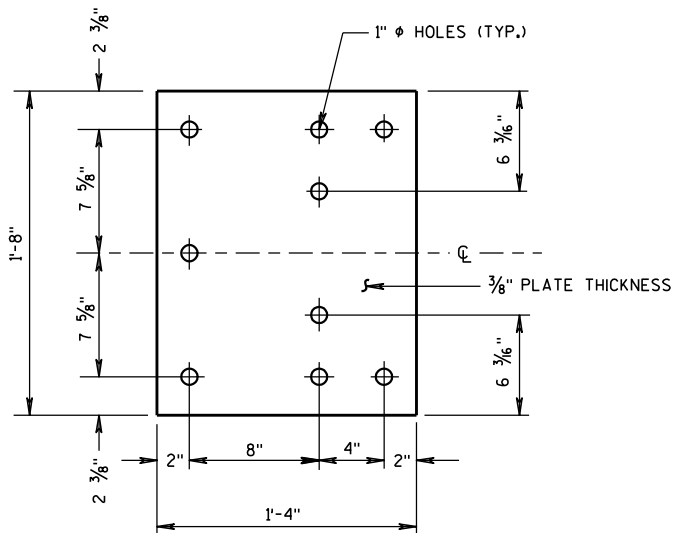
SECTION I-I



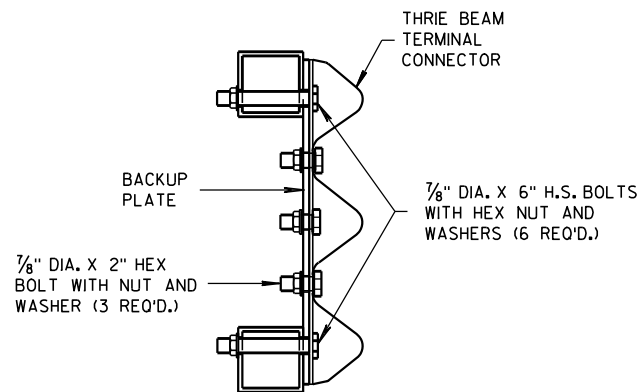
MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

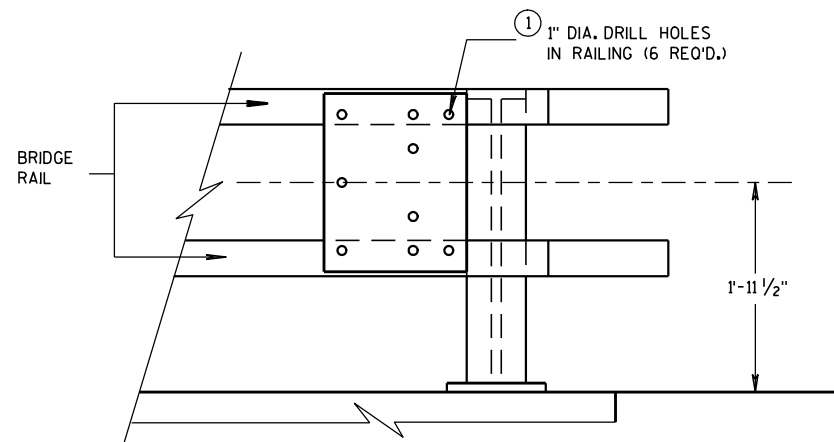
APPROVED  
8/31/2012  
DATE  
/S/ Jerry H. Zapp  
ROADWAY STANDARDS 31 ENT  
ENGINEER  
FHWA



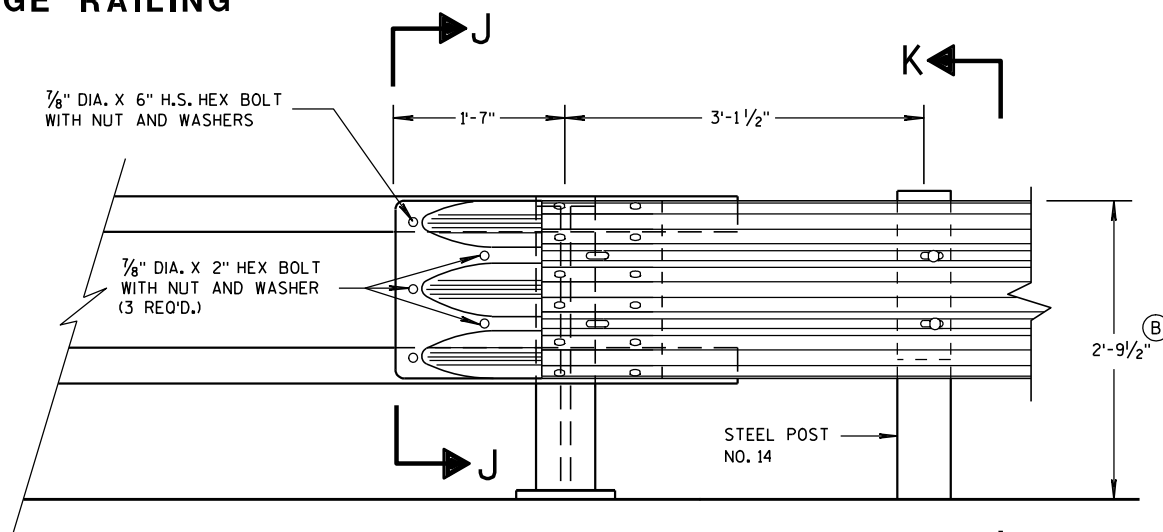
**BACK-UP PLATE DETAIL**



**SECTION J-J**

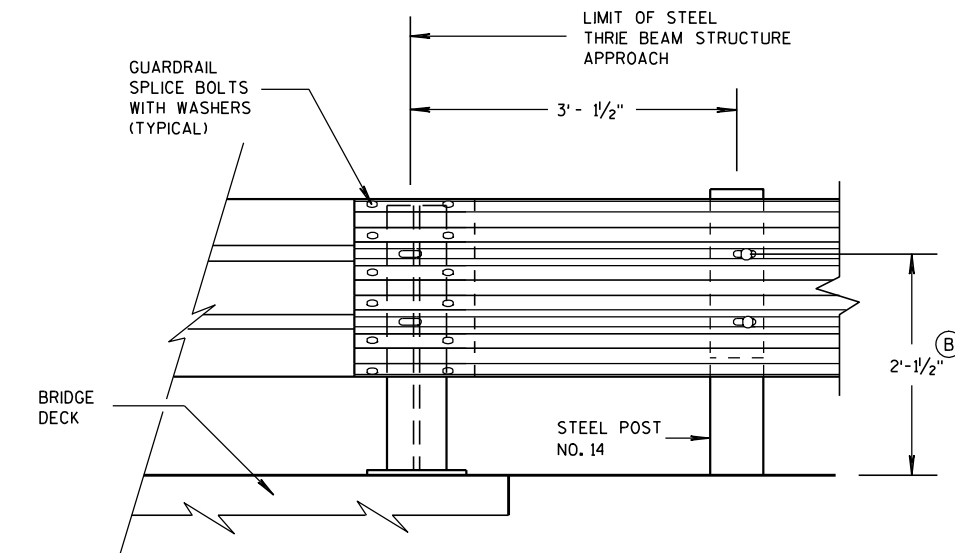


**BACK-UP PLATE MOUNTING  
ONTO BRIDGE RAILING**



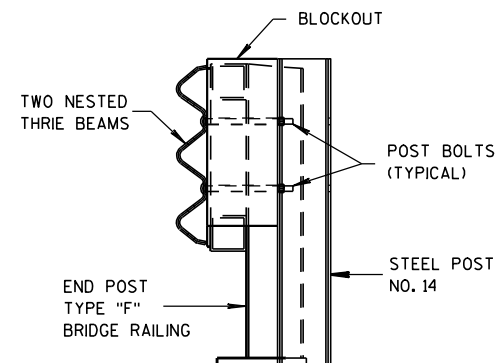
**FRONT VIEW**

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



**FRONT VIEW**

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



**SECTION K-K**

**GENERAL NOTES**

- ① DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .

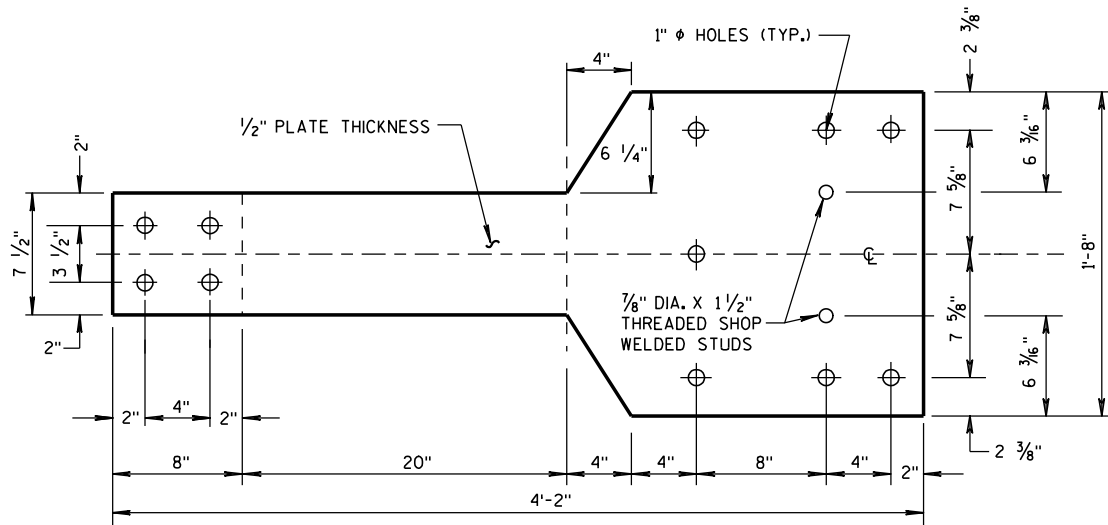
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

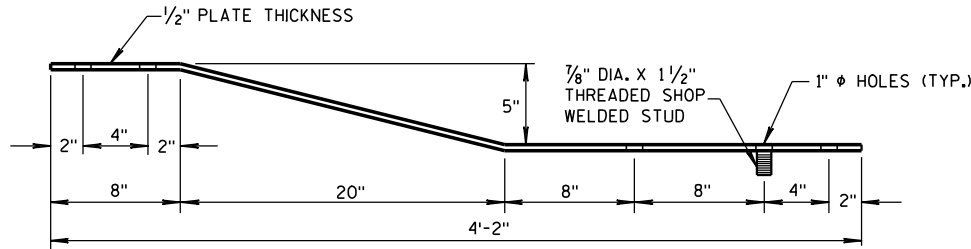
APPROVED  
8/31/2012 DATE /S/ Jerry H. Zeng  
ROADWAY STANDARDS ENGINEER  
FHWA

GENERAL NOTES

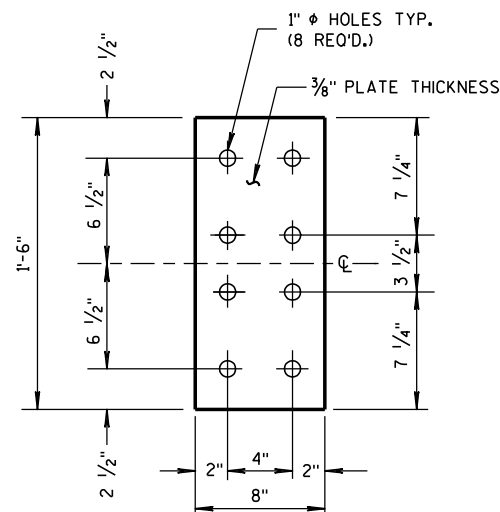
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS  $\pm 1"$ .



FRONT VIEW

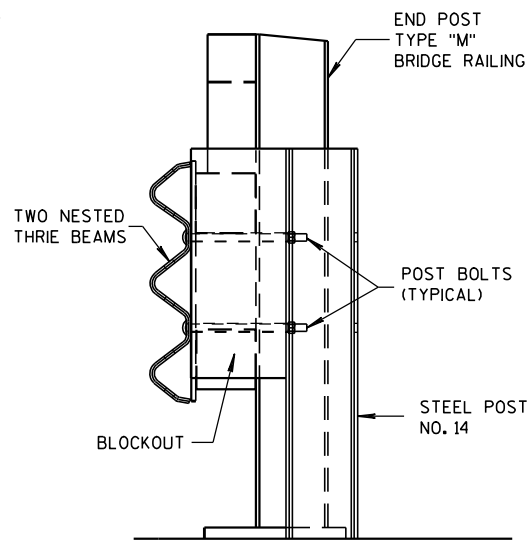


PLAN VIEW  
BACK-UP PLATE DETAIL, TYPE "M"

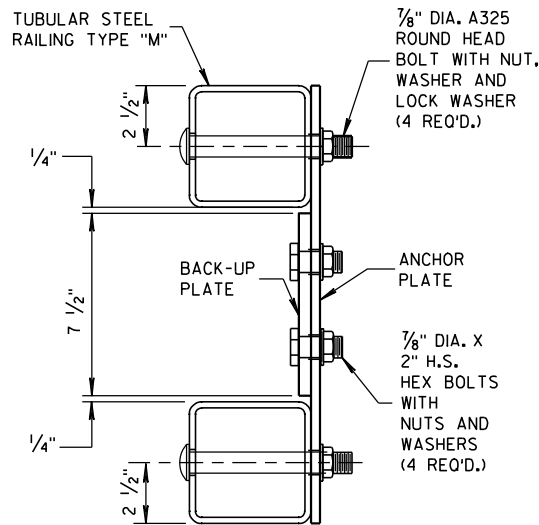


FRONT VIEW

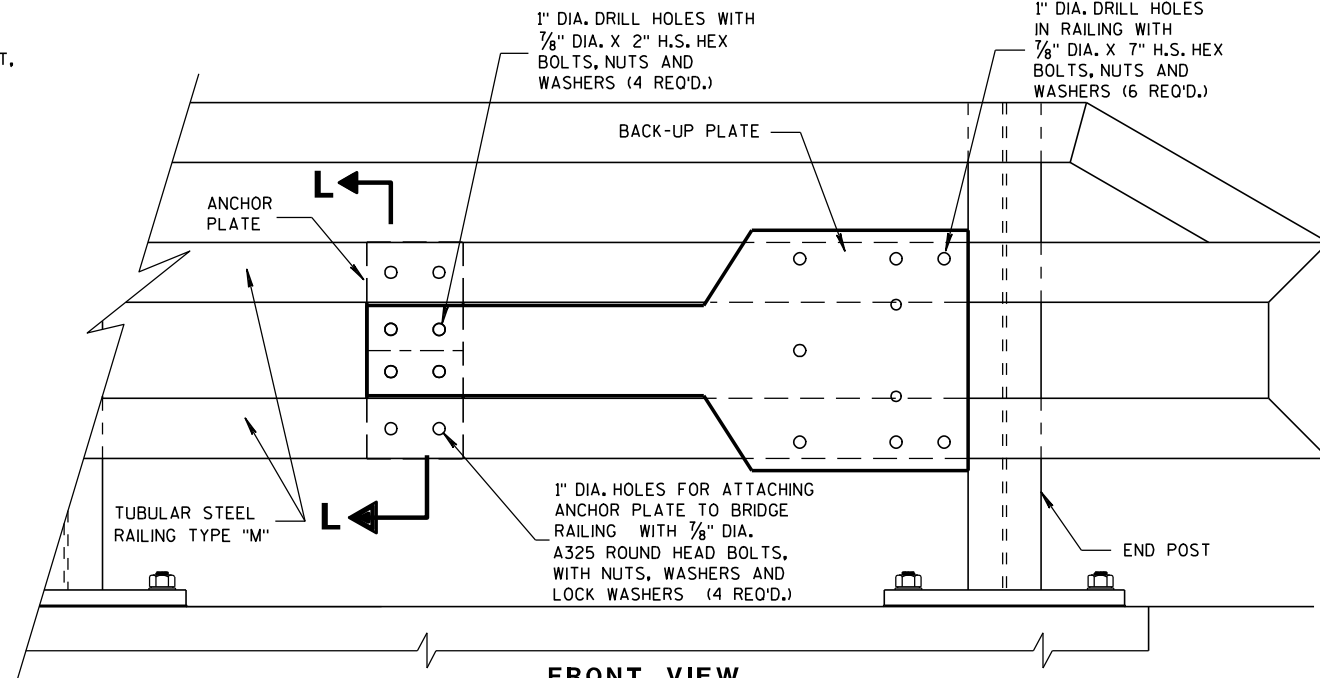
ANCHOR  
PLATE DETAIL,  
TYPE "M"



SECTION M-M

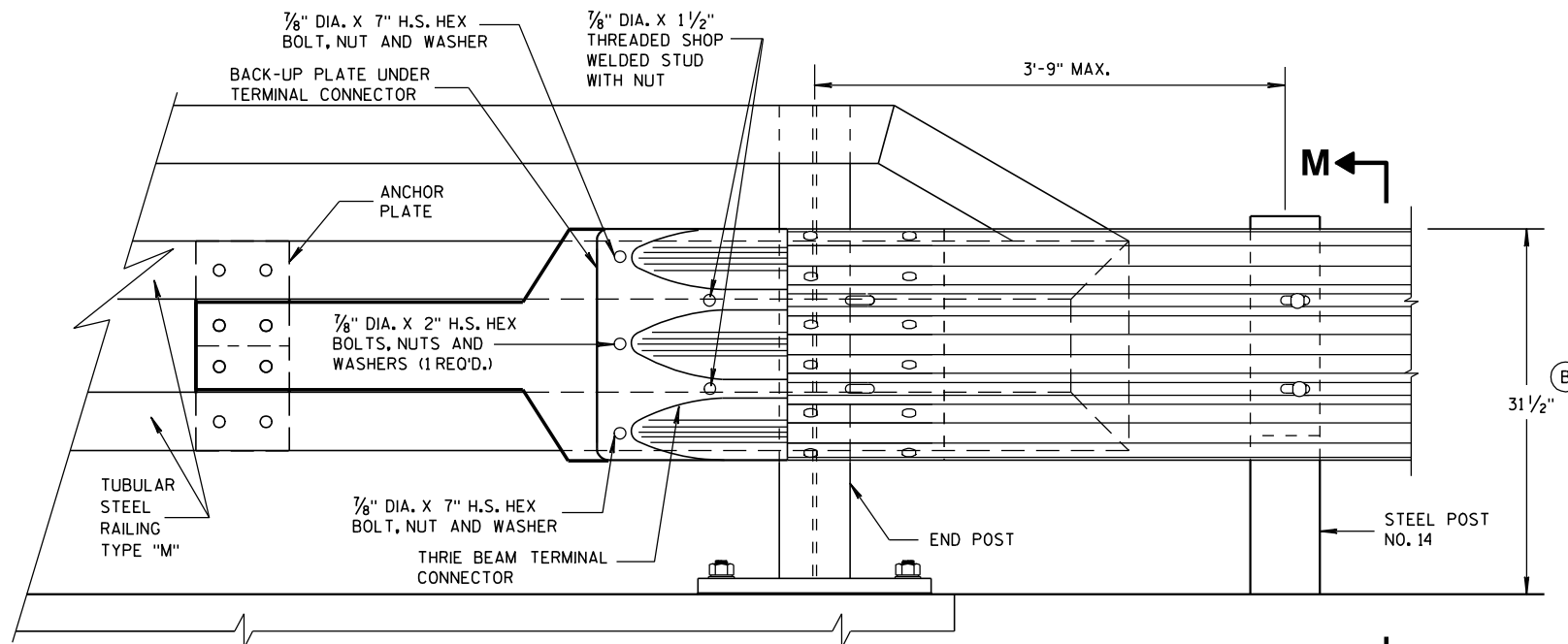


SECTION L-L

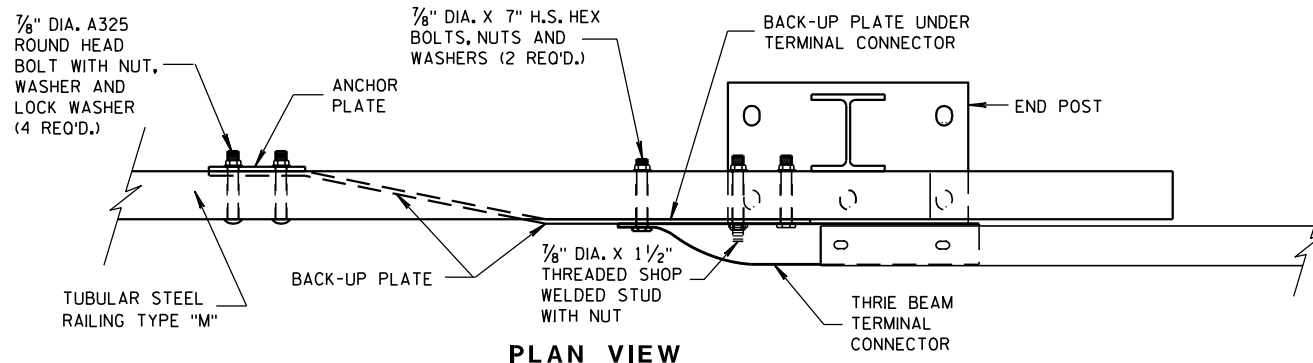


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

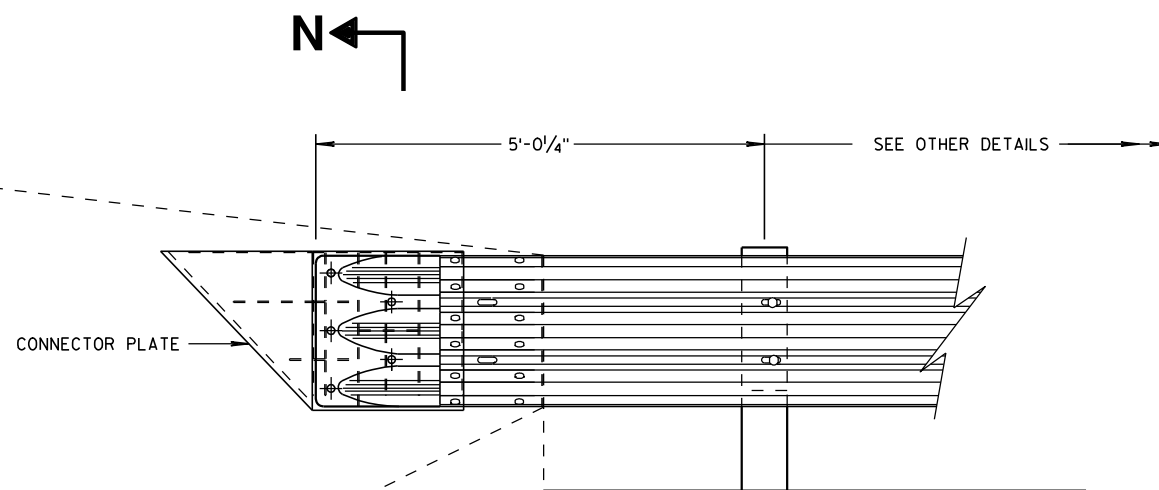
APPROVED  
8-31-2012 DATE /S/ Jerry H. Zoon  
ROADWAY STANDARDS 33 ENT  
FHWA ENGINEER



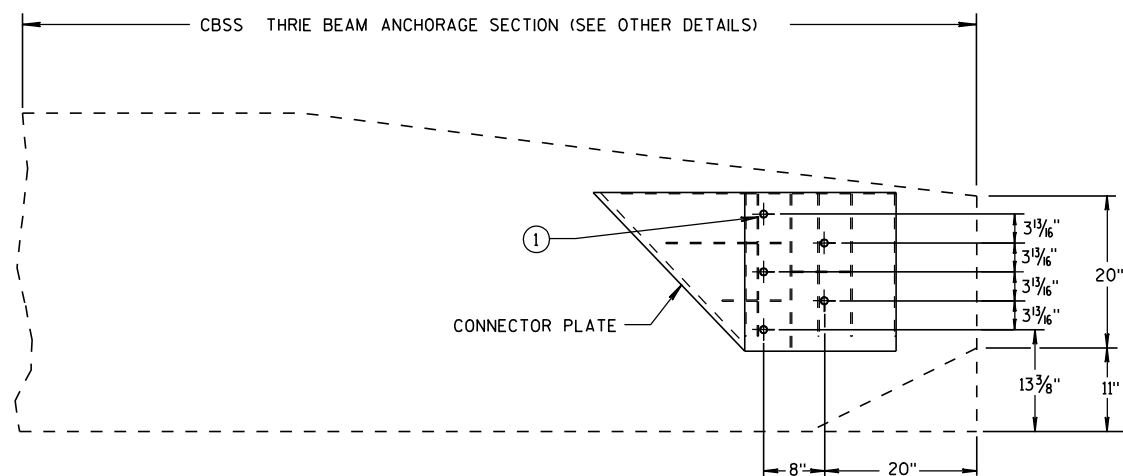
- ① STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:  
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND  $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- ② STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:  
 $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2".

## SINGLE SLOPE CONNECTION PLATE

|                                                                 |                                                                                      |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>MIDWEST GUARDRAIL SYSTEM<br/>THREE BEAM TRANSITION (MGS)</b> |                                                                                      |
| <b>STATE OF WISCONSIN<br/>DEPARTMENT OF TRANSPORTATION</b>      |                                                                                      |
| <b>APPROVED</b><br><u>8/31/2012</u><br>DATE                     | <u>/S/ Jerry H. [unclear]</u><br>ROADWAY STANDARDS <b>34</b> <u>MENT</u><br>ENGINEER |
| FHWA                                                            |                                                                                      |



**THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER**

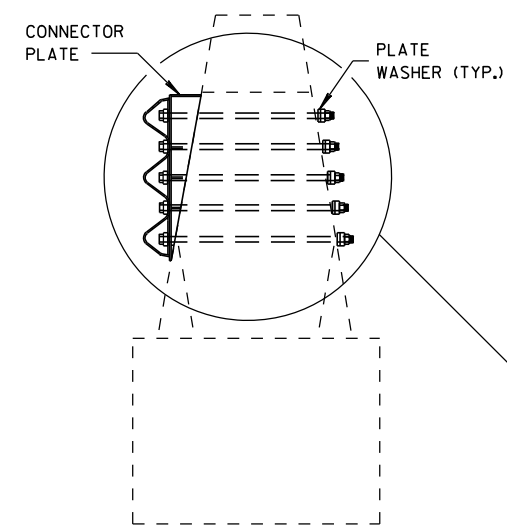


**SINGLE SLOPE CONNECTION PLATE PLACEMENT**

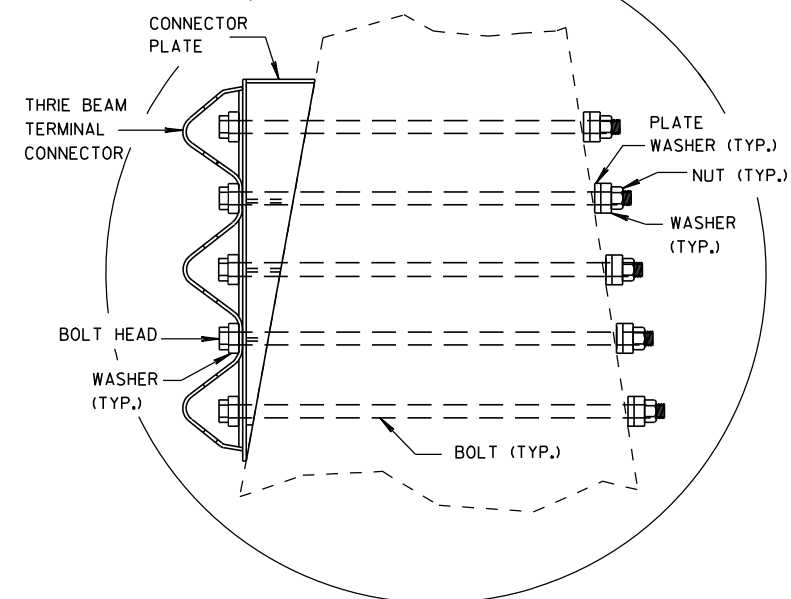
## GENERAL NOTES

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

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



**SECTION N-N**



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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

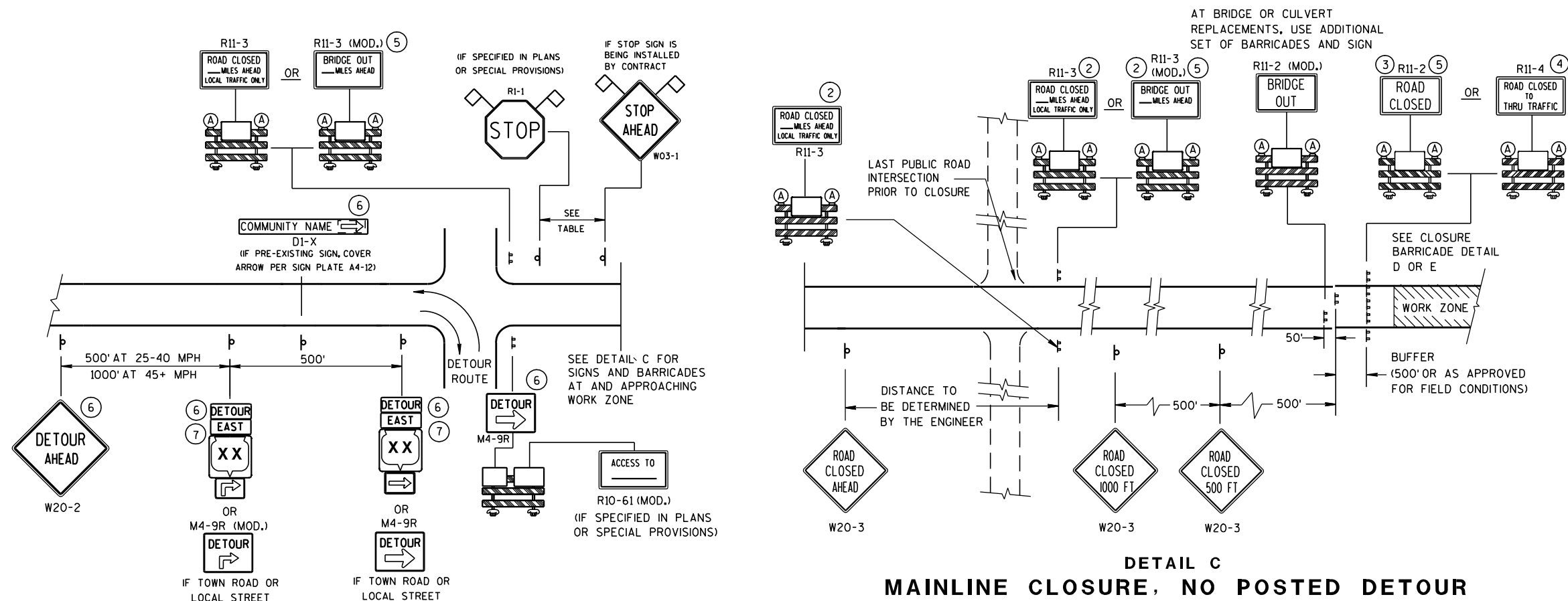
DATE

FHWA

/S/ Jerry H. 35

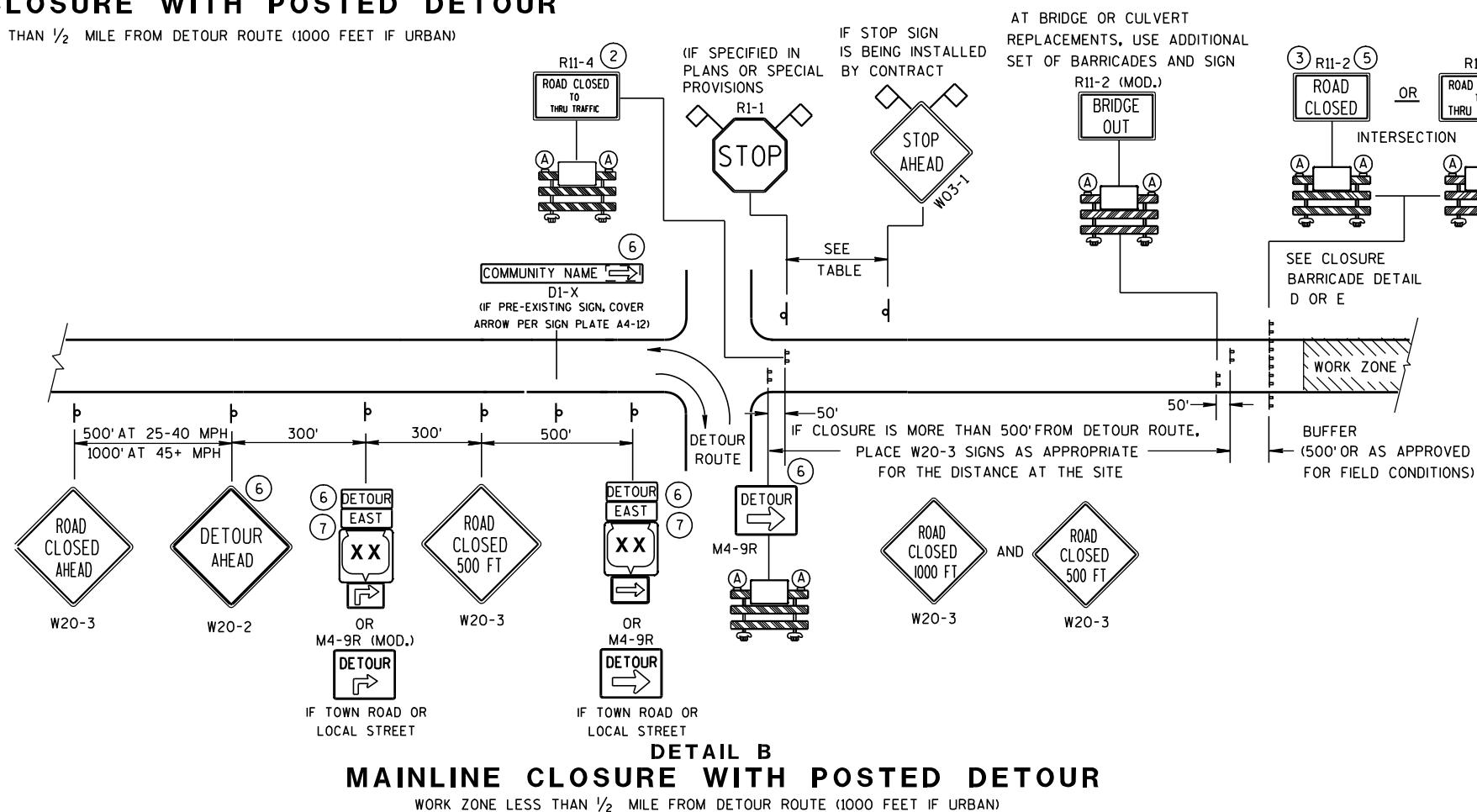
ROADWAY STANDARDS

ENGINEER



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

SEE SDD 15C2-4b  
FOR GENERAL NOTES  
AND FOOTNOTES ① THROUGH ⑦

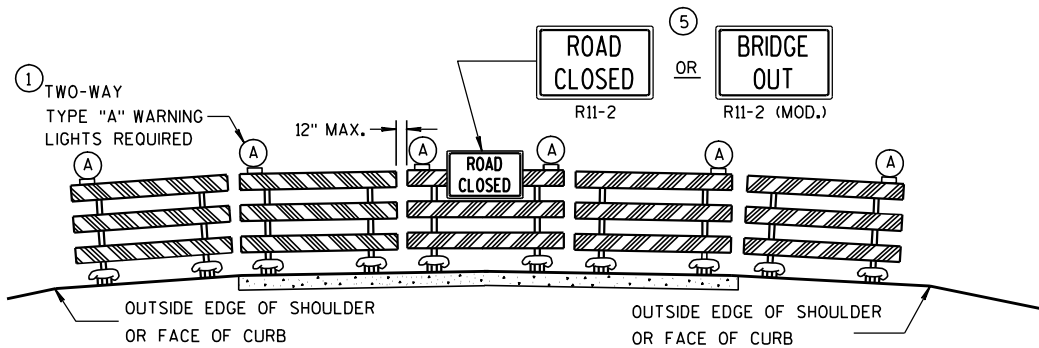


### LEGEND

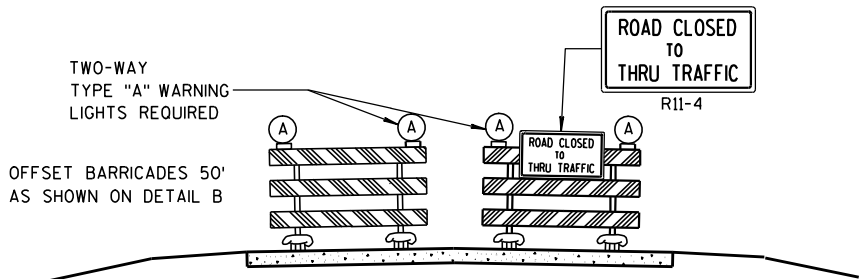
-  POST MOUNTED SIGN  
 TYPE III BARRICADES  
 (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)  
 WORK ZONE  
 M4-8  
 M3-X  
 M1-4 OR  M1-5A OR  M1-6  
 M05-1 OR  M06-1  
 FLAGS, 16" X 16" MIN., (ORANGE)

## BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



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



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

SEE SDD 15C2-4a 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.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

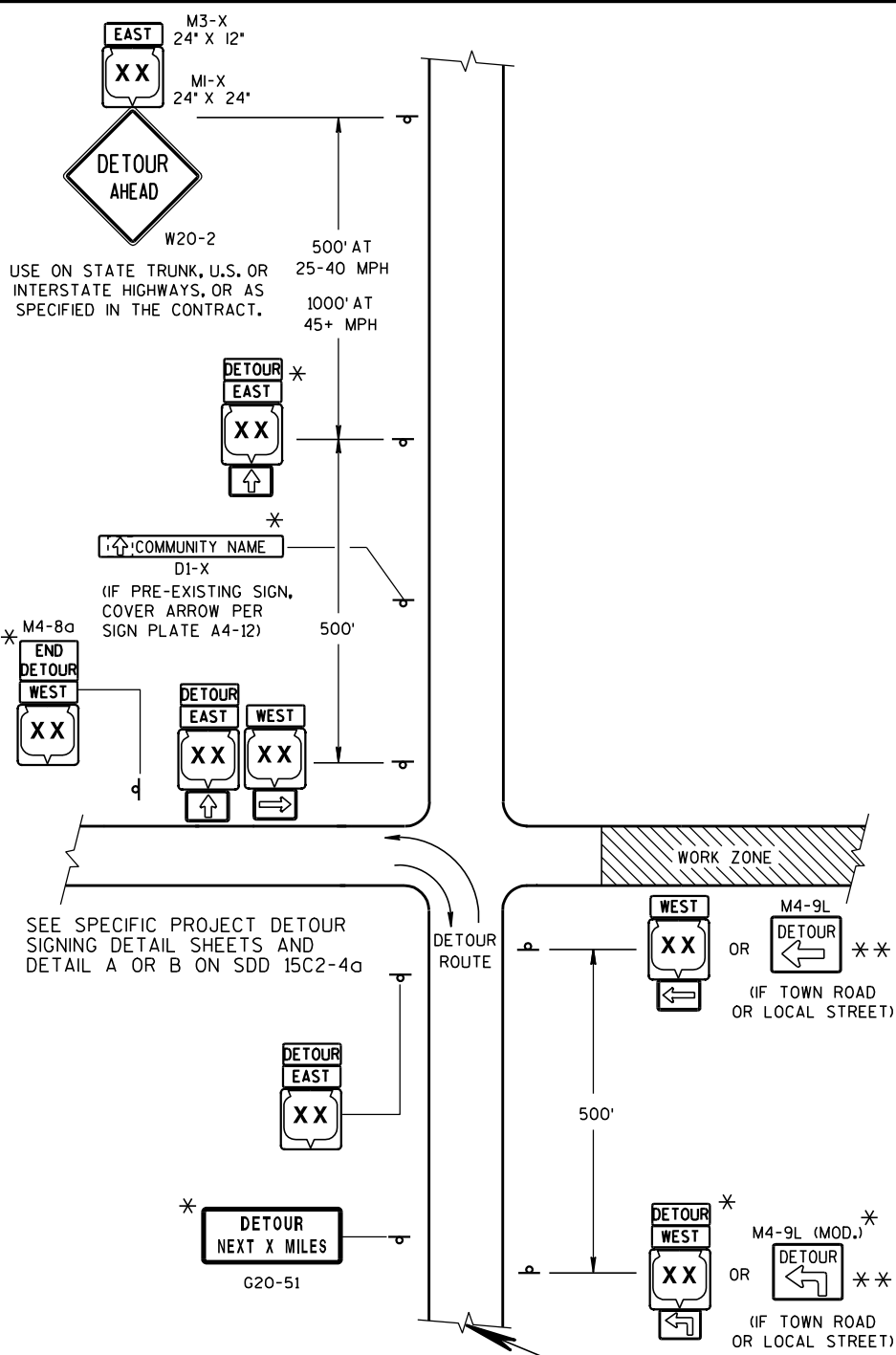
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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 AND 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<br>FOR<br>MAINLINE CLOSURES   |                                        |             |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                        |             |
| APPROVED                                           |                                        |             |
| 9/16/03<br>DATE                                    | /S/ Thomas N. N<br>CHIEF SIGNS AND MAR | 37<br>INEER |
| FHWA                                               |                                        |             |



**LEGEND**

POST MOUNTED SIGN

WORK ZONE

DETOUR EAST M4-8 M3-X

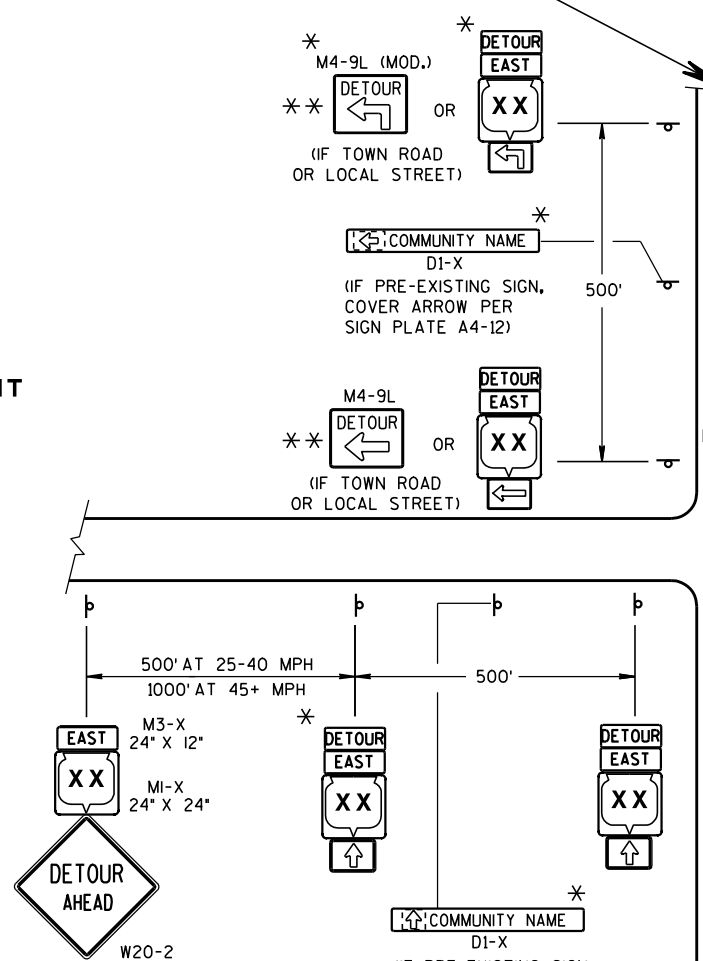
M1-4 OR COUNTY M1-5A OR M1-6

M05-1 OR M06-1 OR M06-1

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

MATCH POINT

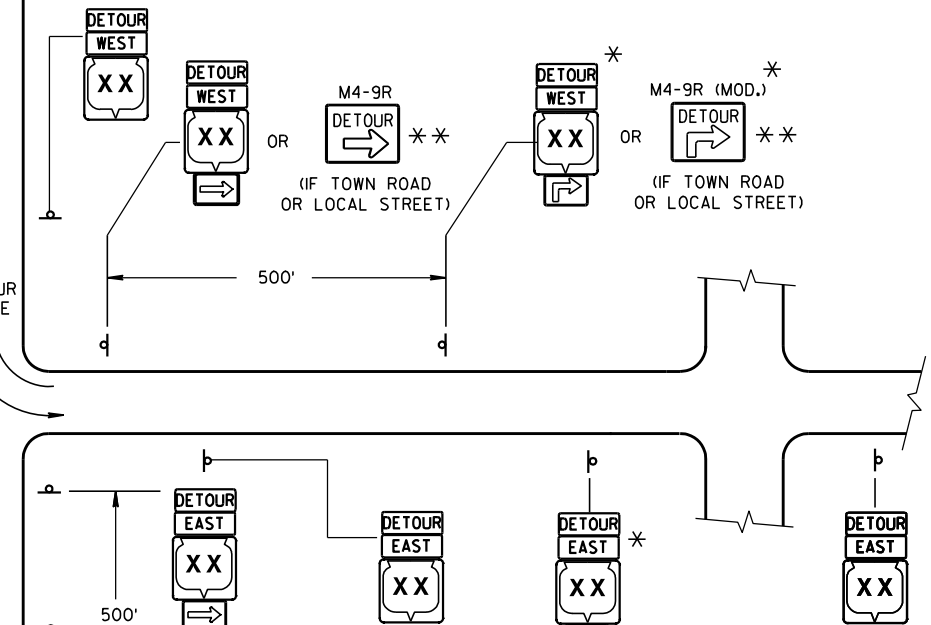
DETAIL F  
DETOUR SIGNING



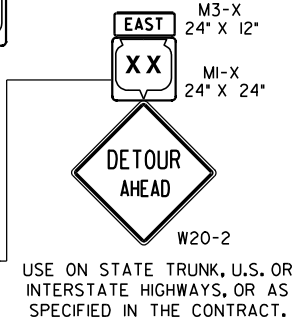
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT.

**GENERAL NOTES**

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
- M3-X AND 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.)
  - M4-9 SHALL BE 30" X 24".
  - M4-8a SHALL BE 24" X 18".
  - G20-51 SHALL BE 60" X 24".
  - W20-2 SHALL BE 48" X 48".
  - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- \* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- \*\* FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



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

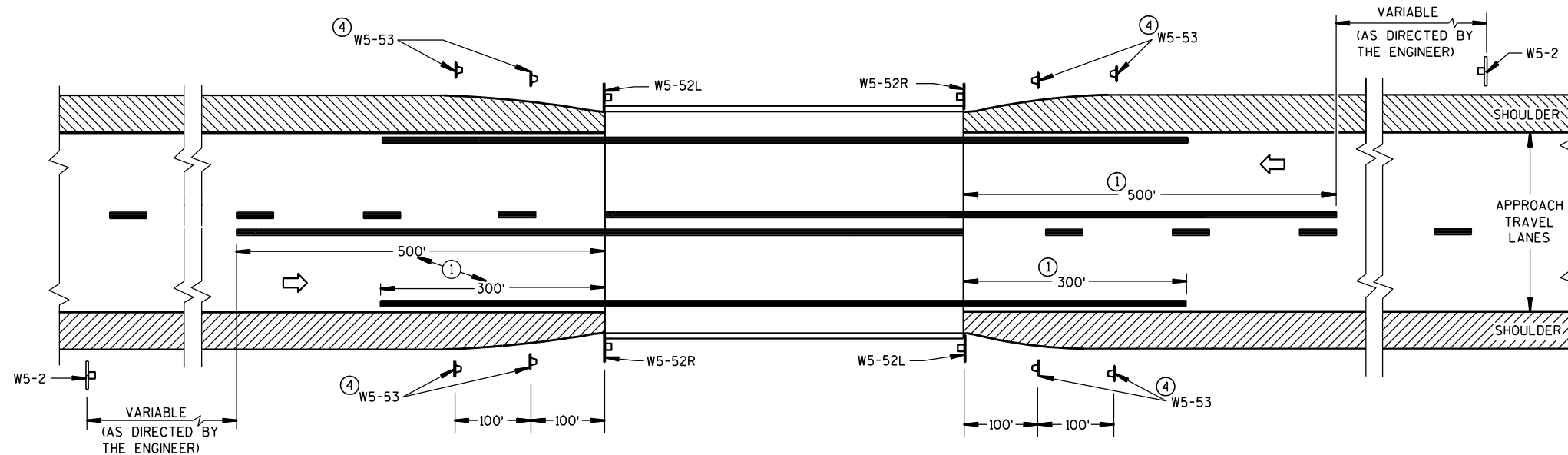


USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT.

**DETOUR SIGNING FOR MAINLINE CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

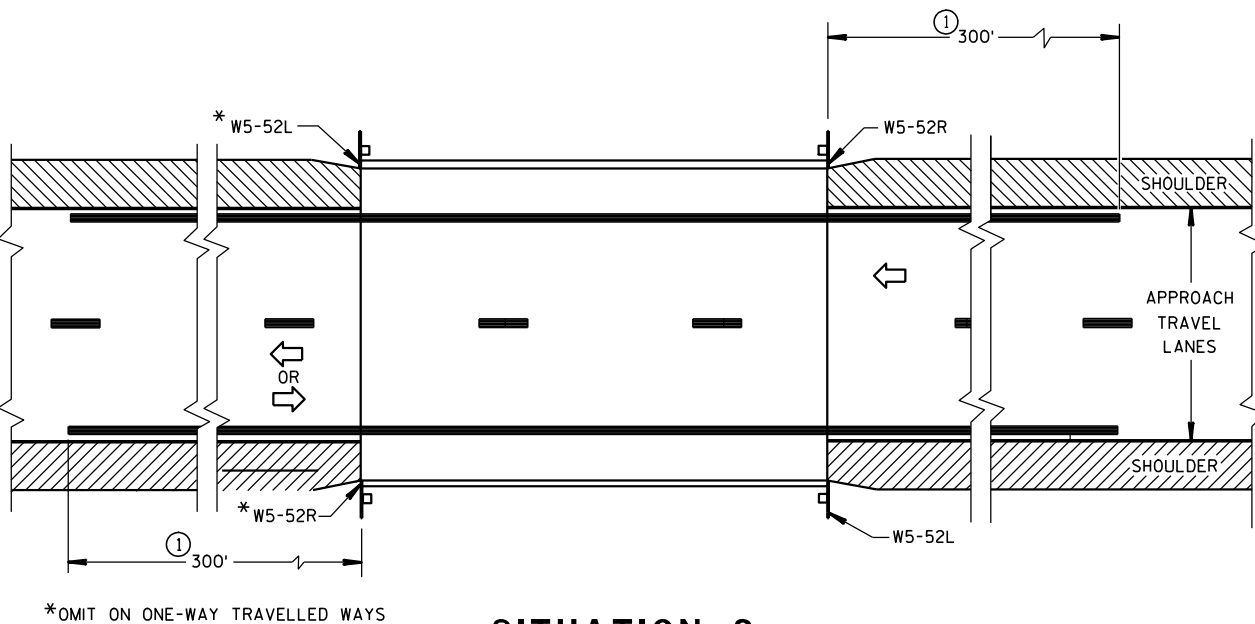
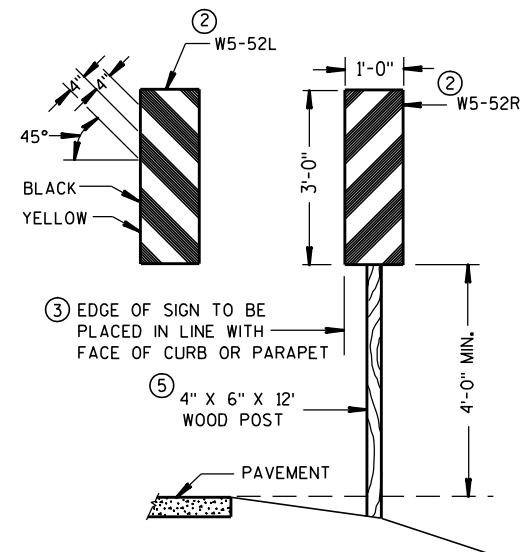
APPROVED  
9-16-03 DATE /S/ Thomas N. N... CHIEF SIGNS AND MAR 38 INEER  
FHWA



### SITUATION 1

WARRANTING CRITERION:

BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET

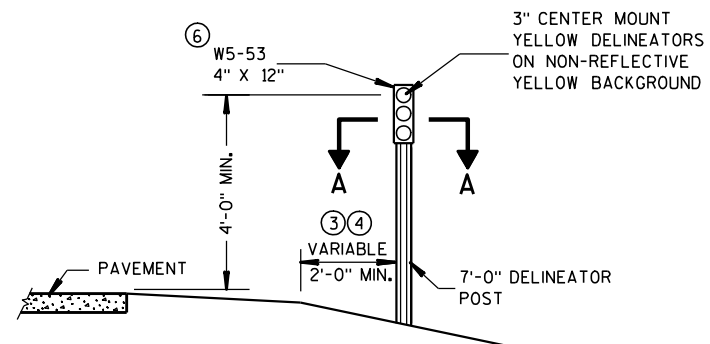


### SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.

### OBJECT MARKER PLACEMENT

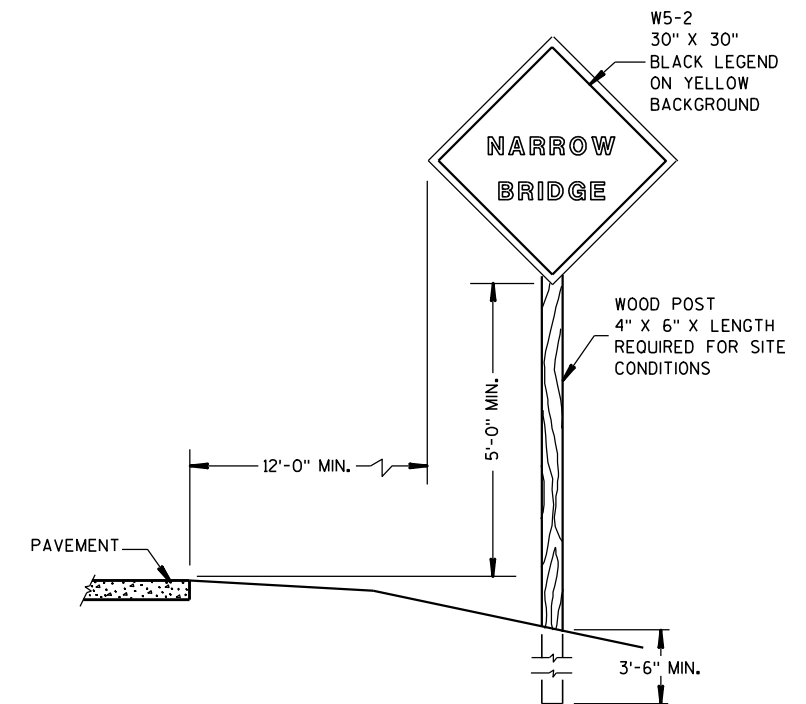


### GENERAL NOTES

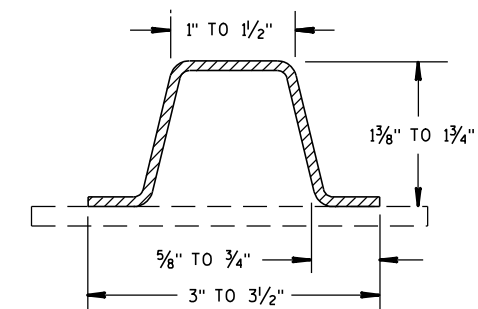
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R AND W5-52L SHALL BE COVERED WITH TYPE H REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ④ OBJECT MARKERS (W5-53) SHALL BE LOCATED ALONG A LINE FLARED AWAY FROM THE BRIDGE CORNER TO DELINEATE THE NARROWING OF THE SHOULDER OR BERM.
- ⑤ A 12 FOOT DELINEATOR POST MAY BE USED INSTEAD OF A WOOD POST.
- ⑥ NON-BID ITEM. INCIDENTAL TO OTHER ITEMS.



### SIGN PLACEMENT



### SECTION A-A

(MINIMUM WEIGHT 1.9 LBS. PER FT. AFTER GALVANIZING)

### SIGNING & MARKING FOR TWO LANE BRIDGES

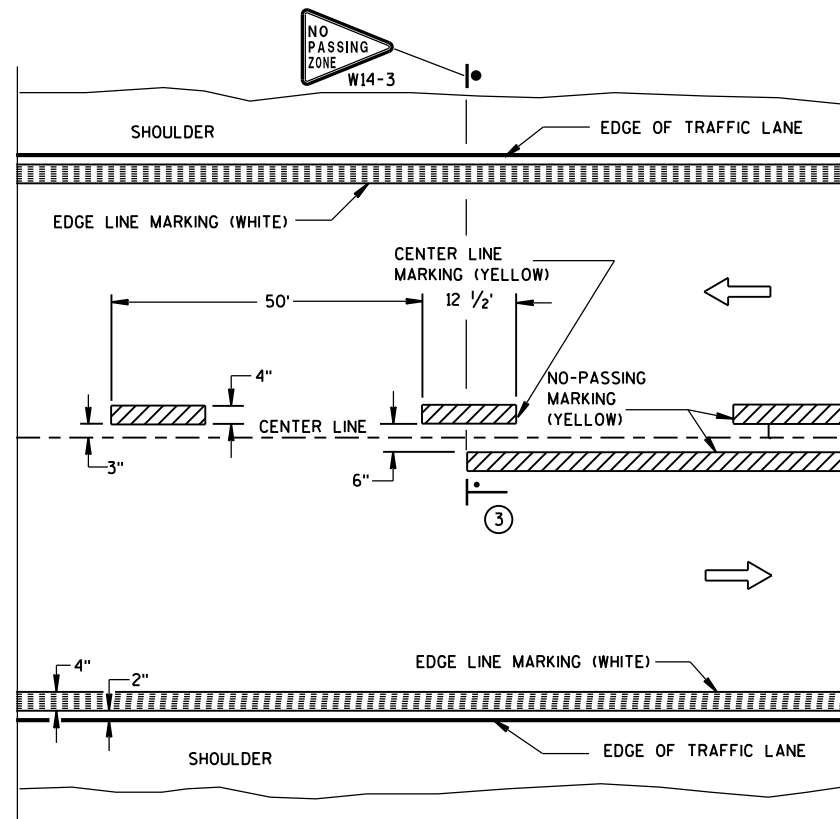
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

