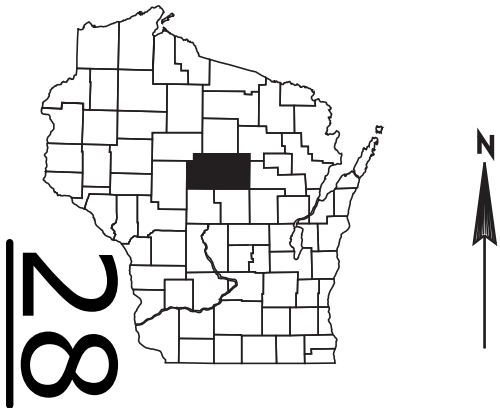


PROJECT ID: 6600-01-80  
WITH:

COUNTY: MARATHON

| 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 = 102



DESIGN DESIGNATION

|               |   |         |
|---------------|---|---------|
| A.A.D.T. 2012 | = | 2700    |
| A.A.D.T. 2036 | = | 3600    |
| D.H.V. 2036   | = | 2232    |
| D.D.          | = | 62/38   |
| T.            | = | 5.8%    |
| DESIGN SPEED  | = | 60 MPH  |
| ESALS         | = | 423,400 |

CONVENTIONAL SYMBOLS

PLAN

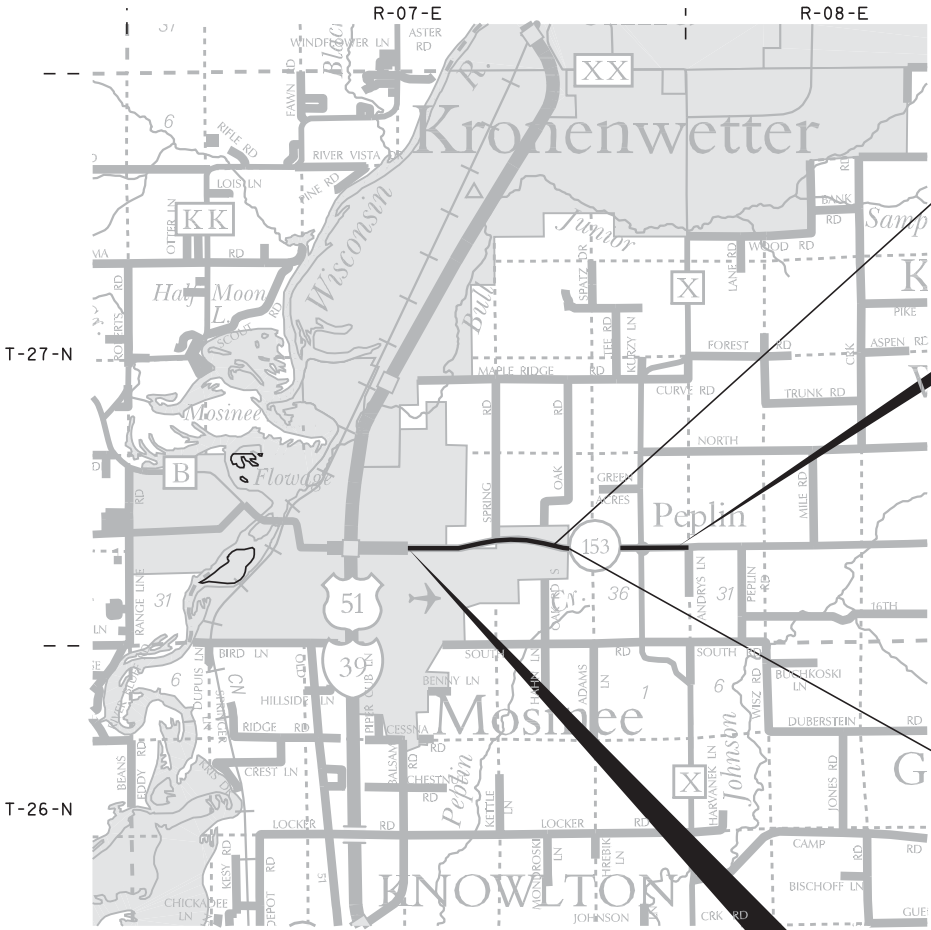
|                                |  |
|--------------------------------|--|
| CORPORATE LIMITS               |  |
| PROPERTY LINE                  |  |
| LOT LINE                       |  |
| LIMITED HIGHWAY EASEMENT       |  |
| EXISTING RIGHT OF WAY          |  |
| PROPOSED OR NEW R/W LINE       |  |
| 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                              |  |

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PLAN OF PROPOSED IMPROVEMENT  
MOSINEE - ELDERON  
EASTVIEW DRIVE TO ANDRYS LANE  
STH 153  
MARATHON COUNTY

STATE PROJECT NUMBER  
6600-01-80



PT 183+28.55 BK =  
STA 183+63.84 AHD EQUATION

END PROJECT  
STA. 250+00

PT 194+37.95 BK =  
STA 193+00.09 AHD EQUATION

BEGIN PROJECT  
STA. 118+50  
Y=138,716.604  
X=272,849.381

LAYOUT  
SCALE 0 1 MI.  
TOTAL NET LENGTH OF CENTERLINE STH 153 = 2.51 MI.

Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), Marathon County, NAD 1983 (91). Elevations shown on this plan are referenced to the NORTH AMERICAN VERTICAL DATUM of 1988 NAVD 88 (91).

| STATE PROJECT | FEDERAL PROJECT |          |
|---------------|-----------------|----------|
|               | PROJECT         | CONTRACT |
| 6600-01-80    | WISC 2013226    | 1        |
|               |                 |          |
|               |                 |          |
|               |                 |          |

| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |               |
|----------------------------------------------------|---------------|
| PREPARED BY                                        |               |
| Surveyor                                           | NCR           |
| Designer                                           | NICK VOS      |
| Project Manager                                    | DAN HOLLOWAY  |
| Regional Examiner                                  | CHERYL SIMON  |
| Regional Supervisor                                | SHANNON RILEY |
| C.O. Examiner                                      |               |
| APPROVED FOR THE DEPARTMENT                        |               |
| DATE: 2/2/2012                                     |               |
|                                                    | (Signature)   |

GENERAL NOTES

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

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

PAVEMENT REMOVAL WILL BE TO THE NEAREST JOINT OR A SAWED EDGE WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.

SECTIONS AS SHOWN ON THE CROSS SECTION SHEETS INCLUDE THE THICKNESS OF TOPSOIL.

PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, THE CONTRACTOR SHALL CAREFULLY MAKE A SEARCH FOR EVIDENCE OF A LANDMARK IN ALL AREAS WHERE SUCH A LANDMARK MAY EXIST.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.

UTILITY CONTACTS

Lawrence Huber  
ANR Pipeline Company - Gas/Petroleum  
W3925 Pipeline Ln  
Eden, WI 53019  
(920) 477-2235  
[lawrence\\_huber@transcanada.com](mailto:lawrence_huber@transcanada.com)

Tony Yaron  
Central Wisconsin Airport - Airport Facility  
200 Cwa Dr  
Mosinee, WI 54455-9601  
(715) 693-2147  
[tyaron@fly-cwa.org](mailto:tyaron@fly-cwa.org)

Scott Olson  
Charter Communications - Communication Line  
853 McIntosh St  
Wausau, WI 54402  
(715) 848-0081  
[scott.olson@chartercom.com](mailto:scott.olson@chartercom.com)

Kevin Breit  
Mosinee Municipal Water And Sewer Ut  
225 Main St  
Mosinee, WI 54455  
(715) 693-3840  
[publicworks@mosinee.wi.us](mailto:publicworks@mosinee.wi.us)

Steve Jakubiec                      Communication Line  
Mosinee Telephone Co - d/b/a TDS Telecom  
10 College Ave Suite 218A  
Appleton, WI 54914  
(920) 882-4166  
[Steve.jakubiec@tdstelecom.com](mailto:Steve.jakubiec@tdstelecom.com)

Lori Butry  
Wisconsin Public Service Corporation - Gas/Petroleum  
700 N Adams St  
P.O. Box 19001  
Green Bay, WI 54307-9001  
(920) 433-1360  
[LAButry@integrysgroup.com](mailto:LAButry@integrysgroup.com)

Mike Olsen  
ATC Management, Inc. - Electricity  
801 O'keefe Rd  
P.O. Box 6113  
De Pere, WI 54115-6113  
(920) 338-6582  
[molsen@atcllc.com](mailto:molsen@atcllc.com)

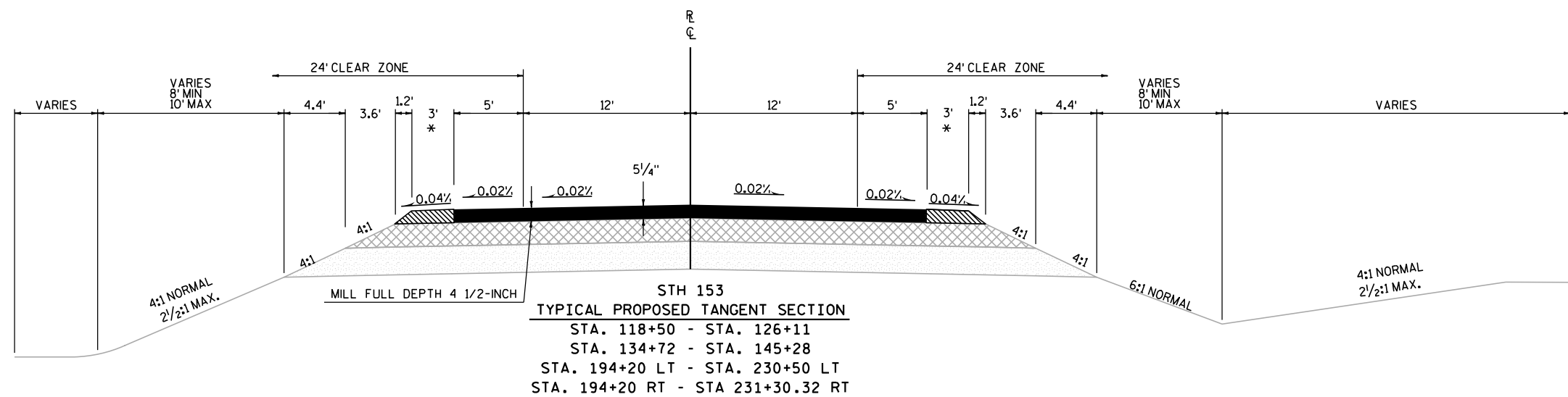
Sean Vonbergen  
Village of Kronenwetter - Water  
1582 Kronenwetter Dr  
Mosinee, WI 54455-9003  
(715) 693-4200 – Ext. 23  
[svonbergen@kronenwetter.org](mailto:svonbergen@kronenwetter.org)

ENVIRONMENTAL CONTACT

Jon Simonson  
Dept. of Natural Resources  
107 Sutliff Avenue  
Rhineland, WI 54501  
(715) 365-8916



Call 811 3 Work Days Before You Dig  
Or Toll Free (800) 242-8511  
Milwaukee Area (414) 259-1181  
Hearing Impaired TDD (800) 542-2289  
[www.DiggersHotline.com](http://www.DiggersHotline.com)

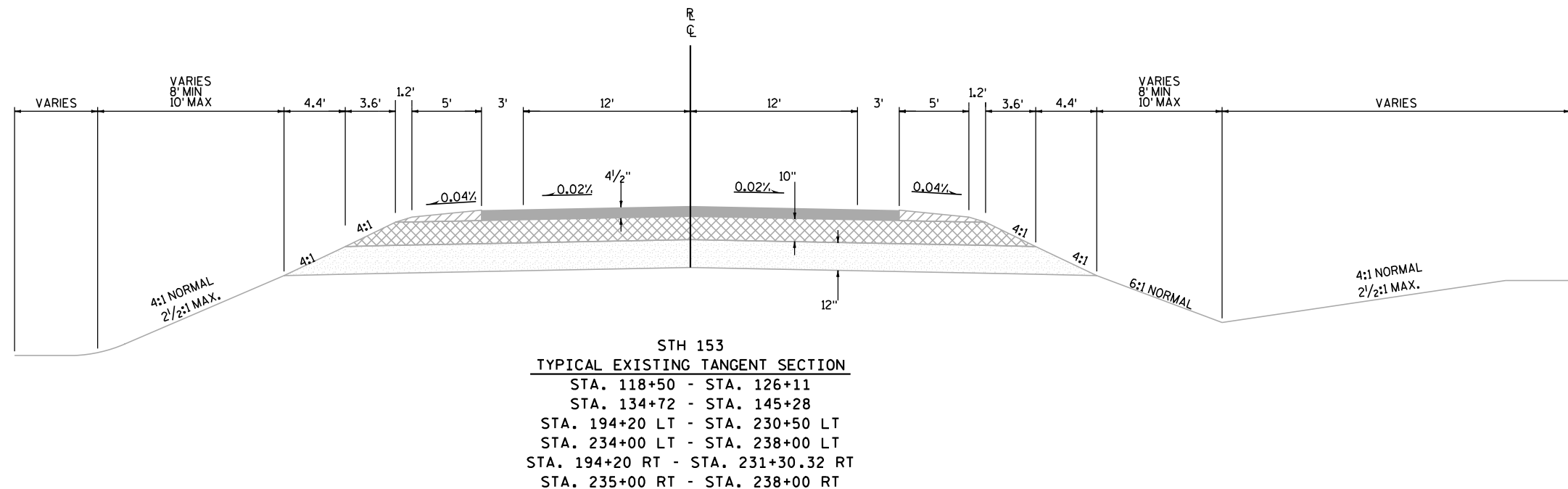
**LEGEND****PROPOSED**

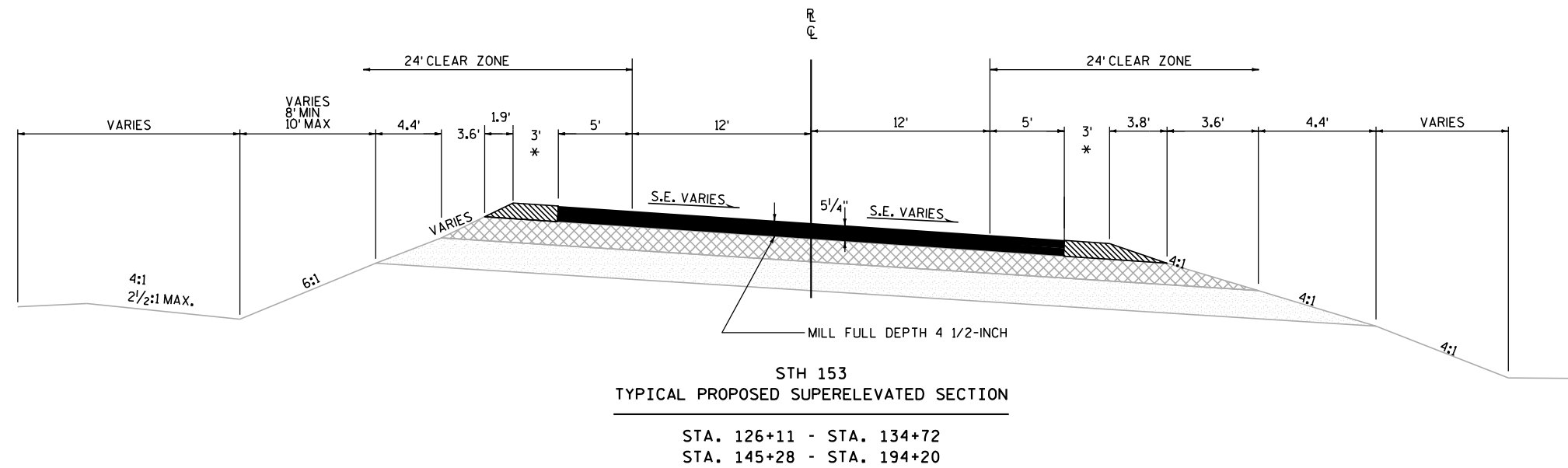
- HMA PAVEMENT TYPE E-1
- BASE AGGREGATE DENSE 3/4-INCH

**EXISTING**

- ASPHALTIC CONCRETE PAVEMENT
- GRAVEL OR CRUSHED STONE BASE COURSE (SHOULDER MATERIAL)
- GRAVEL OR CRUSHED STONE BASE COURSE
- GRANULAR SUBBASE

NOTE:  
\* REMOVE EXISTING CABG DURING MILLING PROCESS



**LEGEND****PROPOSED**

HMA PAVEMENT TYPE E-1

BASE AGGREGATE DENSE 3/4-INCH

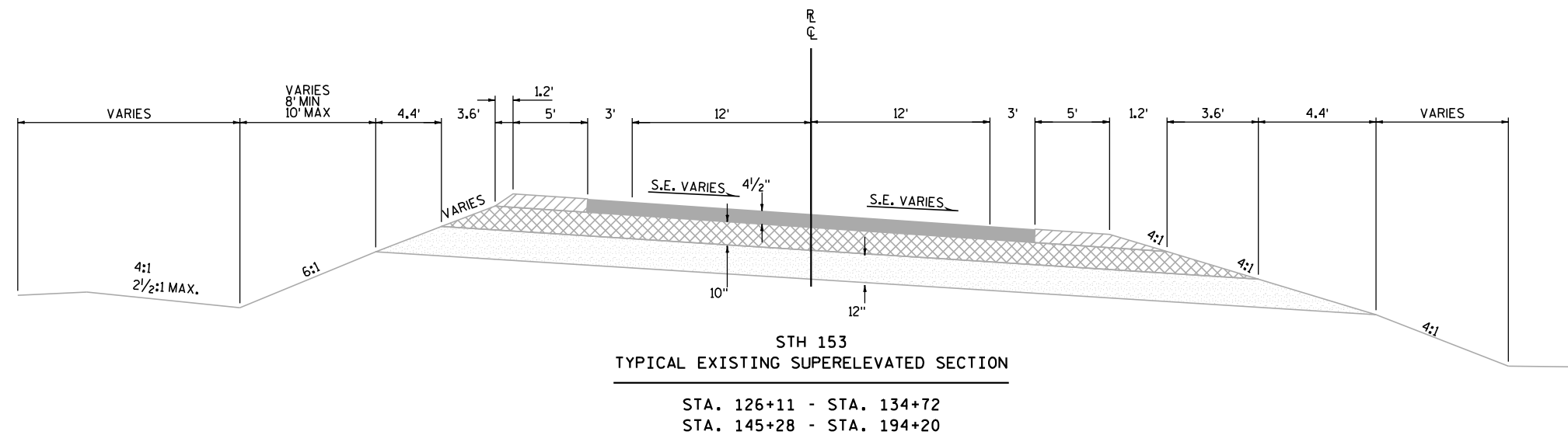
**EXISTING**

ASPHALTIC CONCRETE PAVEMENT

 GRAVEL OR CRUSHED STONE  
BASE COURSE (SHOULDER MATERIAL) GRAVEL OR CRUSHED STONE  
BASE COURSE

GRANULAR SUBBASE

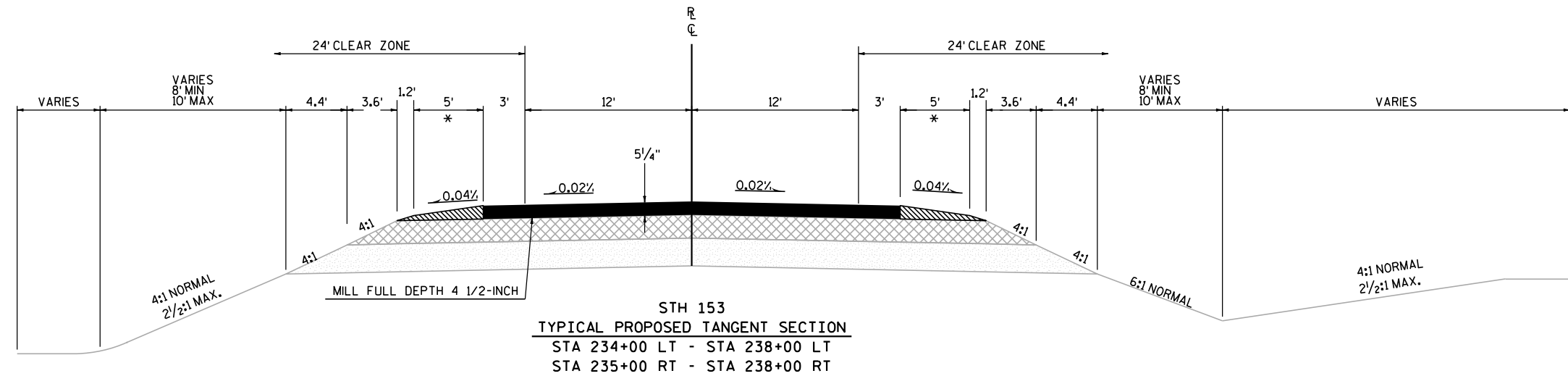
NOTE:  
\* REMOVE EXISTING CABC DURING MILLING PROCESS





2

2 |



LEGEND

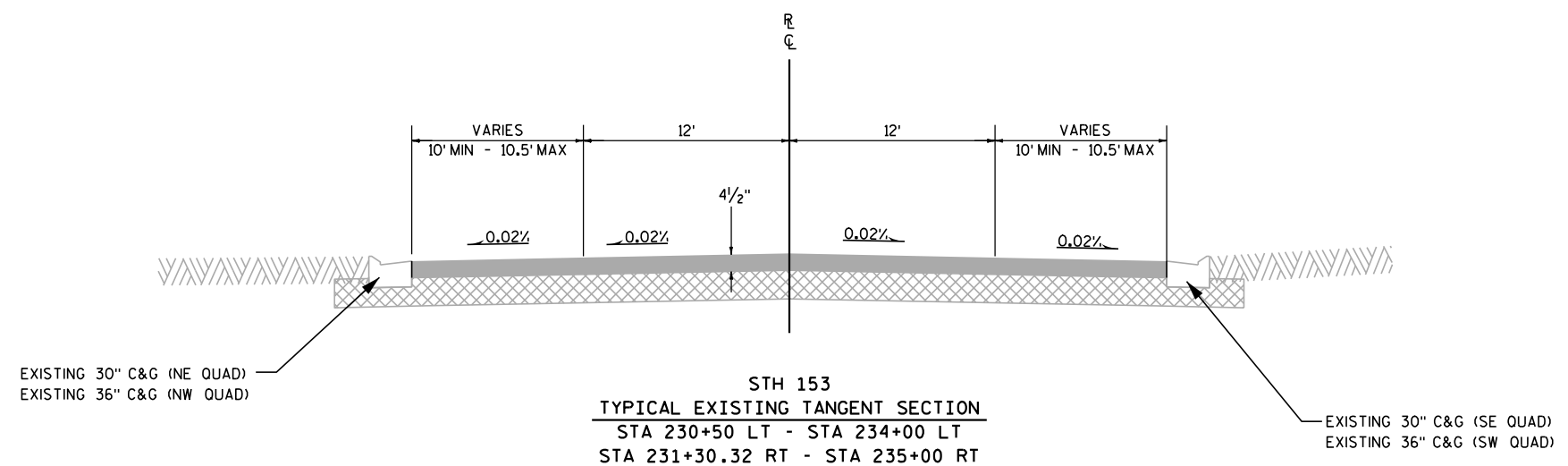
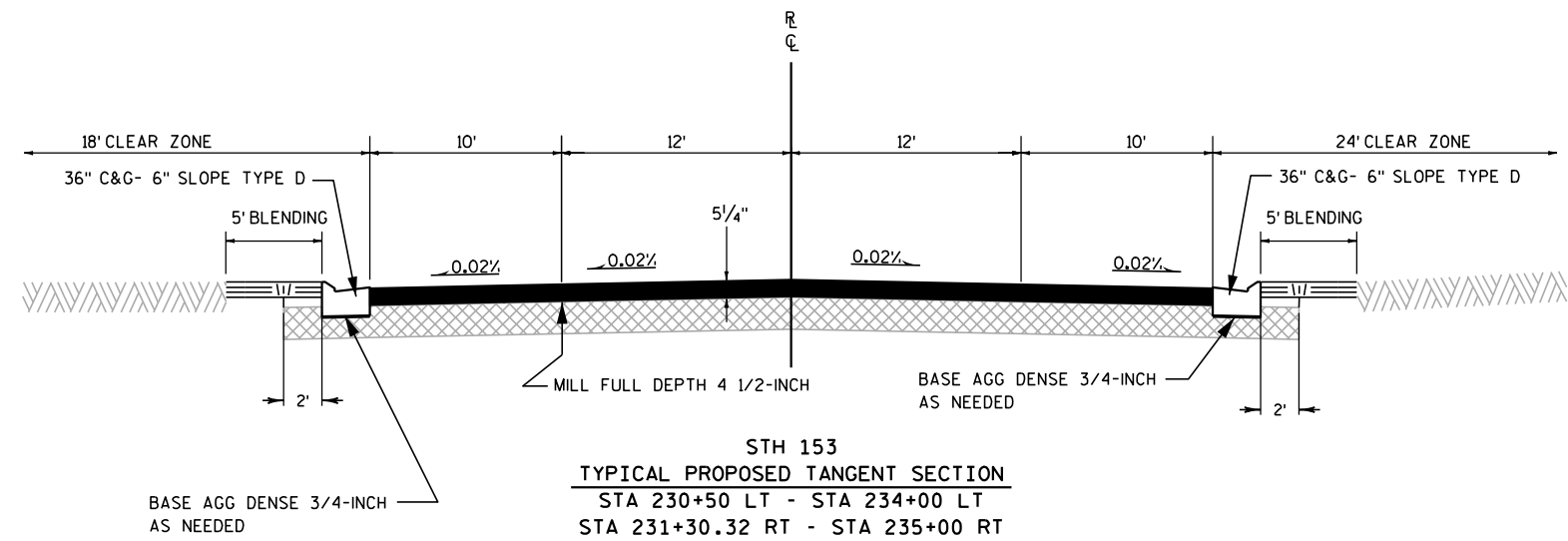
PROPOSED

- |                                                                                   |                                                                              |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------|
|  | HMA PAVEMENT TYPE E-1                                                        |
|  | $\frac{3}{4}$ IN BASE AGGREGATE DENSE                                        |
|  | 4" SALVAGED TOPSOIL, SEED, FERTILIZE AND<br>EROSION MAT URBAN CLASS 1 TYPE A |

EXISTING

- |                                                                                     |                                                            |
|-------------------------------------------------------------------------------------|------------------------------------------------------------|
|  | ASPHALTIC CONCRETE PAVEMENT                                |
|  | ORIGINAL GROUND                                            |
|  | GRAVEL OR CRUSHED STONE<br>BASE COURSE (SHOULDER MATERIAL) |
|  | GRAVEL OR CRUSHED STONE<br>BASE COURSE                     |
|  | GRANULAR SUBBASE                                           |

NOTE:  
\* REMOVE EXISTING CABC DURING MILLING PROCESS



PROJECT NO: 6600-01-80

HWY: STH 153

COUNTY: MARATHON

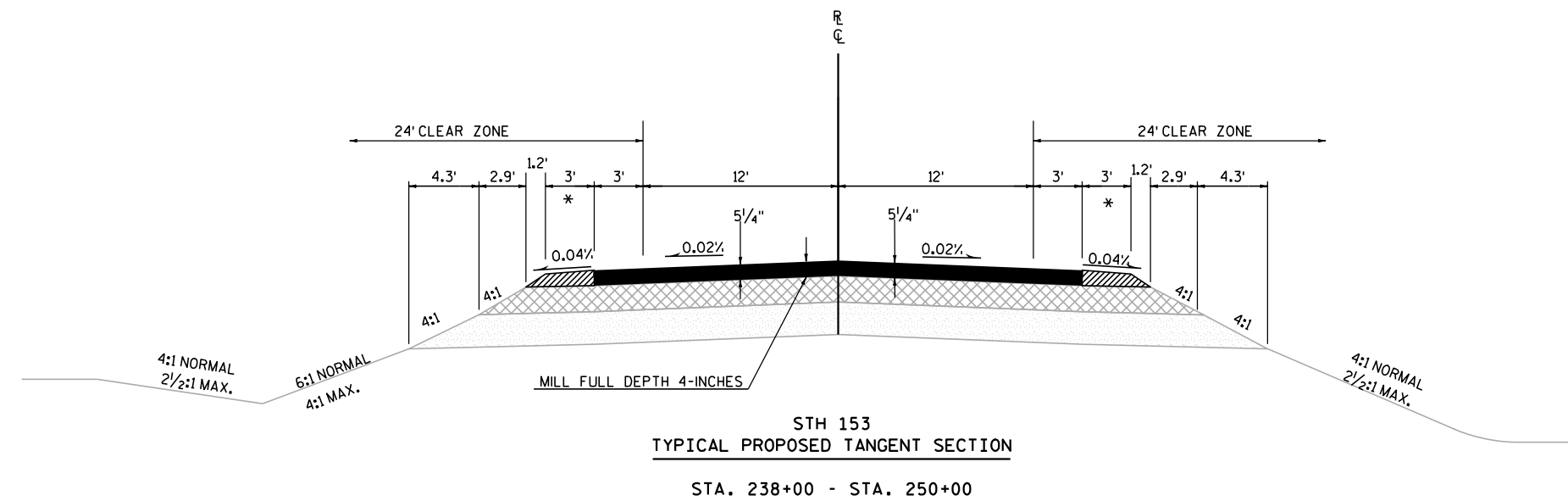
TYPICAL SECTION

SHEET

E

2

2 |



LEGEND

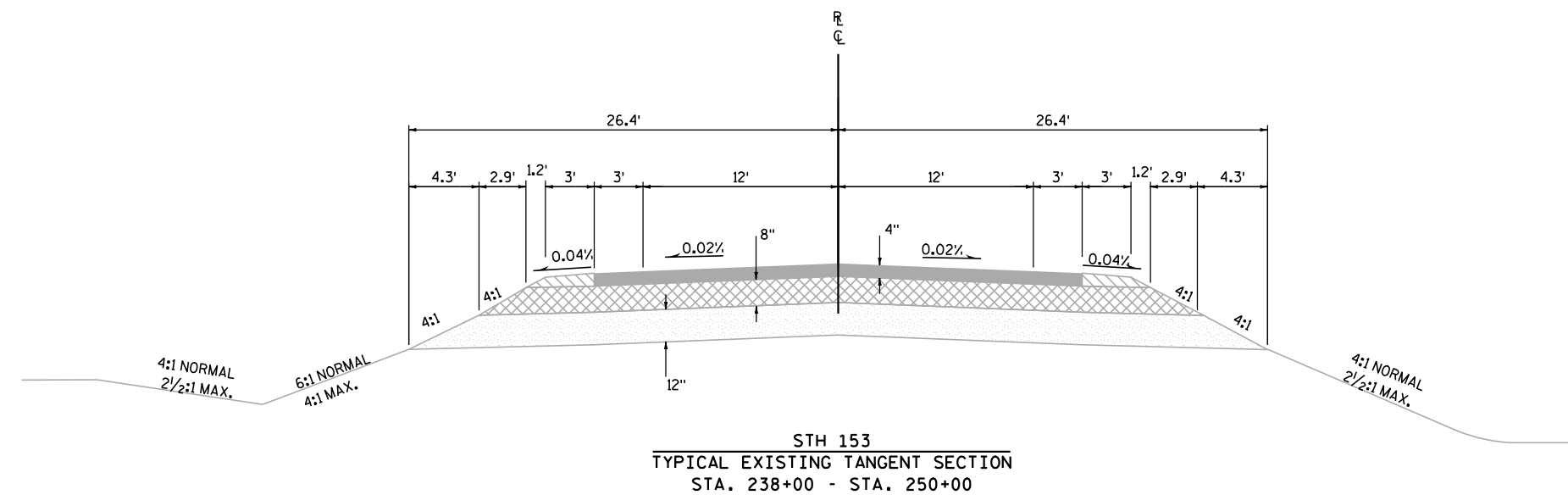
PROPOSED

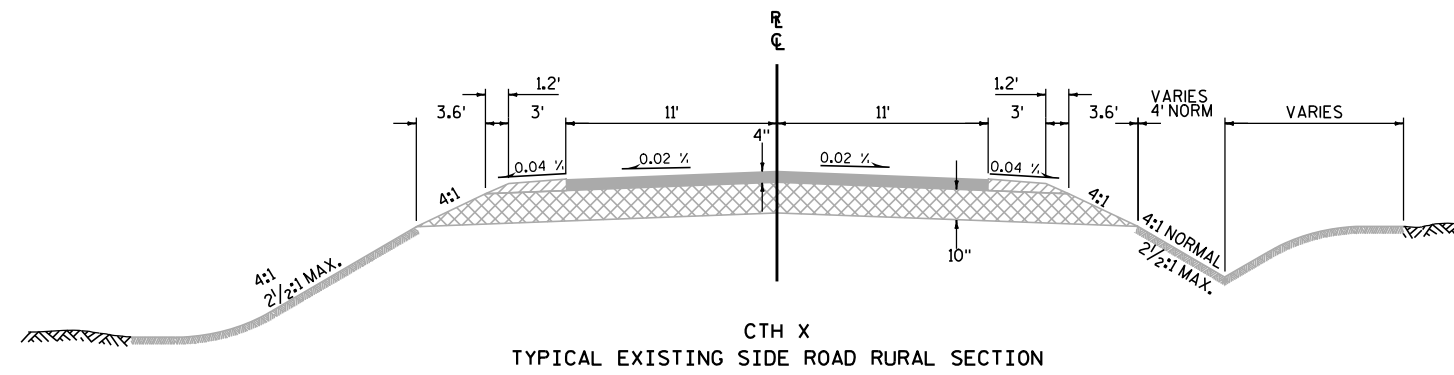
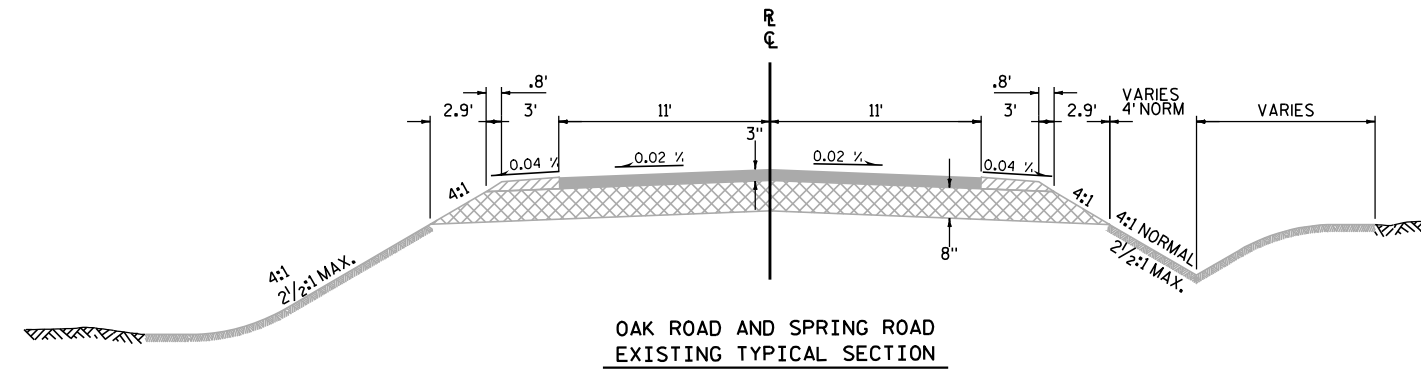
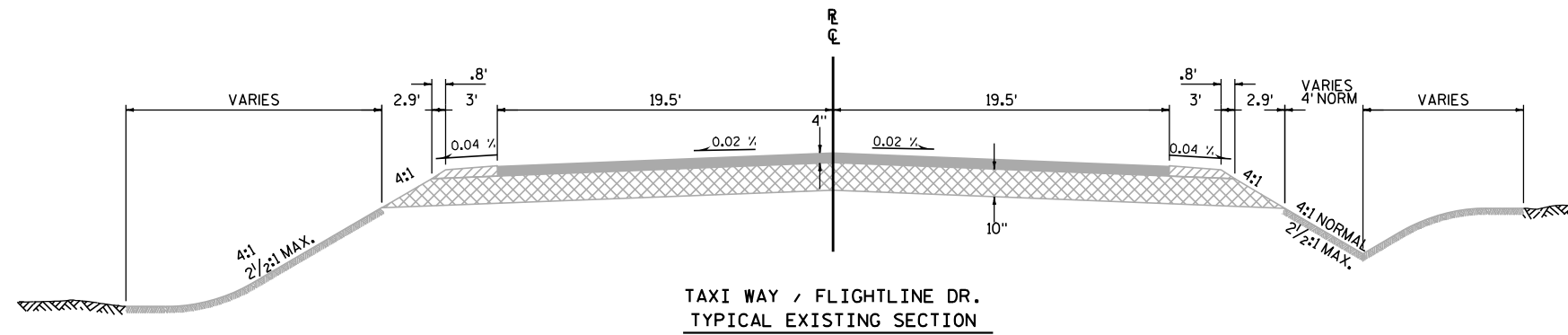
- |                                                                                     |                                                            |
|-------------------------------------------------------------------------------------|------------------------------------------------------------|
|  | HMA PAVEMENT TYPE E-1                                      |
|  | BASE AGGREGATE DENSE 3/4-INCH                              |
| <u>EXISTING</u>                                                                     |                                                            |
|  | ASPHALTIC CONCRETE PAVEMENT                                |
|  | GRAVEL OR CRUSHED STONE<br>BASE COURSE (SHOULDER MATERIAL) |
|  | GRAVEL OR CRUSHED STONE<br>BASE COURSE                     |
|  | GRANULAR SUBBASE                                           |

EXISTING

- |                                                                                     |                                                            |
|-------------------------------------------------------------------------------------|------------------------------------------------------------|
|  | ASPHALTIC CONCRETE PAVEMENT                                |
|  | GRAVEL OR CRUSHED STONE<br>BASE COURSE (SHOULDER MATERIAL) |
|  | GRAVEL OR CRUSHED STONE<br>BASE COURSE                     |
|  | GRANULAR SUBBASE                                           |

NOTE:  
\* REMOVE EXISTING CABC DURING MILLING PROCESS



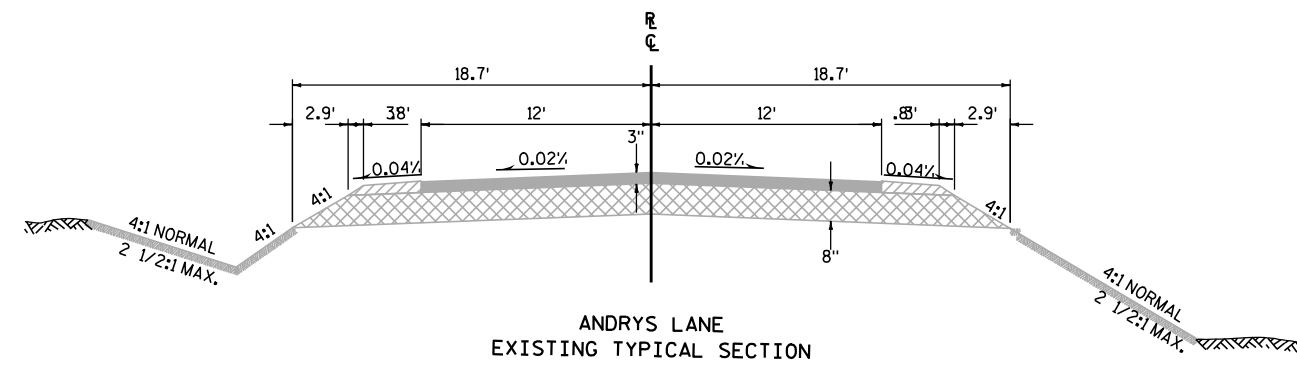


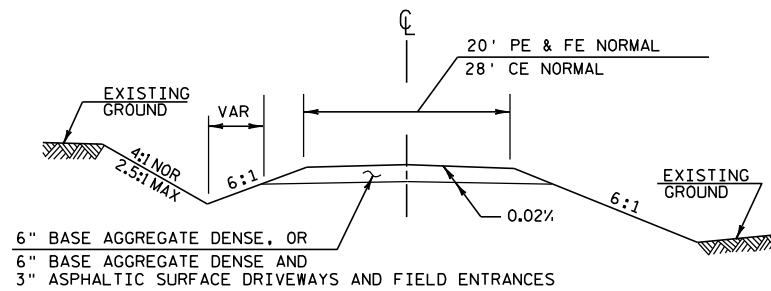
### LEGEND

#### EXISTING

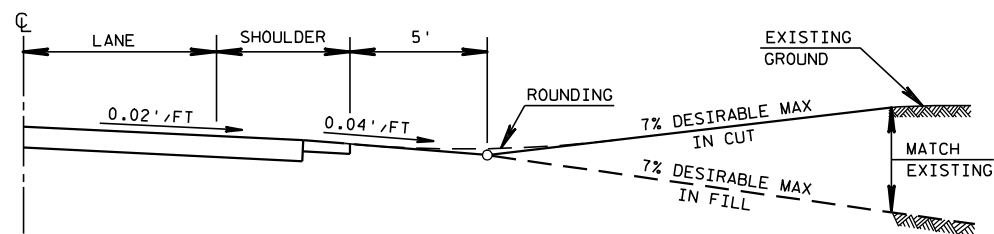
-  ASPHALTIC CONCRETE PAVEMENT
-  GRAVEL OR CRUSHED STONE BASE COURSE (SHOULDER MATERIAL)
-  GRAVEL OR CRUSHED STONE BASE COURSE
-  GRANULAR SUBBASE

NOTE:  
\* REMOVE EXISTING CABC DURING MILLING PROCESS

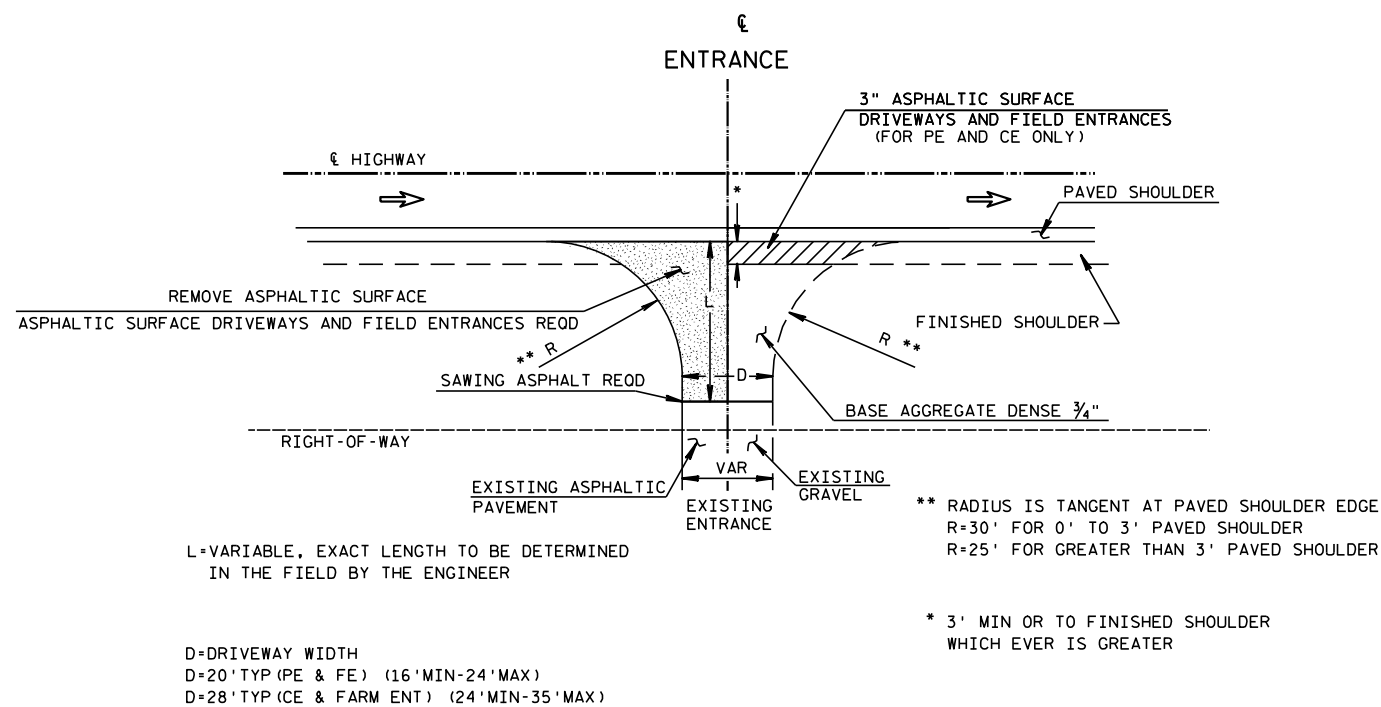




TYPICAL CROSS SECTION

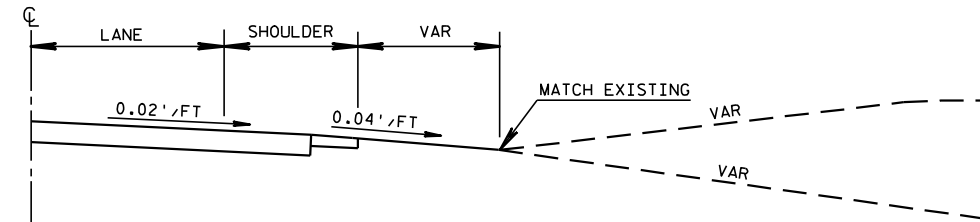


TYPICAL PROFILE VIEW

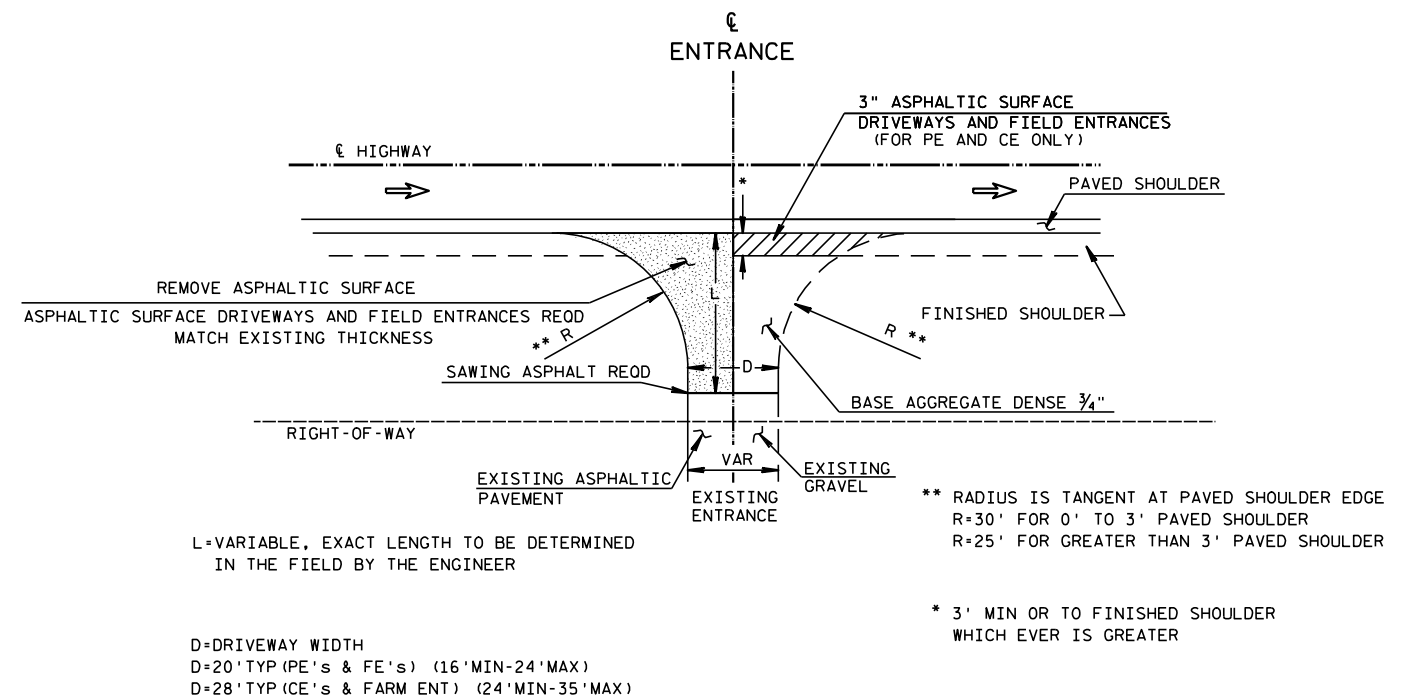


PLAN VIEW

RURAL DRIVEWAY INTERSECTION DETAIL  
(PE, FE & CE)  
(FOR NEW CONSTRUCTION)



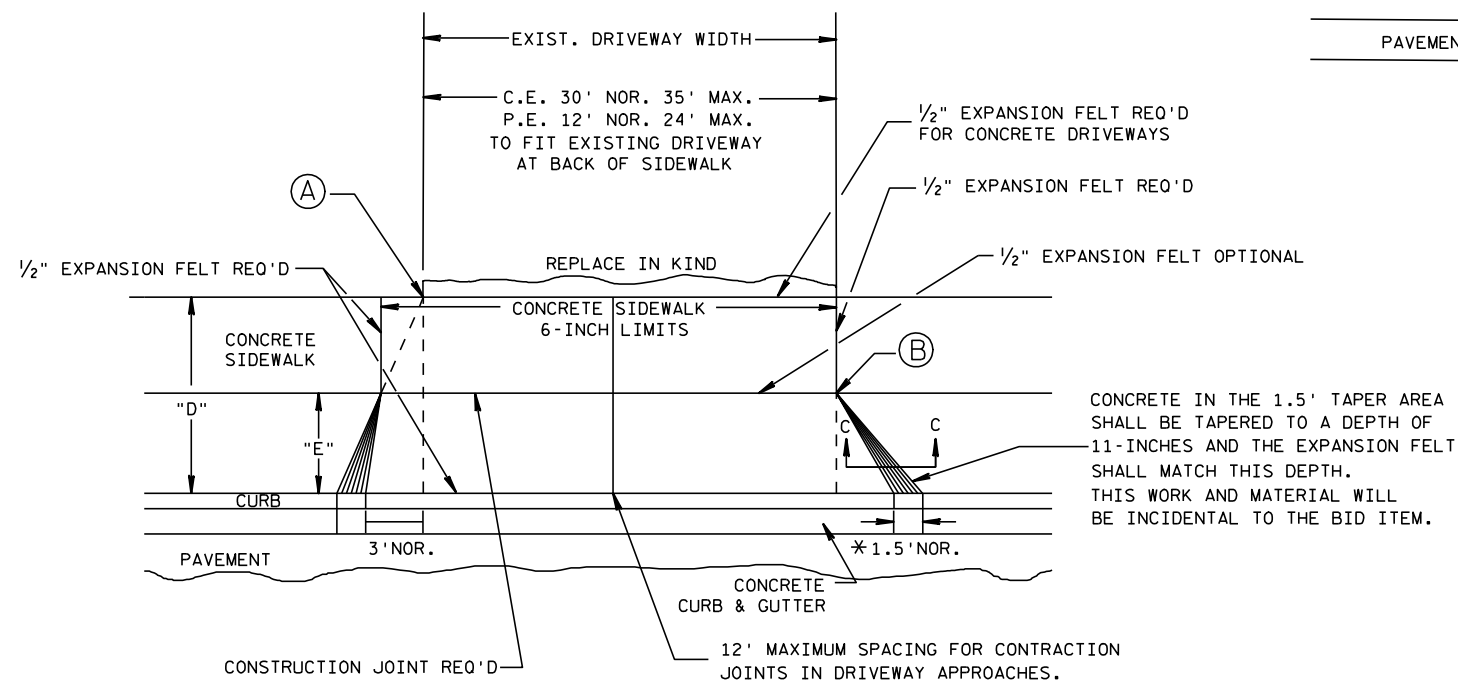
TYPICAL PROFILE VIEW



PLAN VIEW

RURAL DRIVEWAY INTERSECTION DETAIL  
(PE, FE & CE)  
(FOR RESURFACING PROJECTS)

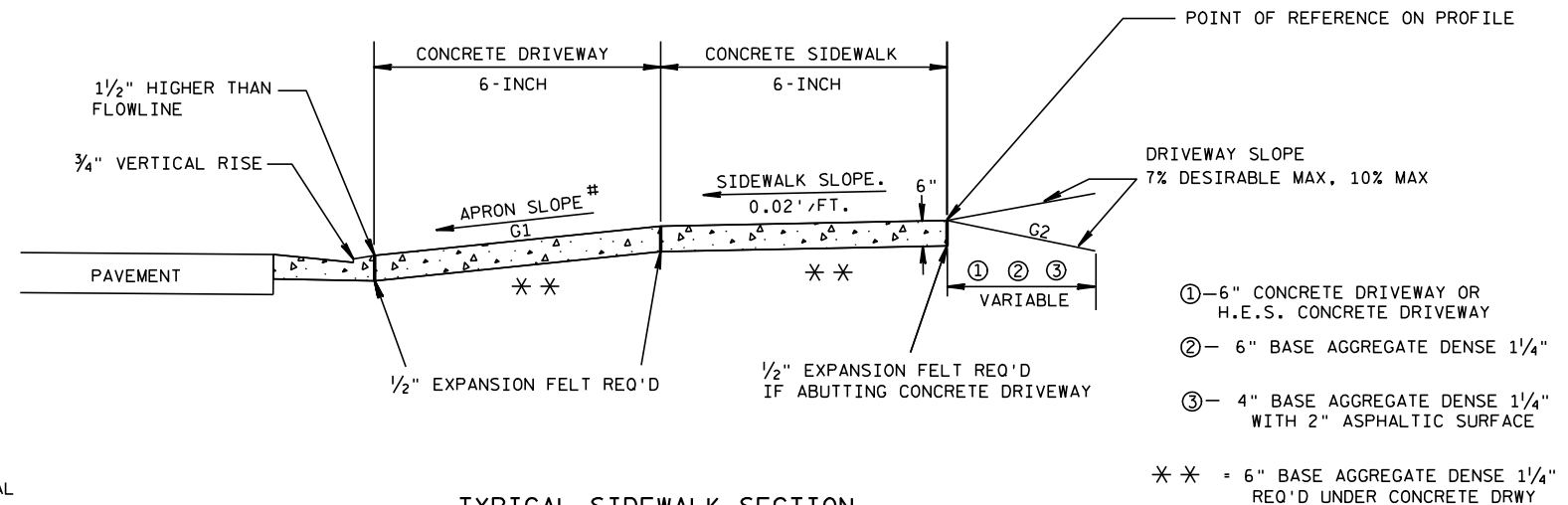
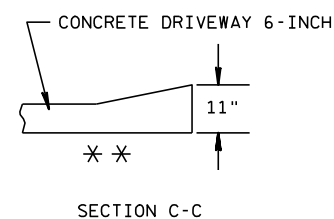
## DRIVEWAY ENTRANCE DETAIL WITH SIDEWALK, CURB &amp; GUTTER



Ⓐ WHEN "D" IS 13' OR LESS, ALIGN TAPER WITH BACK OF SIDEWALK

Ⓑ WHEN "D" IS GREATER THAN 13', ALIGN TAPER WITH FRONT OF SIDEWALK

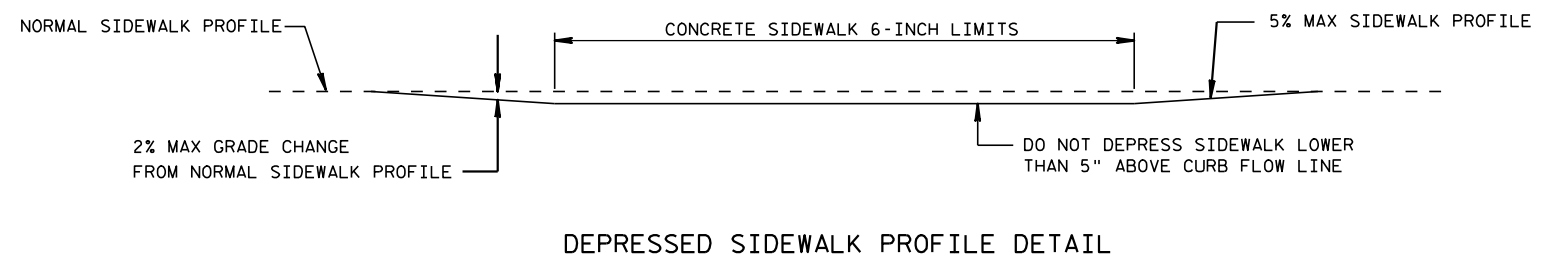
\* WHEN "E" = 0  
MAKE CURB TAPER 5'

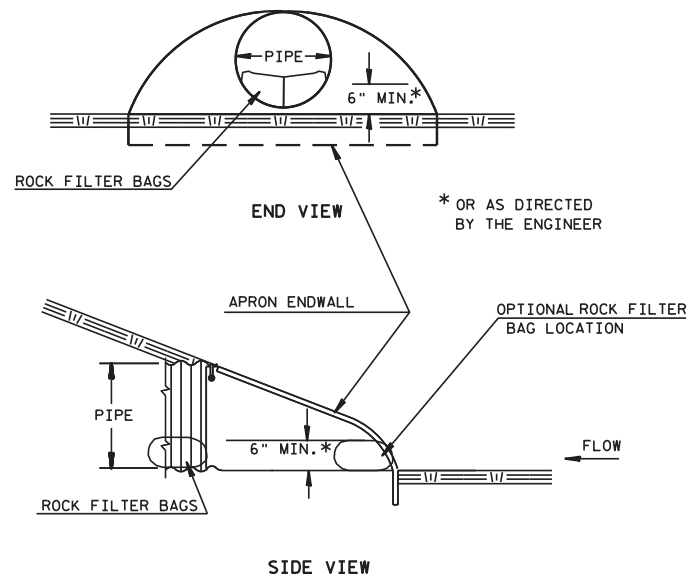


| TERRACE WIDTH | APRON SLOPE (G1) |             |       |
|---------------|------------------|-------------|-------|
|               | MIN %            | DESIRABLE % | MAX % |
| 3 FT          | 7.0              | 8.5         | 9.0   |
| 4 FT          | 5.0              | 7.0         | 9.0   |
| 5 FT          | 4.0              | 7.0         | 9.0   |
| 6 FT          | 4.0              | 7.0         | 9.0   |
| 7 FT          | 3.5              | 7.0         | 9.0   |
| 8 FT          | 3.0              | 7.0         | 9.0   |

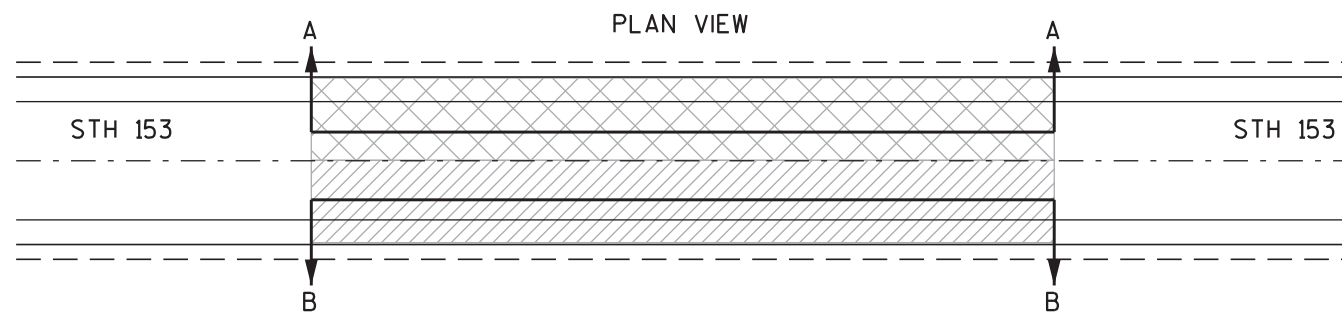
NOTE: ALGEBRAIC DIFFERENCE BETWEEN TANGENT GRADES G1 & G2 TO NOT EXCEED 15%

DEPRESS SIDEWALK PROFILE IF DRIVEWAY APRON EXCEEDS MAX SLOPE





**ROCK BAGS USED FOR CULVERT PIPE CHECKS DETAIL**  
(INSTALL ON INLET END ONLY)

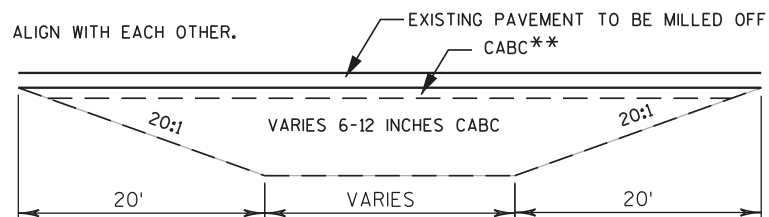


NOTE:  
ONLY ONE DRIVING LANE/OR SIDE CAN BE WORKED ON AT A TIME.  
ONE LANE NEEDS TO BE OPEN TO TRAFFIC AT ALL TIMES.

SECTION A-A AND SECTION B-B HAVE TO ALIGN WITH EACH OTHER.

