

PROJECT ID: 1630-00-75
WITH:

COUNTY: **LA CROSSE**

TOTAL SHEETS = 100



CONVENTIONAL SYMBOLS

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

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GRADE LINE

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MARSH OR ROCK PROFILE
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UTILITIES

ELECTRIC

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GAS

SANITARY SEWER

STORM SEWER

TELEPHONE

WATER

UTILITY PEDESTAL

POWER POLE

TELEPHONE POLE

95.36

E

FO

G

SAN

SS

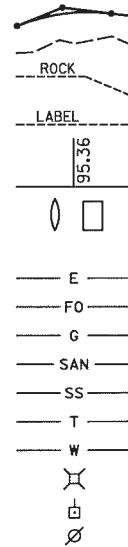
T

W

UTILITY PEDESTAL

POWER POLE

TELEPHONE POLE



LAYOUT

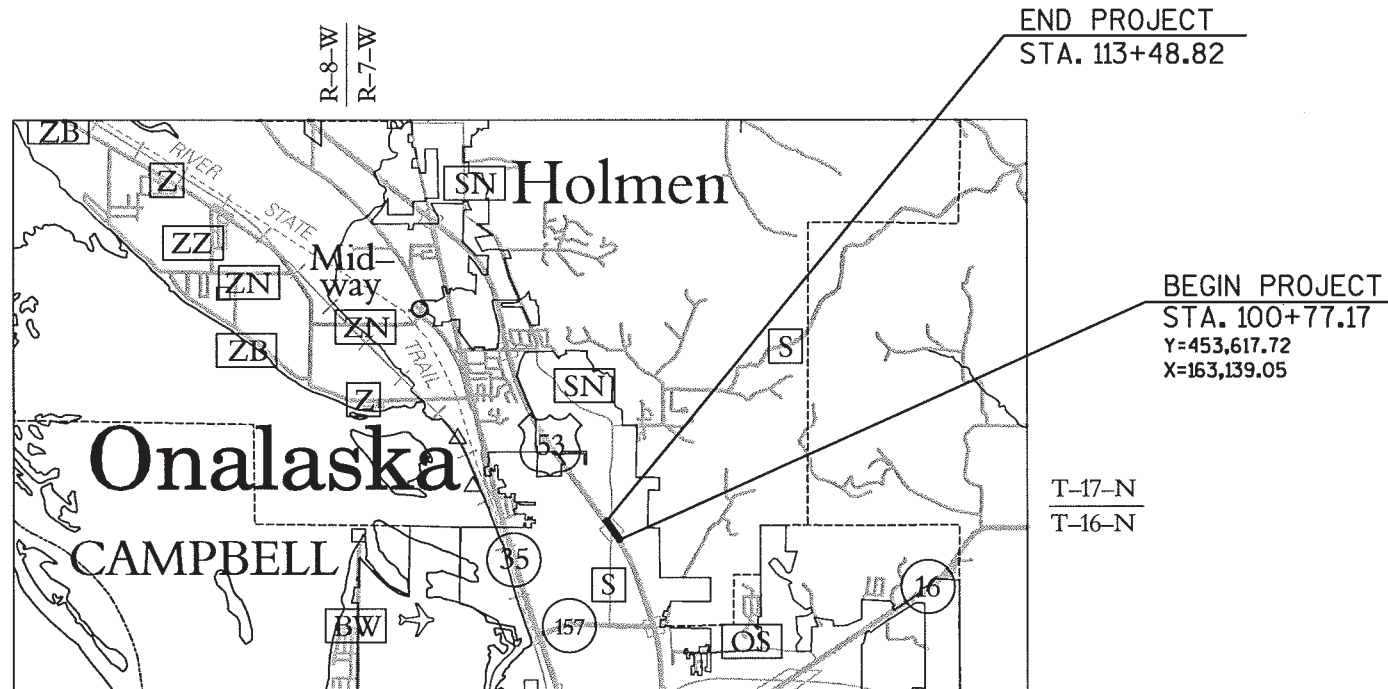
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

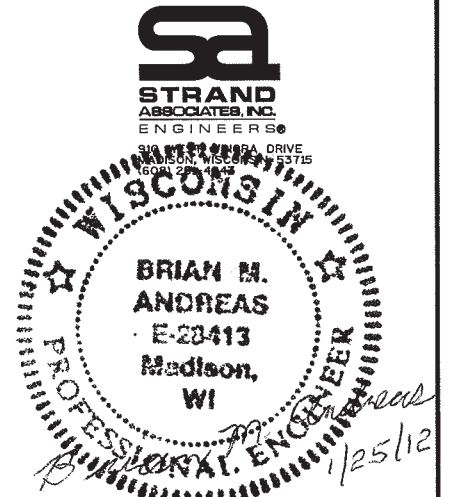
COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY
COORDINATE SYSTEM (WCCS), LA CROSSE COUNTY.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
CITY OF ONALASKA
CTH S INTERCHANGE RAMP
USH 53
LA CROSSE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1630-00-75	WISC 2012695	1



ORIGINAL PLANS PREPARED BY:



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	<u>STRAND ASSOCIATES, INC.</u>
Designer	<u>STRAND ASSOCIATES, INC.</u>
Project Manager	<u>ROBERT WINTERTON</u>
Regional Examiner	<u></u>
Regional Supervisor	<u>IAN WINGER</u>
C.O. Examiner	<u></u>

APPROVED FOR THE DEPARTMENT

DATE: 1-26-12 Deon J. Winger
(Signature)



ABBREVIATIONS

B	BARN
BLD	BUILDING
C.J.	CONSTRUCTION JOINT
CONC.	CONCRETE
COR.	CORNER
C.S.C.P.	CORRUGATED STEEL CULVERT PIPE
C.S.P.A.	CORRUGATED STEEL PIPE ARCH
D.H.V.	DESIGN HOURLY VOLUME
V.	DESIGN SPEED
DIA.	DIAMETER
DIM.	DIMENSION
e.	EXTERNAL DISTANCE
E.	EAST
E.C.I.P.	EROSION CONTROL IMPLEMENTATION PLAN
EL. OR ELEV.	ELEVATION
E.J.	EXPANSION JOINT
E.S.A.L.	EQUIVALENT SINGLE AXLE LOAD
E.O.P.	EDGE OF PAVEMENT
F.L.	FLOW LINE
G.	GARAGE
H	HOUSE
H.E.	HIGHWAY EASEMENT
I.E.	INVERT ELEVATION
I.P.	IRON PIN
D.	LANE DISTRIBUTION
L.	LENGTH (OF CURVE)
L.H.F.	LEFT HAND FORWARD
L.C.	LONG CHORD
L.P.	LOW POINT
M.D.	MEDIAN DRAIN
NOR.	NORMAL
N.	NORTH
OH	OVER HEAD ELECTRIC
T.	PERCENT OF TRUCKS
P.L.E.	PERMANENT LIMITED EASEMENT
P.L.	PROPERTY LINE
R.C.A.P.	REINFORCED CONCRETE ARCH PIPE
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
R.H.F.	RIGHT HAND FORWARD
RD.	ROAD
R.O.	RUNOFF
S.	SHED
SHR.	SHRINKAGE
S.G.	SUBGRADE
S.E.	SUPERELEVATION
SL.R.C.	SLOPED REINFORCED CONCRETE
S.P.B.G.	STEEL PLATE BEAM GUARD
SS.	STORM SEWER
TEL.	TELEPHONE
T.I.	TEMPORARY INTEREST
TN.	TOWN
TRANS.	TRANSITION
VOL.	VOLUME
W.	WEST

WisDNR CONTACT

LA CROSSE SERVICE CENTER
3550 MORMAN COULEE ROAD
LA CROSSE, WI 54601
ATTN: KAREN KALVELAGE
PH: (608) 785-9115
EMAIL: Karen.Kalvelage@Wisconsin.gov

DESIGN CONTACT

STRAND ASSOCIATES, INC.
ATTN: BRIAN ANDREAS
910 WEST WINGRA DRIVE
MADISON, WI 53715
PH: (608) 251-4843
EMAIL: brian.andreas@strand.com

GENERAL NOTES

ALL HIGHWAY CURVES ARE BASED ON THE ARC DEFINITION.

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

ALL RADII DIMENSIONS ON THE PLAN FOR CURB AND GUTTER ARE TO THE FLAG OF CURB, UNLESS OTHERWISE NOTED.

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

SALVAGED TOPSOIL, SEEDING, MULCHING AND FERTILIZER HAVE BEEN COMPUTED BY A DIRECT MEASUREMENT ON THE CROSS SECTIONS PLUS 5' BEYOND THE TOE OF SLOPE.

EROSION CONTROL FEATURES AS SHOWN ON THE EROSION CONTROL PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE EROSION CONTROL IMPLEMENTATION PLAN (ECIP). ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

MISCELLANEOUS REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT OR SAWCUT WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON. THE LOCATION OF EBS WILL BE DETERMINED BY THE ENGINEER.

FILL AS SHOWN ON THE PLANS PERTAINS TO EMBANKMENTS CONSTRUCTED FROM BORROW. THE FACTOR USED FOR EXPANDING THE FILLS TO COMPUTE THE VOLUME OF MATERIAL REQUIRED IS 1.20. ACTUAL EXPANSION FACTOR MAY VARY.

EXACT LOCATION AND WIDTH OF ALL DRIVEWAY ENTRANCES TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

HMA PAVEMENT WEIGHTS CALCULATIONS ARE BASED ON 110 LB/SY/IN.

5 1/2-INCH HMA PAVEMENT TYPE E-3 SHALL BE CONSTRUCTED WITH ONE 2 1/4-INCH UPPER LAYER AND ONE 3 1/4-INCH LOWER LAYER. BOTH LAYERS SHALL USE 12.5 MM NOMINAL SIZE AGGREGATE AND THE ASPHALTIC MATERIAL SHALL BE PG64-28. 3 1/2-INCH HMA SHOULDERS MAY BE PLACED IN ONE LIFT AND THE ASPHALTIC MATERIAL SHALL BE PG64-28.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN THE DRIVING, TURNING, PASSING OR PARKING LANES.

CROSS DRAIN PIPE ELEVATIONS, LENGTH AND LOCATIONS, AS SHOWN ON THE PLANS, MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

EXISTING PIPE CULVERT SIZES SHOWN ARE APPROXIMATE AND THE CONTRACTOR WILL BASE IT'S BID ON THE ACTUAL FIELD SIZES.

UTILITIES

TELECOMMUNICATIONS
CENTURYLINK
ATTN: BRIAN STELPFLUGH
2615 EAST AVENUE SOUTH
LA CROSSE, WI 54602
PH: (608) 796-5142
EMAIL: Brian.Stelpflugh@CenturyLink.com

TELECOMMUNICATIONS
CHARTER COMMUNICATIONS
ATTN: PERRY MCCLELLAN
1228 12TH AVENUE SOUTH
ONALASKA, WI 54650
PH: (715) 370-7140
EMAIL: perry.mcclellan@charter.com.com

ELECTRIC
RIVERLAND ENERGY COOPERATIVE
ATTN: TIM HOLTAN
P.O. BOX 276
ONALASKA, WI 54650
PH: (608) 783-2238
EMAIL: tholtan@riverlandenergy.com

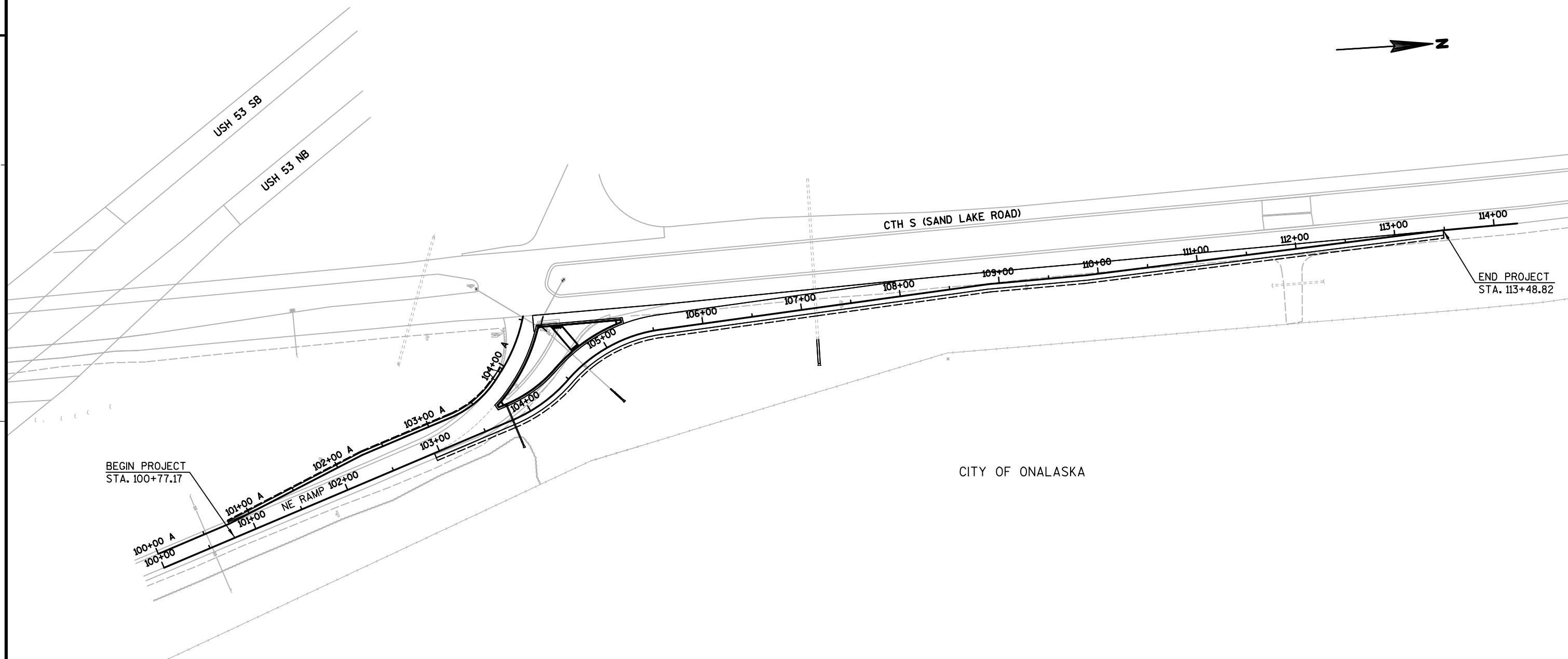
ELECTRIC (TRANSMISSION)
XCEL ENERGY
ATTN: RON JOHNSON
414 NICOLLET MALL (MP-8)
MINNEAPOLIS, MN 55401
PH: (612) 330-6531 CELL: (651) 387-7895
EMAIL: Ronald.Johnson@xcelenergy.com

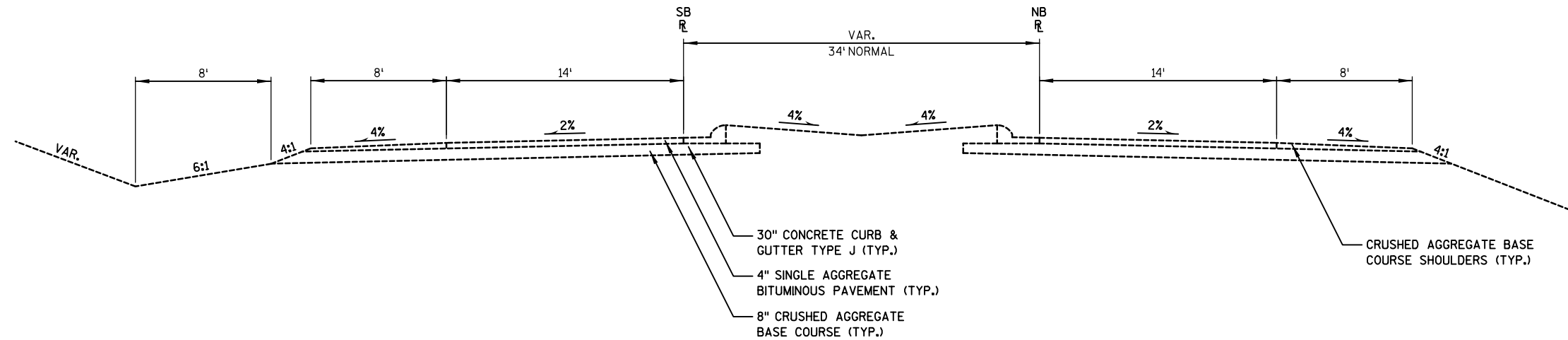
GAS
XCEL ENERGY
ATTN: ED PRZYTARSKI
3215 COMMERCE STREET
LA CROSSE, WI 54602
PH: (608) 789-3631
EMAIL: edward.r.przytarski@xcelenergy.com

WATER, SANITARY SEWER, AND STORM SEWER
CITY OF ONALASKA
ATTN: JARROD HOLTER
415 MAIN STREET
ONALASKA, WI 54650
PH: (608) 781-9537
EMAIL: jholter@cityofonalaska.com

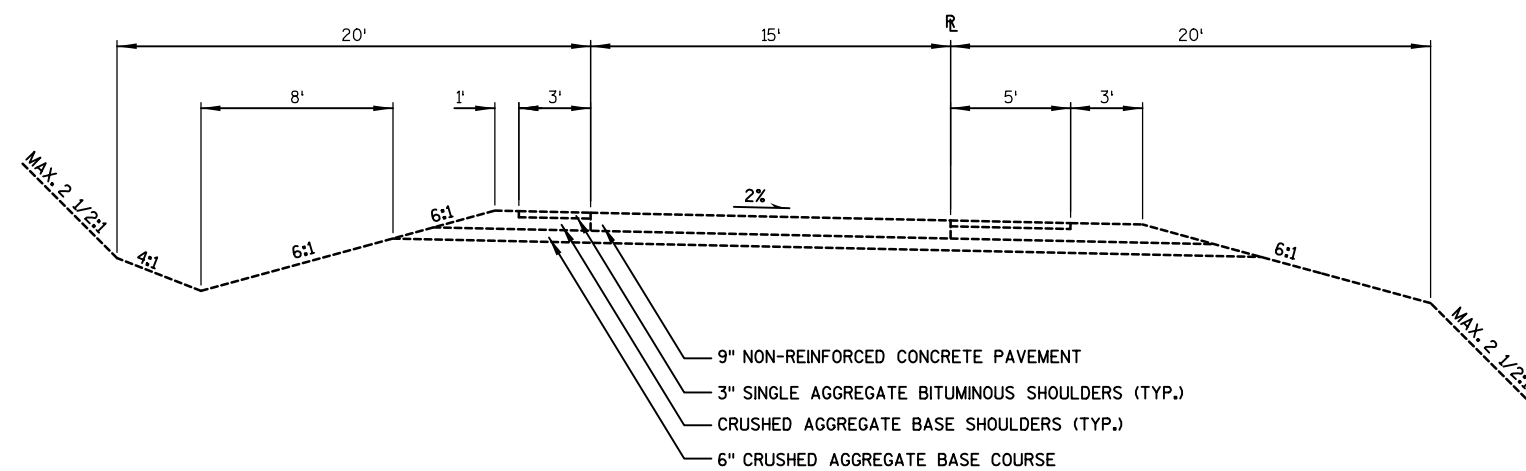


Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

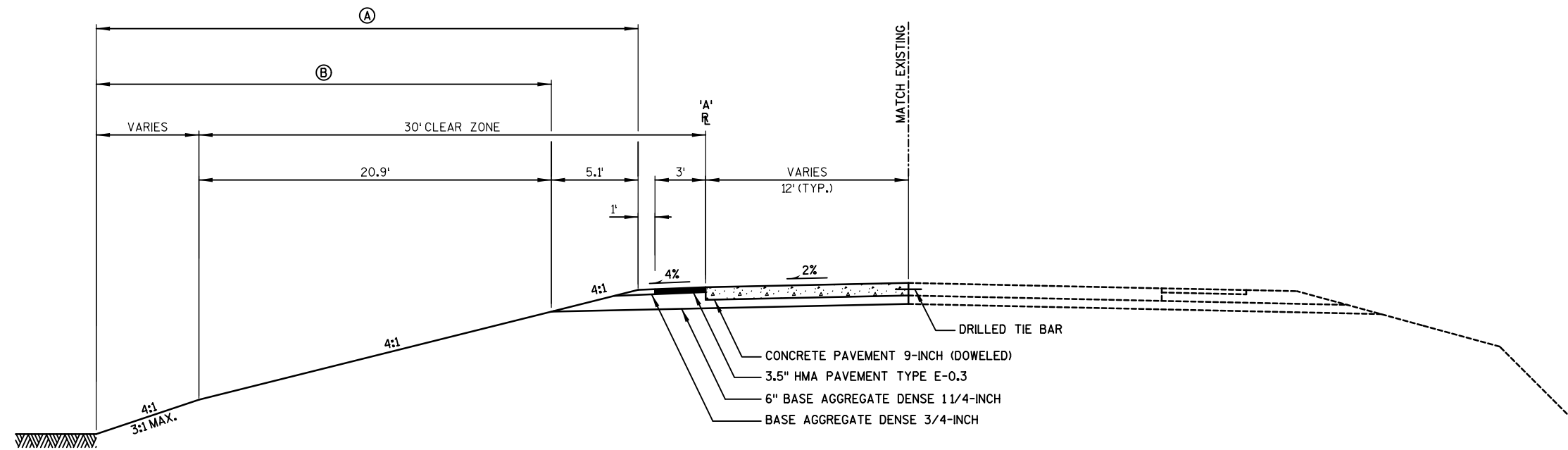




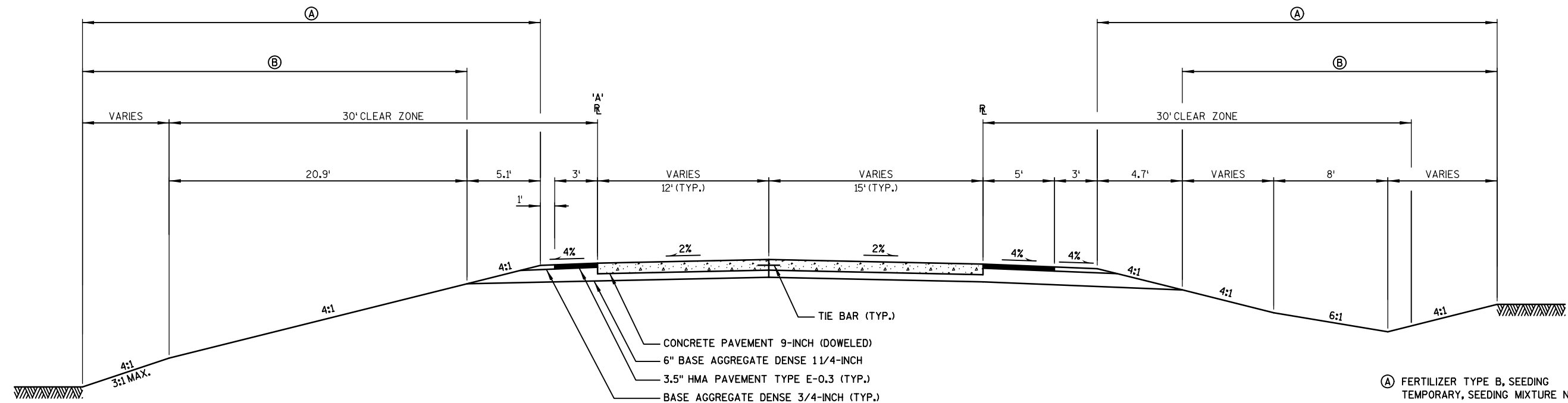
TYPICAL EXISTING SECTION C.T.H. "S"