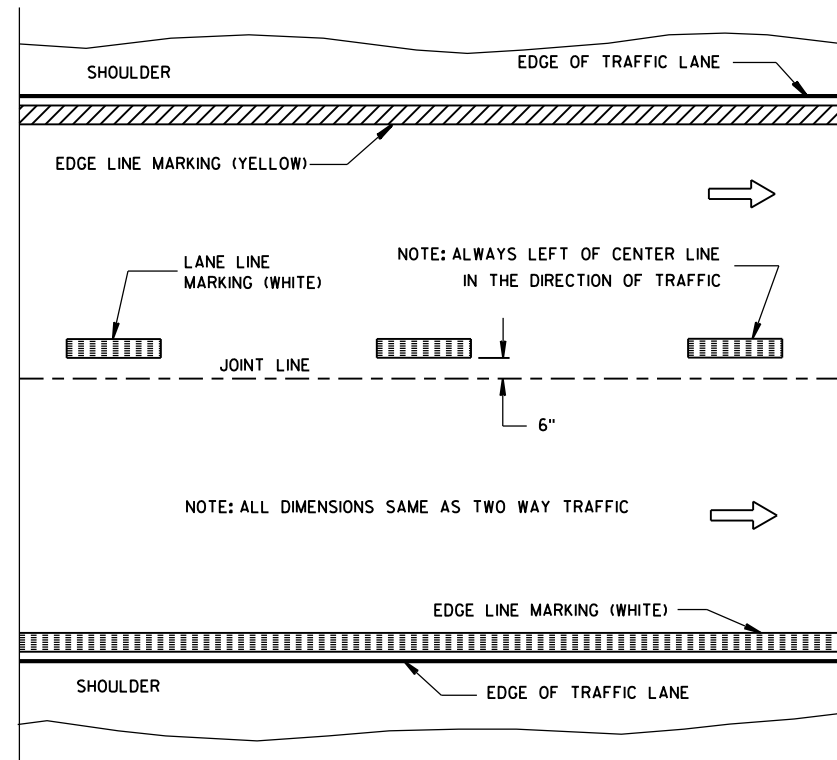
9/5/06  
DATE

FHWA

/S/ Thomas N. [Signature]  
STATE TRAFFIC ENGINE 39 SIGN

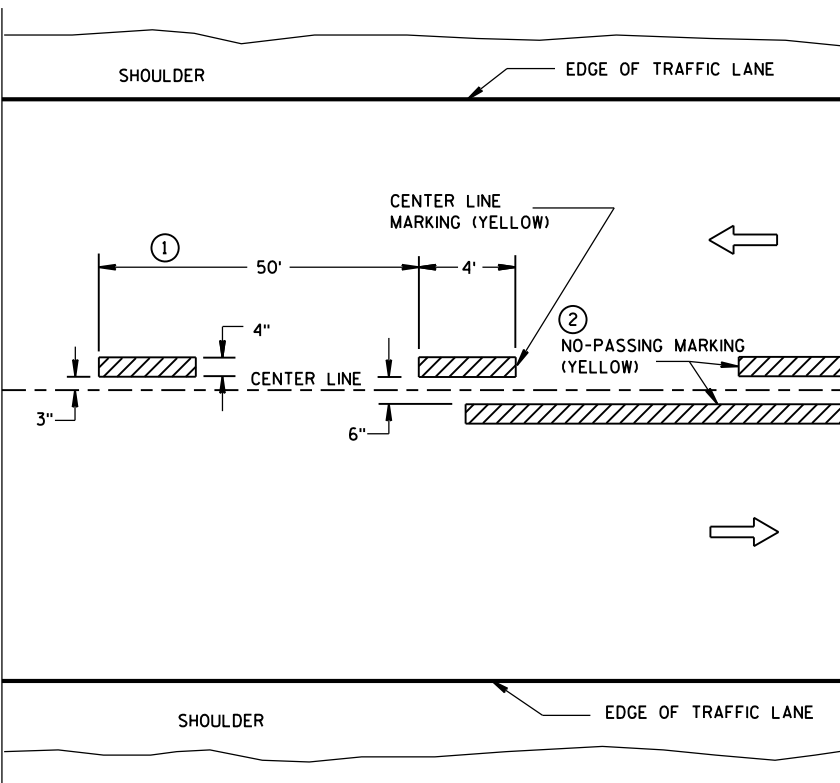


TWO WAY TRAFFIC

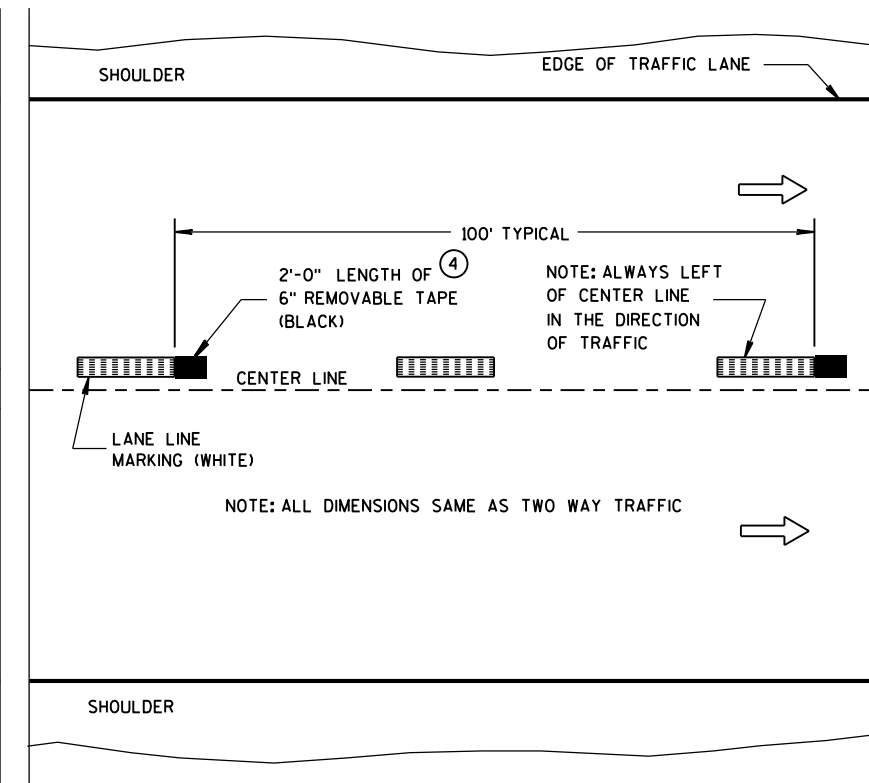


ONE WAY TRAFFIC

## PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

**TEMPORARY (INTERMEDIATE) PAVEMENT MARKING**  
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

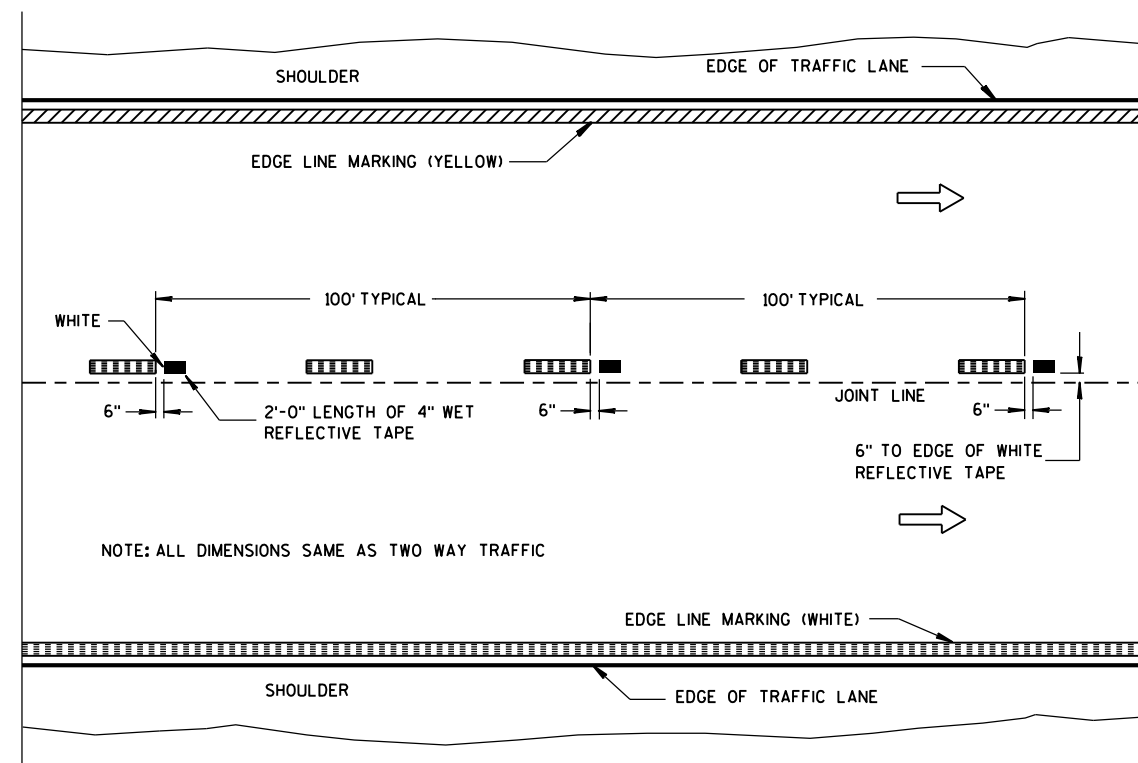
## GENERAL NOTES

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

- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

## NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



**WET REFLECTIVE TAPE SUPPLEMENT TO  
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE**

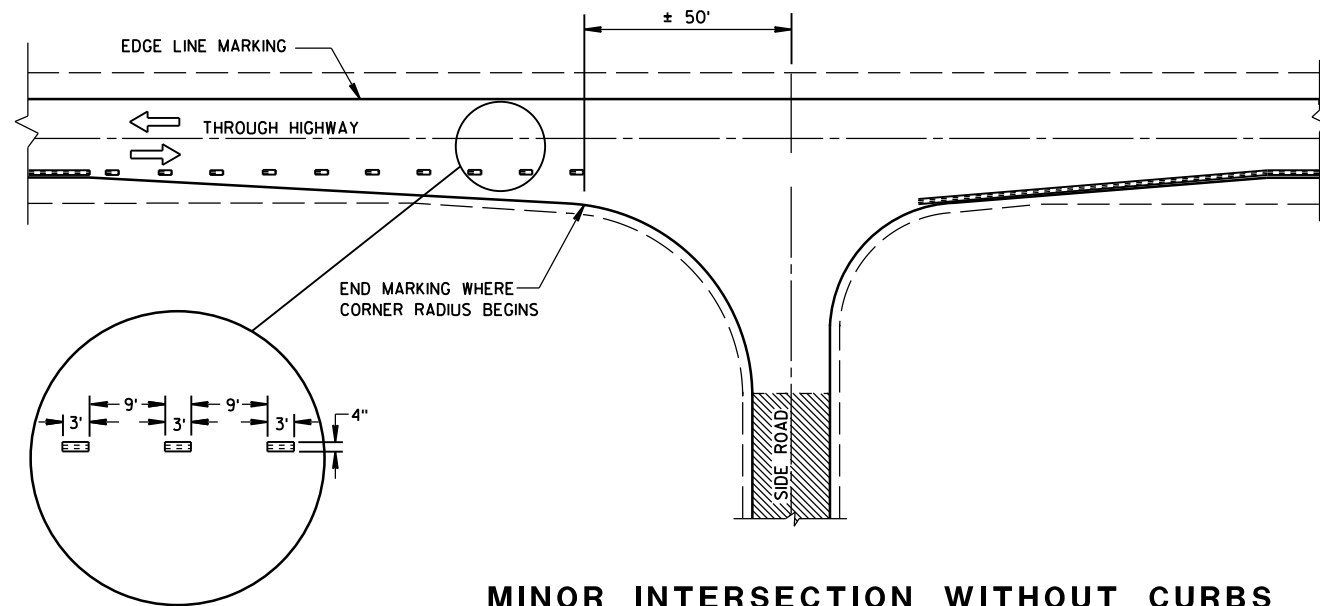
## LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING  
(MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
10-1-2012 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINE 40 :SIGN  
FHWA



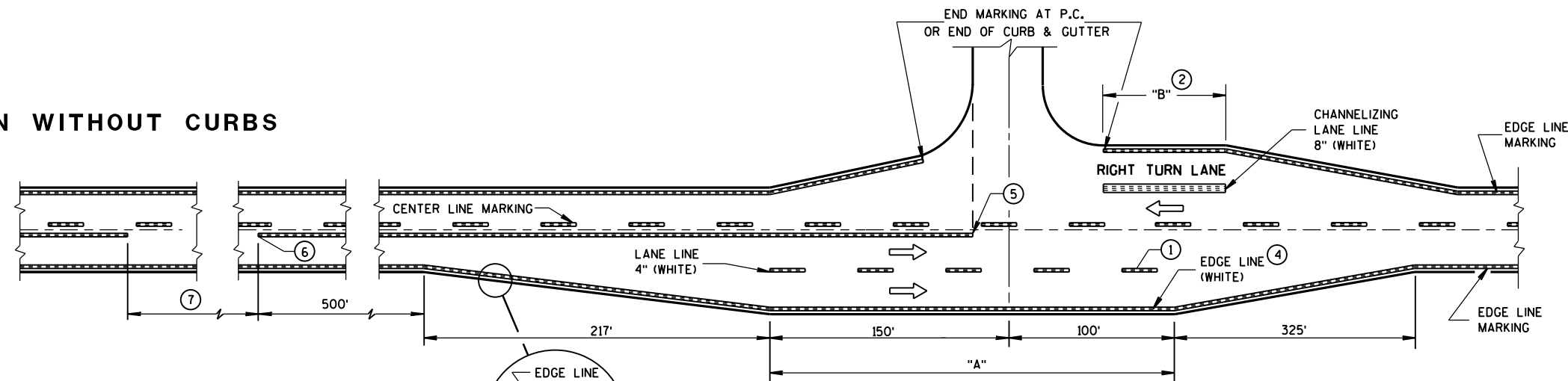
**MINOR INTERSECTION WITHOUT CURBS**

⑦

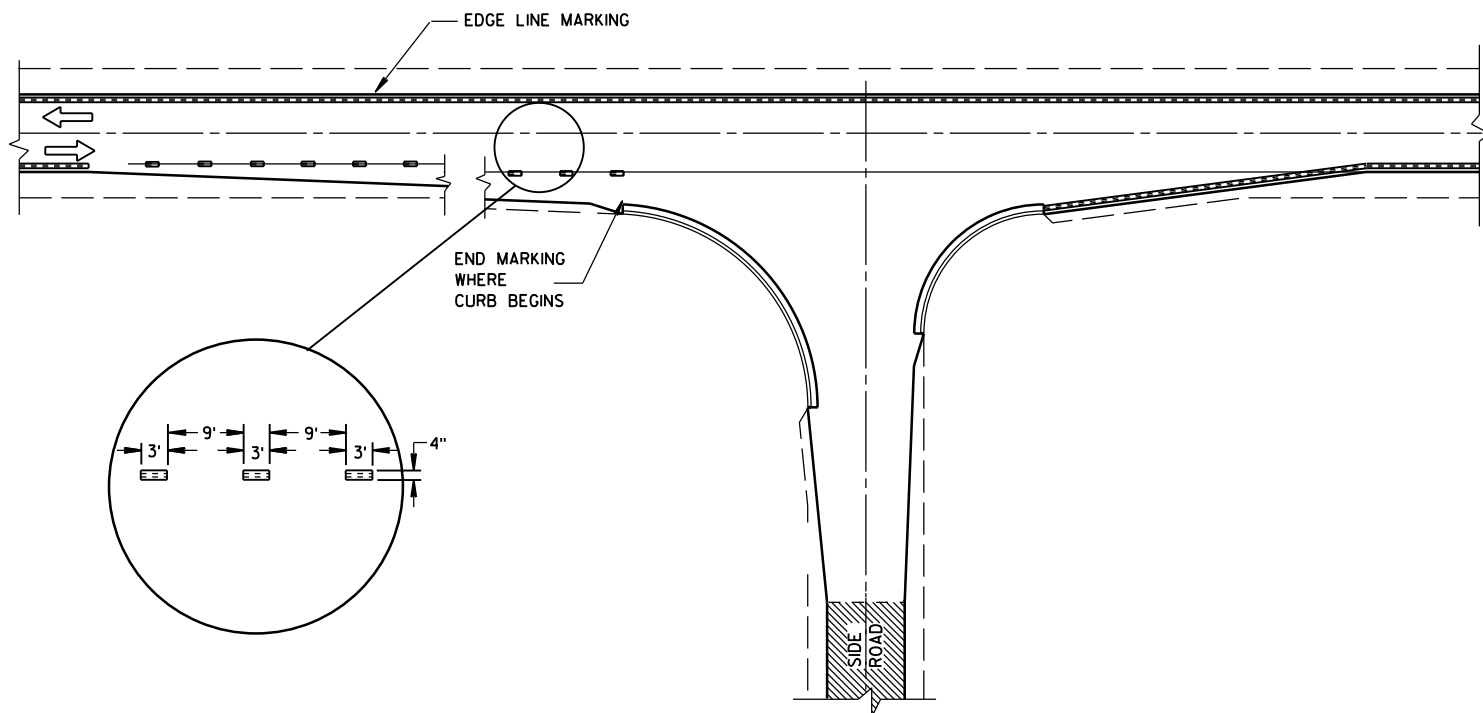
| POSTED SPEED (MPH) | MINIMUM DISTANCE BETWEEN ZONES (FEET) |
|--------------------|---------------------------------------|
| 25 - 30            | 528                                   |
| 35 - 40            | 528                                   |
| 45 - 50            | 686                                   |
| 55                 | 792                                   |

**GENERAL NOTES**

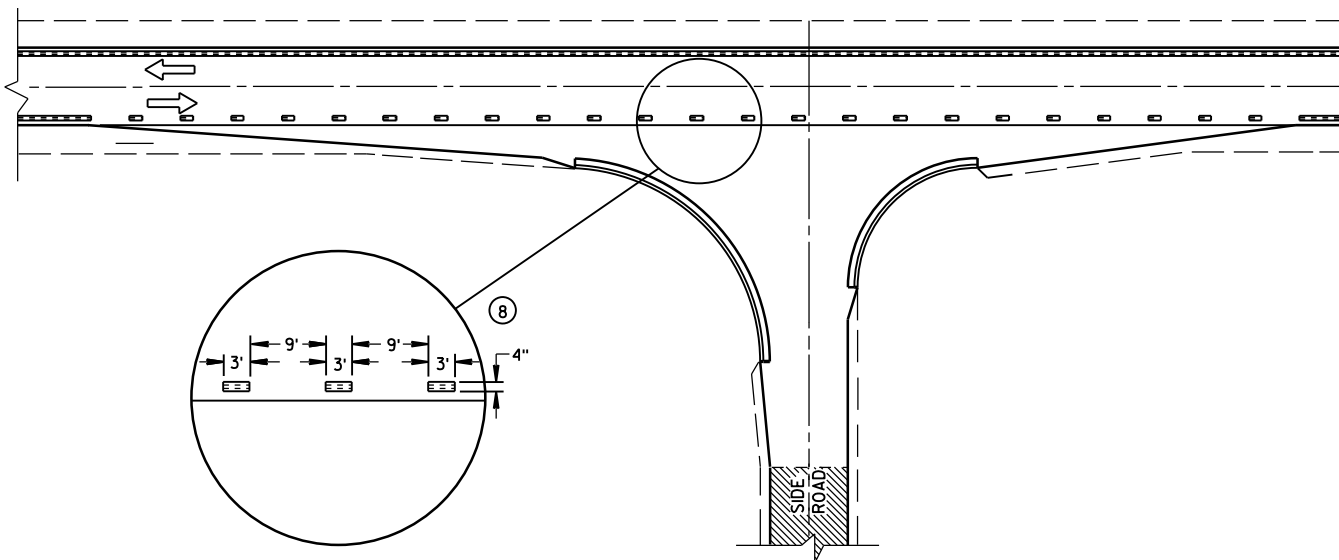
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
  - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
  - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
  - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
  - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
  - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
  - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
  - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL ( → ) SHOWS DIRECTION OF TRAVEL



**MAJOR INTERSECTIONS**  
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



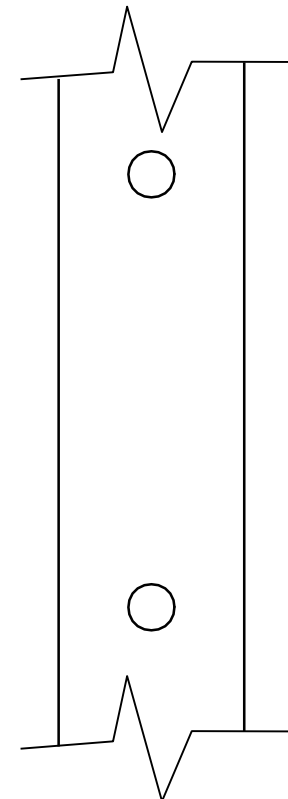
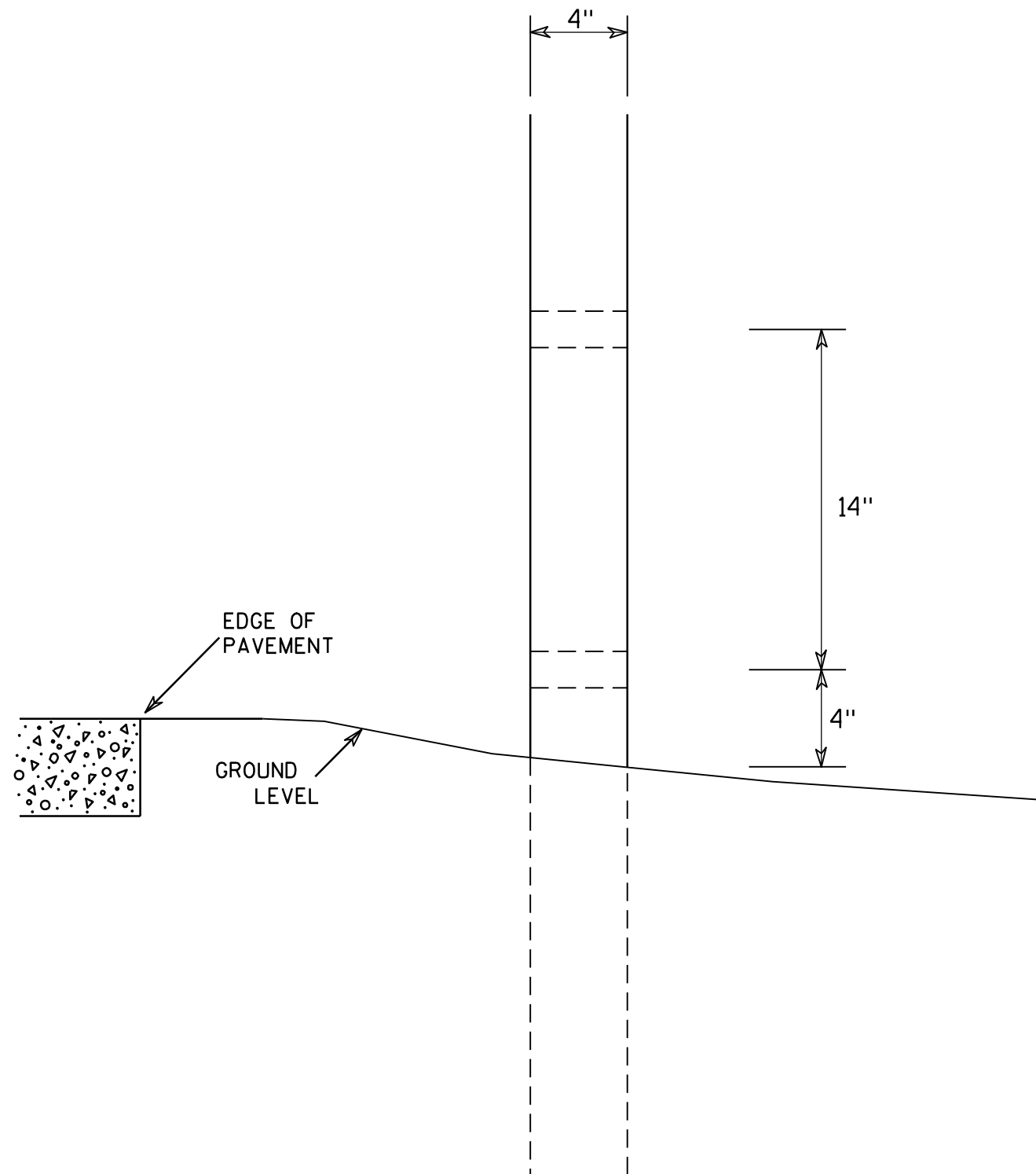
**MINOR INTERSECTION WITH CURBS**  
(TYPICAL MARKING)



**MINOR INTERSECTION WITH CURBS**  
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING  
(INTERSECTIONS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



SIDE VIEW

# GENERAL NOTES

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

## 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

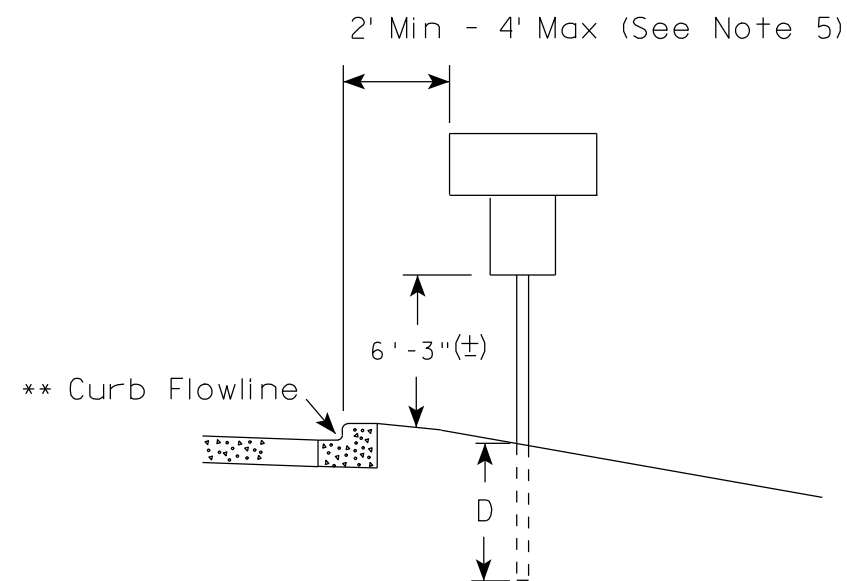
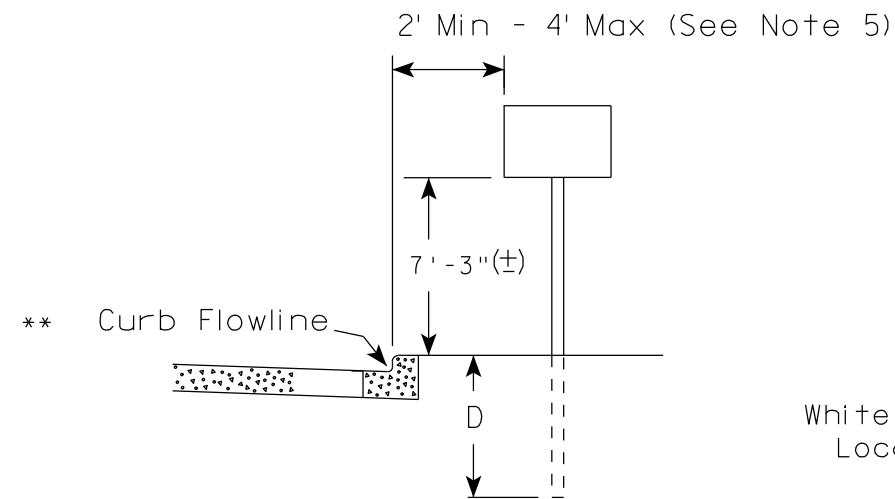
HWY:

COUNTY:

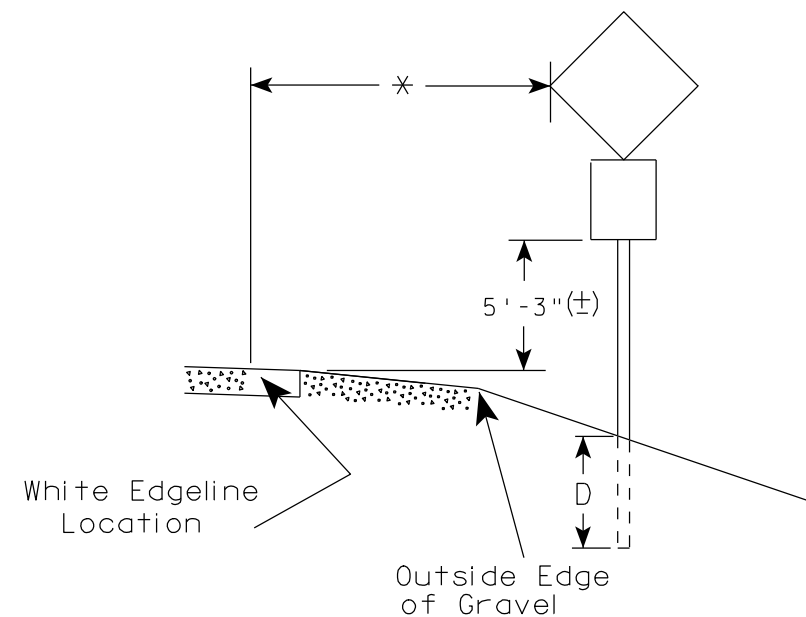
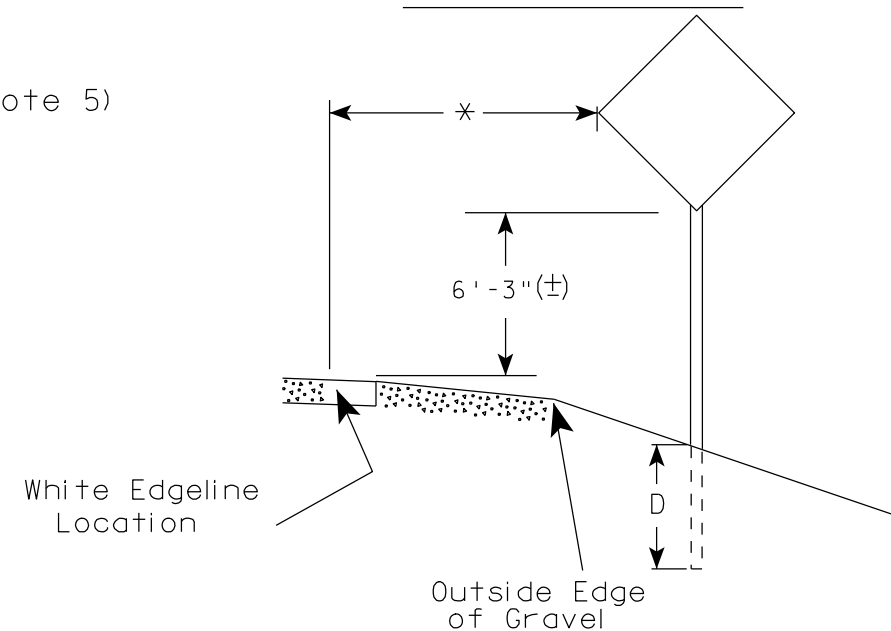
SHEET NO: 42

E

## URBAN AREA



## RURAL AREA (See Note 2)



## POST EMBEDMENT DEPTH

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

## GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. 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 (A4-5) 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 stop signs (R1-1F) 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), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

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

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

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-3.16

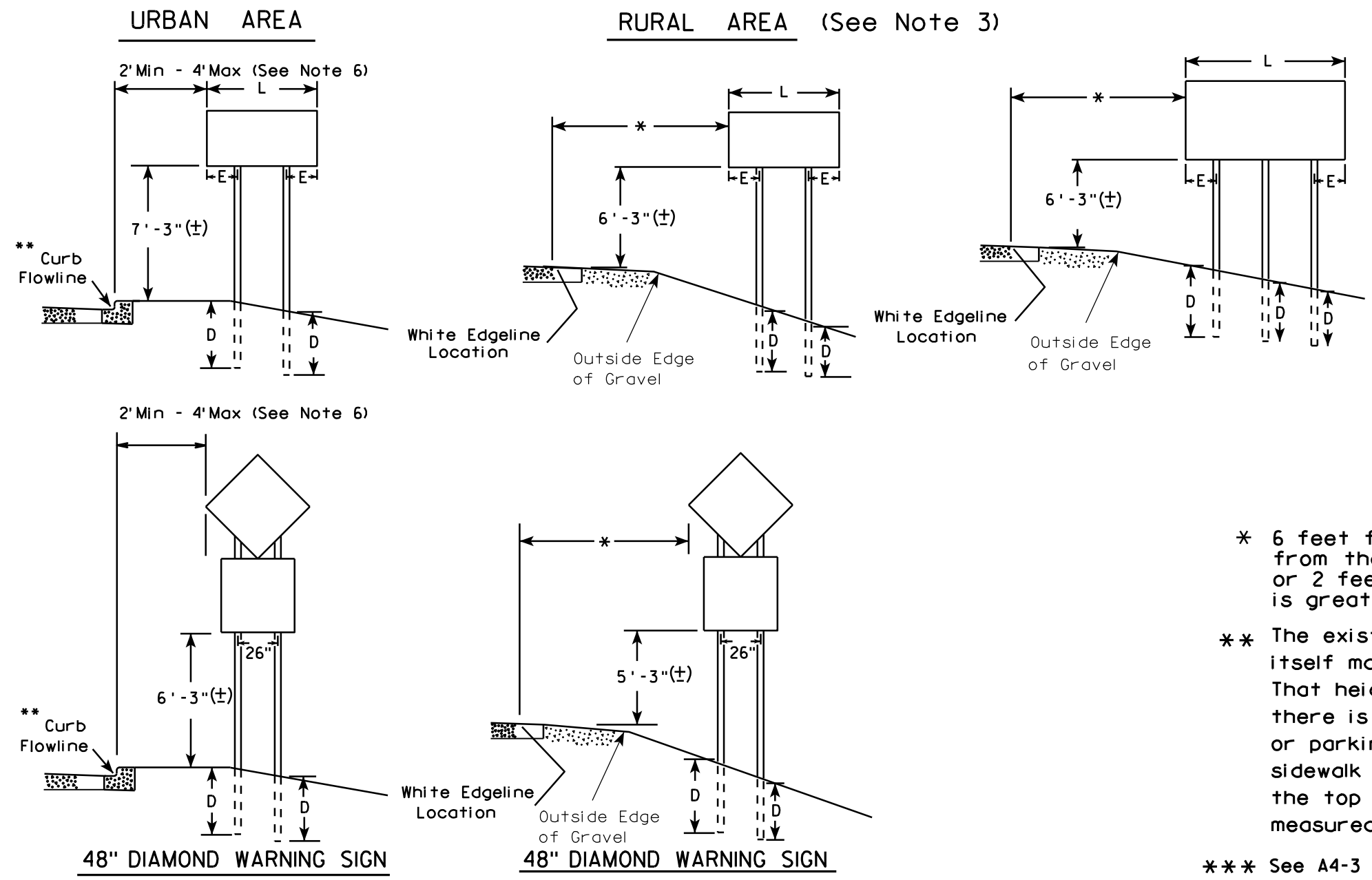
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 43

E



**GENERAL NOTES**

1. For multiple post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. 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), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" (±).

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

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

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

\*\*\*

| SIGN SHAPE OTHER THAN DIAMOND<br>(TWO POSTS REQUIRED) |     |
|-------------------------------------------------------|-----|
| L                                                     | E   |
| Greater than 48"<br>Less than 60"                     | 12" |
| 60" to 120"                                           | L/5 |

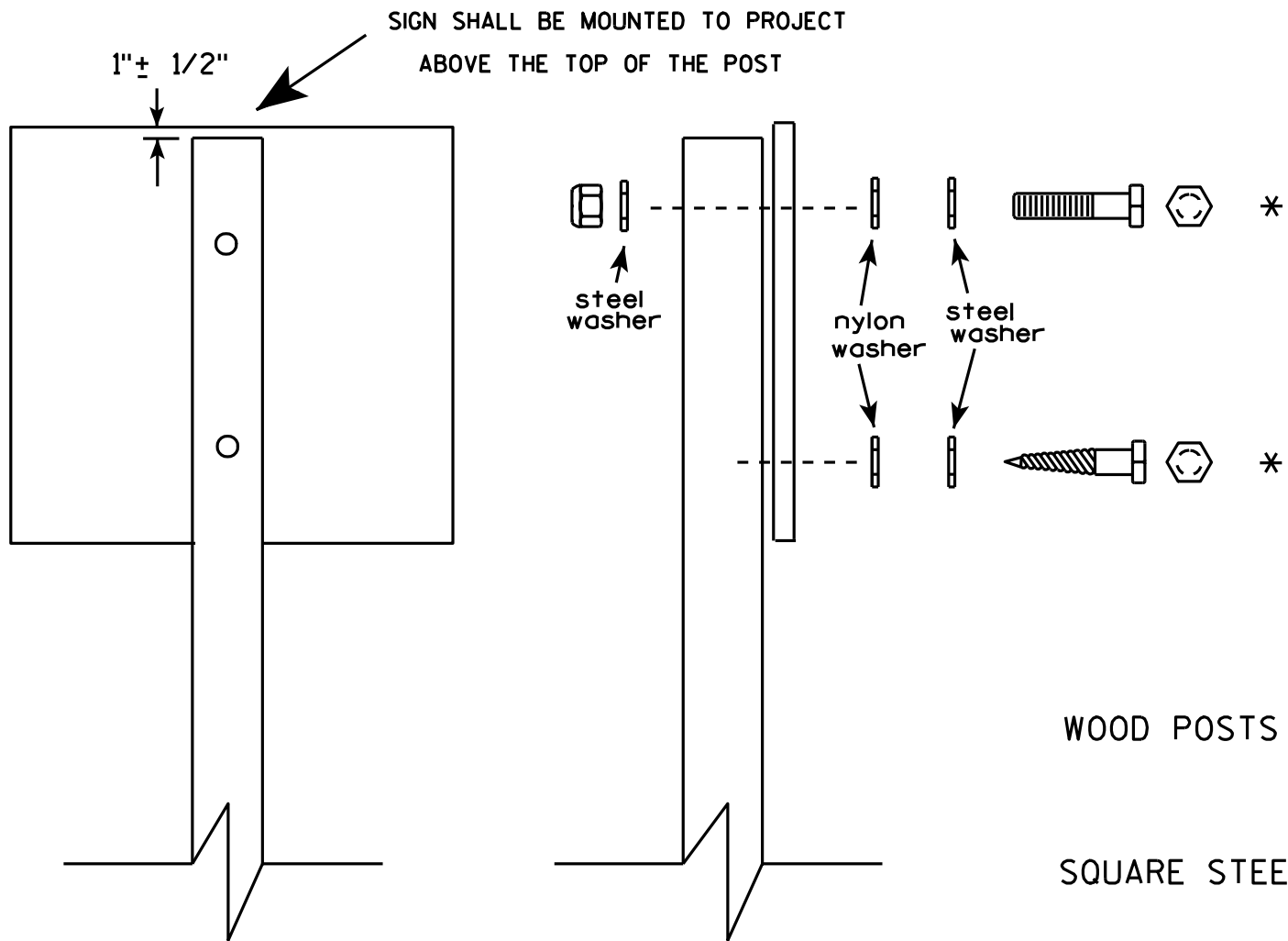
| SIGN SHAPE OTHER THAN DIAMOND<br>(THREE POSTS REQUIRED) |     |
|---------------------------------------------------------|-----|
| L                                                       | E   |
| Greater than 120"<br>less than 168"                     | 12" |

| SIGN SHAPE OTHER THAN DIAMOND<br>(FOUR POSTS REQUIRED) |     |
|--------------------------------------------------------|-----|
| L                                                      | E   |
| 168" and greater                                       | 12" |

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

|                                                               |                                                       |
|---------------------------------------------------------------|-------------------------------------------------------|
| TYPICAL INSTALLATION<br>OF TYPE II SIGNS<br>ON MULTIPLE POSTS |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION                              |                                                       |
| APPROVED                                                      | <i>Matthew R. Rauch</i><br>For State Traffic Engineer |
| DATE 9/21/2011                                                | PLATE NO. A4-4.11                                     |

|             |      |         |              |   |
|-------------|------|---------|--------------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: 44 | E |
|-------------|------|---------|--------------|---|

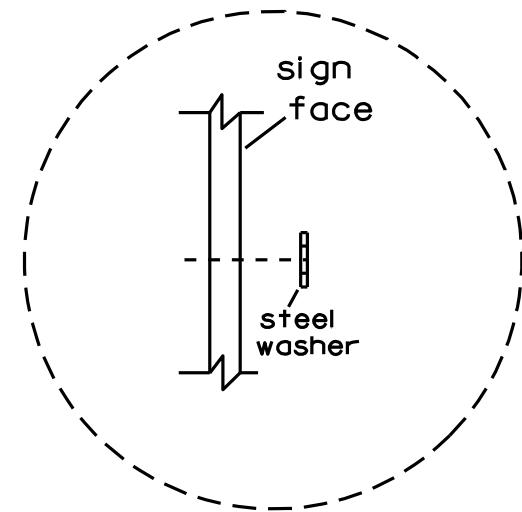


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

- 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.