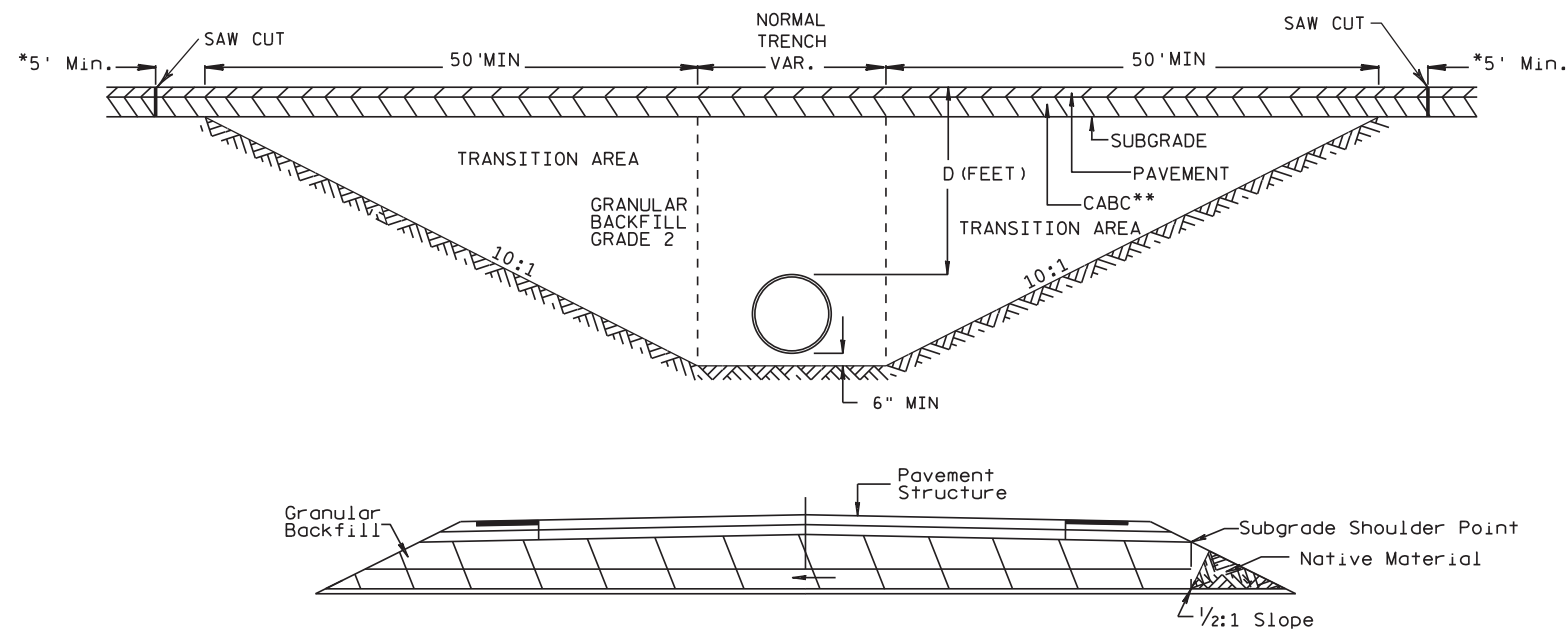
PAID FOR AS COMMON EXCAVATION

\*\*MATCH ADJACENT EXISTING TYPICAL



**SECTION A-A**  
**SECTION B-B**  
**COMMON EXCAVATION**

UNDISTRIBUTED AS DETERMINED BY ENGINEER IN THE FIELD

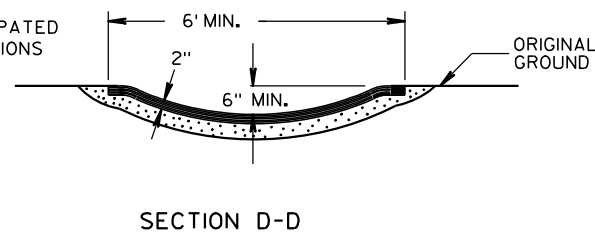
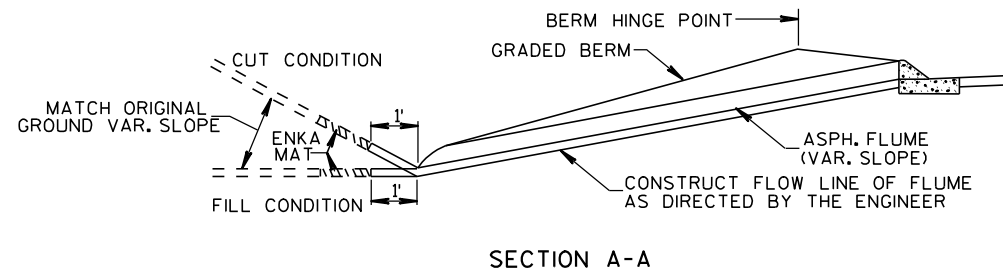
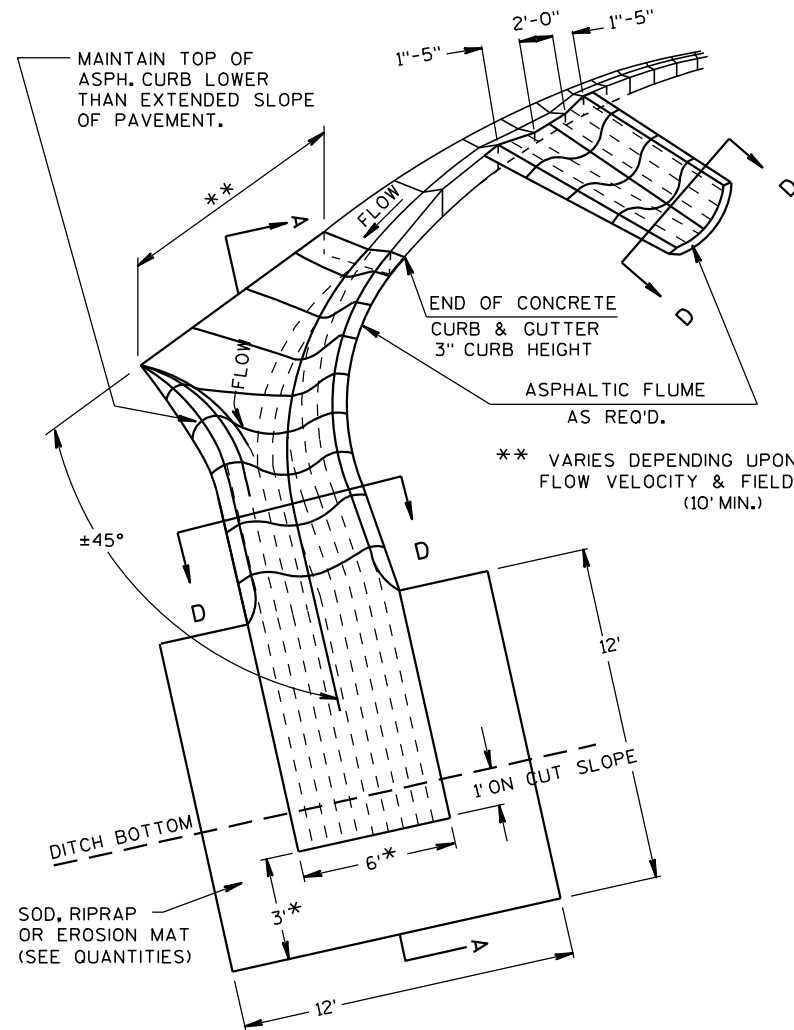


**CROSS DRAIN INSTALLATION DETAIL**  
STA 210+00, STH 153

\* Pavement Removal Limits (Typical)

\*\*MATCH ADJACENT EXISTING TYPICAL

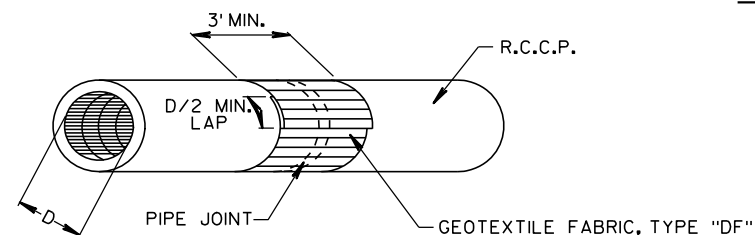




**ASPHALTIC FLUME DETAIL  
AT RURAL INTERSECTIONS**

STA 118+50 LT  
STA 230+45 LT  
STA 231+25 RT

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

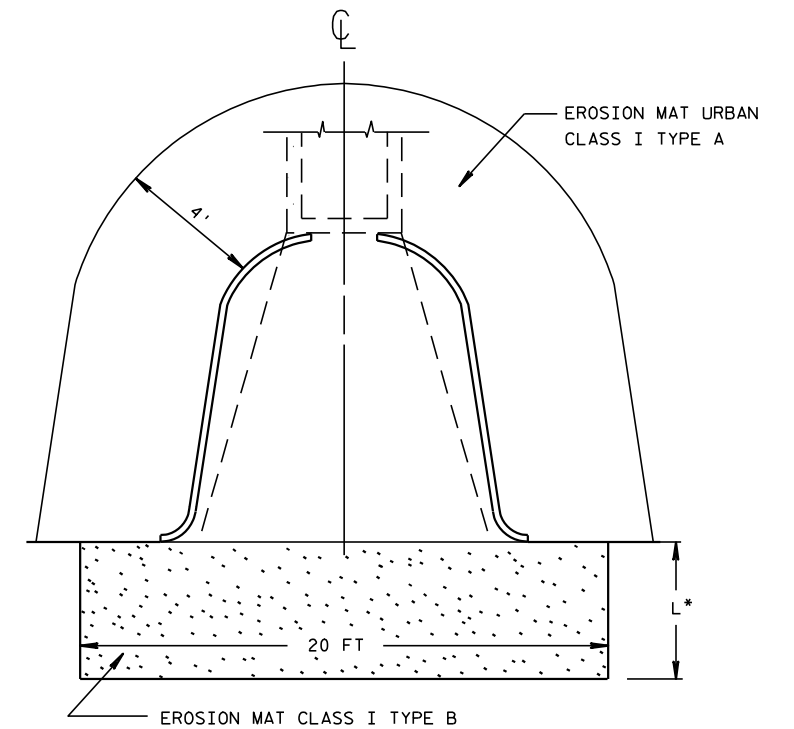


**DETAIL OF WRAPPED PIPE JOINT**

WRAP ALL JOINTS

**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                    |

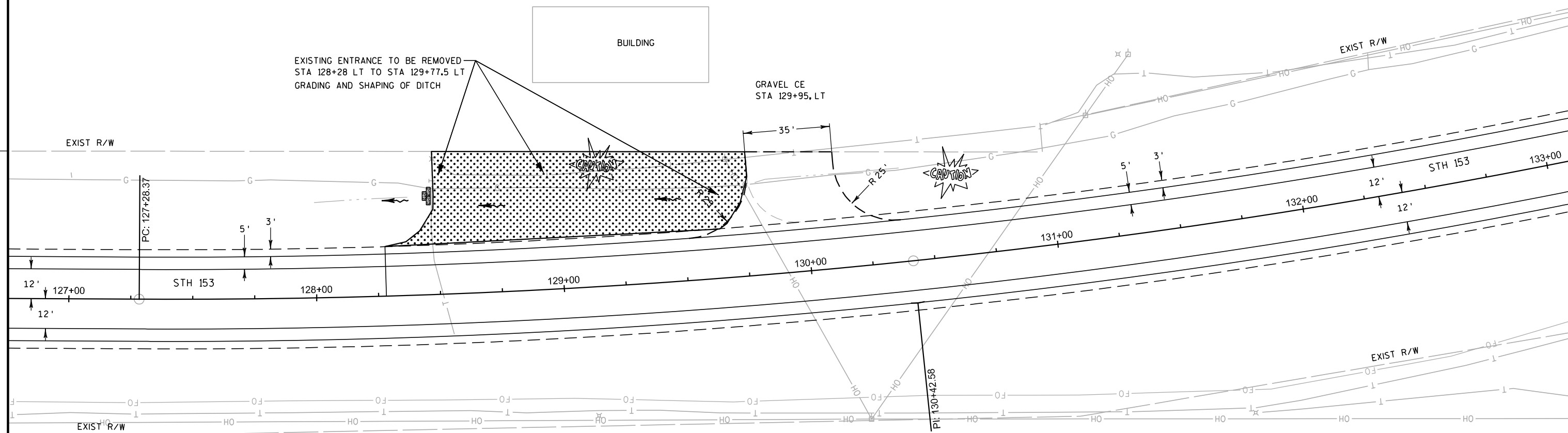


**EROSION CONTROL AT PIPE ENDS**

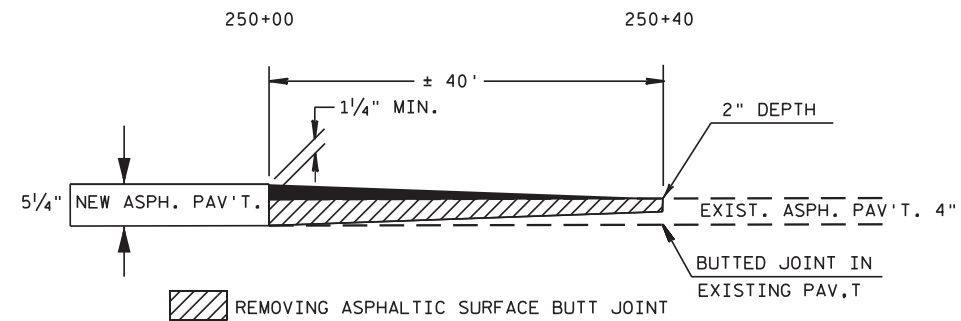
L = 3 TIMES DIAMETER OR 10' MIN.  
INCREASE IF WARRANTED  
\* TO BE DETERMINED BY  
ENGINEER IN THE FIELD

LEGEND

- TEMPORARY DITCH CHECKS
- EROSION MAT URBAN CLASS 1 TYPE A
- 4-INCH SALVAGED TOPSOIL, SEED AND FERTILIZE, WATER, PREP FOR LAWN

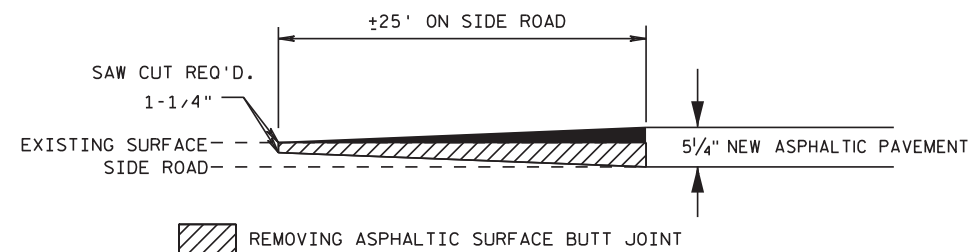






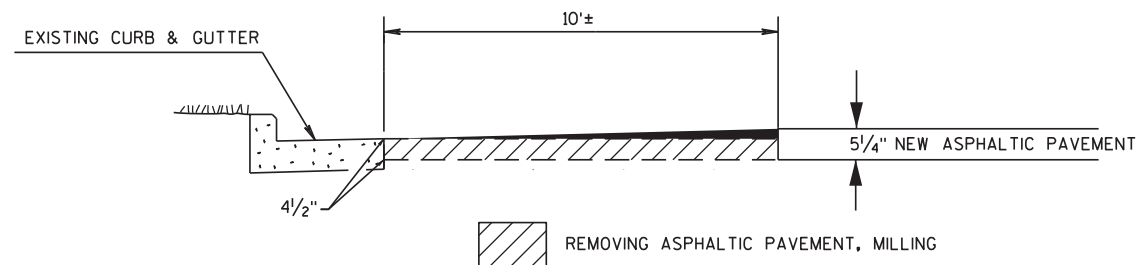
### MAINLINE BUTT JOINT (STH 153)

STA 250+00 TO STA 250+40



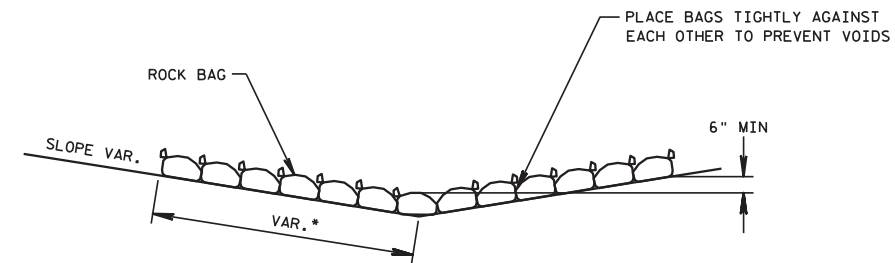
### BUTT JOINT

10+56.52'S' (SPRING RD)  
10+95.96'O' (OAK ROAD)

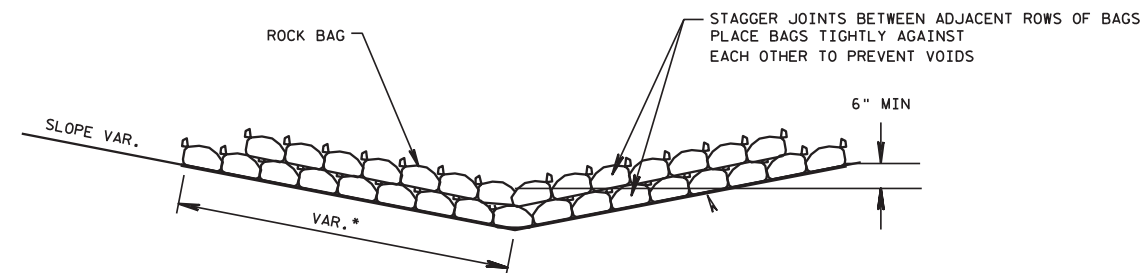


### CURB & GUTTER DETAIL

SPRING ROAD NORTH (NW & NE QUADRANT)

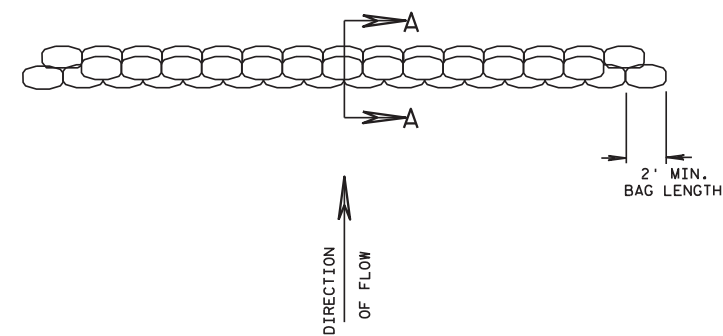


SIDE VIEW (SINGLE LAYER)

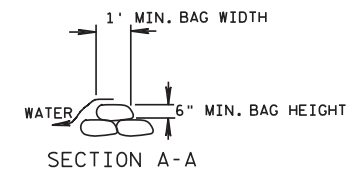


\* LENGTH AND NUMBER OF BAGS MAY VARY  
DEPENDING ON DESIRED DEPTH OF WATER POOL

SIDE VIEW (MULTIPLE LAYER)

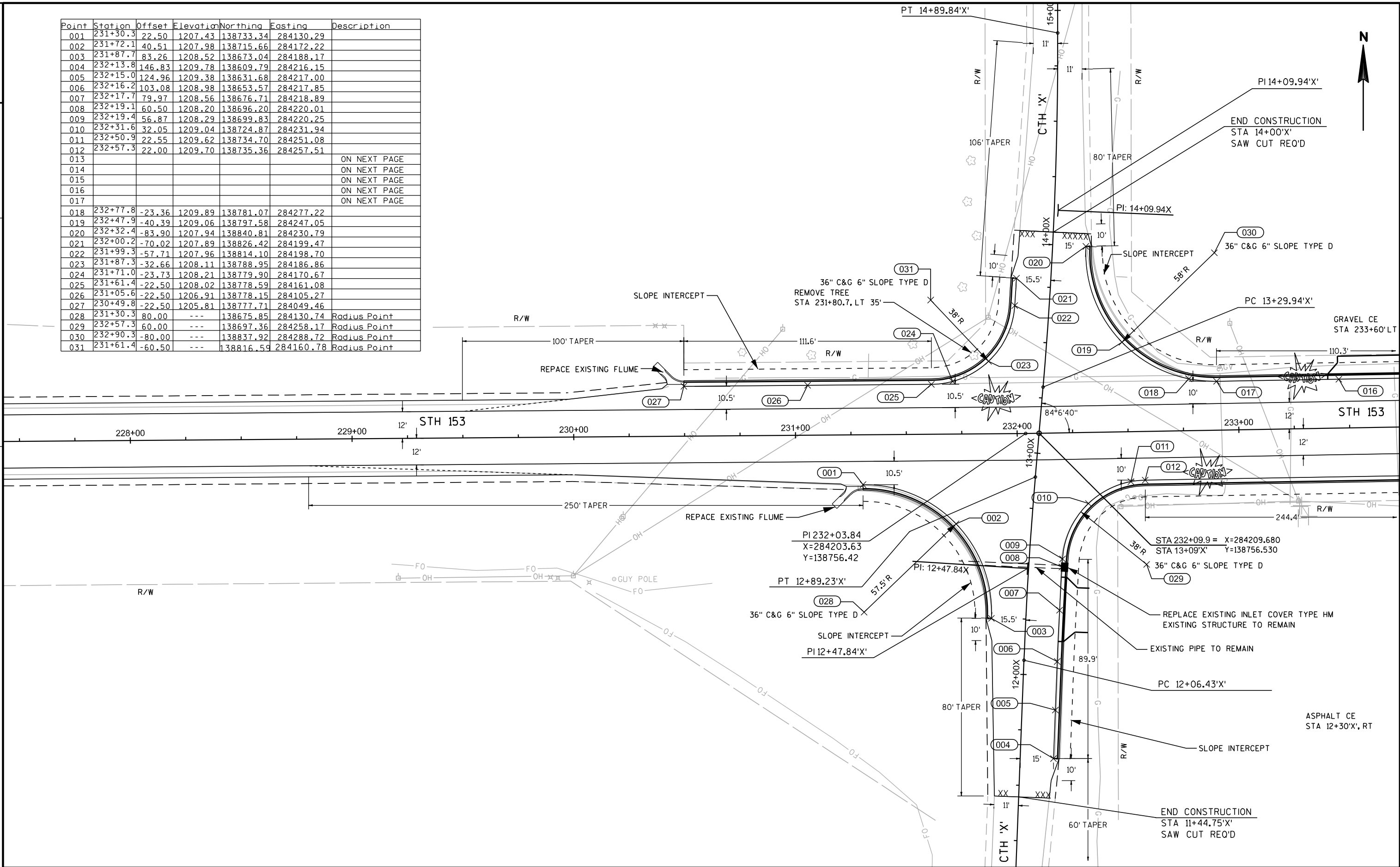


TOP VIEW (MULTIPLE LAYER)

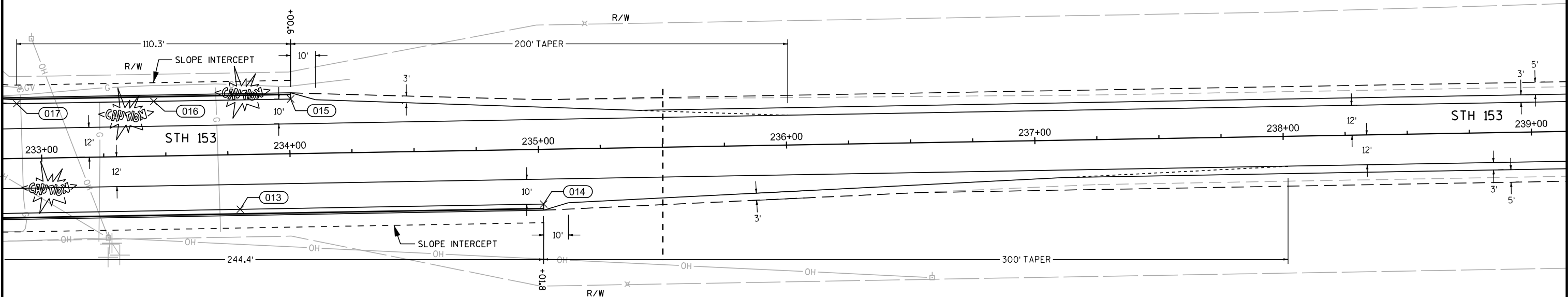


### ROCK BAGS USED FOR TEMPORARY DITCH CHECKS DETAIL

| Point | Station  | Offset | Elevation | Northing  | Easting   | Description  |
|-------|----------|--------|-----------|-----------|-----------|--------------|
| 001   | 231+30.3 | 22.50  | 1207.43   | 138733.34 | 284130.29 |              |
| 002   | 231+72.1 | 40.51  | 1207.98   | 138715.66 | 284172.22 |              |
| 003   | 231+87.7 | 83.26  | 1208.52   | 138673.04 | 284188.17 |              |
| 004   | 232+13.8 | 146.83 | 1209.78   | 138609.79 | 284216.15 |              |
| 005   | 232+15.0 | 124.96 | 1209.38   | 138631.68 | 284217.00 |              |
| 006   | 232+16.2 | 103.08 | 1208.98   | 138653.57 | 284217.85 |              |
| 007   | 232+17.7 | 79.97  | 1208.56   | 138676.71 | 284218.89 |              |
| 008   | 232+19.1 | 60.50  | 1208.20   | 138696.20 | 284220.01 |              |
| 009   | 232+19.4 | 56.87  | 1208.29   | 138699.83 | 284220.25 |              |
| 010   | 232+31.6 | 32.05  | 1209.04   | 138724.87 | 284231.94 |              |
| 011   | 232+50.9 | 22.55  | 1209.62   | 138734.70 | 284251.08 |              |
| 012   | 232+57.3 | 22.00  | 1209.70   | 138735.36 | 284257.51 |              |
| 013   |          |        |           |           |           | ON NEXT PAGE |
| 014   |          |        |           |           |           | ON NEXT PAGE |
| 015   |          |        |           |           |           | ON NEXT PAGE |
| 016   |          |        |           |           |           | ON NEXT PAGE |
| 017   |          |        |           |           |           | ON NEXT PAGE |
| 018   | 232+77.8 | -23.36 | 1209.89   | 138781.07 | 284277.22 |              |
| 019   | 232+47.9 | -40.39 | 1209.06   | 138797.58 | 284247.05 |              |
| 020   | 232+32.4 | -83.90 | 1207.94   | 138840.81 | 284230.79 |              |
| 021   | 232+00.2 | -70.02 | 1207.89   | 138826.42 | 284199.47 |              |
| 022   | 231+99.3 | -57.71 | 1207.96   | 138814.10 | 284198.70 |              |
| 023   | 231+87.3 | -32.66 | 1208.11   | 138788.95 | 284186.86 |              |
| 024   | 231+71.0 | -23.73 | 1208.21   | 138779.90 | 284170.67 |              |
| 025   | 231+61.4 | -22.50 | 1208.02   | 138778.59 | 284161.08 |              |
| 026   | 231+05.6 | -22.50 | 1206.91   | 138778.15 | 284105.27 |              |
| 027   | 230+49.8 | -22.50 | 1205.81   | 138777.71 | 284049.46 |              |
| 028   | 231+30.3 | 80.00  | ---       | 138675.85 | 284130.74 | Radius Point |
| 029   | 232+57.3 | 60.00  | ---       | 138697.36 | 284258.17 | Radius Point |
| 030   | 232+90.3 | -80.00 | ---       | 138837.92 | 284288.72 | Radius Point |
| 031   | 231+61.4 | -60.50 | ---       | 138816.59 | 284160.78 | Radius Point |



| Point | Station  | Offset | Elevation | Northing  | Easting   |
|-------|----------|--------|-----------|-----------|-----------|
| 013   | 233+79.5 | 22.00  | 1211.18   | 138737.48 | 284379.71 |
| 014   | 235+01.7 | 22.00  | 1212.66   | 138739.61 | 284501.90 |
| 015   | 234+00.6 | -22.00 | 1211.46   | 138781.84 | 284400.04 |
| 016   | 233+45.5 | -22.00 | 1210.75   | 138780.88 | 284344.89 |
| 017   | 232+90.3 | -22.00 | 1210.05   | 138779.93 | 284289.73 |



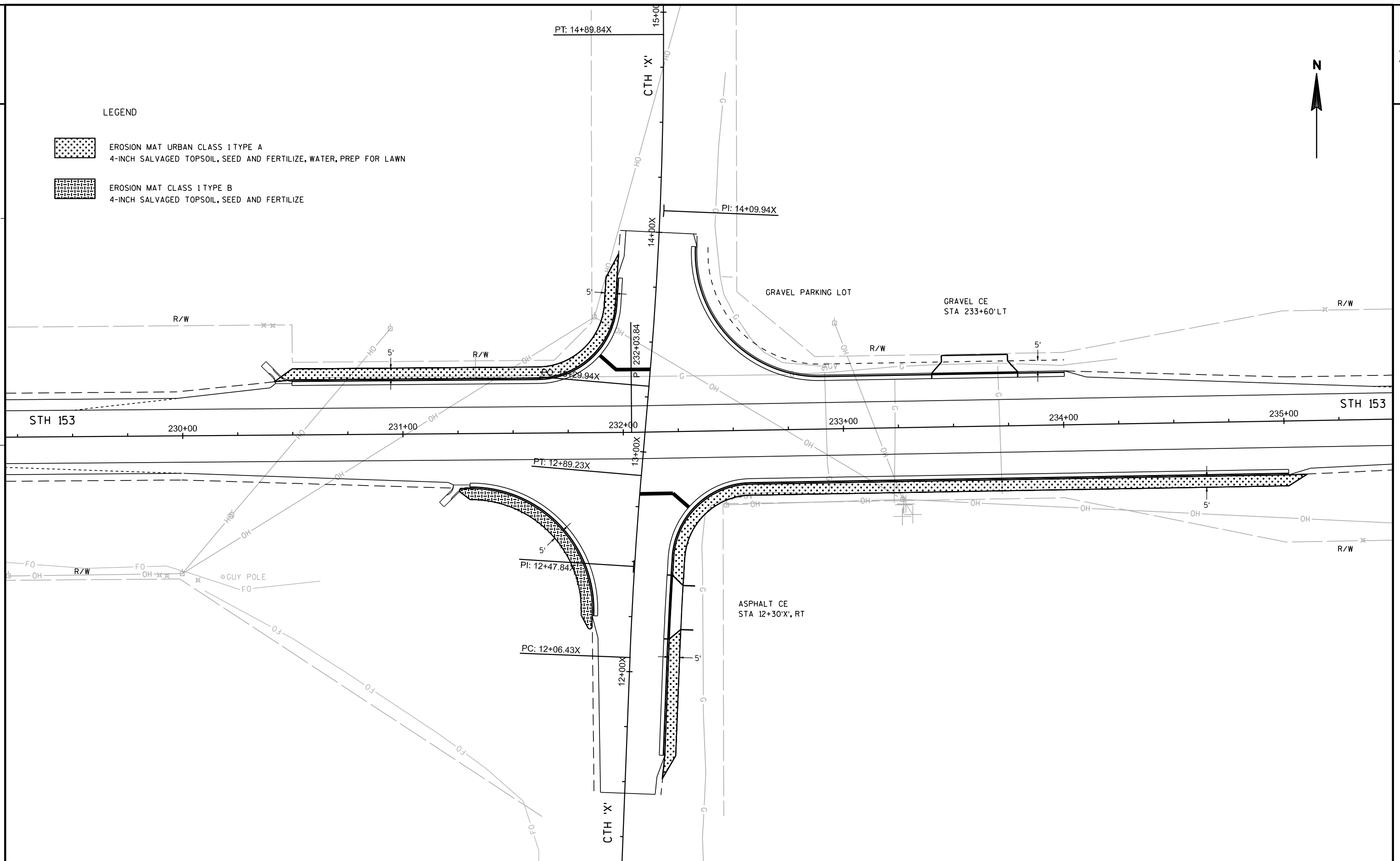
## LEGEND



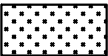
EROSION MAT URBAN CLASS 1 TYPE A  
4-INCH SALVAGED TOPSOIL, SEED AND FERTILIZE, WATER, PREP FOR LAWN

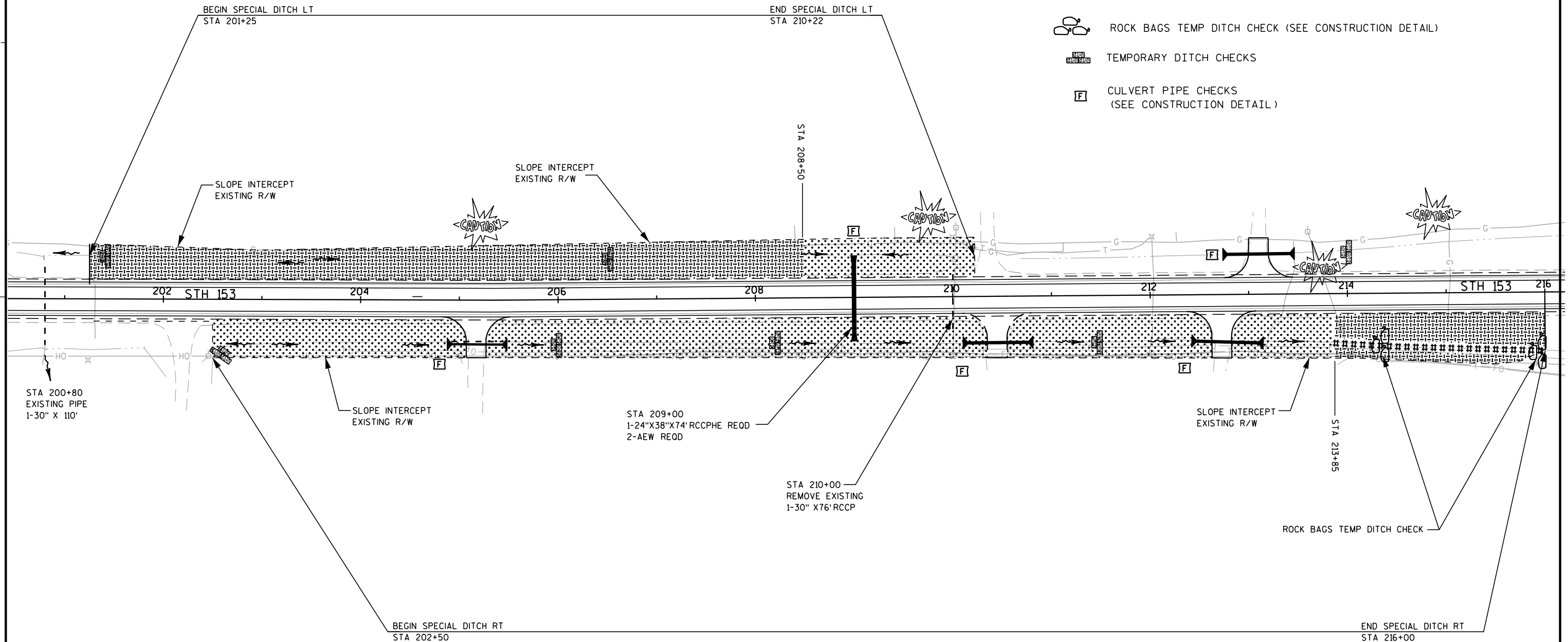


EROSION MAT CLASS 1 TYPE B  
4-INCH SALVAGED TOPSOIL, SEED AND FERTILIZE

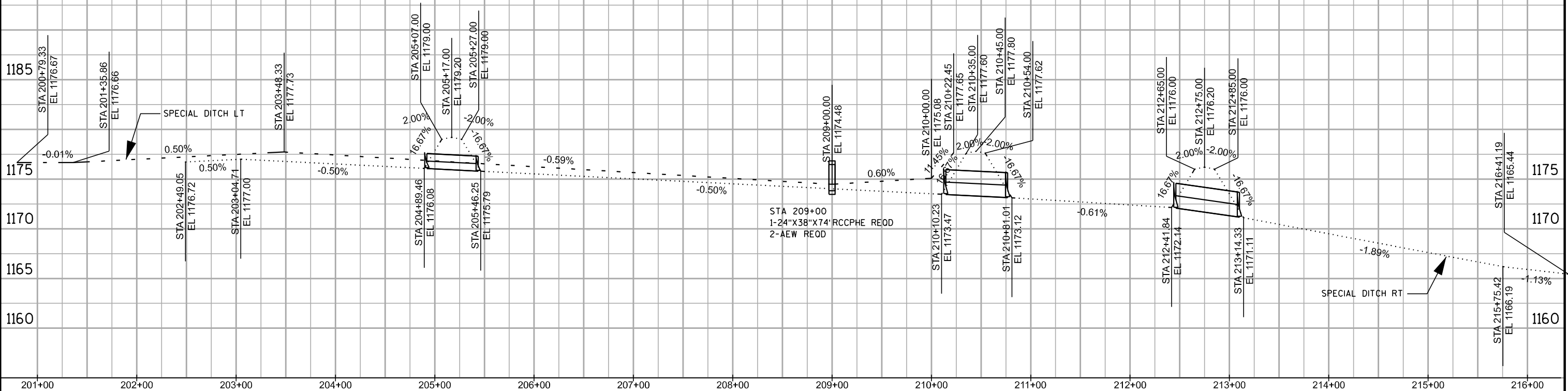
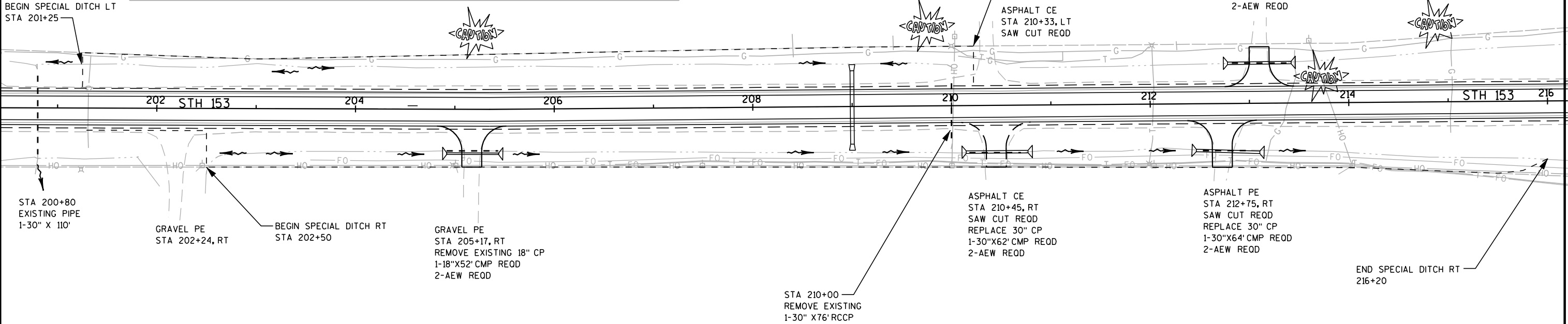


## LEGEND

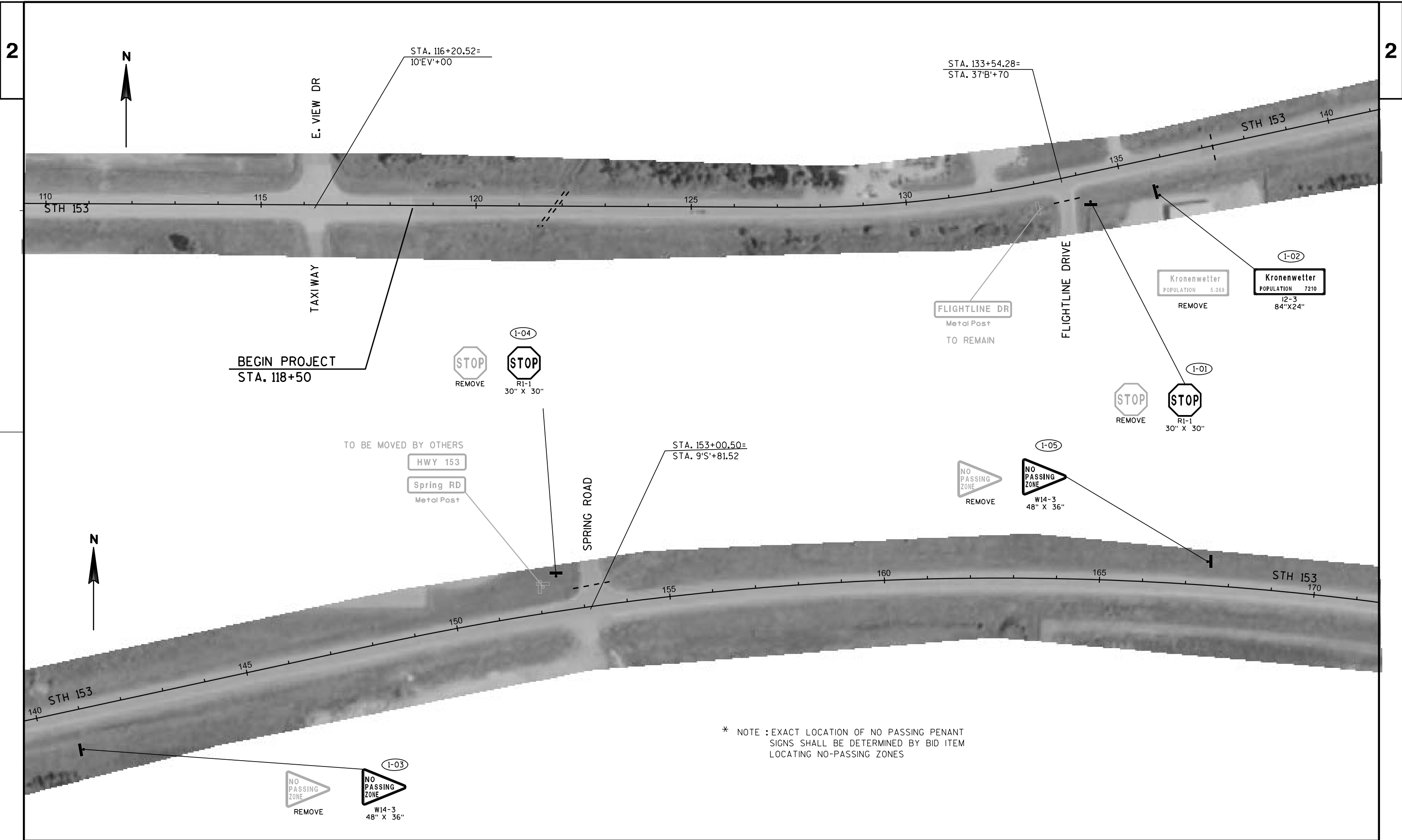
-  EROSION MAT URBAN CLASS 1 TYPE A  
4-INCH SALVAGED TOPSOIL, SEED AND FERTILIZE, WATER & PREP FOR LAWN
-  ## EROSION MAT CLASS 1 TYPE B (DITCH BOTTOM)
-  4-INCH SALVAGED TOPSOIL, SEED, FERTILIZE AND MULCH
-  ROCK BAGS TEMP DITCH CHECK (SEE CONSTRUCTION DETAIL)
-  TEMPORARY DITCH CHECKS
-  F CULVERT PIPE CHECKS  
(SEE CONSTRUCTION DETAIL)

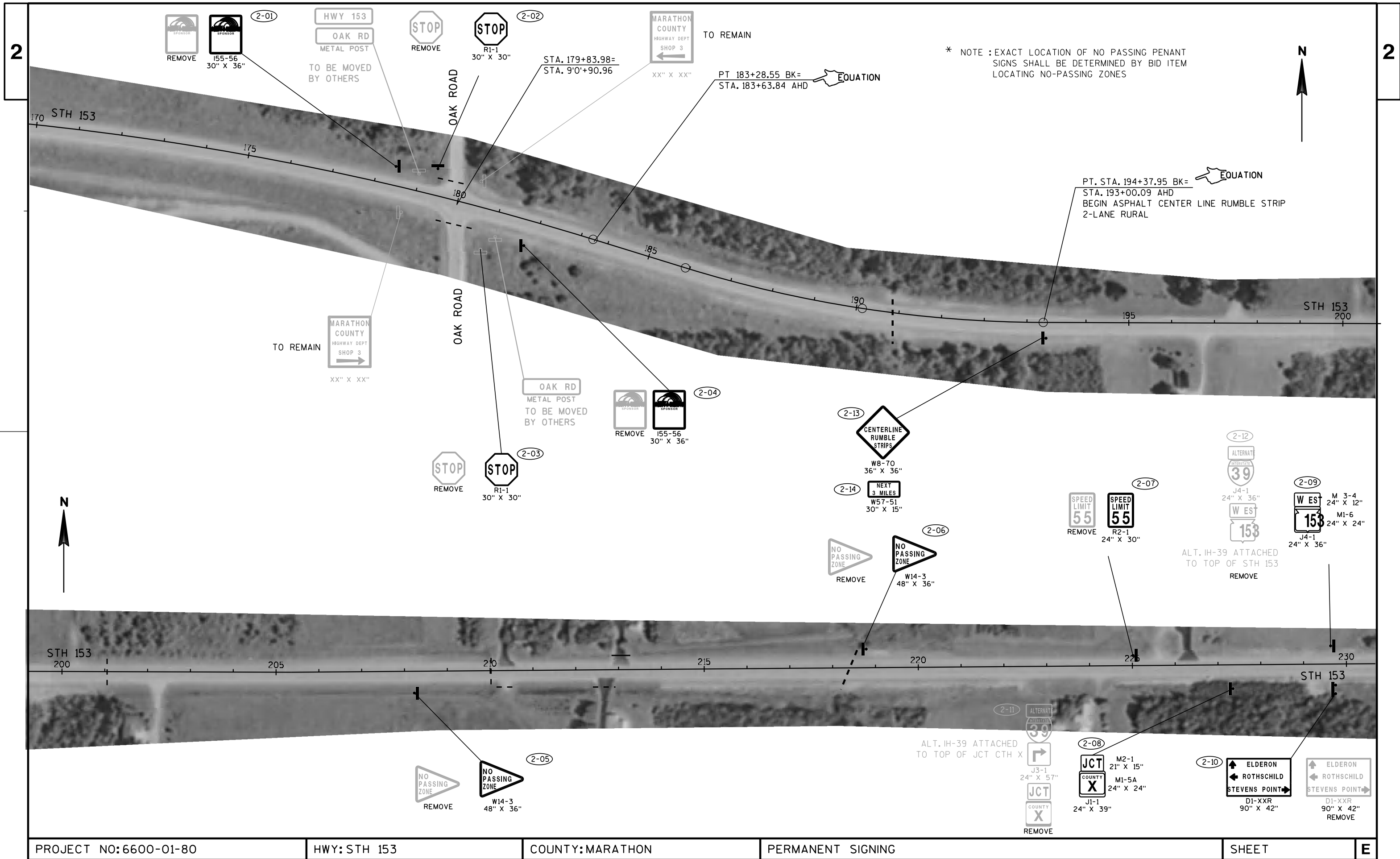


| Pipe Table     |        |        |        |        |                    |                   |          |          |                |
|----------------|--------|--------|--------|--------|--------------------|-------------------|----------|----------|----------------|
| STATION<br>R/L | BOP    | OFFSET | EOP    | OFFSET | PIPE<br>SIZE       | LENGTH<br>OF PIPE | BOP ELE. | EOP ELE. | SLOPE<br>FT/FT |
| 209+00         | 209+00 | -36 L  | 209+00 | 38 R   | 24 " X 38 " RCCPHE | 74'               | 1174.44  | 1174.07  | 0.0050         |
| DWY 205+17     | 204+92 | 45 R   | 205+44 | 45 R   | 18 " CMP           | 52'               | 1176.07  | 1175.80  | 0.0052         |
| DWY 210+45     | 210+14 | 47 R   | 210+77 | 47 R   | 30 " CMP           | 62'               | 1173.45  | 1173.14  | 0.0050         |
| DWY 212+75     | 212+46 | 47 R   | 213+10 | 49 R   | 30 " CMP           | 64'               | 1172.08  | 1171.17  | 0.0142         |
| DWY 213+10     | 212+84 | -40 L  | 213+39 | -41 L  | 30 " CMP           | 56'               | 1172.36  | 1172.15  | 0.0038         |









PROJECT NO: 6600-01-80

HWY: STH 153

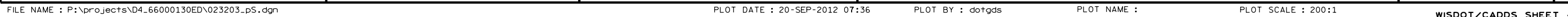
COUNTY: MARATHON

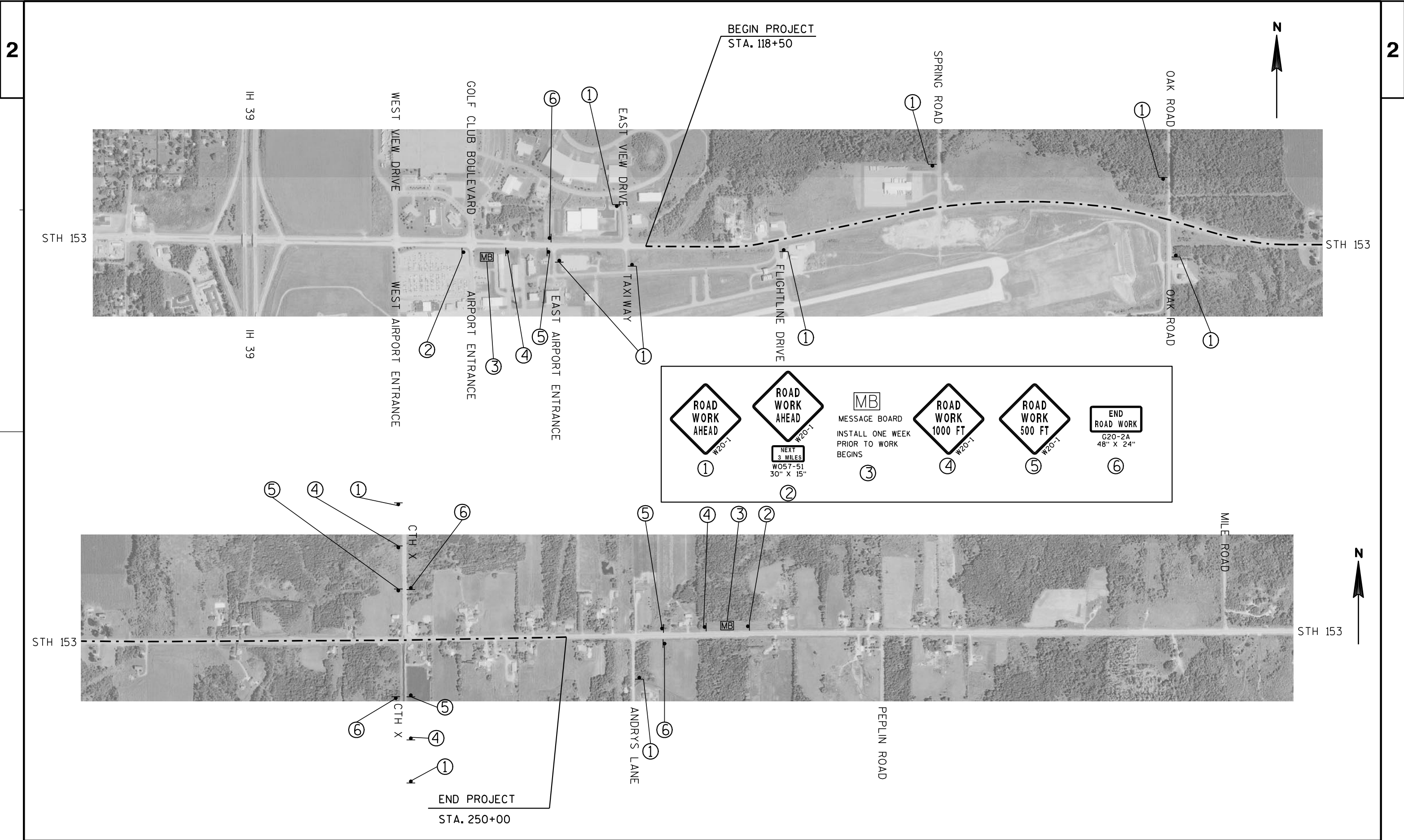
PERMANENT SIGNING

SHEET

E

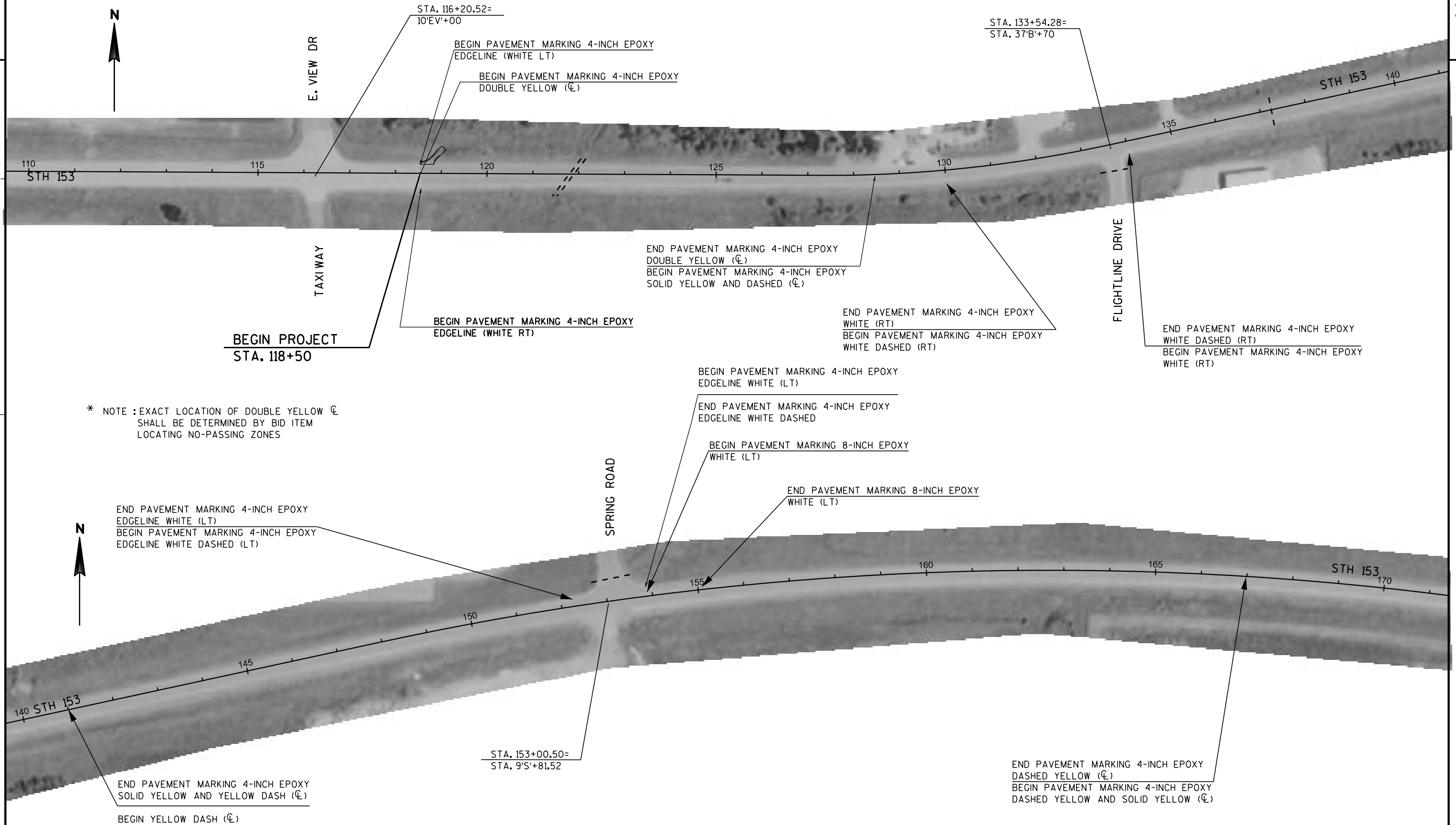






2

2



PROJECT NO:6600-01-80

HWY: STH 153

COUNTY: MARATHON

PAVEMENT MARKING

SHEET

E

FILE NAME : p:\projects\ND4\_66000130ED\024501\_pm.dgn

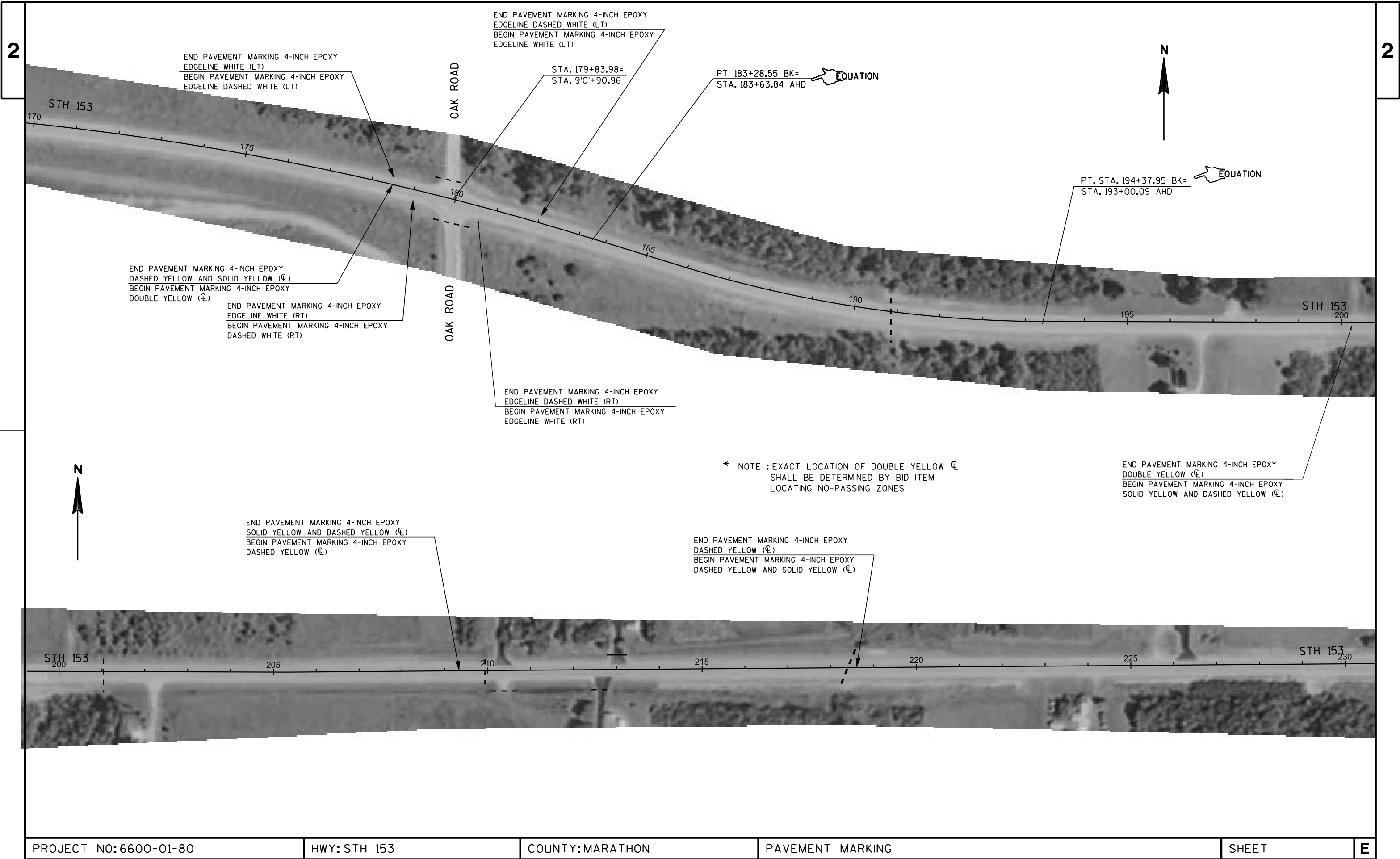
PLOT DATE : 03-FEB-2012 08:34

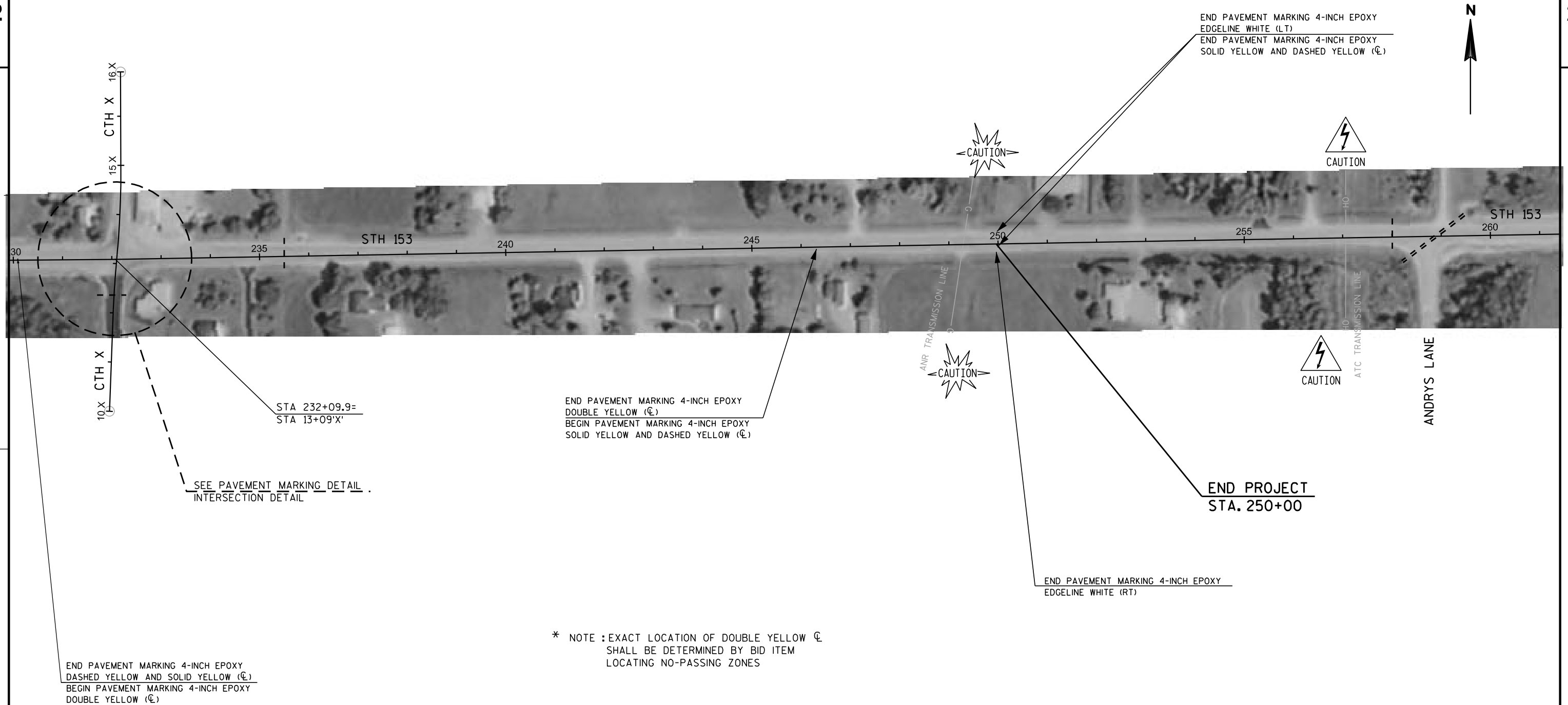
PLOT BY : dotgds

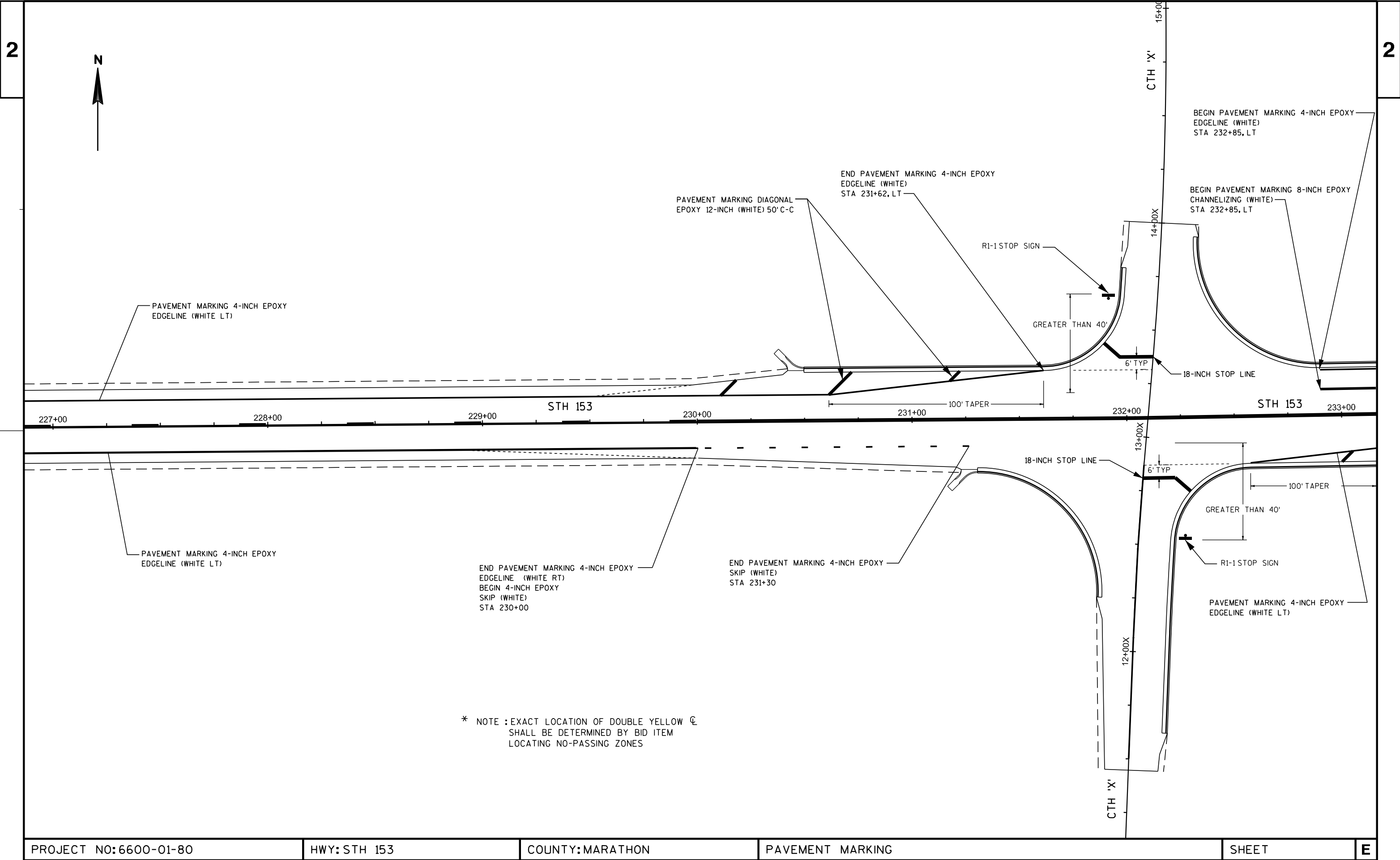
PLOT NAME :

PLOT SCALE : 200:1

WISDOT/CADDs SHEET 42

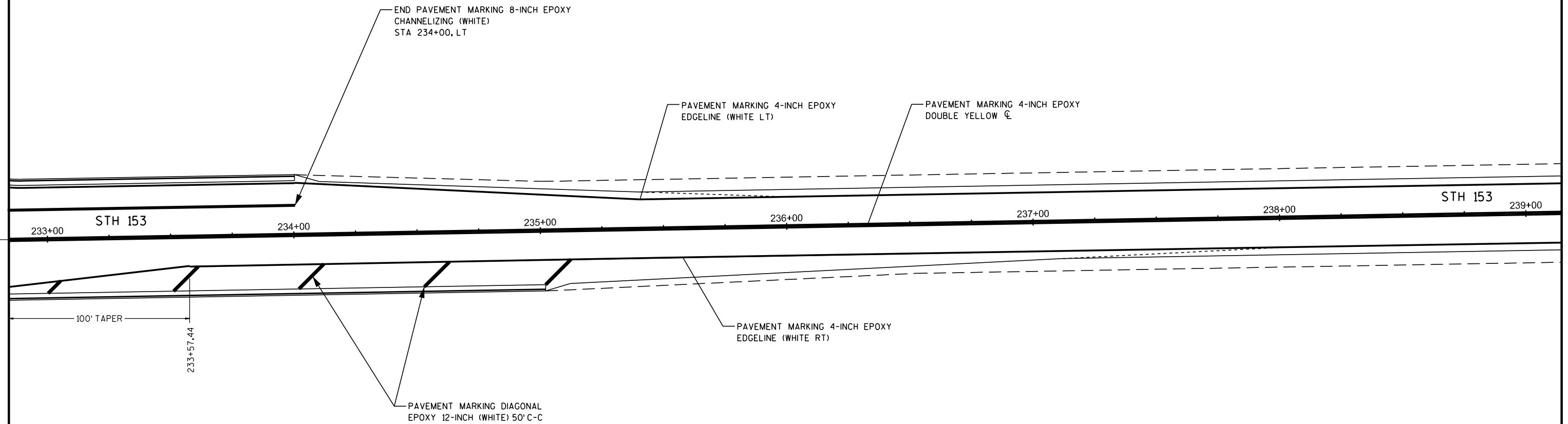








N



\* NOTE : EXACT LOCATION OF DOUBLE YELLOW  $\mathcal{C}$   
SHALL BE DETERMINED BY BID ITEM  
LOCATING NO-PASSING ZONES

## LEGEND

- TRAFFIC CONTROL DRUM
- ⌋ SIGN ON PERMANENT SUPPORT
- ⌋ SIGN ON TEMPORARY SUPPORT
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- ➔ DIRECTION OF TRAFFIC



TEMPORARY PAVEMENT MARKING 4-INCH  
SOLID DOUBLE YELLOW  $\mathcal{C}$   
STA 118+50 TO STA 250+00

TEMPORARY PAVEMENT MARKING 4-INCH  
SOLID YELLOW  $\mathcal{C}$   
STA 117+50 TO STA 118+50

NO  
PASSING  
ZONE  
W14-3  
48" X 36"

W8-20  
36" X 36"

BEGIN TEMPORARY PAVEMENT MARKING 4-INCH  
SOLID YELLOW  $\mathcal{C}$   
STA 250+00

END TEMPORARY PAVEMENT MARKING 4-INCH  
SOLID YELLOW  $\mathcal{C}$   
STA 251+00

SEE ADVANCED WARNING  
FOR SIGNING

STH 153

STH 153

SEE ADVANCED WARNING  
FOR SIGNING

100' TAPER

500' BUFFER

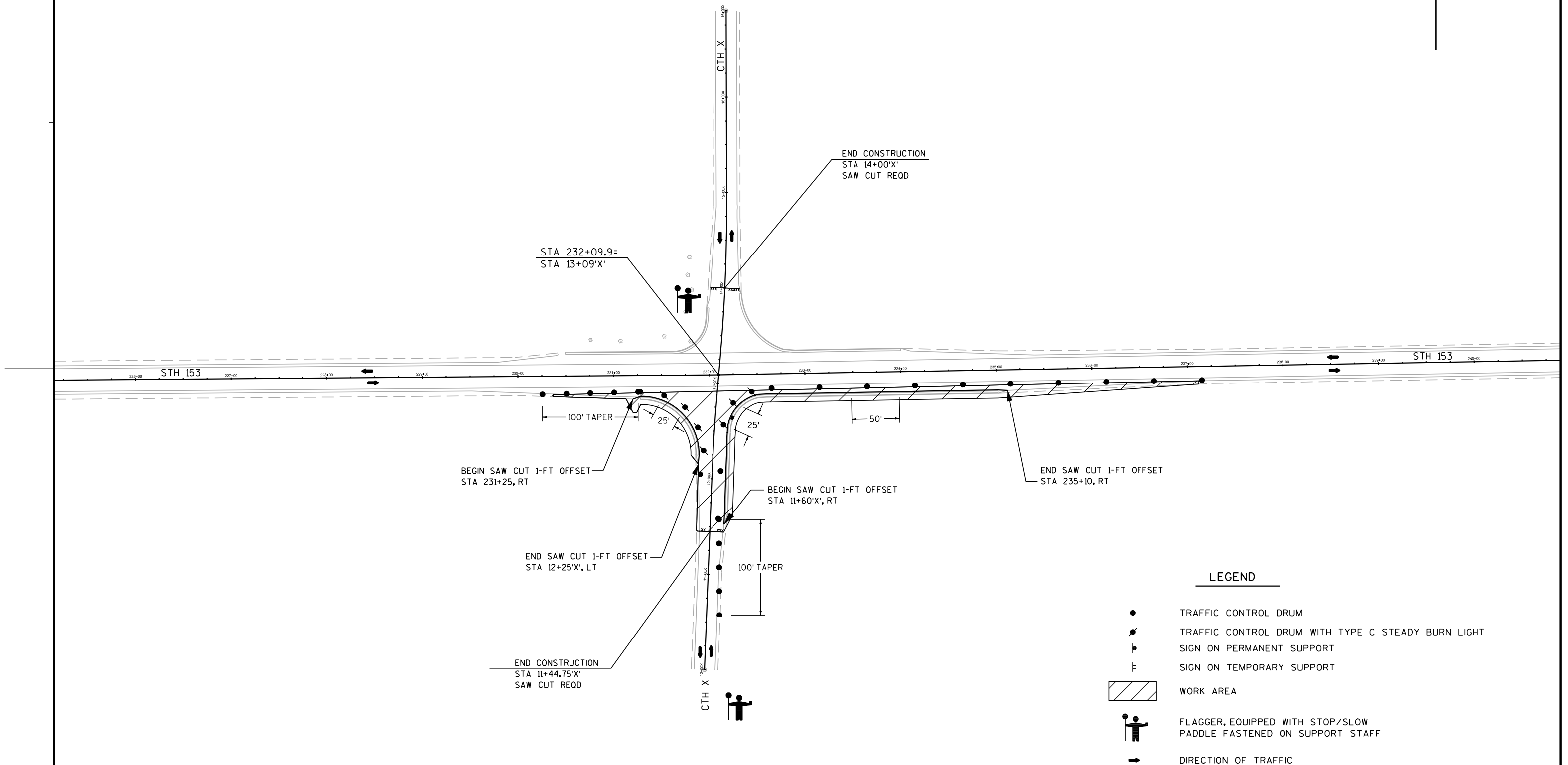
100' C-C

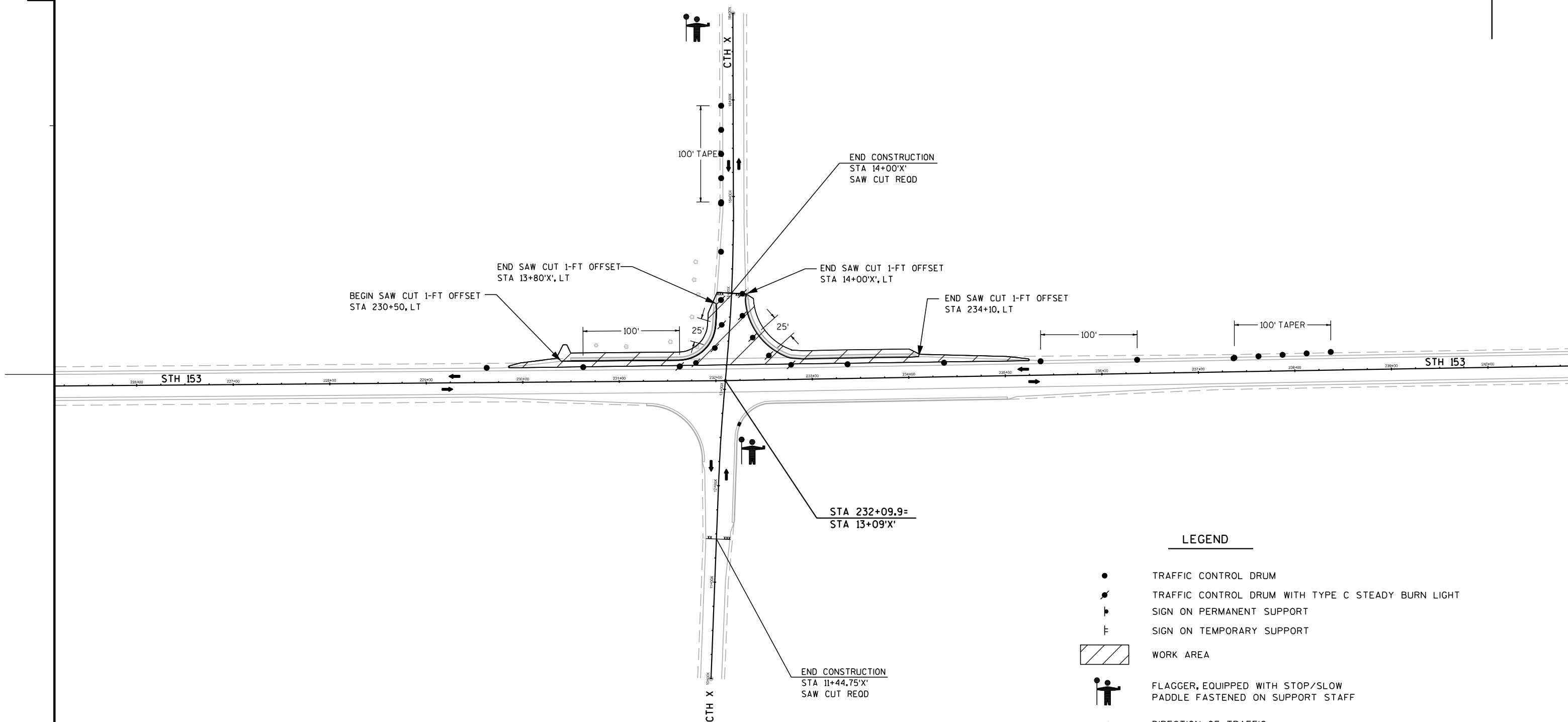
100' TAPER

W8-20  
36" X 36"