TYPICAL EXISTING RAMP SECTION



TYPICAL FINISHED SECTION
STA. 100+77.17 TO STA. 102+94.48

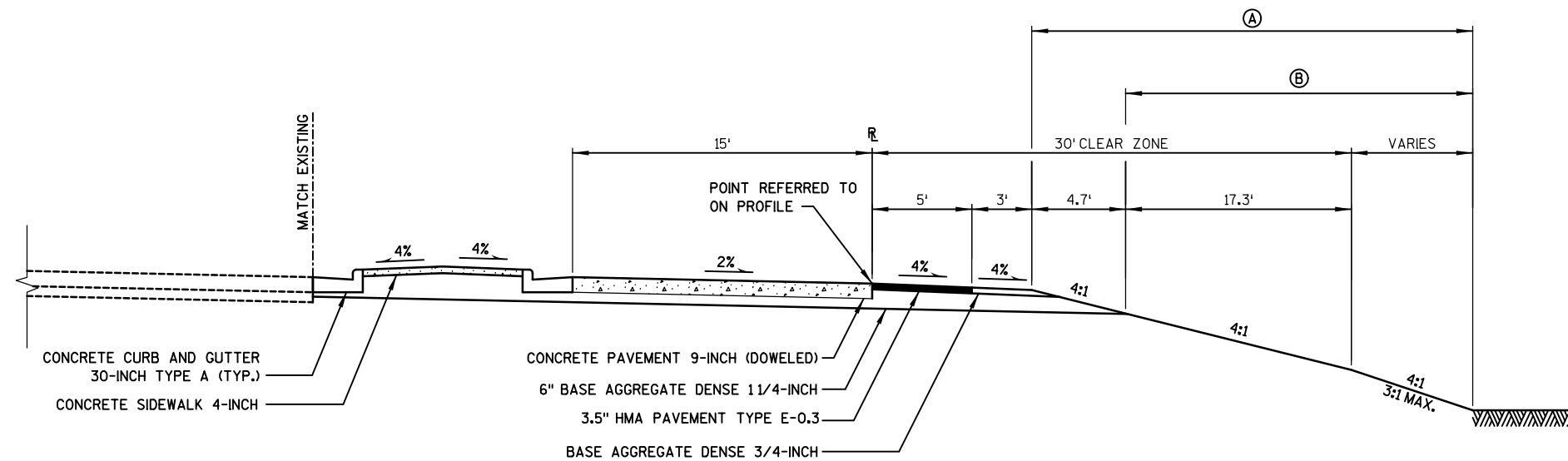


TYPICAL FINISHED SECTION
STA. 102+94.48 TO STA. 103+70.42

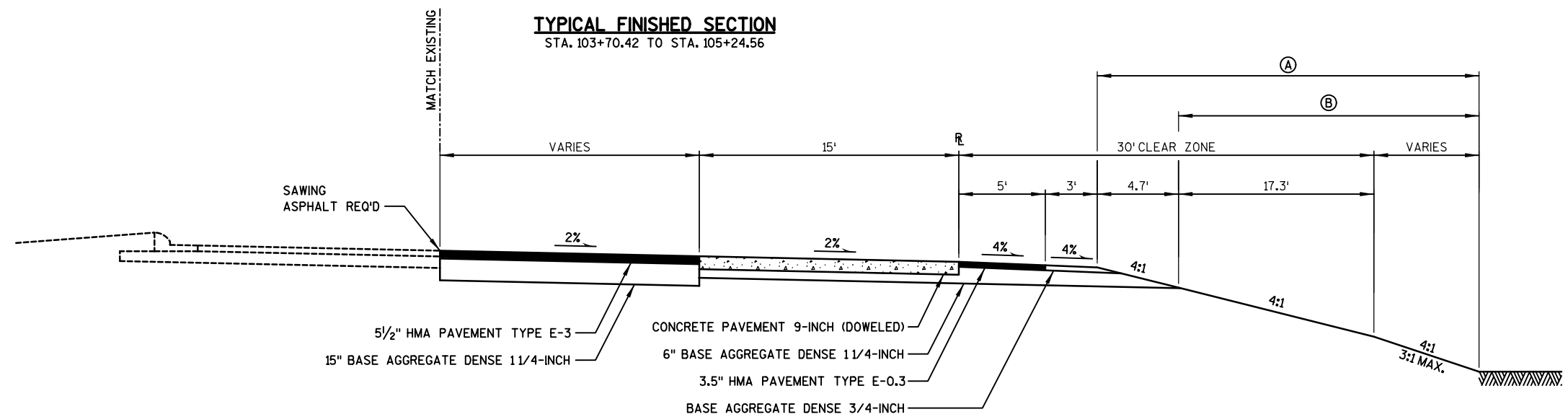
- Ⓐ FERTILIZER TYPE B, SEEDING
TEMPORARY, SEEDING MIXTURE NO. 20.
Ⓑ SALVAGED TOPSOIL, MULCHING.

2

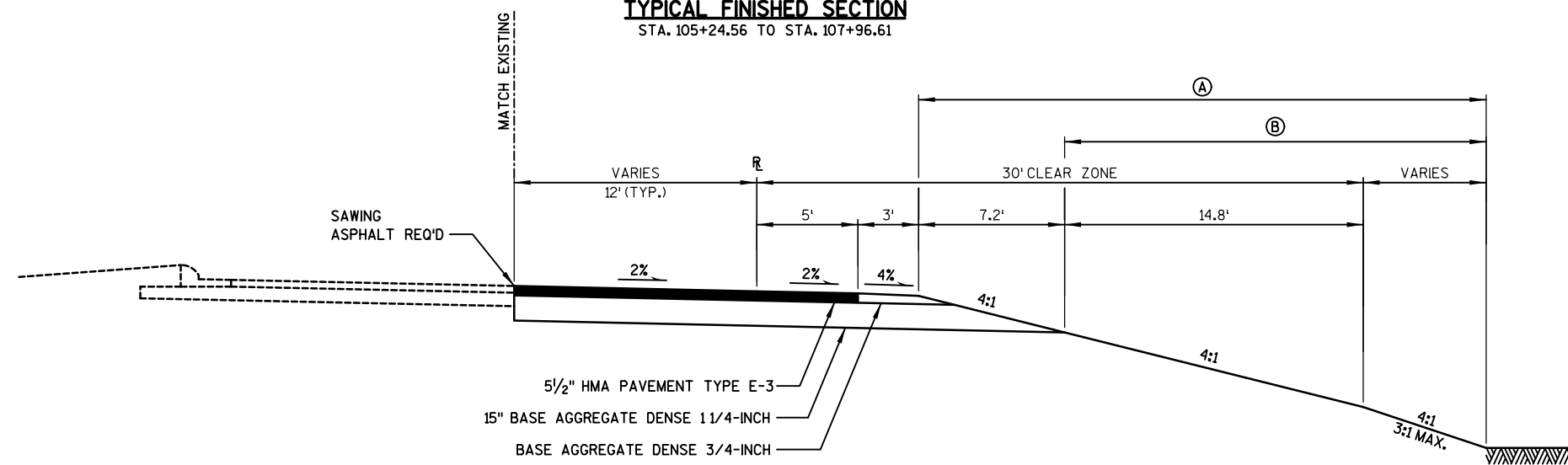
2 |



TYPICAL FINISHED SECTION
STA. 103+70.42 TO STA. 105+24.56

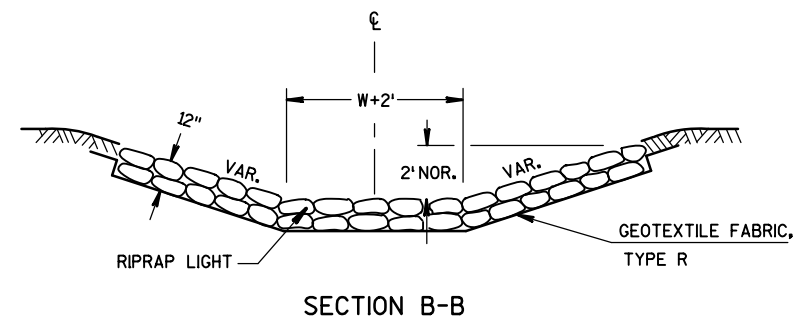
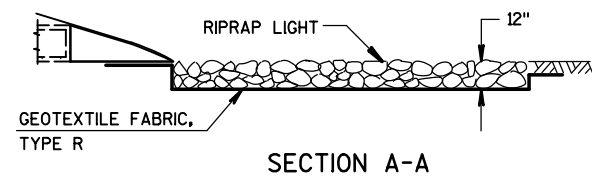
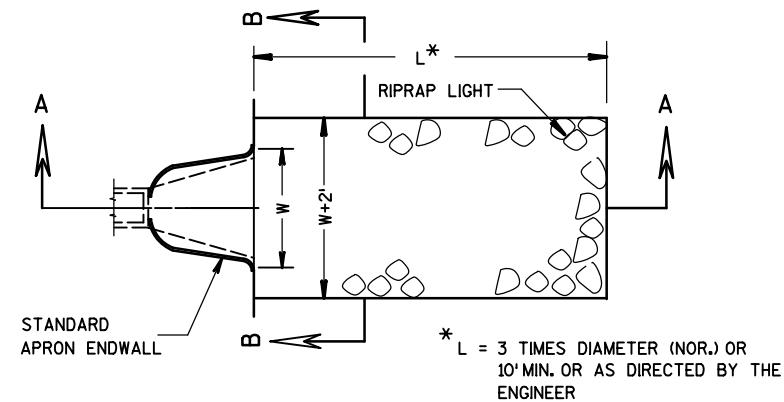


TYPICAL FINISHED SECTION
STA. 105+24.56 TO STA. 107+96.61

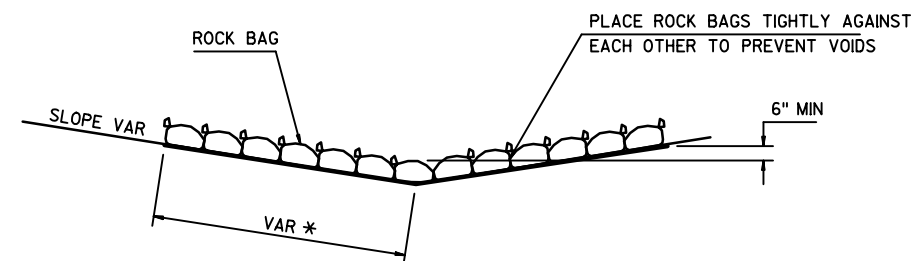


TYPICAL FINISHED SECTION
STA. 107+96.61 TO STA. 113+48.82

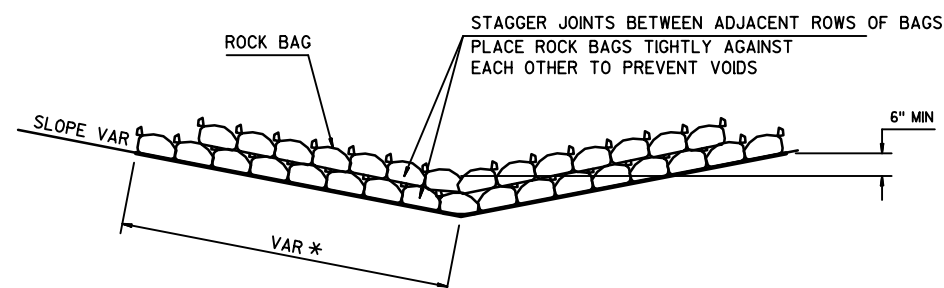
- (A) FERTILIZER TYPE B, SEEDING
TEMPORARY, SEEDING MIXTURE NO. 20.
- (B) SALVAGED TOPSOIL, MULCHING.



RIPRAP LIGHT AND GEOTEXTILE FABRIC DETAIL
AT APRON ENDWALLS



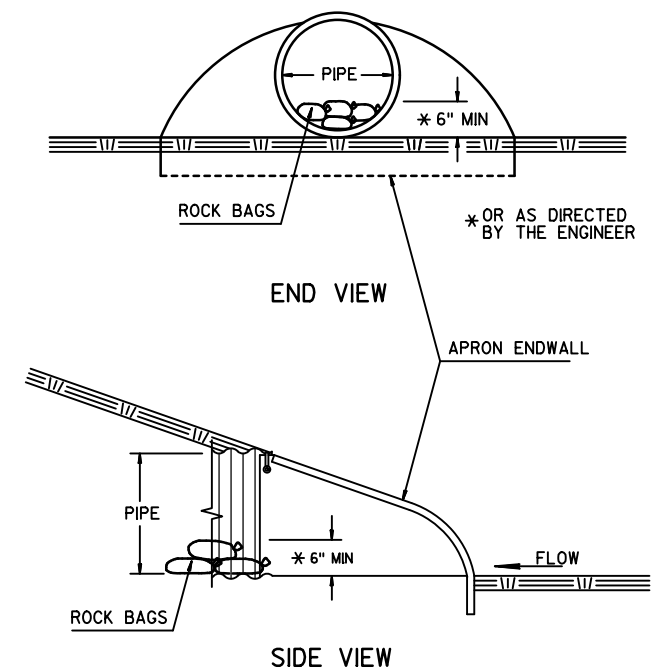
SIDE VIEW (SINGLE LAYER)



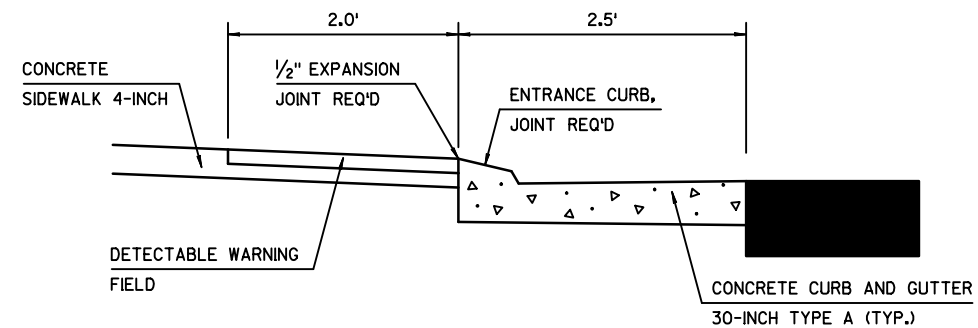
* LENGTH AND NUMBER OF BAGS MAY VARY
DEPENDING ON DESIRED DEPTH OF WATER POOL

SIDE VIEW (MULTIPLE LAYER)

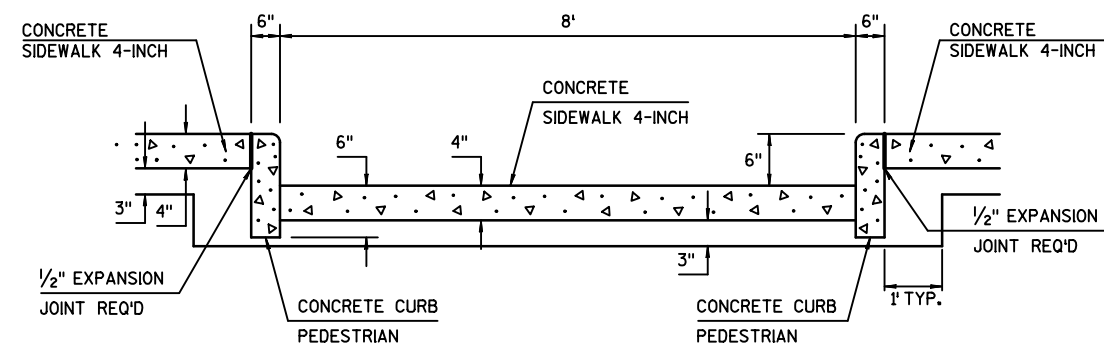
ROCK BAGS DITCH CHECK
PAID AS ROCK BAGS



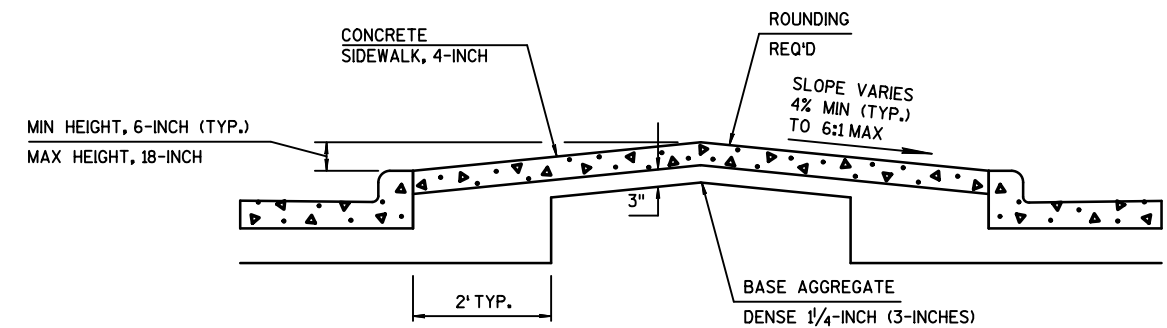
CULVERT PIPE CHECKS



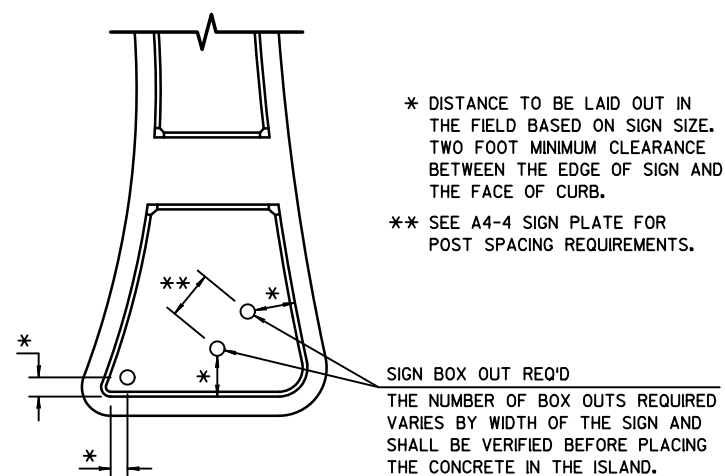
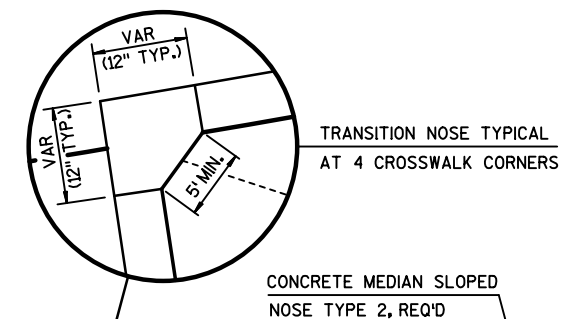
SECTION A-A



SECTION B-B

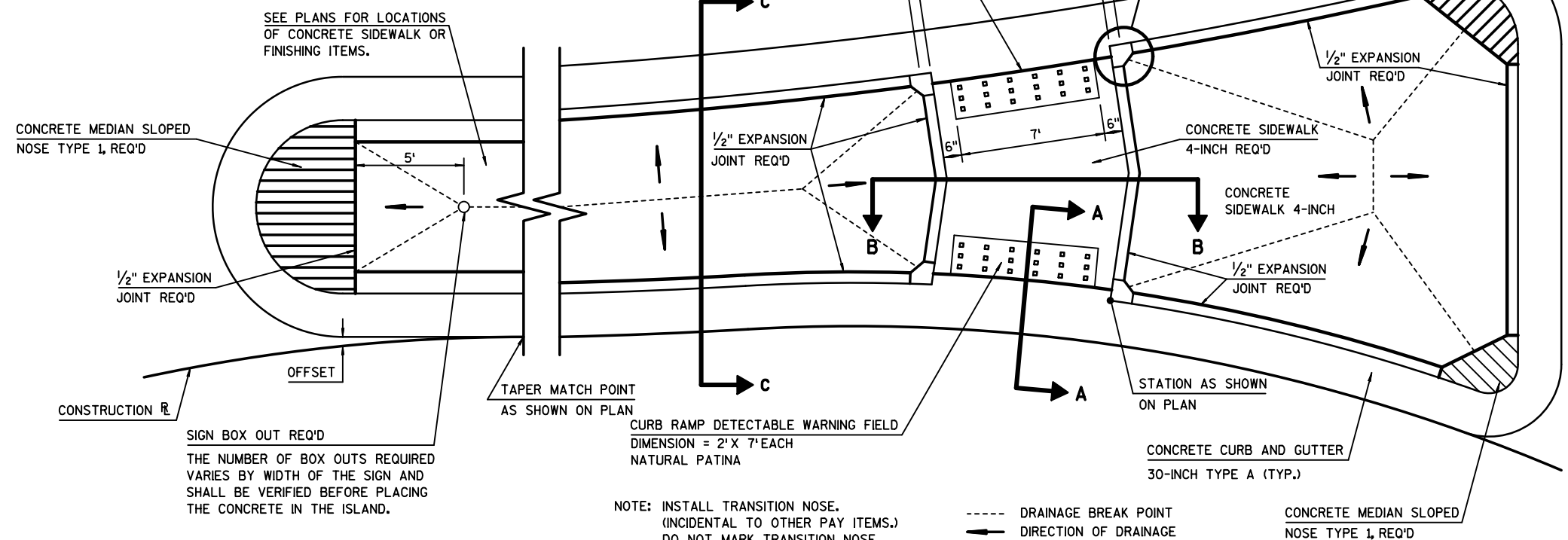


SECTION C-C



ISLAND SIGN LOCATION DETAIL (TYP)

NOTIFY THE ENGINEER A MINIMUM OF TWO WEEKS PRIOR TO THE NEED FOR SIGN PLACEMENT TO ALLOW FOR STAKING OF ANY PERMANENT SIGNING REQUIRED ON THE PROJECT.