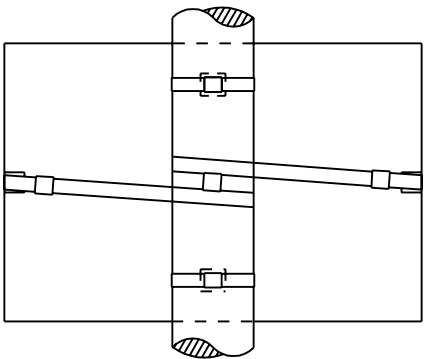
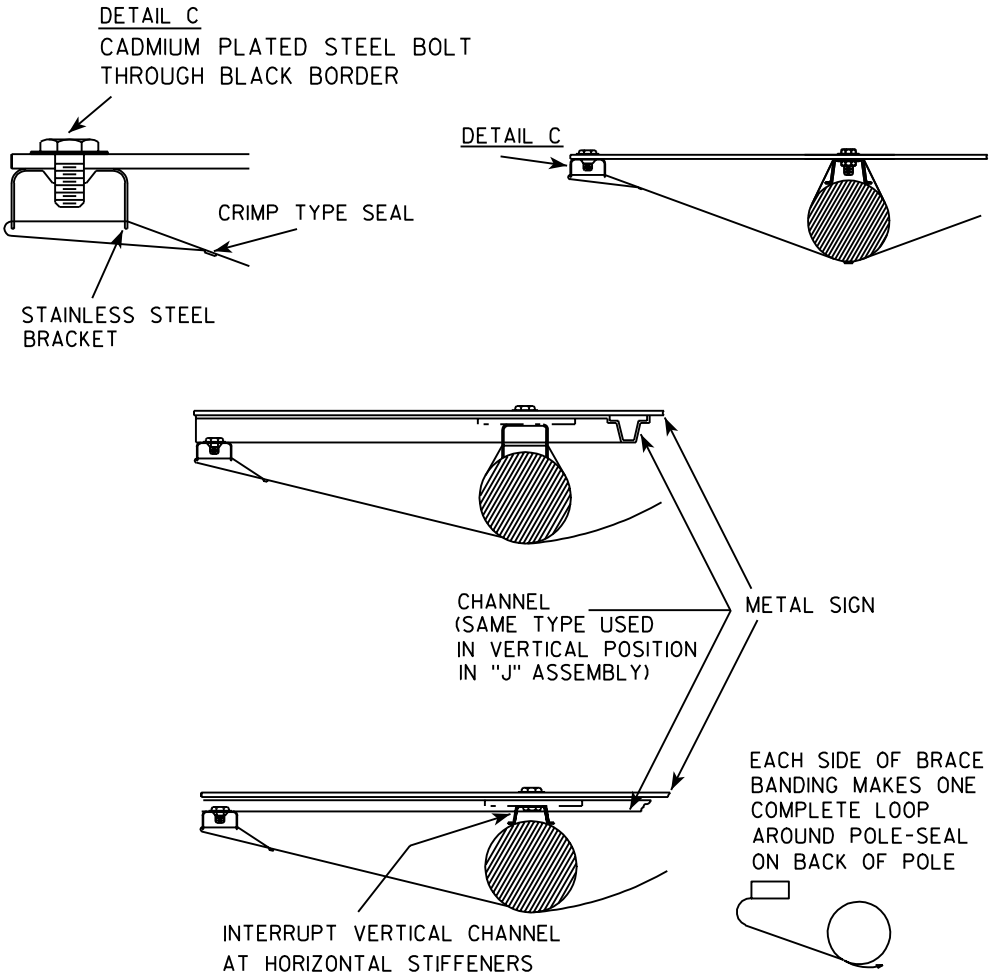


Washer Placement when Sign Has Other Than Type H or Type F Face

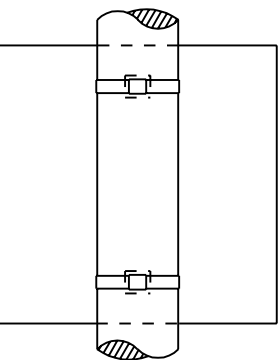
\* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

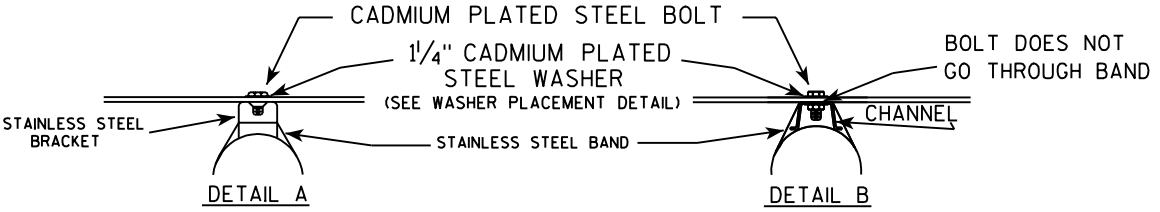
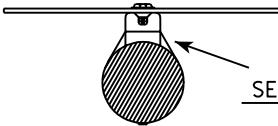
BRACE BANDING



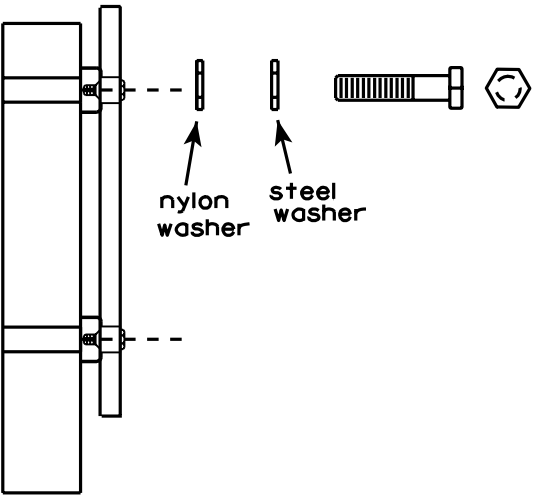
SINGLE SIGN



BRACKET BANDING

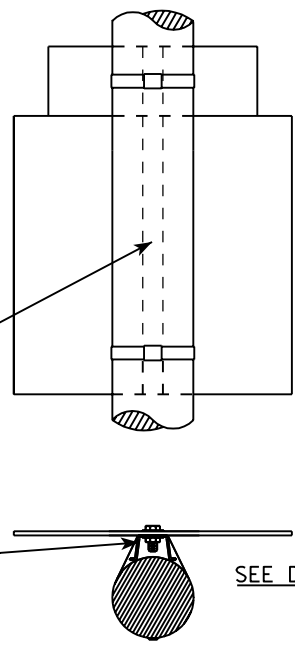


WASHER PLACEMENT



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

"J" ASSEMBLY



SEE DETAIL B

GENERAL NOTES

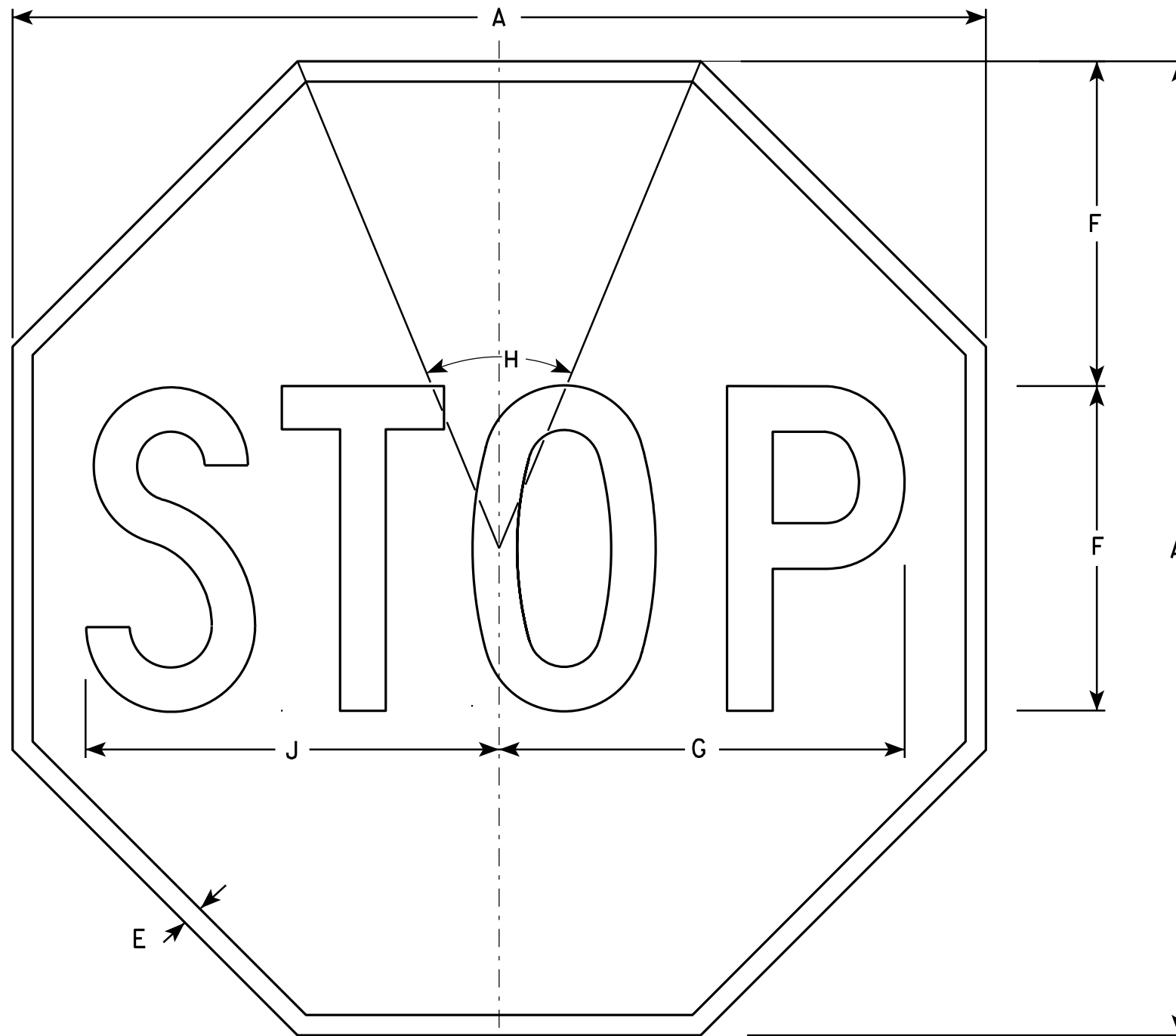
1. Signs 4' or greater in width shall have one brace band installed at the center of the sign.
2. Signs 3' or greater in height shall have three bracket bands installed. Signs less than 3' in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 11/08/05 PLATE NO. A5-9.2



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    | 24 |   |   |   | $\frac{3}{8}$ | 8  | 10               | 45° |   | 10 $\frac{1}{4}$ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.31            |
| 2S   | 30 |   |   |   | $\frac{5}{8}$ | 10 | 12 $\frac{1}{2}$ | 45° |   | 12 $\frac{3}{4}$ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.18            |
| 2M   | 36 |   |   |   | $\frac{3}{4}$ | 12 | 15               | 45° |   | 15 $\frac{3}{8}$ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.46            |
| 3    | 36 |   |   |   | $\frac{3}{4}$ | 12 | 15               | 45° |   | 15 $\frac{3}{8}$ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.46            |
| 4    | 48 |   |   |   | 1             | 16 | 20               | 45° |   | 20 $\frac{1}{2}$ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 13.25           |
| 5    | 48 |   |   |   | 1             | 16 | 20               | 45° |   | 20 $\frac{1}{2}$ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 13.25           |
| 6    | 18 |   |   |   | $\frac{3}{8}$ | 6  | 7 $\frac{3}{4}$  | 45° |   | 7 $\frac{3}{4}$  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1.86            |
| 7    | 12 |   |   |   | $\frac{1}{4}$ | 4  | 5                | 45° |   | 5 $\frac{1}{8}$  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 0.78            |

STANDARD SIGN  
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

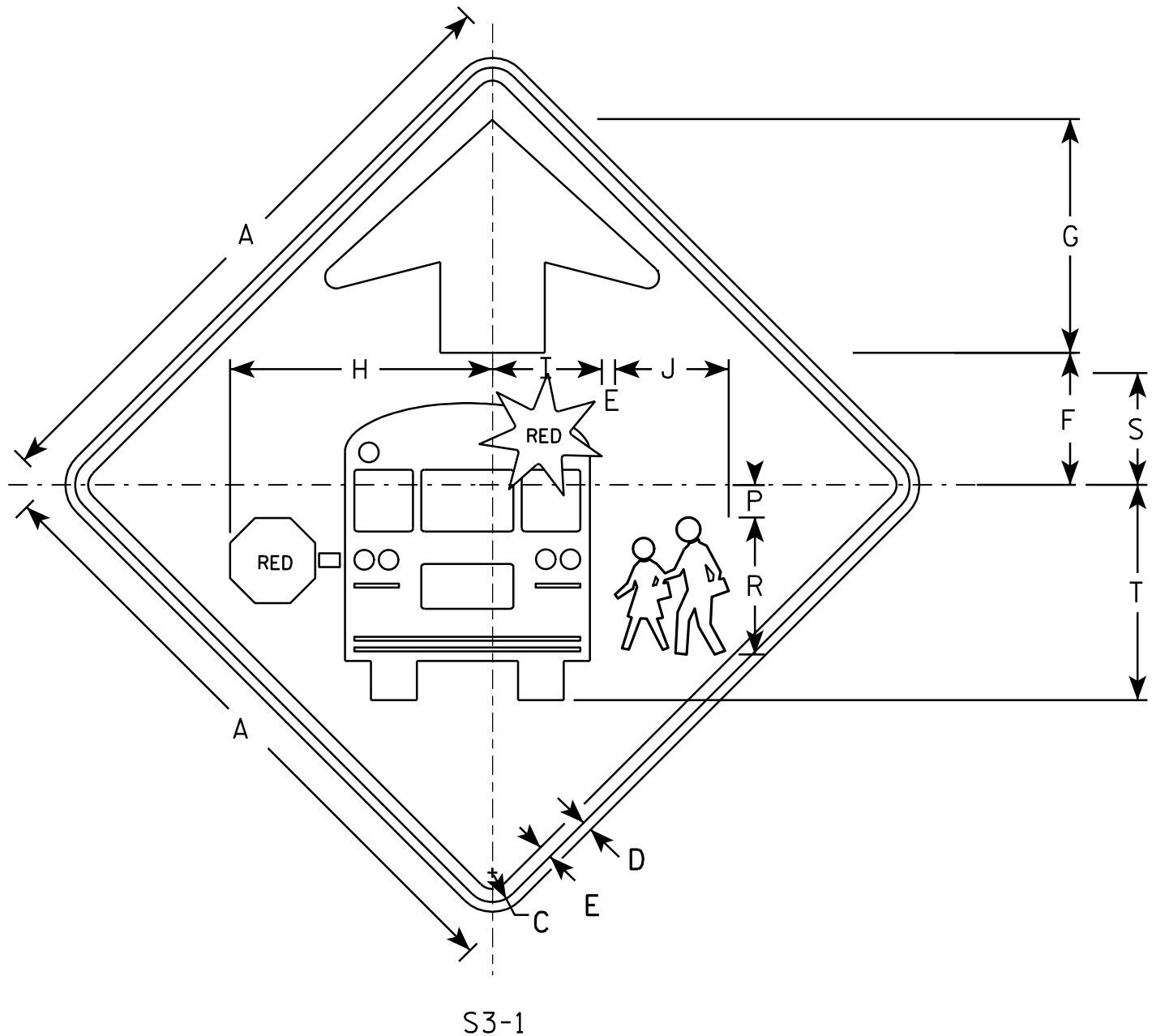
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 47

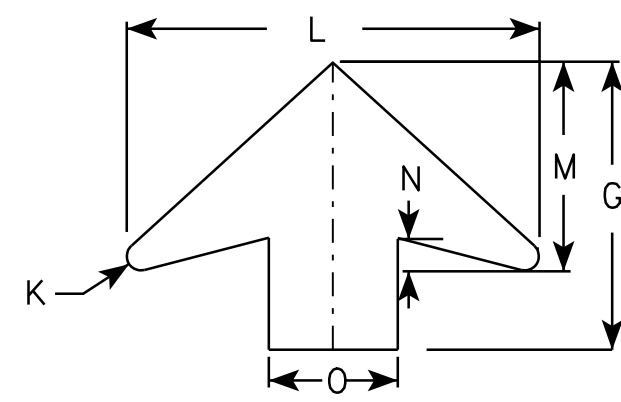
E



S3-1

### NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - YELLOW-GREEN  
Message - BLACK except as noted  
Circles except PEDS- RED BACKGROUND
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.



ARROW DETAIL

| SIZE | A  | B | C                             | D   | E   | F     | G      | H      | I     | J     | K   | L      | M     | N     | O | P     | Q | R      | S     | T      | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------------------------------|-----|-----|-------|--------|--------|-------|-------|-----|--------|-------|-------|---|-------|---|--------|-------|--------|---|---|---|---|---|---|-----------------|
| 1    | 30 |   | 1 <sup>3</sup> / <sub>8</sub> | 1/2 | 5/8 | 6 1/4 | 11 1/4 | 12 1/2 | 5 1/4 | 5 1/2 | 1/2 | 16     | 8     | 1 1/4 | 5 | 1 1/2 |   | 6 5/8  | 5 3/8 | 10 3/8 |   |   |   |   |   |   | 6.25            |
| 2    | 36 |   | 1 5/8                         | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 15 1/8 | 6 1/4 | 6 1/2 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 | 1 7/8 |   | 7 7/8  | 6 3/8 | 12 3/8 |   |   |   |   |   |   | 9.0             |
| 3    | 48 |   | 2 1/4                         | 3/4 | 1   | 10    | 17 7/8 | 20 1/8 | 8 3/8 | 8 3/4 | 7/8 | 25 5/8 | 13    | 2     | 8 | 2 1/2 |   | 10 1/2 | 8 1/2 | 16 1/2 |   |   |   |   |   |   | 16.0            |
| 4    | 48 |   | 2 1/4                         | 3/4 | 1   | 10    | 17 7/8 | 20 1/8 | 8 3/8 | 8 3/4 | 7/8 | 25 5/8 | 13    | 2     | 8 | 2 1/2 |   | 10 1/2 | 8 1/2 | 16 1/2 |   |   |   |   |   |   | 16.0            |
| 5    |    |   |                               |     |     |       |        |        |       |       |     |        |       |       |   |       |   |        |       |        |   |   |   |   |   |   |                 |

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

STANDARD SIGN  
S3-1

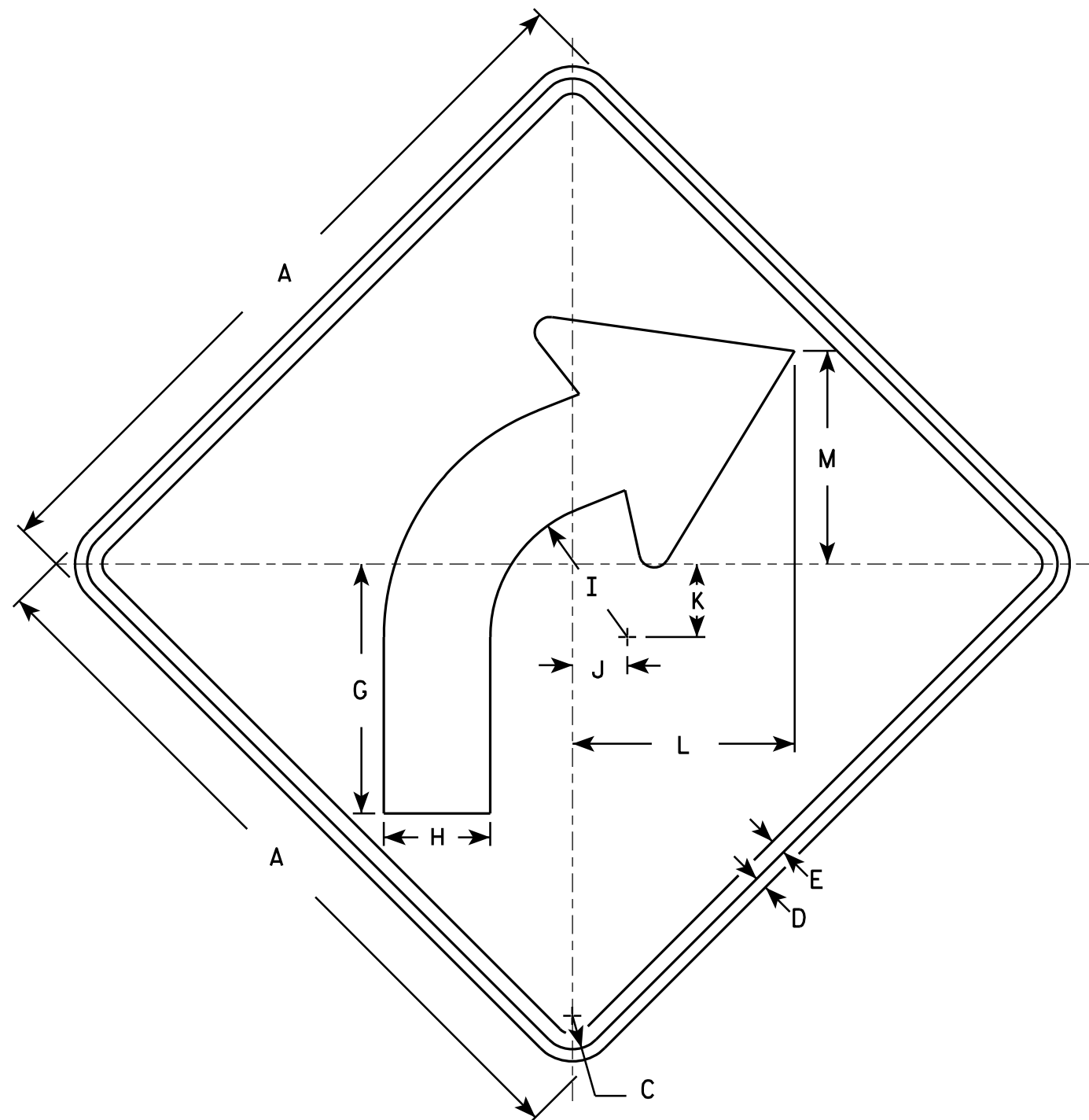
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

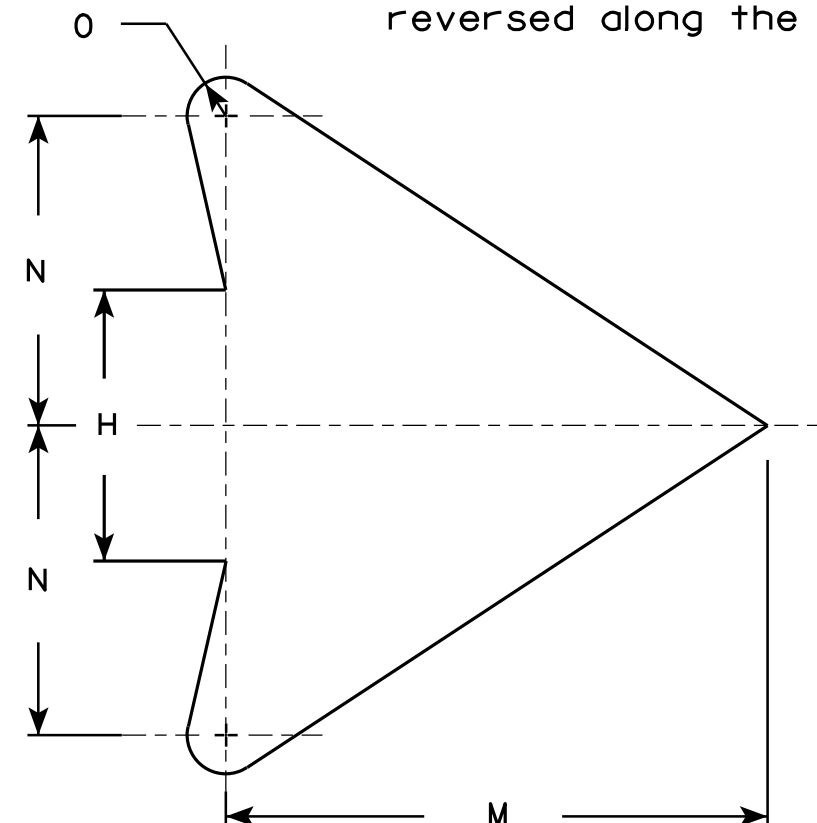
DATE 6/8/10 PLATE NO. S3-1.6

# 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. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



ARROW DETAIL

| SIZE | A  | B | C     | D   | E   | F | G      | H     | I     | J     | K     | L      | M      | N | O   | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|---|--------|-------|-------|-------|-------|--------|--------|---|-----|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 24 |   | 1 1/8 | 3/8 | 1/2 |   | 8 1/4  | 3 1/2 | 4 1/2 | 1 3/4 | 2 3/8 | 7 1/4  | 7      | 4 | 1/2 |   |   |   |   |   |   |   |   |   |   |   | 4.0             |
| 2S   | 30 |   | 1 3/8 | 1/2 | 5/8 |   | 10 1/4 | 4 3/8 | 5 5/8 | 2 1/4 | 3     | 9 1/8  | 8 3/4  | 5 | 5/8 |   |   |   |   |   |   |   |   |   |   |   | 6.25            |
| 2M   | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 36 |   | 1 5/8 | 5/8 | 3/4 |   | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   |   | 16 1/2 | 7     | 9     | 3 1/2 | 4 5/8 | 14 1/2 | 14     | 8 | 1   |   |   |   |   |   |   |   |   |   |   |   | 16.0            |

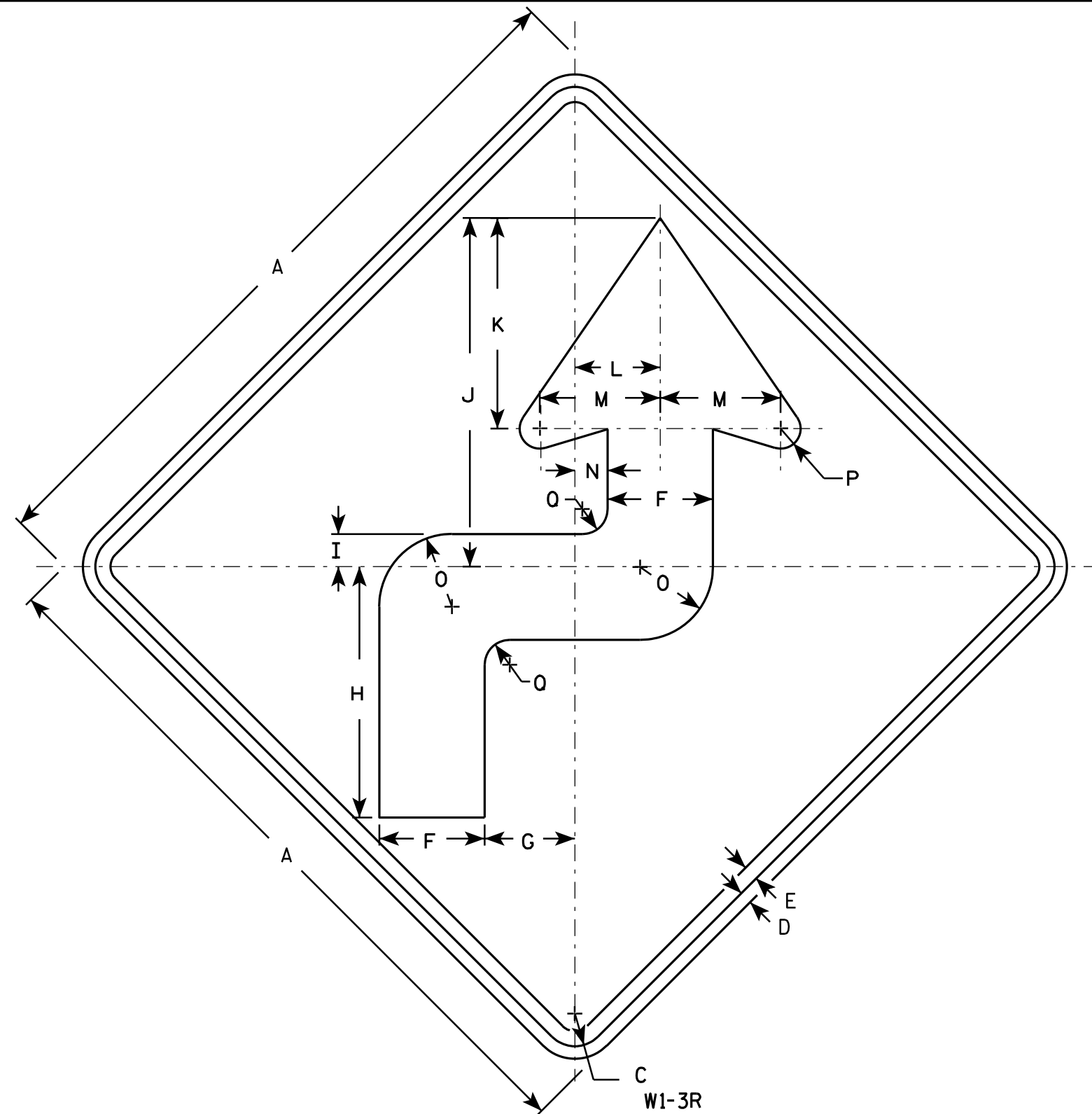
## STANDARD SIGN W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

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



### 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. W1-3L is the same as W1-3R except the arrow is reversed along the vertical centerline.

| 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    | 24 |   | 1 1/8 | 3/8 | 1/2 | 3 1/2 | 3     | 8 3/8  | 1 1/8 | 11 5/8 | 7      | 2 3/4 | 4 | 1 1/8 | 2 1/2 | 5/8   | 7/8   |   |   |   |   |   |   |   |   |   | 4.0             |
| 2S   | 36 |   | 1 5/8 | 5/8 | 3/4 | 5 1/4 | 4 1/2 | 12 1/2 | 1 5/8 | 17 3/8 | 10 1/2 | 4 1/4 | 6 | 1 5/8 | 3 5/8 | 1     | 1 1/4 |   |   |   |   |   |   |   |   |   | 9.0             |
| 2M   | 36 |   | 1 5/8 | 5/8 | 3/4 | 5 1/4 | 4 1/2 | 12 1/2 | 1 5/8 | 17 3/8 | 10 1/2 | 4 1/4 | 6 | 1 5/8 | 3 5/8 | 1     | 1 1/4 |   |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 | 5 1/4 | 4 1/2 | 12 1/2 | 1 5/8 | 17 3/8 | 10 1/2 | 4 1/4 | 6 | 1 5/8 | 3 5/8 | 1     | 1 1/4 |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 36 |   | 1 5/8 | 5/8 | 3/4 | 5 1/4 | 6     | 12 1/2 | 1 5/8 | 17 3/8 | 10 1/2 | 4 1/4 | 6 | 1 5/8 | 3 5/8 | 1     | 1 1/4 |   |   |   |   |   |   |   |   |   | 9.0             |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   | 7     | 6     | 16 5/8 | 2 1/4 | 23 1/4 | 14     | 5 5/8 | 8 | 2 1/8 | 4 7/8 | 1 1/4 | 1 5/8 |   |   |   |   |   |   |   |   |   | 16.0            |