NO  
PASSING  
ZONE  
W14-3  
48" X 36"





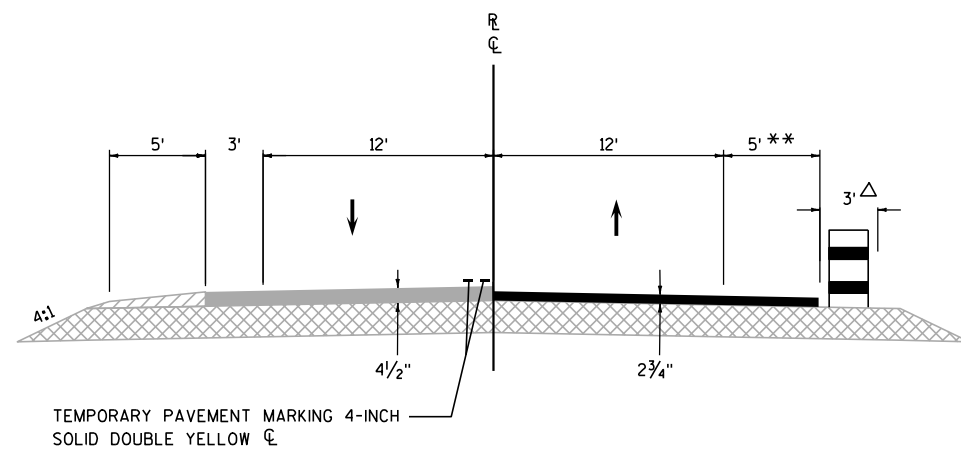


**LEGEND****PROPOSED**

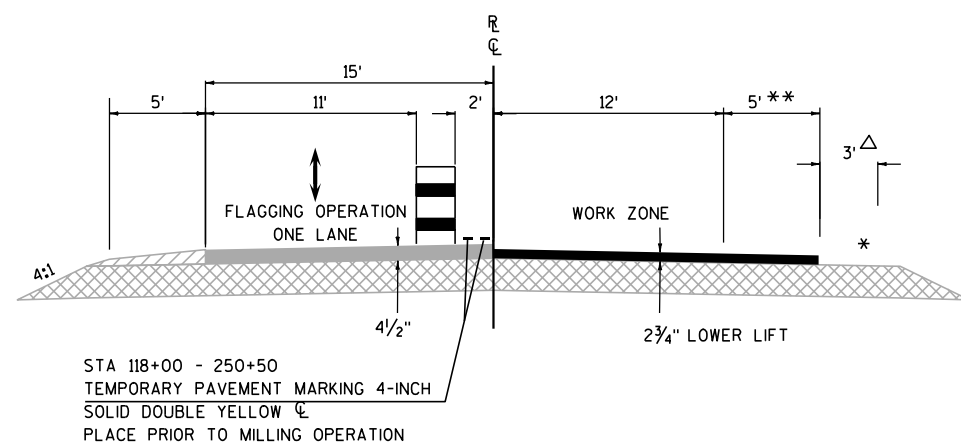
- HMA PAVEMENT TYPE E-1
- ▨ BASE AGGREGATE DENSE 3/4-INCH

**EXISTING**

- ASPHALTIC CONCRETE PAVEMENT
- ▨ GRAVEL OR CRUSHED STONE BASE COURSE (SHOULDER MATERIAL)
- ▨ GRAVEL OR CRUSHED STONE BASE COURSE



STH 153  
STAGE 1A (NIGHT TIME OPERATION)  
STA. 118+50 LT - STA. 230+50 LT  
STA. 118+50 RT - STA. 231+30.32 RT  
STA. 234+00 LT - STA. 250+00 LT  
STA. 235+00 RT - STA. 250+00 RT

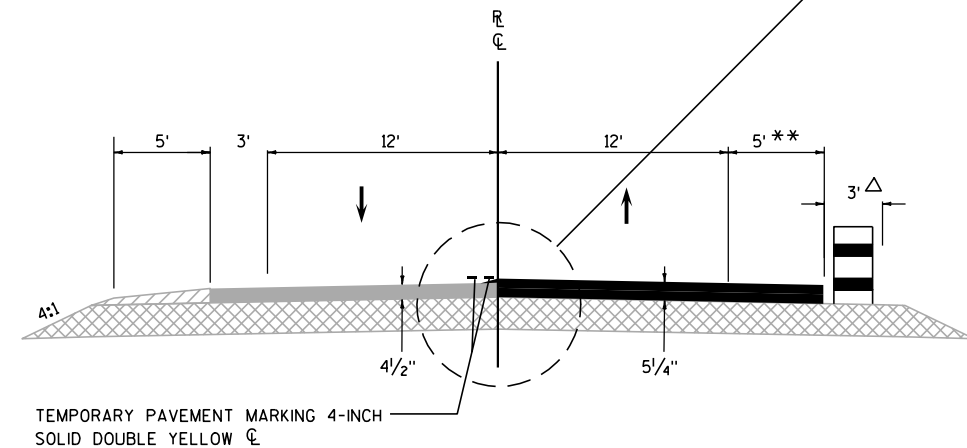
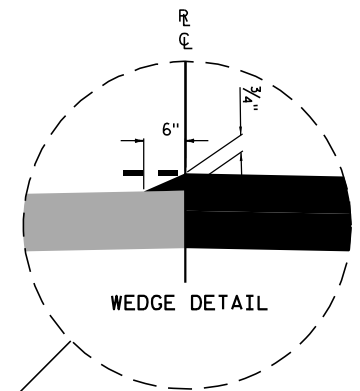


STH 153  
STAGE 1A (DAYTIME OPERATION)  
FULL DEPTH MILLING AND BINDER  
STA. 118+50 LT - STA. 230+50 LT  
STA. 118+50 RT - STA. 231+30.32 RT  
STA. 234+00 LT - STA. 250+00 LT  
STA. 235+00 RT - STA. 250+00 RT

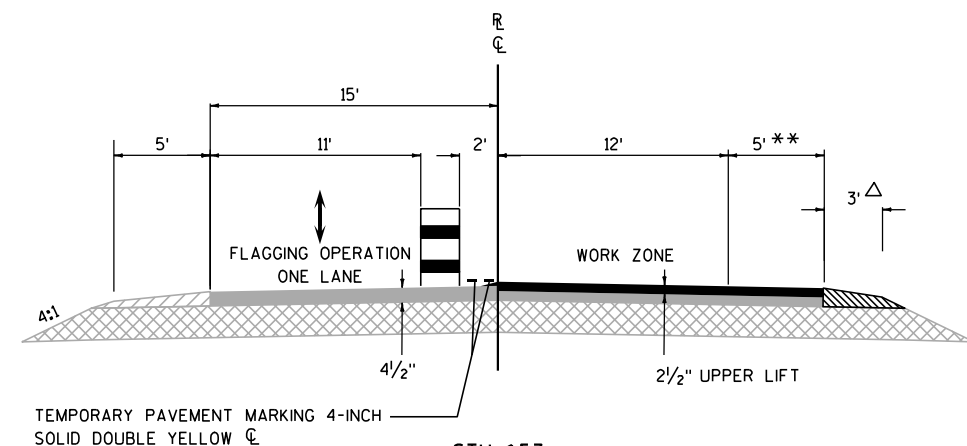
NOTE:  
\* REMOVE EXISTING CABG DURING MILLING PROCESS

\*\* 3' PAVED SHOULDERS  
STA 235+00 RT - STA 250+00 RT  
STA 234+00 LT - STA 250+00 LT

Δ 5' GRAVEL SHOULDERS  
STA 234+00 LT - STA 238+00 LT  
STA 235+00 RT - STA 238+00 RT



STH 153  
STAGE 1B (NIGHTTIME OPERATION)  
STA. 118+50 LT - STA. 230+50 LT  
STA. 118+50 RT - STA. 231+30.32 RT  
STA. 234+00 LT - STA. 250+00 LT  
STA. 235+00 RT - STA. 250+00 RT



STH 153  
STAGE 1B (DAYTIME OPERATION)  
FINAL LIFT & CABG SHOULDER  
STA. 118+50 LT - STA. 230+50 LT  
STA. 118+50 RT - STA. 231+30.32 RT  
STA. 234+00 LT - STA. 250+00 LT  
STA. 235+00 RT - STA. 250+00 RT

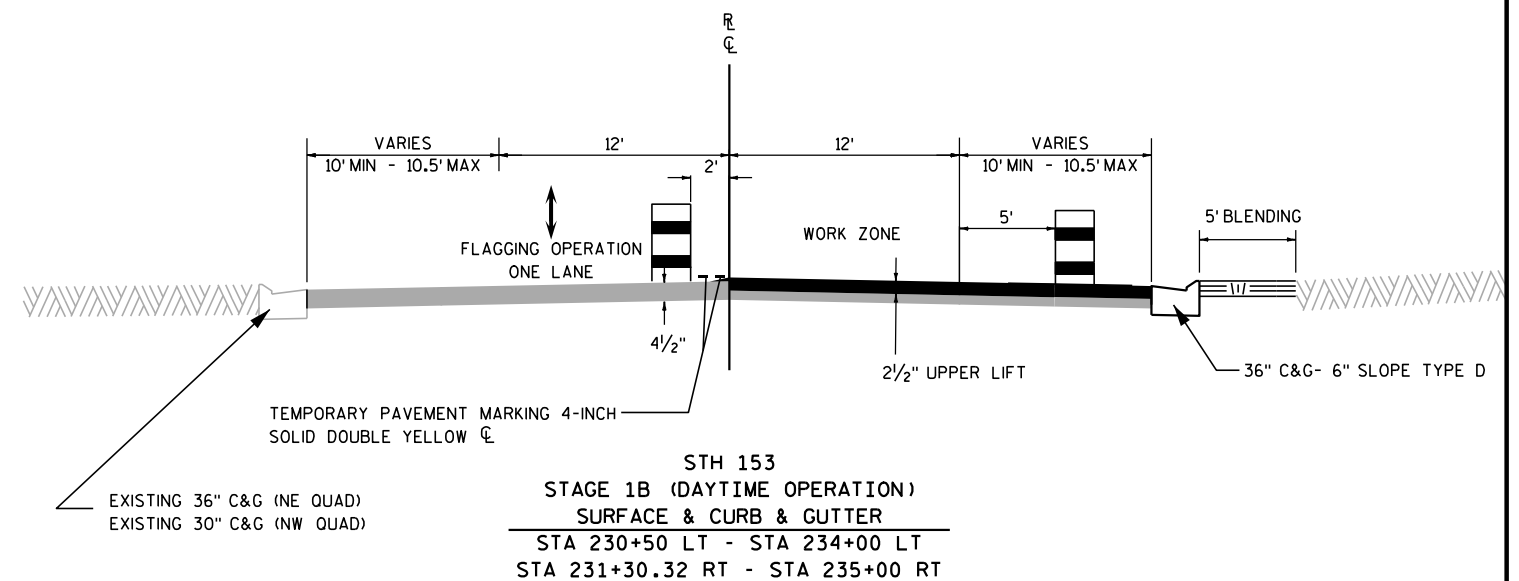
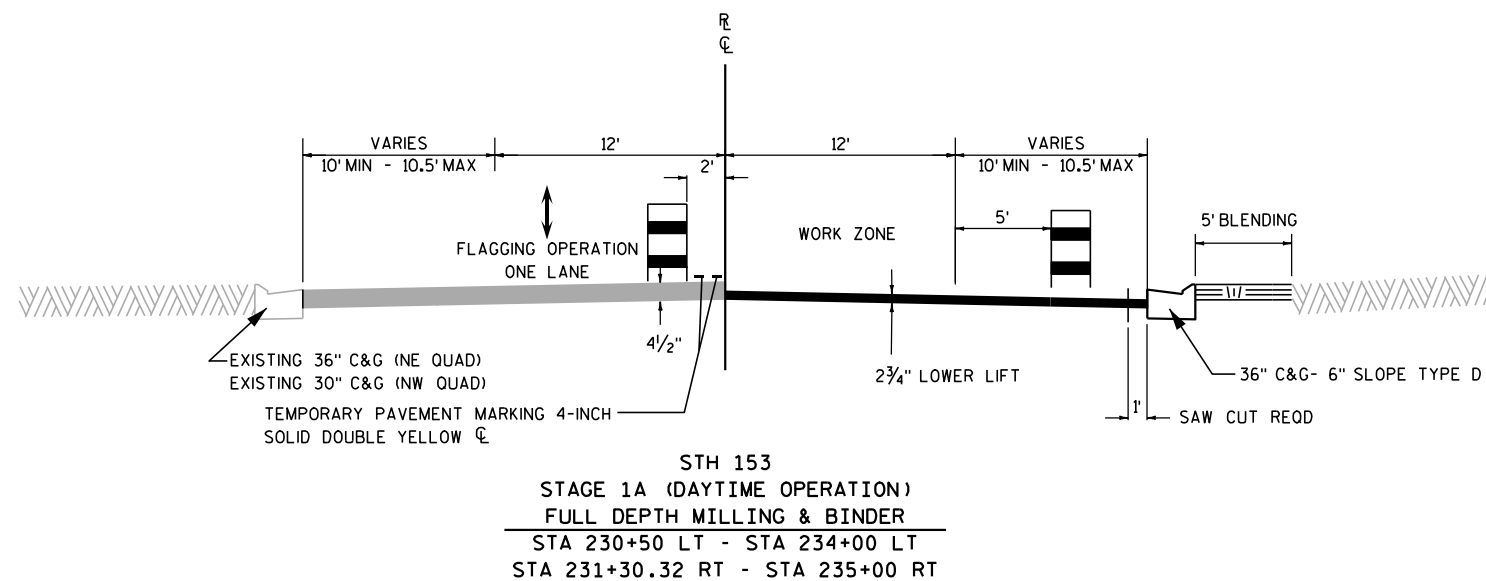
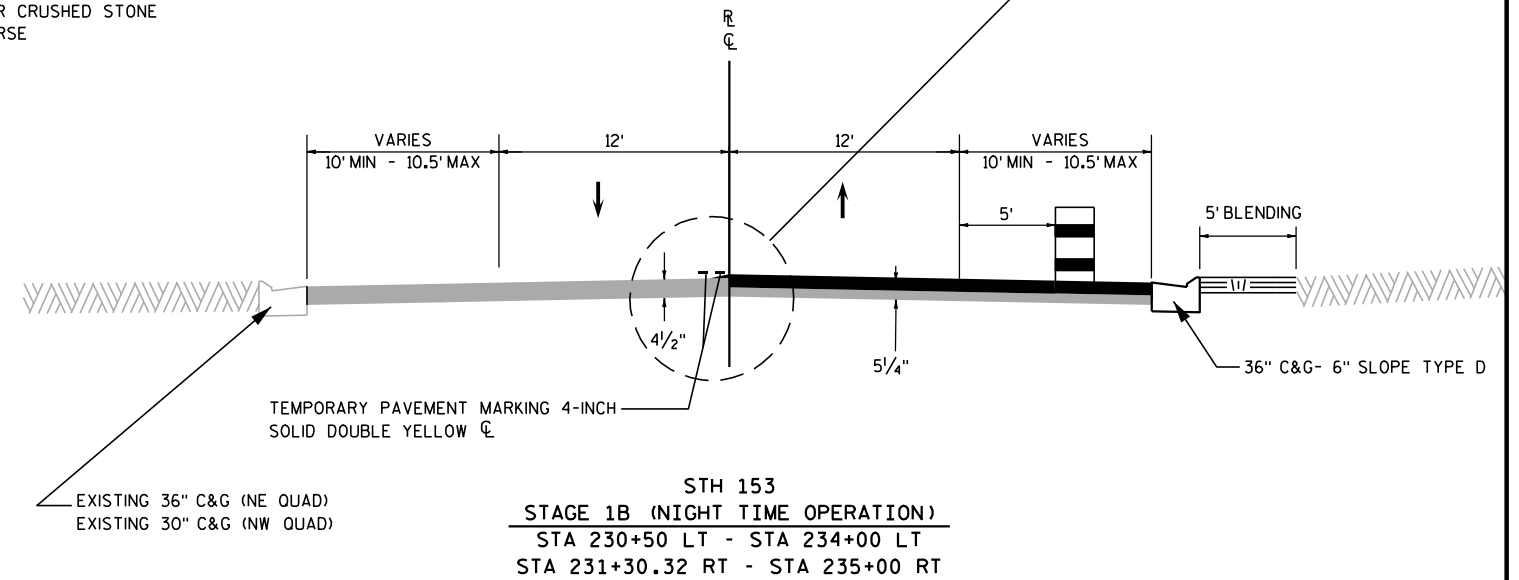
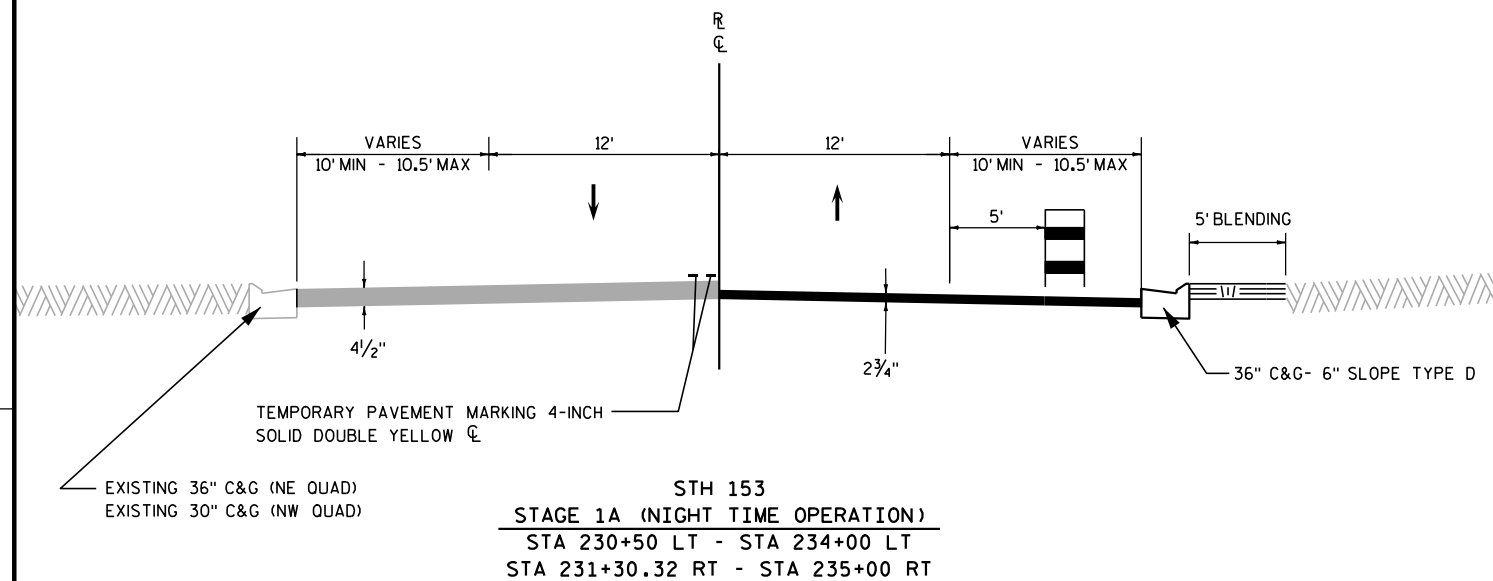
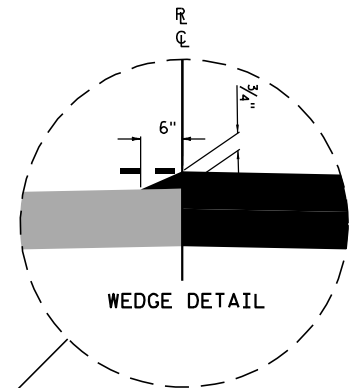
## LEGEND

## PROPOSED

-  HMA PAVEMENT TYPE E-1  
 BASE AGGREGATE DENSE 3/4-INCH

## EXISTING

-  ASPHALTIC CONCRETE PAVEMENT  
 GRAVEL OR CRUSHED STONE  
 BASE COURSE (SHOULDER MATERIAL)  
 GRAVEL OR CRUSHED STONE  
 BASE COURSE



**LEGEND****PROPOSED**

- HMA PAVEMENT TYPE E-1
- ▨ BASE AGGREGATE DENSE 3/4-INCH

**EXISTING**

- ASPHALTIC CONCRETE PAVEMENT
- ▨ GRAVEL OR CRUSHED STONE  
BASE COURSE (SHOULDER MATERIAL)
- ▨ GRAVEL OR CRUSHED STONE  
BASE COURSE

**NOTE:**

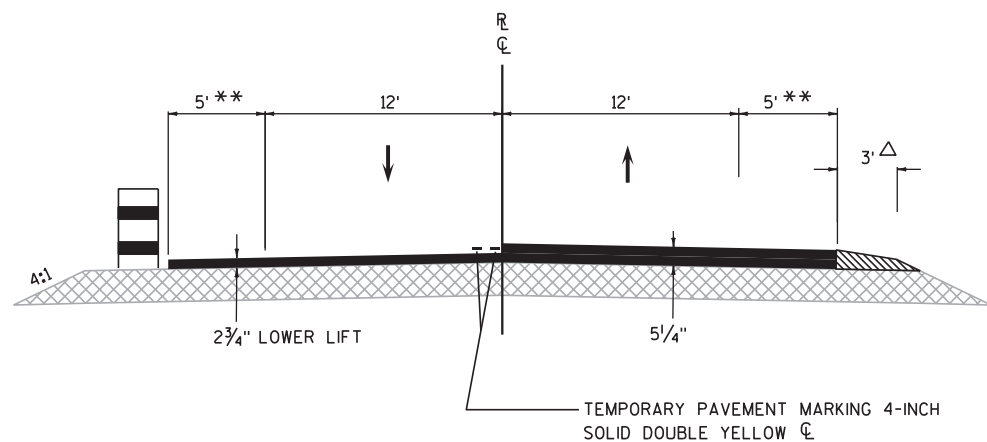
\* REMOVE EXISTING CABC DURING MILLING PROCESS

\*\* 3' PAVED SHOULDERS

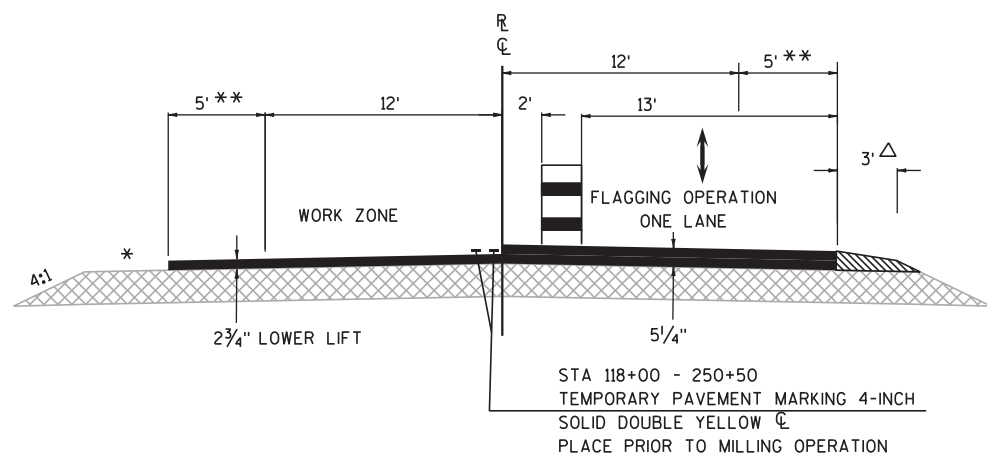
STA 235+00 RT - STA 250+00 RT  
STA 234+00 LT - STA 250+00 LT

△ 5' GRAVEL SHOULDERS

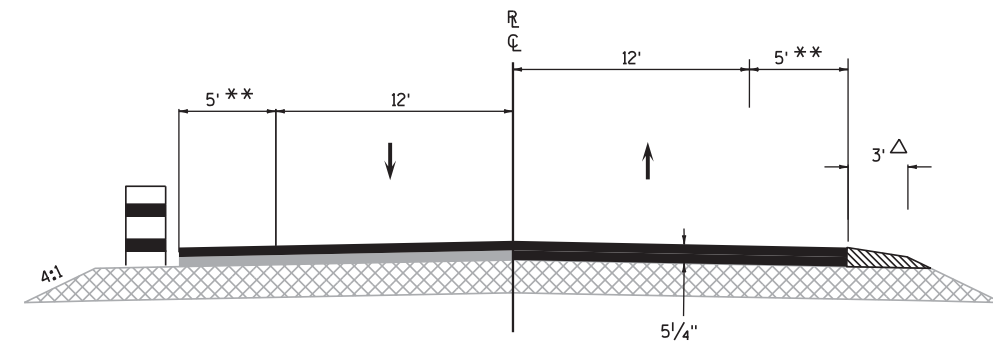
STA 234+00 LT - STA 238+00 LT  
STA 235+00 RT - STA 238+00 RT

**STH 153**

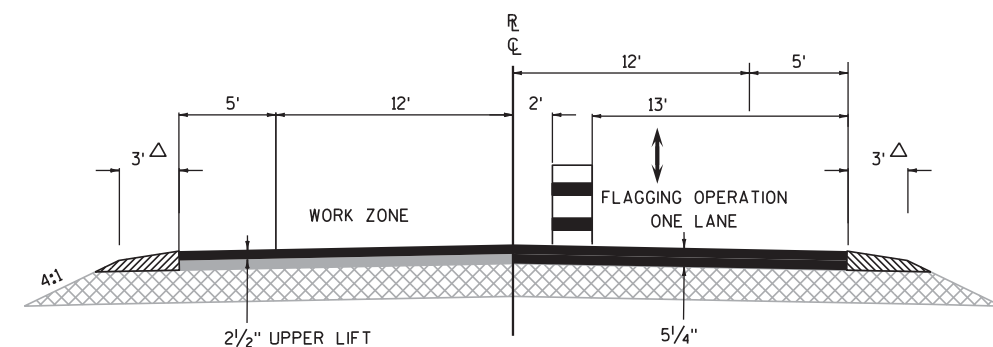
**STAGE 2A (NIGHT TIME OPERATION)**  
STA. 118+50 LT - STA. 230+50 LT  
STA. 118+50 RT - STA. 231+30.32 RT  
STA. 234+00 LT - STA. 250+00 LT  
STA. 235+00 RT - STA. 250+00 RT

**STH 153**

**STAGE 2A (DAYTIME OPERATION)**  
**FULL DEPTH MILLING AND LOWER LIFT**  
STA. 118+50 LT - STA. 230+50 LT  
STA. 118+50 RT - STA. 231+30.32 RT  
STA. 234+00 LT - STA. 250+00 LT  
STA. 235+00 RT - STA. 250+00 RT

**STH 153**

**STAGE 2B (NIGHTTIME OPERATION)**  
STA. 118+50 LT - STA. 230+50 LT  
STA. 118+50 RT - STA. 231+30.32 RT  
STA. 234+00 LT - STA. 250+00 LT  
STA. 235+00 RT - STA. 250+00 RT

**STH 153**

**STAGE 2B (DAYTIME OPERATION)**  
**FINAL LIFT & CABC SHOULDER**  
STA. 118+50 LT - STA. 230+50 LT  
STA. 118+50 RT - STA. 231+30.32 RT  
STA. 234+00 LT - STA. 250+00 LT  
STA. 235+00 RT - STA. 250+00 RT

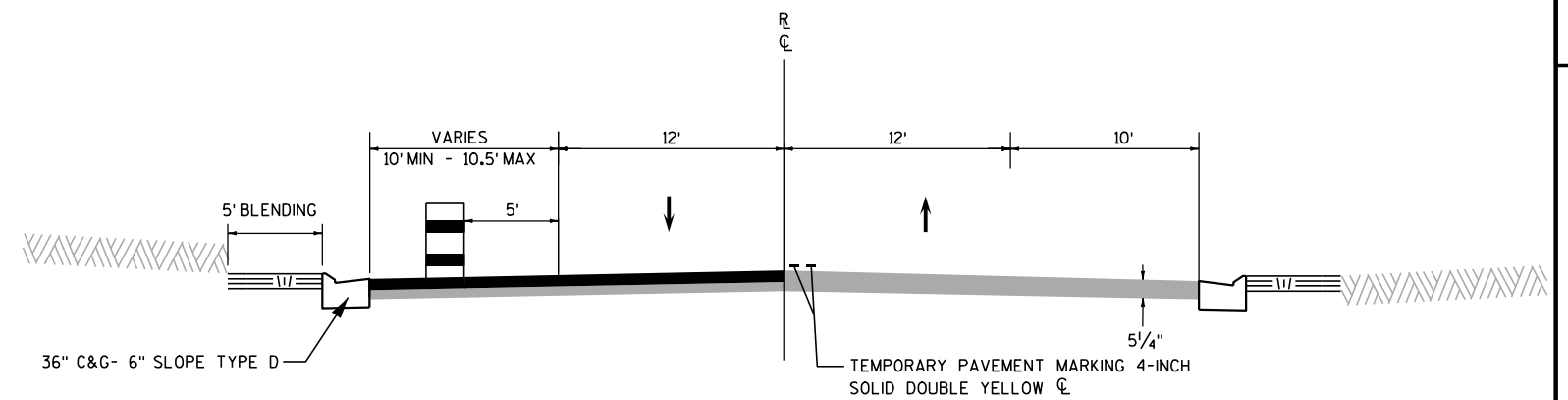
## LEGEND

## PROPOSED

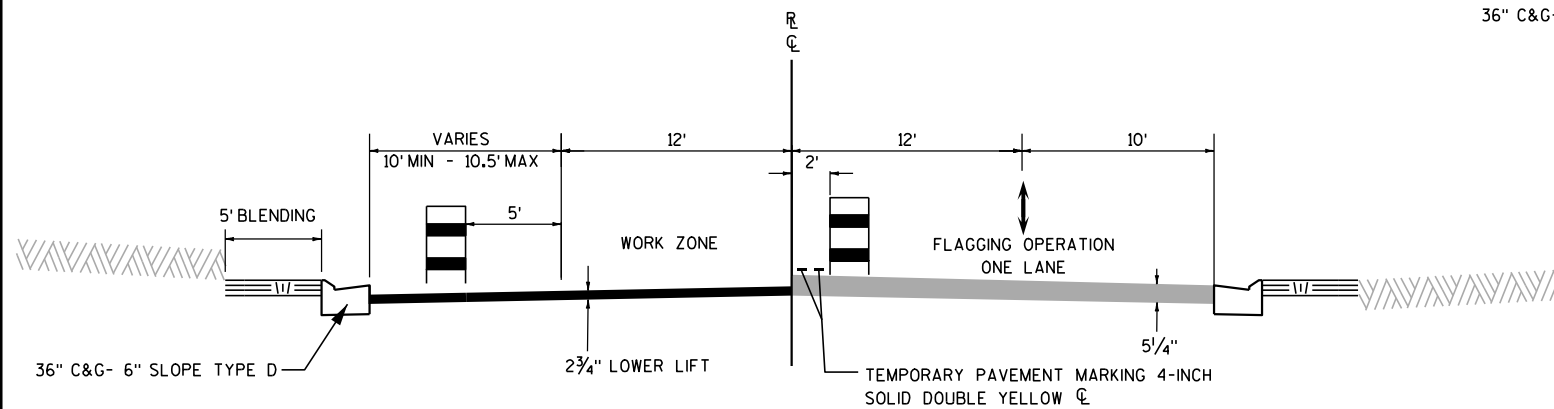
- HMA PAVEMENT TYPE E-1
- ▨ BASE AGGREGATE DENSE 3/4-INCH

## EXISTING

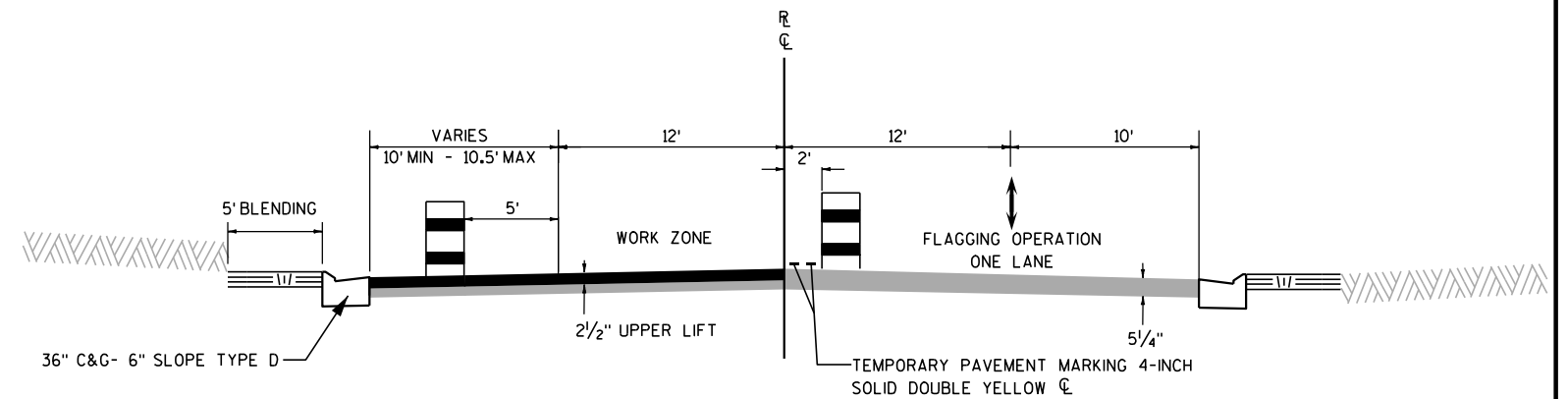
- ASPHALTIC CONCRETE PAVEMENT
- ▨ GRAVEL OR CRUSHED STONE  
BASE COURSE (SHOULDER MATERIAL)
- ▨ GRAVEL OR CRUSHED STONE  
BASE COURSE



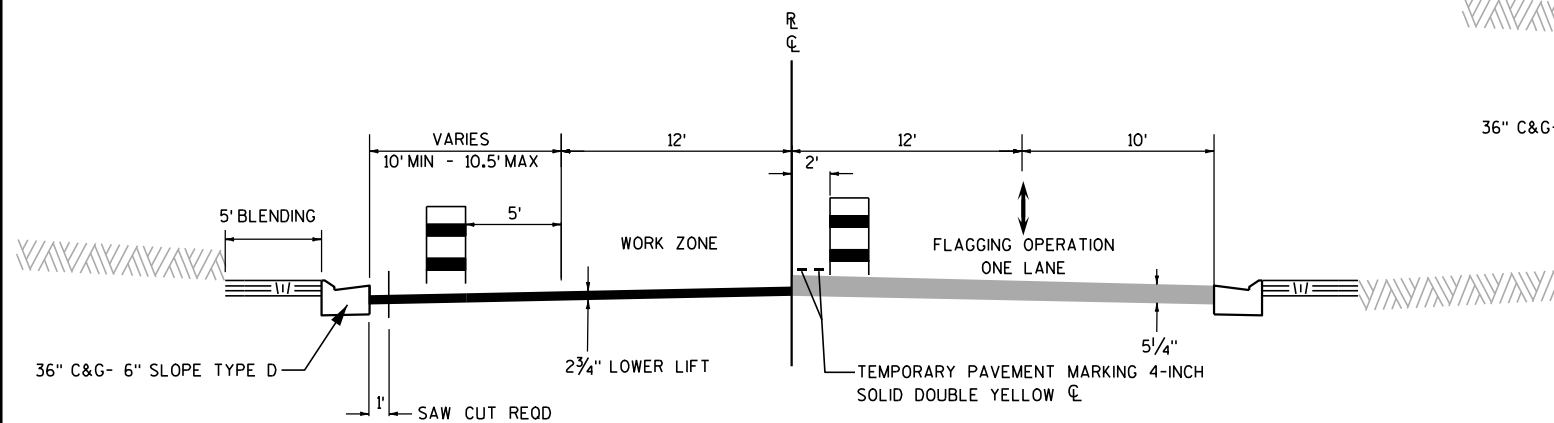
STH 153  
STAGE 2B (NIGHT TIME OPERATION)  
UPPER LIFT AND CURB & GUTTER  
STA 230+50 LT - STA 234+00 LT  
STA 231+30.32 RT - STA 235+00 RT



STH 153  
STAGE 2A (NIGHT TIME OPERATION)  
FULL DEPTH MILLING & LOWER LIFT  
STA 230+50 LT - STA 234+00 LT  
STA 231+30.32 RT - STA 235+00 RT



STH 153  
STAGE 2B (DAYTIME OPERATION)  
UPPER LIFT AND CURB & GUTTER  
STA 230+50 LT - STA 234+00 LT  
STA 231+30.32 RT - STA 235+00 RT



STH 153  
STAGE 2A (DAYTIME OPERATION)  
FULL DEPTH MILLING & LOWER LIFT  
STA 230+50 LT - STA 234+00 LT  
STA 231+30.32 RT - STA 235+00 RT



| DATE 11FEB13 |            | E S T I M A T E O F Q U A N T I T I E S                                              |      |            |            |
|--------------|------------|--------------------------------------------------------------------------------------|------|------------|------------|
| LINE         |            |                                                                                      |      | 6600-01-80 |            |
| NUMBER       | ITEM       | ITEM DESCRIPTION                                                                     | UNIT | TOTAL      | QUANTITY   |
| 0010         | 201.0120   | CLEARING                                                                             | ID   | 24.000     | 24.000     |
| 0020         | 201.0220   | GRUBBING                                                                             | ID   | 24.000     | 24.000     |
| 0030         | 203.0100   | REMOVING SMALL PIPE CULVERTS                                                         | EACH | 5.000      | 5.000      |
| 0040         | 204.0115   | REMOVING ASPHALTIC SURFACE BUTT JOINTS                                               | SY   | 337.000    | 337.000    |
| 0050         | 204.0120   | REMOVING ASPHALTIC SURFACE MILLING                                                   | SY   | 3,334.000  | 3,334.000  |
|              |            |                                                                                      |      |            |            |
| 0060         | 204.0125   | REMOVING ASPHALTIC SURFACE MILLING                                                   | TON  | 14,077.000 | 14,077.000 |
| 0070         | 204.0150   | REMOVING CURB & GUTTER                                                               | LF   | 856.000    | 856.000    |
| 0080         | 204.0190   | REMOVING SURFACE DRAINS                                                              | EACH | 3.000      | 3.000      |
| 0090         | 205.0100   | EXCAVATION COMMON                                                                    | CY   | 1,135.000  | 1,135.000  |
| 0100         | 213.0100   | FINISHING ROADWAY (PROJECT) 01. 6600-01-80                                           | EACH | 1.000      | 1.000      |
|              |            |                                                                                      |      |            |            |
| 0110         | 305.0110   | BASE AGGREGATE DENSE 3/4-INCH                                                        | TON  | 3,937.000  | 3,937.000  |
| 0120         | 305.0500   | SHAPING SHOULDERS                                                                    | STA  | 258.000    | 258.000    |
| 0130         | 440.4410.S | INCENTIVE IRI RIDE                                                                   | DOL  | 4,980.000  | 4,980.000  |
| 0140         | 455.0105   | ASPHALTIC MATERIAL PG58-28                                                           | TON  | 887.000    | 887.000    |
| 0150         | 455.0605   | TACK COAT                                                                            | GAL  | 1,336.000  | 1,336.000  |
|              |            |                                                                                      |      |            |            |
| 0160         | 460.1101   | HMA PAVEMENT TYPE E-1                                                                | TON  | 16,127.000 | 16,127.000 |
| 0170         | 460.2000   | INCENTIVE DENSITY HMA PAVEMENT                                                       | DOL  | 10,321.000 | 10,321.000 |
| 0180         | 465.0120   | ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES                                      | TON  | 161.000    | 161.000    |
| 0190         | 465.0315   | ASPHALTIC FLUMES                                                                     | SY   | 9.000      | 9.000      |
| 0200         | 465.0475.S | ASPHALT CENTER LINE RUMBLE STRIP 2-LANE RURAL                                        | LF   | 5,275.000  | 5,275.000  |
|              |            |                                                                                      |      |            |            |
| 0210         | 520.7000   | CLEANING CULVERT PIPES                                                               | EACH | 2.000      | 2.000      |
| 0220         | 521.0118   | CULVERT PIPE CORRUGATED STEEL 18-INCH                                                | LF   | 52.000     | 52.000     |
| 0230         | 521.0130   | CULVERT PIPE CORRUGATED STEEL 30-INCH                                                | LF   | 182.000    | 182.000    |
| 0240         | 521.1018   | APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH                                        | EACH | 2.000      | 2.000      |
| 0250         | 521.1030   | APRON ENDWALLS FOR CULVERT PIPE STEEL 30-INCH                                        | EACH | 6.000      | 6.000      |
|              |            |                                                                                      |      |            |            |
| 0260         | 523.0124   | CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 24X38-INCH       | LF   | 74.000     | 74.000     |
| 0270         | 523.0524   | APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH | EACH | 2.000      | 2.000      |
| 0280         | 601.0557   | CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D                                | LF   | 856.000    | 856.000    |
| 0290         | 611.0627   | INLET COVERS TYPE HM                                                                 | EACH | 1.000      | 1.000      |
| 0300         | 618.0100   | MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 6600-01-80                        | EACH | 1.000      | 1.000      |
|              |            |                                                                                      |      |            |            |
| 0310         | 619.1000   | MOBILIZATION                                                                         | EACH | 1.000      | 1.000      |
| 0320         | 621.0100   | LANDMARK REFERENCE MONUMENTS                                                         | EACH | 16.000     | 16.000     |
| 0330         | 624.0100   | WATER                                                                                | MGAL | 20.000     | 20.000     |
| 0340         | 625.0500   | SALVAGED TOPSOIL                                                                     | SY   | 10,451.000 | 10,451.000 |
| 0350         | 627.0200   | MULCHING                                                                             | SY   | 1,708.000  | 1,708.000  |
|              |            |                                                                                      |      |            |            |
| 0360         | 628.1504   | SILT FENCE                                                                           | LF   | 150.000    | 150.000    |
| 0370         | 628.1520   | SILT FENCE MAINTENANCE                                                               | LF   | 150.000    | 150.000    |
| 0380         | 628.1905   | MOBILIZATIONS EROSION CONTROL                                                        | EACH | 4.000      | 4.000      |
| 0390         | 628.1910   | MOBILIZATIONS EMERGENCY EROSION CONTROL                                              | EACH | 2.000      | 2.000      |
| 0400         | 628.2004   | EROSION MAT CLASS I TYPE B                                                           | SY   | 219.000    | 219.000    |
|              |            |                                                                                      |      |            |            |
| 0410         | 628.2006   | EROSION MAT URBAN CLASS I TYPE A                                                     | SY   | 8,743.000  | 8,743.000  |
| 0420         | 628.7504   | TEMPORARY DITCH CHECKS                                                               | LF   | 70.000     | 70.000     |
| 0430         | 628.7555   | CULVERT PIPE CHECKS                                                                  | EACH | 41.000     | 41.000     |
| 0440         | 628.7570   | ROCK BAGS                                                                            | EACH | 18.000     | 18.000     |
| 0450         | 629.0210   | FERTILIZER TYPE B                                                                    | CWT  | 1.000      | 1.000      |

| DATE 11FEB13 |          | E S T I M A T E O F Q U A N T I T I E S                               |      |            |            |
|--------------|----------|-----------------------------------------------------------------------|------|------------|------------|
| LINE         |          |                                                                       |      | 6600-01-80 |            |
| NUMBER       | ITEM     | ITEM DESCRIPTION                                                      | UNIT | TOTAL      | QUANTITY   |
| 0460         | 630.0120 | SEEDING MIXTURE NO. 20                                                | LB   | 46.000     | 46.000     |
| 0470         | 630.0140 | SEEDING MIXTURE NO. 40                                                | LB   | 236.000    | 236.000    |
| 0480         | 633.5200 | MARKERS CULVERT END                                                   | EACH | 2.000      | 2.000      |
| 0490         | 634.0614 | POSTS WOOD 4X6-INCH X 14-FT                                           | EACH | 9.000      | 9.000      |
| 0500         | 634.0616 | POSTS WOOD 4X6-INCH X 16-FT                                           | EACH | 6.000      | 6.000      |
| 0510         | 634.0618 | POSTS WOOD 4X6-INCH X 18-FT                                           | EACH | 15.000     | 15.000     |
| 0520         | 637.0202 | SIGNS REFLECTIVE TYPE II                                              | SF   | 314.620    | 314.620    |
| 0530         | 638.2602 | REMOVING SIGNS TYPE II                                                | EACH | 34.000     | 34.000     |
| 0540         | 638.3000 | REMOVING SMALL SIGN SUPPORTS                                          | EACH | 37.000     | 37.000     |
| 0550         | 642.5201 | FIELD OFFICE TYPE C                                                   | EACH | 1.000      | 1.000      |
| 0560         | 643.0200 | TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 6600-01-80 | DAY  | 30.000     | 30.000     |
| 0570         | 643.0300 | TRAFFIC CONTROL DRUMS                                                 | DAY  | 5,194.000  | 5,194.000  |
| 0580         | 643.0420 | TRAFFIC CONTROL BARRICADES TYPE III                                   | DAY  | 60.000     | 60.000     |
| 0590         | 643.0705 | TRAFFIC CONTROL WARNING LIGHTS TYPE A                                 | DAY  | 120.000    | 120.000    |
| 0600         | 643.0715 | TRAFFIC CONTROL WARNING LIGHTS TYPE C                                 | DAY  | 280.000    | 280.000    |
| 0610         | 643.0900 | TRAFFIC CONTROL SIGNS                                                 | DAY  | 900.000    | 900.000    |
| 0620         | 643.1050 | TRAFFIC CONTROL SIGNS PCMS                                            | DAY  | 14.000     | 14.000     |
| 0630         | 646.0106 | PAVEMENT MARKING EPOXY 4-INCH                                         | LF   | 32,871.000 | 32,871.000 |
| 0640         | 646.0126 | PAVEMENT MARKING EPOXY 8-INCH                                         | LF   | 215.000    | 215.000    |
| 0650         | 646.0406 | PAVEMENT MARKING SAME DAY EPOXY 4-INCH                                | LF   | 16,711.640 | 16,711.640 |
| 0660         | 647.0566 | PAVEMENT MARKING STOP LINE EPOXY 18-INCH                              | LF   | 50.000     | 50.000     |
| 0670         | 647.0726 | PAVEMENT MARKING DIAGONAL EPOXY 12-INCH                               | LF   | 97.000     | 97.000     |
| 0680         | 648.0100 | LOCATING NO-PASSING ZONES                                             | MI   | 2.720      | 2.720      |
| 0690         | 649.0100 | TEMPORARY PAVEMENT MARKING 4-INCH                                     | LF   | 53,010.000 | 53,010.000 |
| 0700         | 650.5000 | CONSTRUCTION STAKING BASE                                             | LF   | 1,495.000  | 1,495.000  |
| 0710         | 650.5500 | CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER                    | LF   | 856.000    | 856.000    |
| 0720         | 650.6000 | CONSTRUCTION STAKING PIPE CULVERTS                                    | EACH | 5.000      | 5.000      |
| 0730         | 650.8000 | CONSTRUCTION STAKING RESURFACING REFERENCE                            | LF   | 13,252.000 | 13,252.000 |
| 0740         | 650.9910 | CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 6600-01-80    | LS   | 1.000      | 1.000      |
| 0750         | 650.9920 | CONSTRUCTION STAKING SLOPE STAKES                                     | LF   | 2,267.000  | 2,267.000  |
| 0760         | 690.0150 | SAWING ASPHALT                                                        | LF   | 1,515.000  | 1,515.000  |
| 0770         | ASP.1T0A | ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR                           | HRS  | 1,200.000  | 1,200.000  |
| 0780         | ASP.1T0G | ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR                             | HRS  | 600.000    | 600.000    |
| 0790         | SPV.0030 | SPECIAL 01. FERTILIZER FOR LAWN TYPE TURF                             | CWT  | 6.000      | 6.000      |
| 0800         | SPV.0060 | SPECIAL 01. REESTABLISH SECTION CORNER MONUMENTS                      | EACH | 4.000      | 4.000      |
| 0810         | SPV.0090 | SPECIAL 01. GRADING, SHAPING AND FINISHING (DITCHING)                 | LF   | 2,472.000  | 2,472.000  |
| 0820         | SPV.0120 | SPECIAL 01. WATER FOR SEEDED AREAS                                    | MGAL | 99.000     | 99.000     |
| 0830         | SPV.0180 | SPECIAL 01. PREPARING TOPSOIL FOR LAWN TYPE TURF                      | SY   | 8,743.000  | 8,743.000  |
| 0840         | SPV.0195 | SPECIAL 01. BASE AGGREGATE DISINTEGRATED GRANITE                      | TON  | 28.000     | 28.000     |



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| CLEARING & GRUBBING |          |                                 |                            |                 | REMOVING SMALL PIPE CULVERTS |              |                  |               | REMOVING ASPHALTIC SURFACE BUTT JOINT |                |                  |  |
|---------------------|----------|---------------------------------|----------------------------|-----------------|------------------------------|--------------|------------------|---------------|---------------------------------------|----------------|------------------|--|
| STATION             | LOCATION | 201.0120<br>CLEARING<br>ID (in) | 201.0220<br>GRUBBING<br>ID | REMARKS         | STATION                      | LOCATION     | 203.0100<br>EACH | REMARKS       | STATION-STATION                       | 204.0115<br>SY | REMARKS          |  |
| 181+34              | LT       | 6                               | 6                          | STH 153         | 205+17                       | STH 153 (RT) | 1                | 18-INCH, CMP  | 118+50 - 118+90                       | 107            | BEGIN PROJECT    |  |
| 231+80.7            | LT, 35'  | 18                              | 18                         | STH 153 & CTH X | 210+00                       | STH 153      | 1                | 30-INCH, RCCP | 10'S'+31.52 - 10'S'+56.52             | 62             | SPRING ROAD      |  |
|                     |          |                                 |                            |                 | 210+45                       | STH 153 (RT) | 1                | 30-INCH, CMP  | 10'O'+70.96 - 10'O'+95.96             | 62             | OAK ROAD (NORTH) |  |
|                     |          |                                 |                            |                 | 212+67                       | STH 153 (RT) | 1                | 30-INCH, CMP  | 250+00 - 250+40                       | 107            | END PROJECT      |  |
| TOTALS              |          | 24                              | 24                         |                 | 213+04                       | STH 153 (LT) | 1                | 30-INCH, CMP  | TOTAL                                 | 337            |                  |  |
|                     |          |                                 |                            |                 | TOTAL                        |              | 5                |               |                                       |                |                  |  |

| REMOVING ASPHALTIC SURFACE |                           |                           | REMOVING ASPHALTIC SURFACE MILLING |          |                  |                               |                   | WATER    |                  |             |  |
|----------------------------|---------------------------|---------------------------|------------------------------------|----------|------------------|-------------------------------|-------------------|----------|------------------|-------------|--|
| LOCATION                   | 204.0120<br>MILLING<br>SY | REMARKS                   | STATION - STATION                  | LOCATION | 204.0125<br>TONS | REMARKS                       | STATION - STATION | LOCATION | 624.0100<br>MGAL | REMARKS     |  |
| FLIGHTLINE DRIVE           | 541                       | SOUTH End STA 36'B'+90    | 118+50 - 238+50                    | LT & RT  | 9990             | 30' WIDTH                     | 118+50 TO 250+00  | STH 153  | 20               | BASE & SHLD |  |
| SPRING ROAD                | 628                       | NORTH End STA 10'S'+31.52 | 238+50 - 250+00                    | LT & RT  | 845              | 30' WIDTH                     |                   | TOTAL    | 20               |             |  |
| SPRING ROAD                | 332                       | SOUTH End STA 9'S'+38.20  | 118+50 - 231+30.32                 | RT       | 1360             | 5' GRAVEL SHLD                |                   |          |                  |             |  |
| OAK ROAD                   | 374                       | NORTH End STA 10'O'+70.96 | 118+50 - 230+50                    | LT       | 1350             | 5' GRAVEL SHLD                |                   |          |                  |             |  |
| OAK ROAD                   | 374                       | SOUTH End STA 9'O'+10.96  | 149+30 - 153+60                    | RT       | 73               | RT TURN LANE AIRPORT MAINT RD |                   |          |                  |             |  |
| CTH X                      | 360                       | NORTH End STA 14+00'X     | 152+60 - 156+93                    | LT       | 70               | RT TURN LANE SPRING ROAD      |                   |          |                  |             |  |
| CTH X                      | 590                       | SOUTH End STA 11+44.76'X  | 231+30.32 - 235+00                 | RT       | 73               | TURN LANE CTH X               |                   |          |                  |             |  |
| DRIVEWAYS                  | 135                       | (9 DRIVEWAYS)             | 230+50 - 234+00                    | LT       | 71               | TURN LANE CTH X               |                   |          |                  |             |  |
|                            |                           |                           | 235+00 - 238+00                    | RT       | 36               | 5' GRAVEL SHLD                |                   |          |                  |             |  |
|                            |                           |                           | 234+00 - 238+00                    | LT       | 48               | 5' GRAVEL SHLD                |                   |          |                  |             |  |
| TOTAL                      | 3334                      |                           | 238+00 - 250+00                    | LT & RT  | 161              | 3' GRAVEL SHLD                |                   |          |                  |             |  |
|                            |                           |                           | TOTAL                              |          | 14077            |                               |                   |          |                  |             |  |

| REMOVING SURFACE DRAINS |          |                  |               | EXCATION COMMON           |               |                |  |
|-------------------------|----------|------------------|---------------|---------------------------|---------------|----------------|--|
| STATION                 | LOCATION | 204.0190<br>EACH | REMARKS       | STATION - STATION         | LOCATION *    | 205.0100<br>CY |  |
| 118+50                  | LT       | 1                | ASPHALT FLUME | 118+50 -                  | UNDISTRIBUTED | 227            |  |
| 230+45                  | LT       | 1                | ASPHALT FLUME | -                         | UNDISTRIBUTED | 227            |  |
| 231+25                  | RT       | 1                | ASPHALT FLUME | -                         | UNDISTRIBUTED | 227            |  |
|                         |          |                  |               | -                         | UNDISTRIBUTED | 227            |  |
|                         |          |                  |               | -                         | UNDISTRIBUTED | 227            |  |
|                         |          |                  |               | - 238+00                  | UNDISTRIBUTED | 227            |  |
|                         |          |                  |               | TOTALS                    |               | 1135           |  |
|                         |          |                  |               | * AS DIRECTED BY ENGINEER |               |                |  |

| REMOVING CURB & GUTTER |           |                |         | SHAPING SHOULDERS |          |                     |         |
|------------------------|-----------|----------------|---------|-------------------|----------|---------------------|---------|
| STATION - STATION      | LOCATION  | 204.0150<br>LF | REMARKS | STATION - STATION | LOCATION | 305.0500<br>STATION | REMARKS |
| 230+50 - 232+00        | NW RADIUS | 171            | 36" C&G | 118+50 - 231.32   | RT       | 114                 | STH 153 |
| 230+75 - 232+00        | SW RADIUS | 90             | 36" C&G | 118+50 - 230+50   | LT       | 113                 | STH 153 |
| 232+40 - 234+00        | NE RADIUS | 201            | 30" C&G | 235+00 - 250+00   | RT       | 15                  | STH 153 |
| 232+20 - 235+05        | SE RADIUS | 394            | 30" C&G | 234+00 - 250+00   | LT       | 16                  | STH 153 |
|                        | TOTAL     | 856            |         | TOTAL             |          | 258                 |         |

|                      |  |              |  |                  |  |                                  |  |        |  |   |
|----------------------|--|--------------|--|------------------|--|----------------------------------|--|--------|--|---|
| PROJECT : 6600-01-80 |  | HWY: STH 153 |  | COUNTY: MARATHON |  | MISCELLANEOUS QUANTITIES SHEET A |  | SHEET: |  | E |
|----------------------|--|--------------|--|------------------|--|----------------------------------|--|--------|--|---|

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BASE AGGREGATE DENSE

|                   |          | 305.0110 |                                  |
|-------------------|----------|----------|----------------------------------|
|                   |          | 3/4-INCH |                                  |
| STATION - STATION | LOCATION | TONS     | REMARKS                          |
| 118+50 - 231+30   | RT       | 1210     | 3' SHOULDER                      |
| 235+00 - 250+00   | RT       | 160      | 3' SHOULDER                      |
| 118+50 - 230+50   | LT       | 1201     | 3' SHOULDER                      |
| 234+00 - 250+00   | LT       | 172      | 3' SHOULDER                      |
| CTH 'X' (SOUTH)   | LT & RT  | 10       | 3' SHOULDER                      |
| CTH 'X' (NORTH)   | LT & RT  | 3        | 3' SHOULDER                      |
| DRIVEWAYS         | LT & RT  | 164      | AGGREGATE DRIVEWAYS              |
| 232+40 - 234+00   | NE       | 37       | CTH 'X'                          |
| 118+50 - 250+00   | LT & RT  | 980      | DRIVE LANE (Depth is 0.5-INCHES) |
| TOTALS            |          | 3937     |                                  |

HMA PAVEMENT

|                   |          | 455.0105     |          | 460.1101 |                  |
|-------------------|----------|--------------|----------|----------|------------------|
|                   |          | ASPHALTIC    |          | HMA      |                  |
|                   |          | MATERIAL     | 455.0605 | PAVEMENT |                  |
|                   |          | PG58-28      | TACK     | TYPE E-1 |                  |
|                   |          | (MIX @ 5.5%) | COAT     |          |                  |
| STATION - STATION | LOCATION | TON          | GAL.     | TON      | REMARKS          |
| 118+50 - 238+50   | LT & RT  | 759          | 1143     | 13802    | 34-FT WIDTH      |
| 238+50 - 250+00   | LT & RT  | 64           | 96       | 1157     | 30-FT WIDTH      |
| 230+00 - 235+00   | LT       | 10           | 15       | 184      | CTH 'X' NORTH    |
| 230+00 - 236+20   | RT       | 15           | 22       | 265      | CTH 'X' SOUTH    |
| FLIGHTLINE        | SOUTH    | 8            | 12       | 150      |                  |
| 149+30 - 153+60   | RT       | 8            | 13       | 153      | AIRPORT MAINT RD |
| 152+60 - 156+93   | LT       | 10           | 16       | 190      | SPRING RD NORTH  |
| OAK ROAD          | SOUTH    | 6            | 9        | 113      |                  |
| OAK ROAD          | NORTH    | 6            | 9        | 113      |                  |
| TOTAL             |          | 887          | 1336     | 16127    |                  |

ASPHALTIC FLUMES

| STATION | LOCATION | 465.0315 | REMARKS |
|---------|----------|----------|---------|
|         |          | SY       |         |
| 118+50  | LT       | 3        |         |
| 230+45  | LT       | 3        |         |
| 231+25  | RT       | 3        |         |
| TOTAL   |          | 9        |         |

CROSS DRAINS CULVERT PIPES

|         |          | RCCP HE      | AEW FOR  |       |
|---------|----------|--------------|----------|-------|
|         |          | CLASS HE-III | RCCP HE  | **    |
|         |          | 523.0124     | 523.0524 | JOINT |
|         |          | 24"x38"      | 24"x38"  | TIES  |
| STATION | LOCATION | LF           | EACH     | EACH  |
| 209+00  | STH 153  | 74           | 2        | 12    |
| TOTALS  |          | 74           | 2        | 12    |

ASPHALTIC SURFACE DRIVEWAYS  
AND FIELD ENTRANCES

| STATION | LOCATION | WIDTH<br>FEET | TYPE | PAVEMENT     | SY  | 465.0120<br>TON | REMARKS         |
|---------|----------|---------------|------|--------------|-----|-----------------|-----------------|
| 127+73  | LT       | 20            | PE   | ASPHALT      | 47  | 8.1             | PAVE 10' BACK   |
| 128+69  | LT       | 28            | CE   | GRAVEL       | 0   | 0.0             | REMOVE DRIVEWAY |
| 129+46  | LT       | 28            | CE   | GRAVEL       | 0   | 0.0             | REMOVE DRIVEWAY |
| 129+95  | LT       | 28            | CE   | GRAVEL       | 21  | 3.6             | NEW DRIVEWAY    |
| 131+92  | LT       | 28            | CE   | GRAVEL       | 21  | 3.6             | PAVE 3' BACK    |
| 135+00  | LT       | 28            | CE   | GRAVEL       | 21  | 3.6             | PAVE 3' BACK    |
| 140+15  | LT       | 28            | FE   | GRAVEL       | 0   | 0.0             |                 |
| 196+70  | RT       | 20            | PE   | GRAVEL       | 18  | 3.1             | PAVE 3' BACK    |
| 197+48  | LT       | 20            | PE   | ASPHALT      | 47  | 8.1             | PAVE 10' BACK   |
| 200+31  | LT       | 28            | FE   | GRAVEL       | 0   | 0.0             |                 |
| 202+24  | RT       | 20            | PE   | GRAVEL       | 18  | 3.1             | PAVE 3' BACK    |
| 205+20  | RT       | 20            | PE   | GRAVEL       | 18  | 3.1             | PAVE 3' BACK    |
| 210+33  | LT       | 28            | CE   | ASPHALT      | 56  | 9.7             | PAVE 10' BACK   |
| 210+38  | RT       | 28            | FE   | GRAVEL       | 0   | 0.0             |                 |
| 212+75  | RT       | 20            | PE   | ASPHALT      | 122 | 21.0            | PAVE 40' BACK   |
| 213+04  | LT       | 20            | PE   | ASPHALT      | 122 | 21.0            | PAVE 40' BACK   |
| 221+38  | RT       | 28            | FE   | GRAVEL       | 0   | 0.0             |                 |
| 222+50  | RT       | 20            | PE   | GRAVEL       | 18  | 3.1             | PAVE 3' BACK    |
| 225+65  | LT       | 20            | PE   | GRAVEL       | 18  | 3.1             | PAVE 3' BACK    |
| 226+35  | LT       | 20            | PE   | ASPHALT      | 47  | 8.1             | PAVE 10' BACK   |
| 233+60  | LT       | 28            | CE   | GRAVEL       | 21  | 3.6             | PAVE 3' BACK    |
| 233+80  | RT       | 20            | PE   | ASPHALT      | 47  | 8.1             | PAVE 10' BACK   |
| 235+83  | LT       | 28            | FE   | GRAVEL       | 0   | 0.0             |                 |
| 235+83  | RT       | 28            | FE   | GRAVEL       | 0   | 0.0             |                 |
| 236+85  | RT       | 20            | PE   | ASPHALT      | 47  | 8.1             | PAVE 10' BACK   |
| 239+63  | LT       | 20            | PE   | ASPHALT      | 47  | 8.1             | PAVE 10' BACK   |
| 241+73  | RT       | 20            | PE   | GRANITE      | 18  | 3.1             | PAVE 3' BACK    |
| 242+70  | RT       | 20            | PE   | GRANITE      | 18  | 3.1             | PAVE 3' BACK    |
| 243+66  | LT       | 28            | FE   | GRAVEL       | 0   | 0.0             |                 |
| 246+47  | RT       | 20            | PE   | ASPHALT      | 47  | 8.1             | PAVE 3' BACK    |
| 247+17  | LT       | 20            | PE   | GRANITE      | 18  | 3.1             | PAVE 3' BACK    |
| 249+30  | RT       | 28            | FE   | SALV TOPSOIL | 0   | 0.0             |                 |
| 249+46  | LT       | 28            | CE   | GRANITE      | 21  | 3.6             | PAVE 3' BACK    |
| 12+30'X | RT       | 28            | CE   | ASPHALT      | 56  | 9.7             | PAVE 10' BACK   |
| TOTAL   |          |               |      |              | 934 | 161             |                 |

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| CLEANING CULVERT PIPES                                                |                   |                                           |                                           |                                          | CONCRETE CURB & GUTTER                                 |                                                        |                                                      | EROSION CONTROL ITEMS            |                  |                                 |                                             |                                                |                                              |                                   |    |     |     |
|-----------------------------------------------------------------------|-------------------|-------------------------------------------|-------------------------------------------|------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|----------------------------------|------------------|---------------------------------|---------------------------------------------|------------------------------------------------|----------------------------------------------|-----------------------------------|----|-----|-----|
| STATION                                                               | LOCATION          | 520.7000<br>EACH                          | DIA<br>(IN)                               | REMARKS                                  | STATION - STATION                                      | LOCATION                                               | 601.0557<br>6-INCH SLOPED<br>36-INCH<br>TYPE D<br>LF | STATION                          | LOCATION         | 628.1504<br>SILT<br>FENCE<br>LF | 628.1520<br>SILT FENCE<br>MAINTENANCE<br>LF | 628.7504<br>TEMPORARY<br>DITCH<br>CHECKS<br>LF |                                              |                                   |    |     |     |
| 121+79                                                                | C/L               | 1                                         | 42                                        | CROSS DRAIN                              | 230+50 - 232+00                                        | NW                                                     | 171                                                  | UNDISTRIBUTED                    | RT/LT            | 150                             | 150                                         | ---                                            |                                              |                                   |    |     |     |
| 121+81                                                                | C/L               | 1                                         | 42                                        | CROSS DRAIN                              | 230+75 - 232+00                                        | SW                                                     | 90                                                   | 201+40                           | LT               | ---                             | ---                                         | 10                                             |                                              |                                   |    |     |     |
| TOTAL                                                                 |                   | 2                                         |                                           |                                          | 232+40 - 234+00                                        | NE                                                     | 201                                                  | 202+60                           | RT               | ---                             | ---                                         | 10                                             |                                              |                                   |    |     |     |
|                                                                       |                   |                                           |                                           |                                          | 232+20 - 235+05                                        | SE                                                     | 394                                                  | 206+50                           | LT               | ---                             | ---                                         | 10                                             |                                              |                                   |    |     |     |
|                                                                       |                   |                                           |                                           |                                          | TOTAL                                                  |                                                        | 856                                                  | 206+50                           | RT               | ---                             | ---                                         | 10                                             |                                              |                                   |    |     |     |
|                                                                       |                   |                                           |                                           |                                          |                                                        |                                                        |                                                      | 208+10                           | RT               | ---                             | ---                                         | 10                                             |                                              |                                   |    |     |     |
|                                                                       |                   |                                           |                                           |                                          |                                                        |                                                        |                                                      | 211+50                           | RT               | ---                             | ---                                         | 10                                             |                                              |                                   |    |     |     |
|                                                                       |                   |                                           |                                           |                                          |                                                        |                                                        |                                                      | 214+00                           | LT               | ---                             | ---                                         | 10                                             |                                              |                                   |    |     |     |
|                                                                       |                   |                                           |                                           |                                          |                                                        |                                                        |                                                      | TOTALS                           |                  | 150                             | 150                                         | 70                                             |                                              |                                   |    |     |     |
| PRIVATE ENTRANCE PIPES                                                |                   |                                           |                                           |                                          |                                                        |                                                        |                                                      | CULVERT PIPE CHECKS              |                  |                                 |                                             |                                                |                                              |                                   |    |     |     |
| STATION                                                               | LOCATION          | CP CLASS III<br>521.0118<br>18-INCH<br>LF | CP CLASS III<br>521.0130<br>30-INCH<br>LF | THICKNESS<br>STEEL ALUMINUM<br>INCH INCH | AEW FOR<br>CP CLASS III<br>521.1018<br>18-INCH<br>EACH | AEW FOR<br>CP CLASS III<br>521.1030<br>30-INCH<br>EACH | STATION                                              | LOCATION                         | 611.0627<br>EACH | REMARKS                         | STATION                                     | LOCATION                                       | 628.7555<br>CULVERT<br>PIPE<br>CHECK<br>EACH | 628.7570<br>*ROCK<br>BAGS<br>EACH |    |     |     |
| 205+17                                                                | STH 153 (RT)      | 52                                        | ---                                       | 0.064                                    | 0.06                                                   | 2                                                      | 12'X'+65                                             | RT                               | 1                | CTH X (SE QUAD)                 | 204+90                                      | RT                                             | 9                                            | ---                               |    |     |     |
| 210+45                                                                | STH 153 (RT)      | ---                                       | 62                                        | 0.064                                    | 0.06                                                   | ---                                                    | TOTAL                                                |                                  | 1                |                                 | 209+00                                      | LT                                             | 7                                            | ---                               |    |     |     |
| 212+75                                                                | STH 153 (RT)      | ---                                       | 64                                        | 0.064                                    | 0.06                                                   | ---                                                    |                                                      |                                  |                  |                                 |                                             |                                                |                                              | 210+00                            | RT | 9   | --- |
| 231+10                                                                | STH 153 (LT)      | ---                                       | 56                                        | 0.064                                    | 0.06                                                   | ---                                                    |                                                      |                                  |                  |                                 |                                             |                                                |                                              | 212+35                            | RT | 9   | --- |
| TOTALS                                                                |                   | 52                                        | 182                                       |                                          |                                                        | 2                                                      |                                                      |                                  |                  |                                 |                                             |                                                |                                              | 212+70                            | LT | 7   | --- |
|                                                                       |                   |                                           |                                           |                                          |                                                        | 6                                                      |                                                      |                                  |                  |                                 |                                             |                                                |                                              | 214+30                            | RT | --- | 9   |
|                                                                       |                   |                                           |                                           |                                          |                                                        |                                                        |                                                      |                                  |                  |                                 |                                             |                                                |                                              | 216+00                            | RT | --- | 9   |
|                                                                       |                   |                                           |                                           |                                          |                                                        |                                                        |                                                      |                                  |                  |                                 |                                             |                                                |                                              | TOTAL                             |    | 41  | 18  |
| * TEMPORARY DITCH CHECK (ASSUMING A LENGTH OF 30 INCHES FOR EACH BAG) |                   |                                           |                                           |                                          |                                                        |                                                        |                                                      |                                  |                  |                                 |                                             |                                                |                                              |                                   |    |     |     |
| MARKERS CULVERT END                                                   |                   |                                           |                                           |                                          |                                                        |                                                        |                                                      |                                  |                  |                                 |                                             |                                                |                                              |                                   |    |     |     |
| STATION                                                               | LOCATION          | 633.5200<br>EACH                          |                                           | REMARKS                                  |                                                        |                                                        |                                                      |                                  |                  |                                 |                                             |                                                |                                              |                                   |    |     |     |
| 209+00                                                                | STH 153 (LT & RT) | 2                                         |                                           | CROSS DRAIN                              |                                                        |                                                        |                                                      |                                  |                  |                                 |                                             |                                                |                                              |                                   |    |     |     |
| TOTAL                                                                 |                   | 2                                         |                                           |                                          |                                                        |                                                        |                                                      |                                  |                  |                                 |                                             |                                                |                                              |                                   |    |     |     |
| PROJECT : 6600-01-80                                                  |                   | HWY: STH 153                              |                                           |                                          | COUNTY: MARATHON                                       |                                                        |                                                      | MISCELLANEOUS QUANTITIES SHEET C |                  |                                 |                                             |                                                | SHEET:                                       |                                   | E  |     |     |
| TOTALS                                                                |                   | 10451                                     | 1708                                      | 219                                      | 8743                                                   | 1                                                      | 47                                                   | 236                              | 8743             | 6                               | 99                                          |                                                |                                              |                                   |    |     |     |