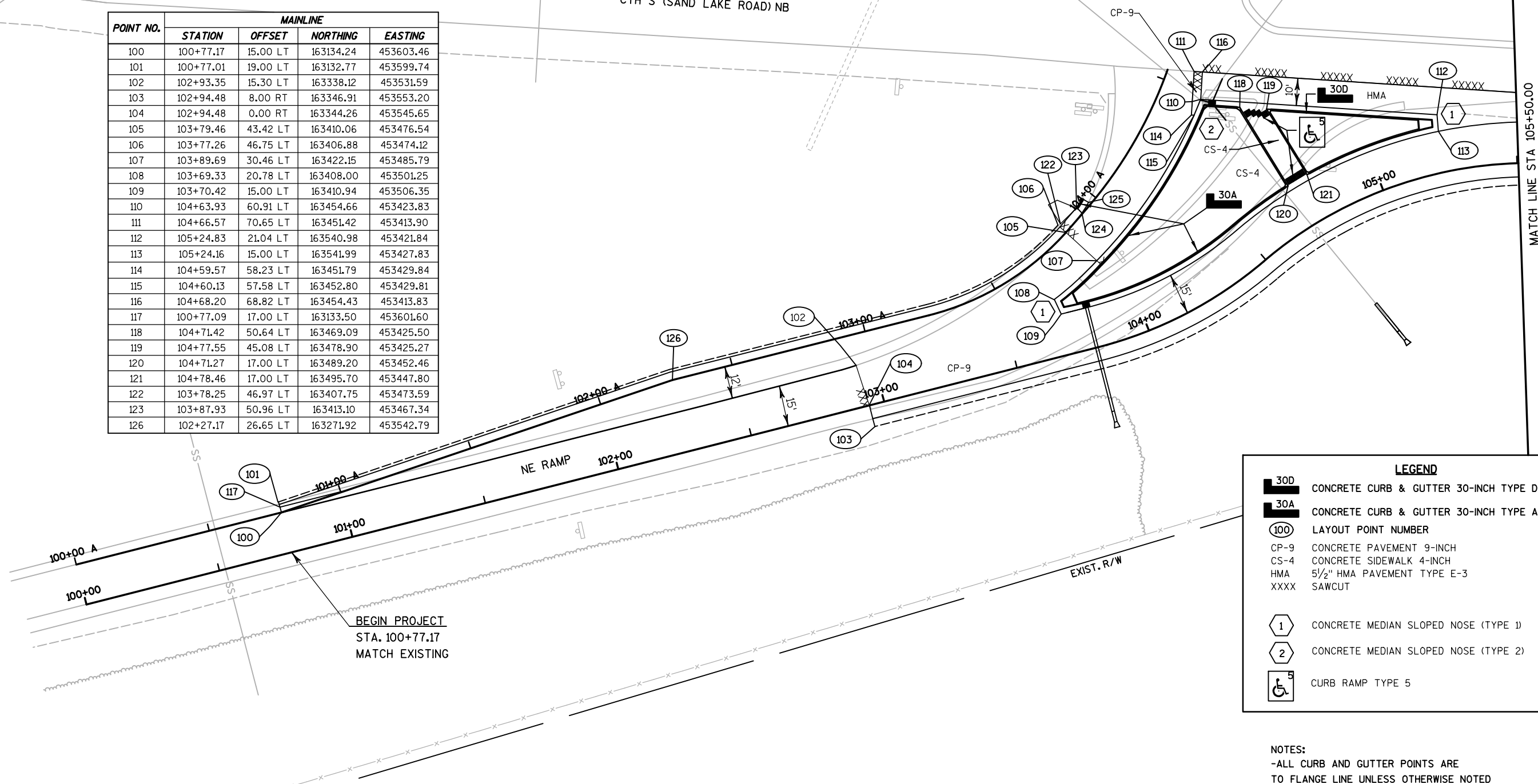


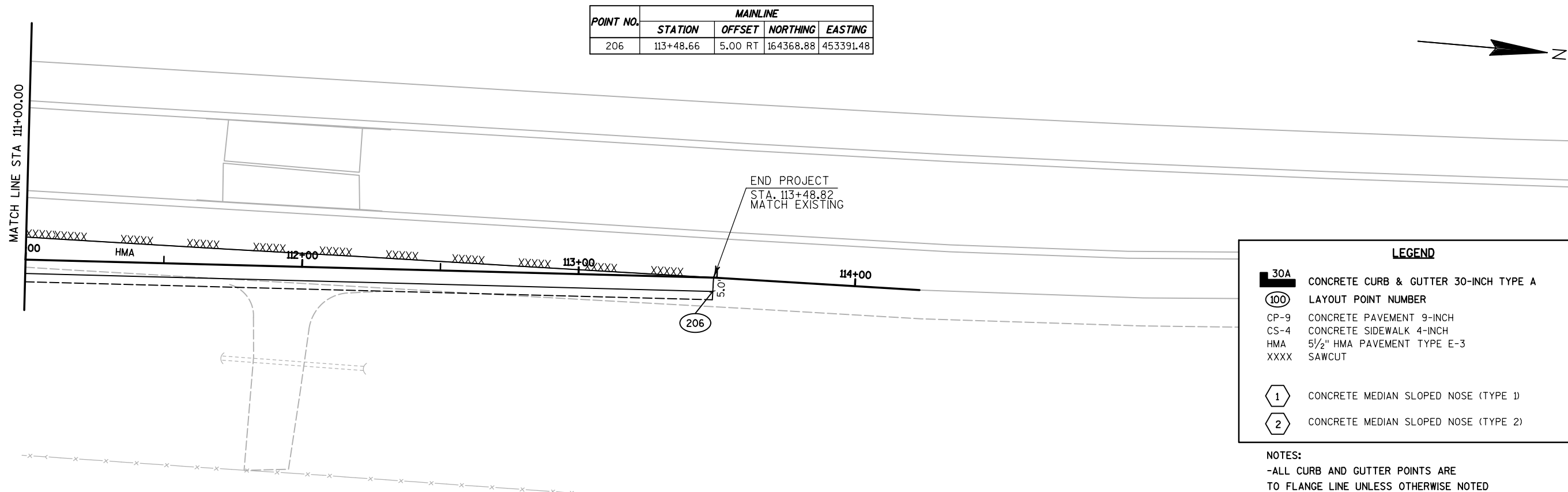
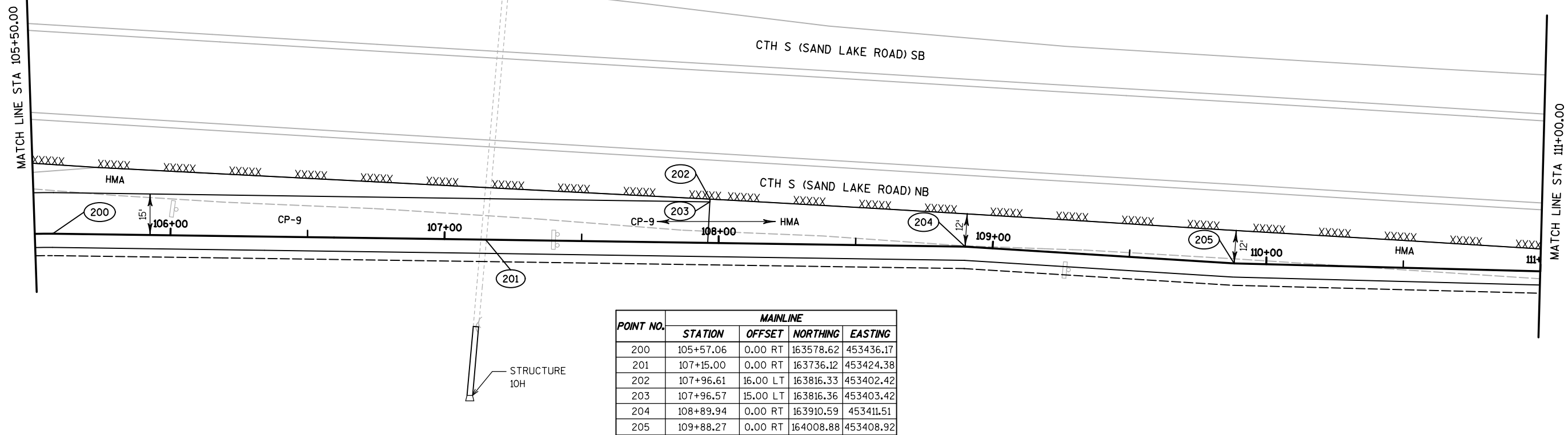
SPLITTER ISLAND DETAIL

CTH S (SAND LAKE ROAD) SB

CTH S (SAND LAKE ROAD) NB

POINT NO.	MAINLINE			
	STATION	OFFSET	NORTHING	EASTING
100	100+77.17	15.00 LT	163134.24	453603.46
101	100+77.01	19.00 LT	163132.77	453599.74
102	102+93.35	15.30 LT	163338.12	453531.59
103	102+94.48	8.00 RT	163346.91	453553.20
104	102+94.48	0.00 RT	163344.26	453545.65
105	103+79.46	43.42 LT	163410.06	453476.54
106	103+77.26	46.75 LT	163406.88	453474.12
107	103+89.69	30.46 LT	163422.15	453485.79
108	103+69.33	20.78 LT	163408.00	453501.25
109	103+70.42	15.00 LT	163410.94	453506.35
110	104+63.93	60.91 LT	163454.66	453423.83
111	104+66.57	70.65 LT	163451.42	453413.90
112	105+24.83	21.04 LT	163540.98	453421.84
113	105+24.16	15.00 LT	163541.99	453427.83
114	104+59.57	58.23 LT	163451.79	453429.84
115	104+60.13	57.58 LT	163452.80	453429.81
116	104+68.20	68.82 LT	163454.43	453413.83
117	100+77.09	17.00 LT	163133.50	453601.60
118	104+71.42	50.64 LT	163469.09	453425.50
119	104+77.55	45.08 LT	163478.90	453425.27
120	104+71.27	17.00 LT	163489.20	453452.46
121	104+78.46	17.00 LT	163495.70	453447.80
122	103+78.25	46.97 LT	163407.75	453473.59
123	103+87.93	50.96 LT	163413.10	453467.34
126	102+27.17	26.65 LT	163271.92	453542.79

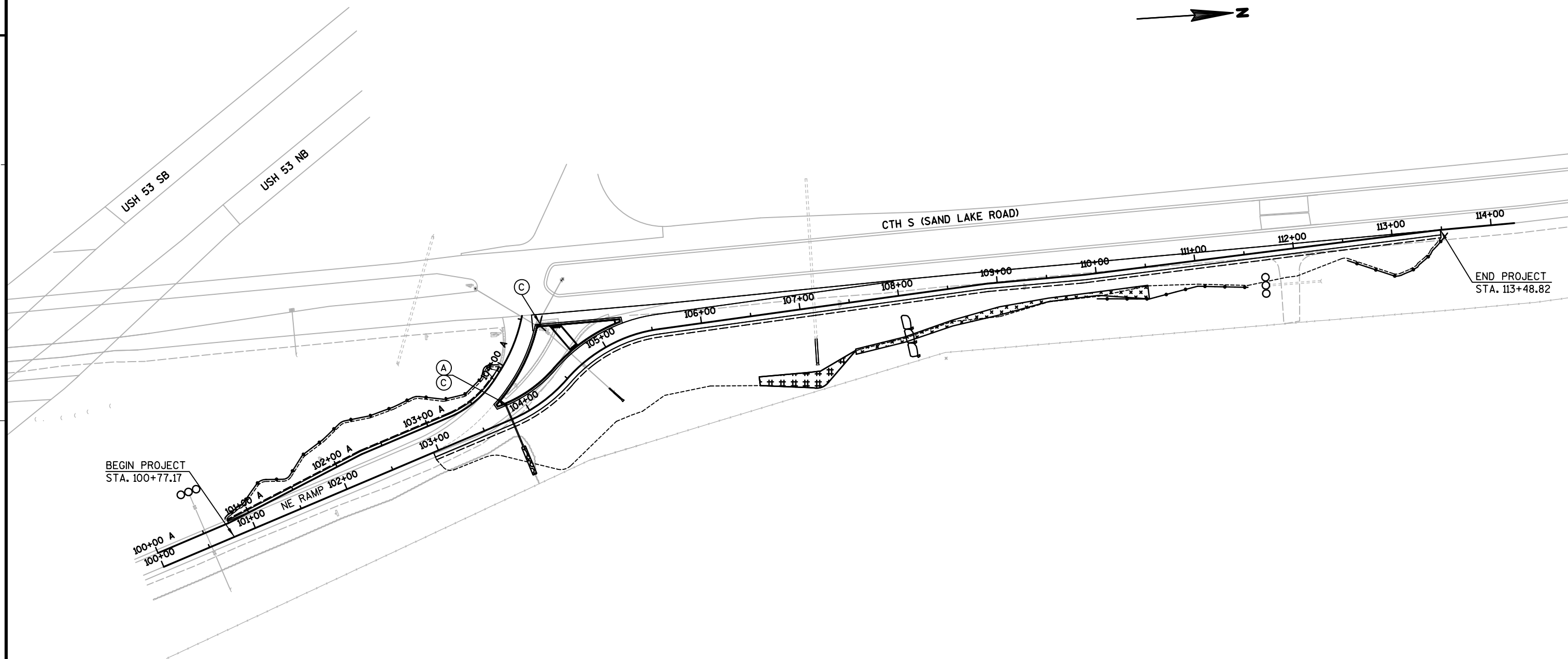




LEGEND

- 30A CONCRETE CURB & GUTTER 30-INCH TYPE A
- 100 LAYOUT POINT NUMBER
- CP-9 CONCRETE PAVEMENT 9-INCH
- CS-4 CONCRETE SIDEWALK 4-INCH
- HMA 5 1/2" HMA PAVEMENT TYPE E-3
- XXXX SAWCUT
- 1 CONCRETE MEDIAN SLOPED NOSE (TYPE 1)
- 2 CONCRETE MEDIAN SLOPED NOSE (TYPE 2)

NOTES:
-ALL CURB AND GUTTER POINTS ARE
TO FLANGE LINE UNLESS OTHERWISE NOTED

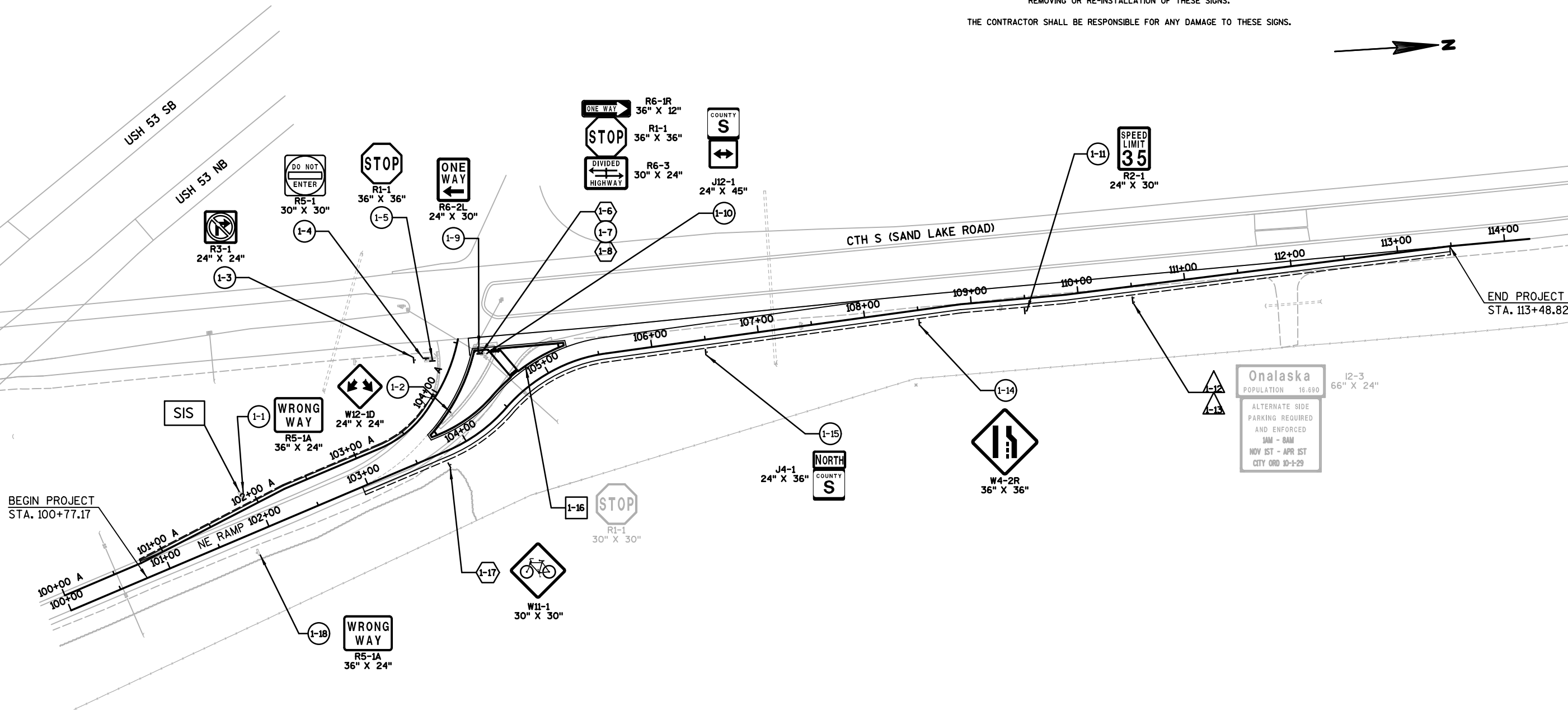


LEGEND	
#####	EROSION MAT CLASS I TYPE A
XXXXXX	EROSION MAT CLASS II TYPE B
—●—	SILT FENCE
⌈⌋	ROCK BAGS (DITCH CHECK)
∞	ROCK BAGS (CULVERT PIPE CHECK)
XXXX	RIPRAP LIGHT
---	SLOPE INTERCEPT
Ⓐ	INLET PROTECTION TYPE A
Ⓒ	INLET PROTECTION TYPE C

SIGNING NOTES

DO NOT MOVE OR REMOVE ANY SPECIFIC INFORMATION SIGNS (BLUE GAS, FOOD, LODGING, CAMPING OR ATTRACTION SIGNS) OR THEIR ASSOCIATED POSTS. A SEPARATE CONTRACTOR, DERSE, INC., MAINTAINS THESE SIGNS. CONTACT MARK ROGNSVOOG OF THE DERSE COMPANY AT (800) 345-5772 A MINIMUM OF 14 CALENDAR DAYS IN ADVANCE TO COORDINATE MOVING, REMOVING OR RE-INSTALLATION OF THESE SIGNS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THESE SIGNS.