### STANDARD SIGN W1-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 5/17/12 PLATE NO. W1-3.8

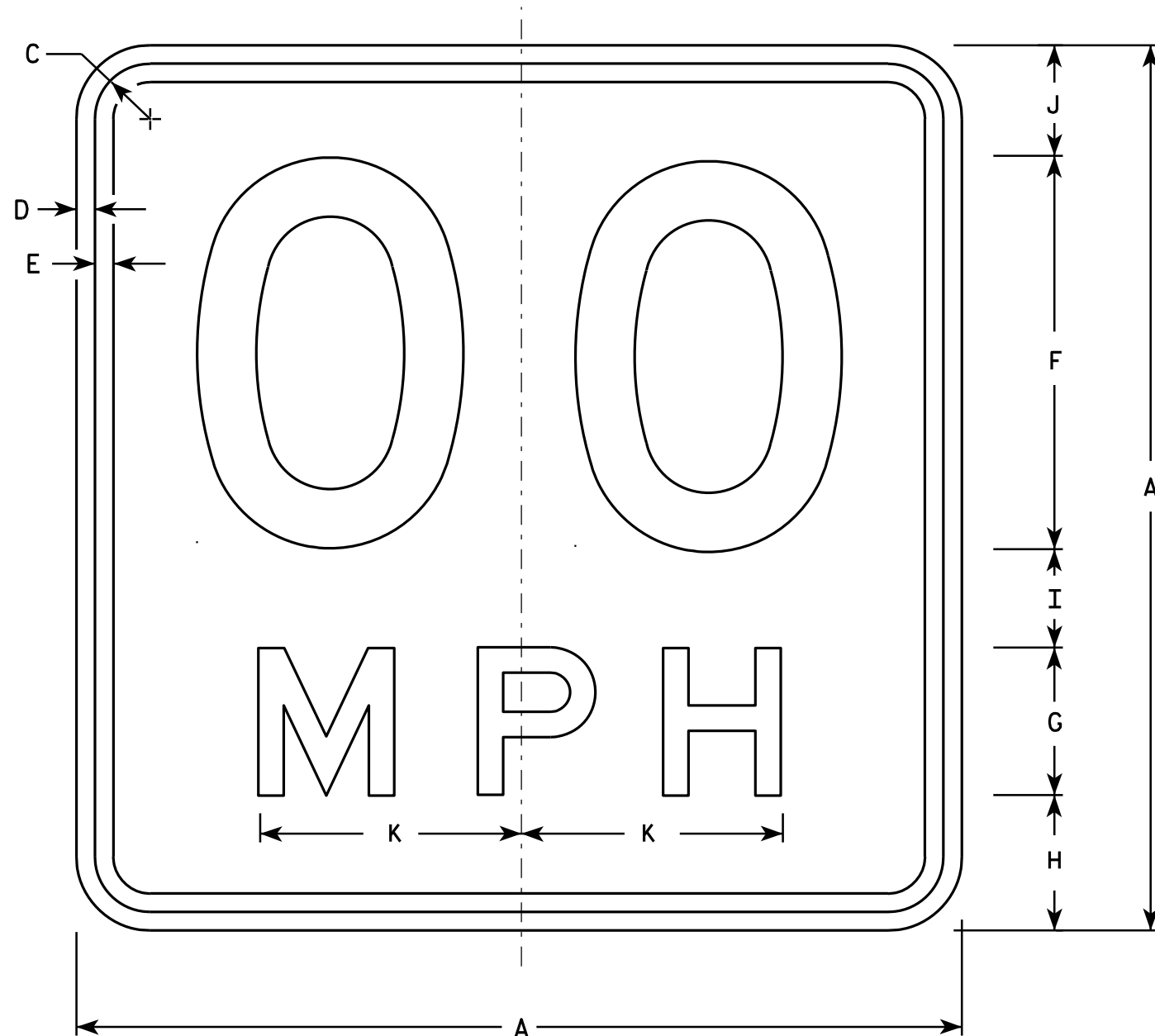
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 50

E



### 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. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D  
Line 2 is Series E

W13-1

- \* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.  
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

| 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    | 18 |   | 1 1/8 | 3/8 | 3/8 | 8  | 3 | 2 3/4 | 2     | 2 1/4 | 5 3/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.25            |
| * 2S | 18 |   | 1 1/8 | 3/8 | 3/8 | 8  | 3 | 2 3/4 | 2     | 2 1/4 | 5 3/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.25            |
| * 2M | 18 |   | 1 1/8 | 3/8 | 3/8 | 8  | 3 | 2 3/4 | 2     | 2 1/4 | 5 3/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.25            |
| 3    | 24 |   | 1 1/8 | 3/8 | 1/2 | 10 | 4 | 4     | 2 3/4 | 3 1/4 | 6 5/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.00            |
| 4    | 36 |   | 1 5/8 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4     | 4 1/2 | 10 5/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 9.00            |
| 5    | 36 |   | 1 5/8 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4     | 4 1/2 | 10 5/8 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 9.00            |

### STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

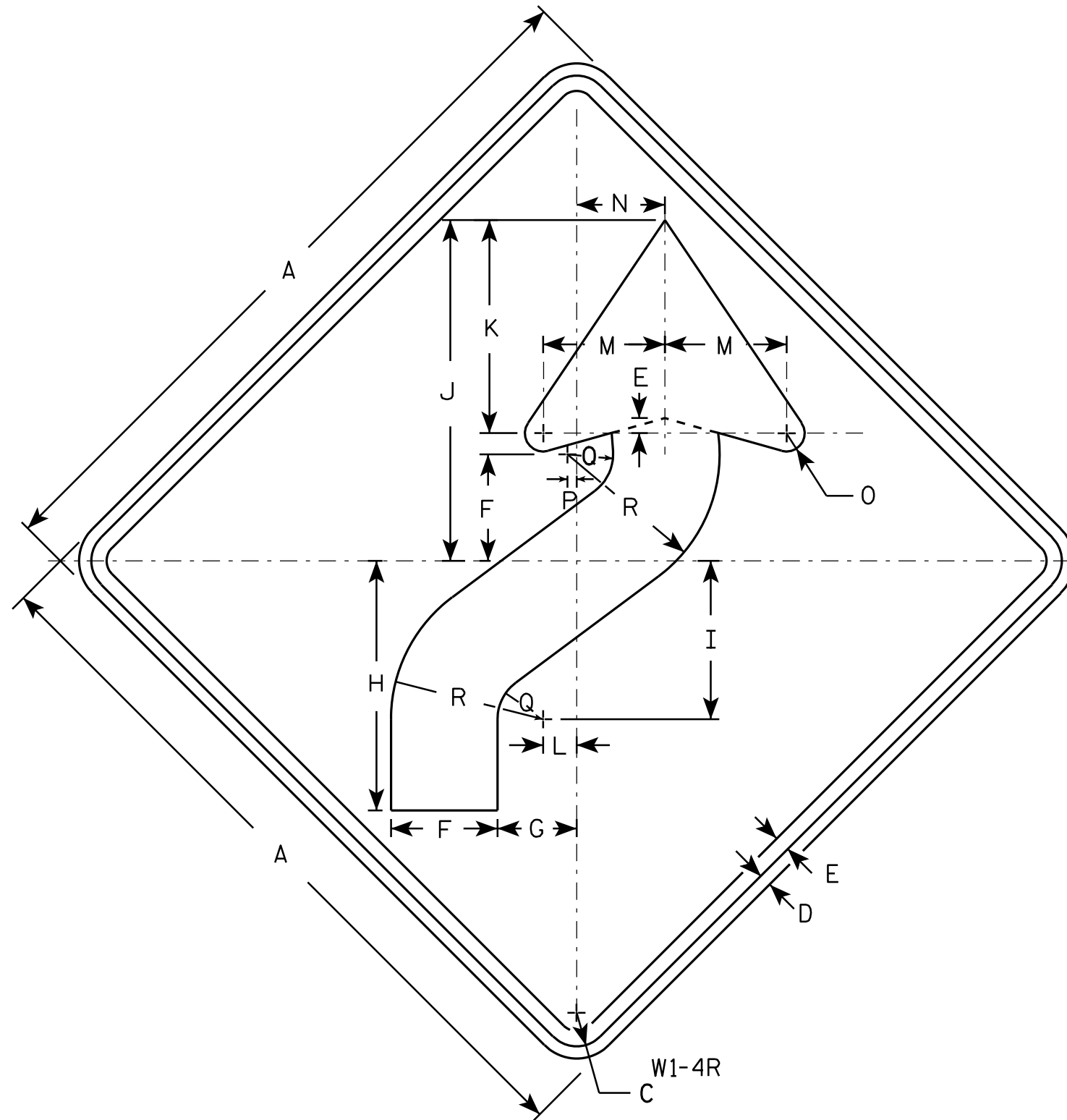
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 51

E



# NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:  
Background - Yellow  
Message - Black
- 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.
- W1-4L is the same as W1-4R except the arrow is reversed along the vertical centerline.

| 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    | 24 |   | 1 1/8 | 3/8 | 1/2 | 3 1/2 | 2 5/8 | 8 1/4  | 5 1/4  | 11 1/4 | 7      | 1 1/8 | 4 | 3     | 5/8   | 1/4 | 1 1/2 | 5     |   |   |   |   |   |   |   |   | 4.0             |
| 2S   | 30 |   | 1 3/8 | 1/2 | 5/8 | 4 3/8 | 3 1/4 | 10 1/4 | 6 1/2  | 14     | 8 3/4  | 1 3/8 | 5 | 3 5/8 | 3/4   | 3/8 | 1 7/8 | 6 1/4 |   |   |   |   |   |   |   |   | 6.25            |
| 2M   | 36 |   | 1 5/8 | 5/8 | 3/4 | 5 1/4 | 4     | 12 3/8 | 7 7/8  | 16 7/8 | 10 1/2 | 1 5/8 | 6 | 4 1/2 | 1     | 1/2 | 2 1/4 | 7 1/2 |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 | 5 1/4 | 4     | 12 3/8 | 7 7/8  | 16 7/8 | 10 1/2 | 1 5/8 | 6 | 4 1/2 | 1     | 1/2 | 2 1/4 | 7 1/2 |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 36 |   | 1 5/8 | 5/8 | 3/4 | 5 1/4 | 4     | 12 3/8 | 7 7/8  | 16 7/8 | 10 1/2 | 1 5/8 | 6 | 4 1/2 | 1     | 1/2 | 2 1/4 | 7 1/2 |   |   |   |   |   |   |   |   | 9.0             |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   | 7     | 5 1/4 | 16 1/2 | 10 1/2 | 22 1/2 | 14     | 2 1/4 | 8 | 6     | 1 1/4 | 5/8 | 3     | 10    |   |   |   |   |   |   |   |   | 16.0            |

## STANDARD SIGN

W1 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/17/12 PLATE NO. W1-4.11

PROJECT NO:

HWY:

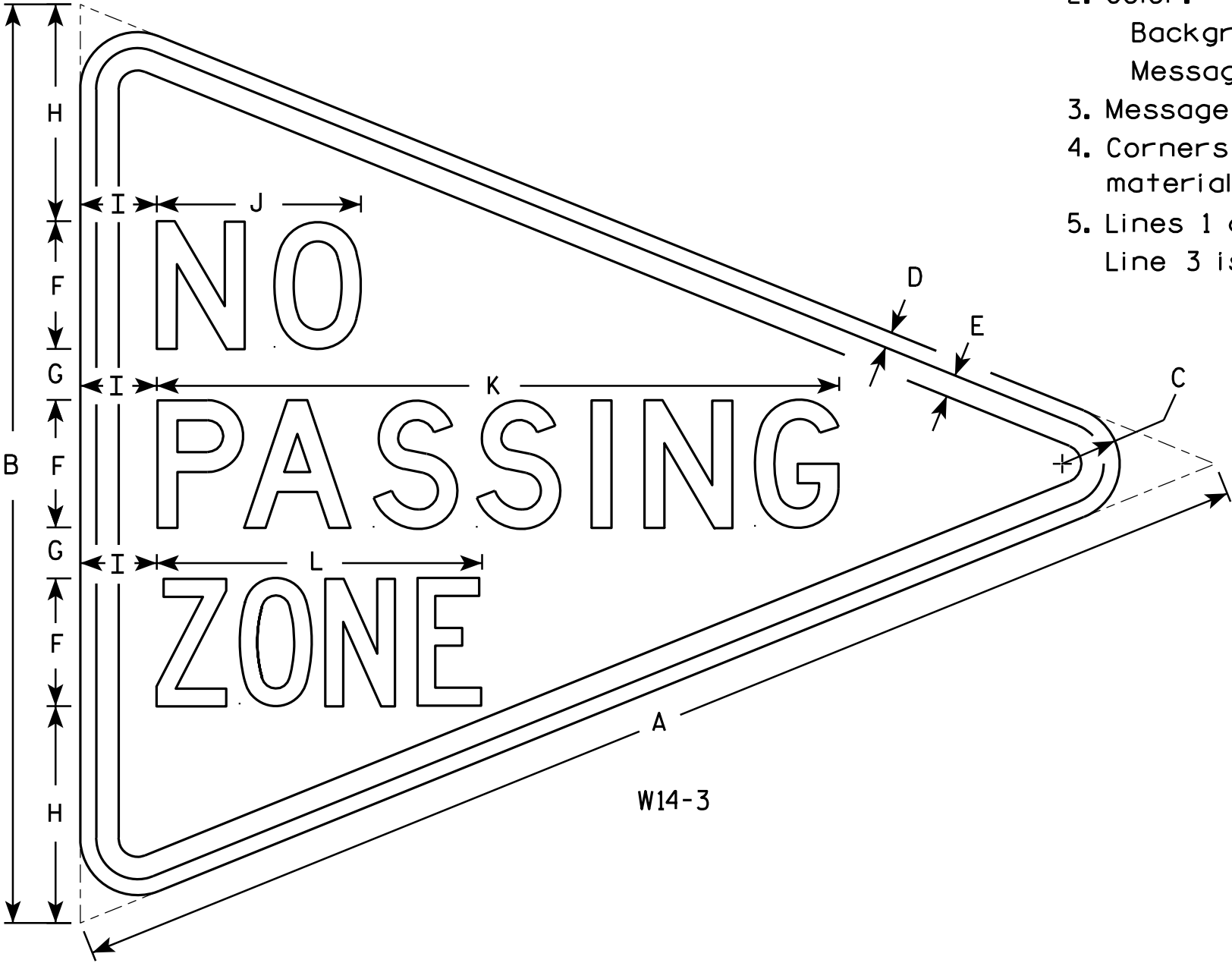
COUNTY:

SHEET NO: 52

E

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. Message Series - See note 5
- 4. Corners and borders shall be rounded on all base materials for this sign.
- 5. Lines 1 and 2 are Series D.  
Line 3 is series C.



W14-3

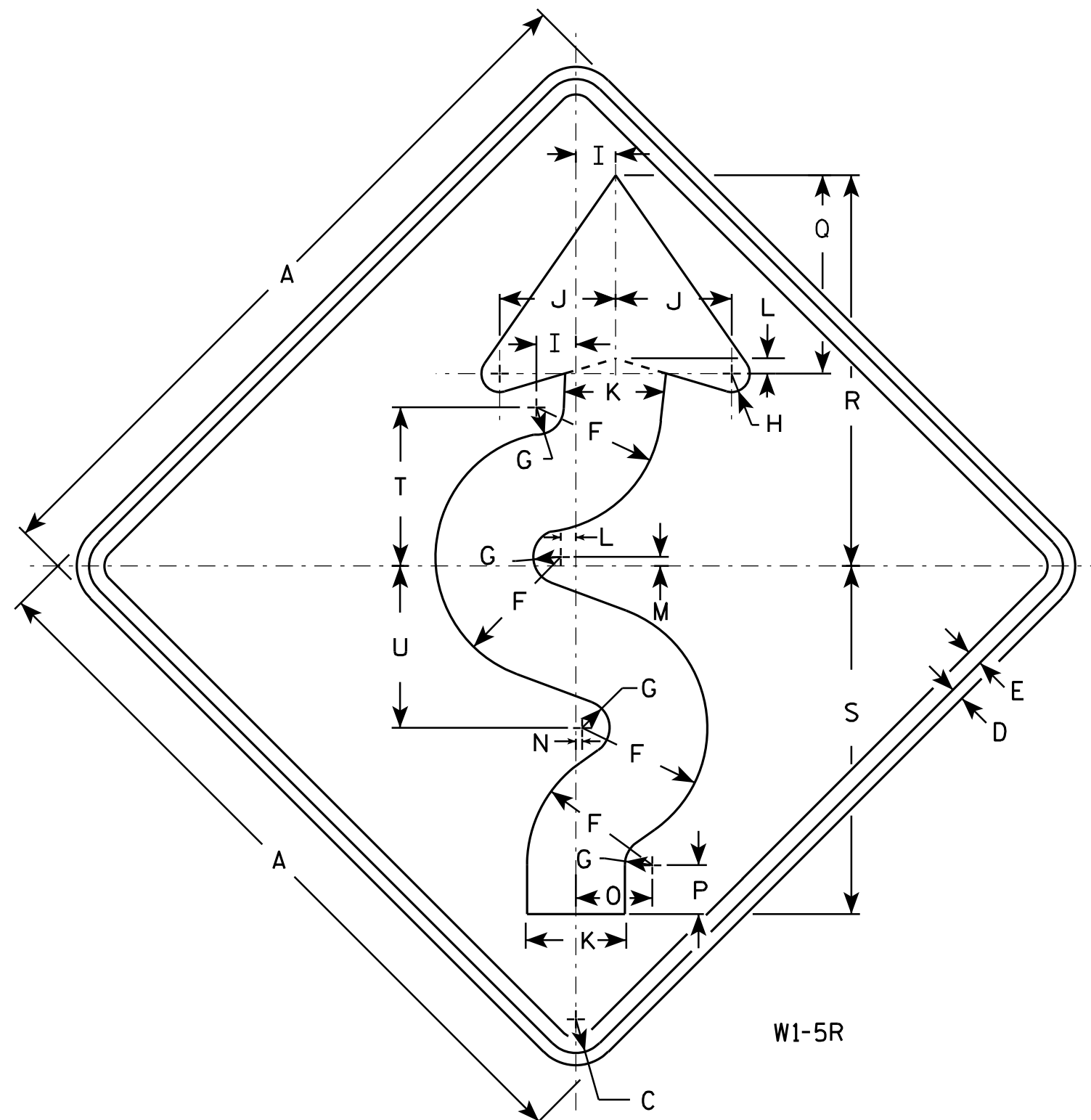
| SIZE | A  | B  | C     | D   | E     | F | G | H     | I | J      | K      | L      | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-------|---|---|-------|---|--------|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |       |   |   |       |   |        |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 48 | 36 | 2 1/4 | 5/8 | 7/8   | 5 | 2 | 8 1/2 | 3 | 8      | 26 3/4 | 12 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.0             |
| 2M   | 48 | 36 | 2 1/4 | 5/8 | 7/8   | 5 | 2 | 8 1/2 | 3 | 8      | 26 3/4 | 12 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.0             |
| 3    | 64 | 48 | 3     | 3/4 | 1 1/4 | 6 | 3 | 12    | 4 | 10 3/4 | 33 5/8 | 16 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 10.7            |
| 4    |    |    |       |     |       |   |   |       |   |        |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |       |   |   |       |   |        |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9



### 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. W1-5L is the same as W1-5R except the arrow is reversed along the vertical centerline.

W1-5R

| SIZE | A  | B | C     | D   | E   | F     | G     | H     | I     | J     | K     | L   | M   | N   | O     | P     | O     | R      | S      | T      | U      | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|-------|-------|-------|-------|-------|-------|-----|-----|-----|-------|-------|-------|--------|--------|--------|--------|---|---|---|---|---|-----------------|
| 1    | 24 |   | 1 1/8 | 3/8 | 1/2 | 4 1/8 | 7/8   | 5/8   | 1 1/4 | 3 3/4 | 3 1/4 | 1/2 | 1/4 | 1/8 | 2 1/2 | 1 5/8 | 6 1/2 | 12 3/4 | 11 3/8 | 5 1/4  | 5 1/4  |   |   |   |   |   | 4.0             |
| 2S   | 30 |   | 1 3/8 | 1/2 | 5/8 | 5 1/8 | 1 1/8 | 3/4   | 1 5/8 | 4 3/4 | 4 1/8 | 5/8 | 3/8 | 1/4 | 3 1/8 | 2     | 8 1/8 | 16     | 14 1/4 | 6 1/2  | 6 5/8  |   |   |   |   |   | 6.25            |
| 2M   | 36 |   | 1 5/8 | 5/8 | 3/4 | 6 1/4 | 1 3/8 | 1     | 1 7/8 | 5 5/8 | 4 7/8 | 3/4 | 3/8 | 1/4 | 3 3/4 | 2 7/8 | 9 3/4 | 19 1/8 | 17 1/8 | 7 3/4  | 7 7/8  |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 | 6 1/4 | 1 3/8 | 1     | 1 7/8 | 5 5/8 | 4 7/8 | 3/4 | 3/8 | 1/4 | 3 3/4 | 2 7/8 | 9 3/4 | 19 1/8 | 17 1/8 | 7 3/4  | 7 7/8  |   |   |   |   |   | 9.0             |
| 4    | 36 |   | 1 5/8 | 5/8 | 3/4 | 6 1/4 | 1 3/8 | 1     | 1 7/8 | 5 5/8 | 4 7/8 | 3/4 | 3/8 | 1/4 | 3 3/4 | 2 7/8 | 9 3/4 | 19 1/8 | 17 1/8 | 7 3/4  | 7 7/8  |   |   |   |   |   | 9.0             |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   | 8 1/4 | 1 3/4 | 1 1/4 | 2 1/2 | 7 1/2 | 6 1/2 | 1   | 1/2 | 3/8 | 5     | 3 1/4 | 13    | 25 1/2 | 22 3/4 | 10 3/8 | 10 1/2 |   |   |   |   |   | 16.0            |

### STANDARD SIGN W1-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/18/12

PLATE NO. W1-5.8

PROJECT NO:

HWY:

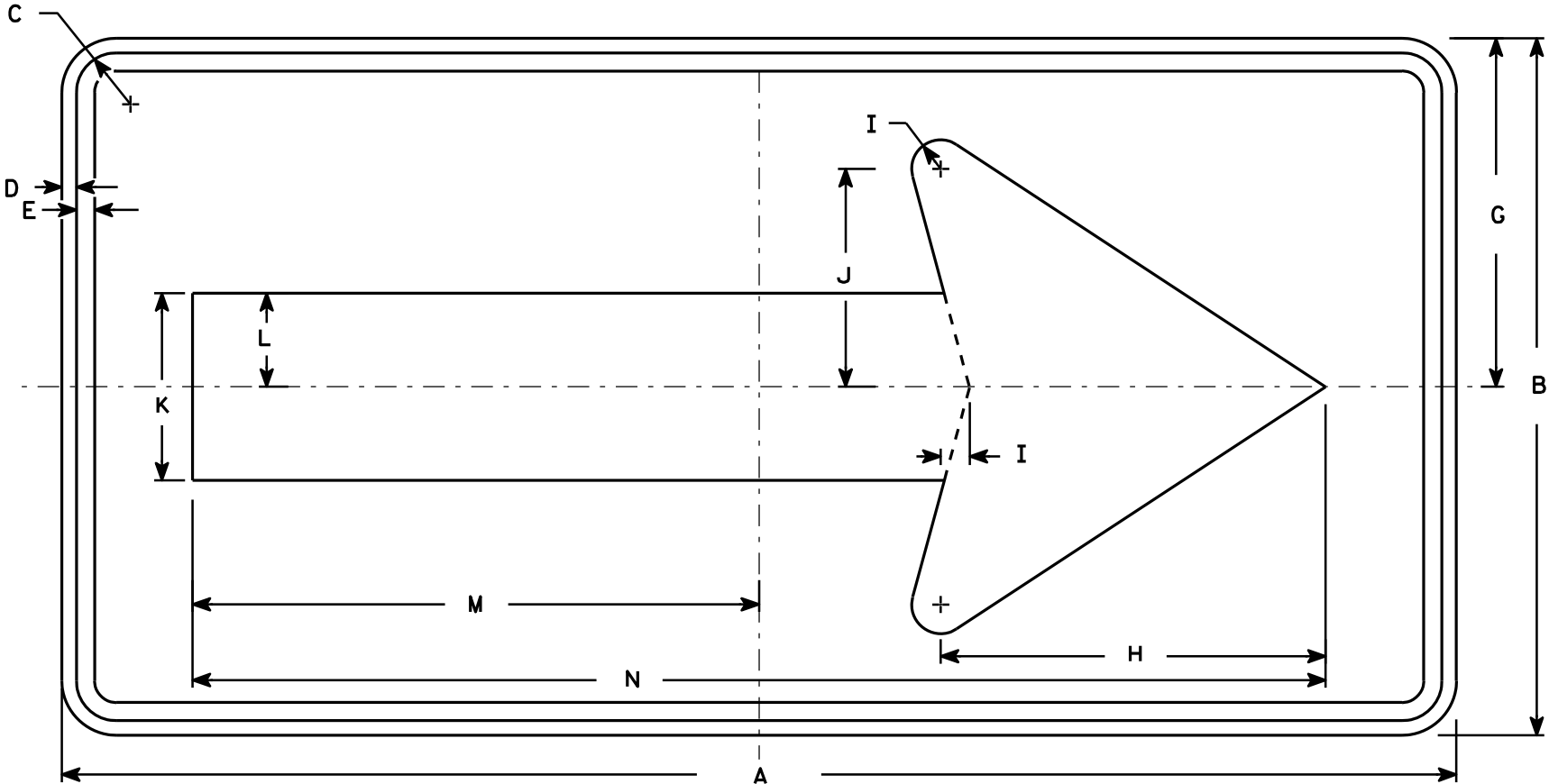
COUNTY:

SHEET NO: 54

E

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.



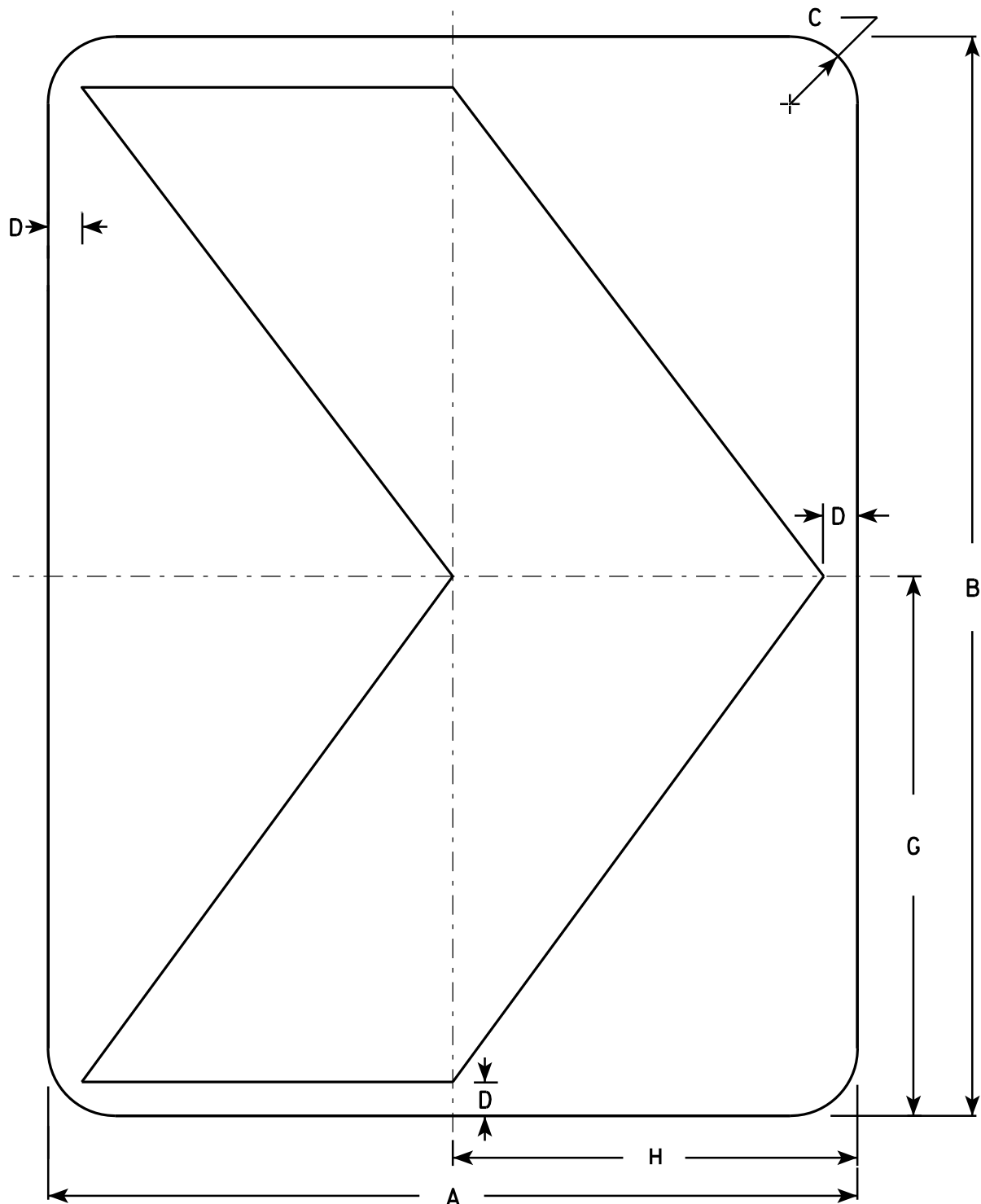
W1-6

| SIZE | A  | B  | C     | D   | E   | F | G  | H      | I     | J     | K     | L     | M      | N      | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|----|--------|-------|-------|-------|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 36 | 18 | 1 1/8 | 3/8 | 3/8 |   | 9  | 10     | 3/4   | 5 5/8 | 4 3/4 | 2 3/8 | 14 5/8 | 29 1/4 |   |   |   |   |   |   |   |   |   |   |   |   | 4.5             |
| 2S   | 48 | 24 | 1 3/8 | 1/2 | 5/8 |   | 12 | 13 1/4 | 1     | 7 1/2 | 6 1/2 | 3 1/4 | 19 1/2 | 39     |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 2M   | 48 | 24 | 1 3/8 | 1/2 | 5/8 |   | 12 | 13 1/4 | 1     | 7 1/2 | 6 1/2 | 3 1/4 | 19 1/2 | 39     |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 3    | 60 | 30 | 1 3/8 | 1/2 | 5/8 |   | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8     | 4     | 24 3/8 | 48 3/4 |   |   |   |   |   |   |   |   |   |   |   |   | 12.5            |
| 4    | 60 | 30 | 1 3/8 | 1/2 | 5/8 |   | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8     | 4     | 24 3/8 | 48 3/4 |   |   |   |   |   |   |   |   |   |   |   |   | 12.5            |
| 5    | 96 | 48 | 2 1/4 | 3/4 | 1   |   | 24 | 26 1/2 | 2     | 15    | 13    | 6 1/2 | 39     | 78     |   |   |   |   |   |   |   |   |   |   |   |   | 32.0            |

STANDARD SIGN  
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 6/7/10 PLATE NO. W1-6.8



### 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.

W1-8

| 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    | 12 | 18 | 1 1/2 | 1/2   |   |   | 9  | 6  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1.5             |
| 2S   | 18 | 24 | 1 1/2 | 3/4   |   |   | 12 | 9  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 2M   | 18 | 24 | 1 1/2 | 3/4   |   |   | 12 | 9  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 3    | 24 | 30 | 1 1/2 | 1     |   |   | 15 | 12 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 5.0             |
| 4    | 30 | 36 | 1 7/8 | 1 1/4 |   |   | 18 | 15 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.5             |
| 5    | 36 | 48 | 2 1/4 | 1 1/2 |   |   | 24 | 18 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 12.0            |