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| SIGN LISTING           |           |                                            |              |                                |                       |            |                                  |                                      |                                            |                                           |
|------------------------|-----------|--------------------------------------------|--------------|--------------------------------|-----------------------|------------|----------------------------------|--------------------------------------|--------------------------------------------|-------------------------------------------|
| SIGN NO.               | SIGN CODE | MESSAGE                                    | SIZE INCHES  | 637.0202 REFLECT. TYPE II S.F. | POSTS WOOD 4 X 6-INCH |            |                                  | 638.2602 REMOVING SIGNS TYPE II EACH | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH | REMARKS                                   |
|                        |           |                                            |              |                                | 634.0614              | 634.0616   | 634.0618                         |                                      |                                            |                                           |
|                        |           |                                            |              |                                | 14-FT EACH            | 16-FT EACH | 18-FT EACH                       |                                      |                                            |                                           |
| 1-01                   | R1-1      | STOP                                       | 30X30        | 6.25                           | 1                     | ---        | ---                              | 1                                    | 1                                          |                                           |
| 1-02                   | I2-3      | KRONENWETTER POPULATION 5668               | 84X24        | 14.00                          | ---                   | ---        | 1                                | 1                                    | 2                                          |                                           |
| 1-03                   | W14-3     | NO PASSING ZONE                            | 48X36        | 6.00                           | ---                   | ---        | 1                                | 1                                    | 1                                          |                                           |
| 1-04                   | R1-1      | STOP                                       | 30X30        | 6.25                           |                       | 1          | ---                              | 1                                    | 1                                          |                                           |
| 1-05                   | W14-3     | NO PASSING ZONE                            | 48X36        | 6.00                           | ---                   | 1          |                                  | 1                                    | 1                                          |                                           |
| 2-01                   | I55-56    | ADOPT A HIGHWAY                            | 30X36        | 7.50                           | ---                   | 1          | ---                              | 1                                    | 1                                          | Mosinee School Staff                      |
| 2-02                   | R1-1      | STOP                                       | 30X30        | 6.25                           | 1                     | ---        | ---                              | 1                                    | 1                                          |                                           |
| 2-03                   | R1-1      | STOP                                       | 30X30        | 6.25                           | 1                     | ---        | ---                              | 1                                    | 1                                          |                                           |
| 2-04                   | I55-56    | ADOPT A HIGHWAY                            | 30X36        | 7.50                           | ---                   | 1          |                                  | 1                                    | 1                                          | VFW Peplin Post 8280 and Ladies Auxiliary |
| 2-05                   | W14-3     | NO PASSING ZONE                            | 48X36        | 6.00                           | ---                   | ---        | 1                                | 1                                    | 1                                          |                                           |
| 2-06                   | W14-3     | NO PASSING ZONE                            | 48X36        | 6.00                           | ---                   | ---        | 1                                | 1                                    | 1                                          |                                           |
| 2-07                   | R2-1      | SPEED LIMIT 55                             | 24X30        | 5.00                           | ---                   | 1          | ---                              | 1                                    | 1                                          |                                           |
| 2-08                   | J1-1      | JCT CTH X                                  | 24X39        | 6.50                           | ---                   | ---        | 1                                | 1                                    | 1                                          |                                           |
| 2-09                   | J4-1      | WEST STH 153                               | 24X36        | 6.00                           | ---                   | ---        | 1                                | 1                                    | 1                                          |                                           |
| 2-10                   | D1-3      | ^ ELDERON, <- ROTHSCHILD, STEVENS POINT -> | 90X42        | 26.25                          | ---                   | ---        | 1                                | 1                                    | 2                                          |                                           |
| 2-11                   | J3-1      |                                            | 24X57        | ---                            | ---                   | ---        | ---                              | 1                                    | 1                                          | SHARES SAME POST AS 2-08                  |
| 2-12                   | J4-1      | ALTERNATE IH-39 RIGHT ANGLE ARROW RIGHT    | 24X36        | ---                            | ---                   | ---        | ---                              | 1                                    | 1                                          | SHARES SAME POST AS 2-09                  |
| 2-13                   | W8-70     | CENTERLINE, RUMBLE,STRIPS                  | 36X36        | 9.00                           | ---                   | ---        | 1                                |                                      |                                            |                                           |
| 2-14                   | W57-51    | NEXT, 3 MILES                              | 30X15        | 3.13                           | ---                   | ---        | ---                              |                                      |                                            | SHARES SAME POST AS 2-13                  |
| 3-01                   | J12-1     | COUNTY X DOUBLE ARROW LT/RT                | 24X45        | 16.98                          | ---                   | ---        | 1                                | 1                                    | 1                                          |                                           |
| 3-02                   | R1-1      | STOP                                       | 36X36        | 7.46                           | 1                     | ---        | ---                              | 1                                    | 1                                          |                                           |
| 3-03                   | R1-1      | STOP                                       | 36X36        | 7.46                           | 1                     | ---        | ---                              | 1                                    | 1                                          |                                           |
| 3-04                   | J12-1     | STH 153 DOUBLE ARROW LT/RT                 | 24X45        | 16.98                          | 1                     | ---        | ---                              | 1                                    | 1                                          |                                           |
| 3-05                   | J12-1     | COUNTY X DOUBLE ARROW LT/RT                | 24X45        | 16.98                          | 1                     | ---        | ---                              | 1                                    | 1                                          |                                           |
| 3-06                   | D1-3      | ^ ELDERON, <- ROTHSCHILD, STEVENS POINT -> | 90X42        | 26.25                          | ---                   | ---        | 1                                | 1                                    | 2                                          |                                           |
| 3-07                   | J4-1      | EAST STH 153                               | 24X36        | 6.00                           | ---                   | ---        | 1                                | 1                                    | 1                                          |                                           |
| 3-08                   | R2-1      | SPEED LIMIT 55                             | 24X30        | 5.00                           | ---                   | 1          | ---                              | 1                                    | 1                                          |                                           |
| 3-09                   | J1-1      |                                            | 24X39        | 6.50                           | ---                   | ---        | 1                                | 1                                    | 1                                          |                                           |
| CONTINUED ON NEXT PAGE |           |                                            |              |                                |                       |            |                                  |                                      |                                            |                                           |
| PROJECT : 6600-01-80   |           |                                            | HWY: STH 153 |                                | COUNTY: MARATHON      |            | MISCELLANEOUS QUANTITIES SHEET D |                                      |                                            | SHEET: E                                  |

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CONTINUED FROM PREVIOUS PAGE

SIGN LISTING

| SIGN NO. | SIGN CODE | MESSAGE                     | SIZE INCHES | 637.0202 REFLECT. TYPE II S.F. | POSTS WOOD 4 X 6-INCH |                     |                     | 638.2602 REMOVING SIGNS TYPE II EACH | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH | REMARKS                  |
|----------|-----------|-----------------------------|-------------|--------------------------------|-----------------------|---------------------|---------------------|--------------------------------------|--------------------------------------------|--------------------------|
|          |           |                             |             |                                | 634.0614 14-FT EACH   | 634.0616 16-FT EACH | 634.0618 18-FT EACH |                                      |                                            |                          |
|          |           | JCT COUNTY X                |             |                                |                       |                     |                     |                                      |                                            |                          |
| 3-10     | J3-1      |                             | 24X57       | 9.50                           | ---                   | ---                 | ---                 | 1                                    | 1                                          | SHARES SAME POST AS 3-01 |
|          |           | ALTERNATE IH-39 ARROW RIGHT |             |                                |                       |                     |                     |                                      |                                            |                          |
| 3-11     | J3-1      |                             | 24X57       | 9.50                           | ---                   | ---                 | ---                 | 1                                    | 1                                          | SHARES SAME POST AS 3-04 |
|          |           | ALTERNATE IH-39 ARROW LEFT  |             |                                |                       |                     |                     |                                      |                                            |                          |
| 3-12     | J12-1     |                             | 24X36       | 6.00                           | 1                     | ---                 | ---                 | 1                                    | 1                                          |                          |
|          |           | NORTH COUNTY X              |             |                                |                       |                     |                     |                                      |                                            |                          |
| 3-13     | W3-1      | STOP AHEAD                  | 36X36       | 9.00                           | ---                   | ---                 | 1                   | 1                                    | 1                                          |                          |
| 3-14     | J3-1      |                             | 24X36       | 6.00                           | ---                   | ---                 | ---                 | 1                                    | 1                                          | SHARES SAME POST AS 3-15 |
|          |           | ALTERNATE IH-39             |             |                                |                       |                     |                     |                                      |                                            |                          |
| 3-15     | J12-1     |                             | 24X36       | 6.00                           | 1                     | ---                 | ---                 | 1                                    | 1                                          |                          |
|          |           | SOUTH COUNTY X              |             |                                |                       |                     |                     |                                      |                                            |                          |
| 3-16     | J3-1      |                             | 24X39       | 6.50                           | ---                   | ---                 | ---                 | 1                                    | 1                                          | SHARES SAME POST AS 3-17 |
|          |           | ALTERNATE IH-39             |             |                                |                       |                     |                     |                                      |                                            |                          |
| 3-17     | J1-1      | ADVANCE LEFT TURN           | 24X39       | 6.50                           | ---                   | ---                 | 1                   | 1                                    | 1                                          |                          |
|          |           | JCT STH 153                 |             |                                |                       |                     |                     |                                      |                                            |                          |
| 3-18     | W8-70     | CENTERLINE, RUMBLE, STRIPS  | 36X36       | 9.00                           | ---                   | ---                 | 1                   | ---                                  | ---                                        |                          |
| 3-19     | W57-51    | NEXT, 3 MILES               | 30X15       | 3.13                           | ---                   | ---                 | ---                 | ---                                  | ---                                        | SHARES SAME POST AS 3-18 |
| TOTALS   |           |                             |             | 314.62                         | 9                     | 6                   | 15                  | 34                                   | 37                                         |                          |

# 3



| PAVEMENT MARKING EPOXY                           |         |          |         |         |          |     |     |     |               |
|--------------------------------------------------|---------|----------|---------|---------|----------|-----|-----|-----|---------------|
| 646.0406                                         |         |          |         |         |          |     |     |     |               |
| 646.0106 646.0106 646.0106 646.0126 647.0566     |         |          |         |         |          |     |     |     |               |
| 4-INCH 4-INCH 4-INCH CHANNELIZING STOPLINE       |         |          |         |         |          |     |     |     |               |
| EDGE LINE CENTER LINE CENTER LINE 8-INCH 18-INCH |         |          |         |         |          |     |     |     |               |
| WHITE YELLOW YELLOW WHITE WHITE                  |         |          |         |         |          |     |     |     |               |
| STATION - STATION                                | LENGTH  | LOCATION | LF      | LF      | LF       | LF  | LF  | LF  | REMARKS       |
| 118+50 - 128+29                                  | 979     | C/L      | ---     | ---     | 1958     | --- | --- | --- | DOUBLE SOLID  |
| 128+29 - 141+00                                  | 1271    | C/L      | ---     | ---     | 1588.75  | --- | --- | --- | SOLID/DASH    |
| 141+00 - 167+00                                  | 2600    | C/L      | ---     | ---     | 650      | --- | --- | --- | DASHED        |
| 167+00 - 178+50                                  | 1150    | C/L      | ---     | ---     | 1437.5   | --- | --- | --- | DASHED/SOLID  |
| 178+50 - 200+38                                  | 2290.57 | C/L      | ---     | ---     | 4581.14  | --- | --- | --- | DOUBLE SOLID  |
| 193+00 - 200+38                                  | 738     | C/L      | ---     | 1476    | ---      | --- | --- | --- | DOUBLE SOLID  |
| 200+38 - 209+35                                  | 897     | C/L      | ---     | 1121.25 | 1121.25  | --- | --- | --- | SOLID/DASHED  |
| 209+35 - 218+60                                  | 925     | C/L      | ---     | 231.25  | 231.25   | --- | --- | --- | DASHED        |
| 218+60 - 230+10                                  | 1150    | C/L      | ---     | 1437.5  | 1437.5   | --- | --- | --- | DASHED/SOLID  |
| 230+10 - 246+35                                  | 1625    | C/L      | ---     | 3250    | 3250     | --- | --- | --- | DOUBLE SOLID  |
| 246+35 - 250+00                                  | 365     | C/L      | ---     | 456.25  | 456.25   | --- | --- | --- | SOLID/DASHED  |
| 250+00 - 253+75                                  | 375     | C/L      | ---     | 562.5   | ---      | --- | --- | --- | SOLID/DASHED  |
| 118+50 - 152+25                                  | 3375    | LT       | 3375    | ---     | ---      | --- | --- | --- | SOLID         |
| 152+25 -154+00                                   | 175     | LT       | 43.75   | ---     | ---      | --- | --- | --- | DASHED        |
| 154+00 - 155+00                                  | 100     | LT       | ---     | ---     | ---      | 100 | --- | --- | SOLID         |
| 154+00 - 178+84                                  | 2484    | LT       | 2484    | ---     | ---      | --- | --- | --- | SOLID         |
| 178+84 - 182+00                                  | 316     | LT       | 79      | ---     | ---      | --- | --- | --- | DASHED        |
| 182+00 - 231+62                                  | 5064.57 | LT       | 5064.57 | ---     | ---      | -   | --- | --- | SOLID         |
| 232+85 - 234+00                                  | 115     | LT       | ---     | ---     | ---      | 115 | --- | --- | SOLID         |
| 232+85 - 250+00                                  | 1715    | LT       | 1715    | ---     | ---      | --- | --- | --- | SOLID         |
| 118+50 - 130+00                                  | 115     | RT       | 115     | ---     | ---      | --- | --- | --- | SOLID         |
| 130+00 - 134+00                                  | 400     | RT       | 100     | ---     | ---      | --- | --- | --- | DASHED        |
| 134+00 - 179+00                                  | 4500    | RT       | 4500    | ---     | ---      | --- | --- | --- | SOLID         |
| 179+00 - 180+60                                  | 160     | RT       | 40      | ---     | ---      | --- | --- | --- | DASHED        |
| 180+60 - 230+00                                  | 5042.57 | RT       | 5042.57 | ---     | ---      | --- | --- | --- | SOLID         |
| 230+00 - 231+30                                  | 130     | RT       | 32.5    | ---     | ---      | --- | --- | --- | DASHED        |
| 232+55 - 250+00                                  | 1745    | RT       | 1745    | ---     | ---      | --- | --- | --- | SOLID         |
| 12+81'X                                          | 25      | RT       | ---     | ---     | ---      | --- | 25  | --- | SOLID (CTH X) |
| 13+37'X                                          | 25      | LT       | ---     | ---     | ---      | --- | 25  | --- | SOLID (CTH X) |
| TOTALS                                           |         |          | 24336.4 | 8534.8  | 16711.64 | 215 | 50  |     |               |
| GRAND TOTAL                                      |         |          | 32871   |         |          |     |     |     |               |

| SAWING ASPHALT |                 |      |                    |
|----------------|-----------------|------|--------------------|
| 690.0150       |                 |      |                    |
| STATION        | LOCATION        | LF   | REMARKS            |
| 118+50         | CL              | 34   | START PROJECT      |
| 127+73         | LT              | 25   | Driveway           |
| 133+54.28      | RT              | 39   | Flightline Dr      |
| 9+38.20'S'     | RT              | 50   | AIRPORT MAINT RD   |
| 179+83.98      | RT              | 30   | Oak Rd SOUTH       |
| 197+48         | LT              | 25   | Driveway           |
| 209+00         | CL              | 60   | CROSS DRAIN        |
| 210+33         | RT              | 25   | Driveway           |
| 212+75         | RT              | 20   | Driveway           |
| 213+04         | LT              | 20   | Driveway           |
| 226+35         | LT              | 25   | Driveway           |
| NW QUAD        | STH 153 & CTH'X | 202  | 1' OFFSET FROM C&G |
| NE QUAD        | STH 153 & CTH'X | 220  | 1' OFFSET FROM C&G |
| SW QUAD        | STH 153 & CTH'X | 114  | 1' OFFSET FROM C&G |
| SE QUAD        | STH 153 & CTH'X | 412  | 1' OFFSET FROM C&G |
| 11+44.75'X     | C/L             | 24   | CTH 'X' SOUTH      |
| 12+30'X        | RT              | 30   | Driveway           |
| 14+00'X        | C/L             | 30   | CTH 'X' NORTH      |
| 233+80         | RT              | 25   | Driveway           |
| 236+85         | RT              | 25   | Driveway           |
| 239+63         | RT              | 25   | Driveway           |
| 246+47         | LT              | 25   | Driveway           |
| 250+40         | CL              | 30   | END PROJECT        |
| TOTAL          |                 | 1515 |                    |

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| REESTABLISH SECTION CORNER MONUMENTS |                                                                      |                                                                  |                                                                    |
|--------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------|
| LOCATION                             | SPV.0060.01<br>REESTABLISH<br>SECTION<br>CORNER<br>MONUMENTS<br>EACH | 621.0100<br>LANDMARK<br>REFERENCE<br>MONUMENTS<br>(TIES)<br>EACH | SECTION CORNER MONUMENTS TO BE INSTALLED                           |
| S 1/2 SECTION 26; T-27-N; R-7-E      | 1                                                                    | 4                                                                | BERNSTEN SNM1 STEEL NAIL MARKER                                    |
| SE CORNER SECTION 26; T-27-N; R-7-E  | 1                                                                    | 4                                                                | BERNSTEN SNM1 STEEL NAIL MARKER                                    |
| S 1/2 SECTION 27; T-27-N; R-7-E      | 1                                                                    | 4                                                                | BERNSTEN SNM1 STEEL NAIL MARKER                                    |
| N 1/2 SECTION 36; T-27-N; R-7-E      | 1                                                                    | 4                                                                | BERNSTEN SNM1 STEEL NAIL MARKER<br>BERNSTEN SNM1 STEEL NAIL MARKER |
|                                      | <u>4</u>                                                             | <u>16</u>                                                        |                                                                    |

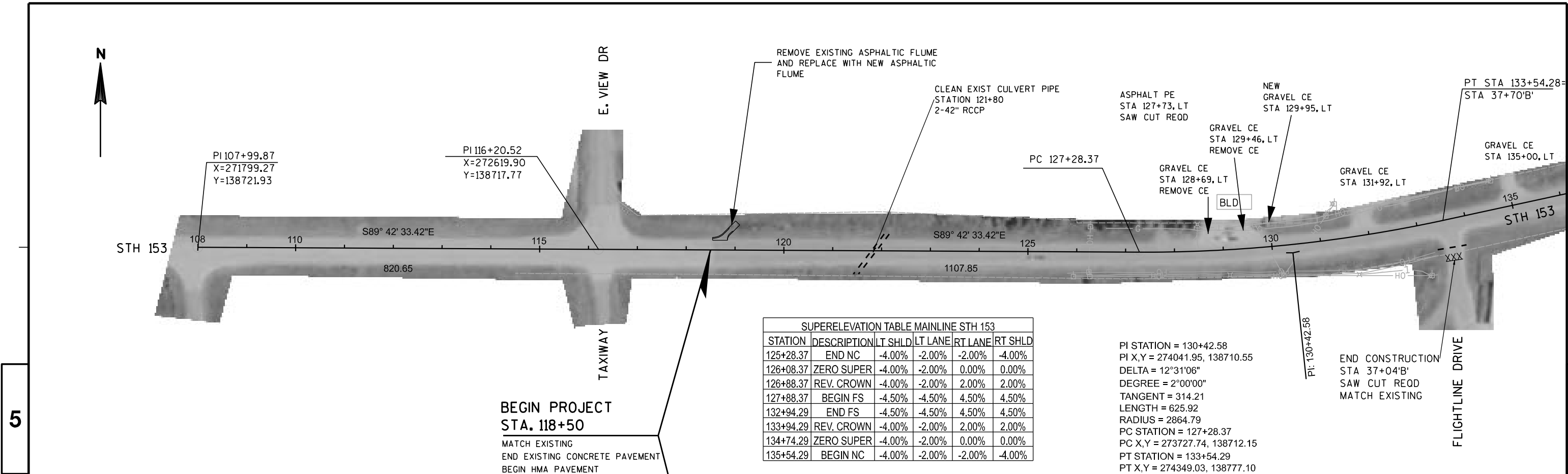
| BASE AGGREGATE DISINTEGRATED GRANITE |          |                    |          |
|--------------------------------------|----------|--------------------|----------|
| STATION - STATION                    | LOCATION | SPV.0195.01<br>TON | REMARKS  |
| 241+73                               | LT       | 5.5                | DRIVEWAY |
| 242+70                               | LT       | 5.5                | DRIVEWAY |
| 247+17                               | RT       | 5.5                | DRIVEWAY |
| 249+46                               | RT       | 5.5                | DRIVEWAY |
| 249+46                               | LT       | 5.5                | DRIVEWAY |
| TOTAL                                |          | <u>28</u>          |          |

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| GRADING AND SHAPING (DITCHING)                                                                                 |                                 |                  |                 |                             |                               |
|----------------------------------------------------------------------------------------------------------------|---------------------------------|------------------|-----------------|-----------------------------|-------------------------------|
| LOCATION                                                                                                       | *<br>COMMON<br>EXCAVATION<br>CY | *<br>Waste<br>CY | *<br>FILL<br>CY | *<br>EXPANDED<br>FILL<br>CY | SPV.0090.01<br>DITCHING<br>LF |
| 128+25 - 130+50 LT                                                                                             | 100                             | 50               | ---             | ---                         | 225                           |
| 201+25 - 210+22 LT                                                                                             | 171                             | 62               | ---             | ---                         | 897                           |
| 202+50 - 216+00 RT                                                                                             | 263                             | ---              | 175             | 245                         | 1350                          |
| TOTALS                                                                                                         | <u>534</u>                      | <u>112</u>       | <u>175</u>      | <u>245</u>                  | <u>2472</u>                   |
| * QUANTITIES ARE GIVEN FOR INFORMATION ONLY AND ARE INCLUDED UNDER THE BID ITEM GRADING AND SHAPING (DITCHING) |                                 |                  |                 |                             |                               |
| EXPANSION FACTOR = 1.4                                                                                         |                                 |                  |                 |                             |                               |

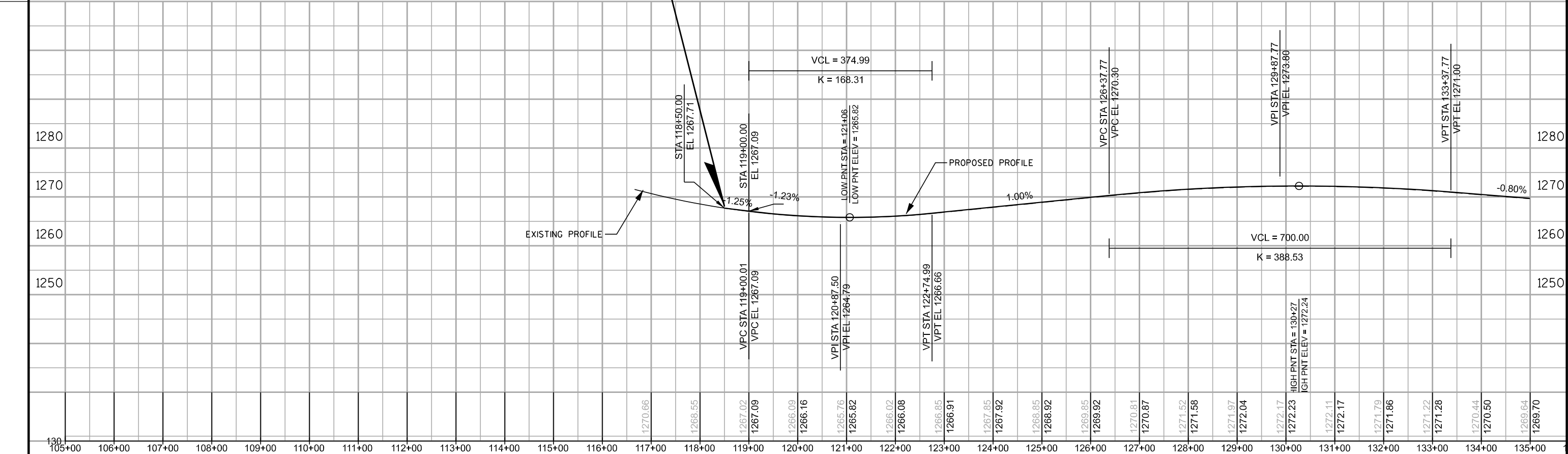
| ASPHALT CENTER LINE RUMBLE STRIP 2-LANE RURAL                                                   |             |                  |
|-------------------------------------------------------------------------------------------------|-------------|------------------|
| STATION TO STATION                                                                              | LOCATION    | 465.0475.S<br>LF |
| 193+00.09 AHD TO 253+75                                                                         | STH 153 C/L | 5,275            |
|                                                                                                 |             | <u>5,275</u>     |
| (THE LF OF ASPHALT CENTER LINE RUMBLE STRIP 2-LANE RURAL HAS BEEN REDUCED FOR ANTICIPATED GAPS) |             |                  |

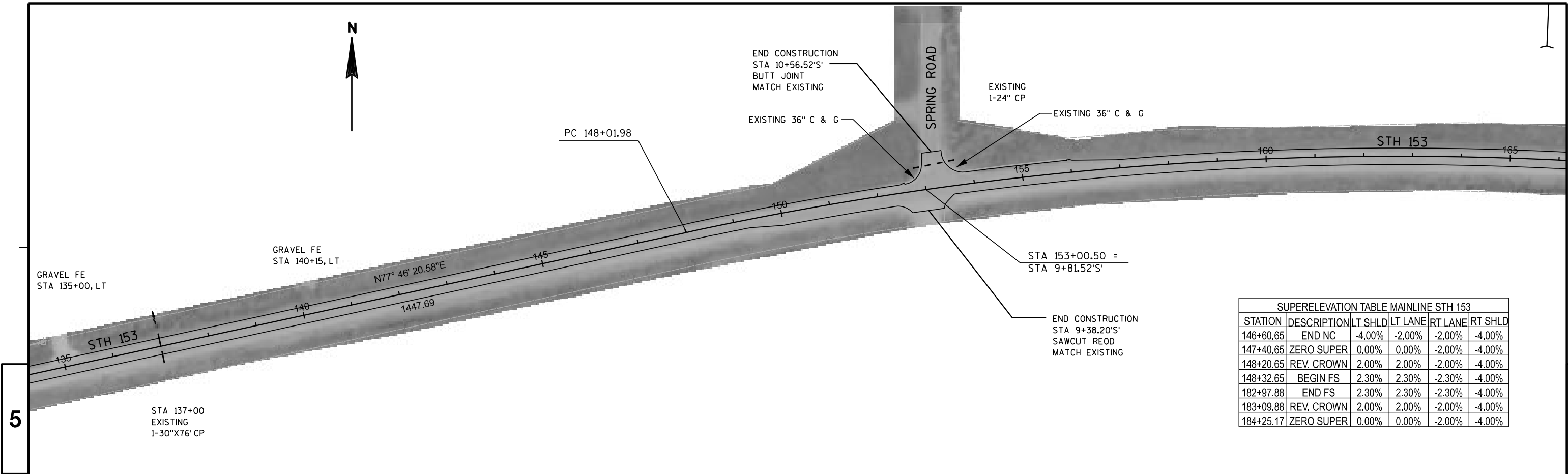




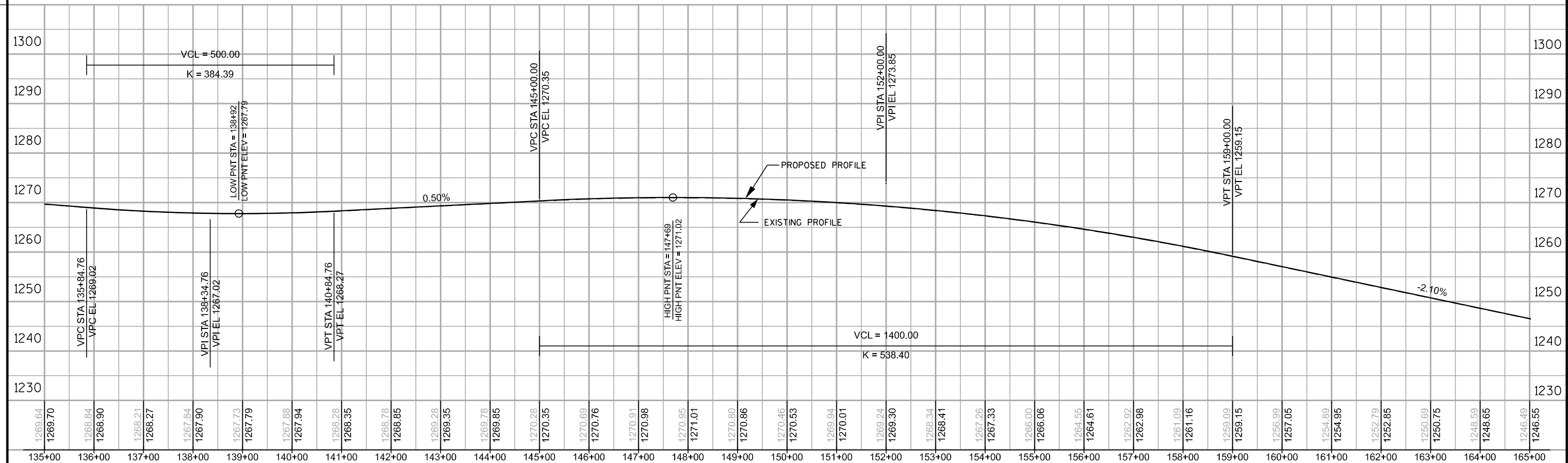
| SUPERELEVATION TABLE MAINLINE STH 153 |             |         |         |         |         |
|---------------------------------------|-------------|---------|---------|---------|---------|
| STATION                               | DESCRIPTION | LT SHLD | LT LANE | RT LANE | RT SHLD |
| 125+28.37                             | END NC      | -4.00%  | -2.00%  | -2.00%  | -4.00%  |
| 126+08.37                             | ZERO SUPER  | -4.00%  | -2.00%  | 0.00%   | 0.00%   |
| 126+88.37                             | REV. CROWN  | -4.00%  | -2.00%  | 2.00%   | 2.00%   |
| 127+88.37                             | BEGIN FS    | -4.50%  | -4.50%  | 4.50%   | 4.50%   |
| 132+94.29                             | END FS      | -4.50%  | -4.50%  | 4.50%   | 4.50%   |
| 133+94.29                             | REV. CROWN  | -4.00%  | -2.00%  | 2.00%   | 2.00%   |
| 134+74.29                             | ZERO SUPER  | -4.00%  | -2.00%  | 0.00%   | 0.00%   |
| 135+54.29                             | BEGIN NC    | -4.00%  | -2.00%  | -2.00%  | -4.00%  |

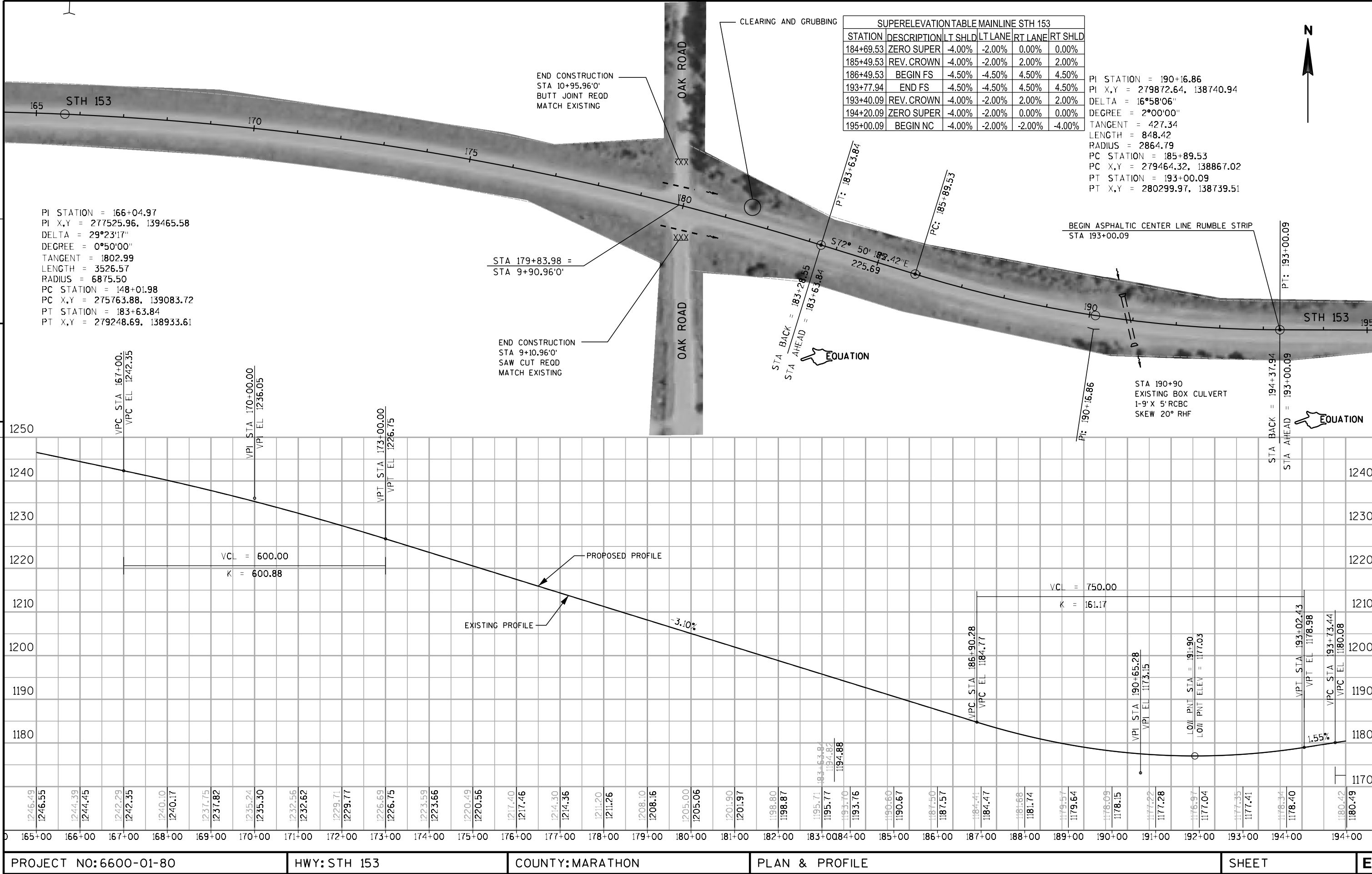
PI STATION = 130+42.58  
PI X,Y = 274041.95, 138710.55  
DELTA = 12°31'06"  
DEGREE = 2°00'00"  
TANGENT = 314.21  
LENGTH = 625.92  
RADIUS = 2864.79  
PC STATION = 127+28.37  
PC X,Y = 273727.74, 138712.15  
PT STATION = 133+54.29  
PT X,Y = 274349.03, 138777.10



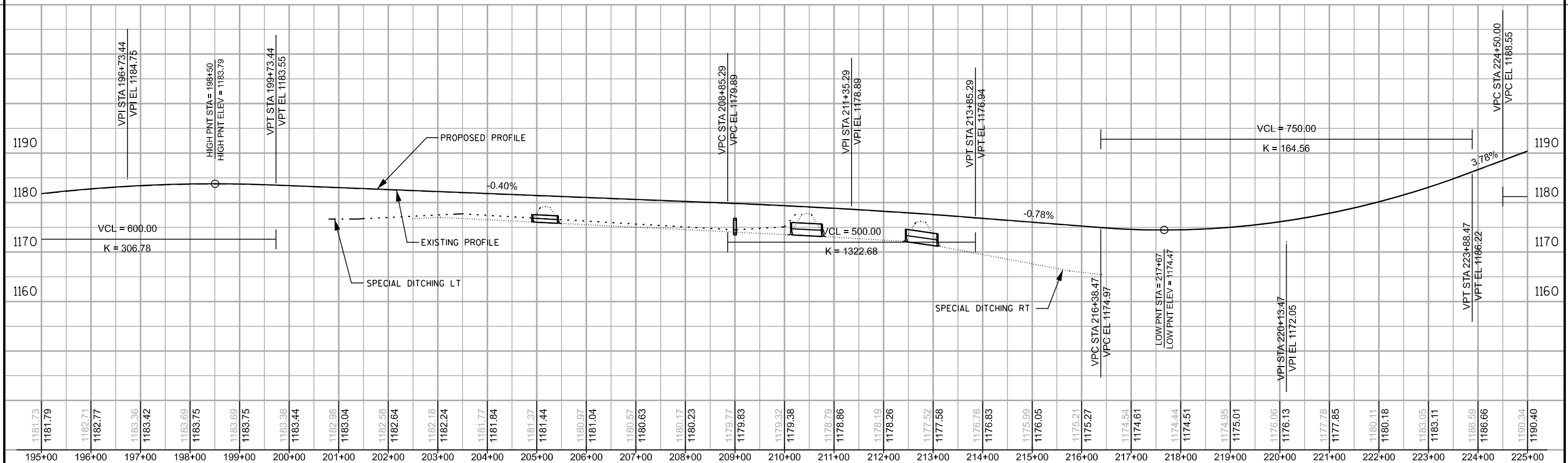
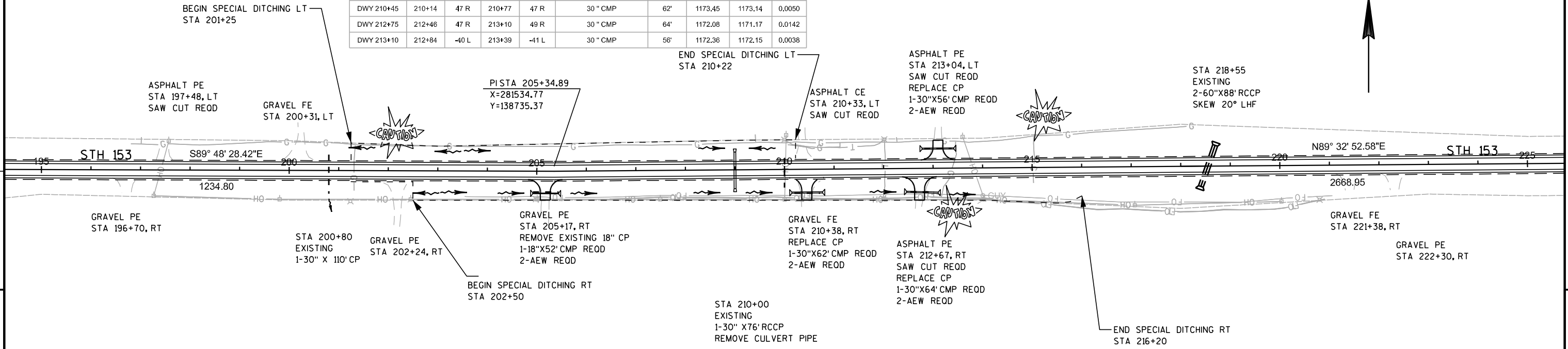


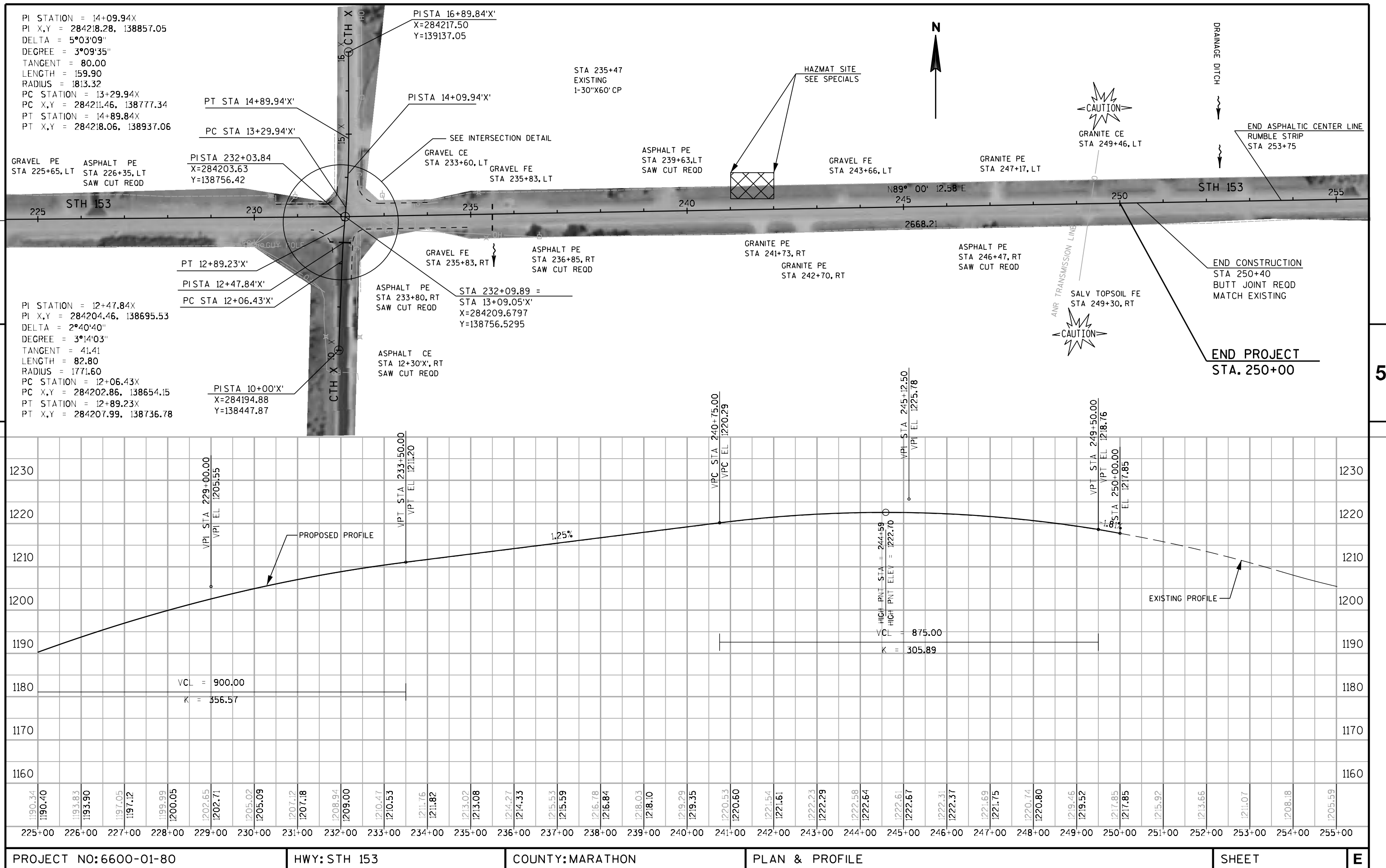
| SUPERELEVATION TABLE MAINLINE STH 153 |             |         |         |         |         |
|---------------------------------------|-------------|---------|---------|---------|---------|
| STATION                               | DESCRIPTION | LT SHLD | LT LANE | RT LANE | RT SHLD |
| 146+60.65                             | END NC      | -4.00%  | -2.00%  | -2.00%  | -4.00%  |
| 147+40.65                             | ZERO SUPER  | 0.00%   | 0.00%   | -2.00%  | -4.00%  |
| 148+20.65                             | REV. CROWN  | 2.00%   | 2.00%   | -2.00%  | -4.00%  |
| 148+32.65                             | BEGIN FS    | 2.30%   | 2.30%   | -2.30%  | -4.00%  |
| 182+97.88                             | END FS      | 2.30%   | 2.30%   | -2.30%  | -4.00%  |
| 183+09.88                             | REV. CROWN  | 2.00%   | 2.00%   | -2.00%  | -4.00%  |
| 184+25.17                             | ZERO SUPER  | 0.00%   | 0.00%   | -2.00%  | -4.00%  |





| Pipe Table     |        |        |        |        |                    |                   |          |          |                |
|----------------|--------|--------|--------|--------|--------------------|-------------------|----------|----------|----------------|
| STATION<br>R/L | BOP    | OFFSET | EOP    | OFFSET | PIPE<br>SIZE       | LENGTH<br>OF PIPE | BOP ELE. | EOP ELE. | SLOPE<br>FT/FT |
| 209+00         | 209+00 | -36 L  | 209+00 | 38 R   | 24 " X 38 " RCCPHE | 74'               | 1174.44  | 1174.07  | 0.0050         |
| DWY 205+17     | 204+92 | 45 R   | 205+44 | 45 R   | 18 " CMP           | 52'               | 1176.07  | 1175.80  | 0.0052         |
| DWY 210+45     | 210+14 | 47 R   | 210+77 | 47 R   | 30 " CMP           | 62'               | 1173.45  | 1173.14  | 0.0050         |
| DWY 212+75     | 212+46 | 47 R   | 213+10 | 49 R   | 30 " CMP           | 64'               | 1172.08  | 1171.17  | 0.0142         |
| DWY 213+10     | 212+84 | -40 L  | 213+39 | -41 L  | 30 " CMP           | 56'               | 1172.36  | 1172.15  | 0.0038         |

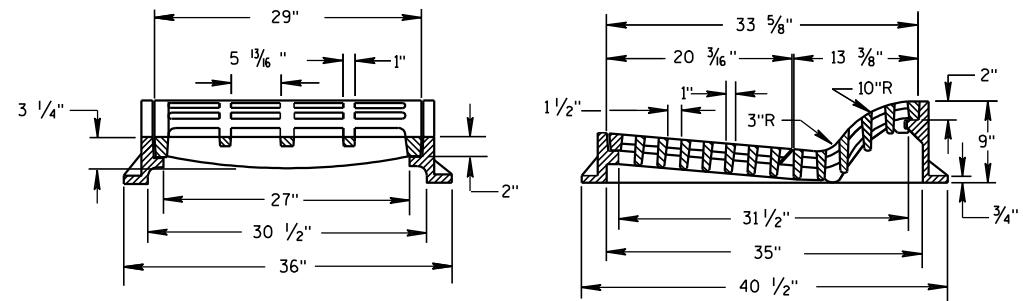
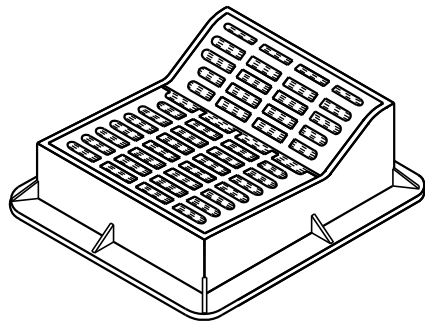




Standard Detail Drawing List

|           |                                                                                                    |
|-----------|----------------------------------------------------------------------------------------------------|
| 08A05-18C | INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S                                           |
| 08D01-17  | CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES                                                   |
| 08E08-03  | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS                                    |
| 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                                                   |
| 08F04-06  | JOINT TIES FOR CONCRETE PIPE                                                                       |
| 09A01-12A | AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE      |
| 09A01-12B | AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"                                                  |
| 13A11-01A | 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING                                                     |
| 13A11-01B | 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING                                                     |
| 15A03-01  | MARKER POSTS, FLEXIBLE, FOR CULVERT END                                                            |
| 15C04-01  | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C08-15A | PAVEMENT MARKING (MAINLINE)                                                                        |
| 15C08-15B | PAVEMENT MARKING (INTERSECTIONS)                                                                   |
| 15C12-03  | TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)                                  |
| 15D12-02  | TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.                                       |
| 15D28-01  | TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY                               |
| 15D32-02  | TRAFFIC CONTROL, ONE LANE ROAD STOP CONDITION                                                      |
| 16A01-06  | LANDMARK REFERENCE MONUMENTS AND COVERS                                                            |



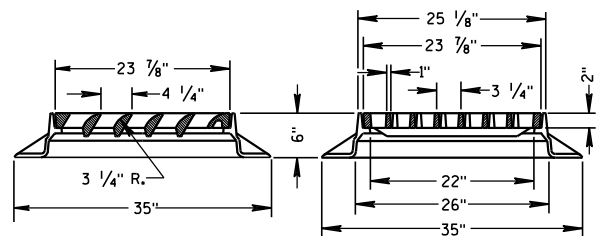
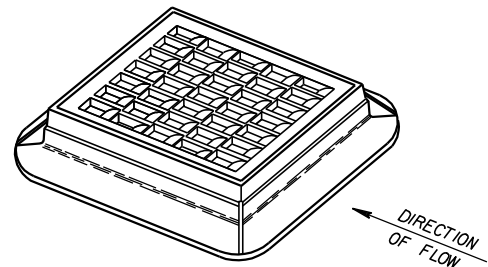


**TYPE "F"**

(APPROXIMATE WEIGHT 644 LBS.)

FRAME.....302 LBS.  
GRATE.....160 LBS.  
GRATE.....182 LBS.

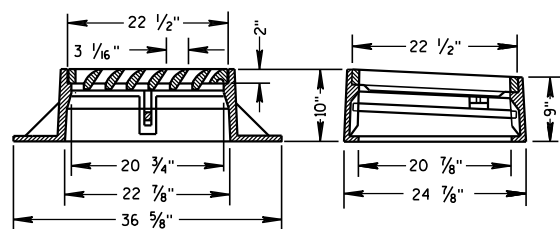
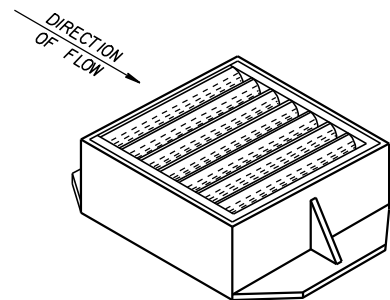
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



**TYPE "S"**

(APPROXIMATE WEIGHT 333 LBS.)

FRAME.....164 LBS.  
GRATE.....169 LBS.



**TYPE "V"**

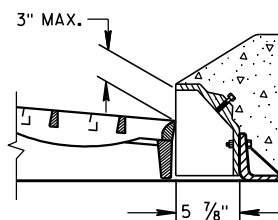
(APPROXIMATE WEIGHT 410 LBS.)

FRAME.....269 LBS.  
GRATE.....136 LBS.  
SAFETY BAR.....5 LBS.

**ALTERNATIVE CURB BOX  
FOR TYPE "HM" COVER**

(APPROXIMATE WEIGHT CURB BOX 68 LBS.)

USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH  
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE



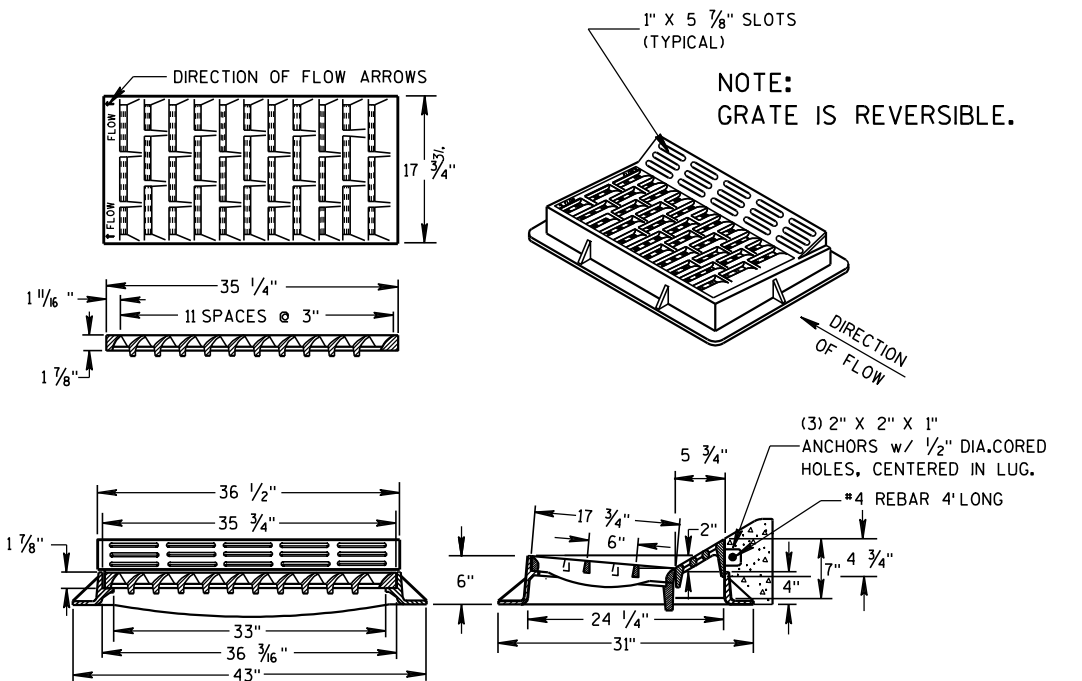
NOTE:  
SPECIAL GRATE FOR THE  
TYPE "H" COVER MAY ALSO BE  
USED FOR THE TYPE "HM-GJ" COVER  
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

**GENERAL NOTES**

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

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

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.



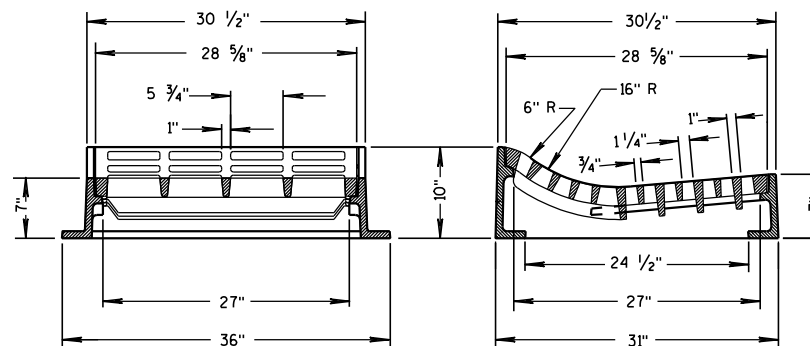
**TYPE "HM"**

(APPROXIMATE WEIGHT 414 LBS.)

FRAME.....181 LBS.  
GRATE.....159 LBS.  
CURB BOX.....74 LBS.

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

NOTE:  
SPECIAL GRATE FOR THE  
TYPE "H" COVER MAY ALSO BE  
USED FOR THE TYPE "HM" COVER  
NOTED AS TYPE HM-S ON DRAINAGE TABLE

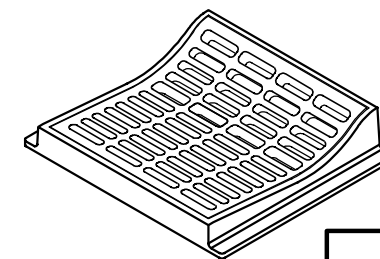


**TYPE "T"**

(APPROXIMATE WEIGHT 530 LBS.)

FRAME.....270 LBS.  
GRATE.....260 LBS.

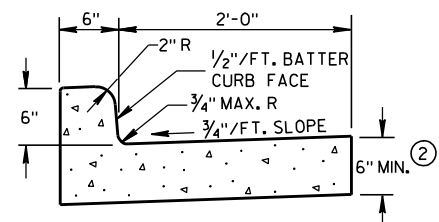
USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



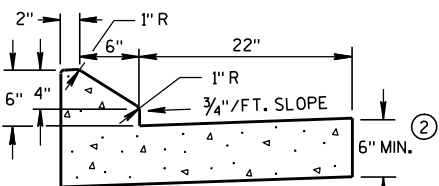
**INLET COVERS**  
TYPE F, HM, HM-S, S, T, V,  
HM-GJ, & HM-GJ-S

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

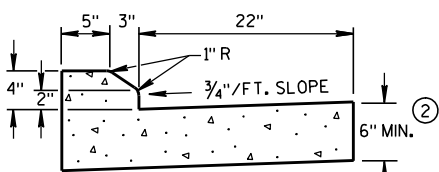
APPROVED  
6/5/2012 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA



TYPES A &amp; D ①

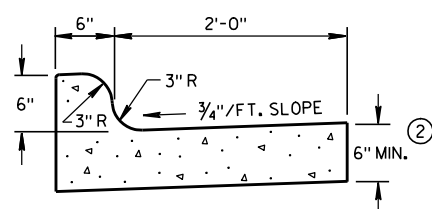


6" SLOPED CURB TYPES G &amp; J ①

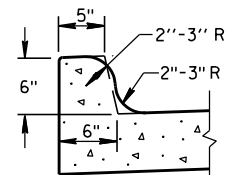
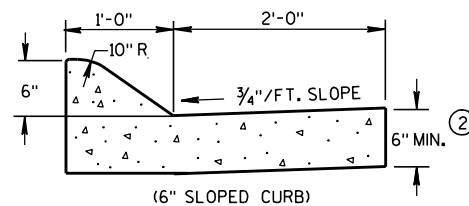


4" SLOPED CURB TYPES G &amp; J ①

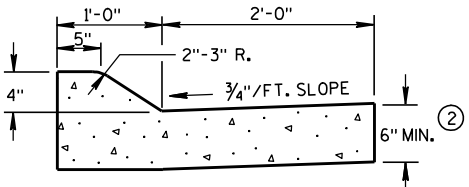
CONCRETE CURB &amp; GUTTER 30"



TYPES K &amp; L ①

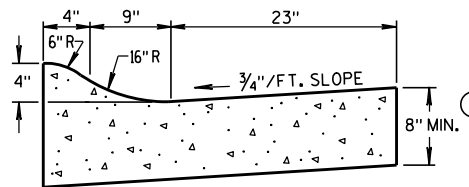
OPTIONAL CURB SHAPE  
FOR TYPES K & L ①

(6" SLOPED CURB)

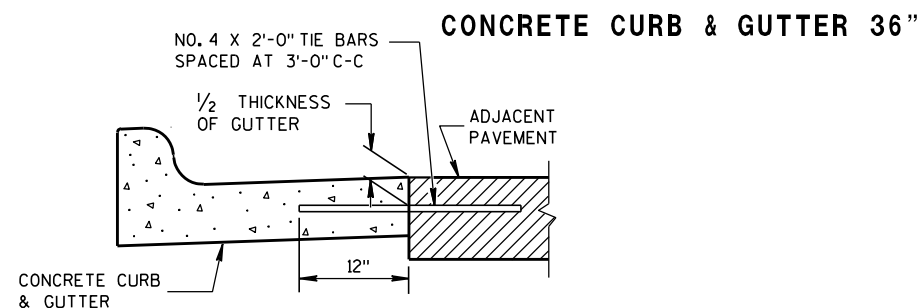


(4" SLOPED CURB)

TYPES A &amp; D ①

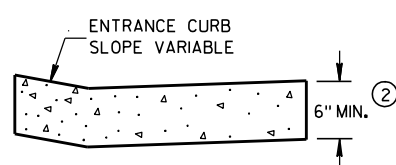


4" SLOPED CURB TYPES R &amp; T ① ④



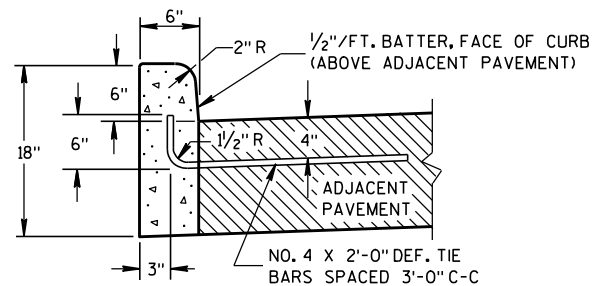
CONCRETE CURB &amp; GUTTER 36"

TYPICAL TIE BAR LOCATION ①



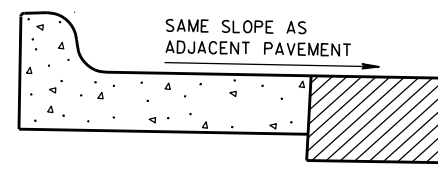
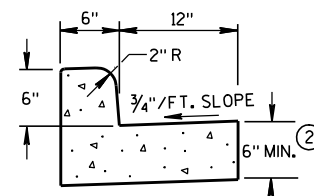
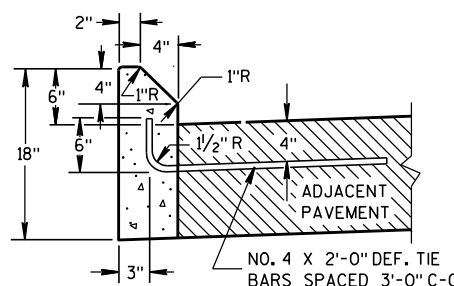
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



TYPES A &amp; D ①

CONCRETE CURB

REVERSE SLOPE GUTTER  
(TYPICAL FOR ALL CURB & GUTTER TYPES) ⑤TYPES A & D  
CONCRETE CURB & GUTTER 18"

TYPES G &amp; J ①

## GENERAL NOTES

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

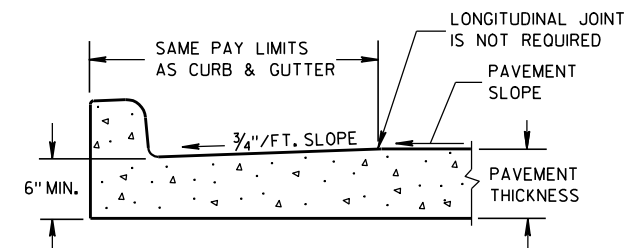
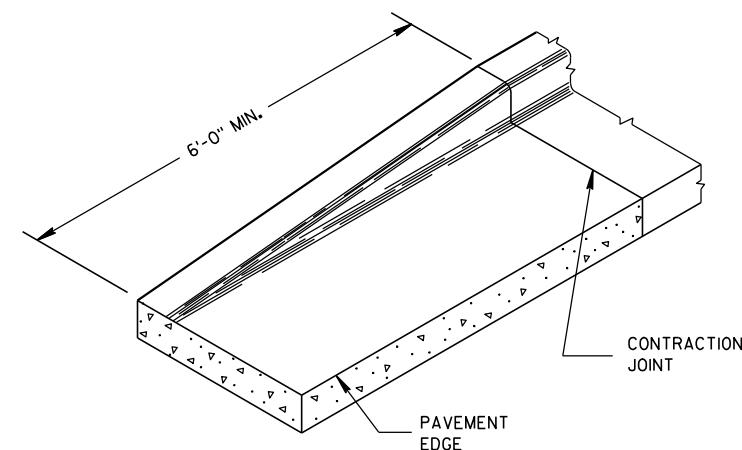
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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.

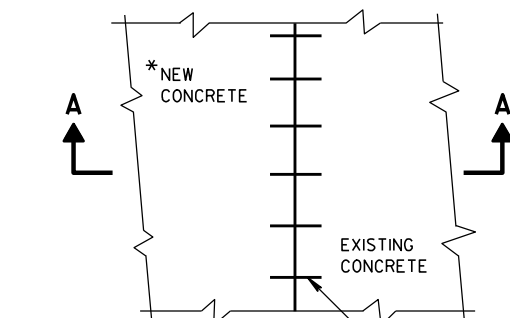
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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.