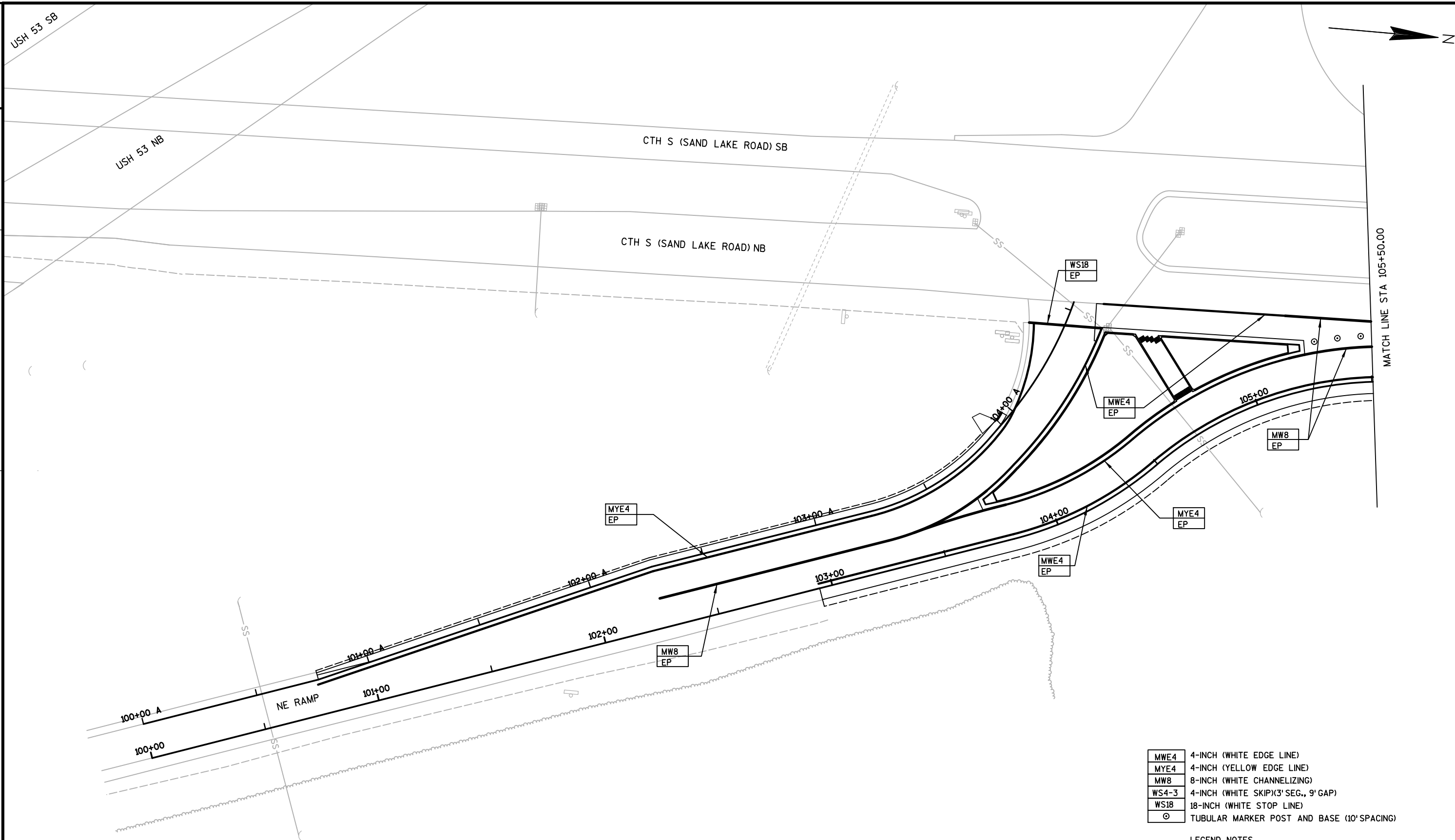


LEGEND

- SIGN-REMOVE AND REPLACE
- SIGN-REMOVE EXISTING
- SIGN-PLACE NEW
- SIGN-MOVE

2

2



MWE4	4-INCH (WHITE EDGE LINE)
MYE4	4-INCH (YELLOW EDGE LINE)
MW8	8-INCH (WHITE CHANNELIZING)
WS4-3	4-INCH (WHITE SKIP)(3' SEG., 9' GAP)
WS18	18-INCH (WHITE STOP LINE)
⊙	TUBULAR MARKER POST AND BASE (10' SPACING)

LEGEND NOTES
"EP" IS PAVEMENT MARKING EPOXY

PROJECT NO: 1630-00-75

HWY: USH 53

COUNTY: LA CROSSE

PAVEMENT MARKING

SHEET

E

FILE NAME : S:\MAD\1000--1099\1089\294\Micros\Design\Plan\024501.pm.dgn

PLOT DATE : 9/6/2012

PLOT BY : _username_

PLOT NAME :

PLOT SCALE : \$\$.....plotscale.....\$\$ WISDOT/CADDs SHEET 42

MATCH LINE STA 105+50.00

MW8
EP

106+00

107+00

108+00

109+00

110+00

MATCH LINE STA 111+00.00

CTH S (SAND LAKE ROAD) SB

CTH S (SAND LAKE ROAD) NB

STA 109+07

WS4-3
EPMWE4
EP

STA 108+23.69



MATCH LINE STA 111+00.00

MWE4
EP

112+00

113+00

114+00

CTH S (SAND LAKE ROAD) SB

CTH S (SAND LAKE ROAD) NB

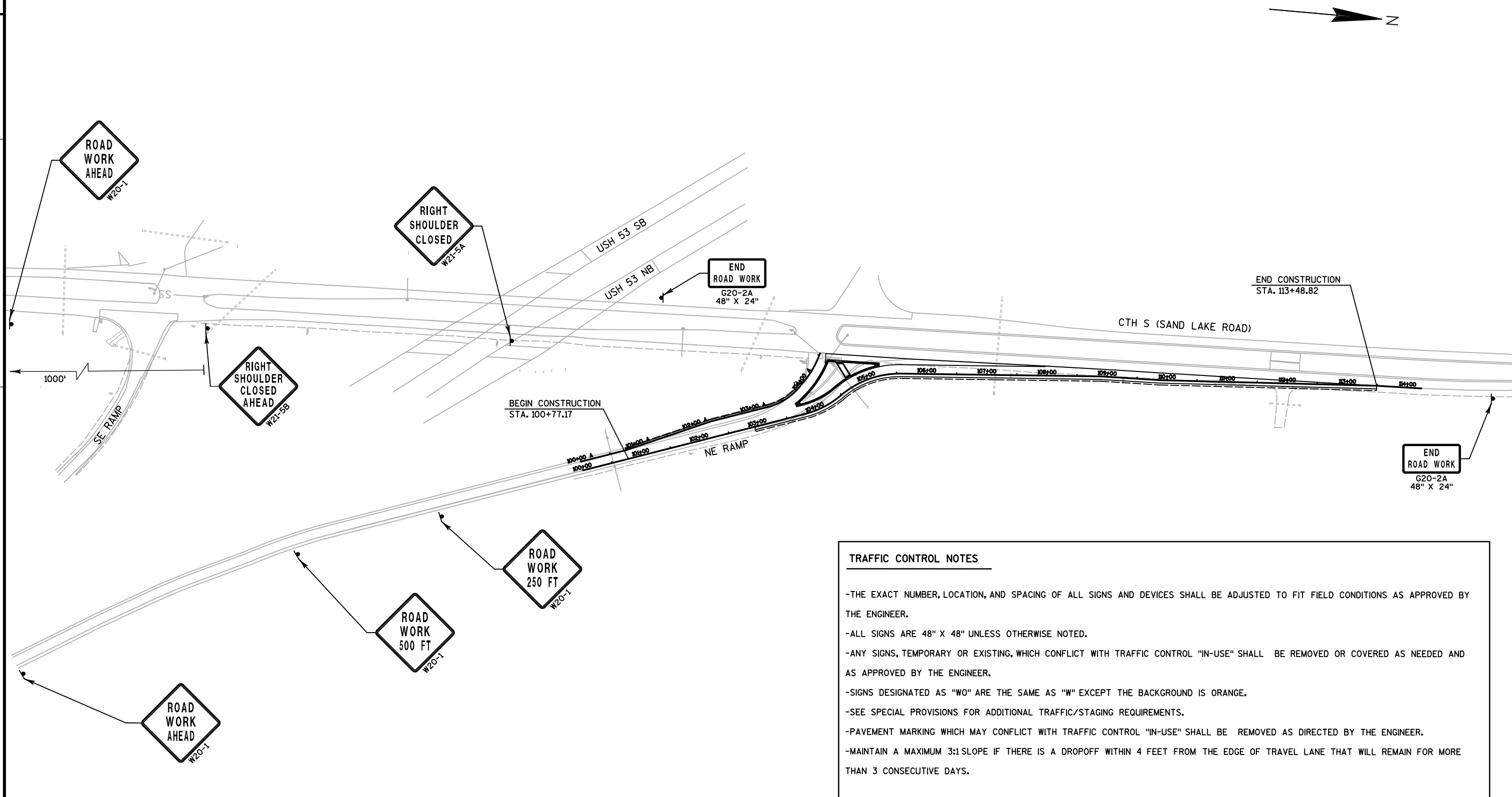
STA 112+88



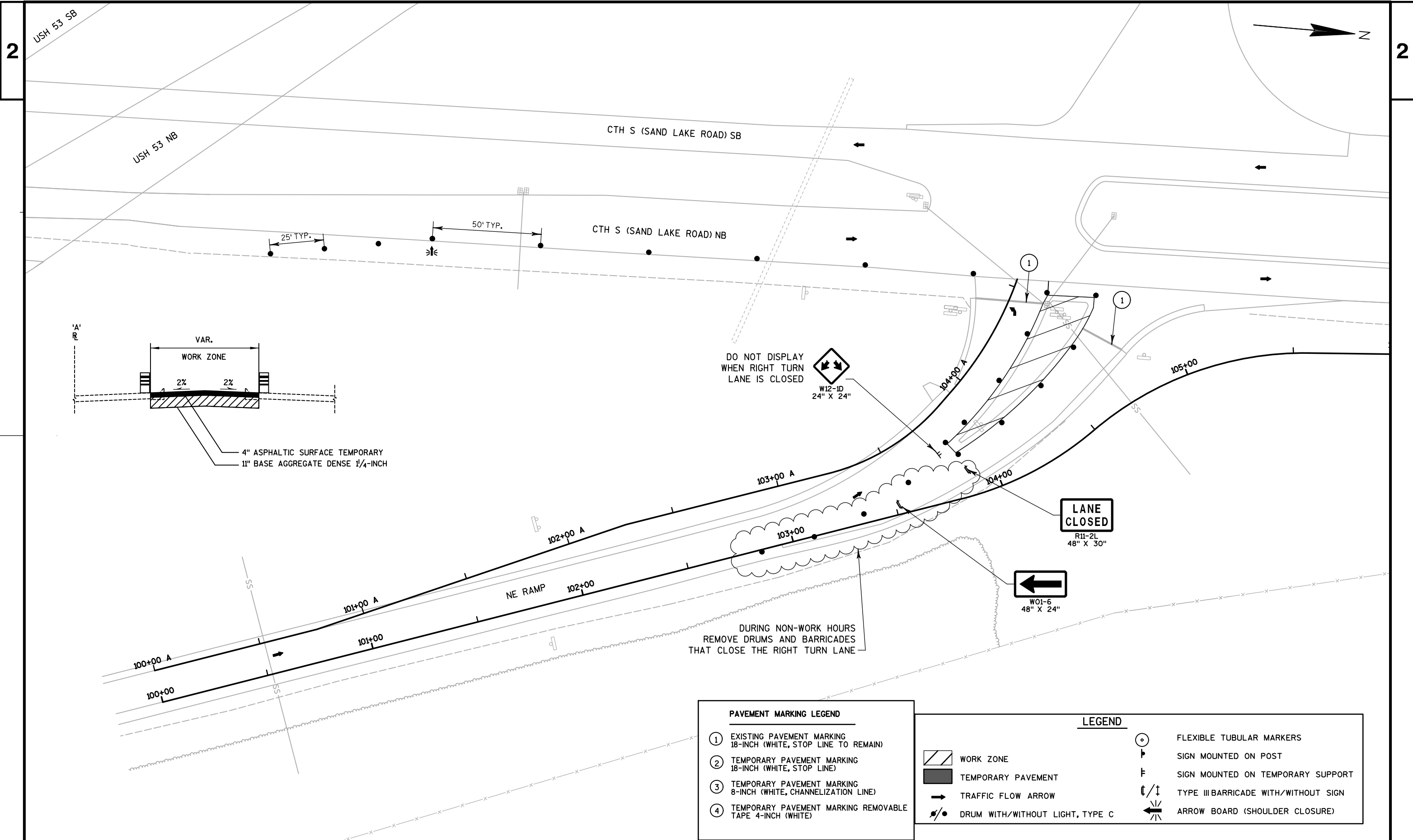
MWE4	4-INCH (WHITE EDGE LINE)
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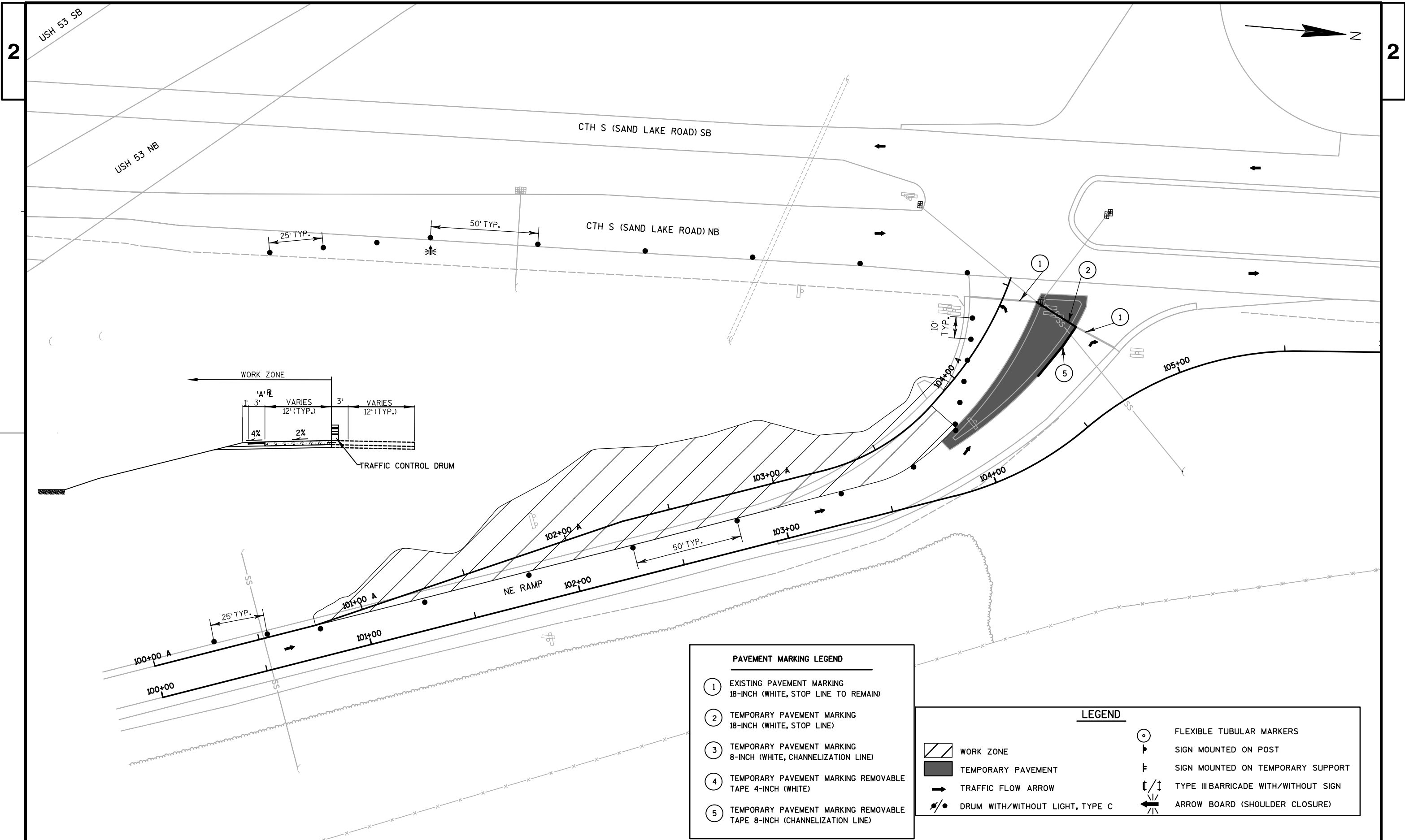
LEGEND NOTES