### STANDARD SIGN

W1-8

WISCONSIN DEPT OF TRANSPORTATION

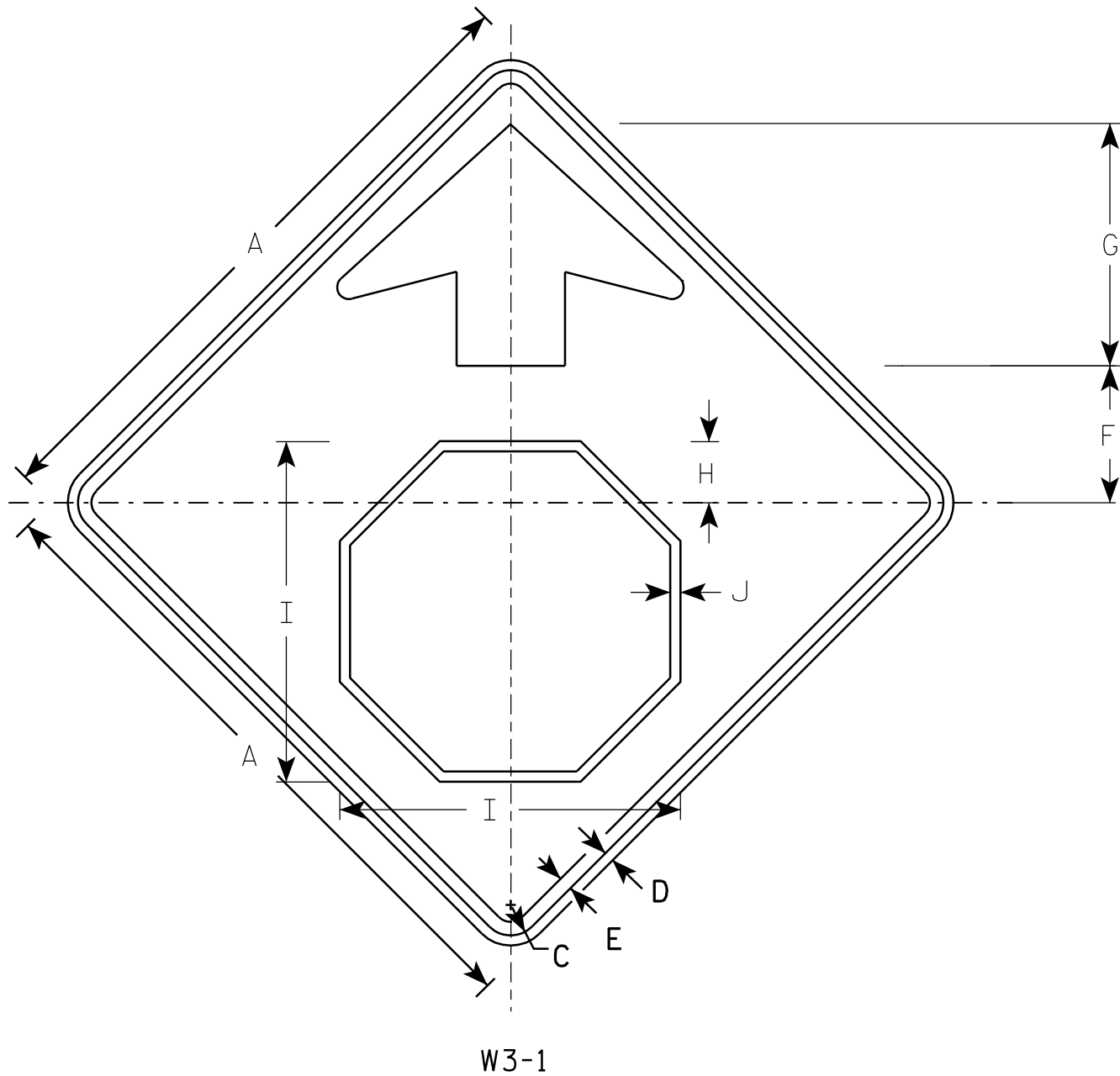
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-8.6

PROJECT NO:

SHEET NO: 56

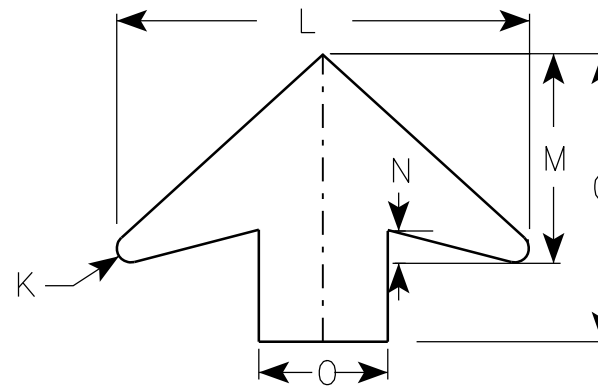
E



W3-1

### NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - YELLOW  
Arrow & Border - BLACK  
Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

| SIZE | A  | B | C     | D   | E   | F     | G      | H     | I      | J   | K   | L      | M     | N     | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|-------|--------|-------|--------|-----|-----|--------|-------|-------|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 30 |   | 1 3/8 | 1/2 | 5/8 | 6 1/4 | 11 1/4 | 2 7/8 | 15 3/4 | 1/2 | 1/2 | 16     | 8     | 1 1/4 | 5 |   |   |   |   |   |   |   |   |   |   |   | 6.25            |
| 2S   | 36 |   | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19     | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 2M   | 36 |   | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19     | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19     | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 48 |   | 2 1/4 | 3/4 | 1   | 10    | 17 7/8 | 4 1/2 | 25 1/8 | 3/4 | 7/8 | 25 5/8 | 13    | 2     | 8 |   |   |   |   |   |   |   |   |   |   |   | 16.0            |
| 5    | 48 |   | 2 1/4 | 3/4 | 1   | 10    | 17 7/8 | 4 1/2 | 25 1/8 | 3/4 | 7/8 | 25 5/8 | 13    | 2     | 8 |   |   |   |   |   |   |   |   |   |   |   | 16.0            |

PROJECT NO:

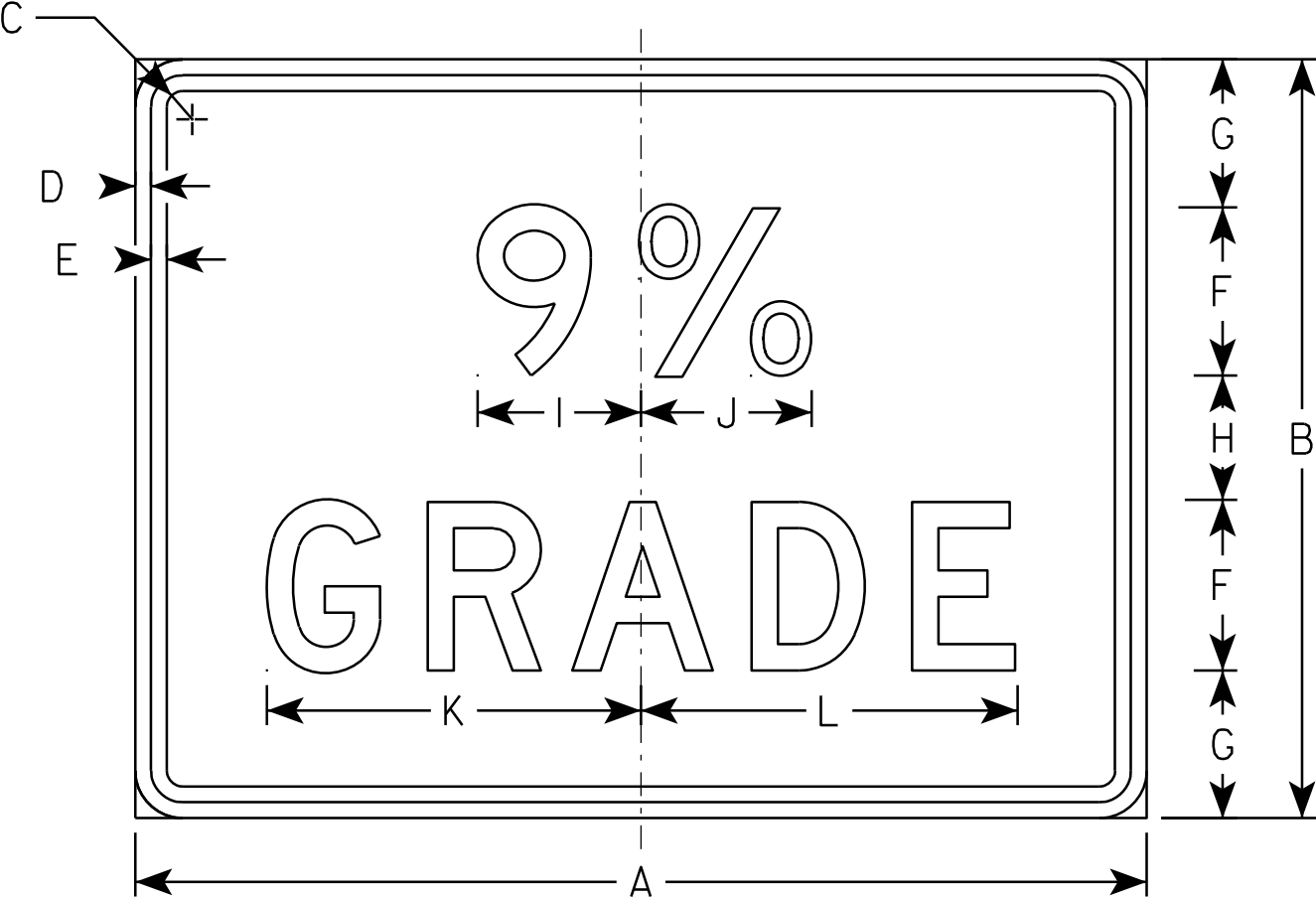
STANDARD SIGN  
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 6/7/10 PLATE NO. W3-1.12

SHEET NO: 57

E



W7-3

NOTES

- 1. Sign is Type II - Type H 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. Substitute appropriate numeral and optically adjust spacing to achieve proper balance.

| SIZE | A  | B  | C     | D   | E   | F | G     | H | I     | J | K     | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|---|-------|---|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |       |   |       |   |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 24 | 18 | 1 1/8 | 3/8 | 3/8 | 4 | 3 1/2 | 3 | 3 7/8 | 4 | 8 7/8 | 9 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 2M   | 24 | 18 | 1 1/8 | 3/8 | 3/8 | 4 | 3 1/2 | 3 | 3 7/8 | 4 | 8 7/8 | 9 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 3    |    |    |       |     |     |   |       |   |       |   |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 4    |    |    |       |     |     |   |       |   |       |   |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |     |   |       |   |       |   |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
W7-3

WISCONSIN DEPT OF TRANSPORTATION

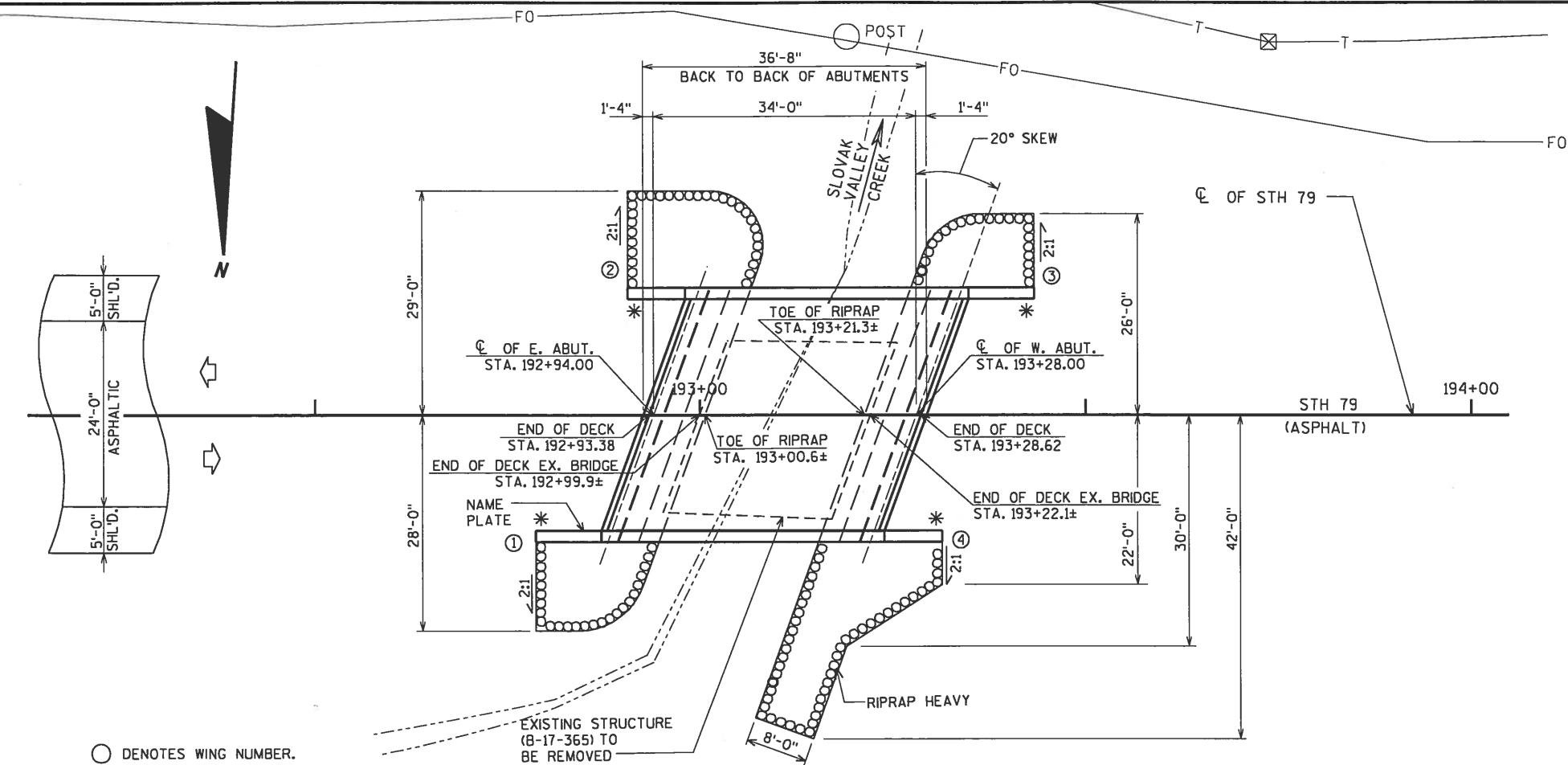
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/22/11 PLATE NO. W7-3.3

\$PRNAME\$  
U:\42-0817.00 - Dunn County, STH 79, Slovak Valley Creek±BRIDGE±420817gp.dgn

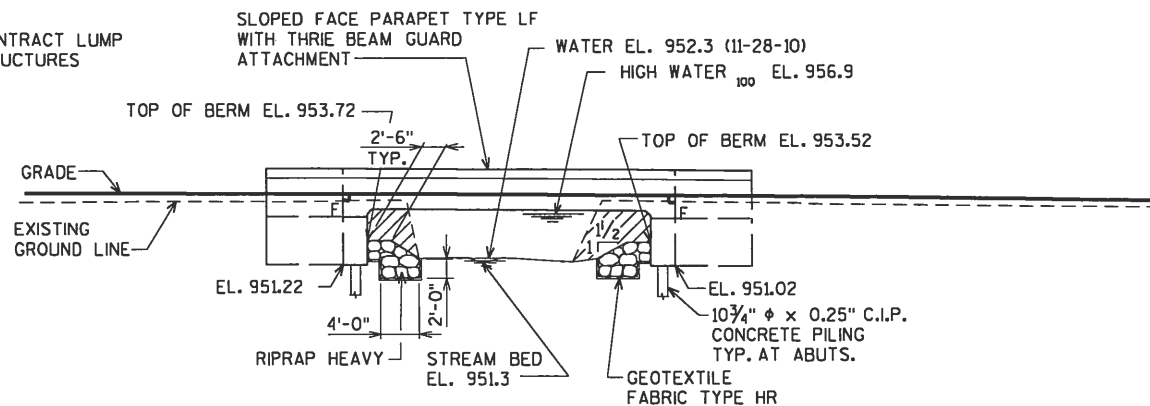
DATE: \_\_\_\_\_  
DATE: \_\_\_\_\_  
DATE: \_\_\_\_\_  
  
CHECKED BY: \_\_\_\_\_  
BACK CHECKED BY: \_\_\_\_\_  
CORRECTED BY: \_\_\_\_\_

8

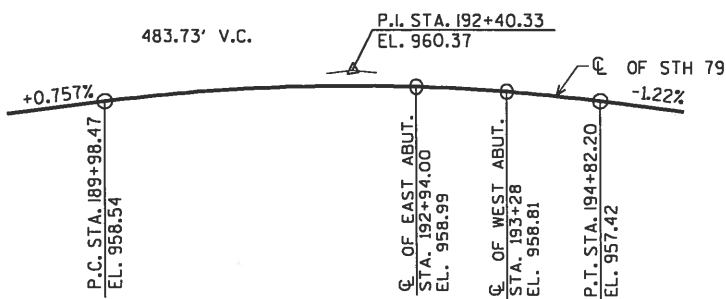


**PLAN**  
SINGLE SPAN CONCRETE FLAT SLAB

/// COST OF EXCAVATION IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-17-364".



**ELEVATION**  
(NORMAL TO C OF CREEK)



**PROFILE GRADE LINE**  
(STH 79)

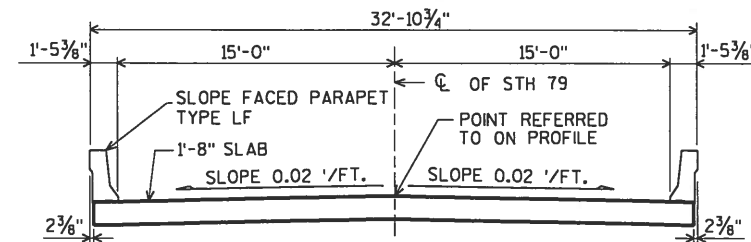
BENCH MARK:  
BLUE PAINTED CHISELED SQUARE  
ON CONCRETE  
EL. 928.28  
STA. 193+17, 13' RT.

**LIST OF DRAWINGS**

1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. SUBSURFACE EXPLORATION
4. EAST ABUTMENT
5. EAST ABUTMENT WING DETAILS
6. WEST ABUTMENT
7. WEST ABUTMENT WING DETAILS
8. ABUTMENT DETAILS
9. SUPERSTRUCTURE
10. SLOPE FACED PARAPET LF

STATE PROJECT NUMBER

8640-02-71



**CROSS SECTION THRU ROADWAY**

**DESIGN DATA**

**LIVE LOAD:**

DESIGN RATING: HL-93  
INVENTORY RATING FACTOR: 1.12  
OPERATING RATING FACTOR: 1.45  
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS

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

**ULTIMATE DESIGN STRESSES:**

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.

**HYDRAULIC DATA:**

**100 YEAR FLOOD**

DRAINAGE AREA = 3.6 sq. mi.  
WATERWAY AREA = 87 sq. ft.  
V = 6.9 f.p.s.  
Q = 600 c.f.s.

HIGH WATER<sub>100</sub> EL. 956.9  
HIGH WATER<sub>2</sub> EL. 955.1  
SCOUR CRITICAL CODE = 8

NAVD 88 DATUM

**FOUNDATION DATA:**

ABUTMENTS TO BE SUPPORTED ON 10 3/4" x 0.25" C.I.P. CONCRETE PILING WITH A  
REQUIRED DRIVING RESISTANCE OF 130 TONS ± PER PILE.

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

**TRAFFIC DATA:**

A.D.T. = 550 (2013)  
A.D.T. = 700 (2033)  
R.D.S. = 60 M.P.H.



BUREAU OF STRUCTURES CONTACT:  
WILLIAM DREHER  
(608)-266-8489

CONSULTANT CONTACT:  
DAN SYDOW  
(715)-834-3161

|                                                                                                                                  |      |                   |                     |
|----------------------------------------------------------------------------------------------------------------------------------|------|-------------------|---------------------|
| NO.                                                                                                                              | DATE | REVISION          | BY                  |
| ORIGINAL PLANS PREPARED BY<br><b>AYRES ASSOCIATES</b> 3433 Oakwood Hills Parkway<br>Eau Claire, WI 54701 www.AyresAssociates.com |      |                   |                     |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION                                                                               |      |                   |                     |
| ACCEPTED <i>William C. Dreher</i> KAR                                                                                            |      | 02/11/13<br>DATE  |                     |
| CHIEF STRUCTURES DESIGN ENGINEER                                                                                                 |      |                   |                     |
| <b>STRUCTURE B-17-364</b>                                                                                                        |      |                   |                     |
| STH 79 OVER SLOVAK VALLEY CREEK                                                                                                  |      |                   |                     |
| COUNTY                                                                                                                           | DUNN | TOWN/CITY/VILLAGE | TIFFANY             |
| DESIGN SPEC.<br>AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS                                                                         |      |                   |                     |
| DESIGNED BY                                                                                                                      | DNS  | DESIGN CK'D.      | KLW                 |
| DRAWN BY                                                                                                                         | JMM  | PLANS CK'D.       | DNS                 |
| <b>GENERAL PLAN</b>                                                                                                              |      |                   | SHEET 1 OF 10<br>59 |

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\$PRNAME\$  
U:\42-0817.00 - Dunn County, STH 79, Slovak Valley Creek#BRDGE#420817gp.dgn

STATE PROJECT NUMBER

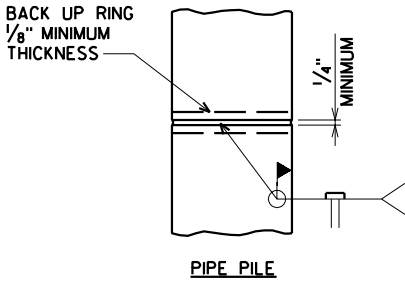
8640-02-71

TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS                                           | UNIT | E. ABUT. | W. ABUT. | SUPER. | TOTAL       |
|-----------------|-----------------------------------------------------|------|----------|----------|--------|-------------|
| 203.0500.S      | REMOVING OLD STRUCTURE OVER WATERWAY STATION 193+11 | LS   | -----    | -----    | -----  | 1           |
| 206.1000        | EXCAVATION FOR STRUCTURES BRIDGES B-17-364          | LS   | -----    | -----    | -----  | 1           |
| 210.0100        | BACKFILL STRUCTURE                                  | CY   | 70       | 70       | -----  | 140         |
| 502.0100        | CONCRETE MASONRY BRIDGES                            | CY   | 29.3     | 29.4     | 84.3   | 143         |
| 502.3200        | PROTECTIVE SURFACE TREATMENT                        | SY   | -----    | -----    | 165    | 165         |
| 505.0405        | BAR STEEL REINFORCEMENT HS BRIDGES                  | LB   | 1900     | 1900     | -----  | 3800        |
| 505.0605        | BAR STEEL REINFORCEMENT HS COATED BRIDGES           | LB   | 1460     | 1460     | 13260  | 16180       |
| 516.0500        | RUBBERIZED MEMBRANE WATERPROOFING                   | SY   | 9        | 9        | -----  | 18          |
| 550.2104        | PILING CIP CONCRETE 10 3/4 x 0.25-INCH              | LF   | 350      | 350      | -----  | 700         |
| 606.0300        | RIPRAP HEAVY                                        | CY   | 50       | 55       | -----  | 105         |
| 612.0406        | PIPE UNDERDRAIN WRAPPED 6-INCH                      | LF   | 70       | 70       | -----  | 140         |
| 614.0150        | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD        | EACH | 2        | 2        | -----  | 4           |
| 645.0120        | GEOTEXTILE FABRIC TYPE HR                           | SY   | 125      | 140      | -----  | 265         |
|                 |                                                     |      |          |          |        |             |
|                 | NON-BID ITEMS                                       |      |          |          |        |             |
|                 | FILLER                                              | SIZE | -----    | -----    | -----  | 1/2" & 3/4" |
|                 |                                                     |      |          |          |        |             |
|                 |                                                     |      |          |          |        |             |

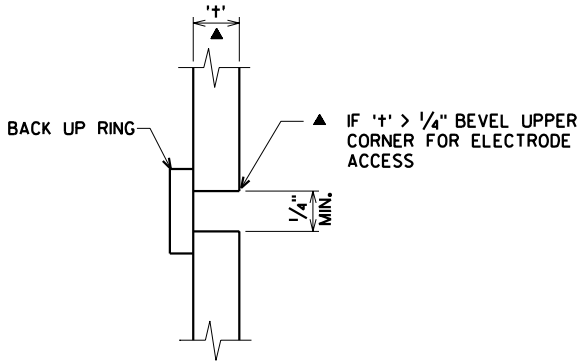
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.  
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.  
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.  
JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.  
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.  
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES UNLESS OTHERWISE APPROVED BY THE ENGINEER.  
THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.  
THE EXISTING STRUCTURE, B-17-365, TO BE REMOVED, IS A TWIN-CELL CONCRETE BOX CULVERT, 23.1 FEET LONG WITH TWO 10 FOOT WIDE BY 5.3 FOOT TALL CELLS.  
AT BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.  
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF SLAB AND THE INSIDE FACE AND TOP OF PARAPETS.



PILE SPICE DETAIL

CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.  
GRINDING MAY BE USED IN LIEU OF BACKGOUGING.



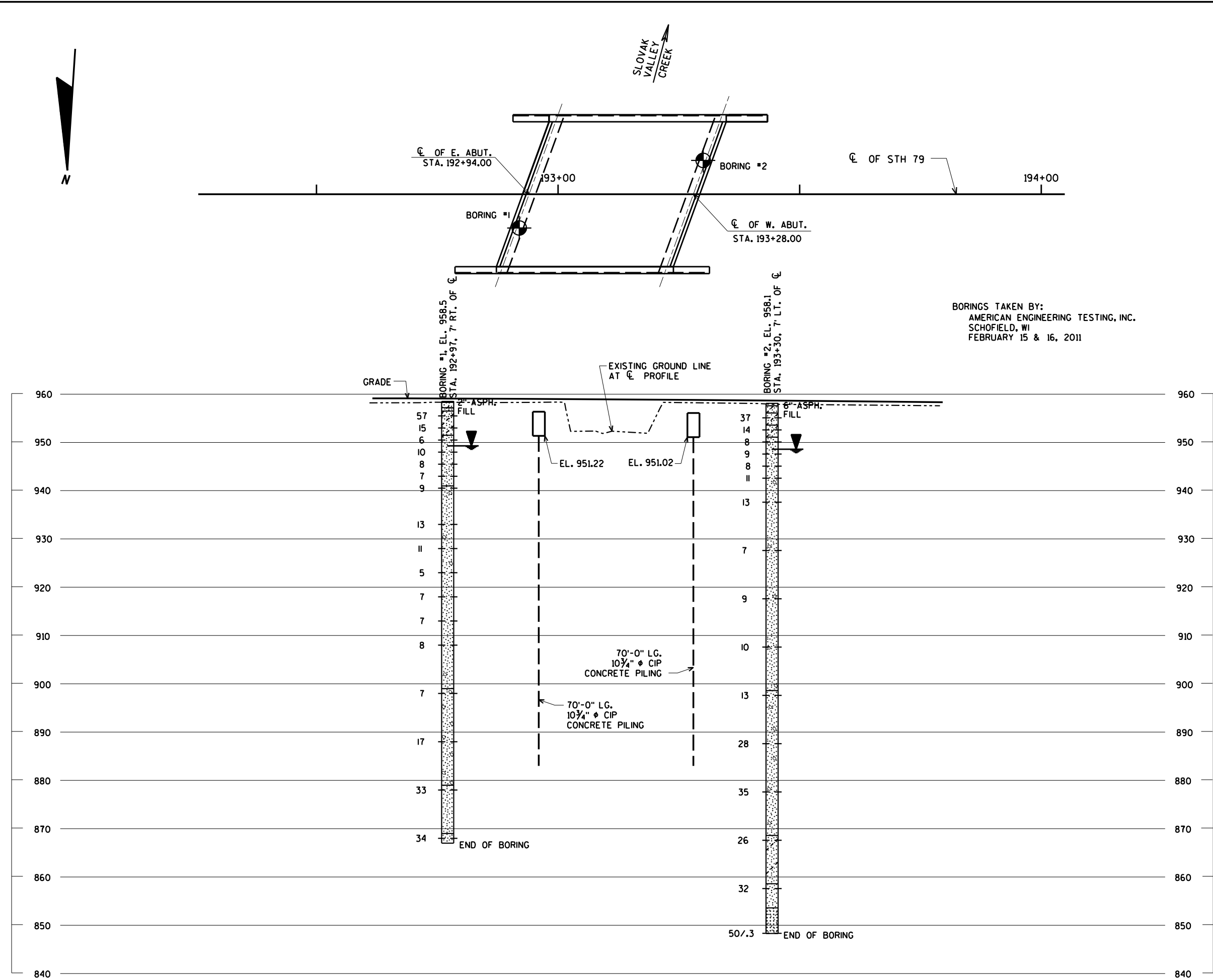
CIP PILE WELD DETAIL

|                                                                                 |      |                     |                 |
|---------------------------------------------------------------------------------|------|---------------------|-----------------|
|                                                                                 |      |                     |                 |
| NO.                                                                             | DATE | REVISION            | BY              |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |      |                     |                 |
| STRUCTURE B-17-364                                                              |      |                     |                 |
| DRAWN BY                                                                        |      | JMM                 | PLANS CK'D. DNS |
| QUANTITIES AND NOTES                                                            |      | SHEET 2 OF 10<br>60 |                 |

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com

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4/20817/sl.dgn

8



BORINGS TAKEN BY:  
AMERICAN ENGINEERING TESTING, INC.  
SCHOFIELD, WI  
FEBRUARY 15 & 16, 2011

STATE PROJECT NUMBER

8640-02-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE  
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE  
SAND PEAT LIMESTONE  
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.  
STA.  
ELEVATION  
95/6=95 BLOWS FOR 6"  
PENETRATION  
PROBING TAKEN WITH  
A 350" WT.  
FALLING 18" ON A 2"  
O.D. POINT.  
7 AVERAGE BLOWS PER FOOT  
REFUSAL 95/6

LEGEND OF BORING

ELEV. BORING NO.  
STA.  
UNCONFINED STRENGTH 7.7  
BLOWS PER FT. USING 140" WT. FALLING 30"  
WASH SAMPLE  
SHELBY TUBE — S.T.  
GROUND WATER ELEVATION  
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION  
SANDY GRAVEL  
F. BOULDERS OR COBBLES  
SAND  
SILTY CLAY  
SO  
LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140" HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

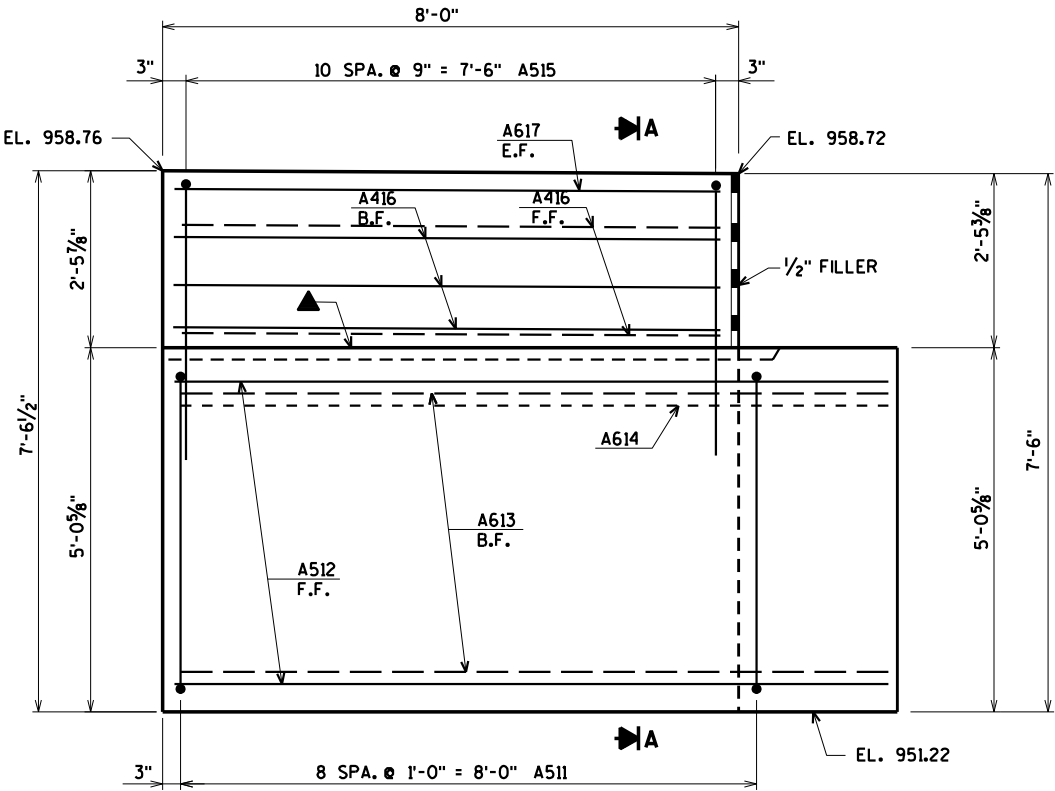
TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