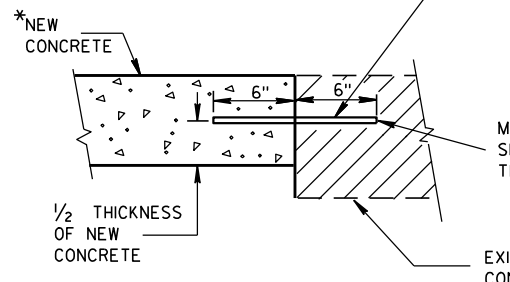
PARTIAL SECTION OF PAVEMENT  
WITH INTEGRAL CURB & GUTTER

END SECTION CURB &amp; GUTTER



PLAN VIEW

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

SECTION A-A  
TIE BARS DRILLED  
INTO EXISTING PAVEMENT

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

MAXIMUM DRILL HOLE  
SIZE IS 1/8" GREATER  
THAN TIE BAR DIAMETER

EXISTING  
CONCRETE

CONCRETE CURB, CONCRETE  
CURB & GUTTER AND TIES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

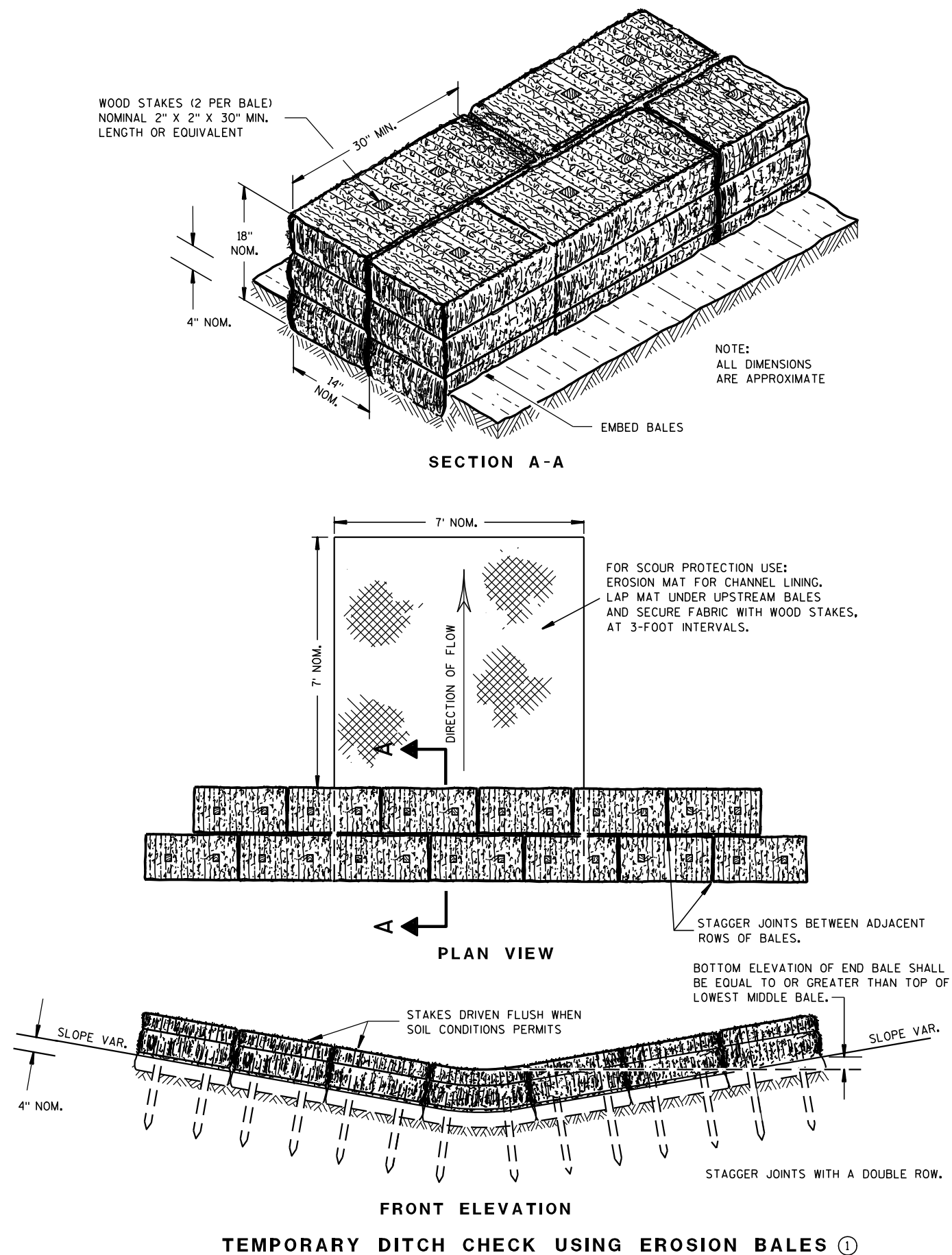
9/4/08

DATE

FHWA

/S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

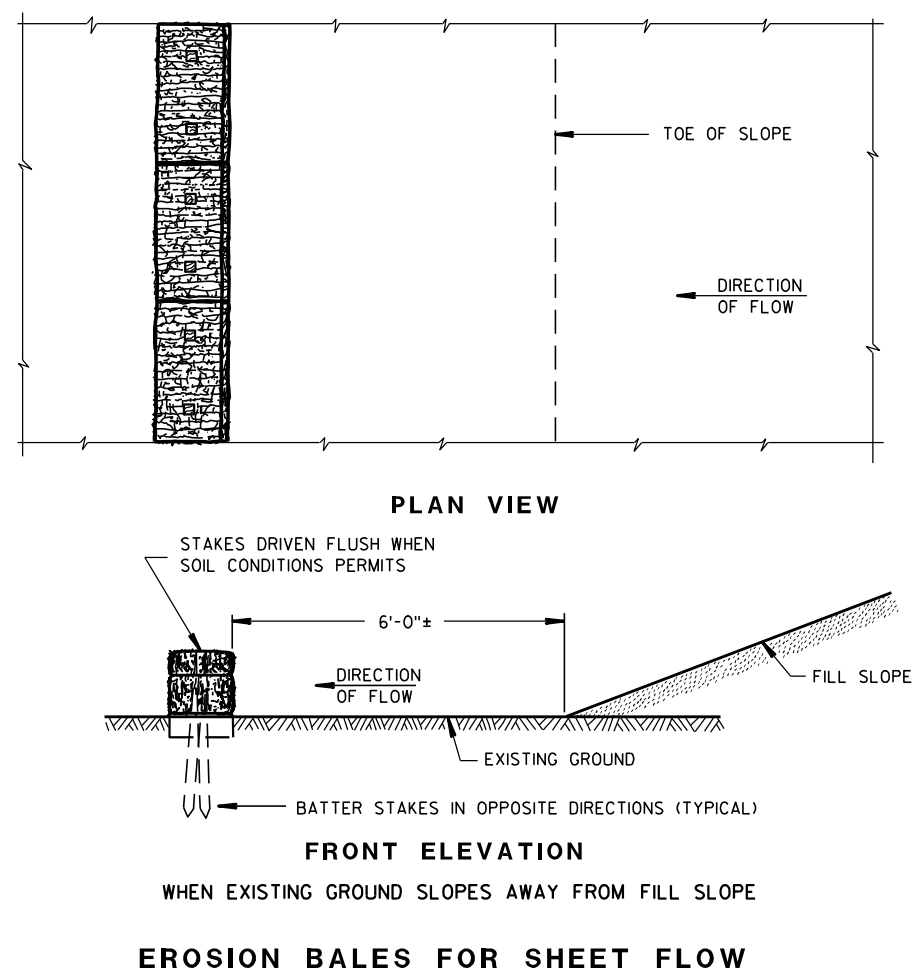
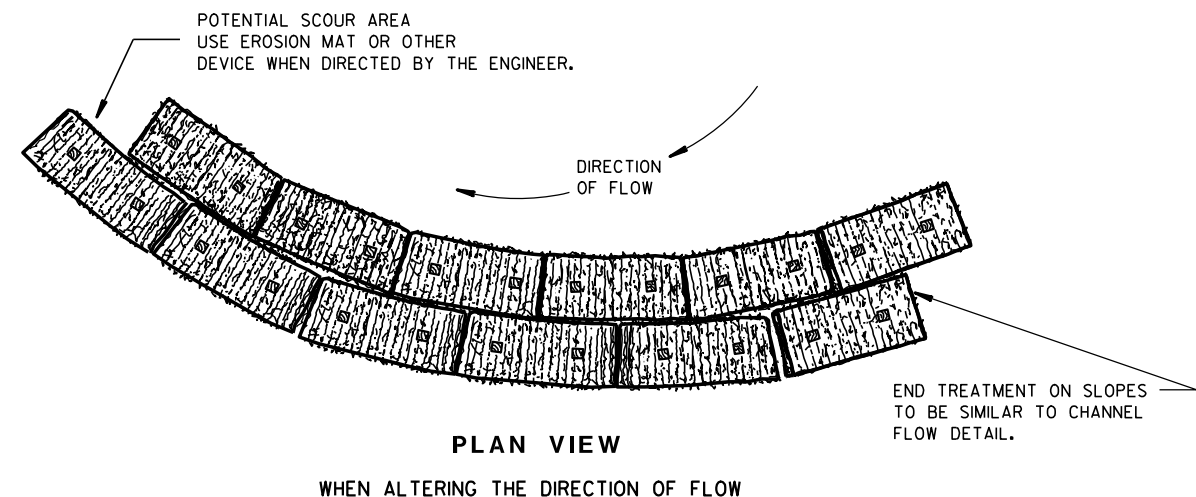




## GENERAL NOTES

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

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

TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

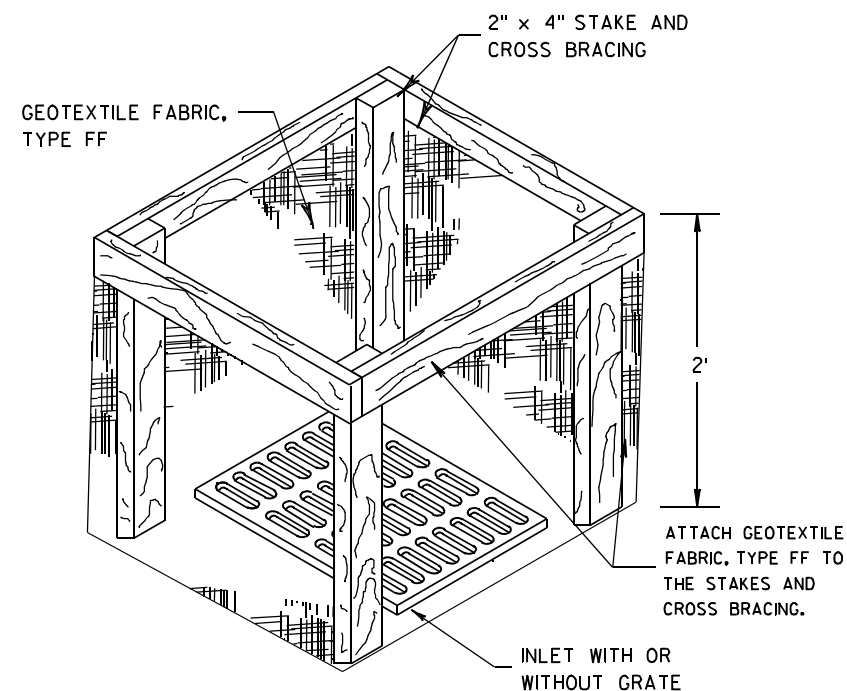
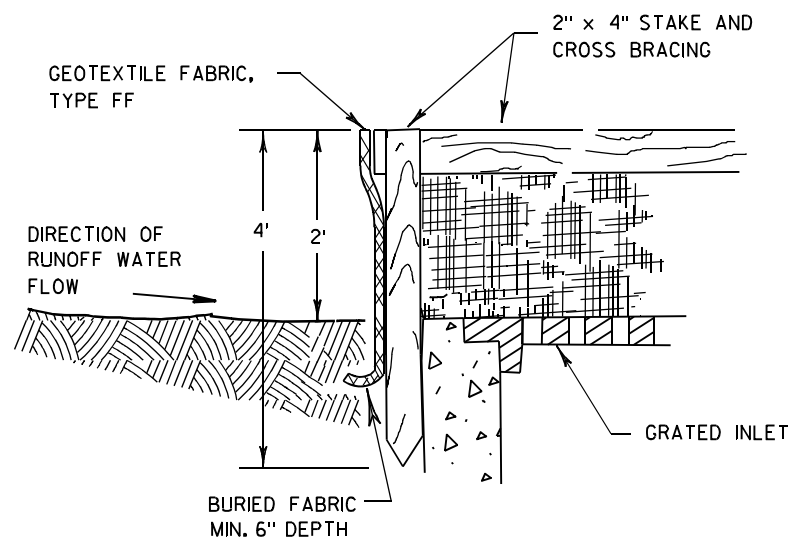
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02  
DATE

/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



**INLET PROTECTION, TYPE A**

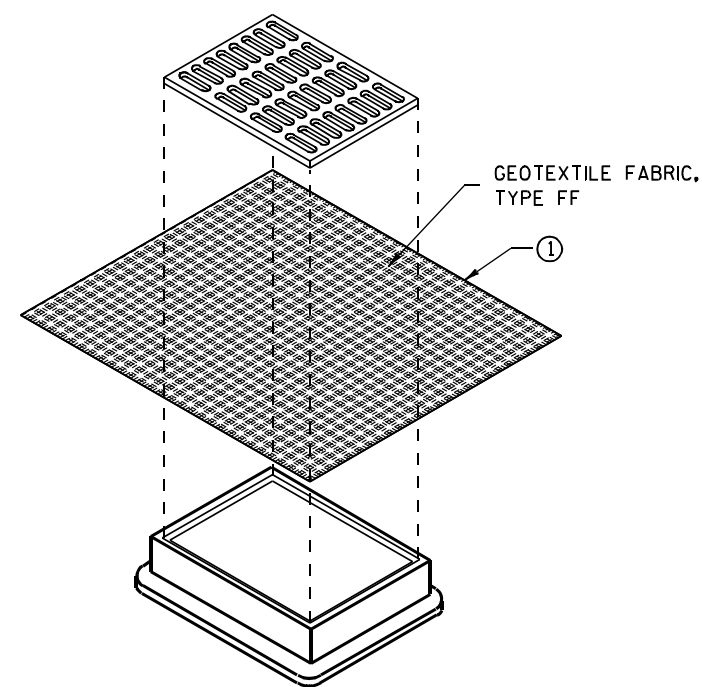
**GENERAL NOTES**

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

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

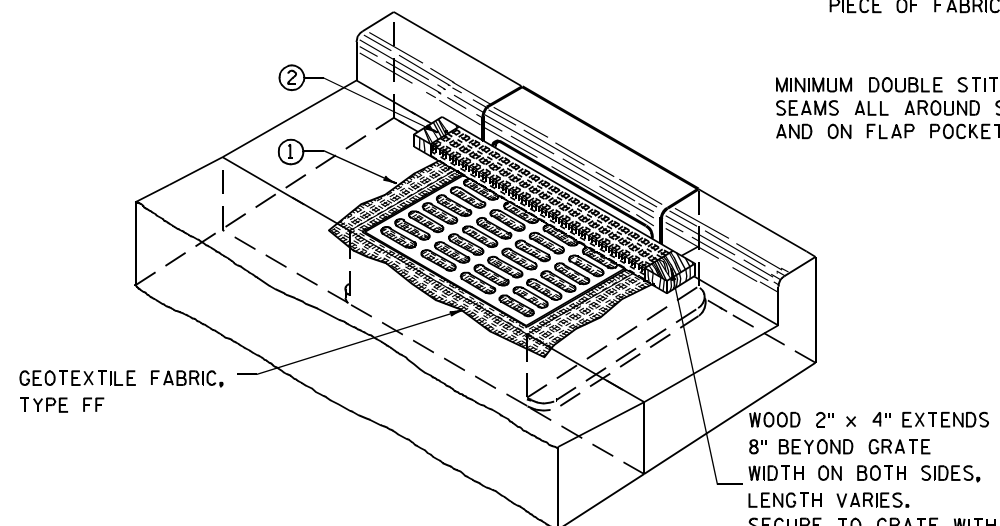
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



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

**INSTALLATION NOTES**

**TYPE B & C**

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

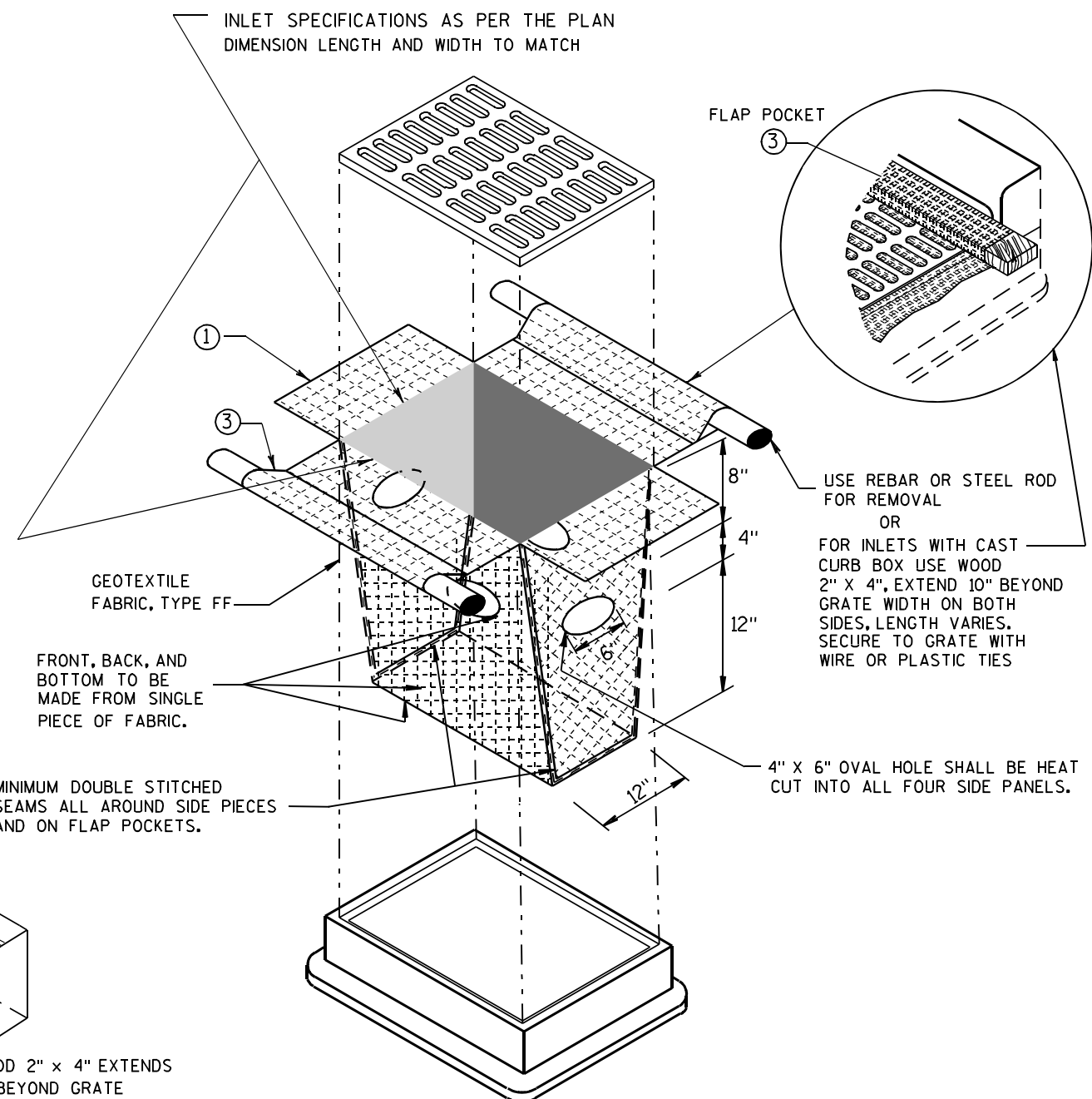
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

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

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

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



**INLET PROTECTION, TYPE D**

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

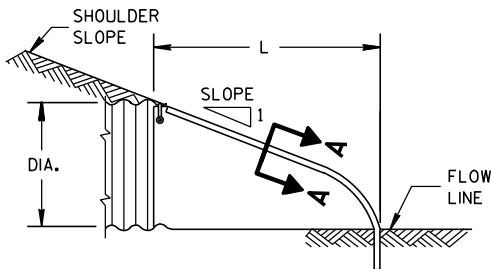
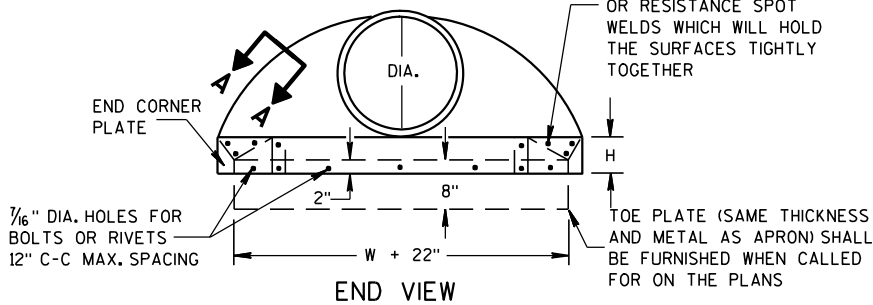
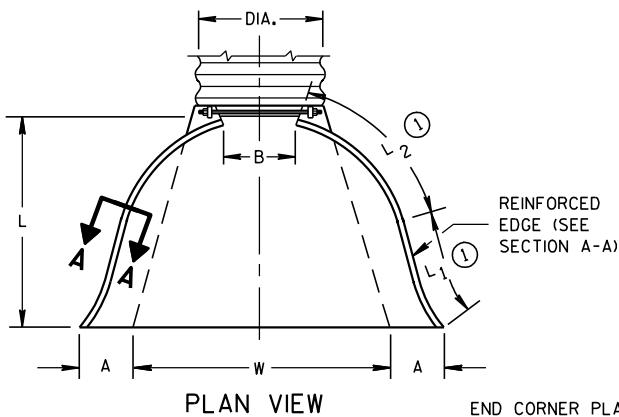
**INLET PROTECTION  
TYPE A, B, C, AND D**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

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

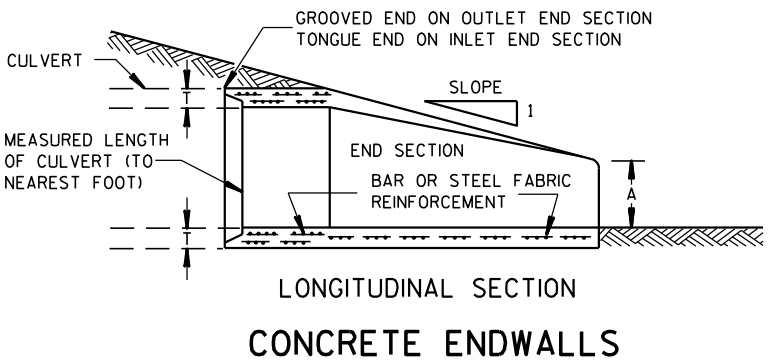
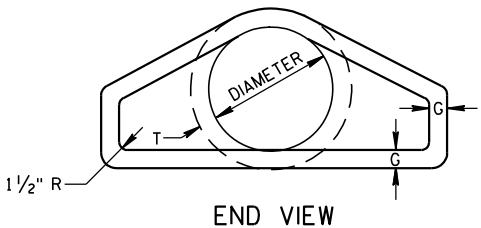
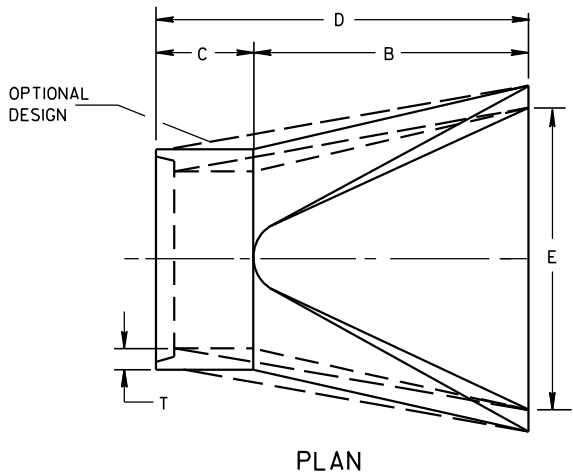
\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES



SIDE ELEVATION  
METAL ENDWALLS

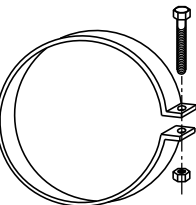
| REINFORCED CONCRETE APRON ENDWALLS |                     |        |        |           |            |     |       |               |  |  |  |
|------------------------------------|---------------------|--------|--------|-----------|------------|-----|-------|---------------|--|--|--|
| PIPE DIA.<br>(IN.)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

\* MINIMUM  
\*\* MAXIMUM

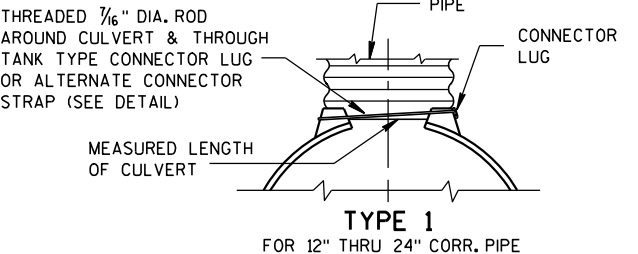


LONGITUDINAL SECTION  
CONCRETE ENDWALLS

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

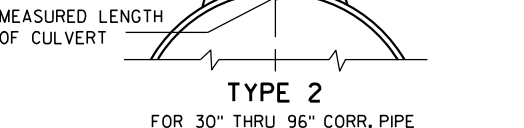


ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP

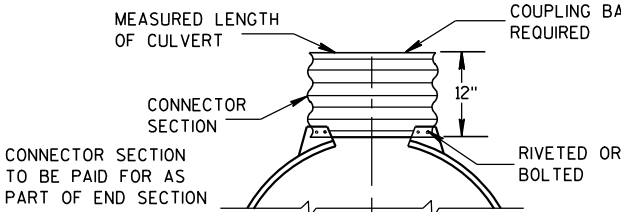


TYPE 1  
FOR 12" THRU 24" CORR. PIPE

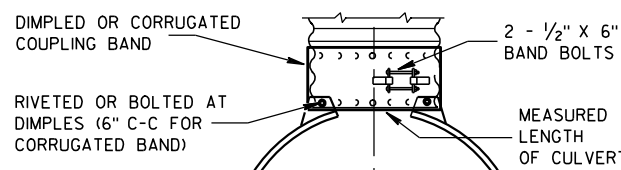
THREADED 3/16" DIA. ROD OVER TOP OF APRON, SIDE LUGS TO BE RIVETED TO APRON



TYPE 2  
FOR 30" THRU 96" CORR. PIPE



TYPE 3  
FOR 42" THRU 96" CORR. PIPE



TYPE 5  
ALTERNATE FOR:

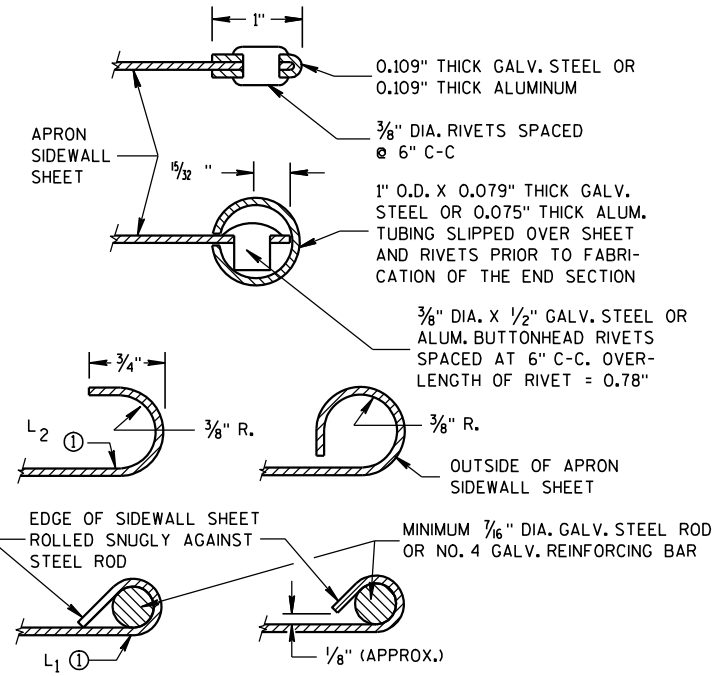
ALL SIZES CORRUGATED CIRCULAR PIPE  
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

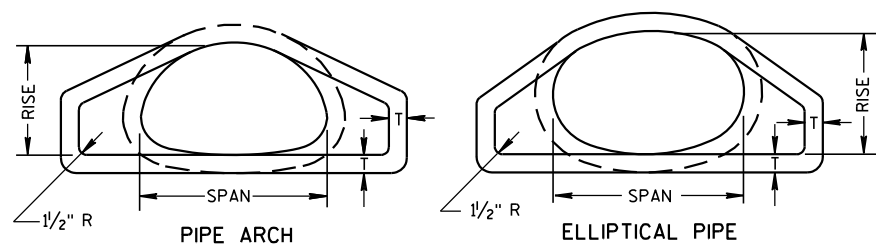
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

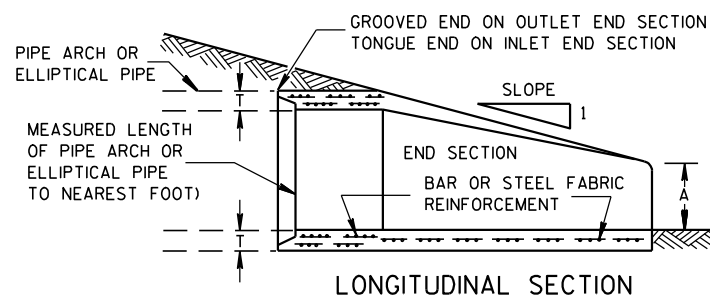
APRON ENDWALLS FOR  
CULVERT PIPE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

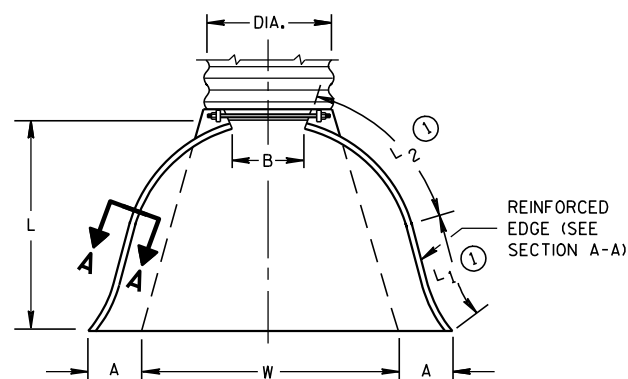


END VIEW



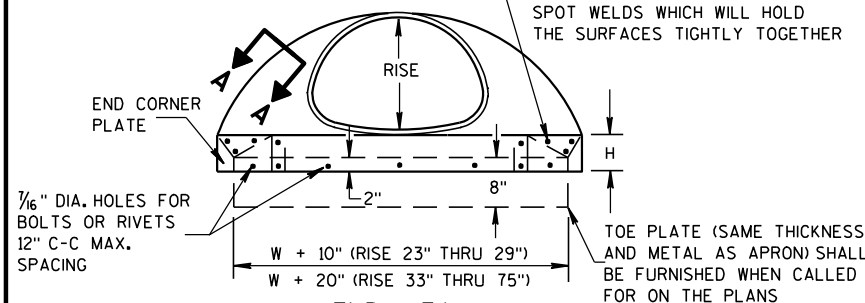
LONGITUDINAL SECTION

## CONCRETE ENDWALLS

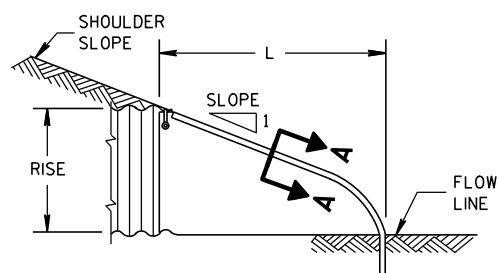
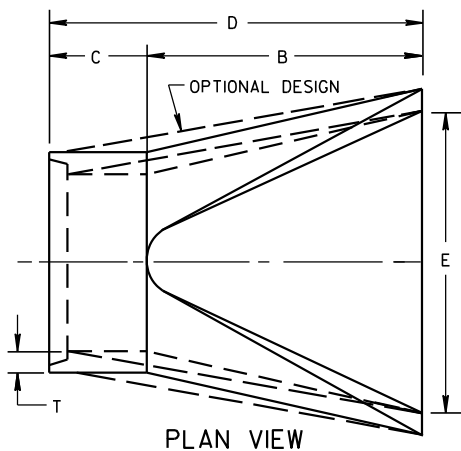


PLAN VIEW

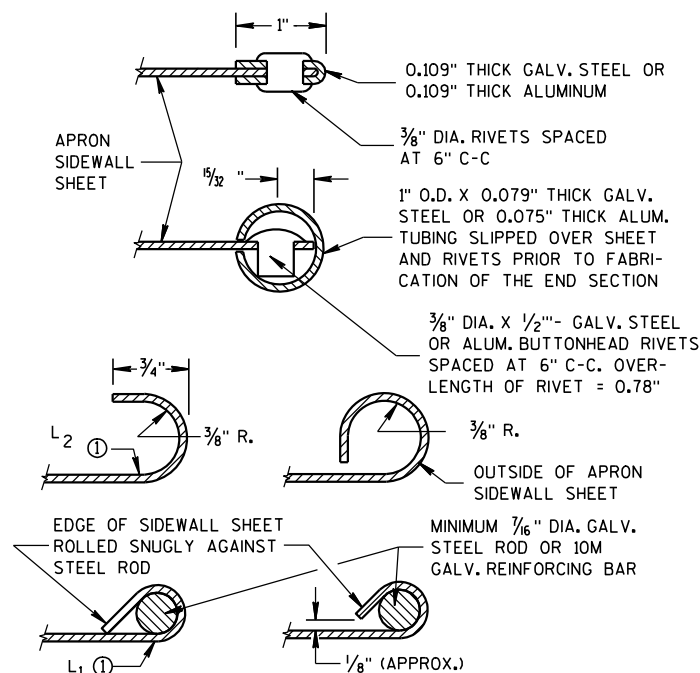
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW

SIDE ELEVATION  
METAL ENDWALLS

PLAN VIEW



SECTION A-A

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

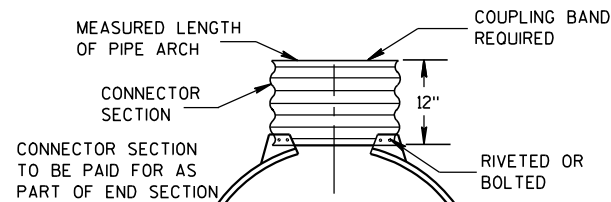
| 3" X 1" CORRUGATIONS       |          |      |                         |       |                     |             |            |                |                     |                     |            |                  |       |
|----------------------------|----------|------|-------------------------|-------|---------------------|-------------|------------|----------------|---------------------|---------------------|------------|------------------|-------|
| EQUIV.<br>DIA.<br>(Inches) | (Inches) |      | MIN. THICK.<br>(Inches) |       | DIMENSIONS (Inches) |             |            |                |                     |                     |            | APPROX.<br>SLOPE | BODY  |
|                            | SPAN     | RISE | STEEL                   | ALUM. | A<br>(±1")          | B<br>(MAX.) | H<br>(±1") | L<br>(±1 1/2") | L <sub>1</sub><br>⓪ | L <sub>2</sub><br>⓪ | W<br>(±2") |                  |       |
| 48                         | 53       | 41   | .109                    | .105  | 18                  | 26          | 12         | 63             | 24                  | 72¾                 | 90         | 2½ to 1          | 2 Pc. |
| 54                         | 60       | 46   | .109                    | .105  | 18                  | 30          | 12         | 70             | 30                  | 82¼                 | 102        | 2 to 1           | 2 Pc. |
| 60                         | 66       | 51   | .109*                   | .105* | 18                  | 33          | 12         | 77             | —                   | —                   | 114        | 1½ to 1          | 3 Pc. |
| 66                         | 73       | 55   | .109*                   | .105* | 18                  | 36          | 12         | 77             | —                   | —                   | 126        | 1½ 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        | 1½ to 1          | 3 Pc. |
| 84                         | 95       | 67   | .109*                   | .105* | 22                  | 34          | 12         | 77             | —                   | —                   | 162        | 1½ to 1          | 3 Pc. |
| 90                         | 103      | 71   | .109*                   | .105* | 22                  | 38          | 12         | 77             | —                   | —                   | 174        | 1½ to 1          | 3 Pc. |
| 96                         | 112      | 75   | .109*                   | .105* | 24                  | 40          | 12         | 77             | —                   | —                   | 174        | 1½ to 1          | 3 Pc. |

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES

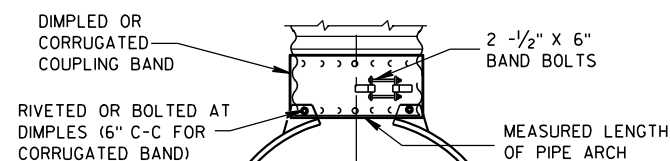
TYPE 2

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.

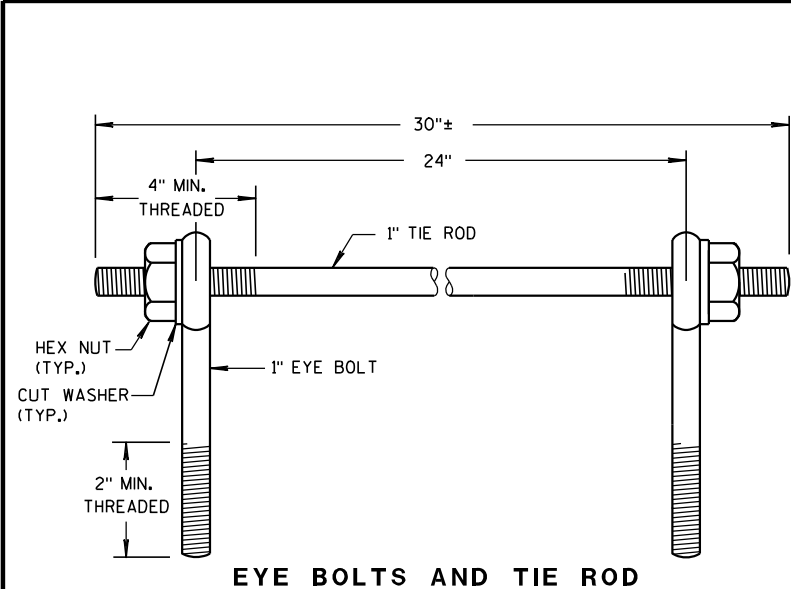
① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

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

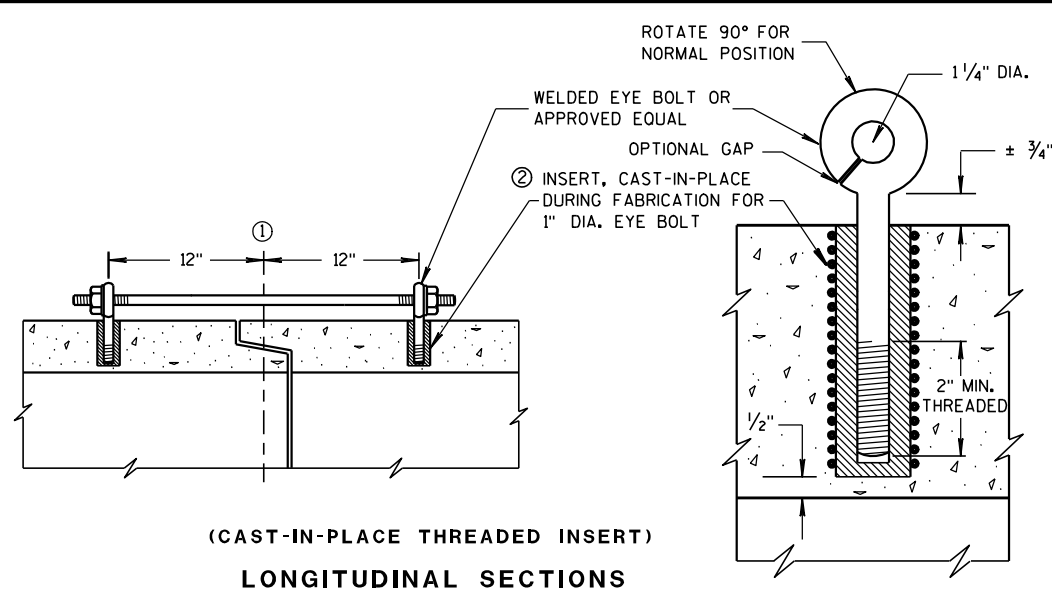
APPROVED

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

FHWA



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)  
LONGITUDINAL SECTIONS

GENERAL NOTES

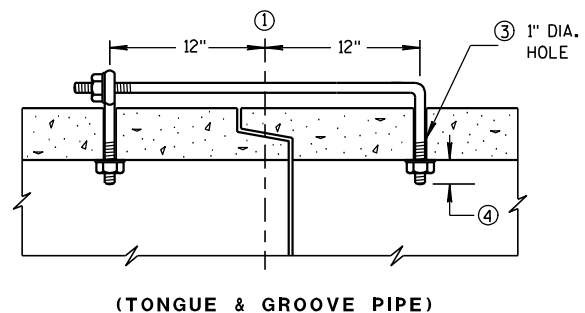
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED ON THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE CULVERT PIPE AS INDICATED ON THE PLANS AND BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO CILVERT PIPE, REINFORCED CONCRETE CULVERT PIPE, OR REINFORCED CONCRETE PIPE CATTLE PASS.

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

- ① CL OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM CL OF TONGUE AND GROOVE.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.

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



(TONGUE & GROOVE PIPE)

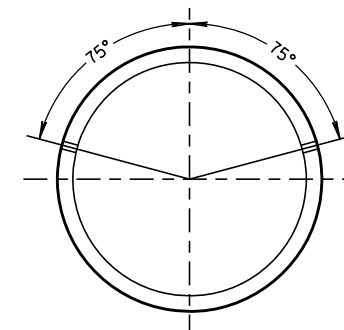
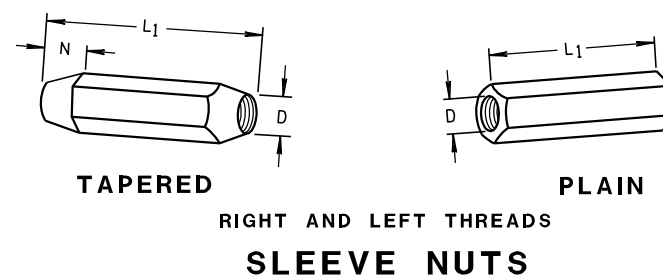
EYE BOLT DIMENSION TABLE

| PIPE SIZE  | L = LENGTH           |                    |
|------------|----------------------|--------------------|
|            | TONGUE & GROOVE PIPE | MODIFIED BELL PIPE |
| 18" TO 24" | 4 1/2"               | 6 1/4"             |
| 30"        | 5"                   | 7"                 |
| 36"        | 5 1/2"               | 7"                 |
| 42"        | 6"                   |                    |
| 48"        | 6 1/2"               |                    |
| 60"        | 7 1/2"               |                    |
| 66"        | 8"                   |                    |

ADJUSTABLE TIE ROD TABLE

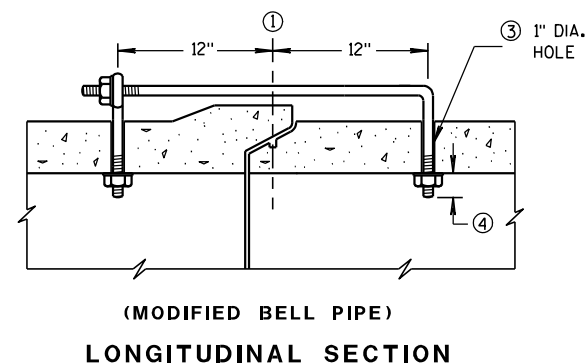
| PIPE DIAMETER | TIE ROD DIAMETER | D   | L <sub>1</sub> | N      |
|---------------|------------------|-----|----------------|--------|
| 12-60         | 5/8              | 5/8 | 5              | 1/2    |
| 66-84         | 3/4              | 3/4 | 5              | 1/2    |
| 90-108        | 1                | 1   | 7              | 1 1/16 |

DIMENSIONS SHOWN ARE IN INCHES

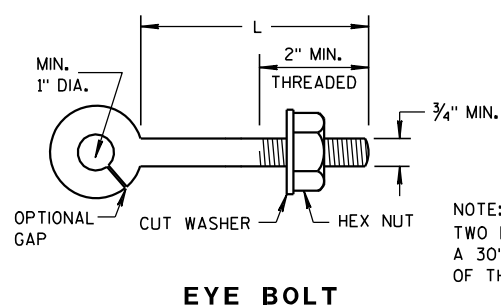


PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION

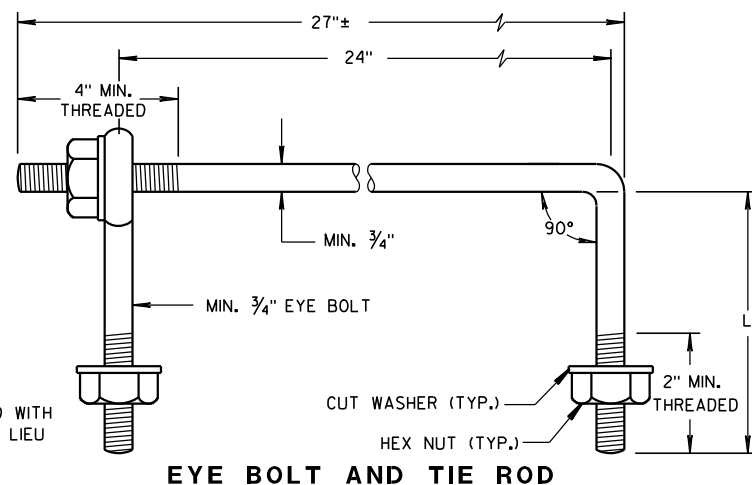


(MODIFIED BELL PIPE)  
LONGITUDINAL SECTION



EYE BOLT

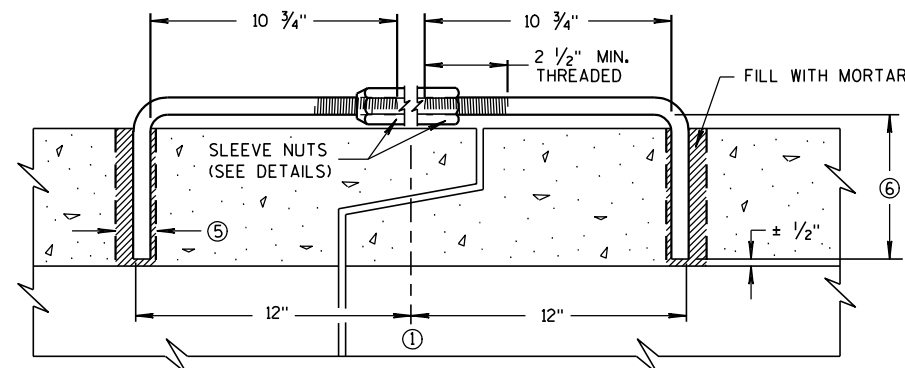
NOTE:  
TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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



LONGITUDINAL SECTION

(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

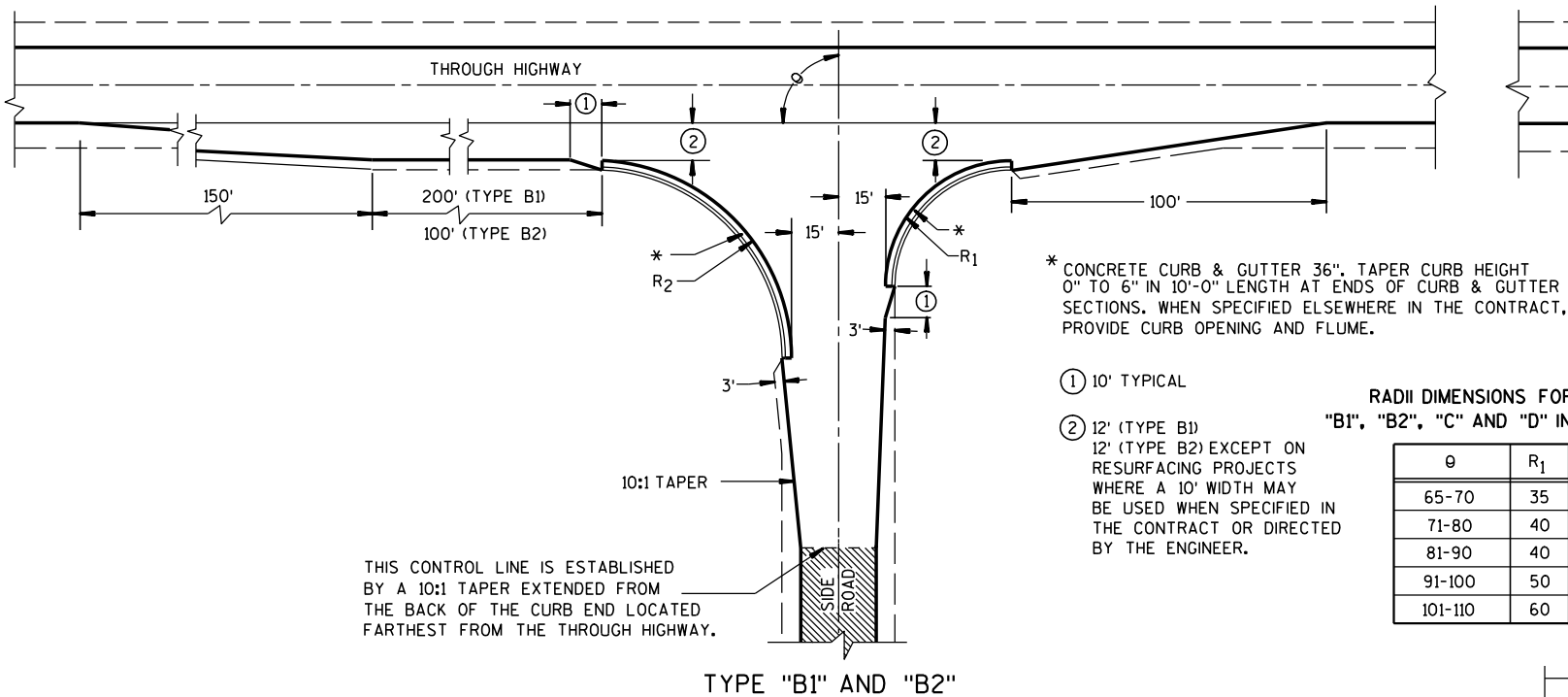
ADJUSTABLE TIE ROD (ALTERNATE NO. 3)

JOINT TIES FOR  
CONCRETE PIPE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
12/17/07  
DATE  
FHWA

/S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER



## GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

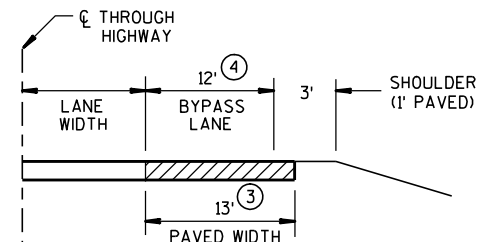
### SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

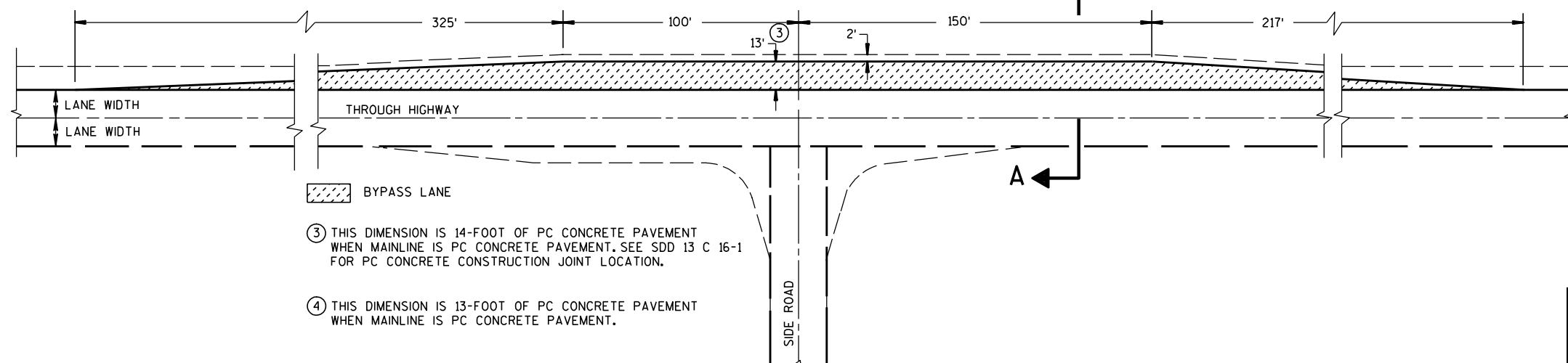
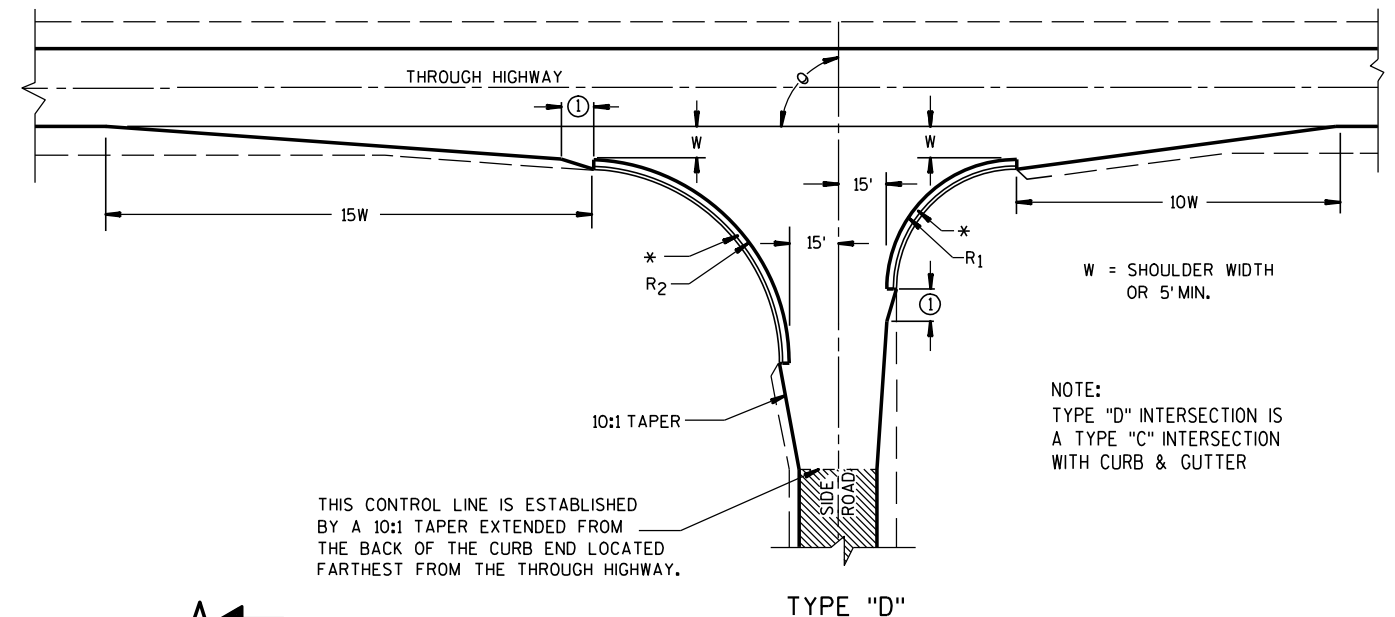
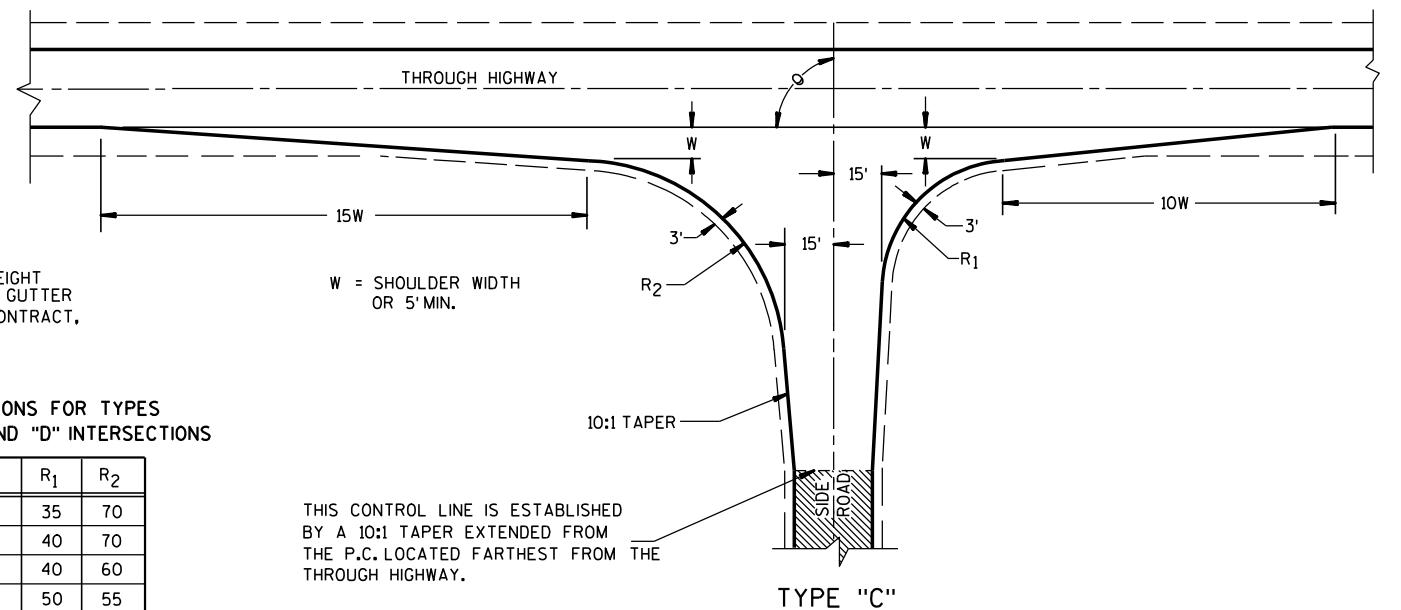
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING SURFACE



SECTION A-A  
(SHOWING BYPASS LANE AND SHOULDER)

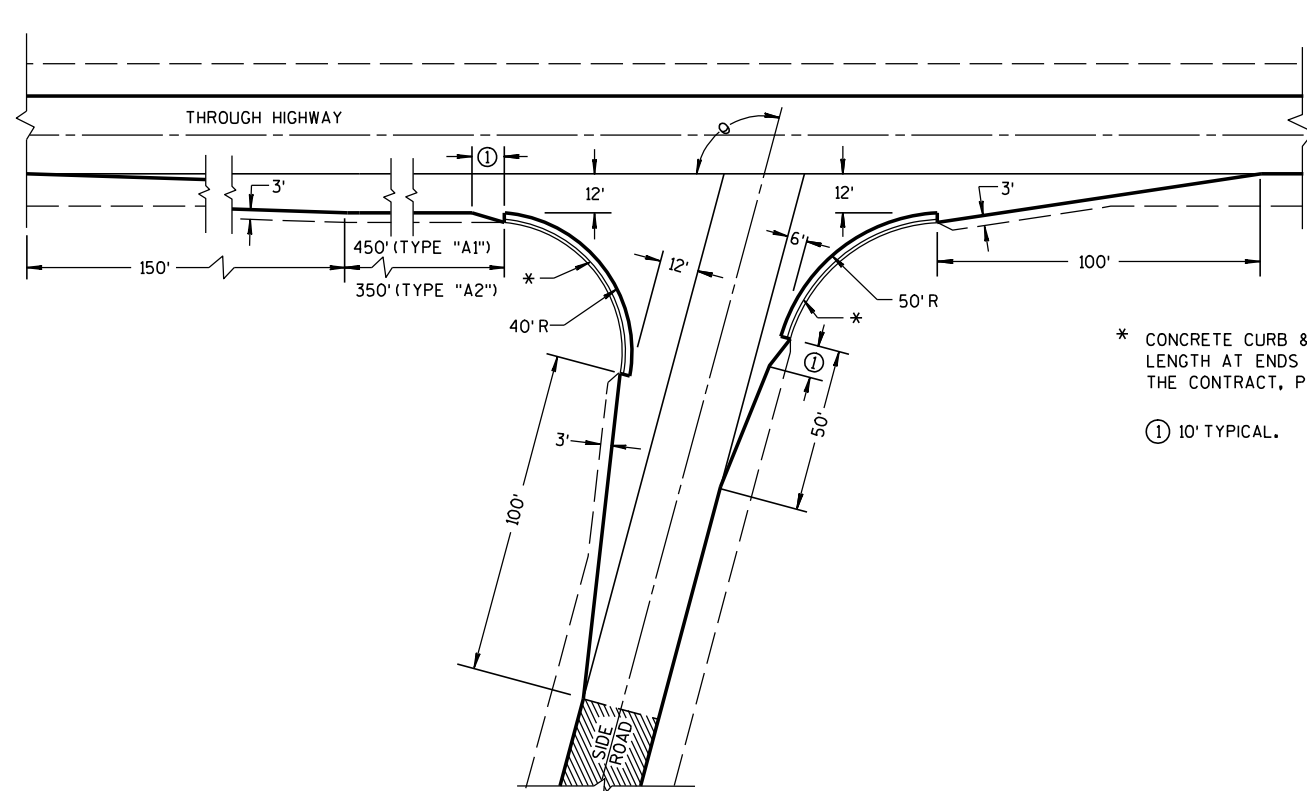


TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD  
INTERSECTION, TYPES "B1", "B2",  
"C" AND "D" AND TEE  
INTERSECTION BYPASS LANE

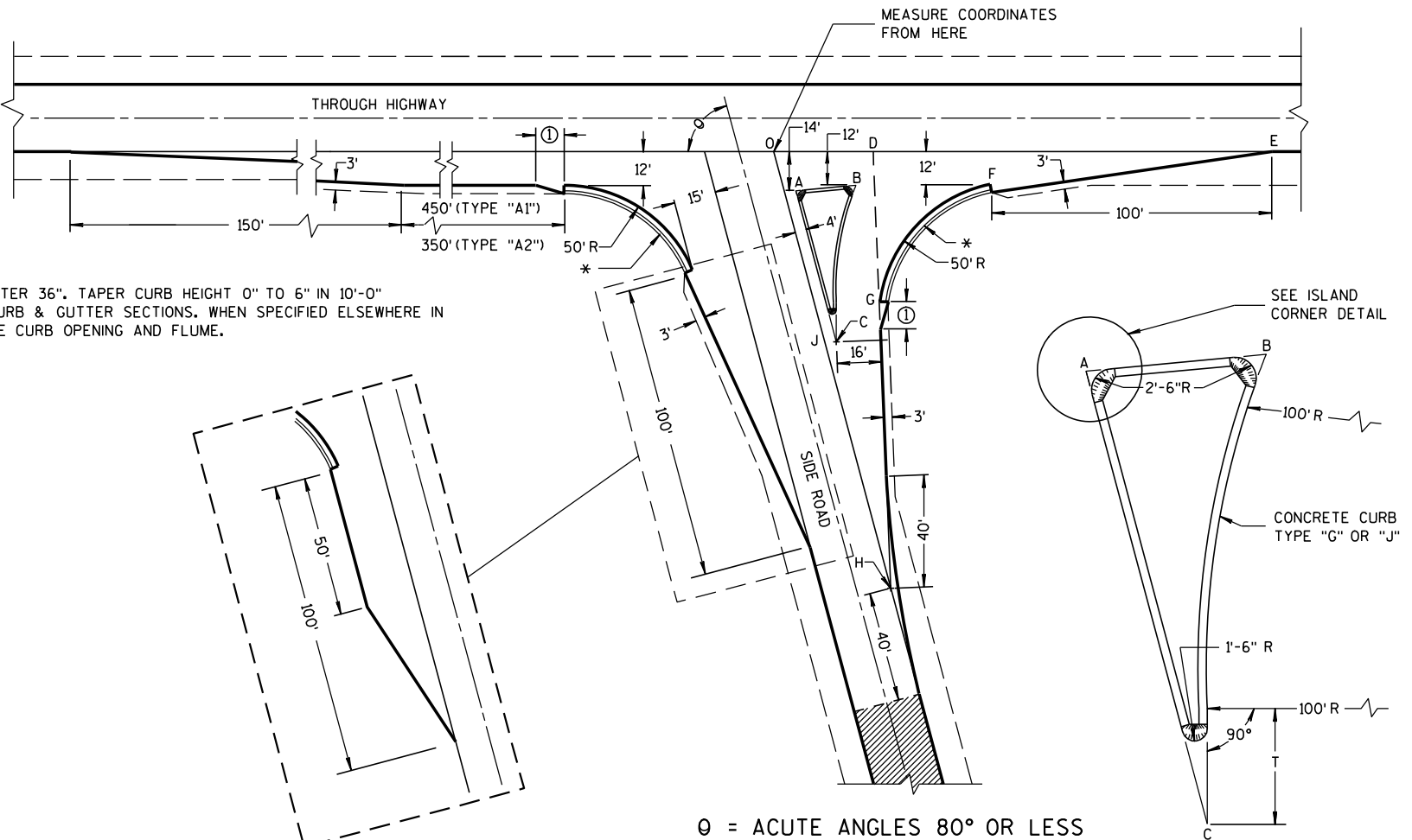
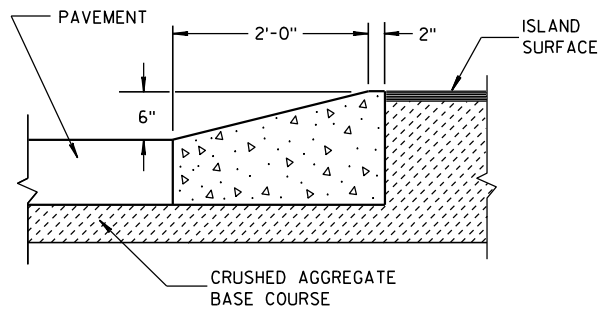
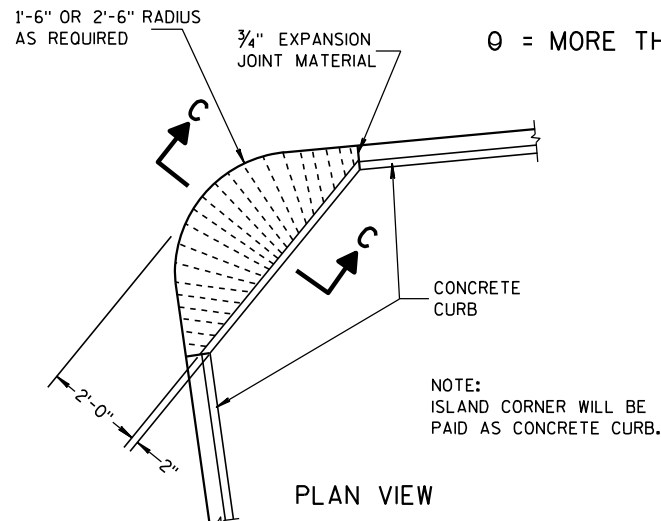
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION





\* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10' TYPICAL.



SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC

$\theta$  = ACUTE ANGLES 70° OR LESS

TABLE OF DIMENSIONS FOR  
VARIABLE SIDE ROAD INTERSECTION ANGLES  
(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

| ANGLE<br>$\theta$<br>DEGREES | COORDINATES IN FEET<br>(MEASURED FROM POINT "O") |       |       |      |       |       |       |        | LENGTH IN FEET |      |      |      |       |
|------------------------------|--------------------------------------------------|-------|-------|------|-------|-------|-------|--------|----------------|------|------|------|-------|
|                              | A                                                | B     | C     | D    | E     | F     | G     | H      | AB             | AC   | T    | OJ   | OH    |
| 60                           | 12.7                                             | 44.9  | 46.4  | 41.9 | 205.0 | 104.6 | 64.0  | 85.0   | 32.3           | 67.4 | 4.9  | 85.9 | 169.9 |
|                              | -14.0                                            | -12.0 | -72.4 | 0.0  | 0.0   | -12.0 | -75.5 | -147.1 |                |      |      |      |       |
| 65                           | 10.9                                             | 39.0  | 37.8  | 39.4 | 196.1 | 95.7  | 54.1  | 70.5   | 28.2           | 63.6 | 8.5  | 80.9 | 166.9 |
|                              | -14.0                                            | -12.0 | -71.6 | 0.0  | 0.0   | -12.0 | -71.5 | -151.3 |                |      |      |      |       |
| 70                           | 9.4                                              | 33.9  | 29.8  | 37.4 | 188.3 | 87.8  | 45.6  | 56.1   | 24.6           | 59.7 | 11.5 | 76.1 | 164.1 |
|                              | -14.0                                            | -12.0 | -70.1 | 0.0  | 0.0   | -12.0 | -67.5 | -154.2 |                |      |      |      |       |
| 75                           | 7.9                                              | 29.3  | 22.3  | 35.7 | 181.2 | 80.7  | 38.2  | 41.8   | 21.5           | 55.8 | 13.8 | 71.4 | 161.4 |
|                              | -14.0                                            | -12.0 | -67.9 | 0.0  | 0.0   | -12.0 | -63.4 | -155.9 |                |      |      |      |       |
| 80                           | 6.5                                              | 25.4  | 15.6  | 34.4 | 174.8 | 74.4  | 31.8  | 27.6   | 18.9           | 52.0 | 15.6 | 66.9 | 158.9 |
|                              | -14.0                                            | -12.0 | -65.2 | 0.0  | 0.0   | -12.0 | -59.3 | -156.5 |                |      |      |      |       |

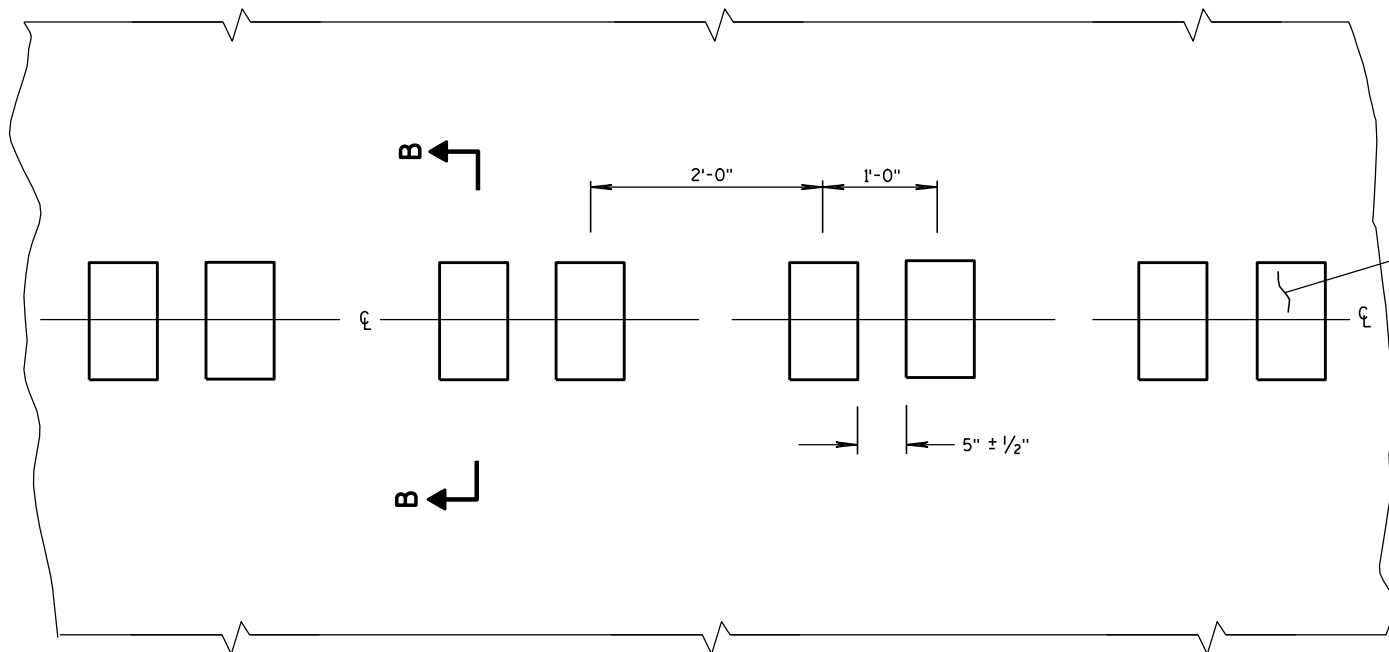
TYPE "A1" & "A2" SIDE ROAD INTERSECTION DETAILS

AT-GRADE SIDE ROAD  
INTERSECTION, TYPE "A1" & "A2"

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

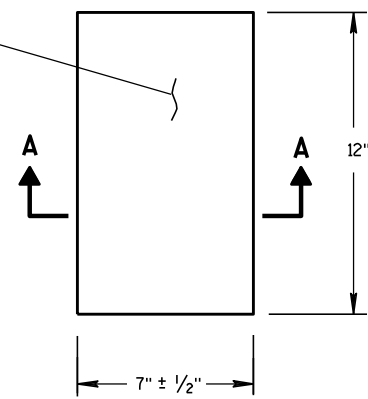
APPROVED  
12/17/02  
DATE  
/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA

ISLAND CORNER DETAIL  
(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)



PLAN VIEW  
CENTER LINE WITH GROOVES

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP



PLAN VIEW  
(SINGLE GROOVE)

GENERAL NOTES

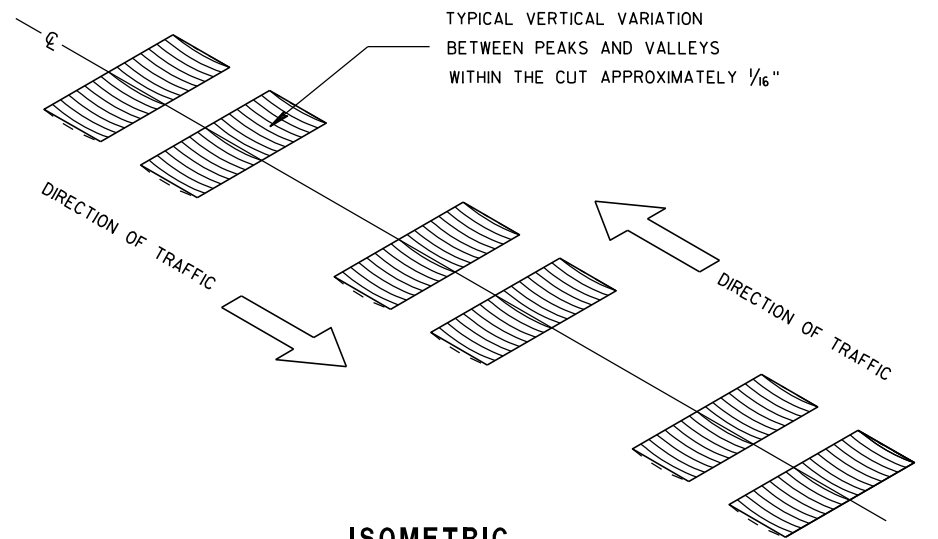
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

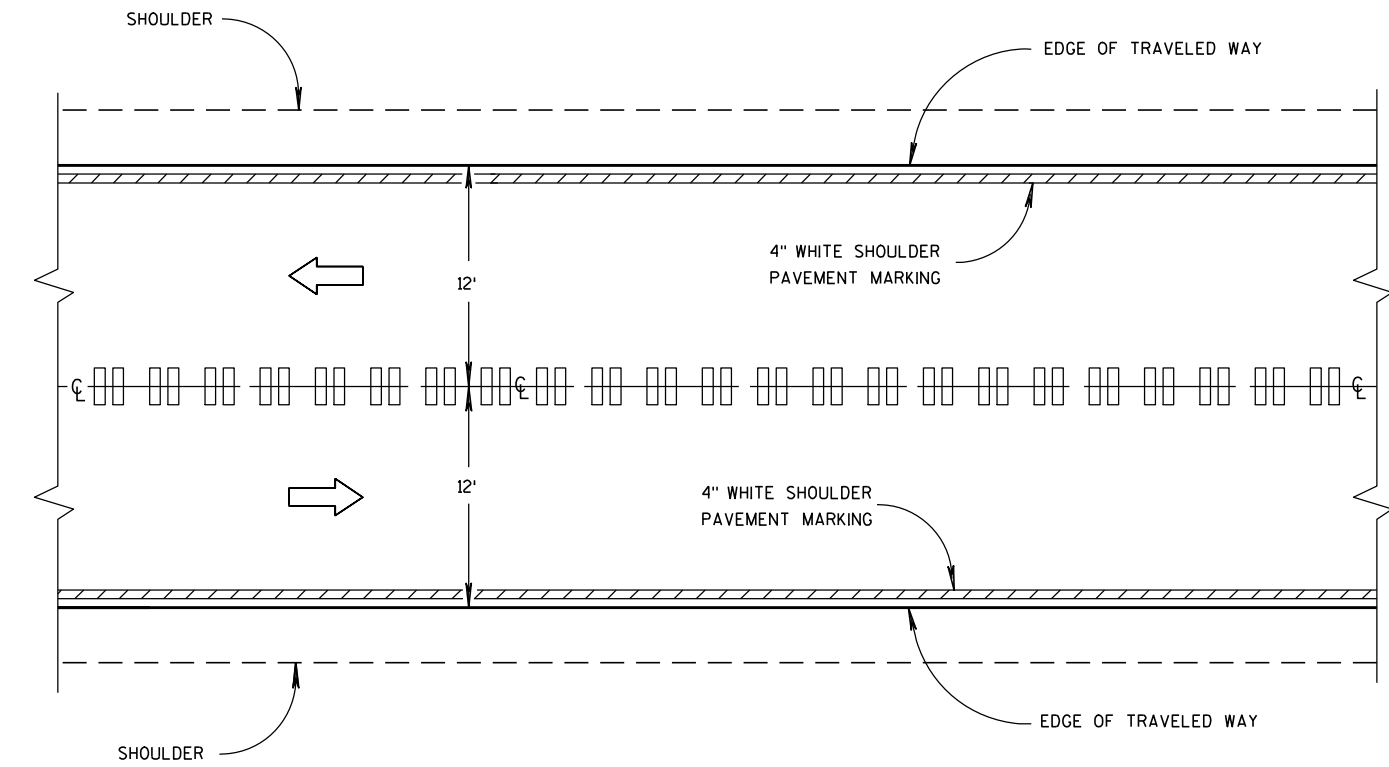
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

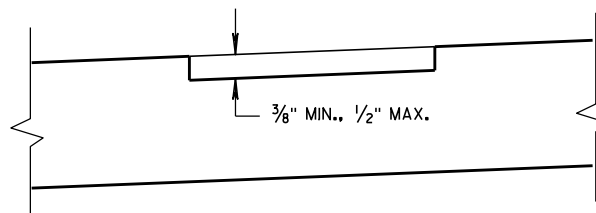
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



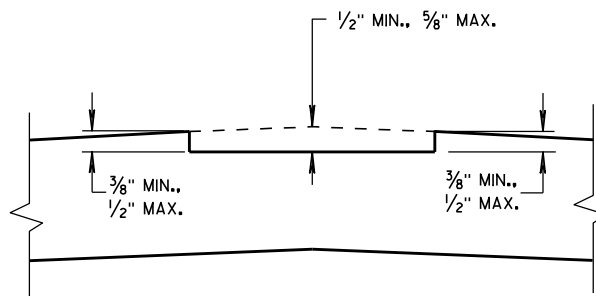
ISOMETRIC



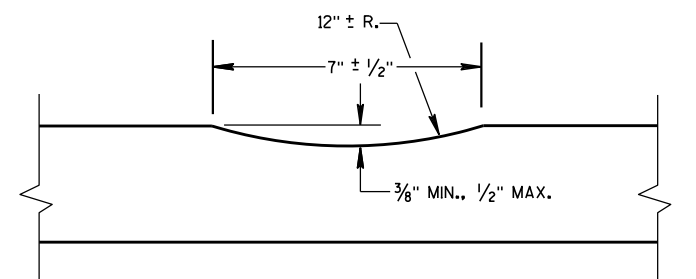
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B  
SUPERELEVATED ROADWAY



SECTION B-B  
CROWNED ROADWAY

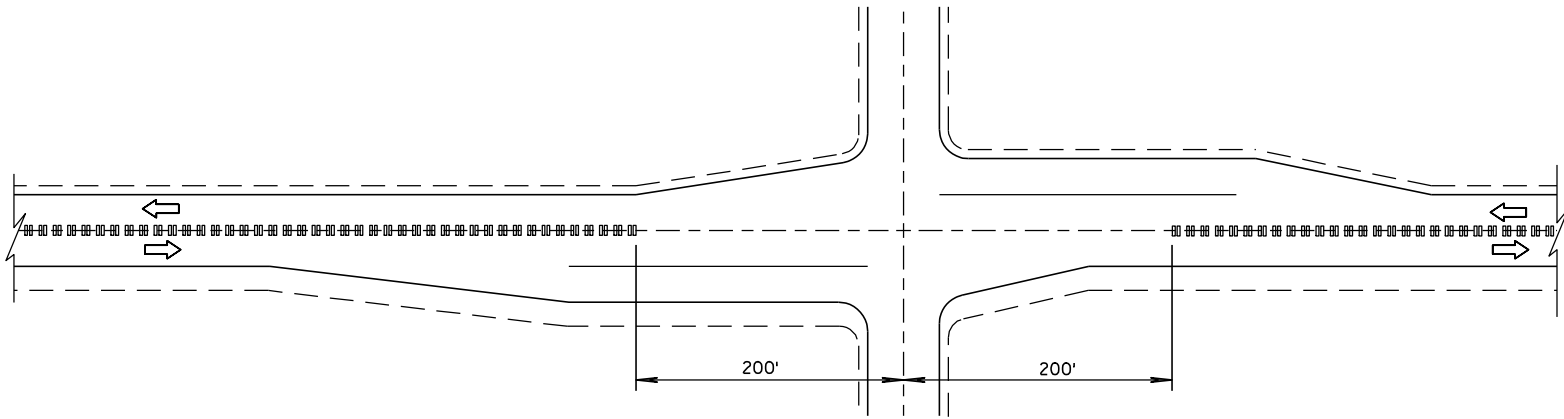


SECTION A-A

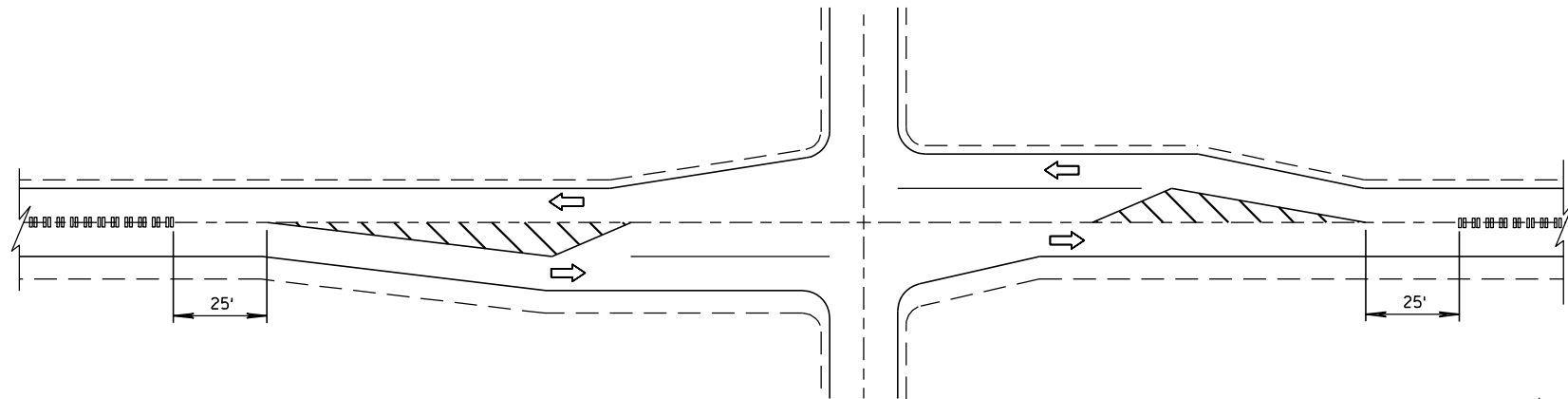
2-LANE RURAL  
CENTER LINE RUMBLE STRIP,  
MILLING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

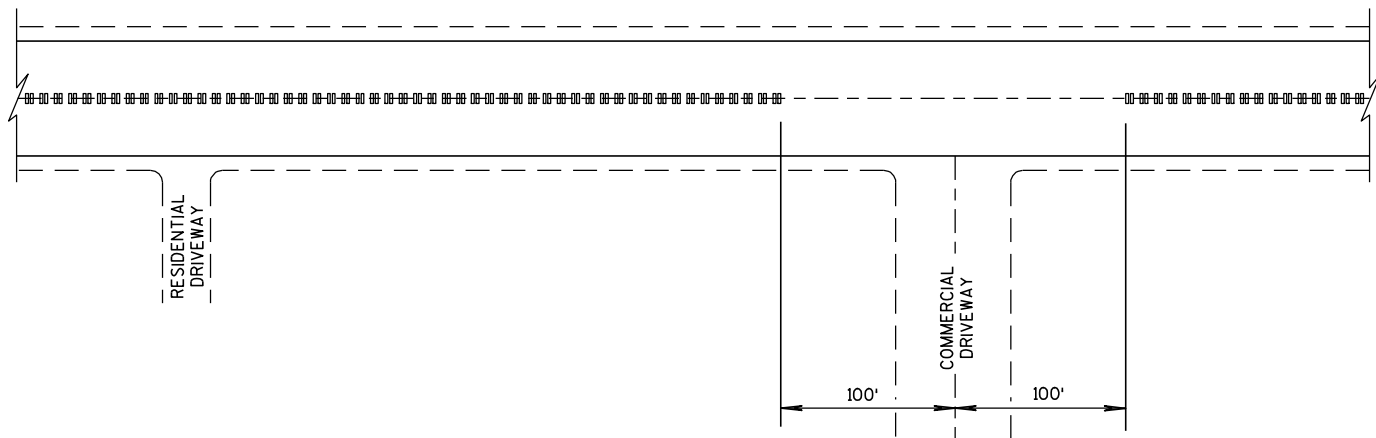




CENTER LINE GROOVES AT INTERSECTIONS

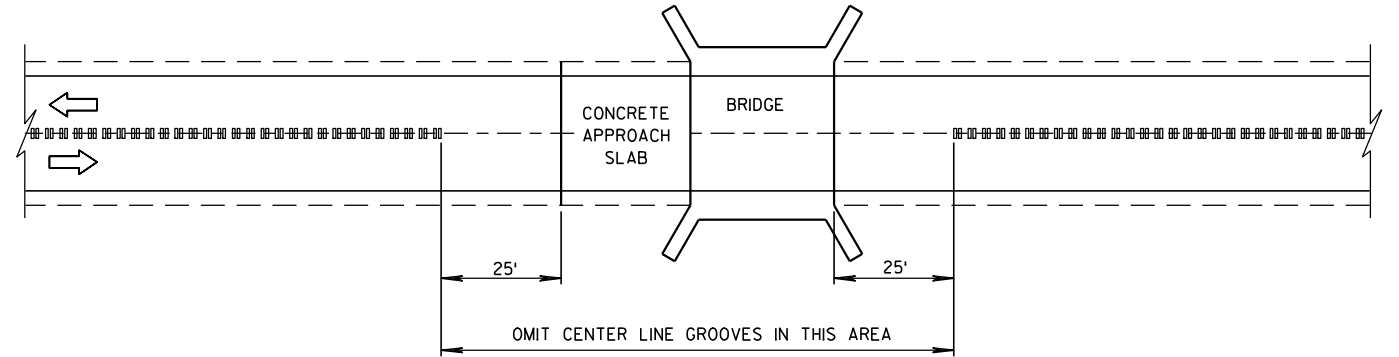


CENTER LINE GROOVES AT INTERSECTIONS  
(WITH LEFT TURN LANES)

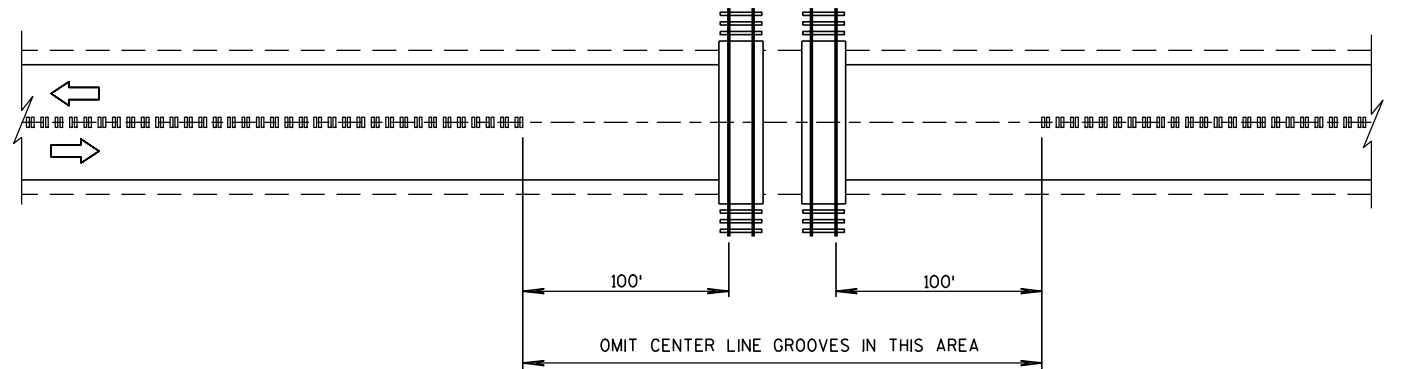


CENTER LINE GROOVES AT DRIVEWAYS <sup>1</sup>

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

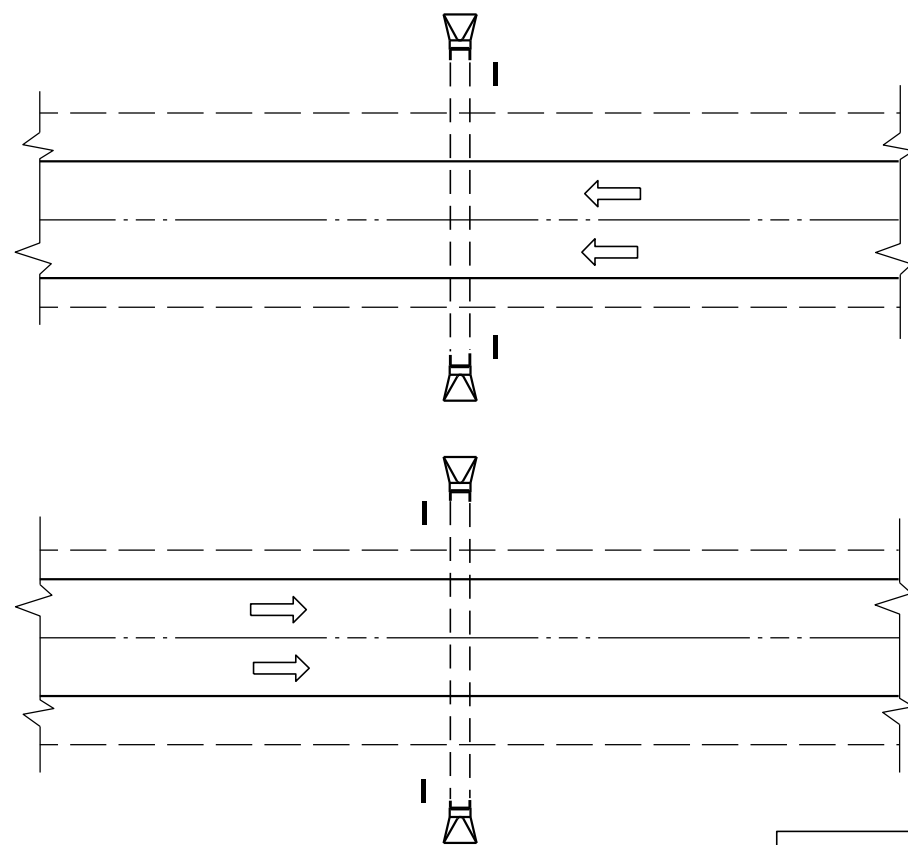


CENTER LINE GROOVES AT BRIDGES

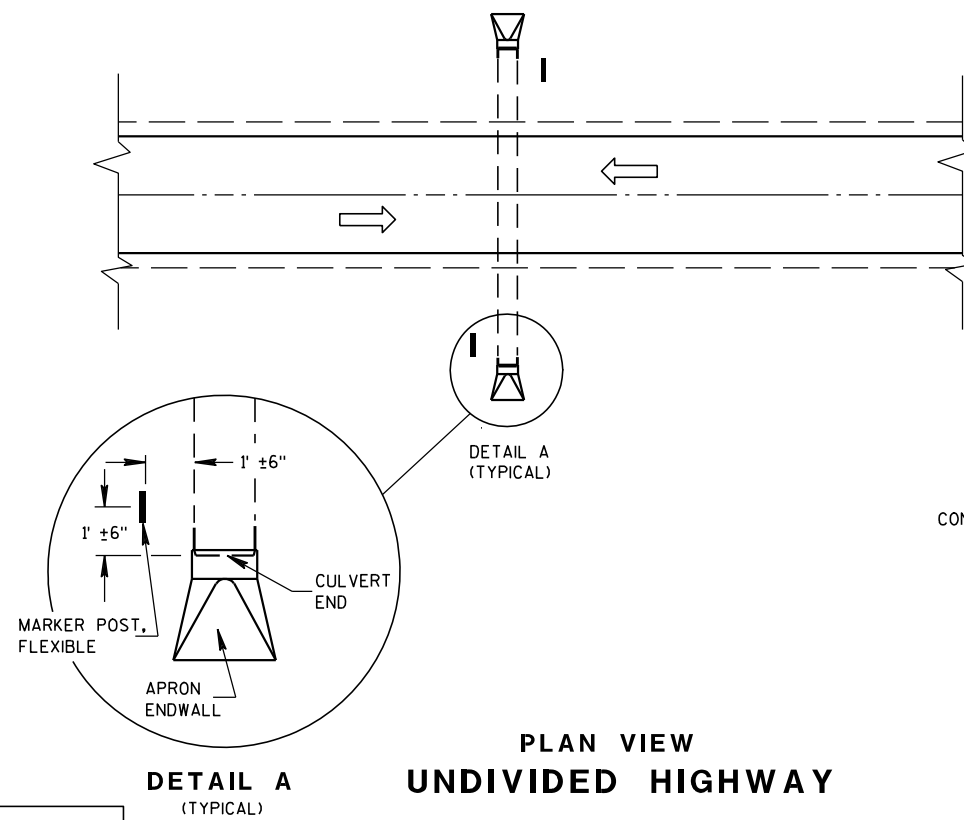


CENTER LINE GROOVES AT RAILROADS

|                                                      |                                                                |
|------------------------------------------------------|----------------------------------------------------------------|
| 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 DEVELOPMENT<br>ENGINEER |
| FHWA                                                 |                                                                |

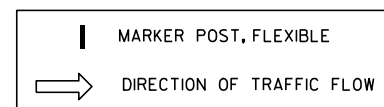


PLAN VIEW  
DIVIDED HIGHWAY

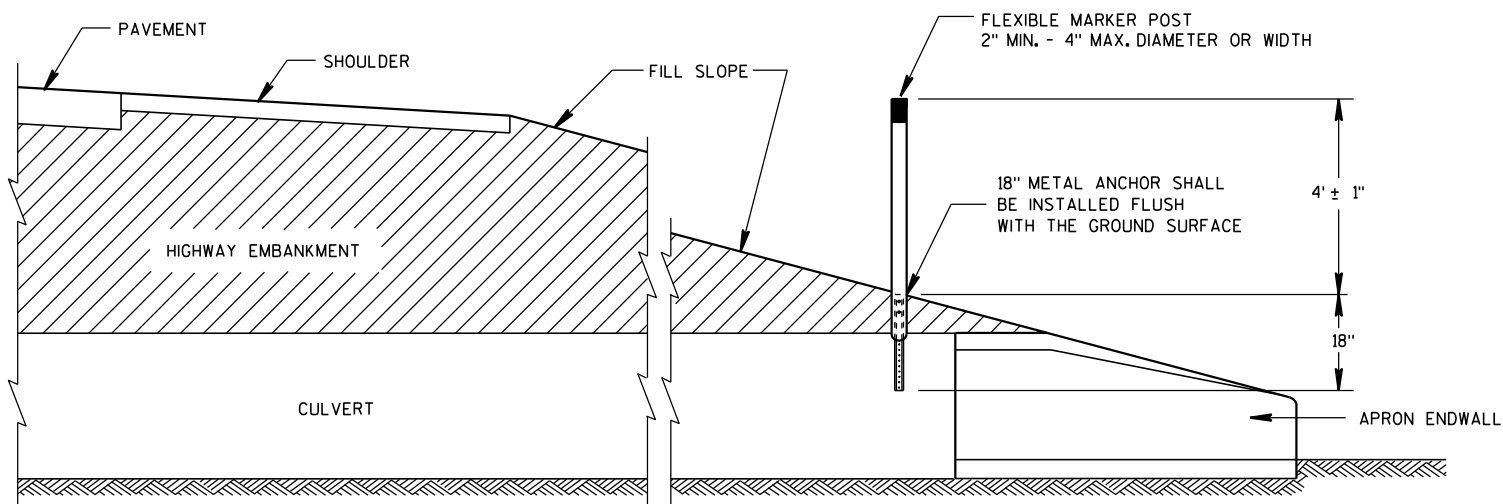


PLAN VIEW  
UNDIVIDED HIGHWAY

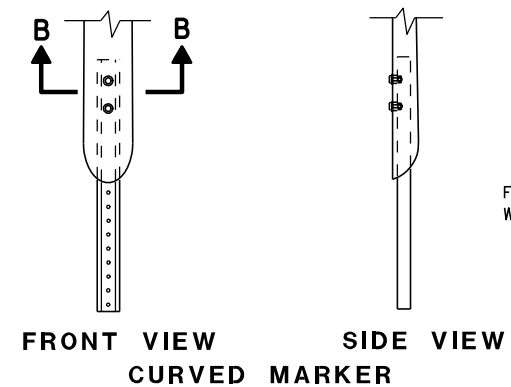
DETAIL A  
(TYPICAL)



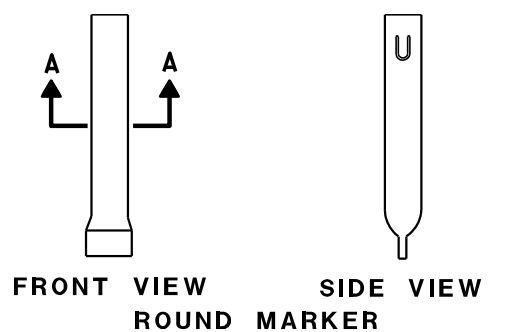
FLEXIBLE MARKER POST LOCATION



CROSS SECTION  
FLEXIBLE MARKER POST



FRONT VIEW  
CURVED MARKER

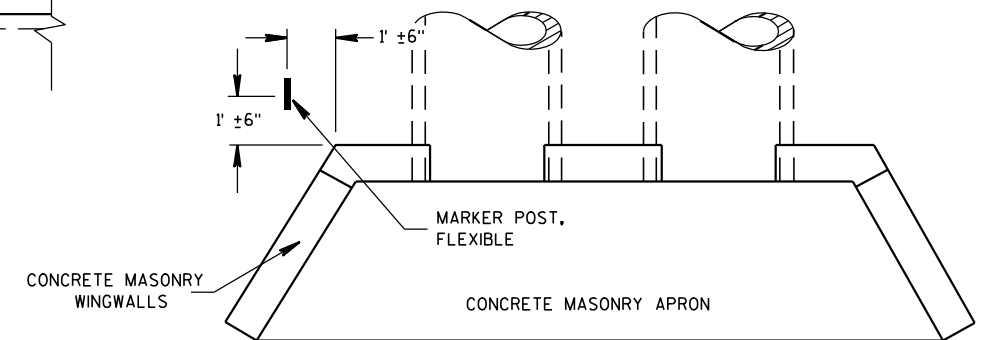


FRONT VIEW  
ROUND MARKER

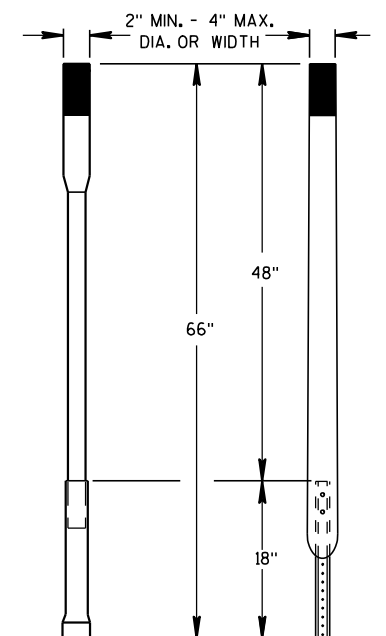
FLEXIBLE MARKER POST ANCHORS

## 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



ALTERNATE 1 ALTERNATE 2  
FLEXIBLE MARKER POST

MARKER POST, FLEXIBLE,  
FOR CULVERT END

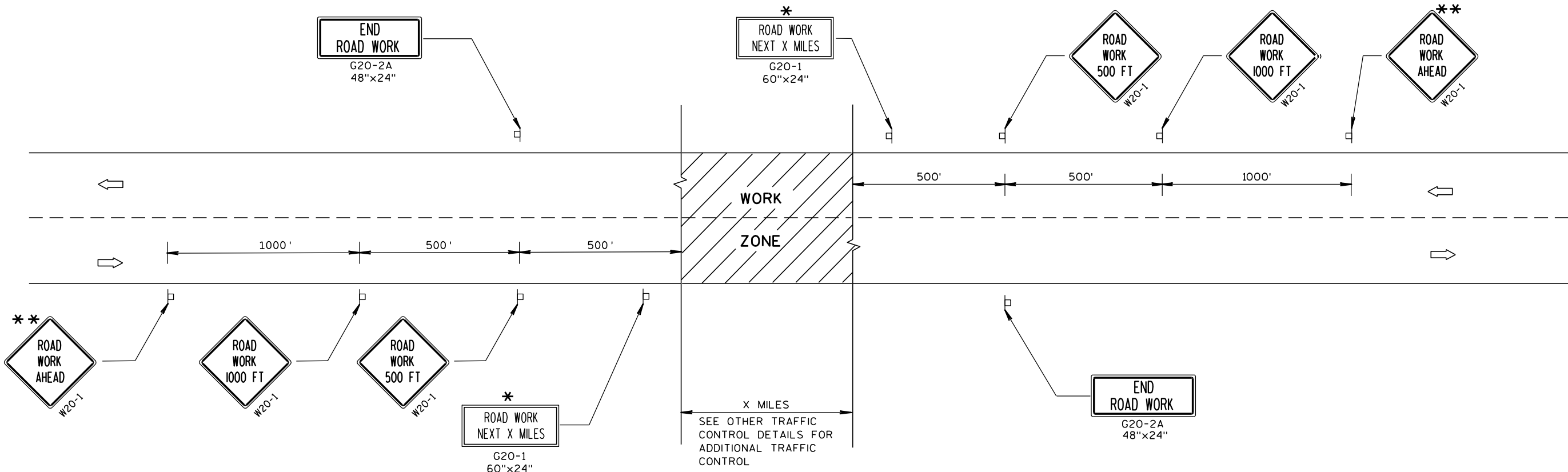
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

10/1/98  
DATE

FHWA

/S/ Rory L. Rhinesmith  
CHIEF ROADWAY DEVELOPMENT ENGINEER



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.

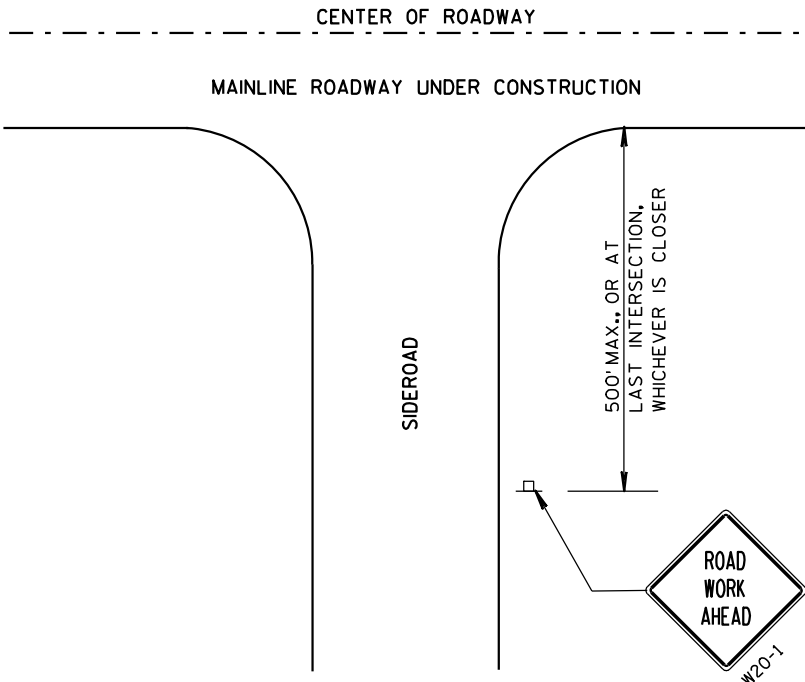
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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.



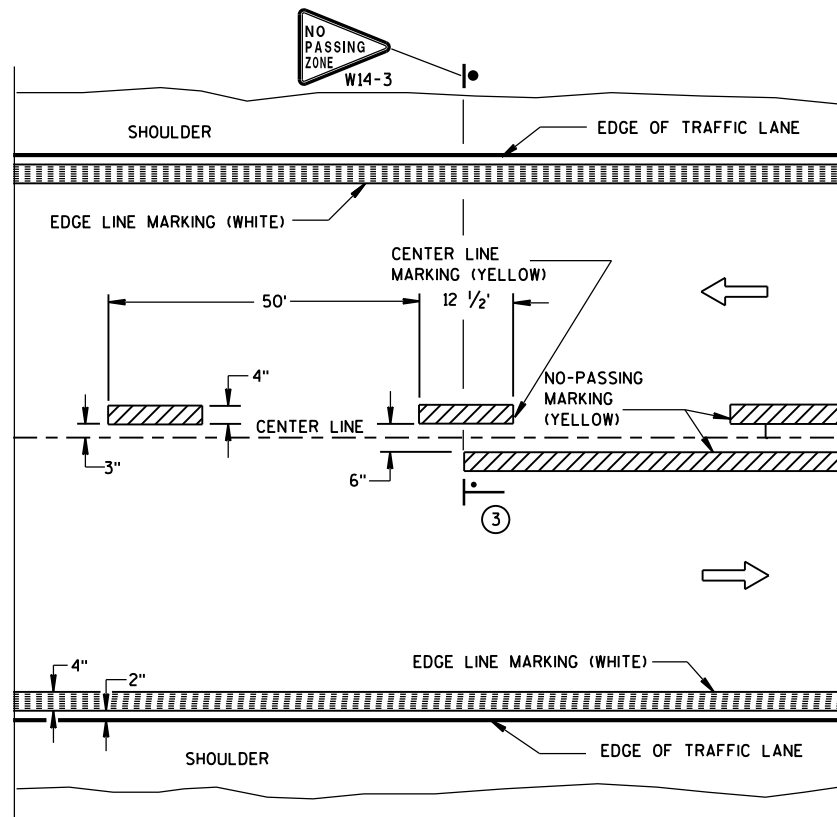
LEGEND

- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

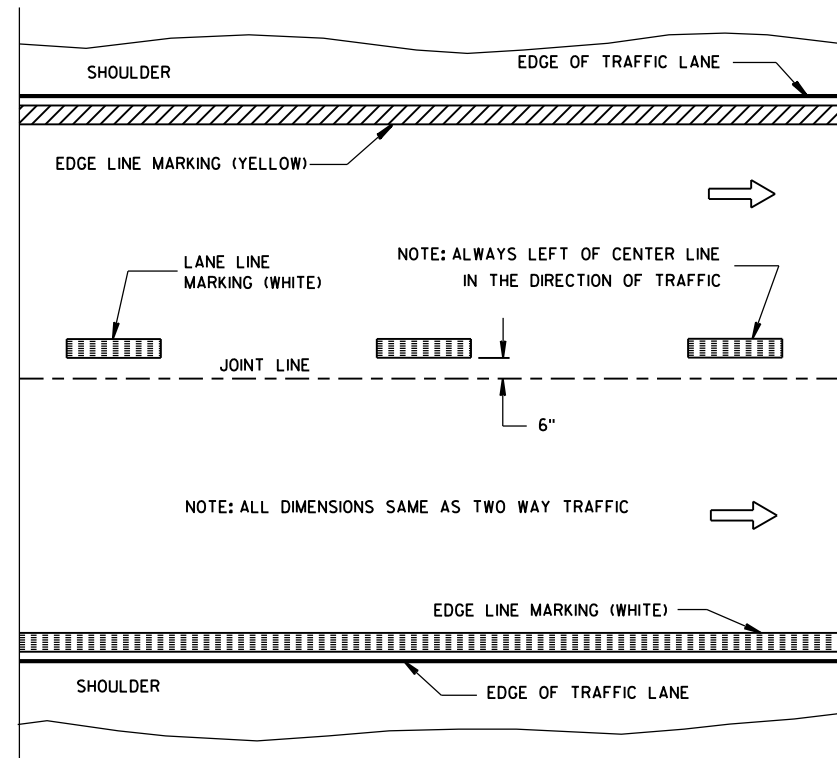
TRAFFIC CONTROL, ADVANCE  
WARNING SIGNS 45 M.P.H.  
OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/23/00 /S/ Chester J. Spang  
DATE CHIEF SIGNS AND MARKING ENGINEER  
FHWA

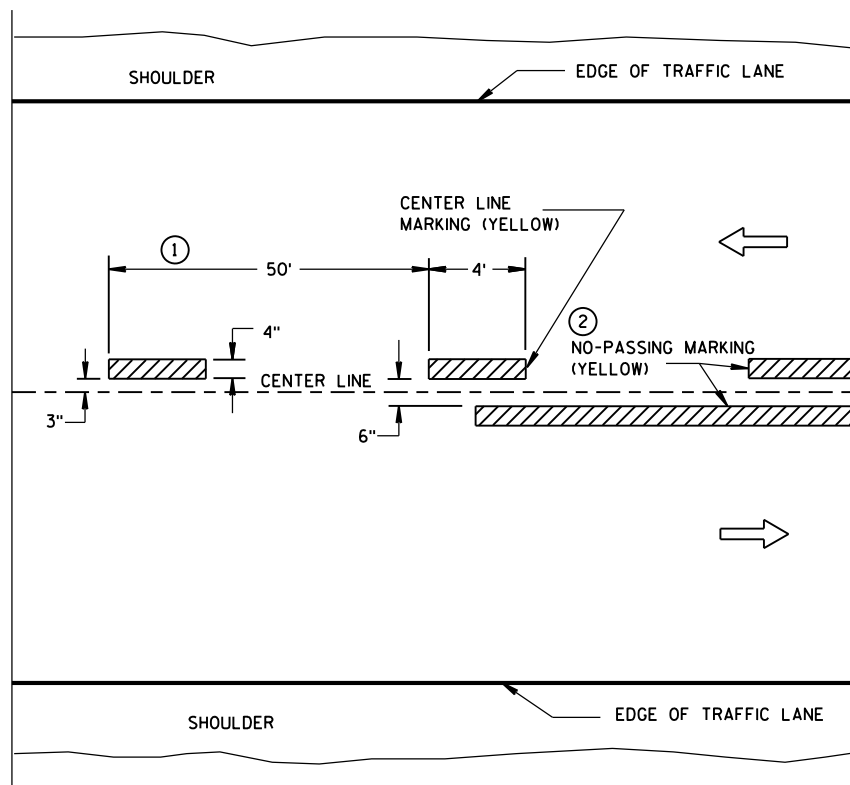


TWO WAY TRAFFIC

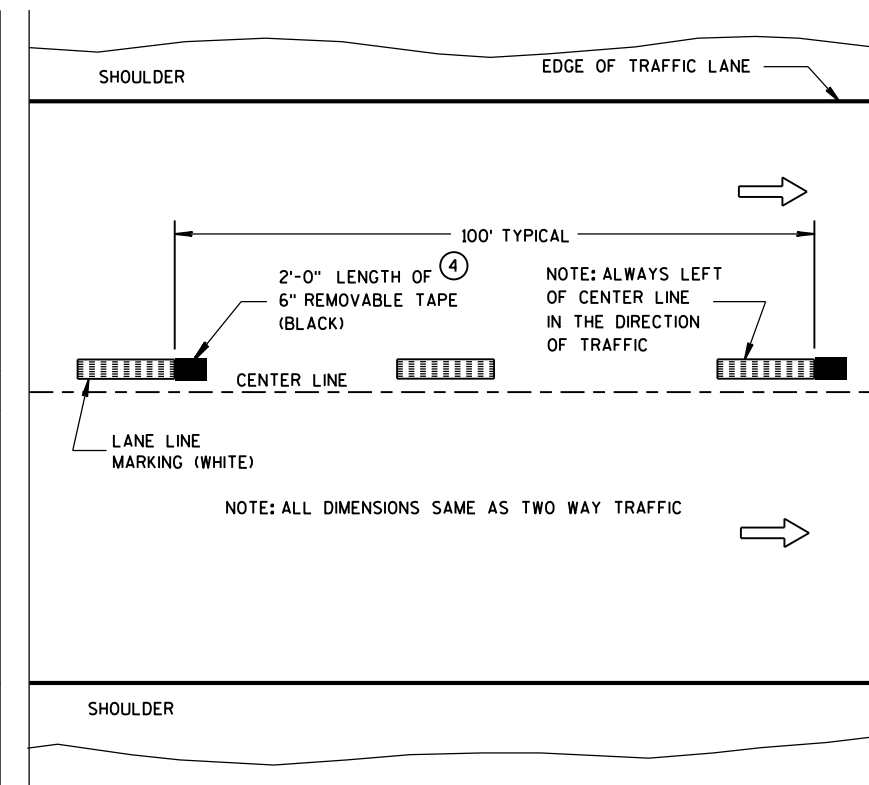


ONE WAY TRAFFIC

## PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

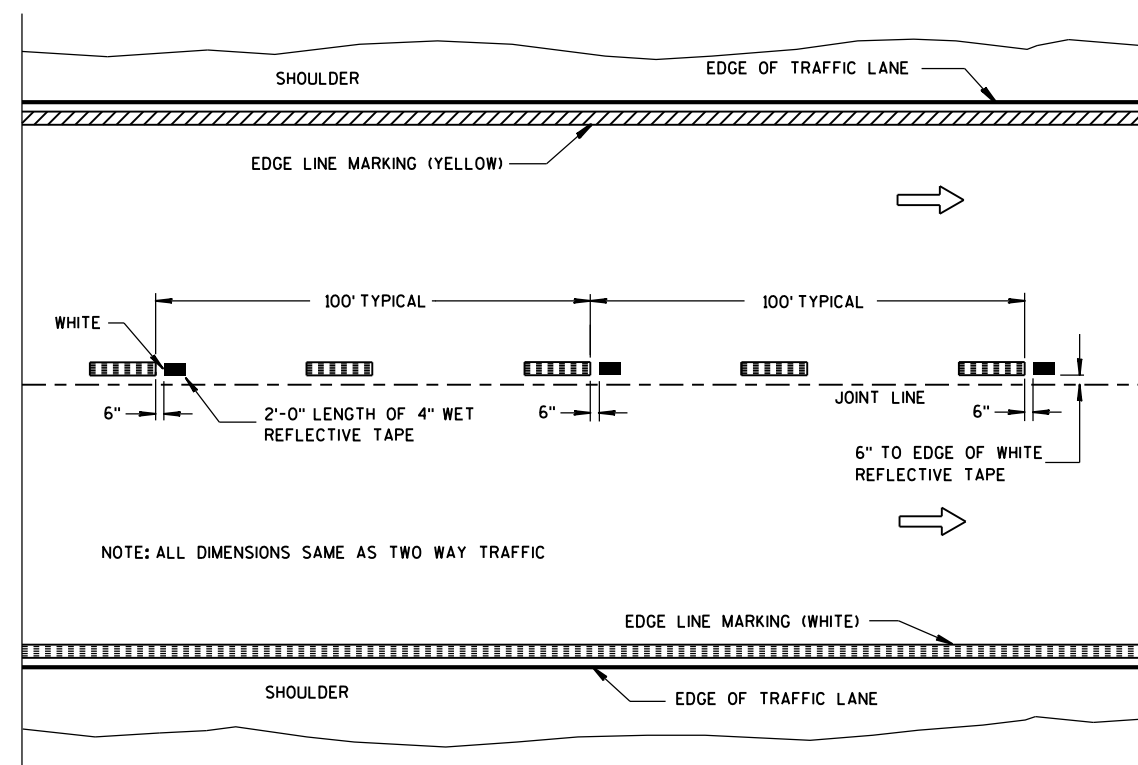
## GENERAL NOTES

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

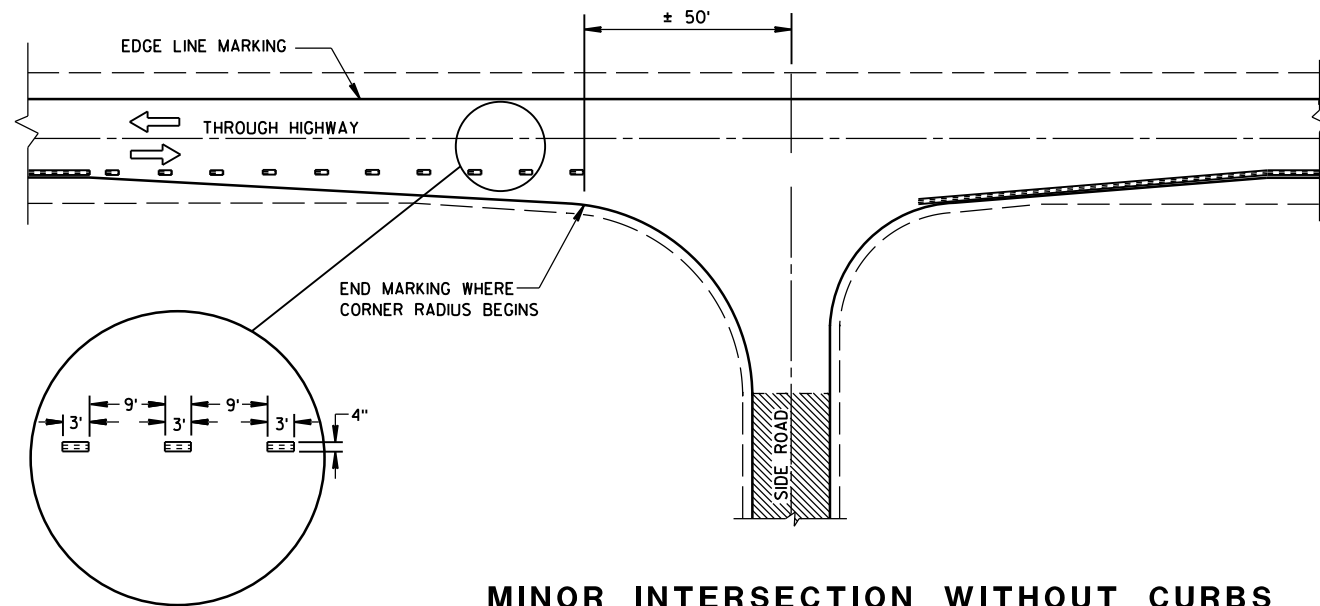
## LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING  
(MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



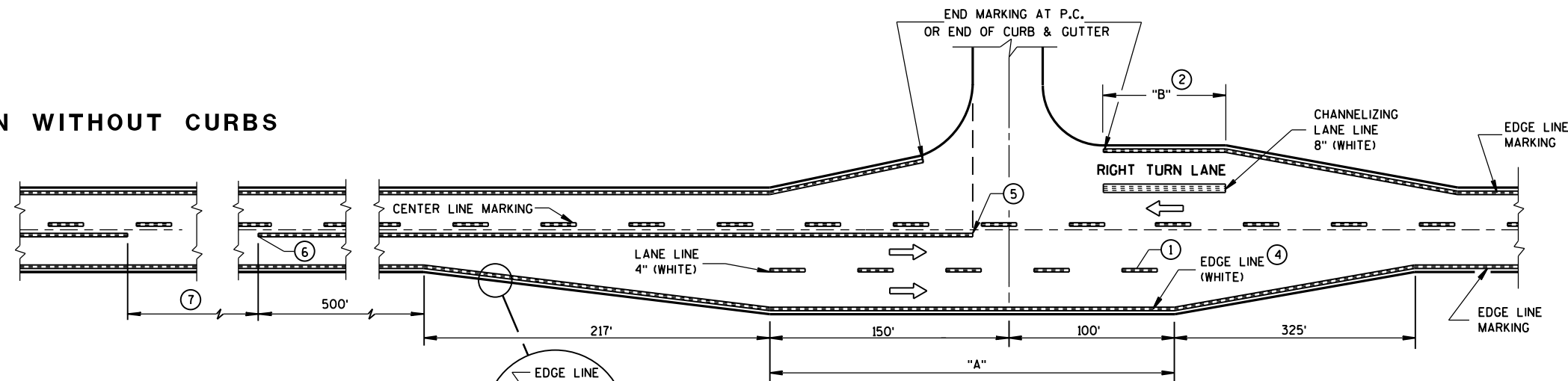
**MINOR INTERSECTION WITHOUT CURBS**

⑦

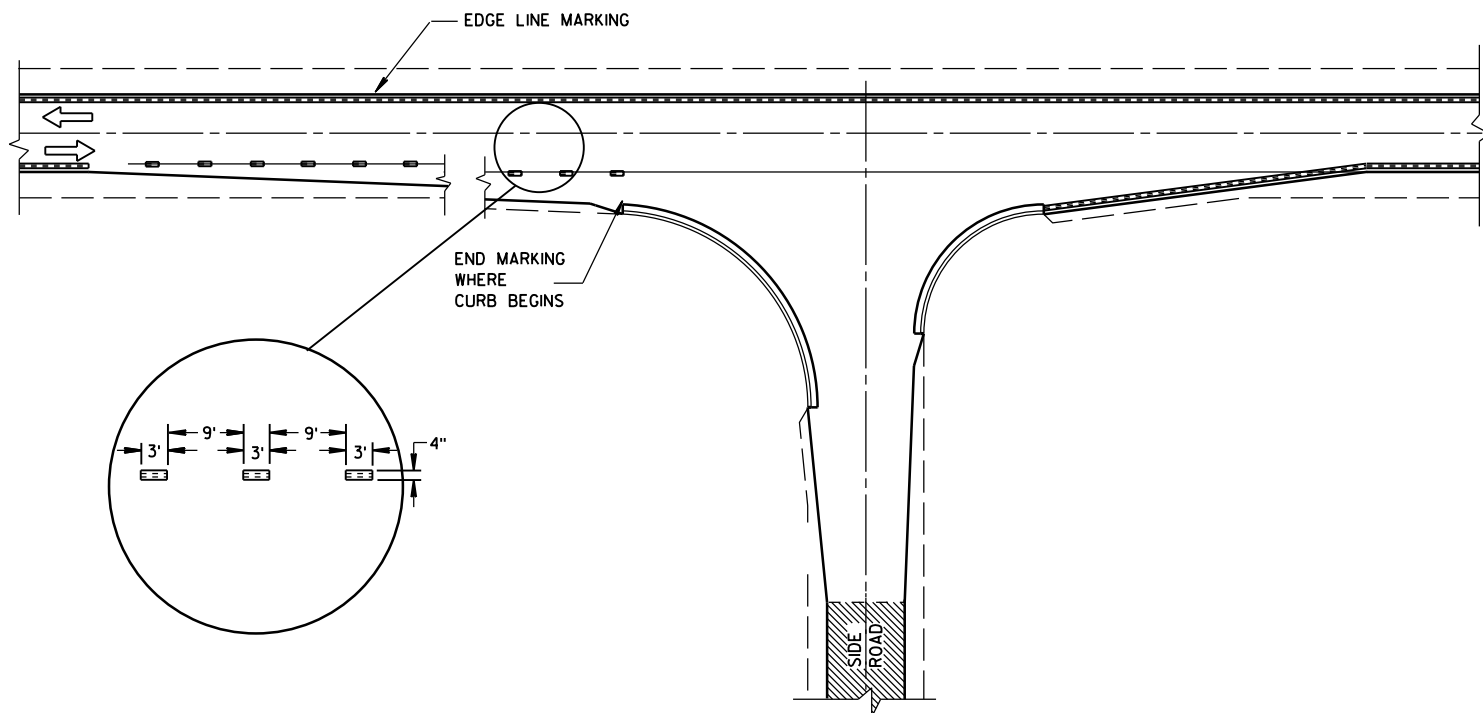
| POSTED SPEED (MPH) | MINIMUM DISTANCE BETWEEN ZONES (FEET) |
|--------------------|---------------------------------------|
| 25 - 30            | 528                                   |
| 35 - 40            | 528                                   |
| 45 - 50            | 686                      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

**GENERAL NOTES**

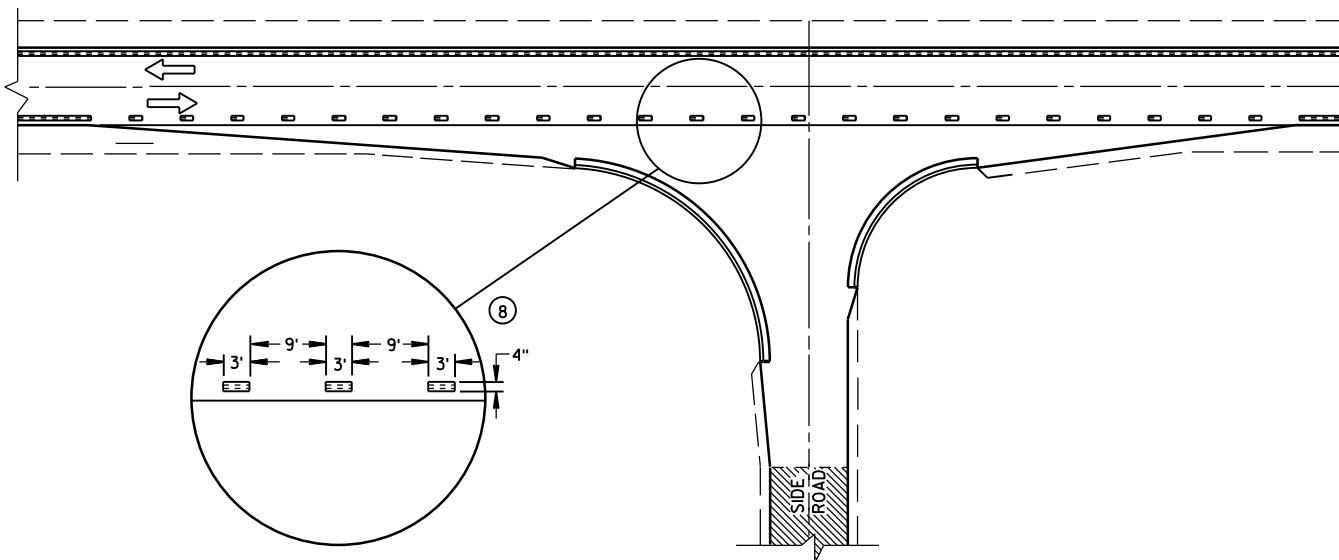
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
  - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
  - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN 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

TWO-LANE ROADWAY

SYMBOLS

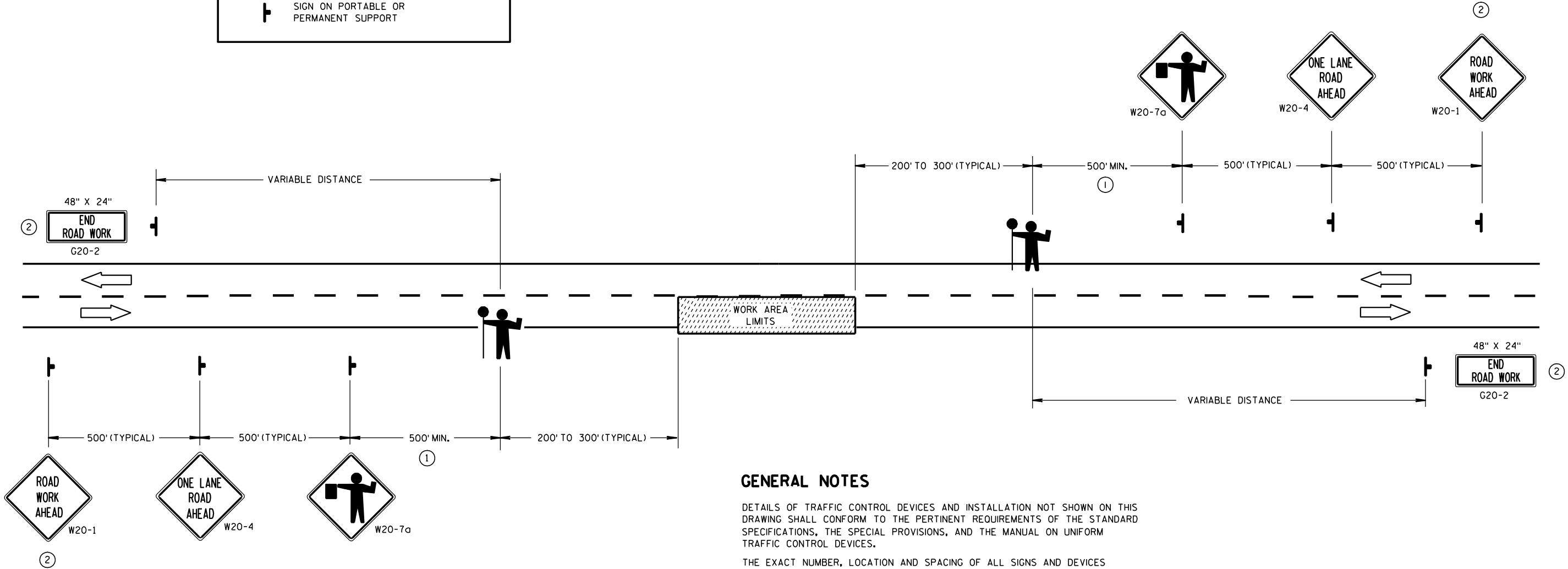
WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN ON PORTABLE OR PERMANENT SUPPORT



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



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.

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, THE "FLAGGER AHEAD", THE "ROAD WORK AHEAD" AND THE ONE LANE ROAD AHEAD" SIGNS SHALL BE COVERED OR REMOVED AND THE HIGHWAY RESTORED TO NORMAL OPERATION.

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

- ①

FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ②

SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

9/5/06

DATE

/S/ Thomas N. Notbohm

STATE TRAFFIC ENGINEER OF DESIGN

FHWA



## LEGEND

- ⌚ POST WITH ATTACHED SIGN
- Ⓢ POST WITH ATTACHED SIGN IN DRUM
- ⚡ DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ➡ ARROW BOARD
- ⌚ 8' TYPE III BARRICADE
- \*-x-\* REMOVING PAVEMENT MARKING
- ➡ DIRECTION OF TRAFFIC

## 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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

- ① CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

## GENERAL NOTES CONTINUED:

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

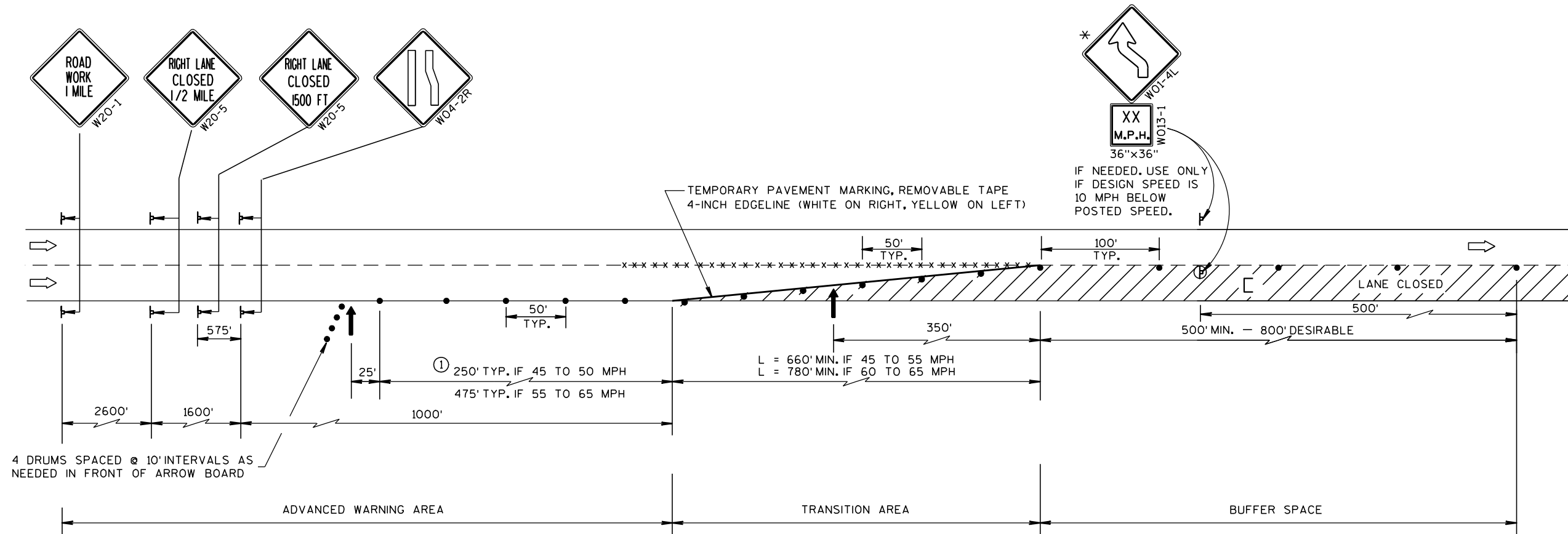
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

- \* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL,  
LANE CLOSURE, SPEEDS  
GREATER THAN 40 M.P.H.

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
8-7-95  
DATE /S/ Chester J. Spang  
DIRECTOR, OFFICE OF TRAFFIC  
FHWA

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.

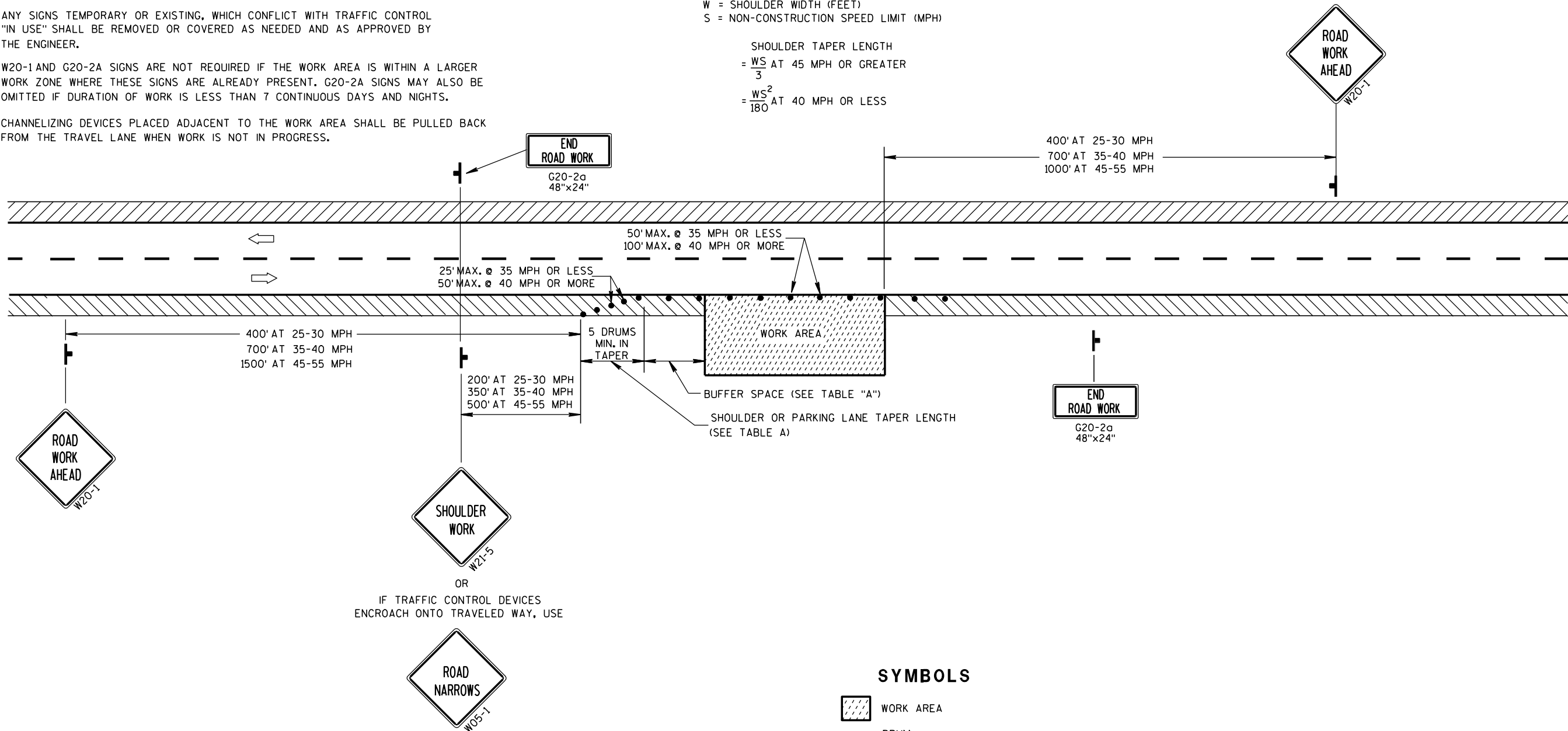
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

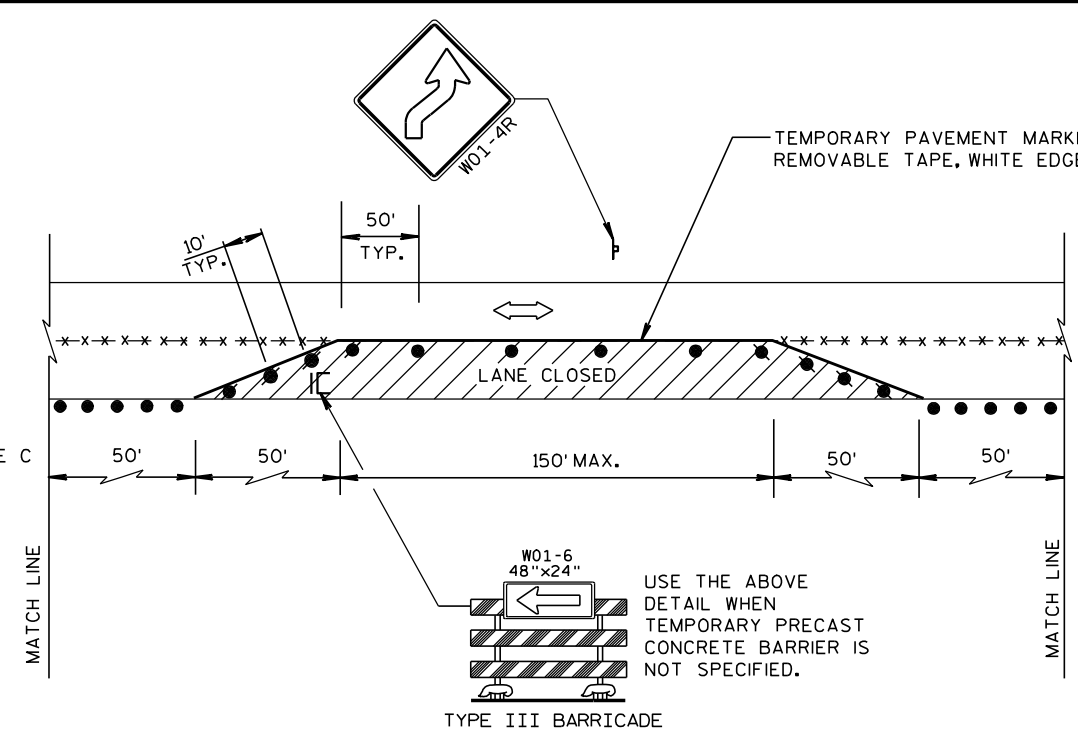
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5/23/00 /S/ Chester J. Spang  
DATE CHIEF SIGNS AND MARKING ENGINEER  
FHWA



LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH SIGN
- TEMPORARY PRECAST CONCRETE BARRIER
- FLAGS, 16"x16" MIN., ORANGE
- DRUM
- DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC FLOW

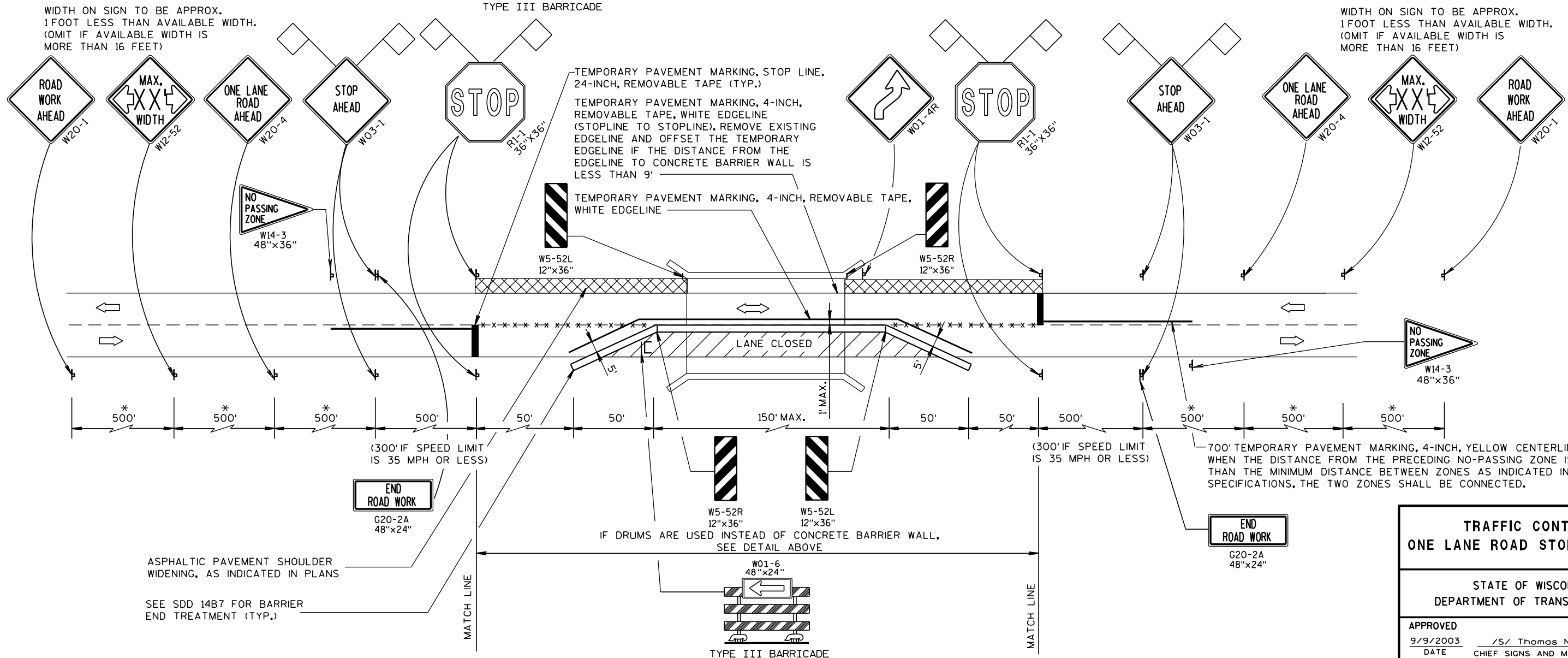


INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)



GENERAL NOTES :

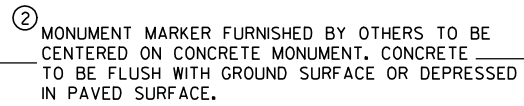
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.
- NON-OPERATIONAL EQUIPMENT OR MATERIAL SHALL BE LOCATED BEHIND THE PRECAST CONCRETE BARRIER AND ALLOW SIGHT FOR STOPPED VEHICLES TO SEE APPROACHING TRAFFIC THROUGH THE WORK ZONE.
- THE SPACING 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.
- "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.
- 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.
- PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.
- \* 500' SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350' TYPICAL SPACING. FOR 25-30 MPH, USE 200' TYPICAL SPACING.