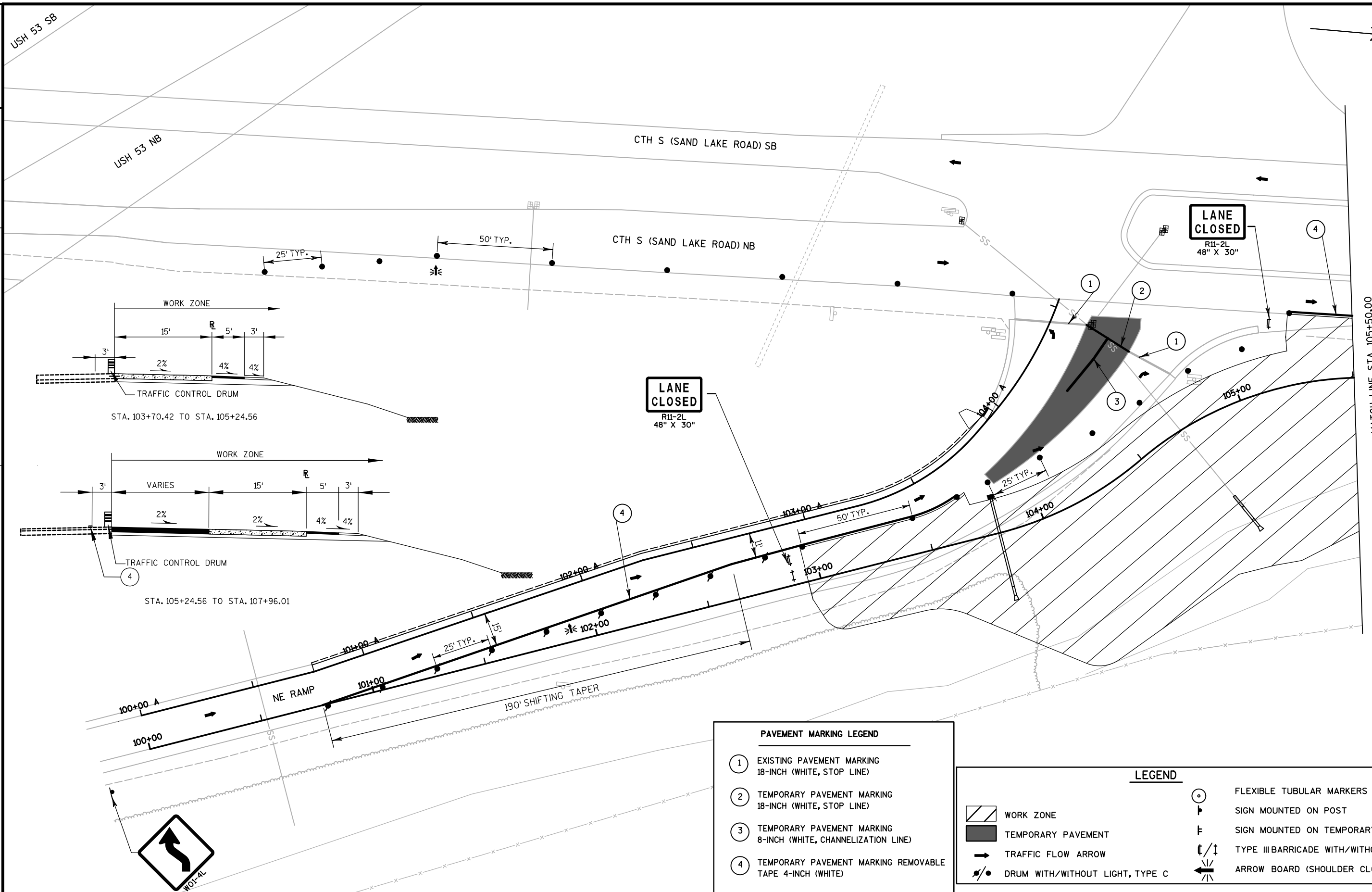
"EP" IS PAVEMENT MARKING EPOXY

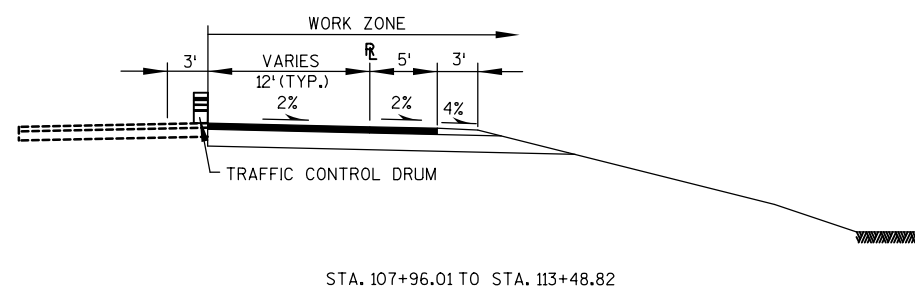
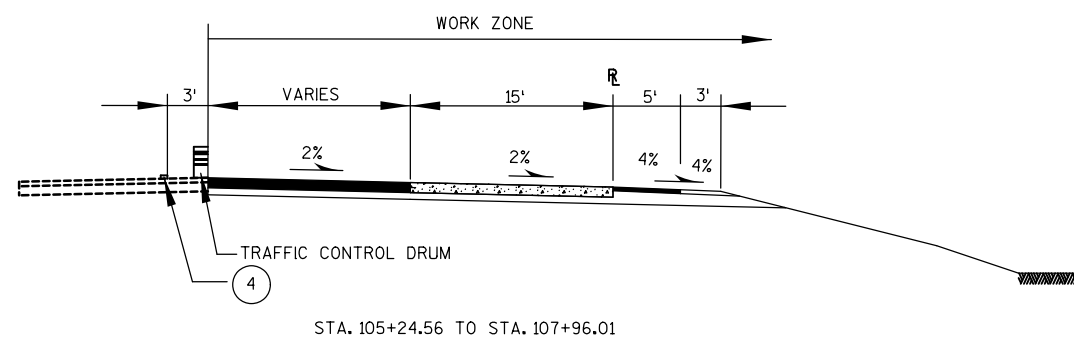
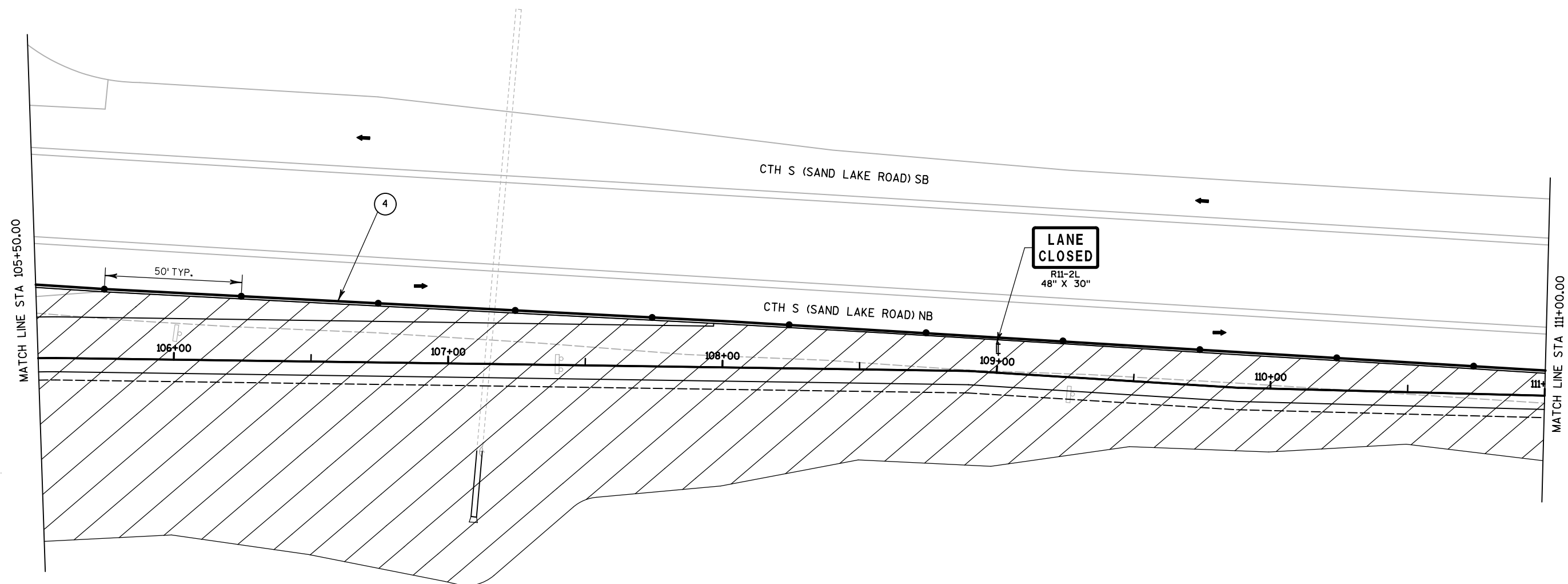
**TRAFFIC CONTROL NOTES**

- 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.
- ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN-USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS DESIGNATED AS "WO" ARE THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC/STAGING REQUIREMENTS.
- PAVEMENT MARKING WHICH MAY CONFLICT WITH TRAFFIC CONTROL "IN-USE" SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
- MAINTAIN A MAXIMUM 3:1 SLOPE IF THERE IS A DROPOFF WITHIN 4 FEET FROM THE EDGE OF TRAVEL LANE THAT WILL REMAIN FOR MORE THAN 3 CONSECUTIVE DAYS.







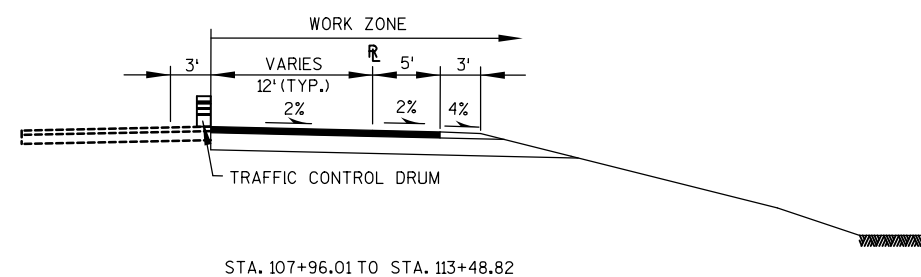
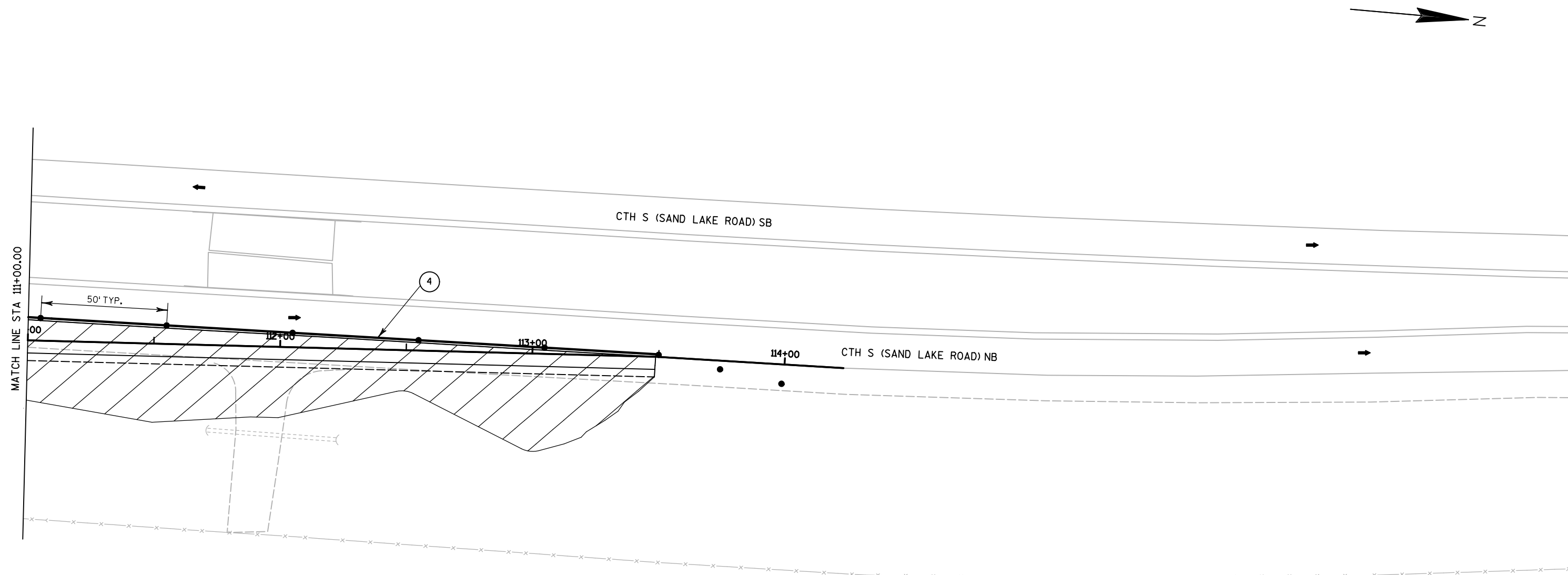


PAVEMENT MARKING LEGEND

- ① EXISTING PAVEMENT MARKING
18-INCH (WHITE, STOP LINE)
- ② TEMPORARY PAVEMENT MARKING
18-INCH (WHITE, STOP LINE)
- ③ TEMPORARY PAVEMENT MARKING
8-INCH (WHITE, CHANNELIZATION LINE)
- ④ TEMPORARY PAVEMENT MARKING REMOVABLE
TAPE 4-INCH (WHITE)

LEGEND

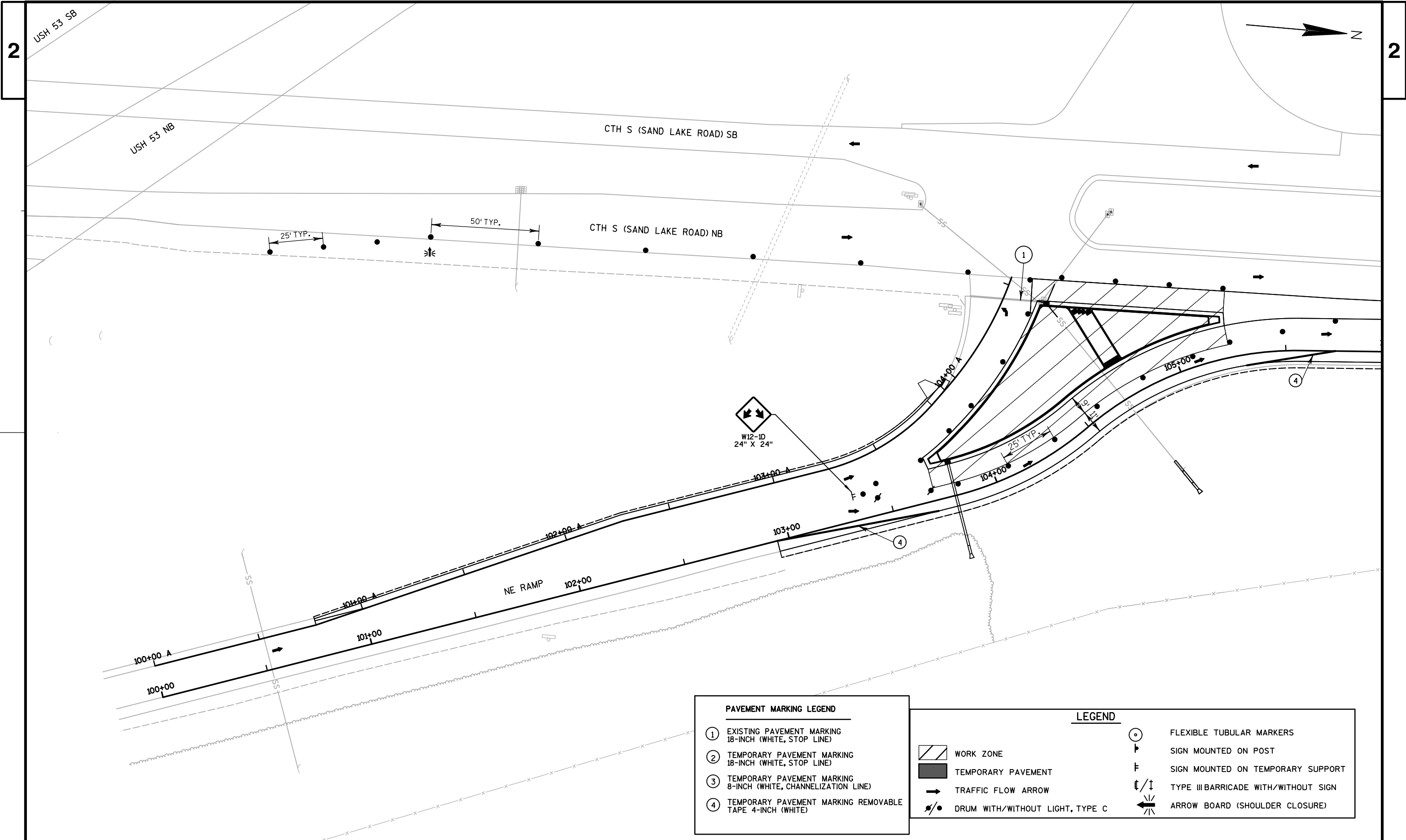
- | | |
|---------------------------------|--------------------------------------|
| WORK ZONE | FLEXIBLE TUBULAR MARKERS |
| TEMPORARY PAVEMENT | SIGN MOUNTED ON POST |
| TRAFFIC FLOW ARROW | SIGN MOUNTED ON TEMPORARY SUPPORT |
| DRUM WITH/WITHOUT LIGHT, TYPE C | TYPE III BARRICADE WITH/WITHOUT SIGN |
| | ARROW BOARD (SHOULDER CLOSURE) |

**PAVEMENT MARKING LEGEND**

- ① EXISTING PAVEMENT MARKING
18-INCH (WHITE, STOP LINE TO REMAIN)
- ② TEMPORARY PAVEMENT MARKING
18-INCH (WHITE, STOP LINE)
- ③ TEMPORARY PAVEMENT MARKING
8-INCH (WHITE, CHANNELIZATION LINE)
- ④ TEMPORARY PAVEMENT MARKING REMOVABLE
TAPE 4-INCH (WHITE)
- ⑤ TEMPORARY PAVEMENT MARKING REMOVABLE
TAPE 8-INCH (CHANNELIZATION LINE)

LEGEND

- | | | | |
|--|---------------------------------|--|--------------------------------------|
| | WORK ZONE | | FLEXIBLE TUBULAR MARKERS |
| | TEMPORARY PAVEMENT | | SIGN MOUNTED ON POST |
| | TRAFFIC FLOW ARROW | | SIGN MOUNTED ON TEMPORARY SUPPORT |
| | DRUM WITH/WITHOUT LIGHT, TYPE C | | TYPE III BARRICADE WITH/WITHOUT SIGN |
| | | | ARROW BOARD (SHOULDER CLOSURE) |



CURVE 1	CURVE 2	CURVE 3	CURVE 4
P.I. = 103+55.61 A Y = 163,392.76 X = 453,500.60 DELTA = 34° 59' 47" (LT) D = 57° 17' 45" T = 31.53' L = 61.08' R = 100.00' P.C. = 103+24.09 A Y = 163,362.99 X = 453,510.99 P.T. = 103+85.17 A Y = 163,411.18 X = 453,475.01	P.I. = 104+24.57 A Y = 163,434.20 X = 453,443.04 DELTA = 21° 09' 28" (LT) D = 35° 48' 36" T = 29.88' L = 59.08' R = 160.00' P.C. = 103+94.68 A Y = 163,416.74 X = 453,467.29 P.T. = 104+53.77 A Y = 163,441.73 X = 453,414.13	P.I. = 104+15.32 Y = 163,458.28 X = 453,505.63 DELTA = 26° 12' 27" (LT) D = 38° 11' 50" T = 34.92' L = 68.61' R = 150.00' P.C. = 103+80.41 Y = 163,425.34 X = 453,517.19 P.R.C. = 104+49.02 Y = 163,482.74 X = 453,480.70	P.I. = 105+05.50 Y = 163,522.29 X = 453,440.38 DELTA = 41° 16' 05" (RT) D = 38° 11' 50" T = 56.48' L = 108.04' R = 150.00' P.R.C. = 104+49.02 Y = 163,482.74 X = 453,480.70 P.T. = 105+57.06 Y = 163,578.62 X = 453,436.17

P.I. = 100+00.00 A
Y = 163,061.43
X = 453,629.01

P.I. = 100+77+17 A
Y = 163,134.24
X = 453,603.46

P.I. = 102+27.62 A
Y = 163,271.92
X = 453,542.79

P.I. = 100+00.00
Y = 163,066.40
X = 453,643.17

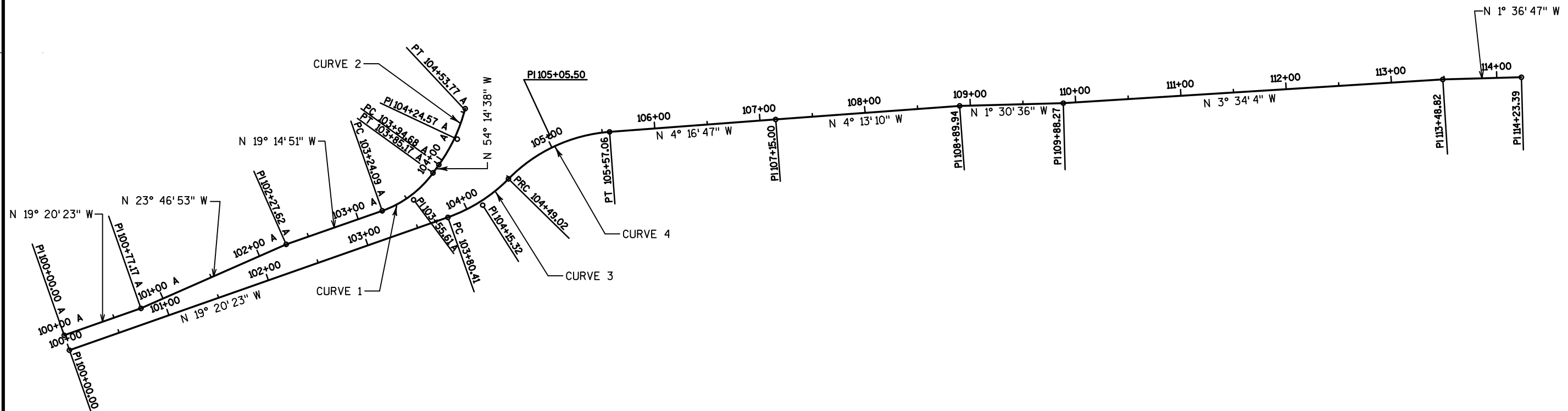
P.I. = 107+15.00
Y = 163,736.12
X = 453,424.38

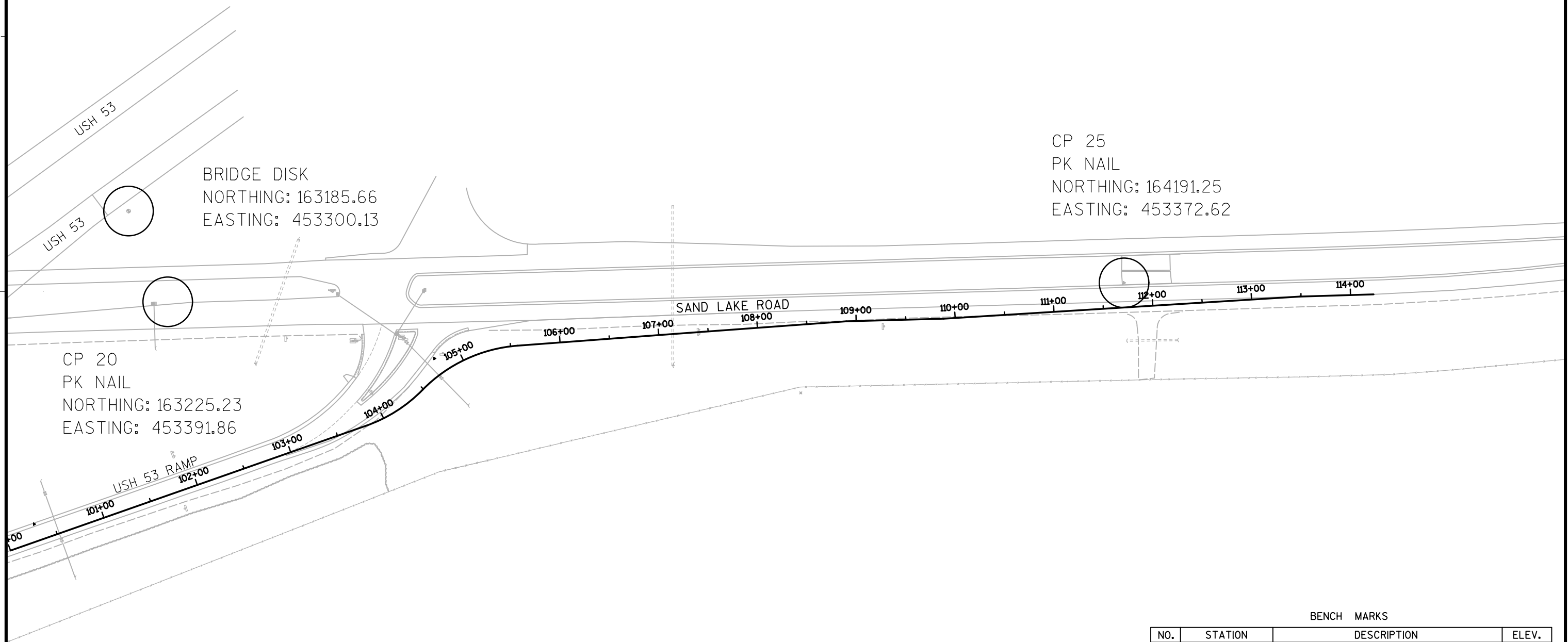
P.I. = 108+89.94
Y = 163,910.59
X = 453,411.51