8

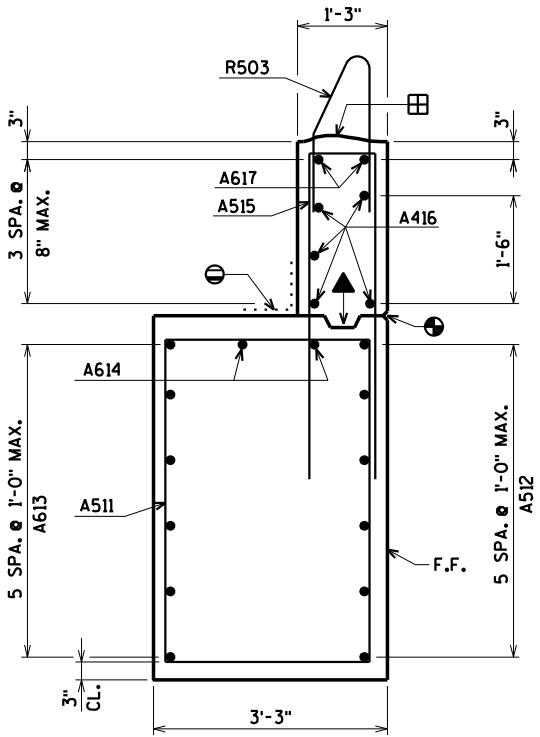
|                                                                                 |      |                     |     |
|---------------------------------------------------------------------------------|------|---------------------|-----|
| NO.                                                                             | DATE | REVISION            | BY  |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |      |                     |     |
| STRUCTURE B-17-364                                                              |      |                     |     |
| DRAWN BY                                                                        | JMM  | PLANS CK'D.         | DNS |
| SUBSURFACE EXPLORATION                                                          |      | SHEET 3 OF 10<br>61 |     |



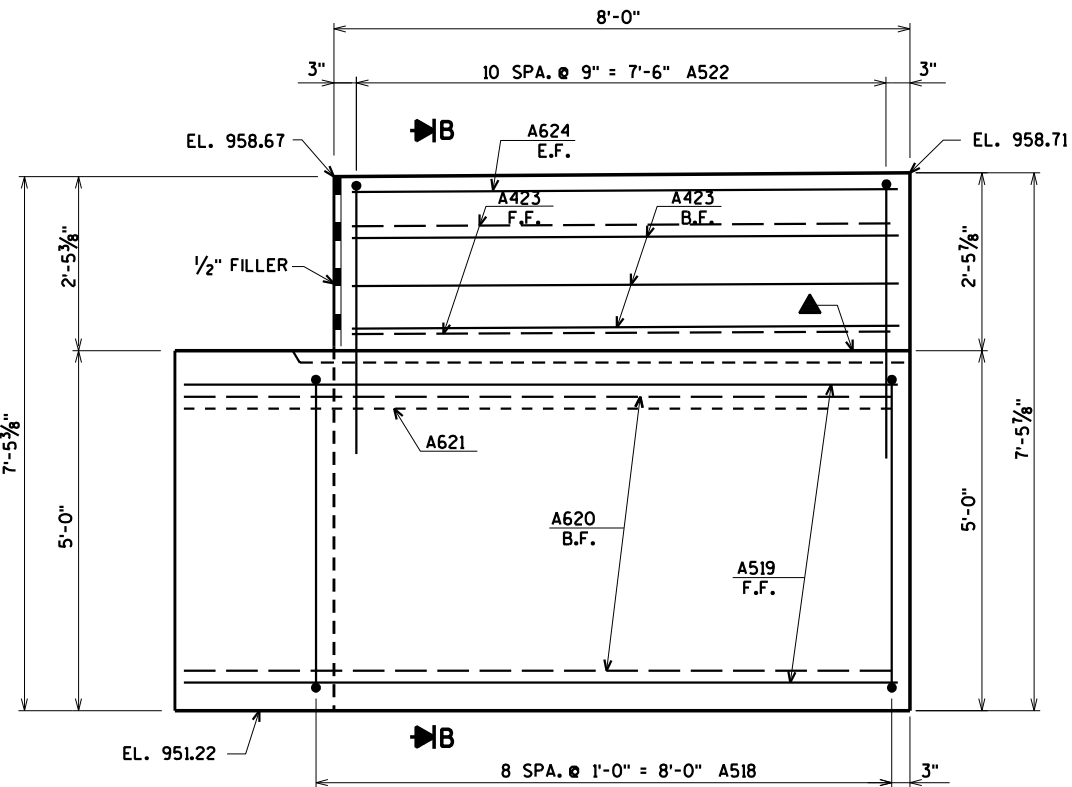
SLOPED FACE PARAPET "LF" NOT SHOWN, FOR DETAILS SEE SHEET 10



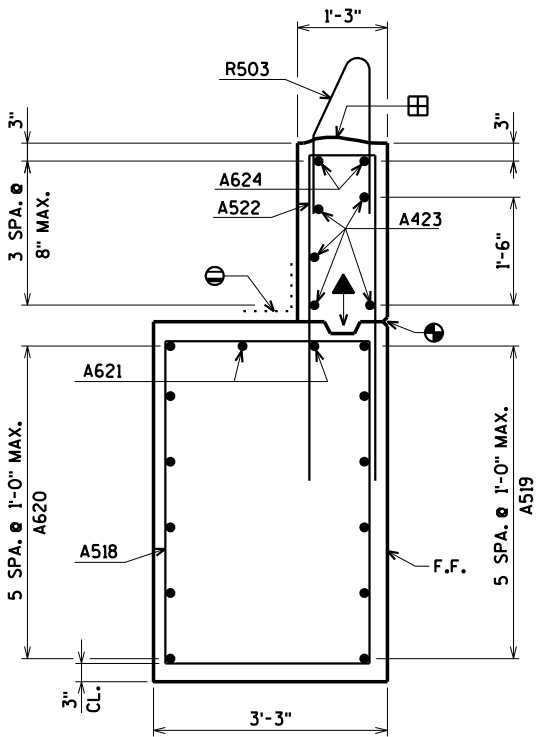
ELEVATION - WING 1



SECTION A



ELEVATION - WING 2



SECTION B

- 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENT.
- CONST. JOINT - STRIKE OFF AND LEAVE ROUGH.
- OPT. CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6" KEYWAY WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.
- 3/4" V-GROOVE ON FRONT FACE ONLY.
- F.F. DENOTES FRONT FACE
- E.F. DENOTES EACH FACE
- B.F. DENOTES BACK FACE

| NO.                                                                             | DATE | REVISION        | BY                  |
|---------------------------------------------------------------------------------|------|-----------------|---------------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |      |                 |                     |
| STRUCTURE B-17-364                                                              |      |                 |                     |
| DRAWN BY JMM                                                                    |      | PLANS CK'D. DNS |                     |
| EAST ABUTMENT<br>WING DETAILS                                                   |      |                 | SHEET 5 OF 10<br>63 |

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
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8640-02-71

18" RUBBERIZED  
MEMBRANE  
WATERPROOFING  
BETW. WINGS —

HORIZONTAL BARS IN  
Y ARE B604 BARS UNLESS  
OWN OTHERWISE.

ALL HORIZONTAL BARS IN  
BODY ARE B604 BARS UNLESS  
SHOWN OTHERWISE.

F.F.

2'-6"

|             |  |
|-------------|--|
| TOP OF BERM |  |
| 1 053 52    |  |

|           |  |
|-----------|--|
| L. 953.52 |  |
|-----------|--|

1 1/2

1

9-12

12

RIPRAP HEAVY

GEOTEXTILE FABRIC TYPE HR

EXHIBIT 10-10 (continued)

EXCAVATE OR FILL TO  
BOTTOM OF ABUTMENT

BOTTOM OF ABUTMENT  
 BEFORE DRIVING PILES.

ABUTMENT TO BE SUPPORTED ON  
10 3/4"  $\phi$  x 0.25" C.I.P. CONCRETE PILING  
WITH A REQUIRED DRIVING RESISTANCE  
OF 130 TONS PER PILE  
ESTIMATED LENGTH 70'-0".

F.F. DENOTES FRONT FACE

|          |    |
|----------|----|
| ABUTMENT | 64 |
|----------|----|

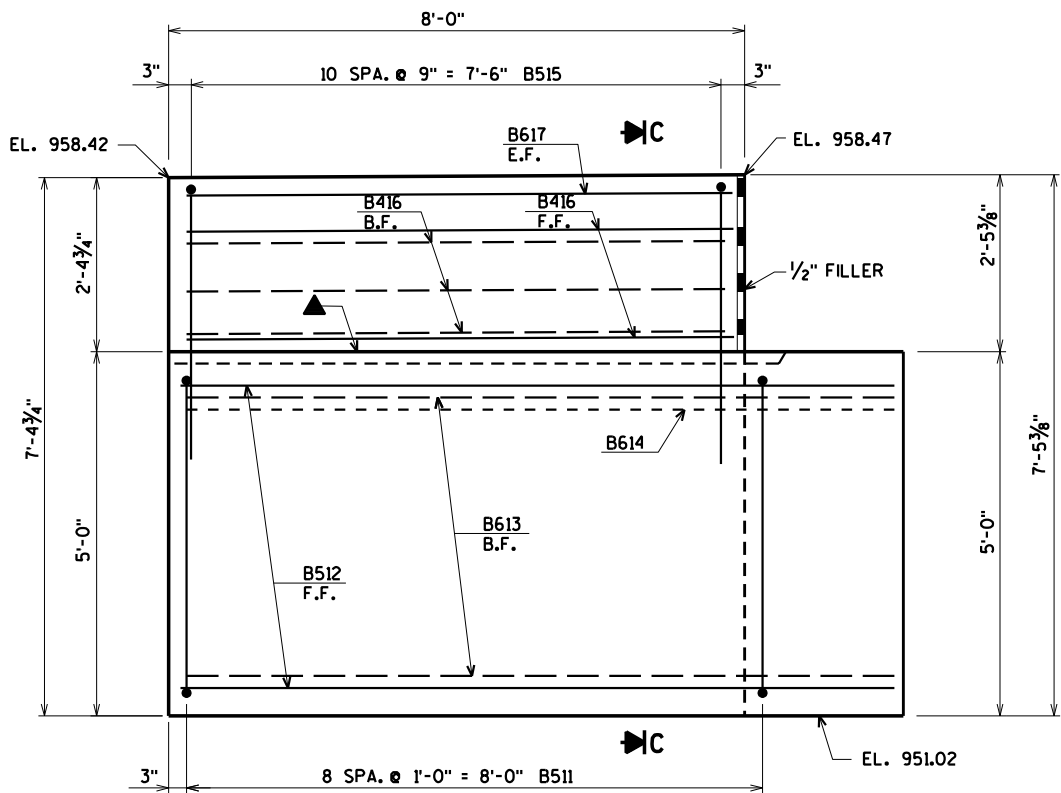
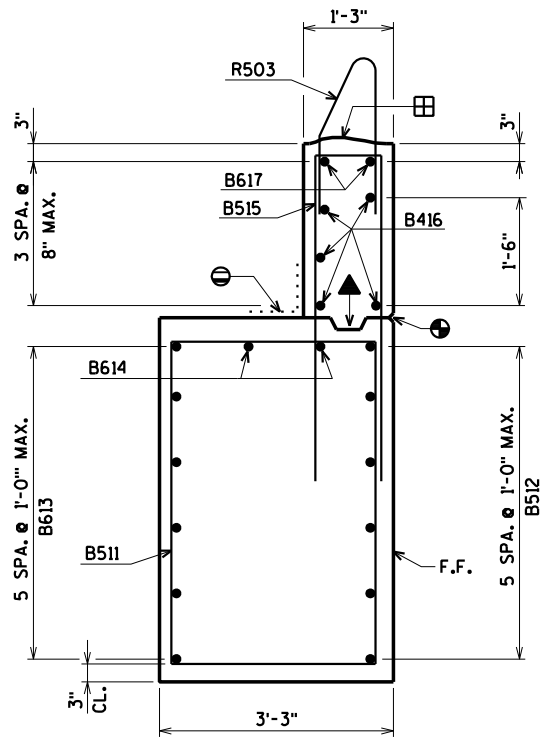
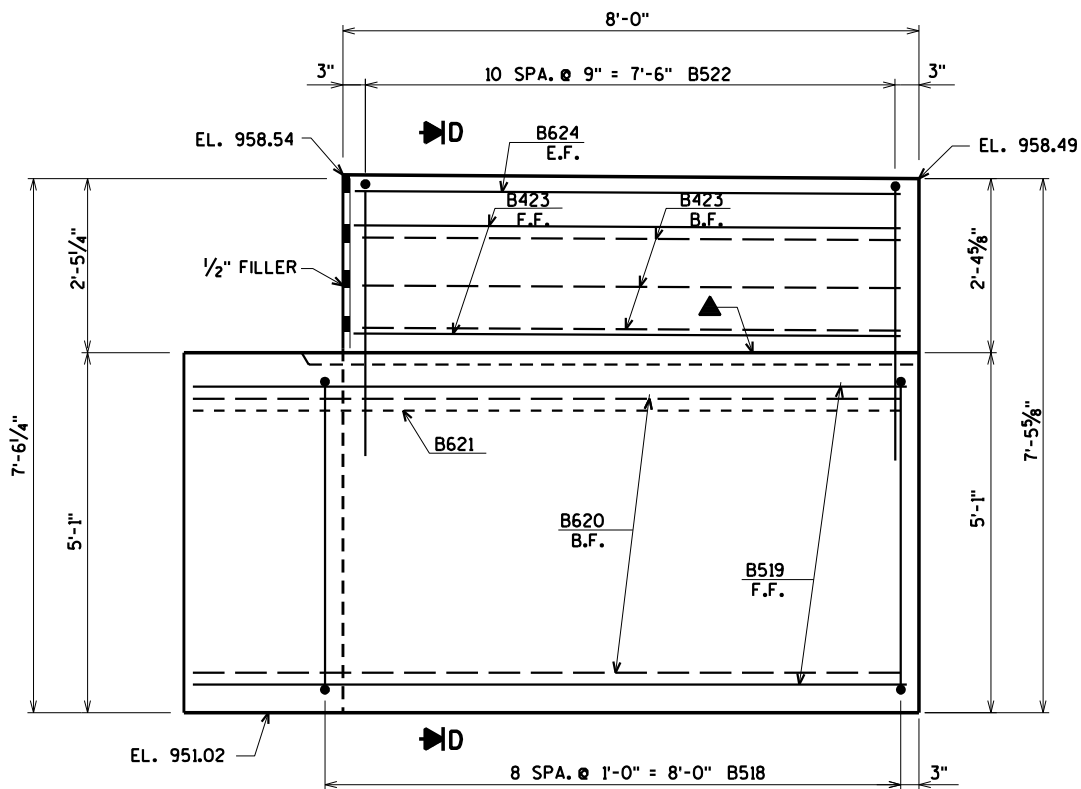
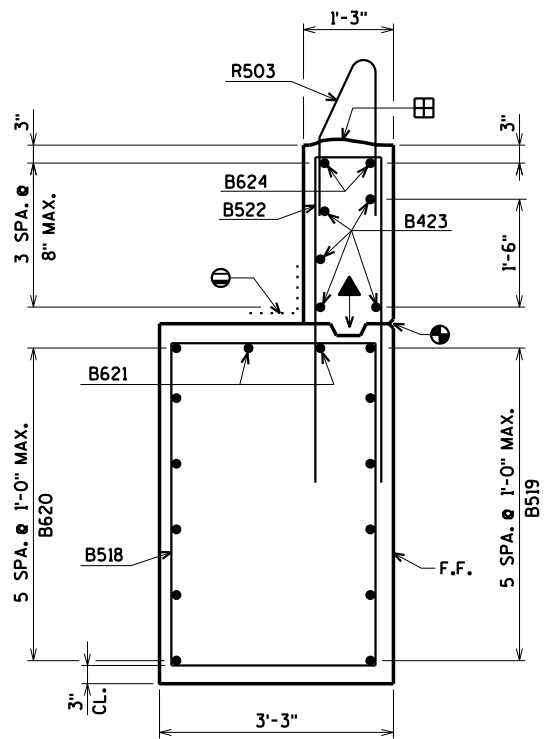
**AVRES**  
**ASSOCIATES**

3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
[www.AyresAssociates.com](http://www.AyresAssociates.com)

WEST  
ABUTMENT

SHEET 6 OF 10

black.tbl

SLOPED FACE PARAPET "LF" NOT  
SHOWN FOR DETAILS SEE SHEET 10**ELEVATION - WING 3****SECTION C****ELEVATION - WING 4****SECTION D**

- ⊖ 18" RUBBERIZED MEMBRANE WATERPROOFING  
SEAL ALL HORIZONTAL AND VERTICAL JOINTS  
ON BACKFACE OF ABUTMENT.
- ⊞ CONST. JOINT - STRIKE OFF AND LEAVE ROUGH.
- ▲ OPT. CONST. JOINT - FORMED BY A  
SURFACED BEVELED 2" x 6"  
KEYWAY WITH RUBBERIZED MEMBRANE  
WATERPROOFING ON B.F.
- ⊕ 3/4" V-GROOVE ON FRONT FACE ONLY.
- F.F. DENOTES FRONT FACE
- E.F. DENOTES EACH FACE
- B.F. DENOTES BACK FACE

| NO.                                                                             | DATE | REVISION        | BY                  |
|---------------------------------------------------------------------------------|------|-----------------|---------------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |      |                 |                     |
| STRUCTURE B-17-364                                                              |      |                 |                     |
| DRAWN BY JMM                                                                    |      | PLANS CK'D. DNS |                     |
| WEST ABUTMENT<br>WING DETAILS                                                   |      |                 | SHEET 7 OF 10<br>65 |

ORIGINAL PLANS PREPARED BY  
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 3433 Oakwood Hills Parkway  
 Eau Claire, WI 54701  
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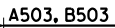
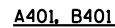
WEIGHT INCLUDES  
PARAPET STEEL  
SHOWN ON SHEET 10.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

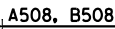
B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE



A511, A518, B511, B518



A515, A522, B515, B522

**WEIGHT INCLUDES  
PARAPET STEEL  
SHOWN ON SHEET 10.**



NOTE:  
FOR LOCATION OF SECTION F SEE SHEETS 4 & 6.



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

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

THE RODENT SHIELD SHALL BE 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 SCREEN 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 SHEET METAL SCREWS.

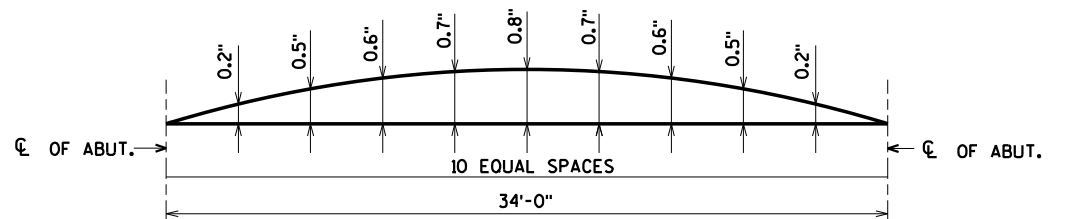
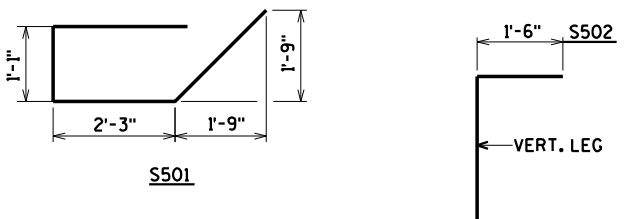
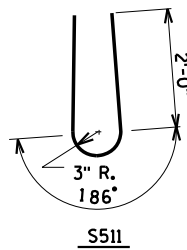
### RODENT SHIELD DETAIL

|                                                                                        |             |               |                    |
|----------------------------------------------------------------------------------------|-------------|---------------|--------------------|
|                                                                                        |             |               |                    |
| NO.                                                                                    | DATE        | REVISION      | BY                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br><b>STRUCTURES DESIGN SECTION</b> |             |               |                    |
| <b>STRUCTURE B-17-364</b>                                                              |             |               |                    |
|                                                                                        | DRAWN<br>BY | JMM           | PLANS<br>CK'D. DNS |
| <b>ABUTMENT<br/>DETAILS</b>                                                            |             | SHEET 8 OF 10 |                    |
|                                                                                        |             | 66            |                    |

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

[illegible]

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

| LOCATION        | CL OF<br>E. ABUT | 0.1    | 0.2    | 0.3    | 0.4    | 0.5    | 0.6    | 0.7    | 0.8    | 0.9    | CL OF<br>W. ABUT |
|-----------------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------------|
| S. EDGE OF SLAB | 958.64           | 958.62 | 958.61 | 958.59 | 958.57 | 958.55 | 958.53 | 958.51 | 958.49 | 958.47 | 958.45           |
| CL OF STRUCTURE | 958.99           | 958.98 | 958.96 | 958.94 | 958.93 | 958.91 | 958.89 | 958.87 | 958.85 | 958.83 | 958.81           |
| N. EDGE OF SLAB | 958.69           | 958.68 | 958.66 | 958.65 | 958.63 | 958.61 | 958.60 | 958.58 | 958.56 | 958.54 | 958.52           |

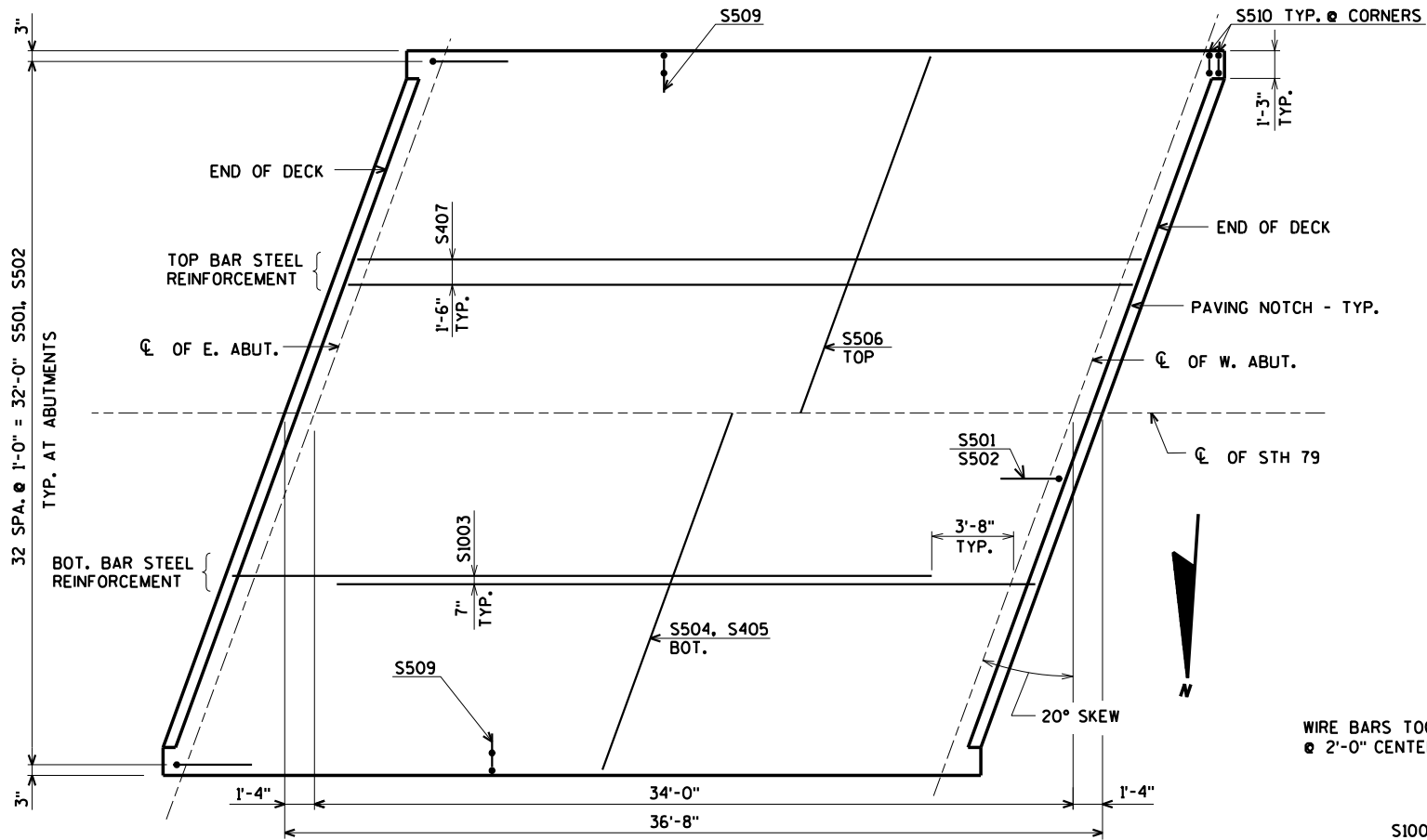
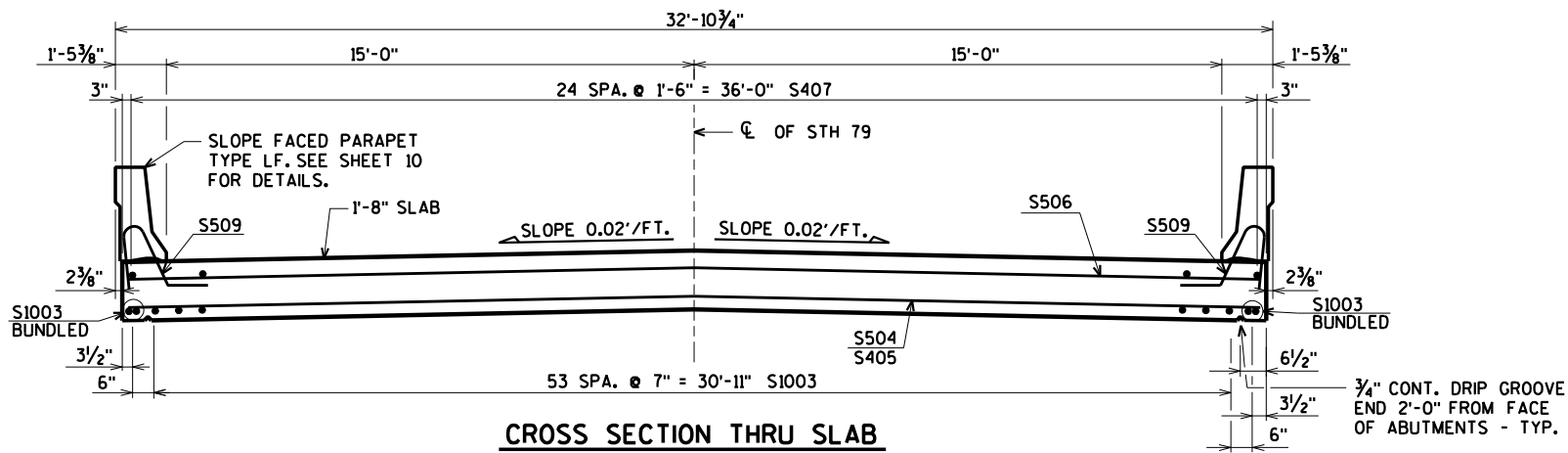
■ 18" RUBBERIZED MEMBRANE WATERPROOFING  
 ● DIMENSIONS MEASURED ALONG STH 79.  
 ▲ DIMENSIONS MEASURED NORMAL TO C OF SUBSTRUCTURE.

**AVRES**  
**ASSOCIATES**

3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
[www.AyresAssociates.com](http://www.AyresAssociates.com)

## SUPERSTRUCTURE

SHEET 9 OF 10  
67

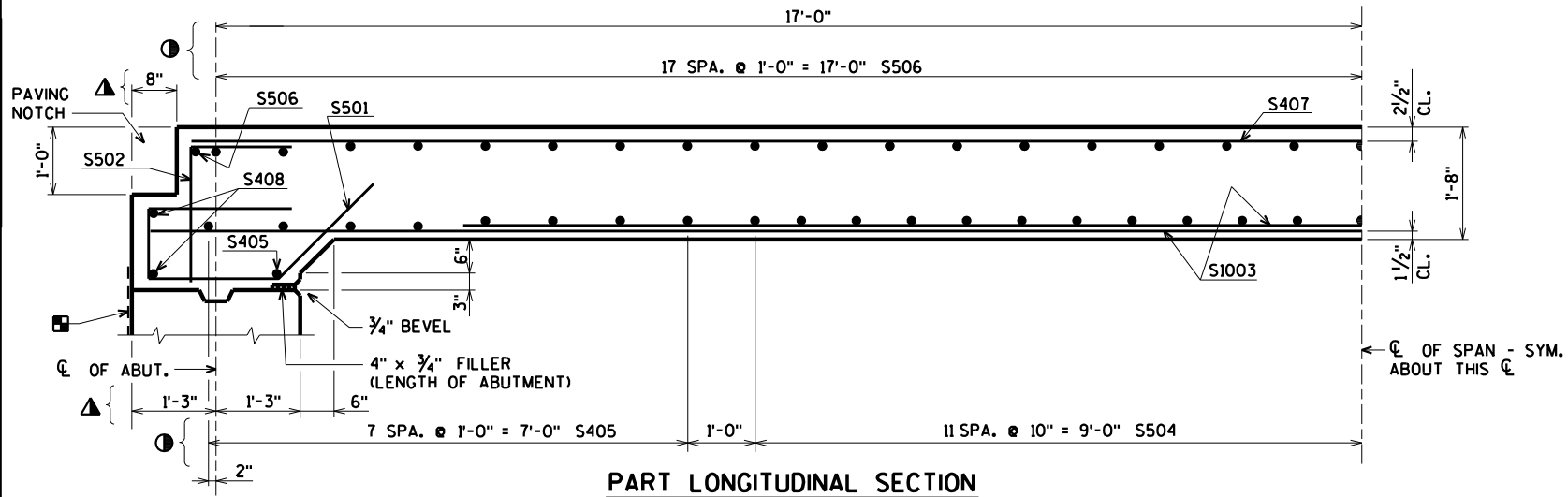


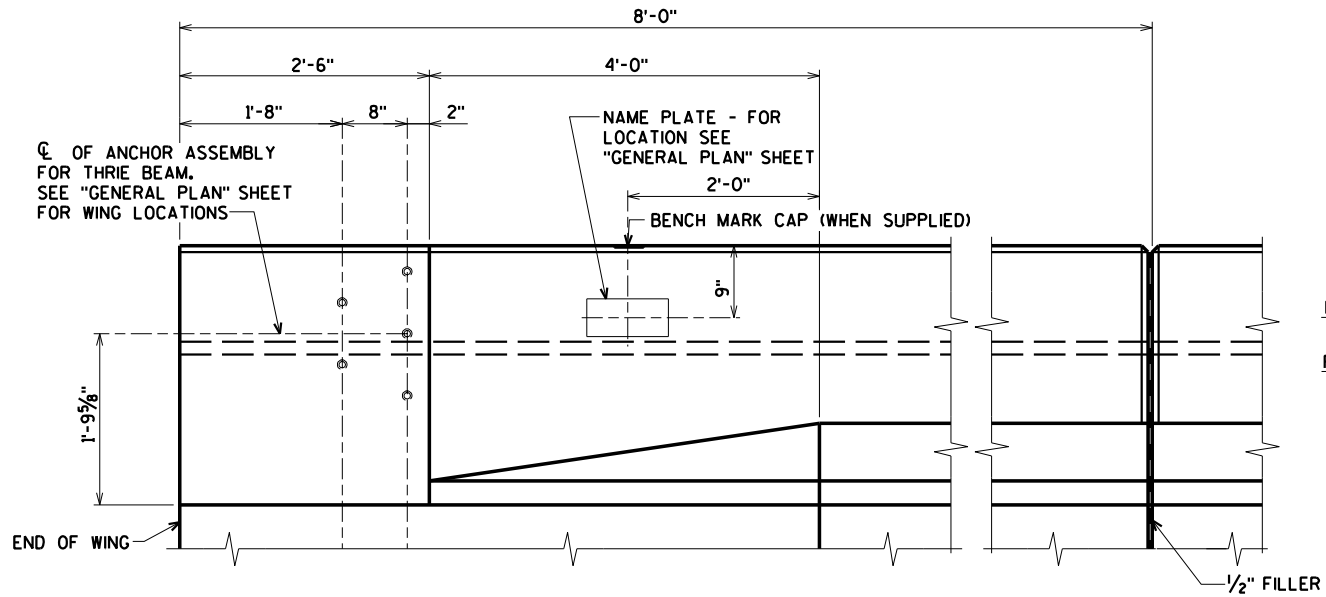
## PLAN

WIRE BARS TOGETHER  
@ 2'-0" CENTERS

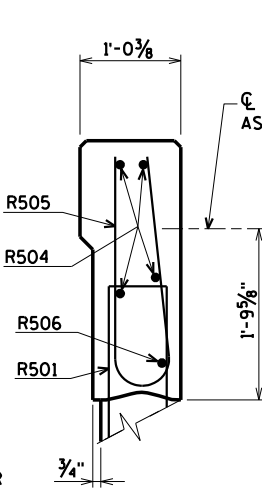


## BUNDLING DETAIL

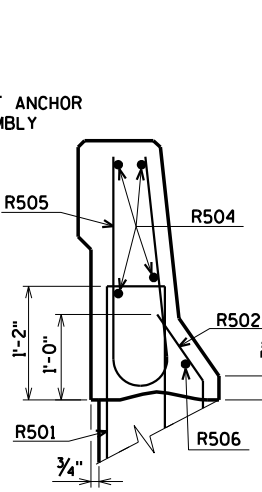




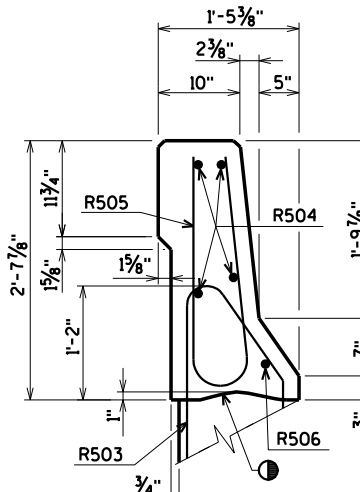
INSIDE ELEVATION



SECTION A



SECTION B



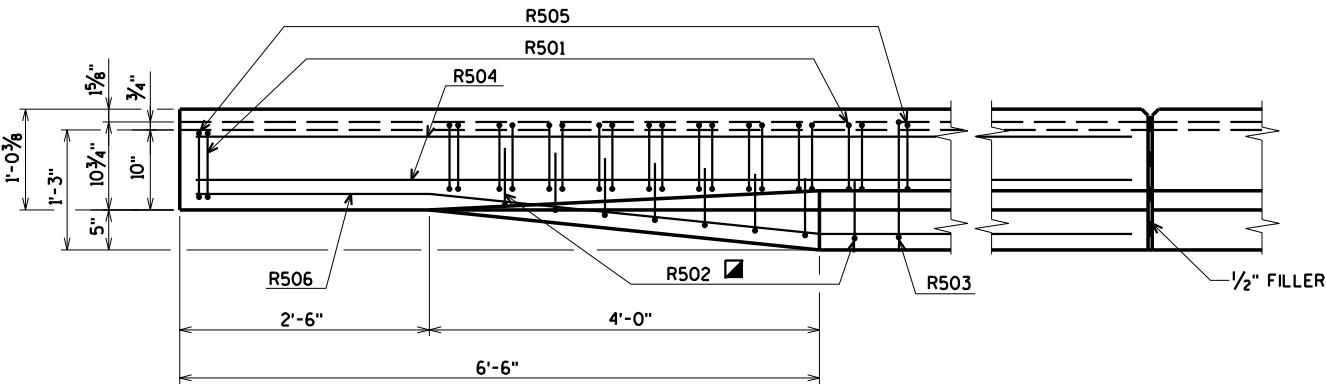
SECTION C

BILL OF BARS

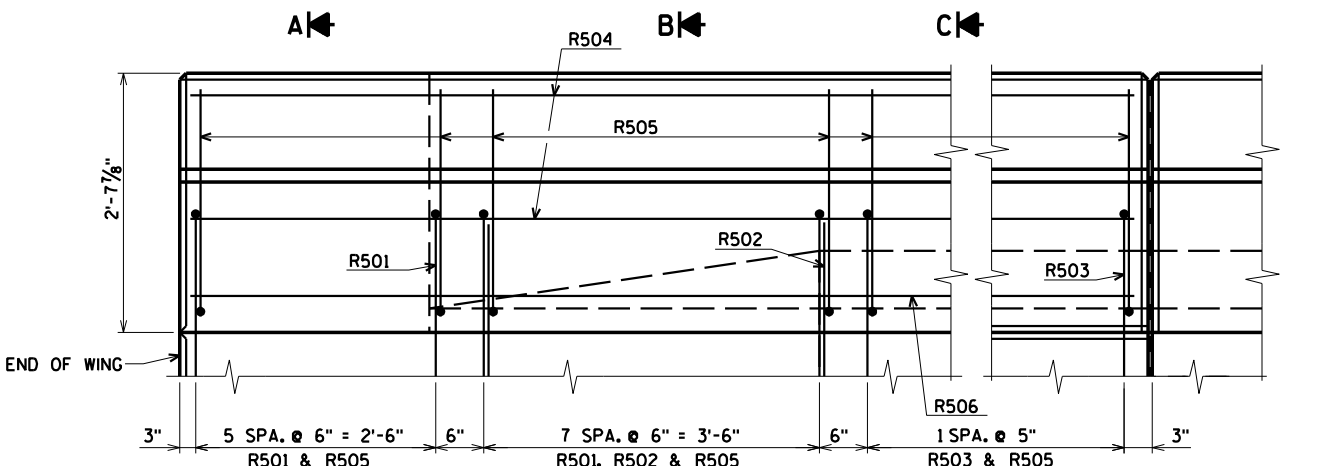
WEIGHT INCLUDED IN ABUTMENT  
WEIGHT SHOWN ON SHEET 8