**TRAFFIC CONTROL,  
ONE LANE ROAD STOP CONDITION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
9/9/2003 /S/ Thomas N. Notbohm  
DATE CHIEF SIGNS AND MARKING ENGINEER  
FHWA



U.S. DEPT. OF TRANSPORTATION  
UNLAWFUL TO DISTURB

3 1/4" D

The image contains two technical drawings of magnetic probes, labeled (1) and (2).

**(1) Standard Magnetic Probe:** This drawing shows a long, thin probe with a magnet at the top and a magnet at the bottom. The top magnet is labeled "MAGNET" and the bottom magnet is also labeled "MAGNET". The diameter of the probe is indicated as  $2 \frac{3}{8}''$ . The overall length is indicated as  $2'-6''$  MIN. The bottom magnet is shown with a 4" vertical dimension and a  $3 \frac{1}{2}''$  horizontal dimension.

**(2) Break-Off Magnetic Probe:** This drawing shows a similar probe but with a break-off mechanism. The top magnet is labeled "MAGNET". The bottom magnet is labeled "MAGNET" and is shown with a break-off mechanism. The diameter of the probe is indicated as  $2 \frac{3}{8}''$ . The overall length is indicated as  $2'-6''$  MIN. The bottom magnet is shown with a 6" ± vertical dimension and a  $4 \frac{3}{4}''$  horizontal dimension. A label "BREAK-OFF" points to the break-off mechanism.

The diagram shows a circular structure with two internal components labeled A and B. Component A is a vertical arrow pointing upwards, and component B is a horizontal arrow pointing to the right. There are two external components labeled A and B. Component A is a vertical arrow pointing upwards, and component B is a horizontal arrow pointing to the right. The diagram is a schematic representation of a system with internal and external components.

Diagram illustrating the construction of a pavement structure with a lid and PVC pipe.

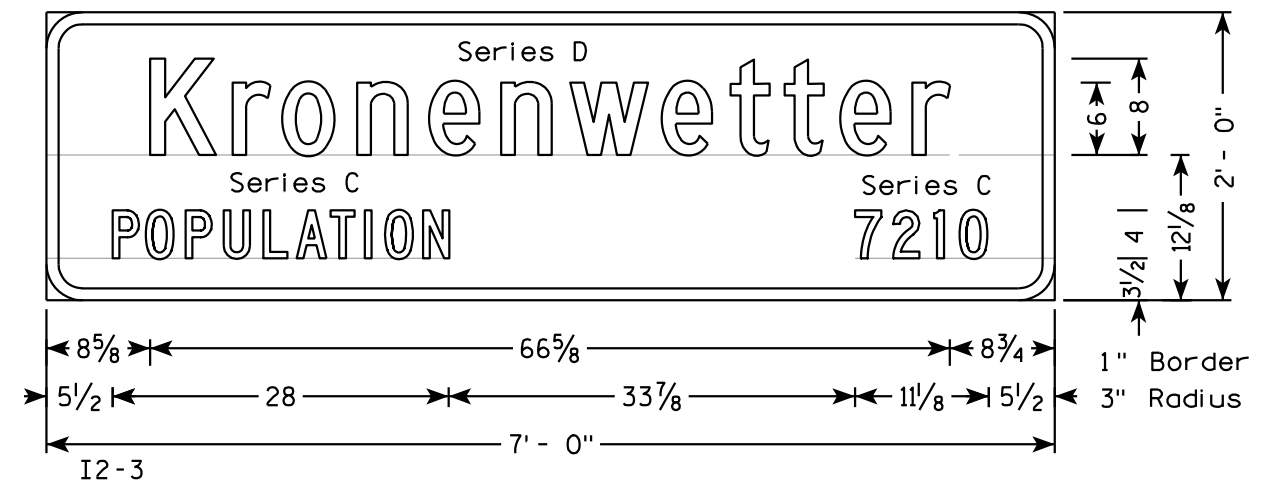
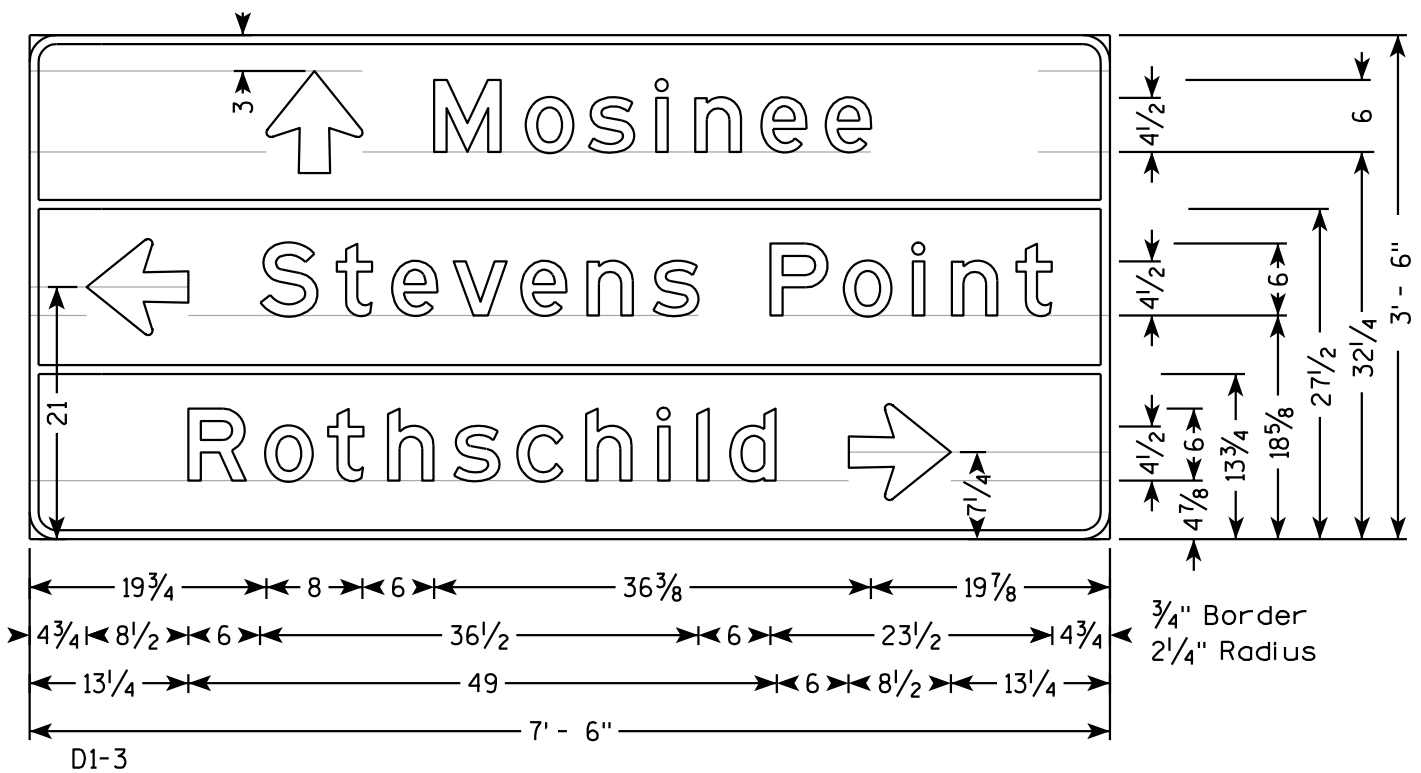
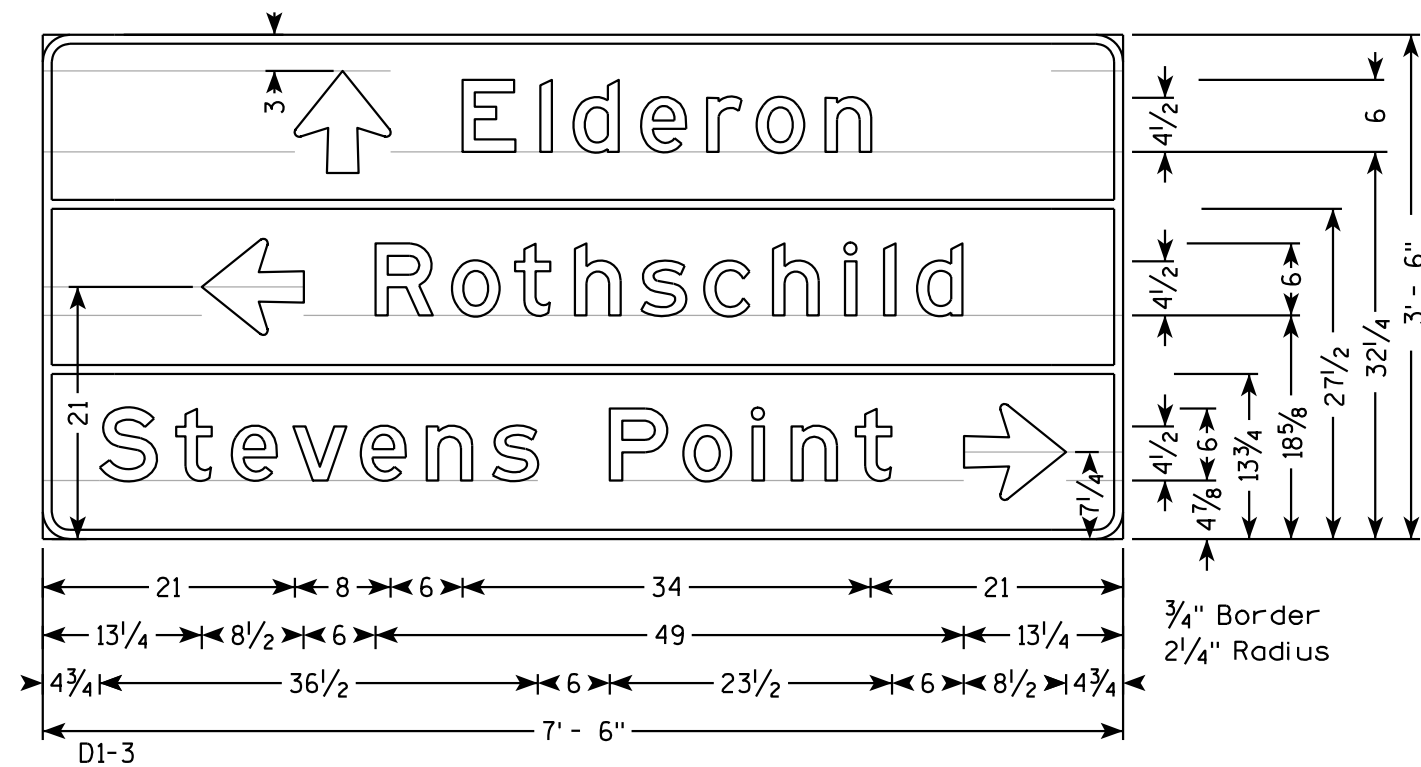
Labels and Dimensions:

- LID TO BE ATTACHED TO FRAME WITH STAINLESS STEEL FLAT HEAD SCREWS
- MACHINE FACED
- PVC PIPE TO FIT PAVEMENT THICKNESS OR MAX. 1 FOOT
- TYPE "C" OR "D" MONUMENTS
- P.C. CONCRETE PAVEMENT
- Dimensions: 7", 1/4", 5 1/2", 1/8", 1 3/4", 5 5/16", 5"

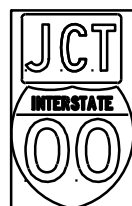
APPROVED  
9/22/1999 /S/ Rory L. Rhinesmith  
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA

# NOTES

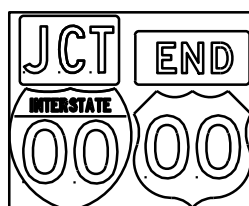
1. All Signs - Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Green  
Message - White
3. Message Series - E except as noted



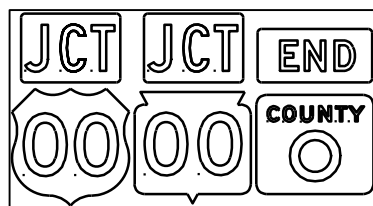
## TYPICAL ASSEMBLIES



J1-1



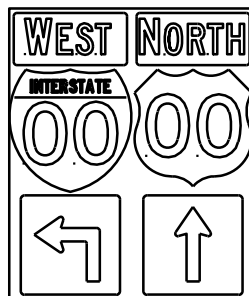
J1-2



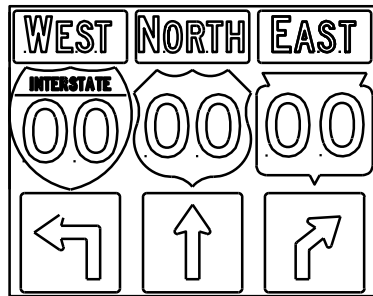
J1-3



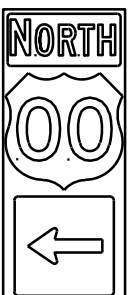
J2-1



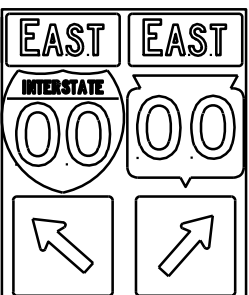
J2-2



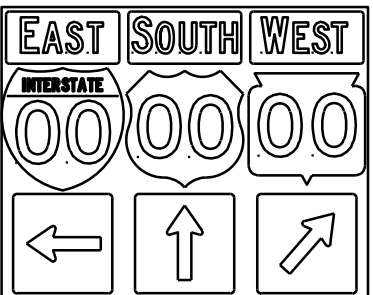
J2-3



J3-1



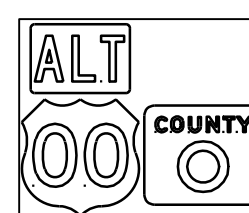
J3-2



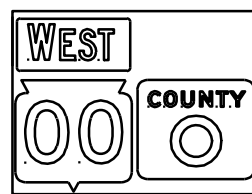
J3-3



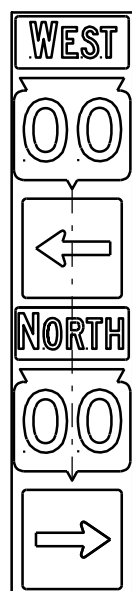
J4-1



J4-2

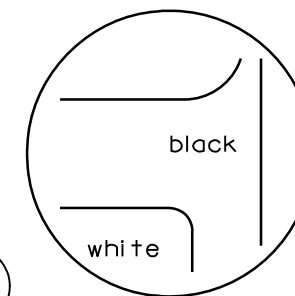
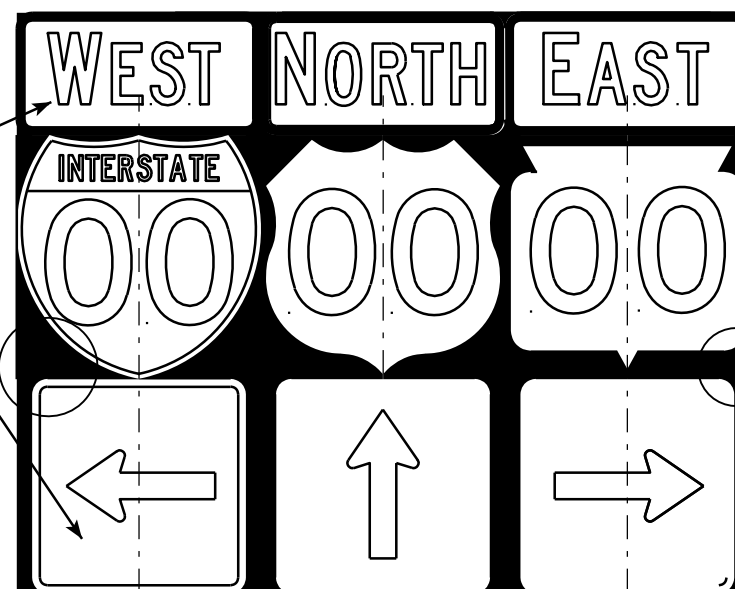
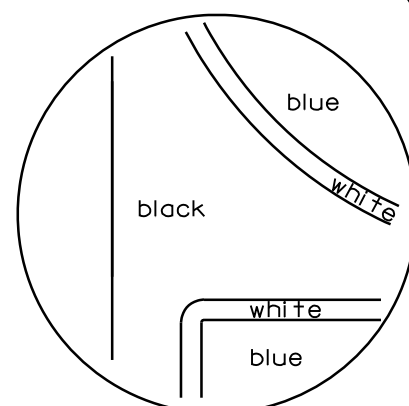


J4-2



JV

[blue background with interstate]



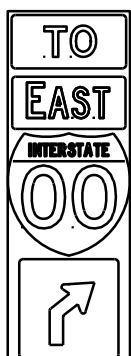
[black background]



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

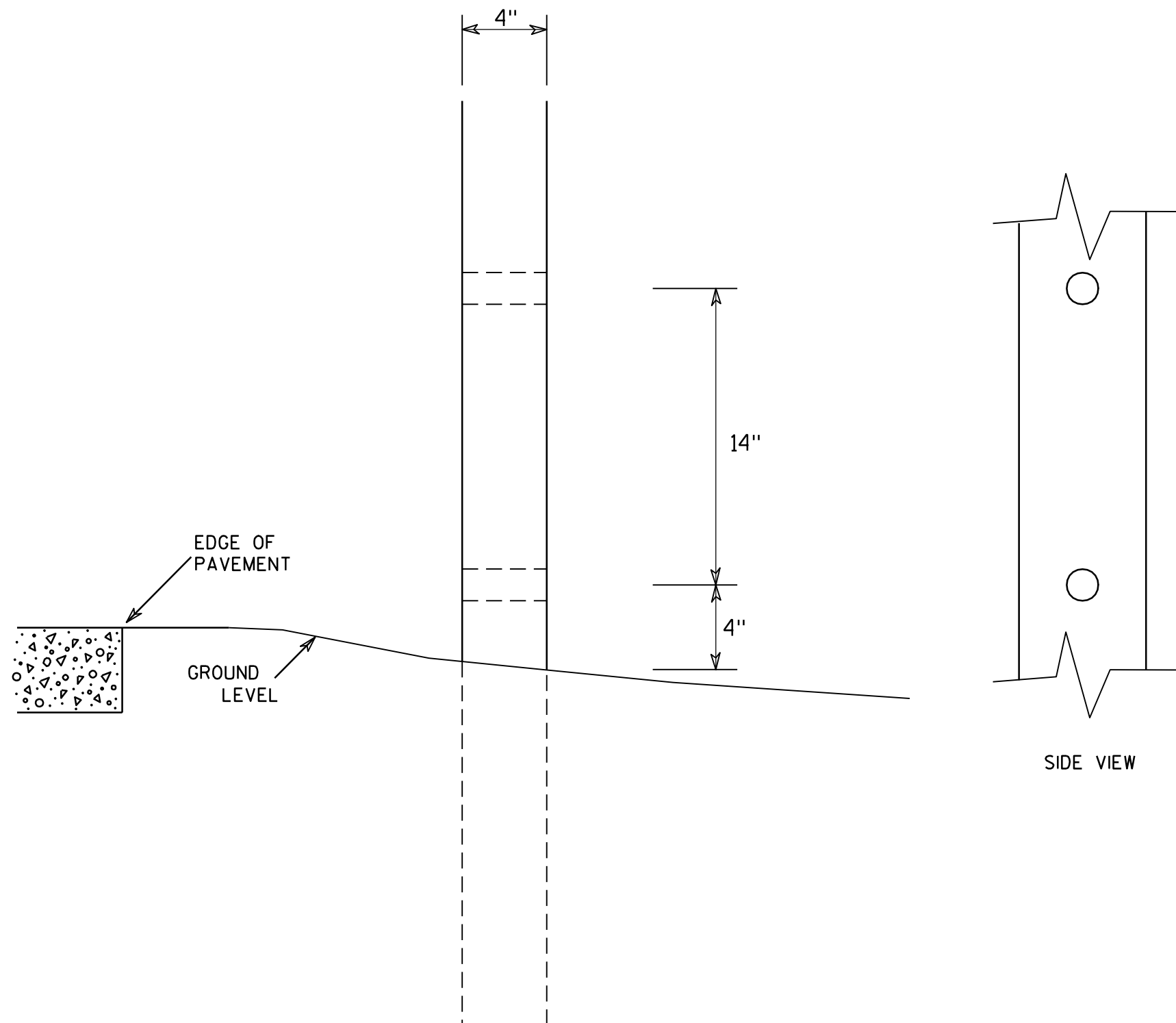
PLATE NO. A2-1S.6

PROJECT NO:

SHEET NO:

E

7



### GENERAL NOTES

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

7

### 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

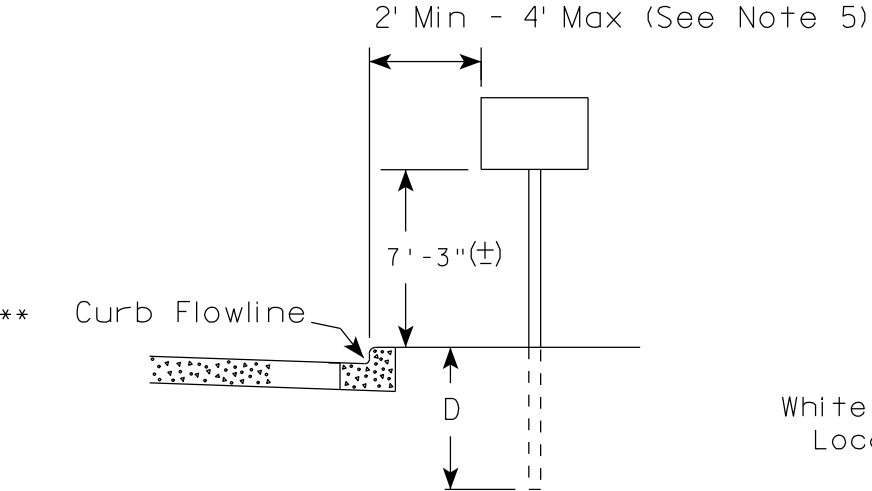
HWY:

COUNTY:

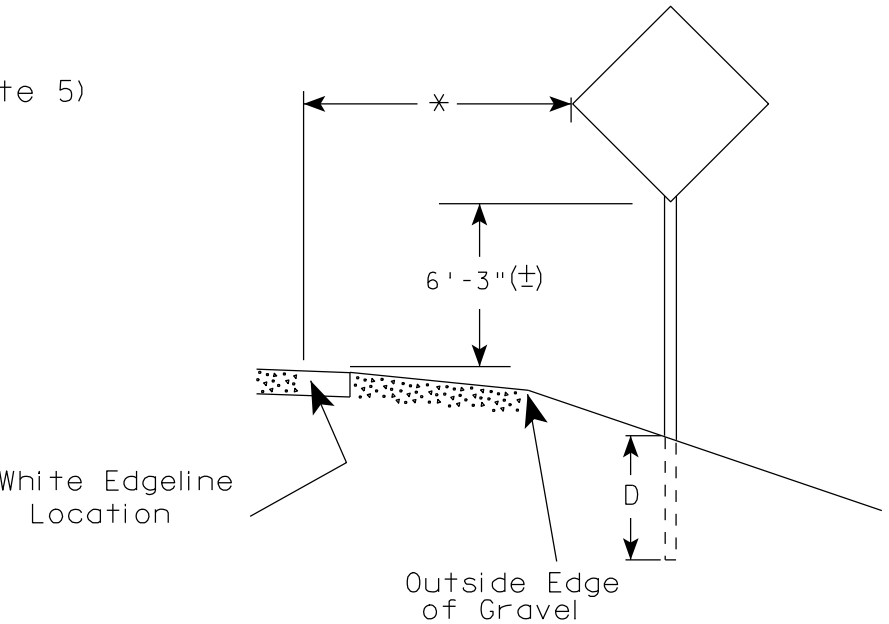
SHEET NO:

E

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" (±).

POST EMBEDMENT DEPTH

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

\* 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.

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

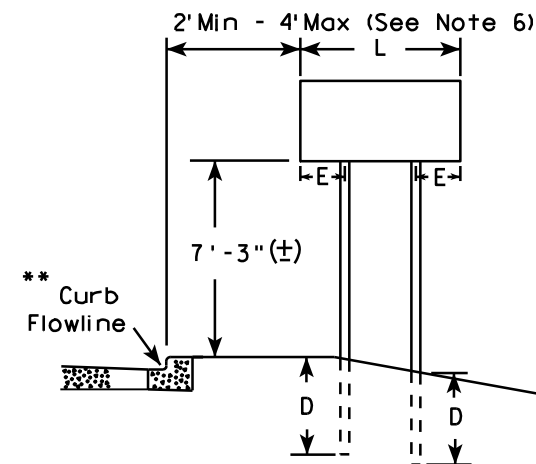
- For multiple post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- 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.

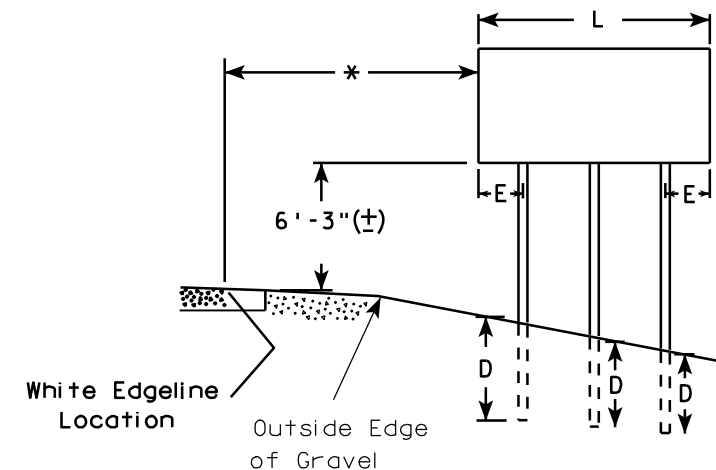
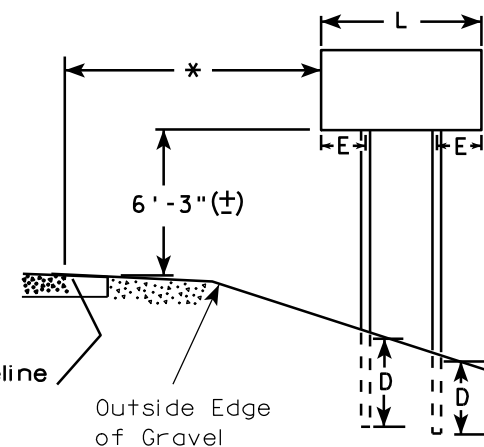
\*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of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

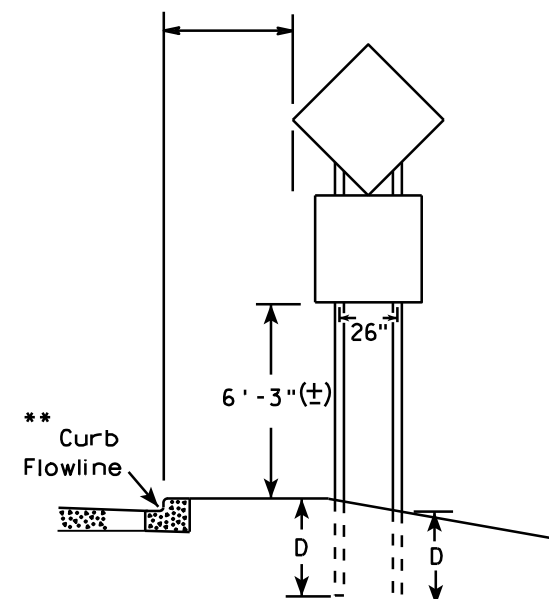
## URBAN AREA



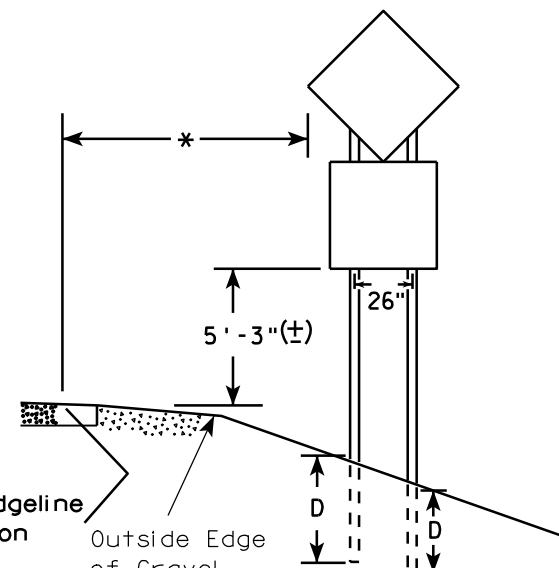
## RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

### SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)

| L                                 | E   |
|-----------------------------------|-----|
| Greater than 48"<br>Less than 60" | 12" |
| 60" to 120"                       | L/5 |

### SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)

| L                                   | E   |
|-------------------------------------|-----|
| Greater than 120"<br>less than 168" | 12" |

### SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)

| L                | E   |
|------------------|-----|
| 168" and greater | 12" |

### POST EMBEDMENT DEPTH

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

### TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION  
 APPROVED *Matthew R. Rauch*  
 For State Traffic Engineer  
 DATE 9/21/2011 PLATE NO. A4-4.11

PROJECT NO:

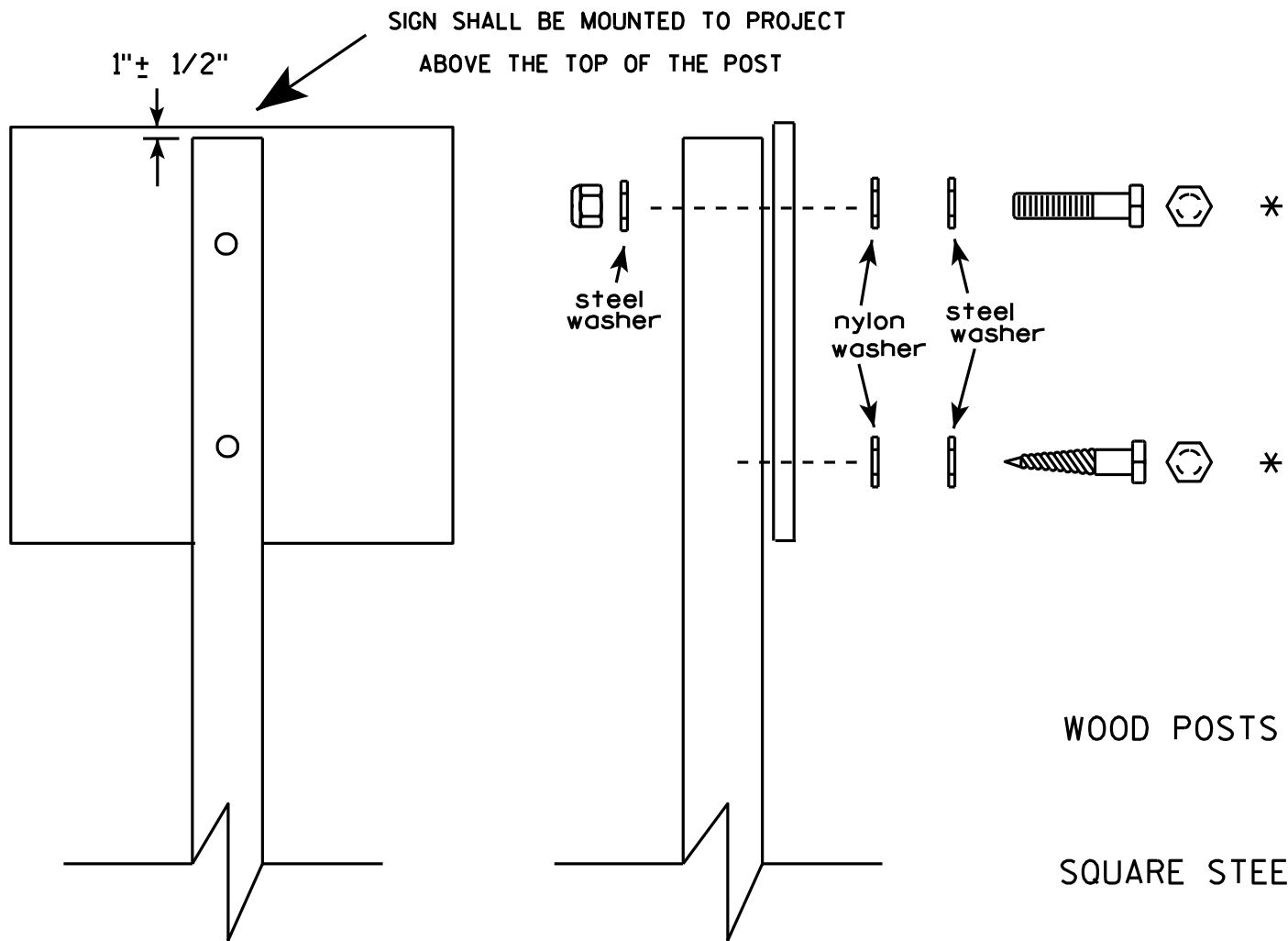
HWY:

COUNTY:

SHEET NO:

E

7

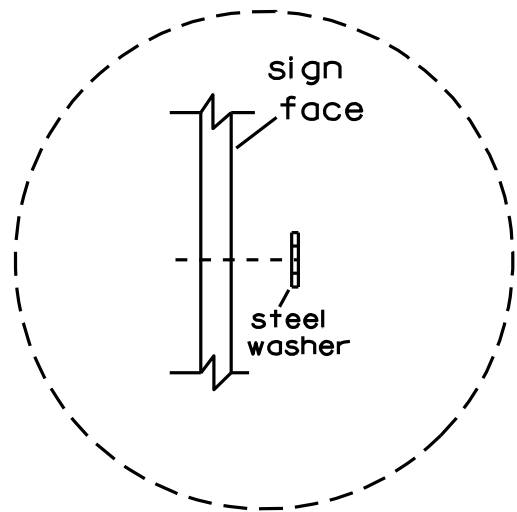


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- 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

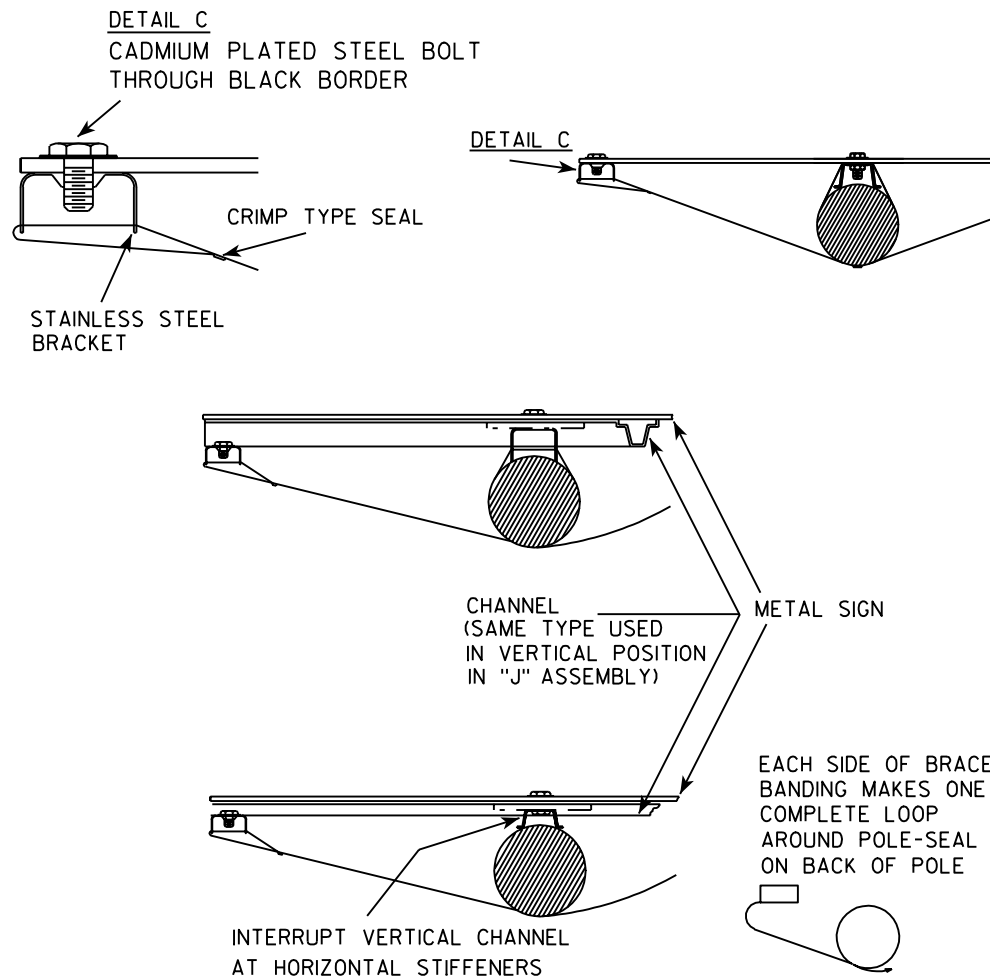
\* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

7



# BRACE BANDING

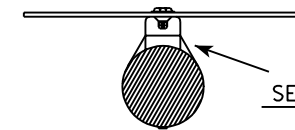
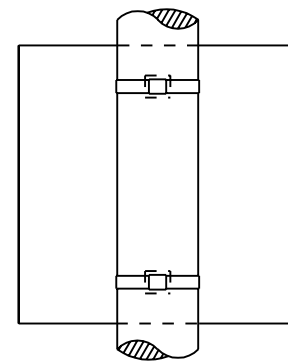


# BRACE BANDING

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

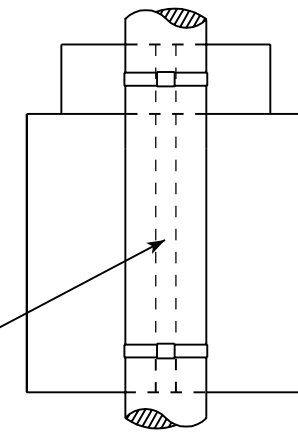
# BRACKET BANDING

## SINGLE SIGN



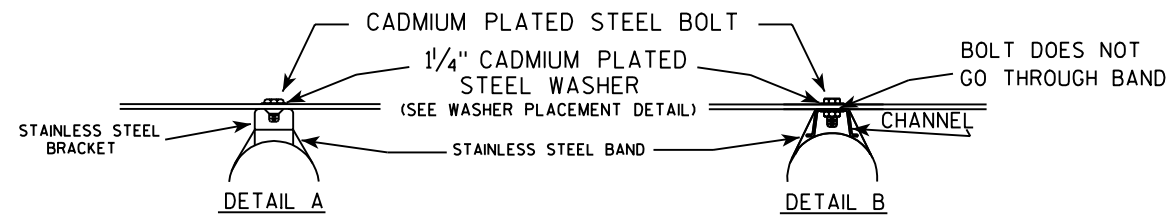
SEE DETAIL A

## "J" ASSEMBLY

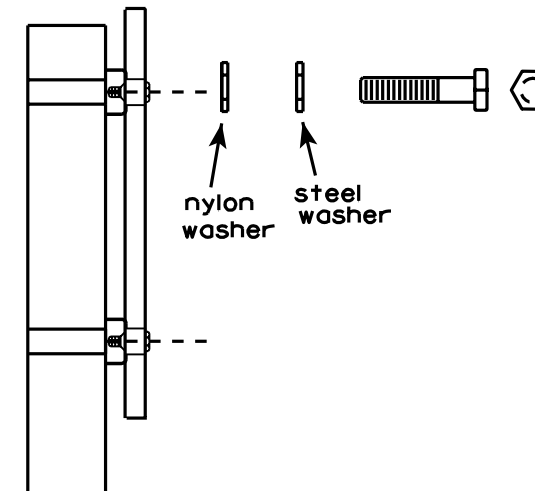


SEE DETAIL B

CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



# 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:

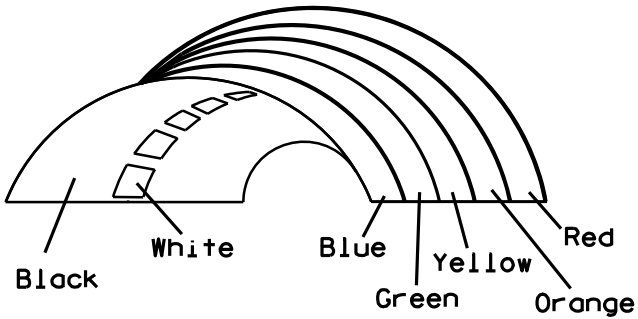
SHEET NO:

E



\* 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:

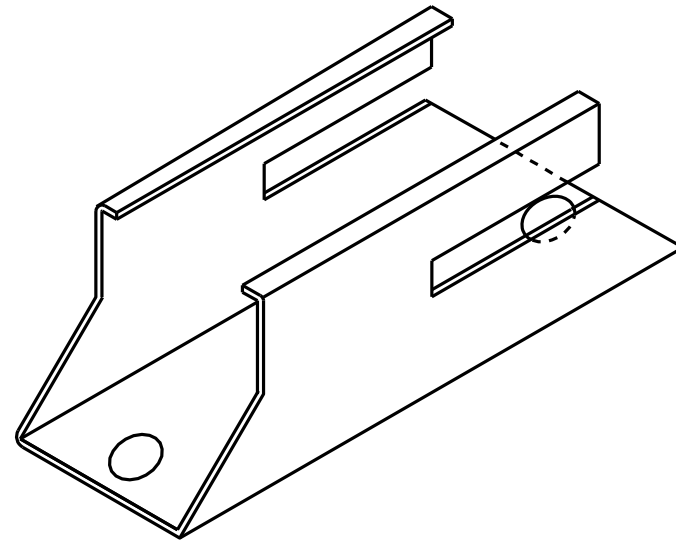
STANDARD SIGN  
I55-56

WISCONSIN DEPT OF TRANSPORTATION

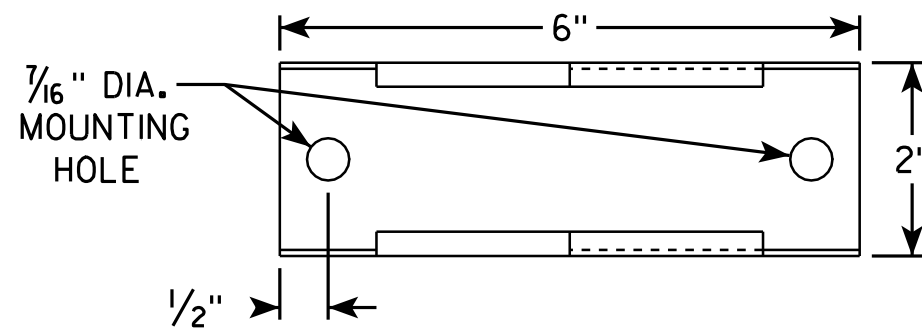
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

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

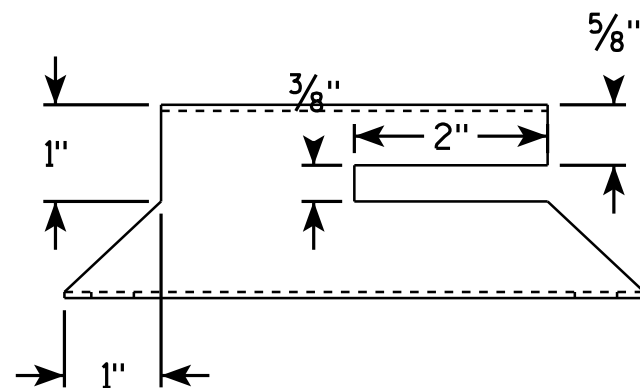
# ISOMETRIC VIEW



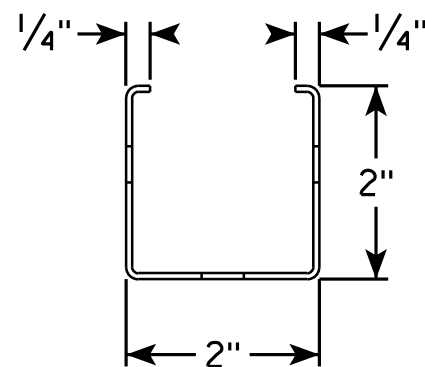
# TOP VIEW



# SIDE VIEW



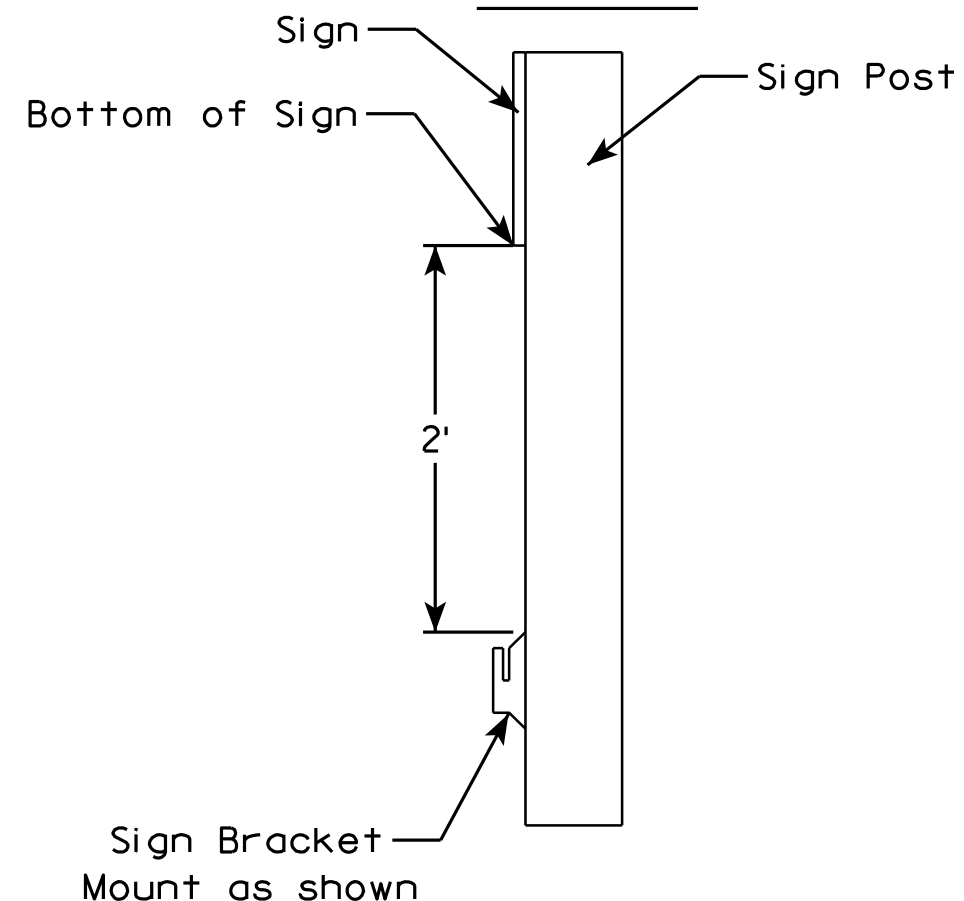
# END VIEW



# 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

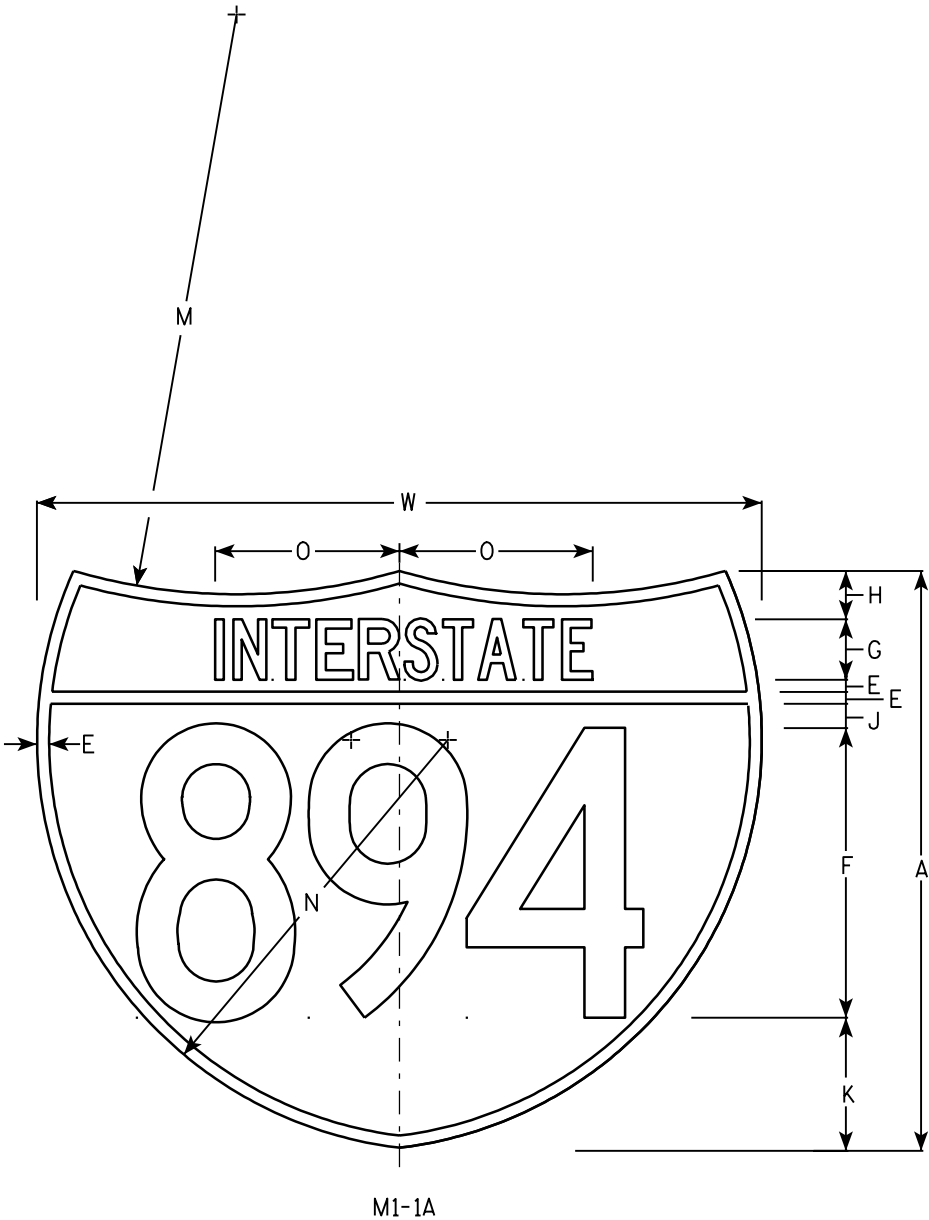
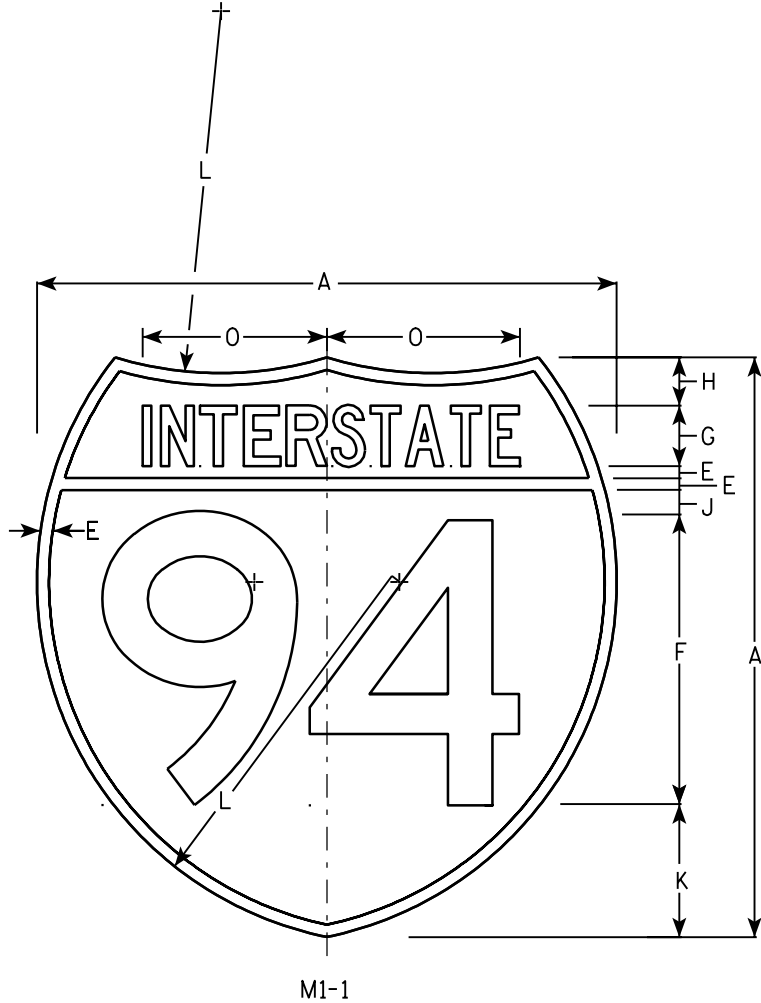
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

- 1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:  
Background - Top Red - Bottom Blue (See Note 6)  
Message - White - See Note 6
- 3. Message Series - See note 5
- 4. Substitute appropriate numerals & adjust spacing as per plate A10-1.
- 5. M1-1 - Numerals - D  
Interstate - C  
M1-1A - All copy - C
- 6. Permanent Signs  
Message - Type H Reflective  
Detour or other temporary signs  
Background - Reflective  
Message - Reflective

Metric equivalent for these signs are:

| SIZE | M1 - 1          | SIZE | M1 - 1A          |
|------|-----------------|------|------------------|
| 1    |                 |      |                  |
| 2    | 600 mm X 600 mm | 2    | 600 mm X 750 mm  |
| 3    | 900 mm X 900 mm | 3    | 900 mm X 1125 mm |
| 4    | 900 mm X 900 mm | 4    | 900 mm X 1125 mm |
| 5    | 900 mm X 900 mm | 5    | 900 mm X 1125 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 | Area<br>sq. ft. | Area<br>sq. ft. | Area<br>m <sup>2</sup> | Area<br>m <sup>2</sup> |
|------|----|---|---|---|-----|----|-------|---|---|-------|-------|--------|----|--------|--------|---|---|---|---|---|---|---|----|---|---|-----------------|-----------------|------------------------|------------------------|
| 1    |    |   |   |   |     |    |       |   |   |       |       |        |    |        |        |   |   |   |   |   |   |   |    |   |   |                 |                 |                        |                        |
| 2    | 24 |   |   |   | 1/2 | 12 | 2 1/2 | 2 |   | 1     | 5 1/2 | 15     | 24 | 17     | 7 7/8  |   |   |   |   |   |   |   | 30 |   |   | 3.13            | 3.91            | .36                    | .46                    |
| 3    | 36 |   |   |   | 3/4 | 18 | 3 3/4 | 3 |   | 1 1/2 | 8 1/4 | 22 1/2 | 36 | 25 1/2 | 11 3/4 |   |   |   |   |   |   |   | 45 |   |   | 7.03            | 8.79            | .81                    | 1.05                   |
| 4    | 36 |   |   |   | 3/4 | 18 | 3 3/4 | 3 |   | 1 1/2 | 8 1/4 | 22 1/2 | 36 | 25 1/2 | 11 3/4 |   |   |   |   |   |   |   | 45 |   |   | 7.03            | 8.79            | .81                    | 1.05                   |
| 5    | 36 |   |   |   | 3/4 | 18 | 3 3/4 | 3 |   | 1 1/2 | 8 1/4 | 22 1/2 | 36 | 25 1/2 | 11 3/4 |   |   |   |   |   |   |   | 45 |   |   | 7.03            | 8.79            | .81                    | 1.05                   |

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

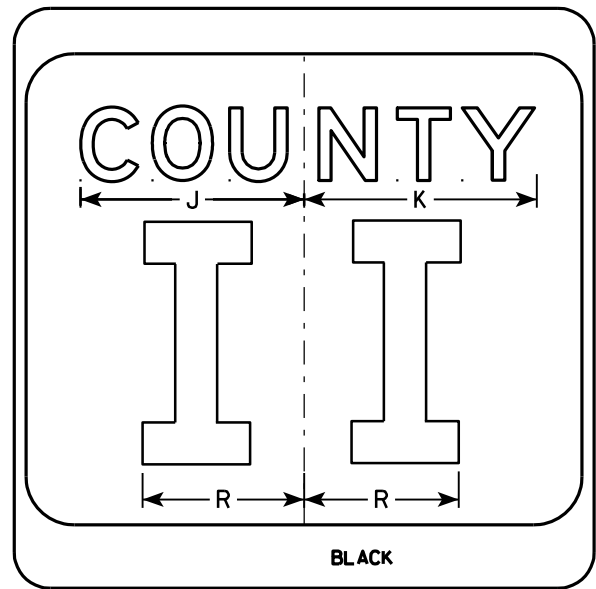
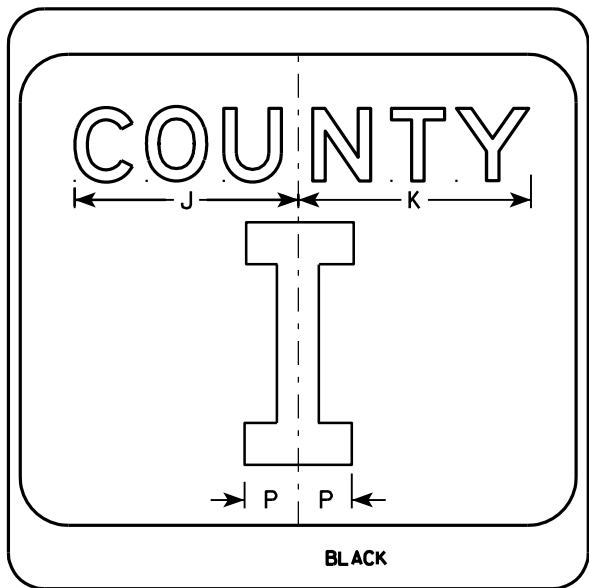
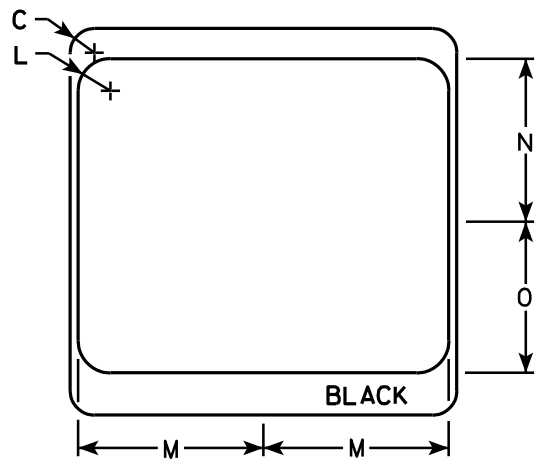
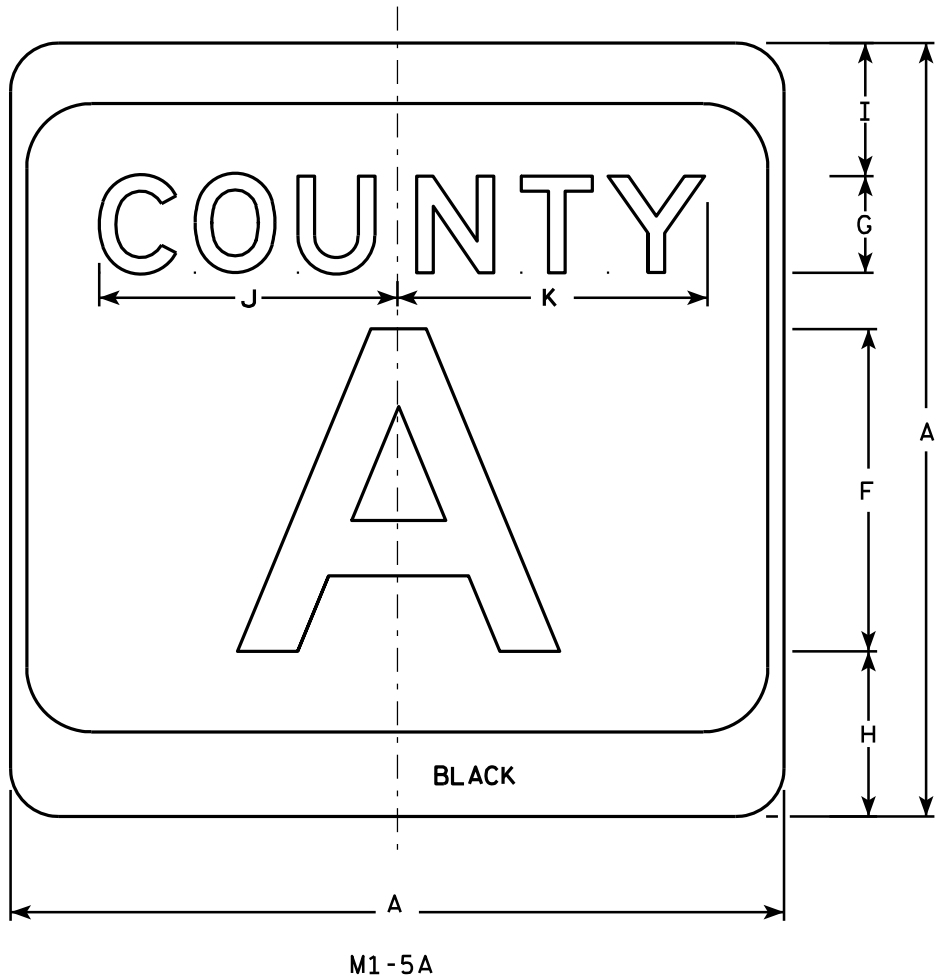
INTERSTATE ROUTE MARKER  
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

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:

E

CTH MARKER

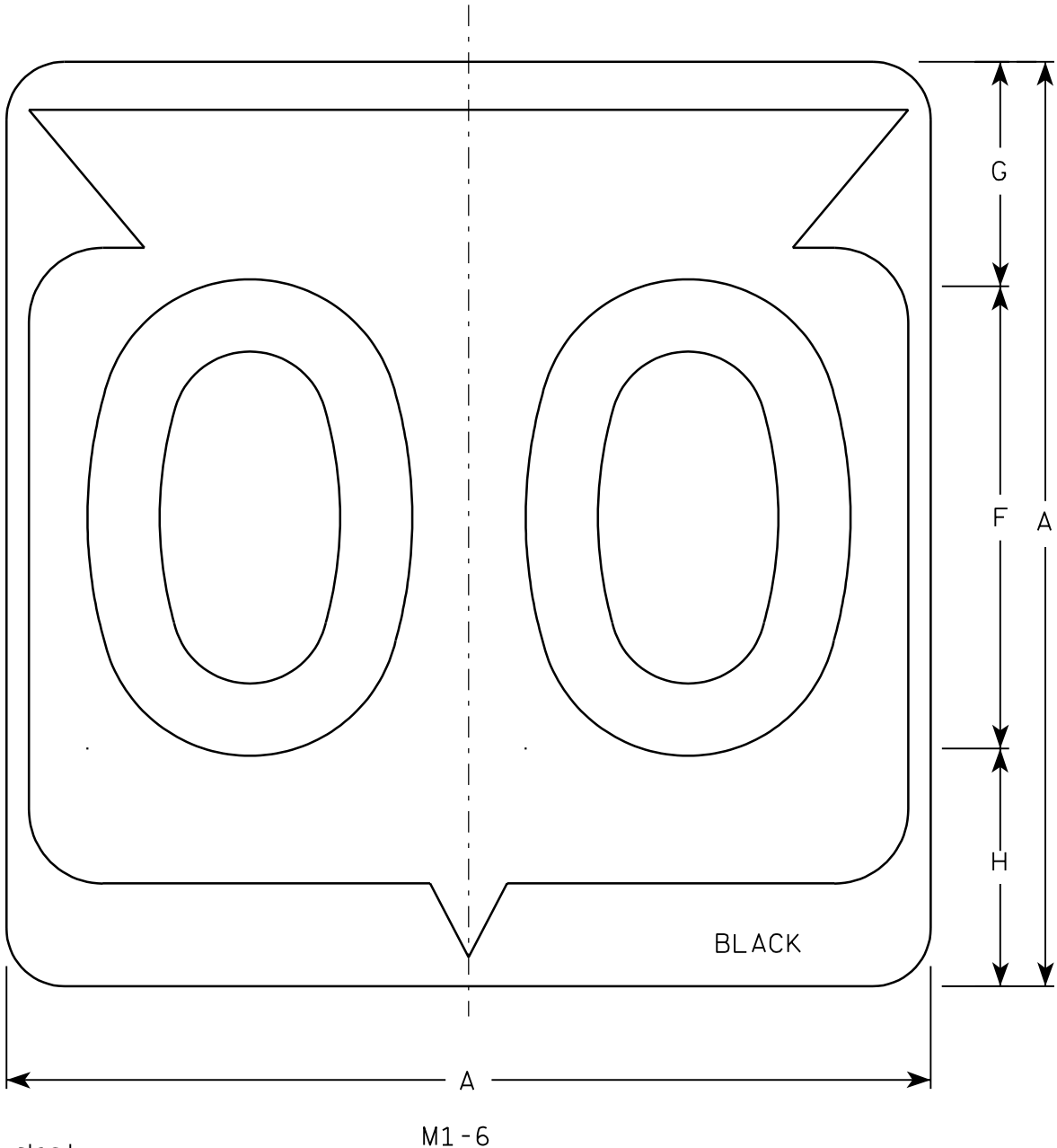
M1-5A FOR ASSEMBLIES

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:

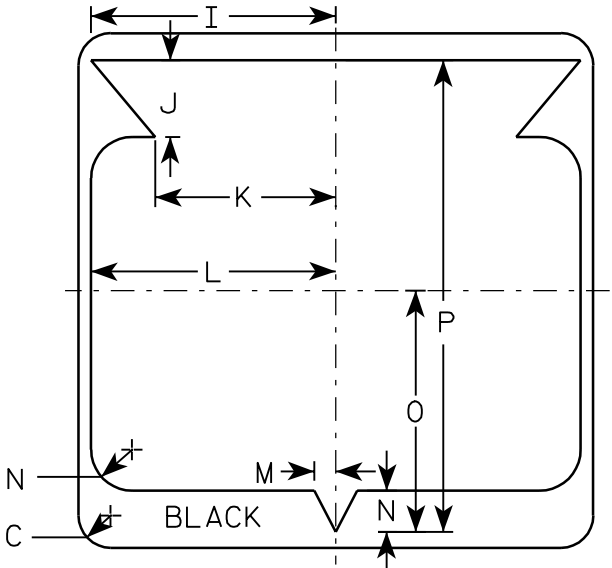
| SIZE |                 |
|------|-----------------|
| 1    |                 |
| 2    | 600 mm X 600 mm |
| 3    | 900 mm X 900 mm |
| 4    | 900 mm X 900 mm |
| 5    | 900 mm X 900 mm |

| 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: | E |
|-------------|------|---------|--|-----------|---|

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White & Black - See Note 6  
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. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs  
Background - Type H Reflective  
Detour or temporary Signs  
Background - Reflective