P.I. = 109+88.27
Y = 164,008.88
X = 453,408.92

P.I. = 113+48.82
Y = 164,368.73
X = 453,386.48

P.I. = 114+23.39
Y = 164,443.27
X = 453,384.39





BRIDGE DISK
NORTHING: 163185.66
EASTING: 453300.13

CP 20
PK NAIL
NORTHING: 163225.23
EASTING: 453391.86

CP 25
PK NAIL
NORTHING: 164191.25
EASTING: 453372.62

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	99+42, 193.3' LT	ALUM PLAQUE TOP PARAPET SE CORNER SOUTH ABUTMENT B-32-131	740.51

DATE 10MAY13		E S T I M A T E O F Q U A N T I T I E S			
LINE		1630-00-75			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	CLEARING	STA	1.000	1.000
0020	201.0205	GRUBBING	STA	1.000	1.000
0030	204.0100	REMOVING PAVEMENT	SY	590.000	590.000
0040	204.0150	REMOVING CURB & GUTTER	LF	185.000	185.000
0050	204.0155	REMOVING CONCRETE SIDEWALK	SY	90.000	90.000
0060	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	3.000	3.000
0070	204.0220	REMOVING INLETS	EACH	1.000	1.000
0080	204.0245	REMOVING STORM SEWER (SIZE) 01. 12-INCH	LF	43.000	43.000
0090	205.0100	EXCAVATION COMMON	CY	1,225.000	1,225.000
0100	208.0100	BORROW	CY	4,600.000	4,600.000
0110	213.0100	FINISHING ROADWAY (PROJECT) 01. 1630-00-75	EACH	1.000	1.000
0120	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	157.000	157.000
0130	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	2,275.000	2,275.000
0140	415.0090	CONCRETE PAVEMENT 9-INCH	SY	1,175.000	1,175.000
0150	416.0610	DRILLED TIE BARS	EACH	87.000	87.000
0160	416.0620	DRILLED DOWEL BARS	EACH	24.000	24.000
0170	455.0120	ASPHALTIC MATERIAL PG64-28	TON	20.800	20.800
0180	455.0605	TACK COAT	GAL	46.000	46.000
0190	460.1100	HMA PAVEMENT TYPE E-0.3	TON	133.000	133.000
0200	460.1103	HMA PAVEMENT TYPE E-3	TON	249.000	249.000
0210	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	248.000	248.000
0220	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	32.000	32.000
0230	465.0315	ASPHALTIC FLUMES	SY	5.000	5.000
0240	520.8000	CONCRETE COLLARS FOR PIPE	EACH	3.000	3.000
0250	522.0124	CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	24.000	24.000
0260	522.1012	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	EACH	1.000	1.000
0270	524.0612	APRON ENDWALLS FOR CULVERT PIPE SALVAGED 12-INCH	EACH	1.000	1.000
0280	524.0624	APRON ENDWALLS FOR CULVERT PIPE SALVAGED 24-INCH	EACH	1.000	1.000
0290	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	225.000	225.000
0300	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	80.000	80.000
0310	601.0600	CONCRETE CURB PEDESTRIAN	LF	62.000	62.000
0320	602.0405	CONCRETE SIDEWALK 4-INCH	SF	2,900.000	2,900.000
0330	602.0515	CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	SF	28.000	28.000
0340	606.0100	RIPRAP LIGHT	CY	5.000	5.000
0350	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	74.000	74.000
0360	611.0624	INLET COVERS TYPE H	EACH	1.000	1.000
0370	611.0639	INLET COVERS TYPE H-S	EACH	1.000	1.000
0380	611.3230	INLETS 2X3-FT	EACH	2.000	2.000
0390	611.8120.S	COVER PLATES TEMPORARY	EACH	1.000	1.000
0400	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1630-00-75	EACH	1.000	1.000
0410	619.1000	MOBILIZATION	EACH	1.000	1.000
0420	620.0300	CONCRETE MEDIAN SLOPED NOSE	SF	42.000	42.000
0430	624.0100	WATER	MGAL	7.300	7.300
0440	625.0500	SALVAGED TOPSOIL	SY	4,910.000	4,910.000
0450	627.0200	MULCHING	SY	4,760.000	4,760.000
0460	628.1504	SILT FENCE	LF	775.000	775.000
0470	628.1520	SILT FENCE MAINTENANCE	LF	775.000	775.000

DATE 10MAY13		E S T I M A T E O F Q U A N T I T I E S			
LINE				1630-00-75	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0480	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	1.000	1.000
0490	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	1.000	1.000
0500	628.2002	EROSION MAT CLASS I TYPE A	SY	300.000	300.000
0510	628.2023	EROSION MAT CLASS II TYPE B	SY	281.000	281.000
0520	628.7005	INLET PROTECTION TYPE A	EACH	1.000	1.000
0530	628.7015	INLET PROTECTION TYPE C	EACH	2.000	2.000
0540	628.7555	CULVERT PIPE CHECKS	EACH	7.000	7.000
0550	628.7560	TRACKING PADS	EACH	1.000	1.000
0560	628.7570	ROCK BAGS	EACH	3.000	3.000
0570	629.0210	FERTILIZER TYPE B	CWT	6.000	6.000
0580	630.0120	SEEDING MIXTURE NO. 20	LB	155.000	155.000
0590	630.0200	SEEDING TEMPORARY	LB	155.000	155.000
0600	633.5200	MARKERS CULVERT END	EACH	3.000	3.000
0610	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	7.000	7.000
0620	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	4.000	4.000
0630	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	1.000	1.000
0640	637.0202	SIGNS REFLECTIVE TYPE II	SF	87.920	87.920
0650	638.2102	MOVING SIGNS TYPE II	EACH	2.000	2.000
0660	638.2602	REMOVING SIGNS TYPE II	EACH	14.000	14.000
0670	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	9.000	9.000
0680	638.4000	MOVING SMALL SIGN SUPPORTS	EACH	2.000	2.000
0690	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
0700	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1630-00-75	EACH	1.000	1.000
0710	643.0300	TRAFFIC CONTROL DRUMS	DAY	2,469.000	2,469.000
0720	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	124.000	124.000
0730	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	248.000	248.000
0740	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	596.000	596.000
0750	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	92.000	92.000
0760	643.0900	TRAFFIC CONTROL SIGNS	DAY	624.000	624.000
0770	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	10.000	10.000
0780	645.0130	GEOTEXTILE FABRIC TYPE R	SY	20.000	20.000
0790	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	1,685.000	1,685.000
0800	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	805.000	805.000
0810	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	32.000	32.000
0820	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	1,238.000	1,238.000
0830	649.0701	TEMPORARY PAVEMENT MARKING 8-INCH	LF	29.000	29.000
0840	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	29.000	29.000
0850	649.1100	TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH	LF	22.000	22.000
0860	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	7.000	7.000
0870	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	1,355.000	1,355.000
0880	650.5000	CONSTRUCTION STAKING BASE	LF	550.000	550.000
0890	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	305.000	305.000
0900	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	1.000	1.000
0910	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	805.000	805.000
0920	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1630-00-75	LS	1.000	1.000
0930	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	1,355.000	1,355.000
0940	690.0150	SAWING ASPHALT	LF	943.000	943.000
0950	690.0250	SAWING CONCRETE	LF	262.000	262.000
0960	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	1,000.000	1,000.000

DATE 10MAY13		E S T I M A T E O F Q U A N T I T I E S				
LINE		1630-00-75				
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	
0970	SPV.0060	SPECIAL 01. FLEXIBLE TUBULAR MARKER	EACH	6.000	6.000	
		POSTS				
0980	SPV.0060	SPECIAL 02. FLEXIBLE TUBULAR MARKER	EACH	6.000	6.000	
		BASES				
0990	SPV.0105	SPECIAL 01. CONCRETE PAVEMENT JOINT	LS	1.000	1.000	
		LAYOUT				

3

CLEARING AND GRUBBING				
CATEGORY	STATION - STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
0010	103+00.00 - 103+83.00	RT	1	1
TOTAL			1	1

REMOVING PAVEMENT			
CATEGORY	STATION - STATION	LOCATION	204.0100 SY
0010	102+94.48 - 105+73.27	LT & RT	590
TOTAL			590

REMOVING CURB AND GUTTER			
CATEGORY	STATION - STATION	LOCATION	204.0150 LF
0010	103+77.81 - 103+88.04 103+79.95 - 104+79.41	EX FLUME EX ISLAND	5 180
TOTAL			185

REMOVING CONCRETE SIDEWALK			
CATEGORY	STATION - STATION	LOCATION	204.0155 SY
0010	103+87.50 - 104+76.01	EX ISLAND	90
TOTAL			90

REMOVING DELINEATORS AND MARKERS			
CATEGORY	STATION	LOCATION	204.0180 EACH
0010	101+55 104+40 104+69	OFF RAMP RT OFF RAMP RT OFF RAMP RT	1 1 1
TOTAL			3

REMOVING INLETS			
CATEGORY	STATION	LOCATION	204.0220 EACH
0010	104+64.60	EX ISLAND	1
TOTAL			1

REMOVING STORM SEWER			
CATEGORY	FROM STRUC.	TO STRUC.	204.0245 12-INCH LF
0010	10D 10C 10B	EXISTING INLET EXISTING INLET EXISTING INLET	3 20 20
TOTAL			43

FINISHING ROADWAY		
CATEGORY	PROJECT I.D.	213.0100 EACH
0010	1630-00-75	1

EARTHWORK SUMMARY										
		(1)	(2)	(3)	(4)	(5)				
		SALVAGED/ UNUSABLE								
205.0100									208.0100	624.0100
EXCAVATION	PAVEMENT MATERIAL		AVAILABLE UNEXPANDED	EXPANDED	MASS					
COMMON	REMOVAL		MATERIAL	FILL	FILL	ORDINATE	+WASTE	-BORROW	WATER*	

FACTOR 1.25											
CATEGORY	STAGE	STATION - STATION	LOCATION	CY	CY	CY	CY	CY	CY	CY	MGAL
0010	I	EX ISLAND	EXCAVATE TO SUBGRADE	40	0	40	0	0	40	0	0.1
	II	101+00.00 A - 103+83.28 A	LT & RT	70	0	70	135	169	-99	0	-100 0.1
	III	102+94.48 - 113+48.82	LT & RT	1,100	0	1,100	4,484	5,605	-4,505	0	-4,500 2.2
	IV	TEMP ISLAND PAV'T	TEMP PAV'T REMOVAL	15	0	15	0	0	15	15	0 0.0
TOTAL				1,225	0	1,225	4,619	5,774	-4,549	55	-4,600 2.4

- 1) Salvaged/Unusable Materials are included in Excavation Common Column
2) Available Material = Excavation Common - Salvaged Materials
3) Expanded fill factor = 1.25
4) The mass ordinate + or - Qty calculated for the category.
Plus qty indicates an excess of material within the category,
Minus qty indicates a shortage of material within the category
5) Waste = Positive Mass Ordinate, Borrow = Negative Mass Ordinate
* Additional Quantities Listed Elsewhere

BASE AGGREGATE SUMMARY						
				305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL *
0010	I	TEMP PAV'T	TEMP BASE	0	90	0.2
	II	101+00.00 A - 103+83.28 A	LT & RT	7	140	0.3
	III	102+94.48 - 113+48.82	LT & RT	150	2,000	4.3
	IV	NEW ISLAND	NEW BASE	0	45	0.1
TOTAL				157	2275	4.9

* ADDITIONAL QUANTITIES LISTED ELSEWHERE.

CONCRETE PAVEMENT SUMMARY						
CATEGORY	STAGE	STATION - STATION	LOCATION	415.0090 CONCRETE PAVEMENT 9-INCH SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH
0010	STAGE II	100+78.42 A - 102+93.23 A	LT & RT	325	87	24
	STAGE III	105+27.12 - 113+48.82	LT & RT	850	---	---
TOTAL				1175	87	24

HMA PAVEMENT SUMMARY									
				455.0120 ASPHALTIC MATERIAL PG64-28 TON	455.0605 TACK COAT GAL	460.1100 HMA PAVEMENT TYPE E-0.3 TON	460.1103 HMA PAVEMENT TYPE E-3 TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	465.0315 ASPHALTIC FLUMES SY
CATEGORY	STAGE	STATION - STATION	LOCATION						
0010	STAGE I	103+83.13 - 104+79.40	EX ISLAND	---	---	---	---	32	---
	STAGE II	103+82.50	REPLACE EX FLUME	---	---	---	---	---	5
	STAGE III LOWER LAYER	105+27.12 - 113+48.82	LT & RT	7.0	---	---	130	---	---
	STAGE III UPPER LAYER	105+27.12 - 113+48.82	LT & RT	4.9	20	---	88	---	---
	STAGE IV LOWER LAYER	104+66.57 - 105+27.12	LT & RT	1.0	---	---	18	---	---
	STAGE IV UPPER LAYER	104+66.57 - 105+27.12	LT & RT	0.7	3	---	13	---	---

	STAGE II SHOULDERS	101+00.00 A - 103+83.28 A	LT	1.0	3	18	---	---	---
	STAGE III SHOULDERS	102+94.48 - 113+48.82	RT	6.2	20	115	---	---	---

			TOTAL	20.8	46	133	249	32	5

3

APRON ENDWALLS AND CULVERT PIPE REINFORCED CONCRETE SUMMARY									
CATEGORY	STATION	STRUCT.	522.0124 CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	524.0612 APRON ENDWALLS FOR CULVERT PIPE SALVAGED 12-INCH EACH	524.0624 APRON ENDWALLS FOR CULVERT PIPE SALVAGED 24-INCH EACH	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	633.5200 MARKERS CULVERT END EACH	650.6000 CONSTRUCTION STAKING PIPE CULVERT EACH	JOINT TIES EACH
0010	103+80.00 104+78.25 107+11.90	10F 10G 10H	--- --- 24	--- 1 ---	--- 1 1	1 --- ---	1 1 1	--- --- 1	--- --- 6
		TOTAL	24	1	1	1	3	1	6

CONCRETE CURB & GUTTER SUMMARY					
CATEGORY	STATION - STATION	LOCATION	601.0409 30-INCH TYPE A LF	601.0411 30-INCH TYPE D LF	650.5500 CONSTRUCTION STAKING CURB GUTTER LF
0010	104+63.85 - 105+22.89 103+77.06 - 105+18.11	ISLAND ISLAND	--- 225	80 ---	80 225
		TOTAL	225	80	305

CONCRETE CURB PEDESTRIAN			
CATEGORY	STATION	LOCATION	601.0600 LF
0010	104+71.27 104+78.46	PED CUTOUT PED CUTOUT	34 28
		TOTAL	62

CURB RAMP DETECTABLE WARNING FIELD			
CATEGORY	STATION	LOCATION	602.0515 NATURAL PATINA SF
0010	104+75	PED CUTOUT	28
		TOTAL	28

CONCRETE SIDEWALK SUMMARY				
CATEGORY	STATION - STATION	LOCATION		602.0405 4-INCH SF
0010	103+70.41 - 105+24.16	ISLAND & PED CUTOUT		2,900
		TOTAL		2,900

STORM SEWER PIPE SUMMARY					
CATEGORY	STAGE	STRUCT.	520.8000 CONCRETE COLLARS FOR PIPE EACH	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	650.4000 CONSTRUCTION STAKING STORM SEWER EACH*
0010	III III IV IV IV	10E EXISTING 10A 10B 10D	--- --- 1 1 1	38 13 8 10 5	1 1 1 1 1
		TOTAL	3	74	5

* ADDITIONAL QUANTITIES LISTED ELSEWHERE.

MANHOLES AND INLETS SUMMARY							
CATEGORY	STAGE	STRUCT. ID*	611.3230 INLETS 2X3-FT EACH	611.0624 INLET COVERS TYPE H EACH	611.0639 INLET COVERS TYPE H-S EACH	611.8120.S COVER PLATES TEMPORARY EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH*
0010	III IV	10E 10A	1 1	1 ---	--- 1	--- 1	1 1
		TOTAL	2	1	1	1	2

* ADDITIONAL QUANTITIES LISTED ELSEWHERE.

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	PROJECT I.D.	618.0100 EACH
0010	1630-00-75	1
	TOTAL	1

CONCRETE MEDIAN SLOPED NOSE

CATEGORY	STATION	LOCATION	620.0300 SF	REMARK
0010	103+71.80 105+22.73 104+63.85	ISLAND NOSE ISLAND NOSE ISLAND NOSE	20 20 2	TYPE 1 TYPE 1 TYPE 2
		TOTAL	42	

FINISHING ITEMS								
				625.0500	627.0200	629.0210	630.0120	630.0200
				SALVAGED TOPSOIL SY	MULCHING SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB	SEEDING TEMPORARY LB
CATEGORY	STAGE	STATION - STATION	LOCATION					
0010	STAGE II	101+00.00 A - 103+83.28 A	LT & RT	560	560	2	15	15
	STAGE III	102+94.48 - 113+48.82	LT & RT	4,350	4,200	4	140	140
		TOTAL		4,910	4,760	6	155	155

SILT FENCE					TRACKING PADS		
CATEGORY	STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	CATEGORY	STATION	628.7560 EACH
0010	100+75 A - 103+85 A 110+00 - 111+50 112+50 - 113+50	LT RT RT	340 155 125	340 155 125	0010	100+77.17 - 113+48.82	1
		TOTAL				TOTAL	1
		SUBTOTAL	620	620			
		UNDISTRIBUTED	155	155			
		TOTAL	775	775			

EROSION CONTROL SUMMARY						
CATEGORY	STATION - STATION	LOCATION	628.2002 EROSION MAT CLASS I TYPE A SY	628.2023 EROSION MAT CLASS II TYPE B SY	628.7570 ROCK BAGS EACH	REMARKS
0010	106+50 - 107+00 107+00 - 107+12 107+12 - 107+50 107+50 - 108+00 108+00 - 108+50 108+50 - 109+00 109+00 - 109+50 109+50 - 110+00 110+00 - 110+50	RT RT RT RT RT RT RT RT RT	110 30 100 --- --- --- --- --- --- ---	--- --- --- 35 35 45 35 25 50	--- --- --- --- 3 --- --- --- ---	PLACE AT STA 108+00
		SUBTOTAL	240	225	3	
		UNDISTRIBUTED	60	56	0	
		TOTAL	300	281	3	

MOBILIZATION EROSION CONTROL				CULVERT PIPE CHECKS			
CATEGORY	PROJECT I.D.	EACH	628.1905 MOBILIZATIONS EROSION CONTROL	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	CATEGORY	STATION	628.7555 CULVERT PIPE CHECKS EACH
0010	1630-00-75	1		1	0010	100+52.55 111+71.50	47.5' LT 33.9' RT 5 2
	TOTAL	1		1		TOTAL	7

RIPRAP LIGHT & GEOTEXTILE FABRIC

CATEGORY	STATION	LOCATION	606.0100 RIPRAP LIGHT CY	645.0130 GEOTEXTILE FABRIC TYPE R SY
0010	103+80	RT	5	20
		TOTAL	5	20

INLET PROTECTION

CATEGORY	STATION	OFFSET	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH
0010	103+80.00 104+67.01	16.2' LT 56.1' LT	1 ---	1 1
		TOTAL	1	2