| BAR MARK | COATED | NO. REQ'D. |            | LENGTH | BENT BAR | LOCATION       |
|----------|--------|------------|------------|--------|----------|----------------|
|          |        | EAST ABUT. | WEST ABUT. |        |          |                |
| R501     | X      | 28         | 28         | 4-7    | X        | PARAPET VERT.  |
| R502     | X      | 16         | 16         | 2-4    | X        | PARAPET VERT.  |
| R503     | X      | 4          | 4          | 4-7    | X        | PARAPET VERT.  |
| R504     | X      | 8          | 8          | 7-7    |          | PARAPET HORIZ. |
| R505     | X      | 32         | 32         | 4-10   | X        | PARAPET VERT.  |
| R506     | X      | 2          | 2          | 7-7    | X        | PARAPET HORIZ. |
|          |        |            |            |        |          |                |
|          |        |            |            |        |          |                |
|          |        |            |            |        |          |                |
|          |        |            |            |        |          |                |

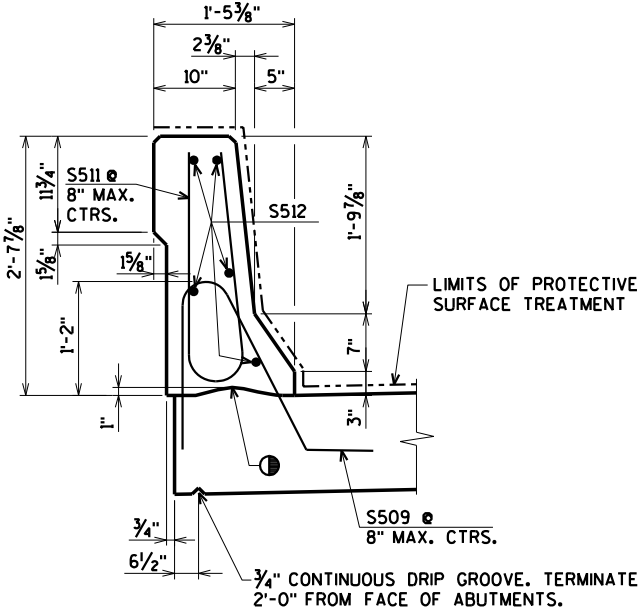
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



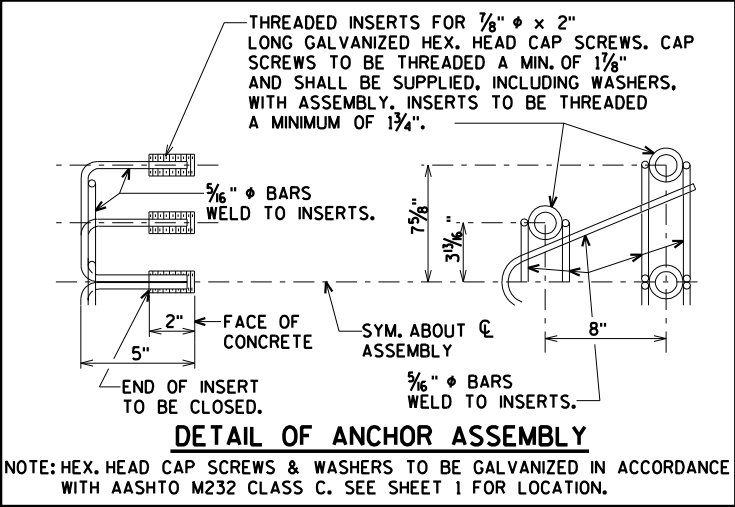
PLAN



OUTSIDE ELEVATION



SECTION THRU PARAPET ON SUPER.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C. SEE SHEET 1 FOR LOCATION.

■ R502 BARS MAY BE PLACED AFTER CONCRETE IS  
POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.  
USE CARE TO PLACE R502 BARS CORRECTLY ALONG  
TRANSITION OF PARAPET.

● CONSTRUCTION JOINT  
STRIKE OFF AS SHOWN.

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com

| NO.                                                                             | DATE | REVISION             | BY |
|---------------------------------------------------------------------------------|------|----------------------|----|
|                                                                                 |      |                      |    |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |      |                      |    |
| STRUCTURE B-17-364                                                              |      |                      |    |
| DRAWN BY JMM                                                                    |      | PLANS CK'D. DNS      |    |
| SLOPED FACE<br>PARAPET "LF"                                                     |      | SHEET 10 OF 10<br>68 |    |

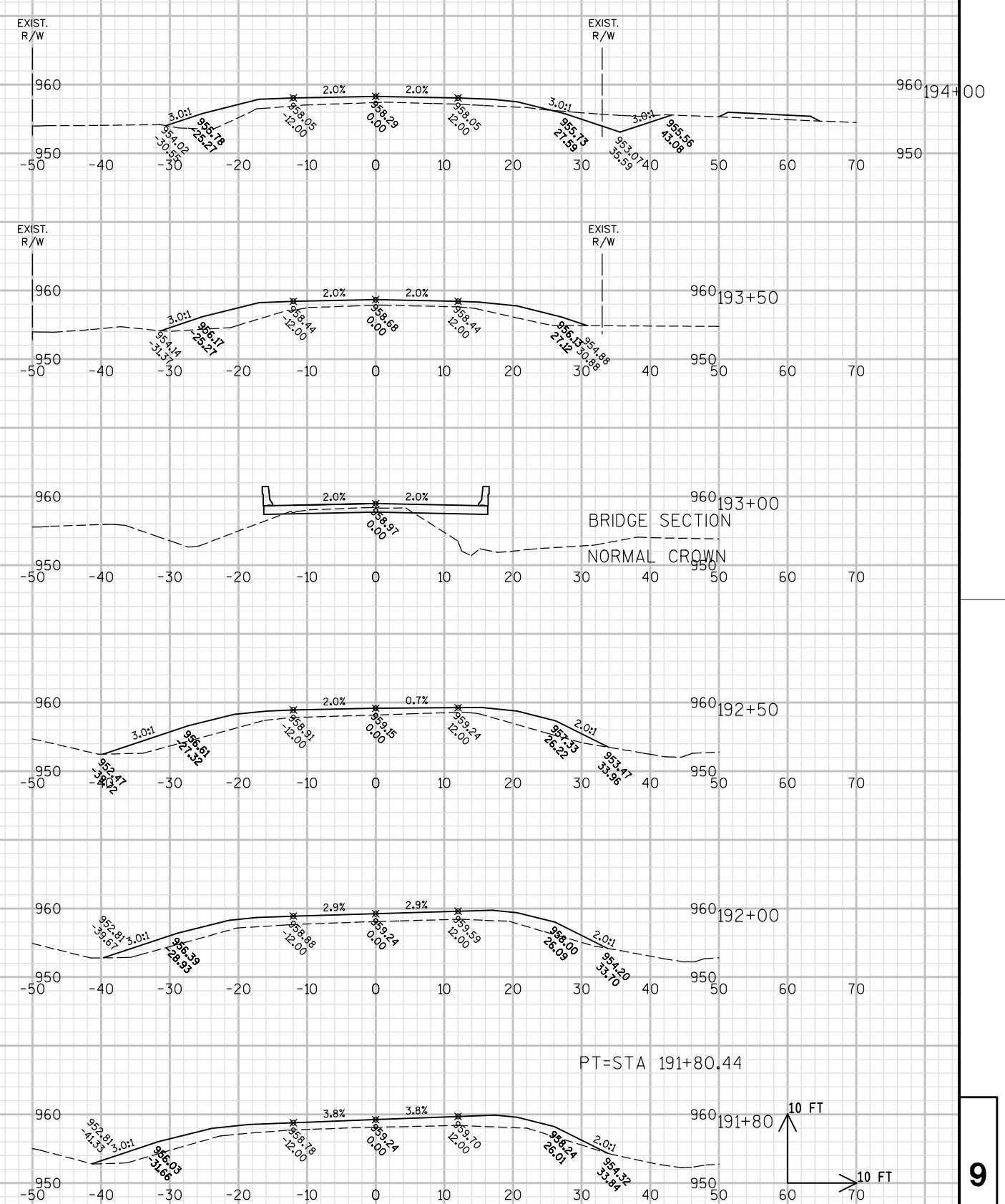
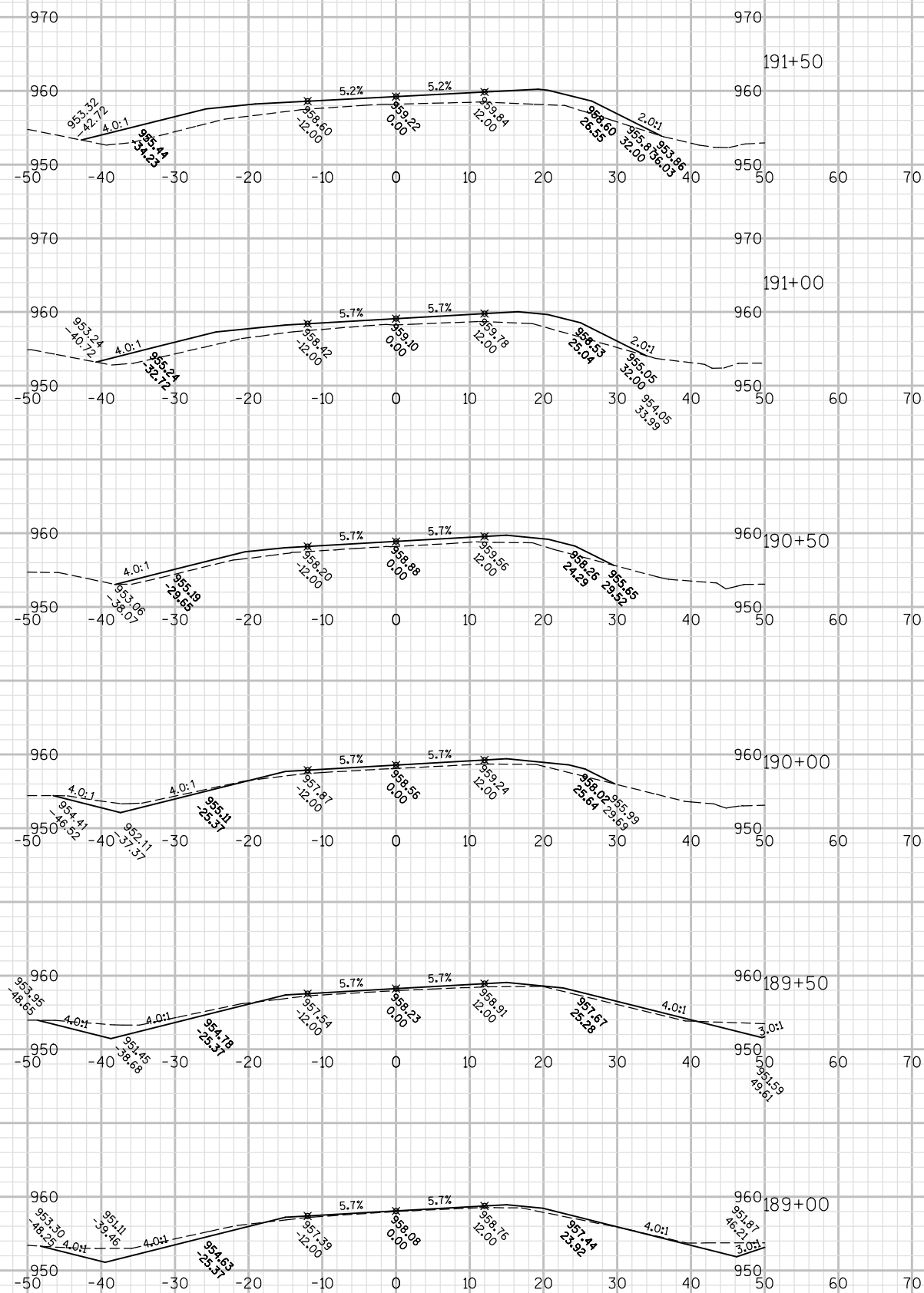
ecpdf.plt  
420817PAR.dgn

| STATION | AREA (SF) |                                     |        |           |          |               | Incremental Vol (CY) (Unadjusted) |                                     |      |           |          |     | Cumulative Vol (CY) |               |                |               |                       |               | Mass Ordinate |                     |         |
|---------|-----------|-------------------------------------|--------|-----------|----------|---------------|-----------------------------------|-------------------------------------|------|-----------|----------|-----|---------------------|---------------|----------------|---------------|-----------------------|---------------|---------------|---------------------|---------|
|         | Cut       | Salvaged/Unusable Pavement Material | Fill   | Marsh Exc | Rock Exc | EBS           | Cut                               | Salvaged/Unusable Pavement Material | Fill | Marsh Exc | Rock Exc | EBS | Cut                 | Expanded Fill | Expanded Marsh |               | Expanded EBS Backfill | Reduced Marsh |               | Reduced EBS In Fill |         |
|         |           |                                     |        |           |          |               |                                   |                                     |      |           |          |     |                     |               | Backfill       | Expanded Rock |                       | in Fill       |               |                     | In Fill |
|         |           |                                     |        |           |          |               |                                   |                                     |      |           |          |     |                     |               |                |               |                       |               |               |                     |         |
| Note 1  | Note 2    | Note 3                              | Note 1 | Note 4    | Note 5   | Note 6        | Note 7                            | Note 8                              |      |           |          |     |                     |               |                |               |                       |               |               |                     |         |
| 188+80  | 94        | 0                                   | 7      | 0         | 0        | 0             | 0                                 | 0                                   | 5    | 0         | 0        | 0   | 0                   | 0             | 0              | 0             | 0                     | 0             | 0             | 0                   |         |
| 189+00  | 110       | 0                                   | 8      | 0         | 0        | 0             | 76                                | 0                                   | 5    | 0         | 0        | 0   | 76                  | 7             | 0              | 0             | 0                     | 0             | 0             | 69                  |         |
| 189+50  | 100       | 0                                   | 4      | 0         | 0        | 0             | 194                               | 0                                   | 10   | 0         | 0        | 0   | 270                 | 20            | 0              | 0             | 0                     | 0             | 0             | 250                 |         |
| 190+00  | 79        | 0                                   | 1      | 0         | 0        | 0             | 165                               | 0                                   | 4    | 0         | 0        | 0   | 435                 | 25            | 0              | 0             | 0                     | 0             | 0             | 409                 |         |
| 190+50  | 66        | 0                                   | 0      | 0         | 0        | 0             | 133                               | 0                                   | 1    | 0         | 0        | 0   | 568                 | 27            | 0              | 0             | 0                     | 0             | 0             | 541                 |         |
| 191+00  | 39        | 0                                   | 3      | 0         | 0        | 0             | 97                                | 0                                   | 3    | 0         | 0        | 0   | 665                 | 30            | 0              | 0             | 0                     | 0             | 0             | 635                 |         |
| 191+50  | 30        | 0                                   | 1      | 0         | 0        | 0             | 64                                | 0                                   | 3    | 0         | 0        | 0   | 729                 | 34            | 0              | 0             | 0                     | 0             | 0             | 695                 |         |
| 192+00  | 30        | 0                                   | 0      | 0         | 0        | 0             | 56                                | 0                                   | 1    | 0         | 0        | 0   | 784                 | 35            | 0              | 0             | 0                     | 0             | 0             | 749                 |         |
| 192+50  | 35        | 0                                   | 0      | 0         | 0        | 0             | 61                                | 0                                   | 0    | 0         | 0        | 0   | 845                 | 35            | 0              | 0             | 0                     | 0             | 0             | 810                 |         |
| 192+93  | 40        | 0                                   | 13     | 0         | 0        | 0             | 60                                | 0                                   | 10   | 0         | 0        | 0   | 905                 | 48            | 0              | 0             | 0                     | 0             | 0             | 857                 |         |
| 193+00  | 26        | 0                                   | 15     | 0         | 0        | 0             | 9                                 | 0                                   | 4    | 0         | 0        | 0   | 914                 | 53            | 0              | 0             | 0                     | 0             | 0             | 861                 |         |
| 193+30  | 41        | 0                                   | 11     | 0         | 0        | 0             | 37                                | 0                                   | 14   | 0         | 0        | 0   | 951                 | 71            | 0              | 0             | 0                     | 0             | 0             | 880                 |         |
| 193+50  | 47        | 0                                   | 35     | 0         | 0        | 0             | 32                                | 0                                   | 17   | 0         | 0        | 0   | 983                 | 92            | 0              | 0             | 0                     | 0             | 0             | 891                 |         |
| 194+00  | 62        | 0                                   | 7      | 0         | 0        | 0             | 101                               | 0                                   | 38   | 0         | 0        | 0   | 1084                | 140           | 0              | 0             | 0                     | 0             | 0             | 944                 |         |
| 194+50  | 31        | 0                                   | 2      | 0         | 0        | 0             | 86                                | 0                                   | 8    | 0         | 0        | 0   | 1169                | 150           | 0              | 0             | 0                     | 0             | 0             | 1019                |         |
| 195+00  | 48        | 0                                   | 0      | 0         | 0        | 0             | 73                                | 0                                   | 3    | 0         | 0        | 0   | 1242                | 153           | 0              | 0             | 0                     | 0             | 0             | 1089                |         |
| 195+50  | 61        | 0                                   | 2      | 0         | 0        | 0             | 101                               | 0                                   | 3    | 0         | 0        | 0   | 1343                | 157           | 0              | 0             | 0                     | 0             | 0             | 1186                |         |
| 196+00  | 88        | 0                                   | 4      | 0         | 0        | 0             | 138                               | 0                                   | 6    | 0         | 0        | 0   | 1480                | 165           | 0              | 0             | 0                     | 0             | 0             | 1316                |         |
| 196+50  | 89        | 0                                   | 2      | 0         | 0        | 0             | 164                               | 0                                   | 6    | 0         | 0        | 0   | 1644                | 172           | 0              | 0             | 0                     | 0             | 0             | 1473                |         |
| 197+00  | 103       | 0                                   | 5      | 0         | 0        | 0             | 178                               | 0                                   | 6    | 0         | 0        | 0   | 1822                | 179           | 0              | 0             | 0                     | 0             | 0             | 1643                |         |
|         |           |                                     |        |           |          |               | 0                                 |                                     |      |           |          |     |                     |               |                |               |                       |               |               |                     |         |
|         |           |                                     |        |           |          |               | 0                                 |                                     |      |           |          |     |                     |               |                |               |                       |               |               |                     |         |
|         |           |                                     |        |           |          | Column totals | 1822                              | 0                                   | 143  | 0         | 0        | 0   |                     |               |                |               |                       |               |               |                     |         |

|                                         |                                                                                                                                                       |                                                                                              |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Notes:                                  |                                                                                                                                                       |                                                                                              |
| 1 - Cut                                 | Cut includes Salvaged/Unusable Pavement material                                                                                                      |                                                                                              |
| 2 - Salvaged/Unusable Pavement Material | This does not show up in cross sections Does not include Unusable Pavement                                                                            |                                                                                              |
| 3 - Fill                                | Exc volume Will be backfilled with Granular Backfill (or Cut, or Borrow)                                                                              | Note 4 - Select one based on input dialog selection                                          |
| 4 - Expanded Marsh Backfill             | Will be backfilled with Granular Backfill (or Cut, or Borrow)                                                                                         | Note 5 - Select one based on input dialog selection                                          |
| 5 - Expanded EBS                        | Reduced Marsh Excavation that can be used in Fill                                                                                                     | Note 6 - If excavated Marsh can be used in Fill                                              |
| 6 - Reduced Marsh in Fill               | Reduced EBS Excavation that can be used in Fill                                                                                                       | Note 7 - If excavated EBS can be used in Fill                                                |
| 7 - Reduced EBS in Fill                 | backfilled with Cut or Borrow: ((Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - (Reduced EBS in Fill) - (Expanded | based on mass haul input dialog selection. EBS and Marsh Exc used outside 1:1 in fill slopes |
| 8 - Mass Ordinate                       | be backfilled with Granular: ((Cut + EBS + Marsh Exc) - ((Fill - (Reduced Marsh in Fill) - (Reduced EBS in Fill) - (Expanded                          | EBS and Marsh Exc used outside 1:1 in fill slopes                                            |
| 8 - Mass Ordinate                       | If Marsh and EBS to be backfilled with Granular: ((Cut) - ((Fill - Expanded Rock) * Fill Factor)))                                                    | Marsh and EBS are not usable outside the 1:1 slopes                                          |
| 8 - Mass Ordinate                       | If Marsh and EBS to be backfilled with Cut or Borrow: ((Cut) - ((Fill - Expanded Rock) * Fill Factor)))                                               | Marsh and EBS are not usable outside the 1:1 slopes                                          |

9

9



PROJECT NO: 8640-02-71

HWY: STH 79

COUNTY: DUNN

CROSS SECTIONS:

SHEET 70

FILE NAME : F:\Projects\10-66-012 STH 79 Bridge\CAD\2013.04 revised plans\ST 11 CROSS SECTIONS.dgn

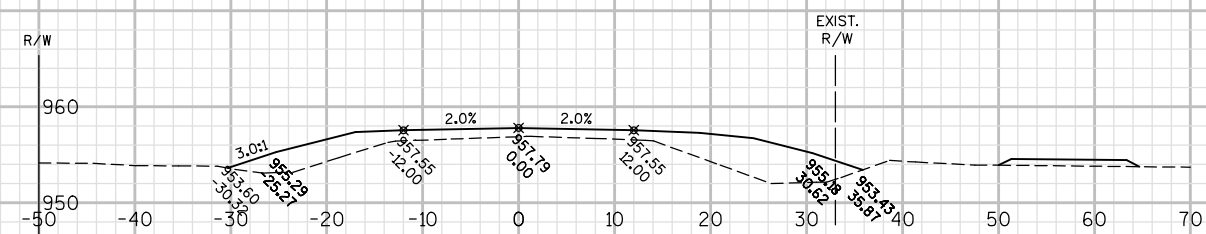
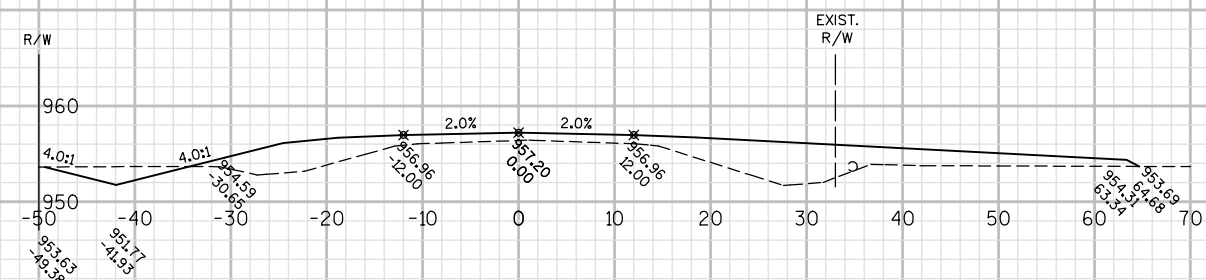
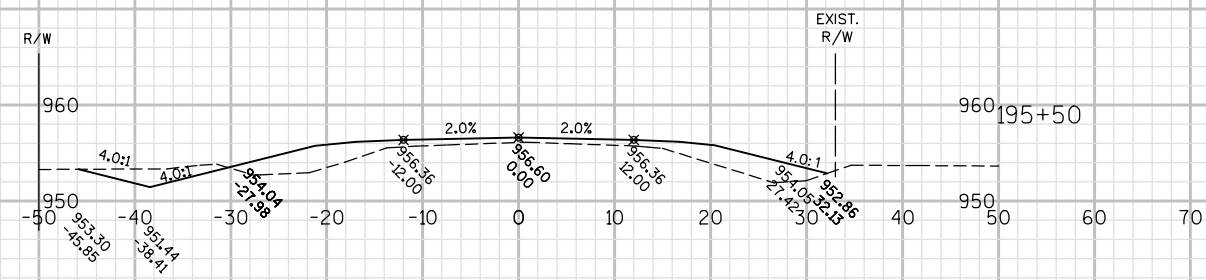
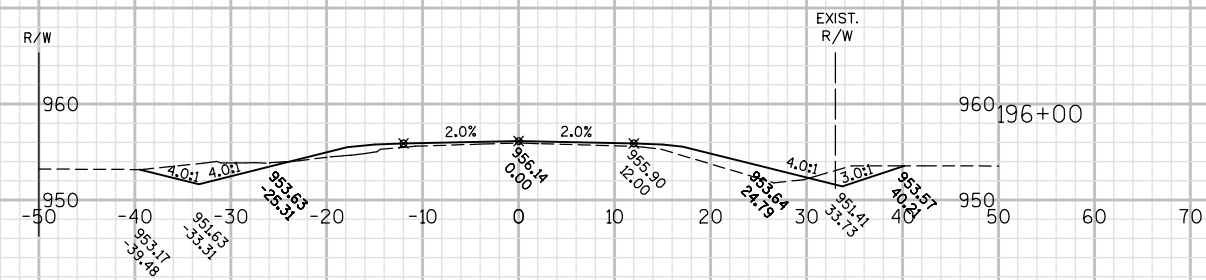
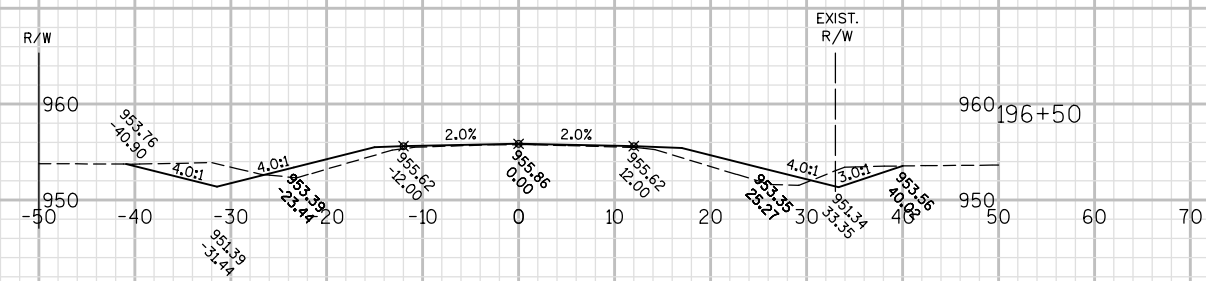
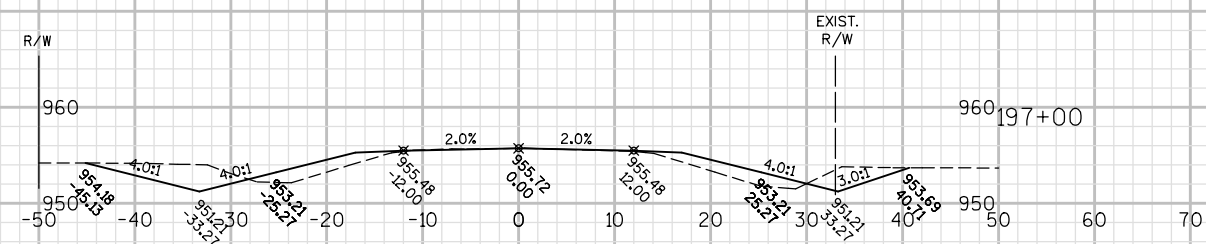
PLOT DATE : 4/9/2013

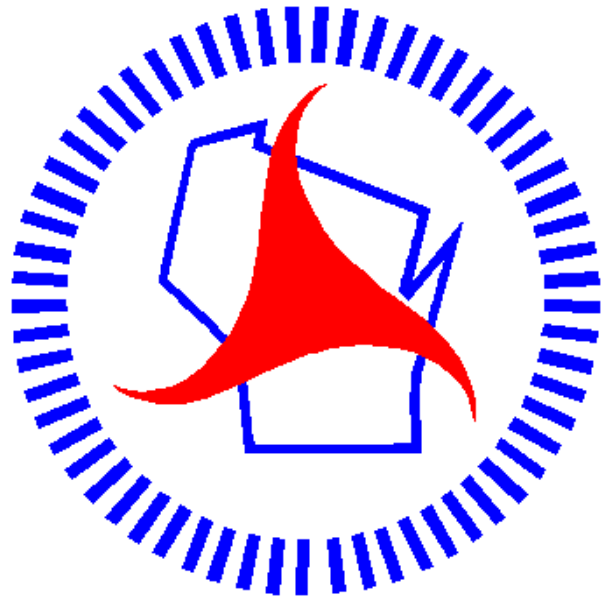
PLOT BY : M^2 ENG. LLC

PLOT NAME :

PLOT SCALE : 1:200

WISDOT/CADDs SHEET 21





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