STATE ROUTE MARKER  
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

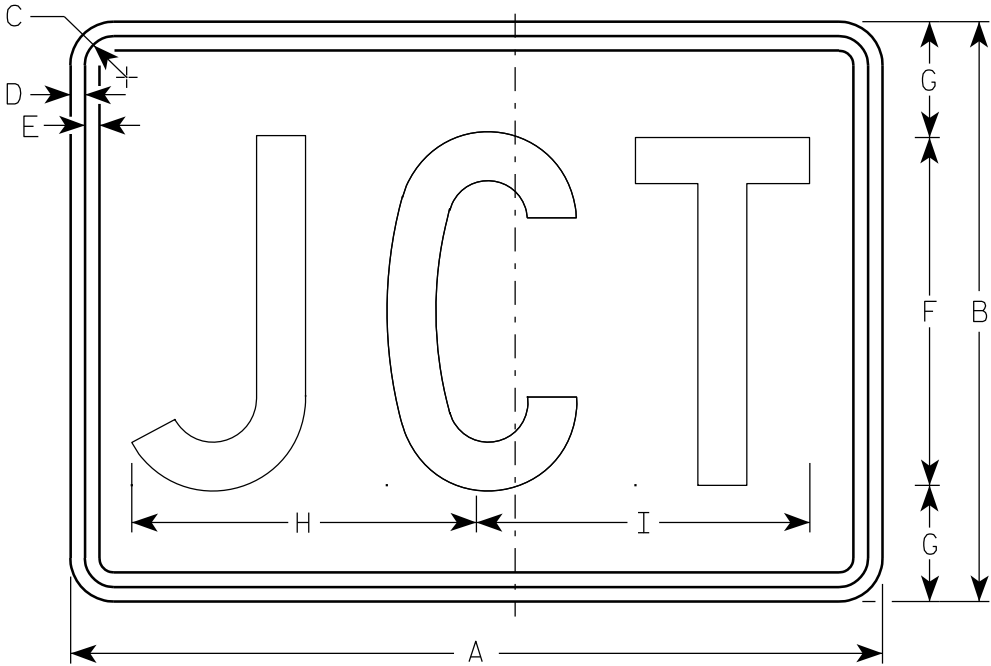
DATE 3/20/02

PLATE NO. M1-6.9

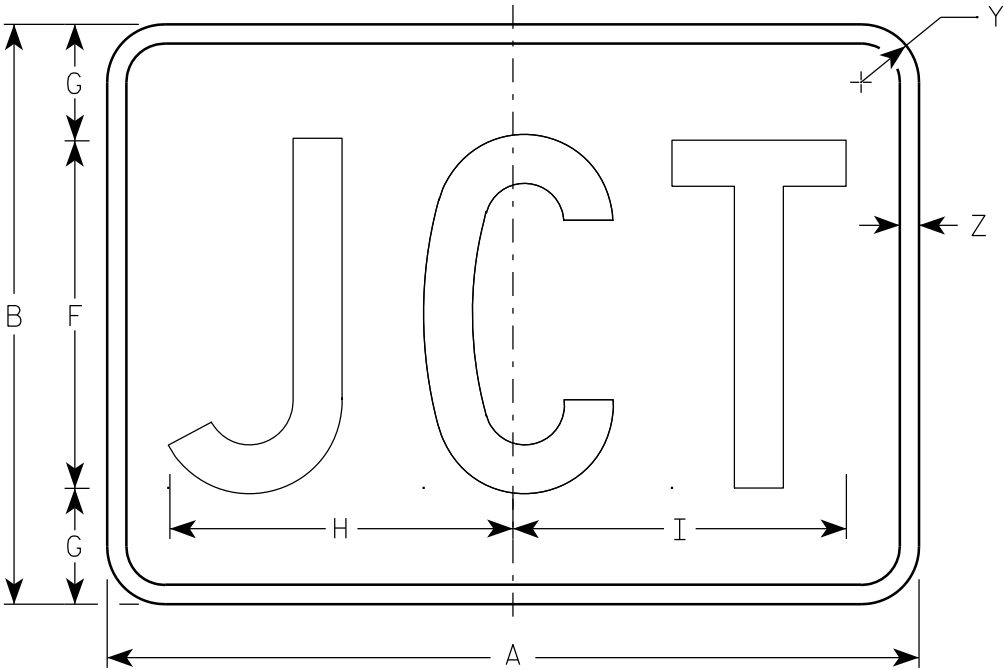


NOTES

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 |

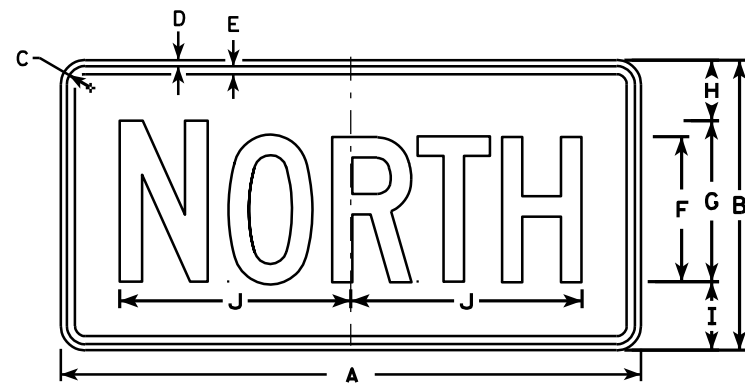
| SIZE | A  | B  | C     | D   | E   | F  | G | H      | I      | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y     | Z   | Area<br>sq. ft. | Area<br>m <sup>2</sup> |
|------|----|----|-------|-----|-----|----|---|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|-----|-----------------|------------------------|
| 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

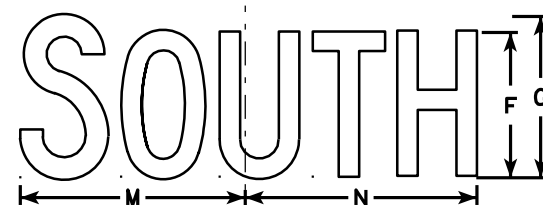
DATE 3/16/10 PLATE NO. M2-1.10



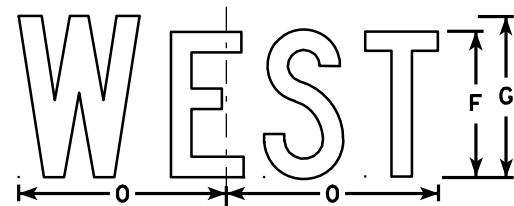
M3-1  
MK3-1  
M03-1



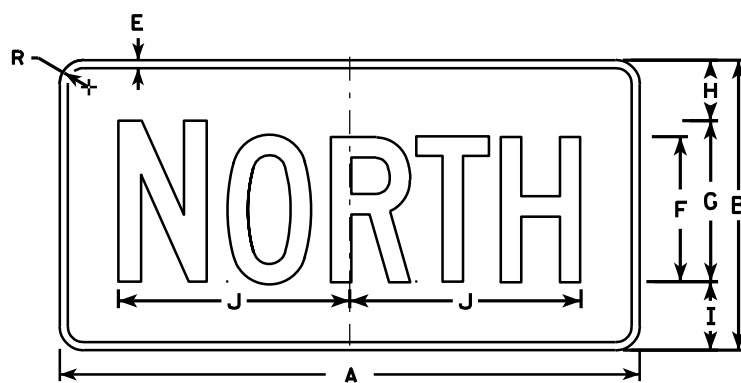
M3-2  
MK3-2  
M03-2



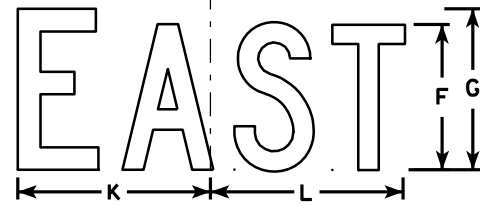
M3-3  
MK3-3  
M03-3



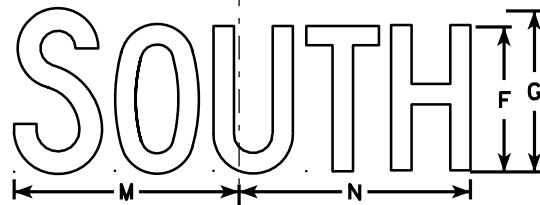
M3-4  
MK3-4  
M03-4



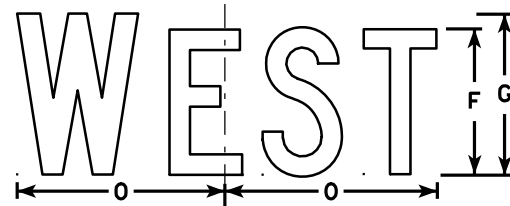
MB3-1  
MG3-1  
MM3-1  
MN3-1



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: E

STANDARD SIGNS  
M3-1 thru M3-4  
SERIES

WISCONSIN DEPT OF TRANSPORTATION

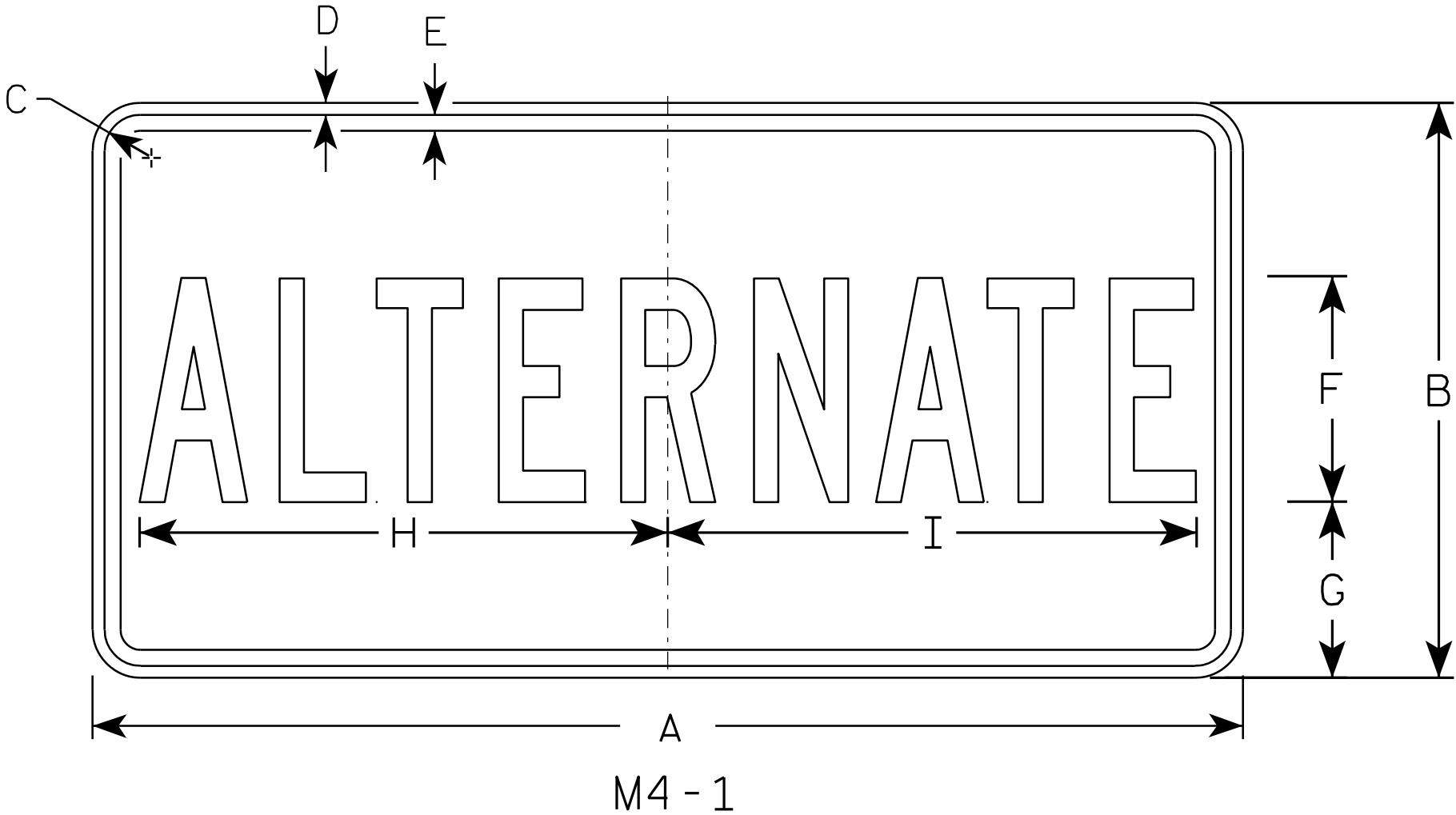
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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



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 - B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. M4-1 Background - White - Type H Reflective Message - Black
  - MB4-1 Background - Blue Message - White - Type H Reflective
  - M04-1 Background - Orange - Reflective Message - Black



7

7

| SIZE | A  | B  | C     | D   | E   | F | G     | H      | I      | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |       |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2    | 24 | 12 | 1 1/2 | 3/8 | 3/8 | 4 | 4     | 9 3/4  | 9 1/2  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.00            |
| 3    | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 7 | 5 1/2 | 16 3/8 | 16 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.5             |
| 4    | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 7 | 5 1/2 | 16 3/8 | 16 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.5             |
| 5    | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 7 | 5 1/2 | 16 3/8 | 16 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.5             |

STANDARD SIGN  
M4 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-1.7

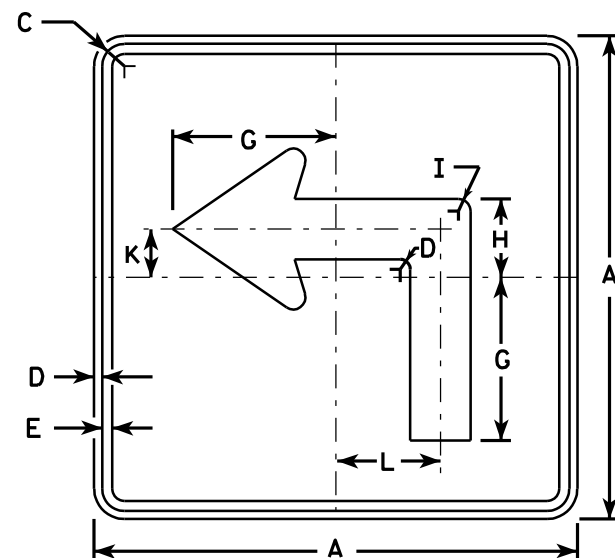
PROJECT NO:

HWY:

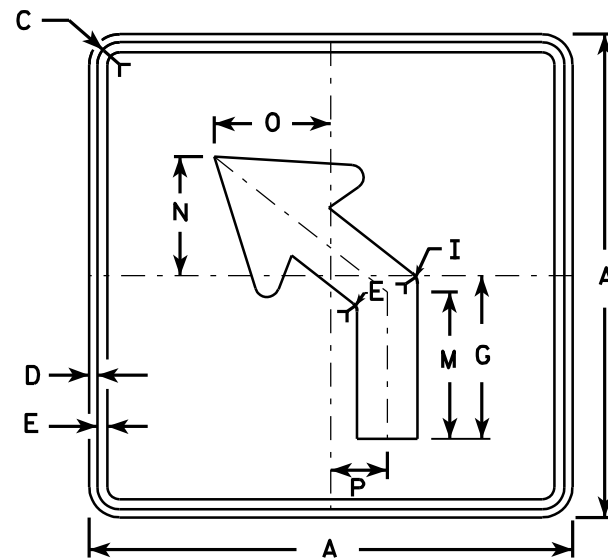
COUNTY:

SHEET NO:

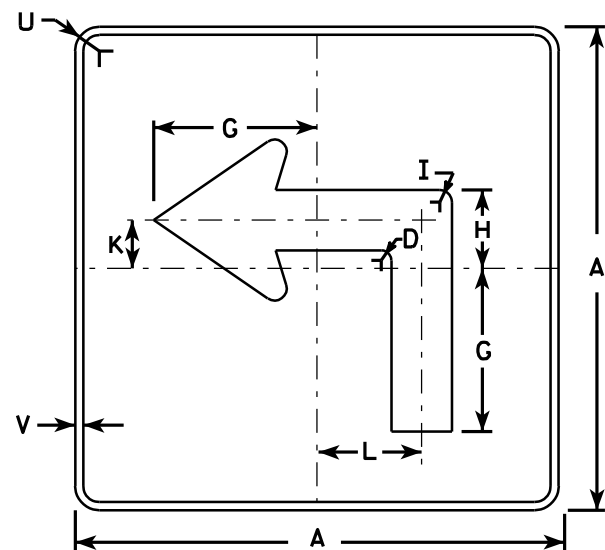
E



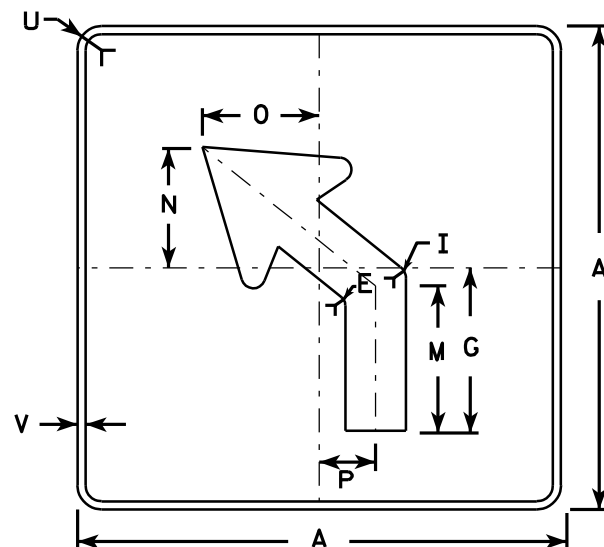
M5-1L  
MK5-1L  
MM5-1L  
MO5-1L  
MR5-1L



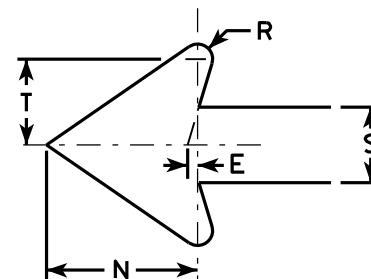
M5-2L  
MK5-2L  
MM5-2L  
MO5-2L  
MR5-2L



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



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



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.

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      | 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                   |

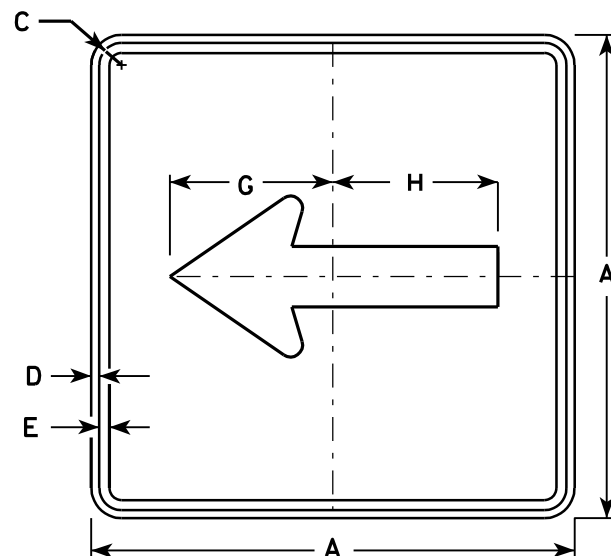
|             |      |         |           |   |
|-------------|------|---------|-----------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: | E |
|-------------|------|---------|-----------|---|

STANDARD SIGN  
M5-1 & M5-2

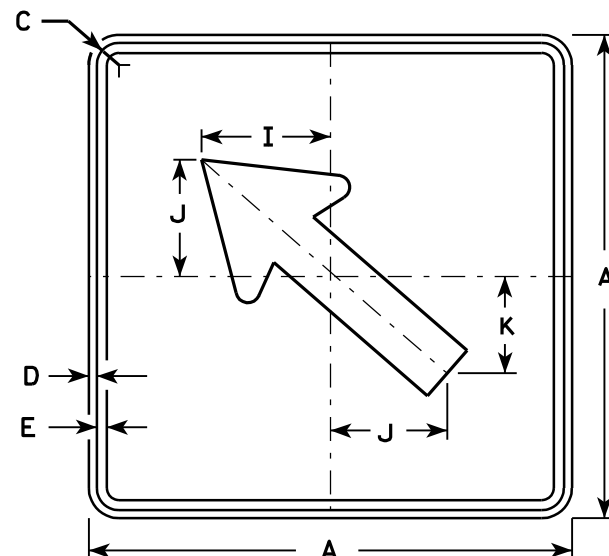
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

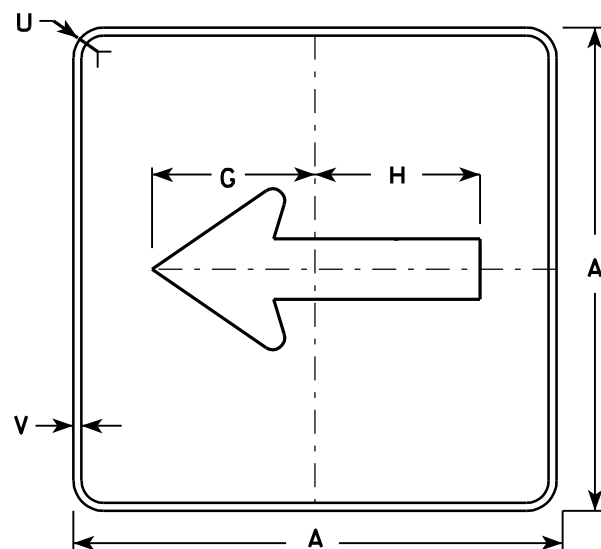
DATE 3/16/10 PLATE NO. M5-1.11



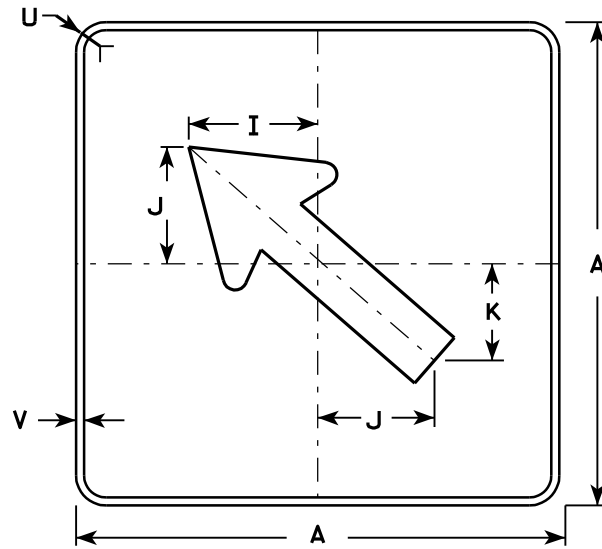
M6-1  
MK6-1  
MM6-1  
MO6-1  
MR6-1



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



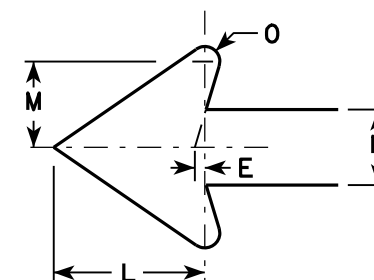
MB6-1  
MG6-1  
MN6-1



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:

SHEET NO:

E

STANDARD SIGN  
M6-1 & M6-2  
SERIES

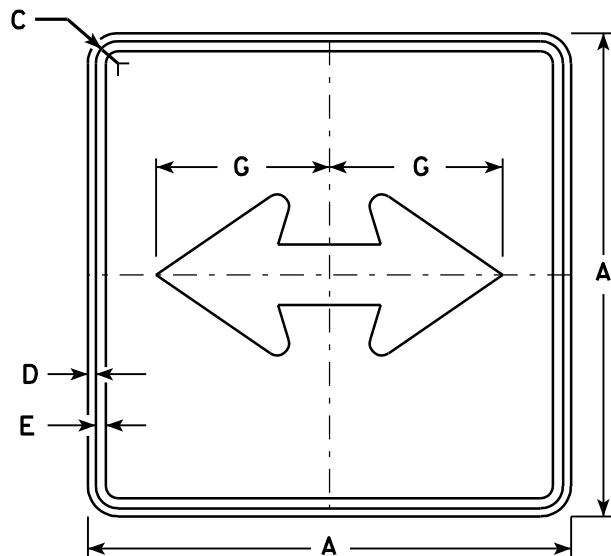
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

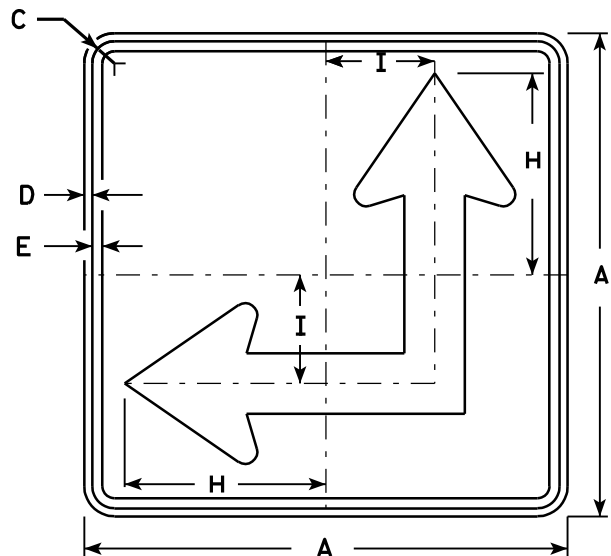
*Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/16/10

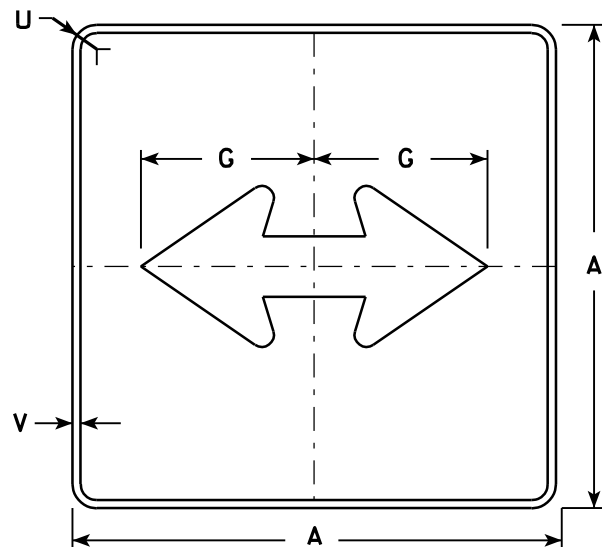
PLATE NO. M6-1.12



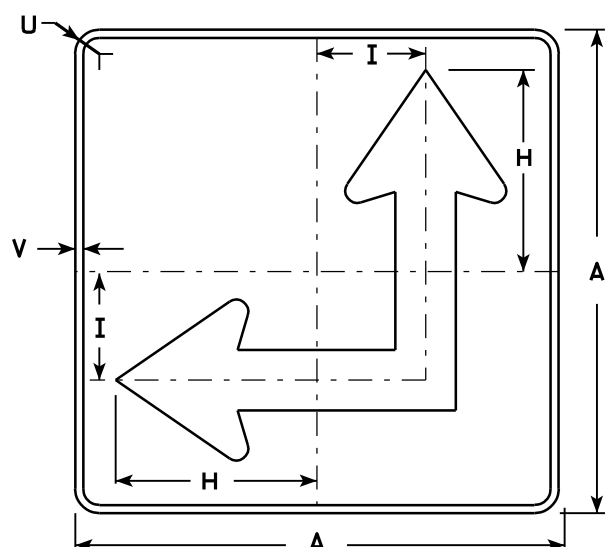
M6 - 4  
MK6 - 4  
MM6 - 4  
MO6 - 4  
MR6 - 4



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



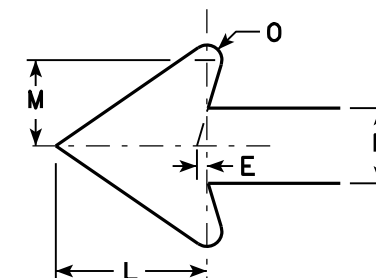
MB6 - 4  
MG6 - 4  
MN6 - 4



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                   |

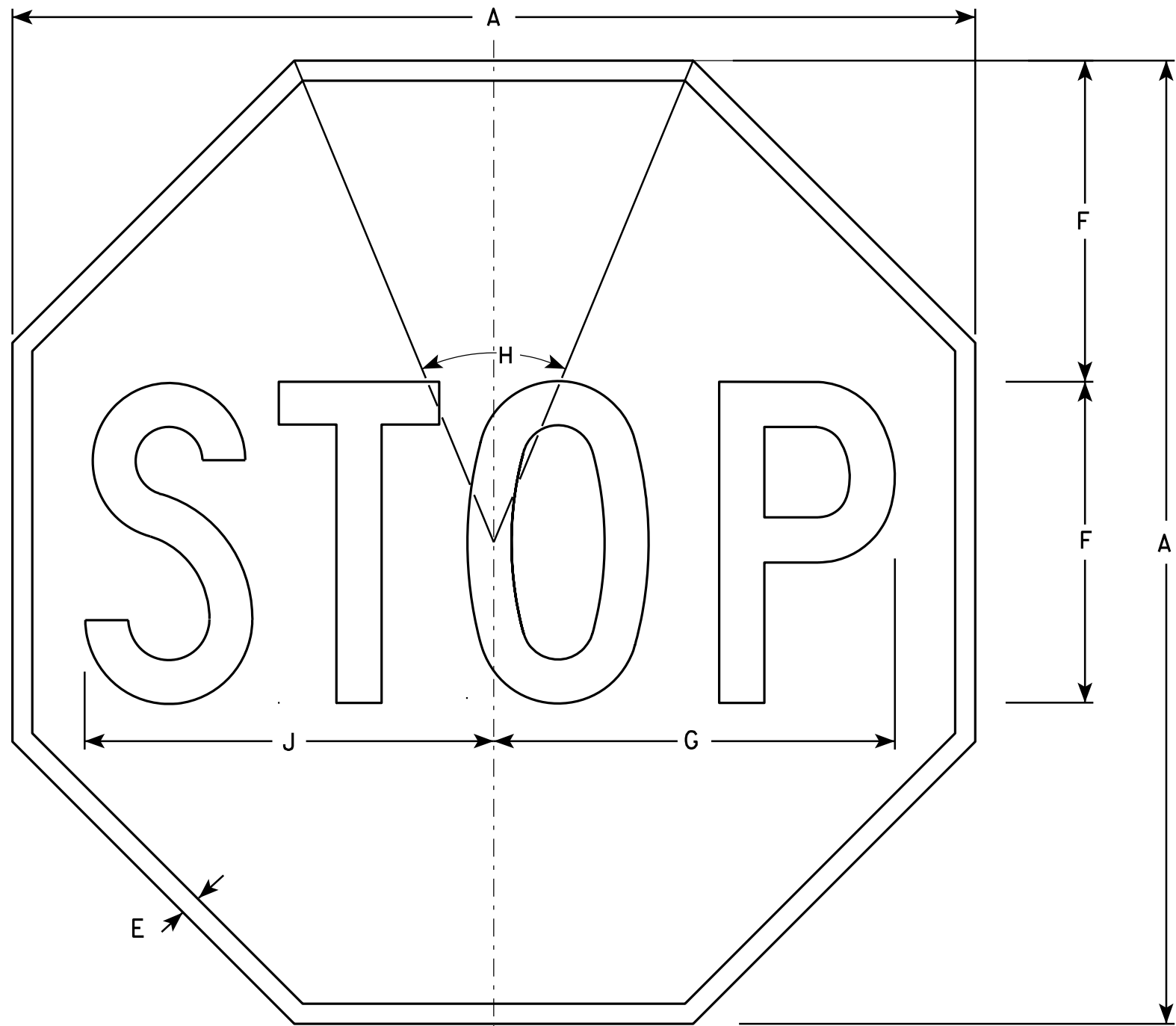
|             |      |         |           |   |
|-------------|------|---------|-----------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: | E |
|-------------|------|---------|-----------|---|

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

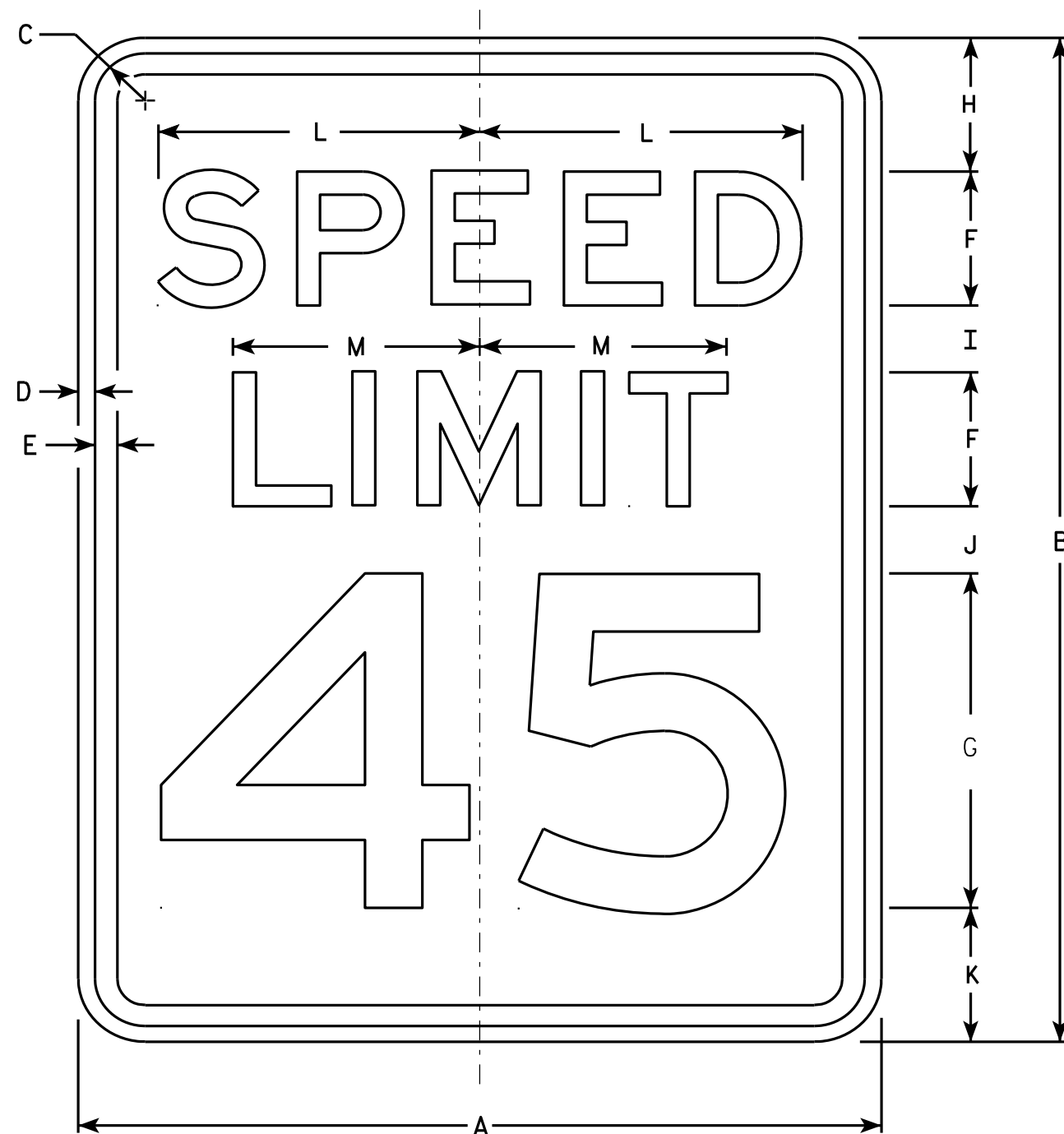
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R2-1

# NOTES

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

| 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

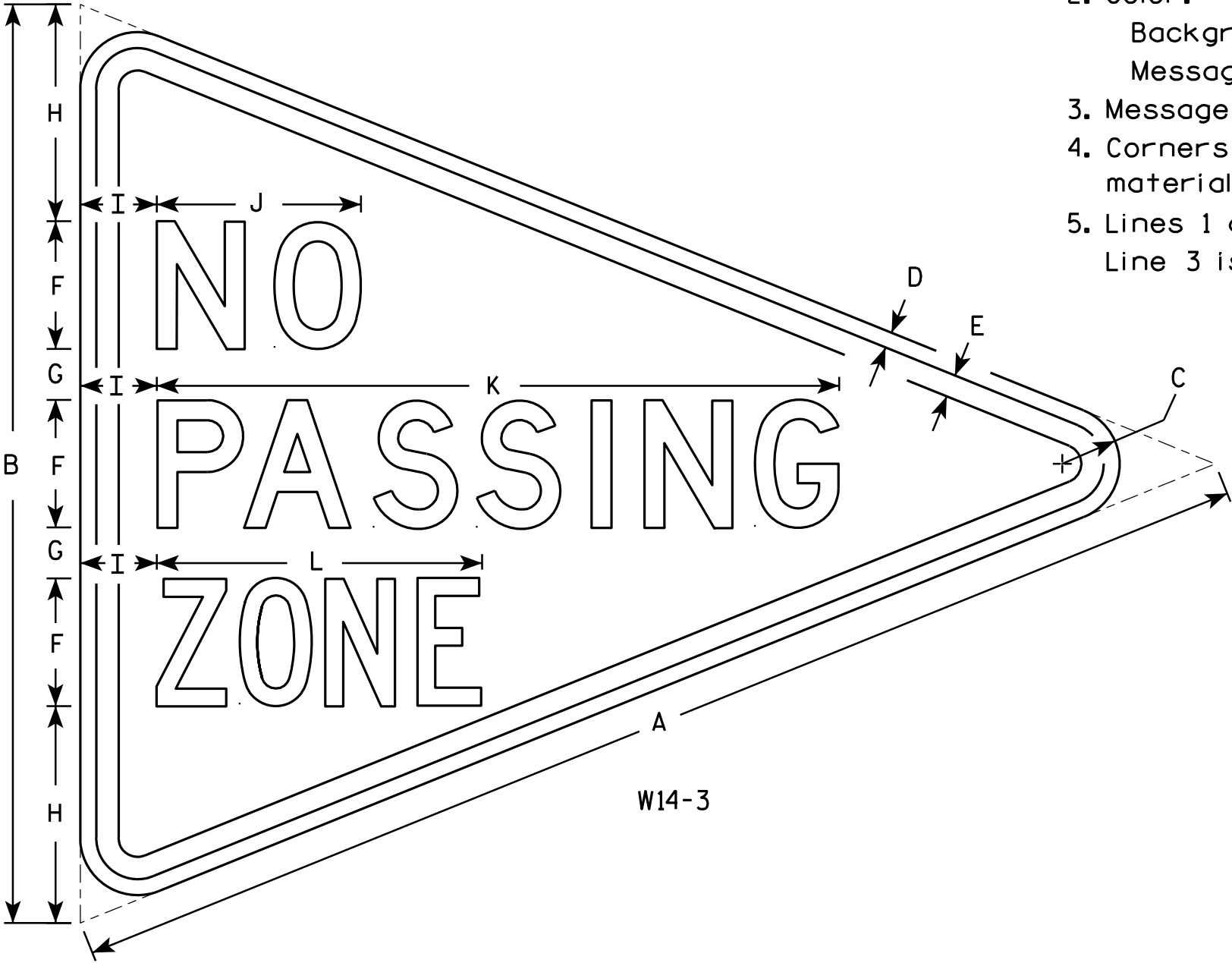
WISCONSIN DEPT OF TRANSPORTATION  
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer  
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: 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

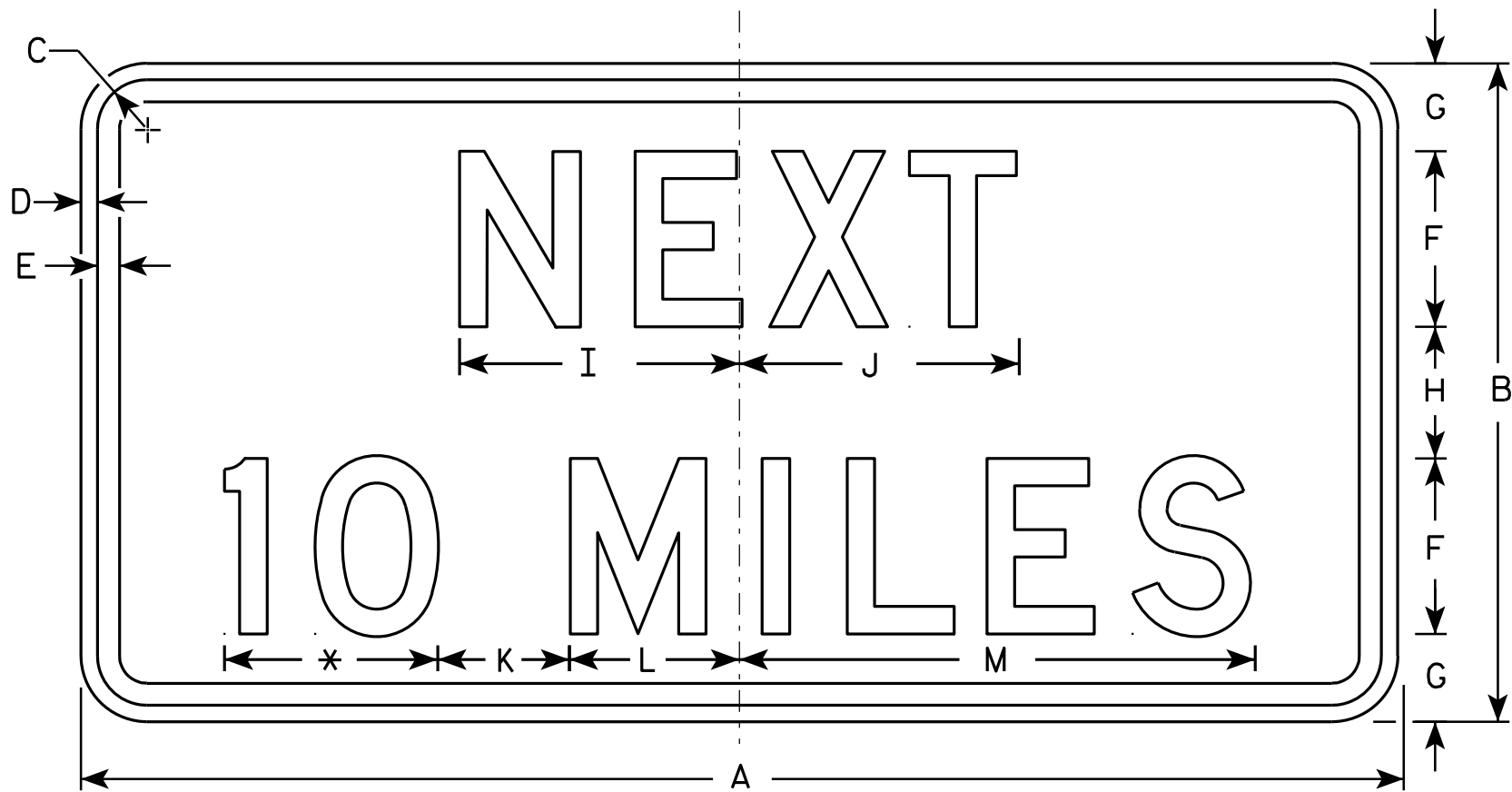
| SIZE | A  | B  | C     | D   | E     | F | G | H     | I | J      | K      | L      | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-------|---|---|-------|---|--------|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|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



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             |

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

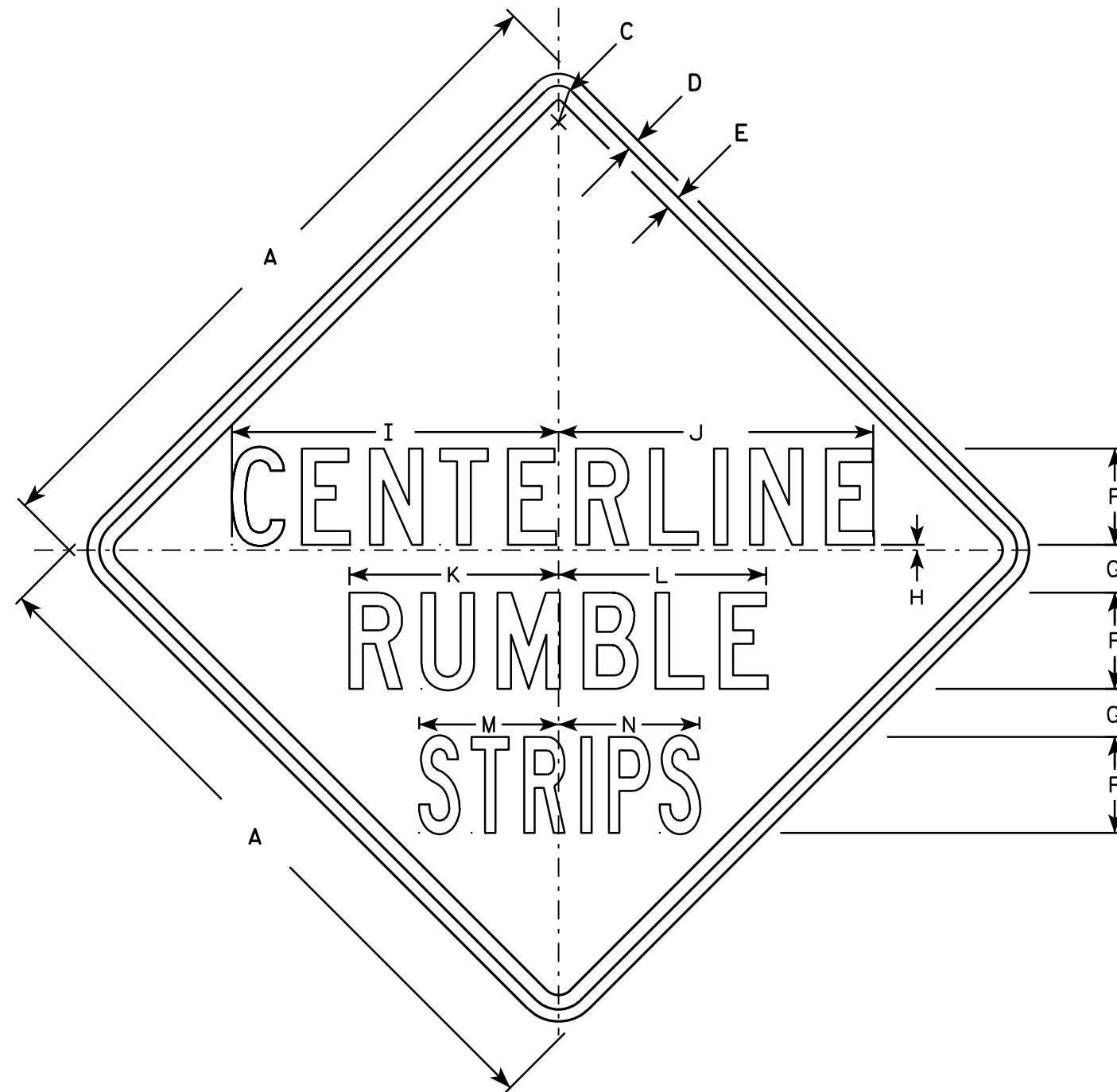
STANDARD SIGN  
W57-51

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    |    |   |       |     |     |   |       |     |    |        |        |        |       |       |   |   |   |   |   |   |   |   |   |   |   |   |                 |

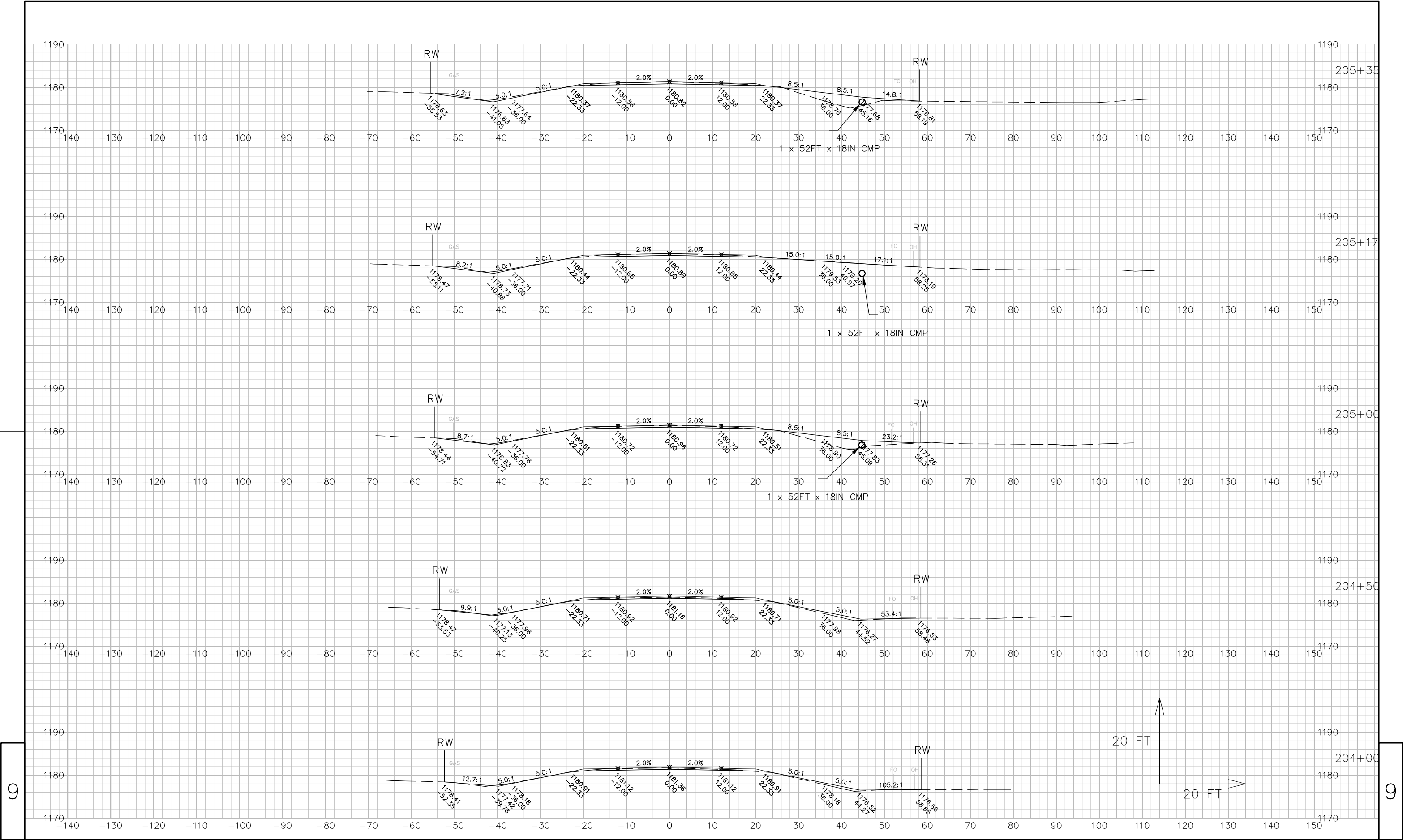
STANDARD SIGN  
W8-70

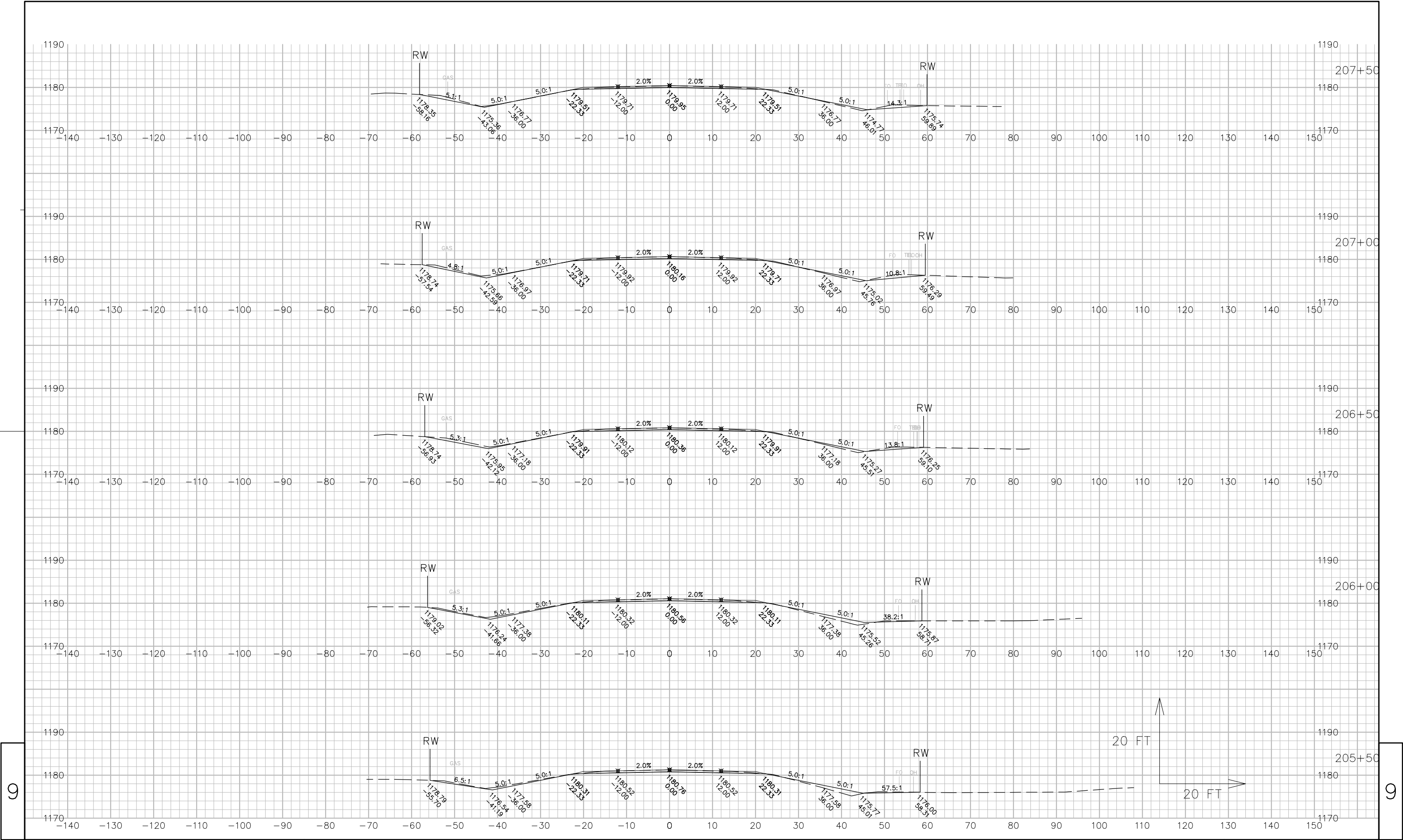
WISCONSIN DEPT OF TRANSPORTATION

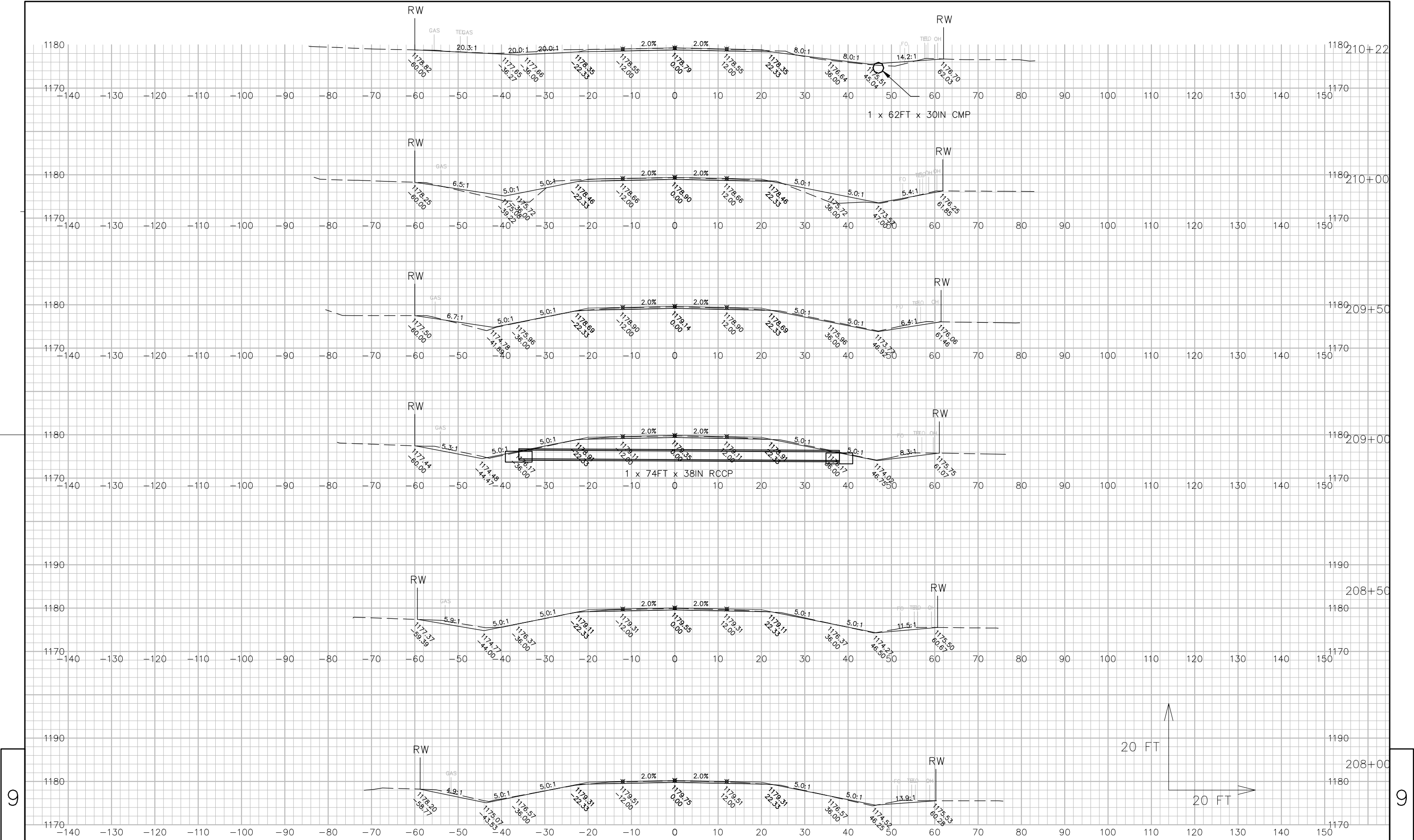
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

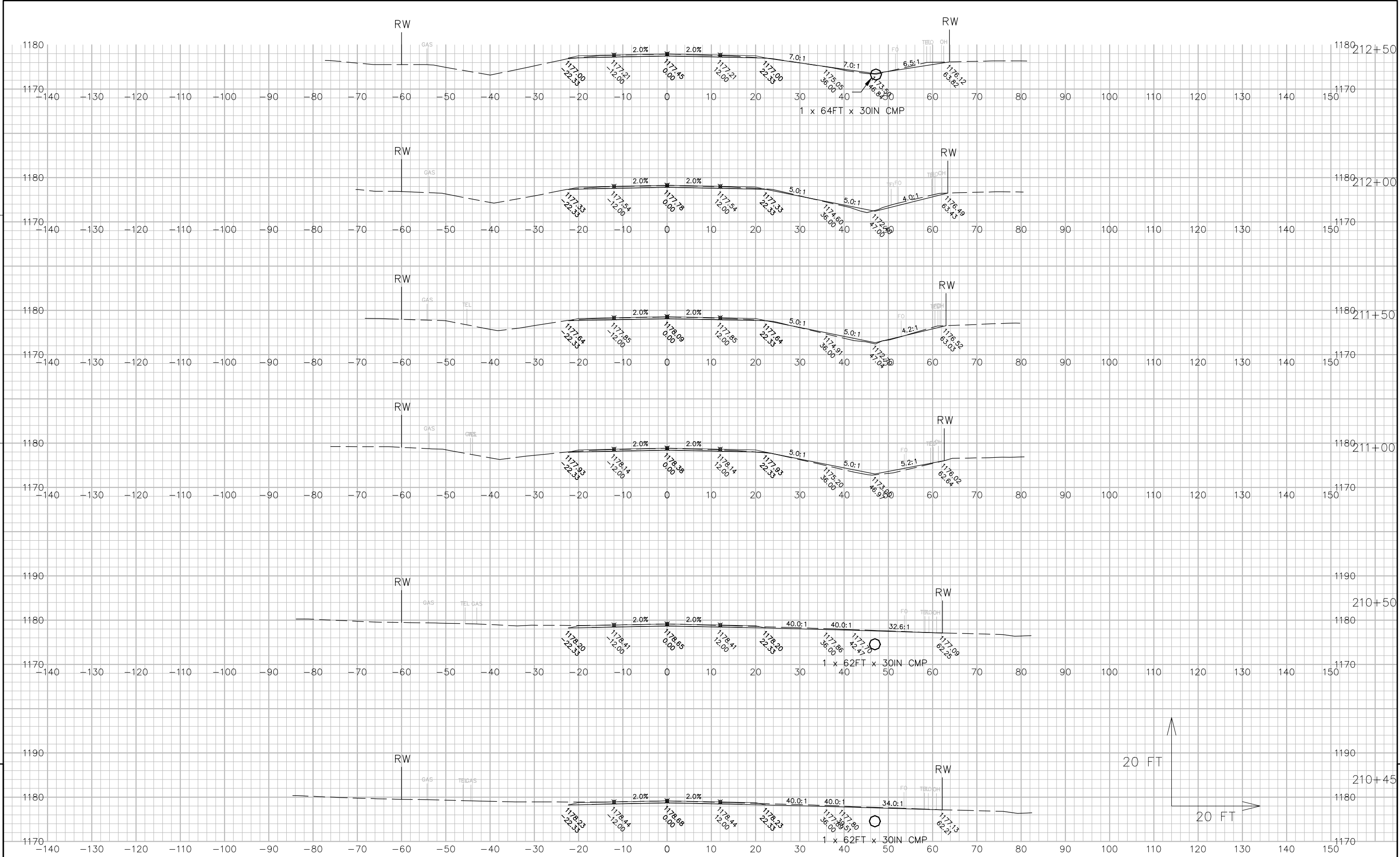
DATE 3/23/11 PLATE NO.W8-70.2



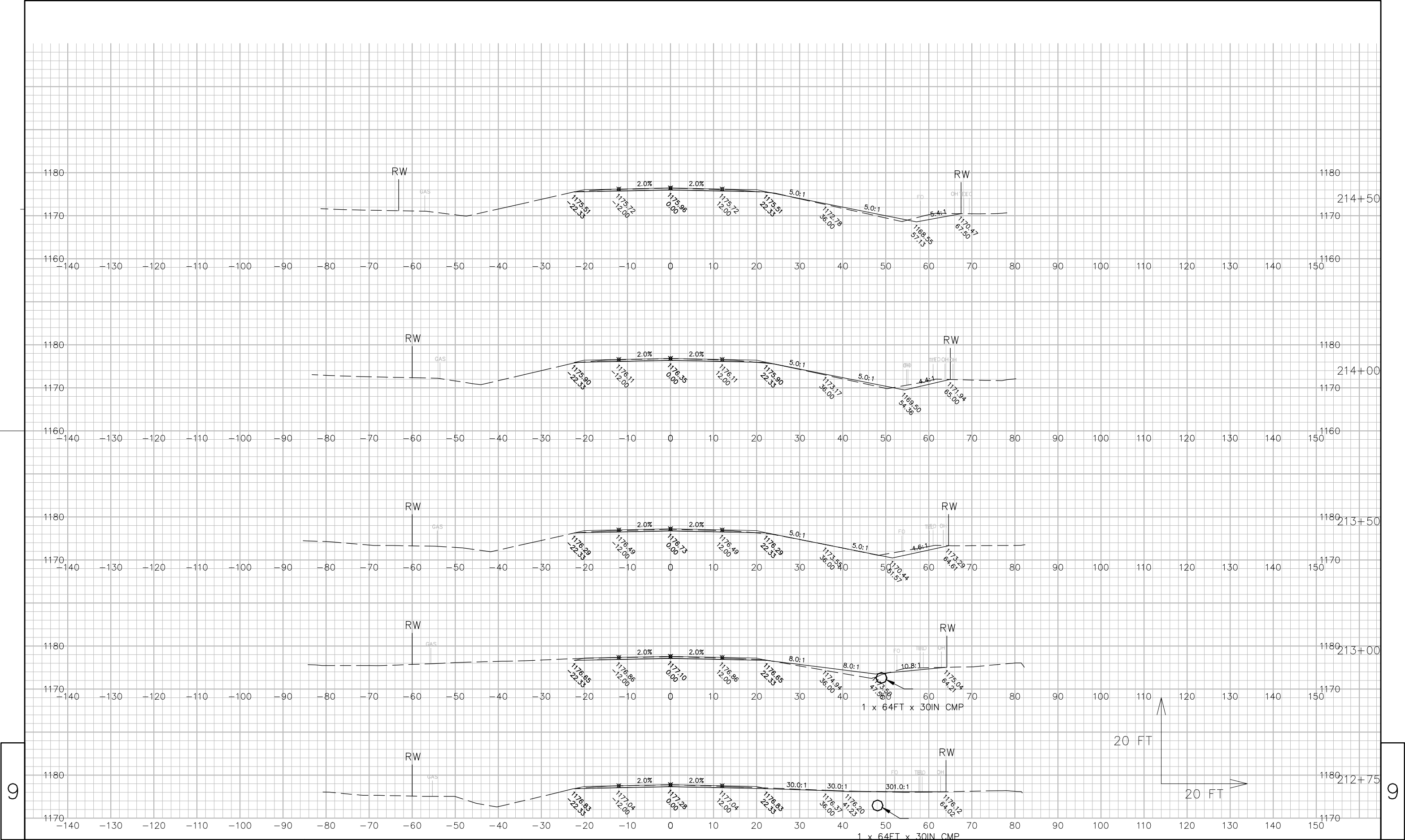






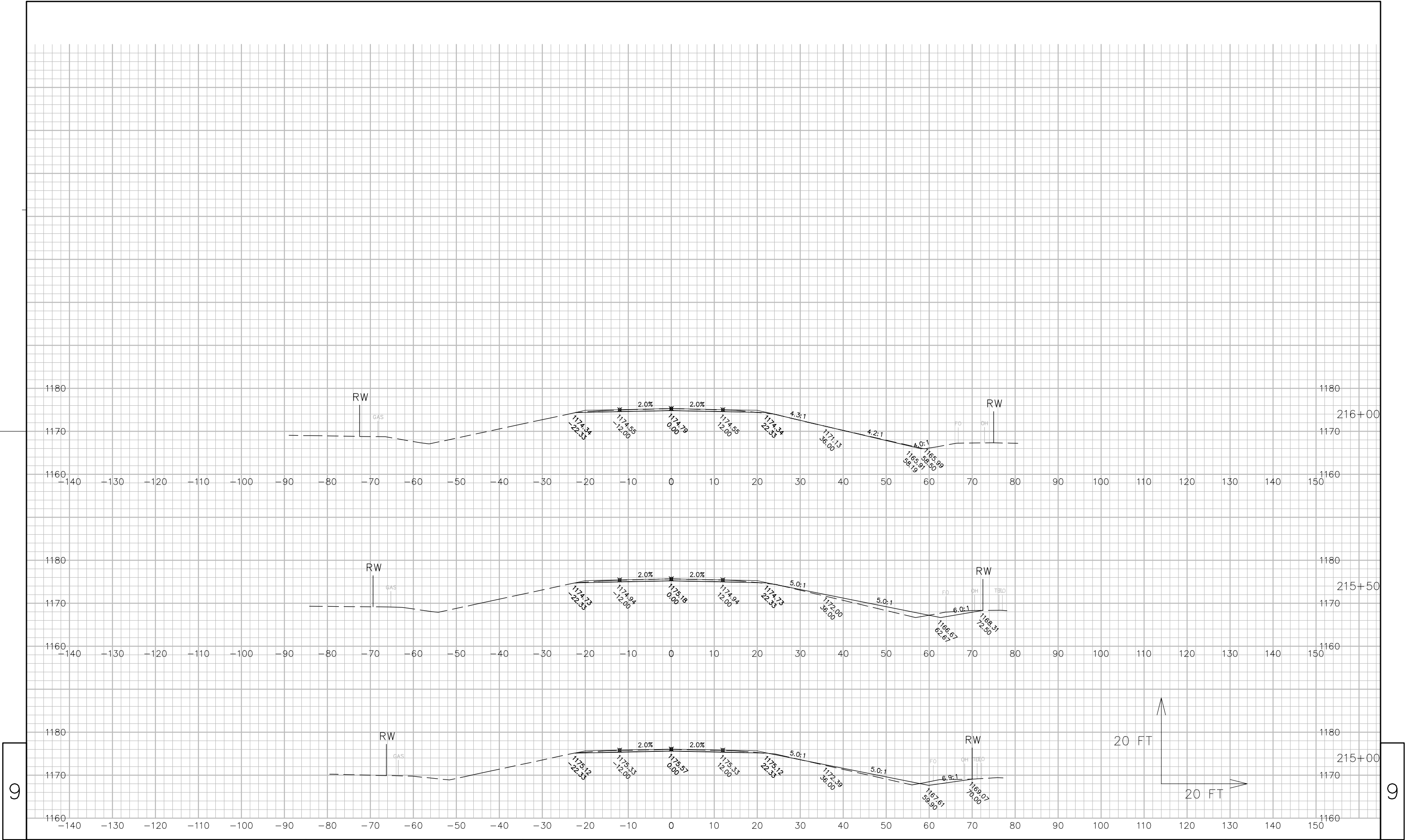






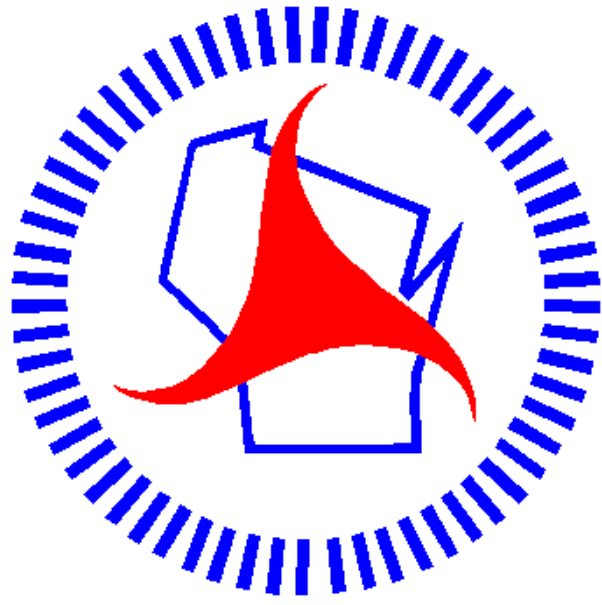
9

9





## Notes



## *Wisconsin Department of Transportation*

Dedicated people creating transportation solutions  
through innovation and exceptional service.

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