PERMANENT SIGNING SUMMARY															
CATEGORY	SIGN NO.	STATION	SIGN CODE	SIGN MESSAGE	W X H	637.0202	634.0614	634.0616	634.0618	638.2102	638.2602	638.3000	638.4000	REMARKS	
						SIGNS REFLECTIVE TYPE II S.F.	POSTS WOOD 4x6x14 EACH	POSTS WOOD 4X6X16 EACH	POSTS WOOD 4x6X18 EACH	MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	MOVING SMALL SIGN SUPPORTS EACH		
0100	1-1	101+89.21 A	R5-1A	WRONG WAY	36" X 24"	6.00	1	---	---	---	1	---	---		
	1-2	103+91.13 A	W12-ID	DOUBLE DOWN ARROW	24" X 24"	4.00	1	---	---	---	1	1	---		
	1-3	104+25.32 A	R3-1	NO RIGHT TURN SYMBOL	24" X 24"	4.00	1	---	---	---	1	1	---		
	1-4	104+25.32 A	R5-1	DO NOT ENTER	30" X 30"	6.25	1	---	---	---	1	---	---		
	1-5	104+27.54 A	R1-1	STOP	36" X 36"	7.46	---	1	---	---	1	1	---		
	1-6	104+46.64 A	R6-1R	ONE WAY RIGHT	36" X 12"	3.00	---	---	1	---	---	---	---		
	1-7	104+46.64 A	R1-1	STOP	36" X 36"	7.46	---	---	---	---	1	1	---	MOUNT BELOW 1-6 FACING USH 53 OFF RAMP TRAFFIC	
	1-8	104+46.64 A	R6-3	DIVIDED HIGHWAY	30" X 24"	5.00	---	---	---	---	---	---	---	MOUNT BELOW 1-6 FACING USH 53 OFF RAMP TRAFFIC	
	1-9	104+46.64 A	R6-2L	ONE WAY LEFT ARROW	24" X 30"	5.00	---	---	---	---	1	---	---	MOUNT ON SAME POST AS 1-6 FACING CTH S NB TRAFFIC	
	1-10	104+46.83 A	J12-1	ROUTE TURN WITHOUT CARDINAL	24" X 45"	7.50	---	1	---	---	2	1	---		
	1-11	109+50.00 ML	R2-1	SPEED LIMIT 35 MPH	24" X 30"	5.00	1	---	---	---	1	1	---	EX SIGN AT STA. 109+28.13	
	1-12	110+50.00 ML	J2-3	CITY NAME SIGN POPULATION	66" X 24"	---	---	---	---	1	---	---	1	EX SIGN AT STA. 107+41.15	
	1-13	110+50.00 ML	ALT SIDE PARK	ALTERNATE SIDE PARKING CITY SIGN	60" X 60"	---	---	---	---	1	---	---	1	MOUNT BELOW 1-12	
	1-14	108+50.00	W4-2R	LANE REDUCTION TRANSITION RT	36" X 36"	9.00	---	1	---	---	---	---	---		
	1-15	106+50.00 ML	J4-1	REASSURANCE ASSEMBLY	24" X 36"	6.00	---	1	---	---	2	1	---	EX. SIGN AT STA. 106+01.97	
	1-16	104+86.05 ML	R1-1	STOP	36" X 36"	---	---	---	---	---	1	1	---		
	1-17	103+80.74 ML	W11-1	BICYCLE SYMBOL	30" X 30"	6.25	1	---	---	---	---	---	---		
	1-18	101+77.19 A	R5-1A	WRONG WAY	36" X 24"	6.00	1	---	---	---	1	1	---		
TOTAL						87.92	7	4	1	2	14	9	2		

FIELD OFFICE		
CATEGORY	PROJECT I.D.	642.5201 TYPE C EACH
0010	1630-00-75	1

TRAFFIC CONTROL		
CATEGORY	PROJECT I.D.	643.0100 EACH
0010	1630-00-75	1

TRAFFIC CONTROL SUMMARY																		
				643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.1050		
CATEGORY	STAGE	DURATION DAYS	LOCATION	DRUMS		BARRICADES TYPE III		WARNING LIGHTS TYPE A		WARNING LIGHTS TYPE C		ARROW BOARDS		SIGNS		SIGNS PORTABLE CHANGEABLE MESSAGE		REMARKS
				EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAY	
0100	ALL I	3	PRE-CONSTRUCTION	0	0	0	0	0	0	0	0	0	0	0	0	2	6	PLACE ON SAND LAKE RD NB AND US 53 NB OFF RAMP USE LT LANE FOR RT TURNS
		61	ADVANCE WARNING	0	0	0	0	0	0	0	0	0	0	8	488	0	0	
		4	SAND LAKE RD & US 53 NB OFF RAMP ISLAN	15	60	2	8	4	16	0	0	1	3	3	12	1	4	
		4	SAND LAKE RD NB SHOULDER CLOSURE	9	36	0	0	0	0	0	0	1	3	0	0	0	0	
	TOTALS STAGE ADVANCE & I			24	96	2	8	4	16	0	0	2	6	11	500	3	10	
	II	20	SAND LAKE RD & US 53 NB OFF RAMP	20	400	0	0	0	0	0	0	0	0	0	0	0	0	
		20	SAND LAKE RD NB SHOULDER CLOSURE	9	180	0	0	0	0	0	0	1	20	0	0	0	0	
		TOTALS STAGE II			29	580	0	0	0	0	0	0	1	20	0	0	0	0
	III	29	SAND LAKE RD & US 53 NB OFF RAMP	20	580	3	87	6	174	20	580	1	29	3	87	0	0	
			SAND LAKE RD & US 53 NB OFF RAMP	24	696	1	29	2	58	0	0	0	0	1	29	0	0	
			SAND LAKE RD NB SHOULDER CLOSURE	9	261	0	0	0	0	0	0	1	29	0	0	0	0	
		TOTALS STAGE III			53	1,537	4	116	8	232	20	580	2	58	4	116	0	0
	IV	8	SAND LAKE RD & US 53 NB OFF RAMP	23	184	0	0	0	0	2	16	0	0	1	8	0	0	
		8	SAND LAKE RD NB SHOULDER CLOSURE	9	72	0	0	0	0	0	0	1	8	0	0	0	0	
		TOTALS STAGE IV			32	256	0	0	0	0	2	16	1	8	1	8	0	0
GRAND TOTAL				138	2,469	6	124	12	248	22	596	6	92	16	624	3	10	

PAVEMENT MARKING								
CATEGORY	STATION - STATION	LOCATION	646.0106			646.0126	647.0566	
			EPOXY 4-INCH			EPOXY 8-INCH (WHITE CHANNELIZING)	EPOXY 18-INCH (WHITE STOP LINE)	
			WHITE EDGE LINE LF	YELLOW EDGE LINE LF	WHITE 3' LINE-9' GAP LF			
0010	100+76.48 A - 104+38.38 A	LT	---	365	---	---	---	
	103+69.26 A - 104+47.79 A	RT	86	---	---	---	---	
	103+80.41 - 105+17.72	LT	---	140	---	---	---	
	102+94.48 - 112+87.90	RT	995	---	---	---	---	
	104+38.38 A	LT	---	---	---	---	32	
	104+68.20 - 105+20.24	EX PAV'T EDGE	78	---	---	---	---	
	102+26.53 A - 103+69.26 A	CL/RT	---	---	---	185	---	
	105+17.72 - 108+23.69	GORE	---	---	---	620	---	
	108+23.69 - 109+07.05	EX PAV'T EDGE	---	---	21	---	---	
		SUBTOTAL	1,159	505	21	805	32	
		TOTAL		1,685		805	32	

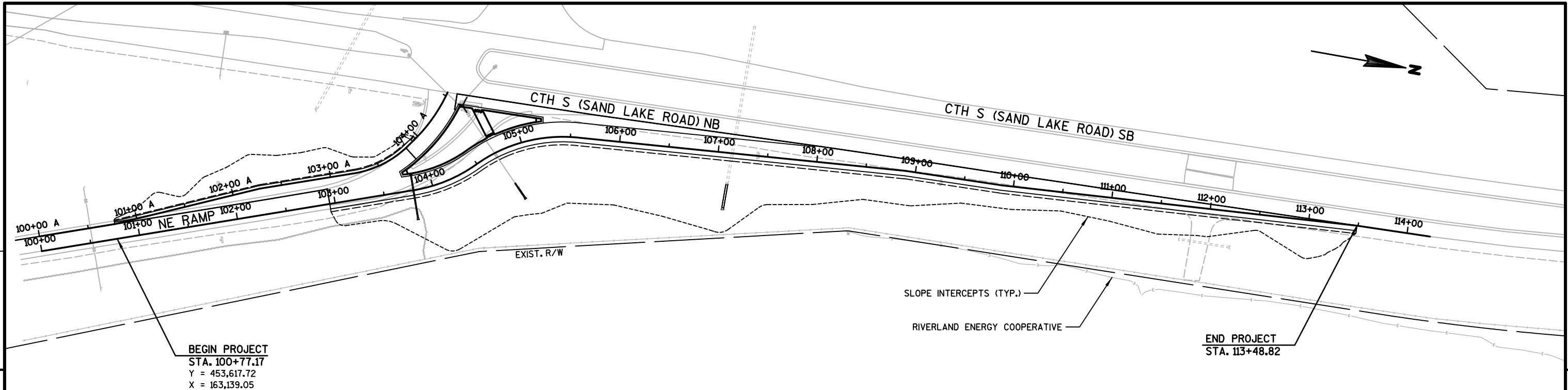
CONSTRUCTION STAKING					
CATEGORY	STATION - STATION	650.4500	650.5000	650.7000	650.9920
		SUBGRADE LF	BASE LF	CONSTRUCTION STAKING CONCRETE PAVEMENT LF	SLOPE STAKES LF
0010	100+78.42 A - 103+83.31 A	305	---	305	305
	102+94.48 - 107+96.61	500	---	500	500
	107+96.61 - 113+48.83	550	550	---	550
	TOTAL	1,355	550	805	1,355

SAWING PAVEMENT SUMMARY					
CATEGORY	STAGE	STATION - STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	I	---	EX ISLAND	---	208
	II	103+83.31 A	LT	3	15
	III	102+94.48	LT	5	15
	III	105+25 - 113+48.82	EX PAV'T EDGE	845	7
	IV	104+61.46 - 105+25	LT	90	17
		TOTAL		943	262

TEMPORARY PAVEMENT MARKING SUMMARY						
CATEGORY	STATION TO STATION	LOCATION	STAGE	649.0400	649.0701	649.0801
				TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) LF	TEMPORARY PAVEMENT MARKING 8-INCH (WHITE) LF	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE) LF
0010	104+70.29	EX ISLAND	II	---	---	---
	104+47.66 - 104+70.29	EX ISLAND RT	II	---	---	29
	100+77.17 - 103+65.83	CL/RT	III	290	---	---
	104+43.02 - 104+66.83	EX ISLAND CL	III	---	29	---
	105+27.33 - 113+48.82	EX PAV'T EDGE	III	830	---	---
	102+94.48 - 103+70.41	RT TURN LANE TAPE	IV	76	---	---
	105+31.03 - 105+72.96	RT TURN LANE TAPE	IV	42	---	---
		TOTAL		1238	29	29
						22

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL		
CATEGORY	PROJECT I.D.	650.9910 LS
0010	1630-00-75	1

FLEXIBLE TUBULAR MARKER SUMMARY				
CATEGORY	STATION - STATION	LOCATION	SPV.0060.01	SPV.0060.02
			FLEXIBLE TUBULAR MARKER POSTS EACH	FLEXIBLE TUBULAR MARKER BASES EACH
0010	105+24.83 - 105+74.96	LT	6	6
		TOTAL	6	6

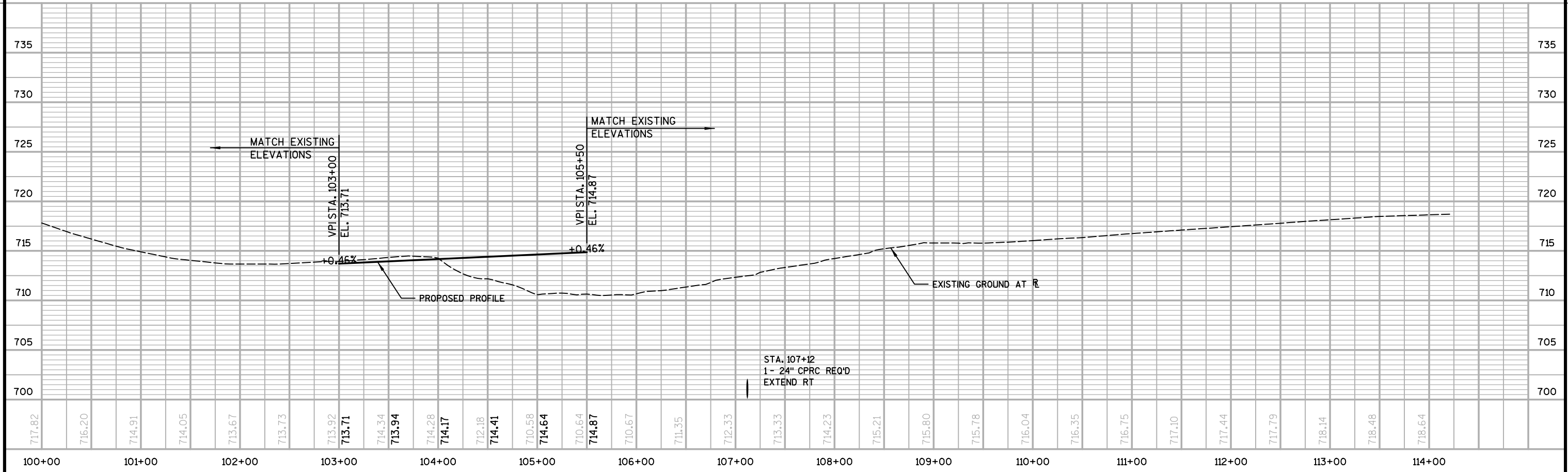


BEGIN PROJECT
STA. 100+77.17
Y = 453,617.72
X = 163,139.05

BENCH MARKS

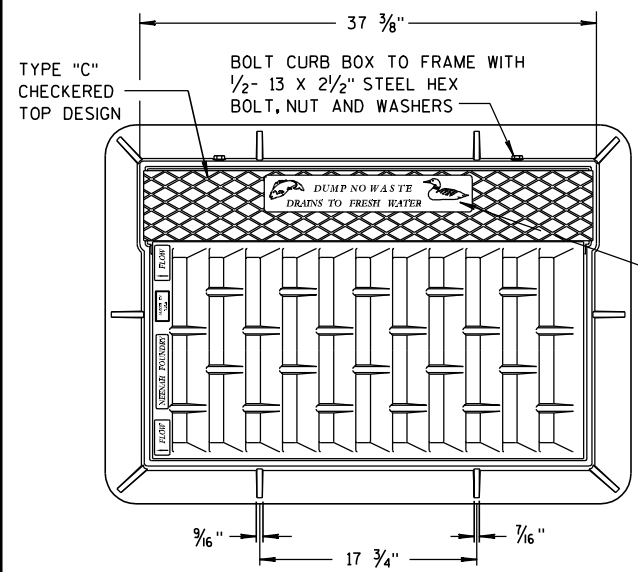
NO.	STATION	DESCRIPTION	ELEV.
1	99+42, 193.3' LT	ALUM. PLAQUE TOP PARAPET SE CORNER SOUTH ABUTMENT B-32-131	740.51

STA. 111+95 RT
CONSTRUCT F.E.

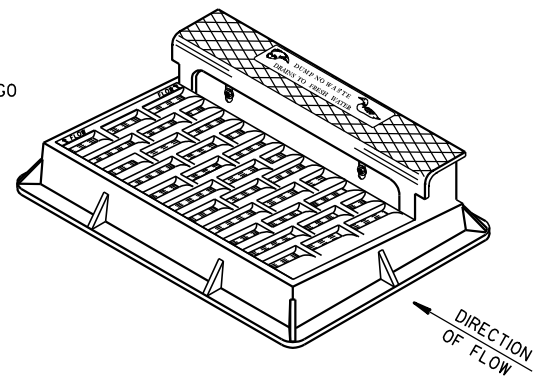


Standard Detail Drawing List

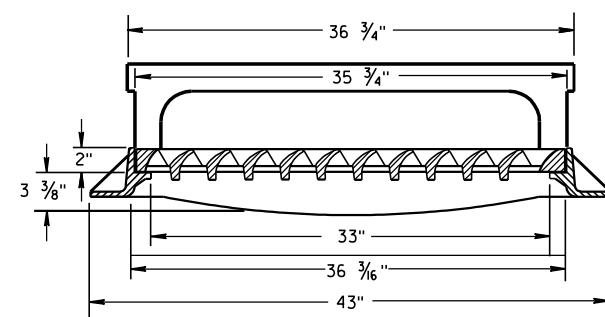
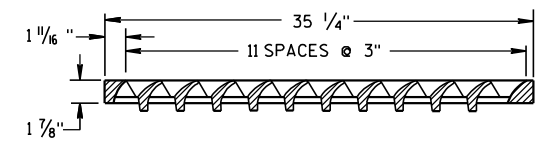
08A05-18A	INLET COVERS TYPE A, H, A-S, & H-S
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-14A	CURB RAMPS TYPES 1 AND 1-A
08D05-14B	CURB RAMPS TYPES 2 AND 3
08D05-14C	CURB RAMPS TYPE 4A
08D05-14D	CURB RAMPS TYPE 4B
08D05-14E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
11B02-02	CONCRETE MEDIAN NOSE
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-10A	RURAL DOWELED CONCRETE PAVEMENT
13C11-10B	RURAL DOWELED CONCRETE PAVEMENT
13C18-01A	CONCRETE PAVEMENT JOINTING
13C18-01B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-01C	CONCRETE PAVEMENT JOINT TIES
13C18-01D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C08-15A	PAVEMENT MARKING (MAINLINE)
15C08-15F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT



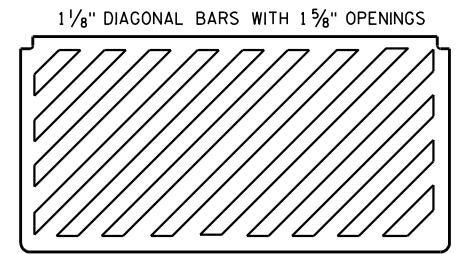
NOTE:
GRATE IS REVERSIBLE.



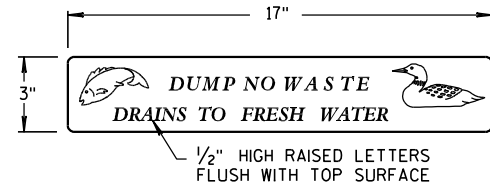
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



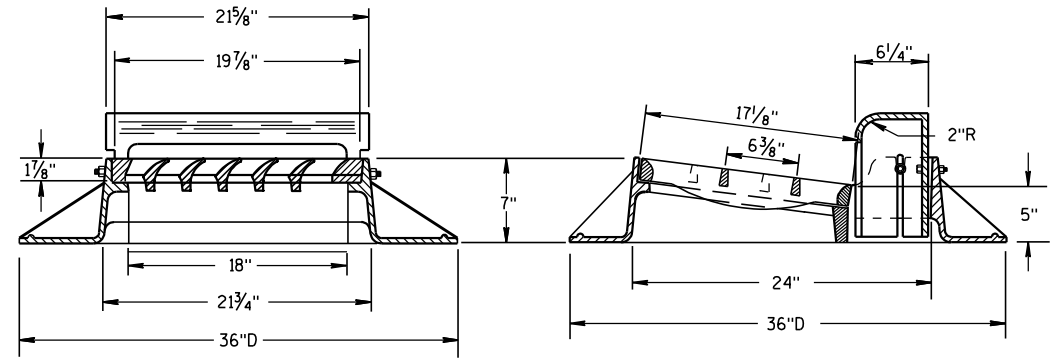
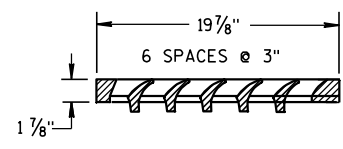
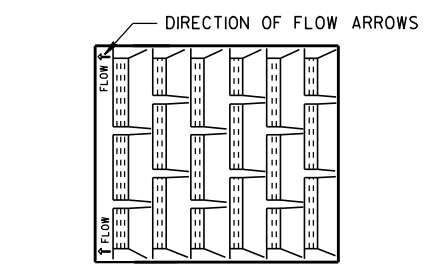
TYPE "H"
(APPROXIMATE WEIGHT 441 LBS.)
FRAME..... 181 LBS.
GRATE..... 146 LBS.
CURB BOX..... 114 LBS.



SPECIAL GRATE FOR TYPE "H" COVER
(MEASURES 35 1/4" X 17 3/4" X 2")
(APPROXIMATE WEIGHT 159 LBS.)
GRATE..... 159 LBS.
(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



TYPE "A"

(APPROXIMATE WEIGHT 340 LBS.)
FRAME..... 185 LBS.
GRATE..... 71 LBS.
CURB BOX..... 84 LBS.

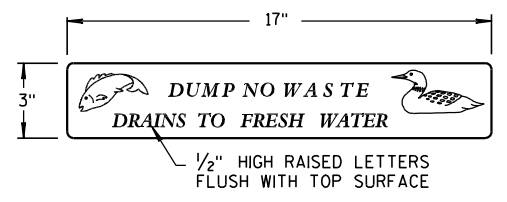
GENERAL NOTES

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

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

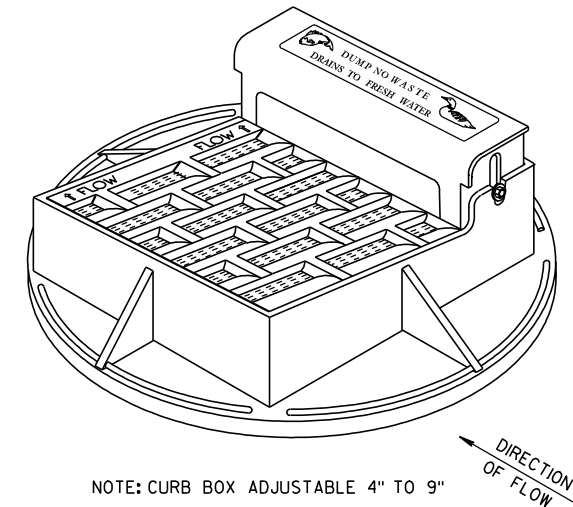
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

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

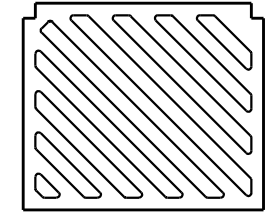


LOGO DETAIL

NOTE:
GRATE IS REVERSIBLE.



1" DIAGONAL BARS WITH 1 1/2" OPENINGS

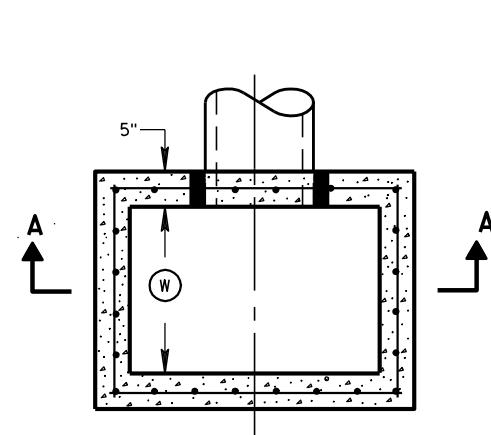


SPECIAL GRATE FOR TYPE "A" COVER
(MEASURES 19 3/4" X 17" X 1 7/8")
GRATE..... 84 LBS.
(NOTED AS TYPE A-S ON DRAINAGE TABLE)

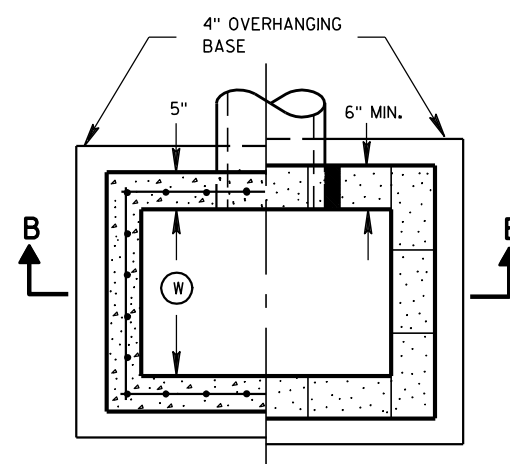
**INLET COVERS
TYPE A, H, A-S, & H-S**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

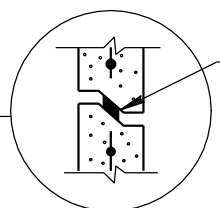
APPROVED
6/5/2012 DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



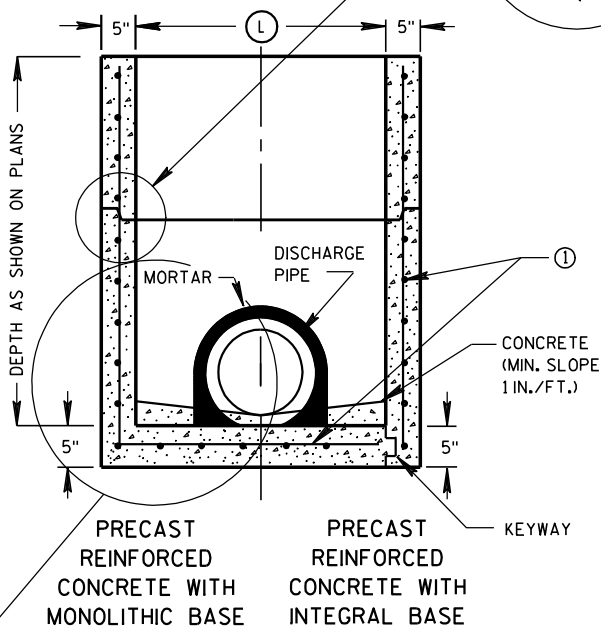
PLAN VIEW



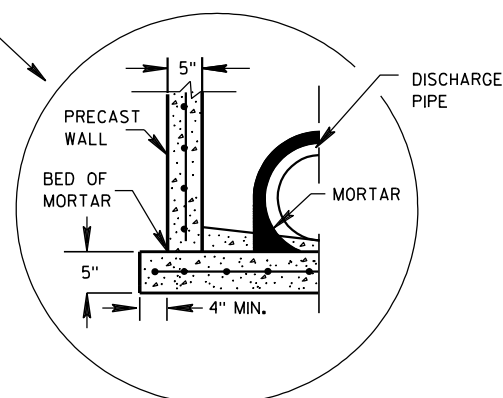
PLAN VIEW



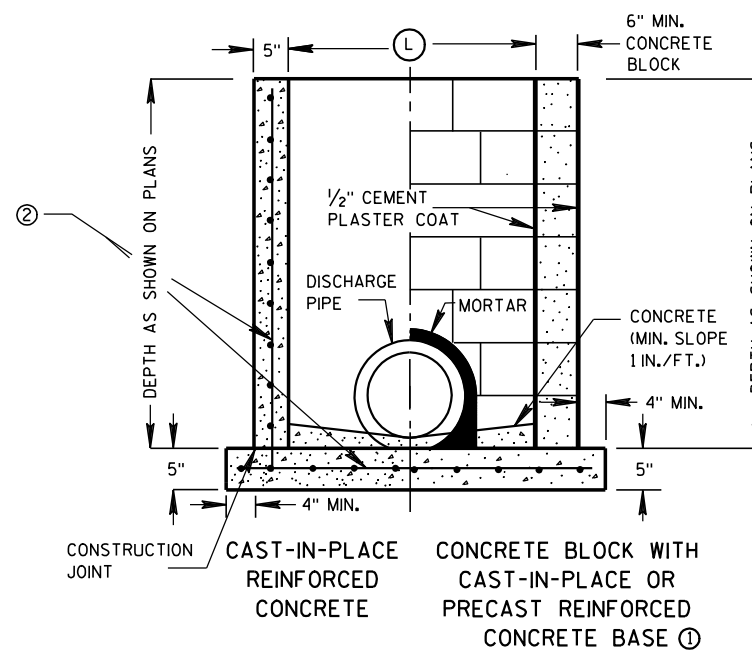
RISER JOINTS TO BE SEALED
WITH A BUTYL RUBBER SEAL
PER SEALANT MANUFACTURERS
RECOMMENDATIONS CONFORMING
TO ASTM C 990 (TYP)



SECTION A-A



SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION



SECTION B-B

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

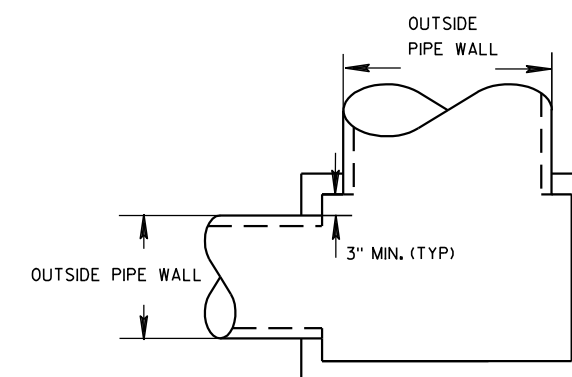
- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2,5-FT	12	18
2X3-FT	12	24
2,5X3-FT	18	24



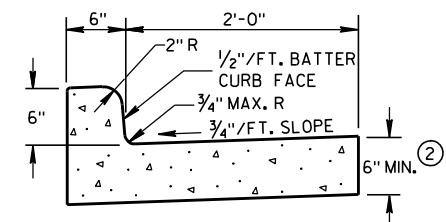
DETAIL "A"

**INLETS 2X2-FT, 2X2.5-FT,
2X3-FT AND 2.5X3-FT**

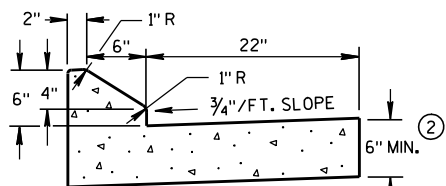
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED <u>6/5/2012</u> DATE FHWA	<u>/S/ Jerry H. Zogg</u> ROADWAY STANDARDS DEVELOPMENT ENGINEER
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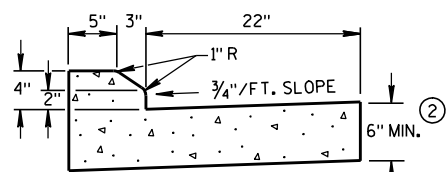
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT



TYPES A & D ①

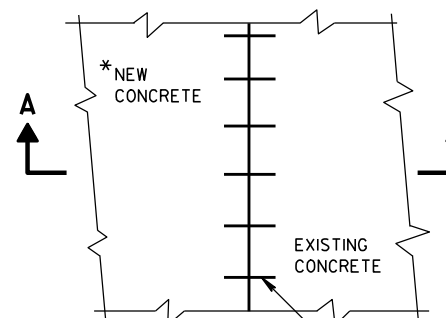


6" SLOPED CURB TYPES G & J ①



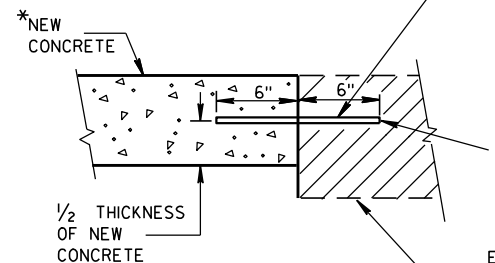
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"



PLAN VIEW

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

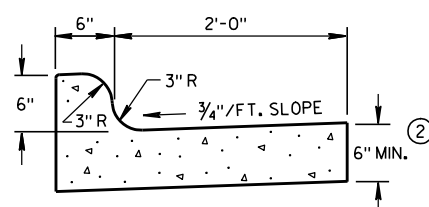


SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

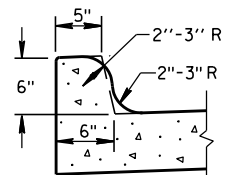
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

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

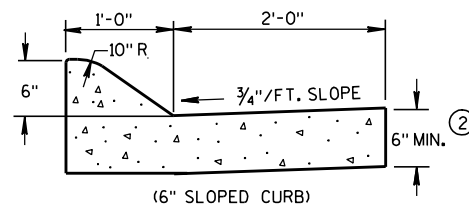
EXISTING
CONCRETE



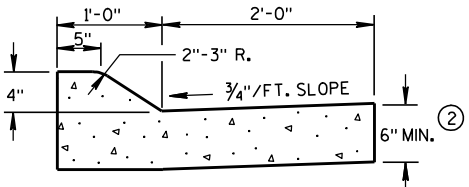
TYPES K & L ①



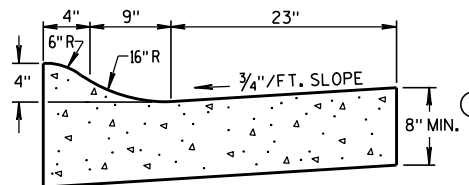
OPTIONAL CURB SHAPE
FOR TYPES K & L ①



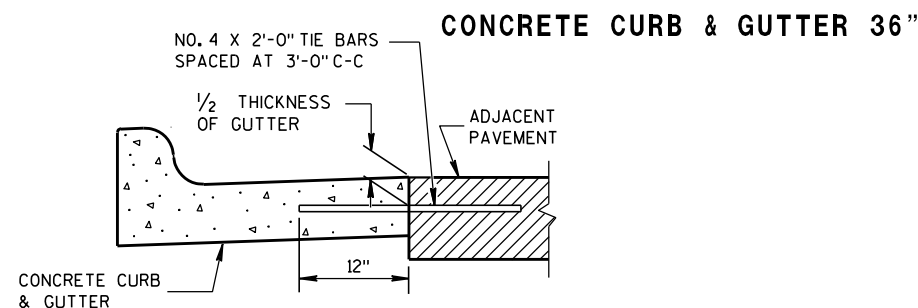
(6" SLOPED CURB)



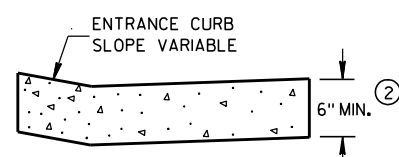
TYPES A & D ①



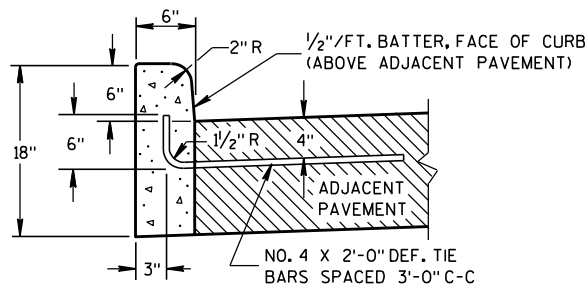
4" SLOPED CURB TYPES R & T ① ④



TYPICAL TIE BAR LOCATION ①

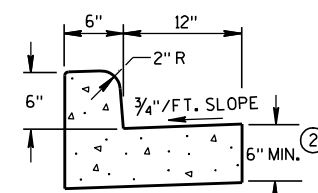


DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

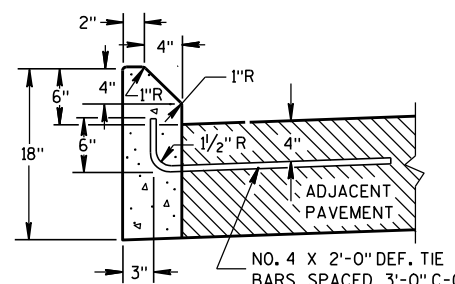


TYPES A & D ①

CONCRETE CURB



TYPES A & D
CONCRETE CURB & GUTTER 18"



TYPES G & J ①

GENERAL NOTES

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

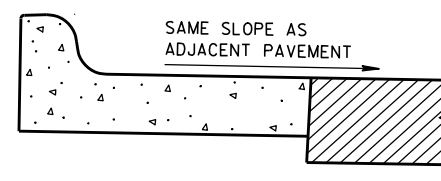
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

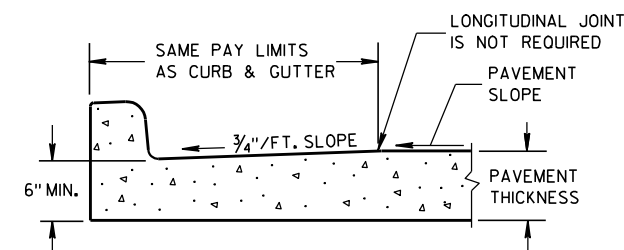
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

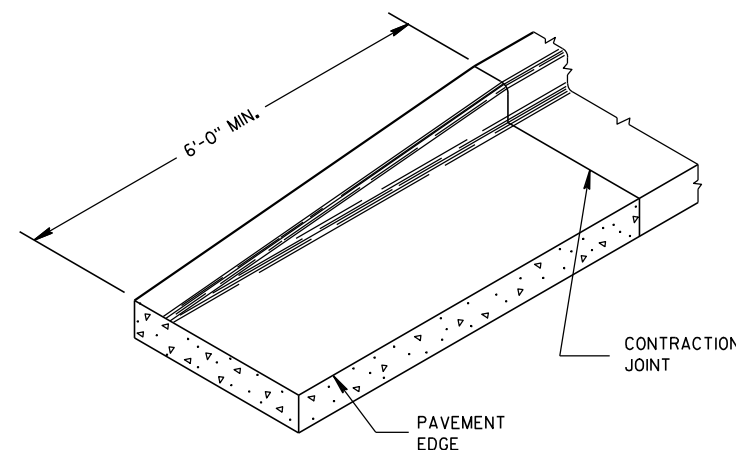
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

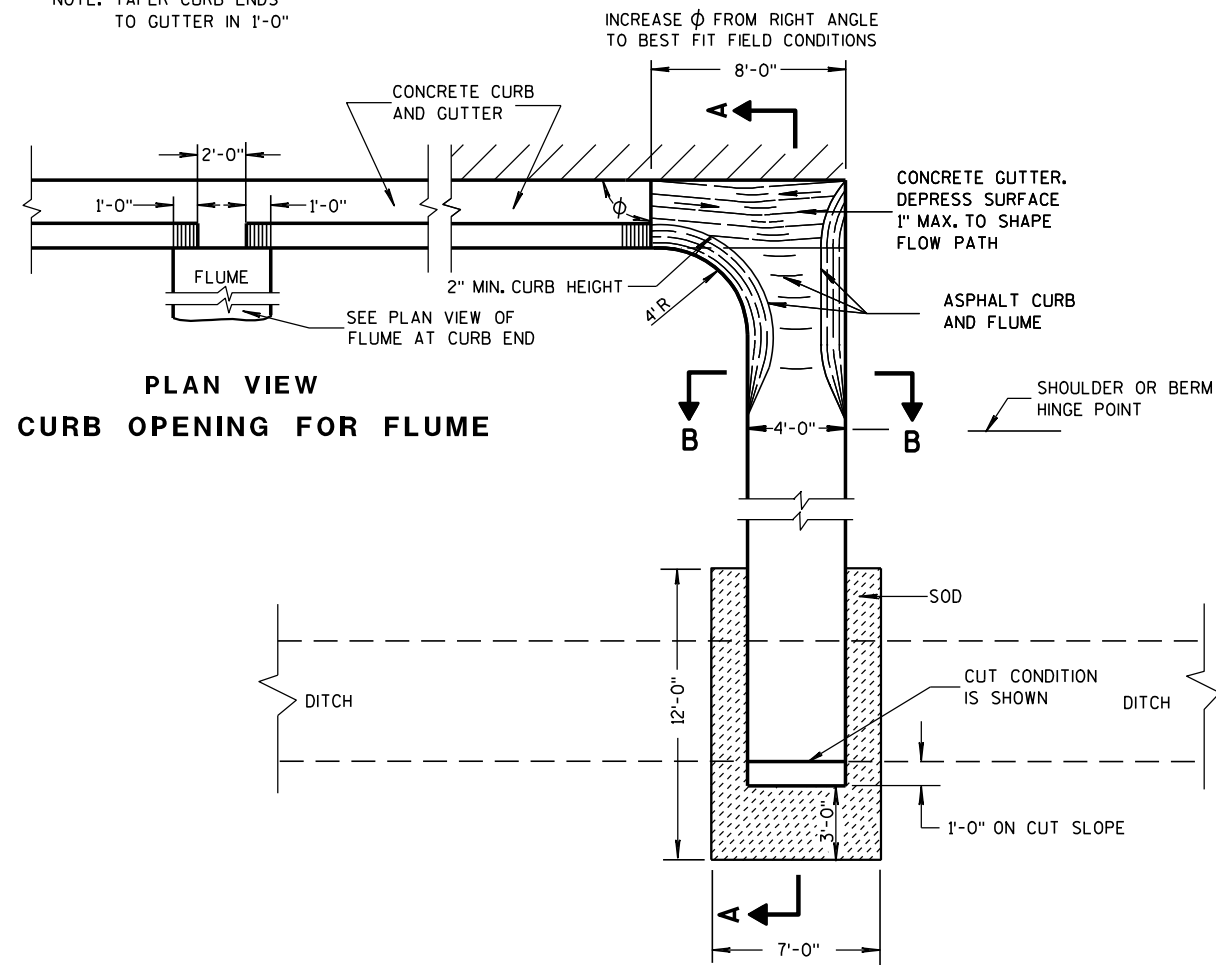
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

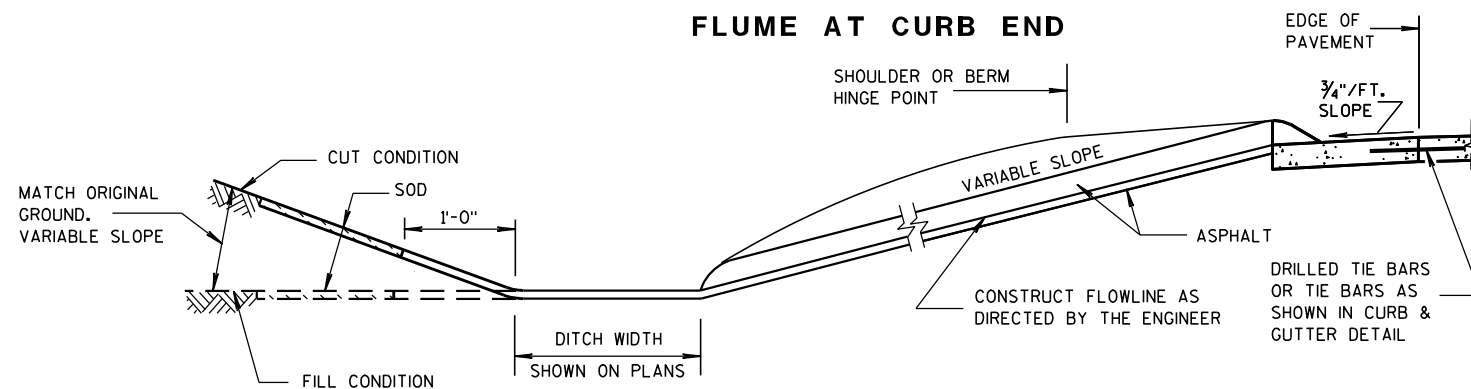
ASPHALTIC FLUME

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

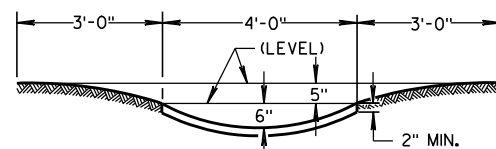


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

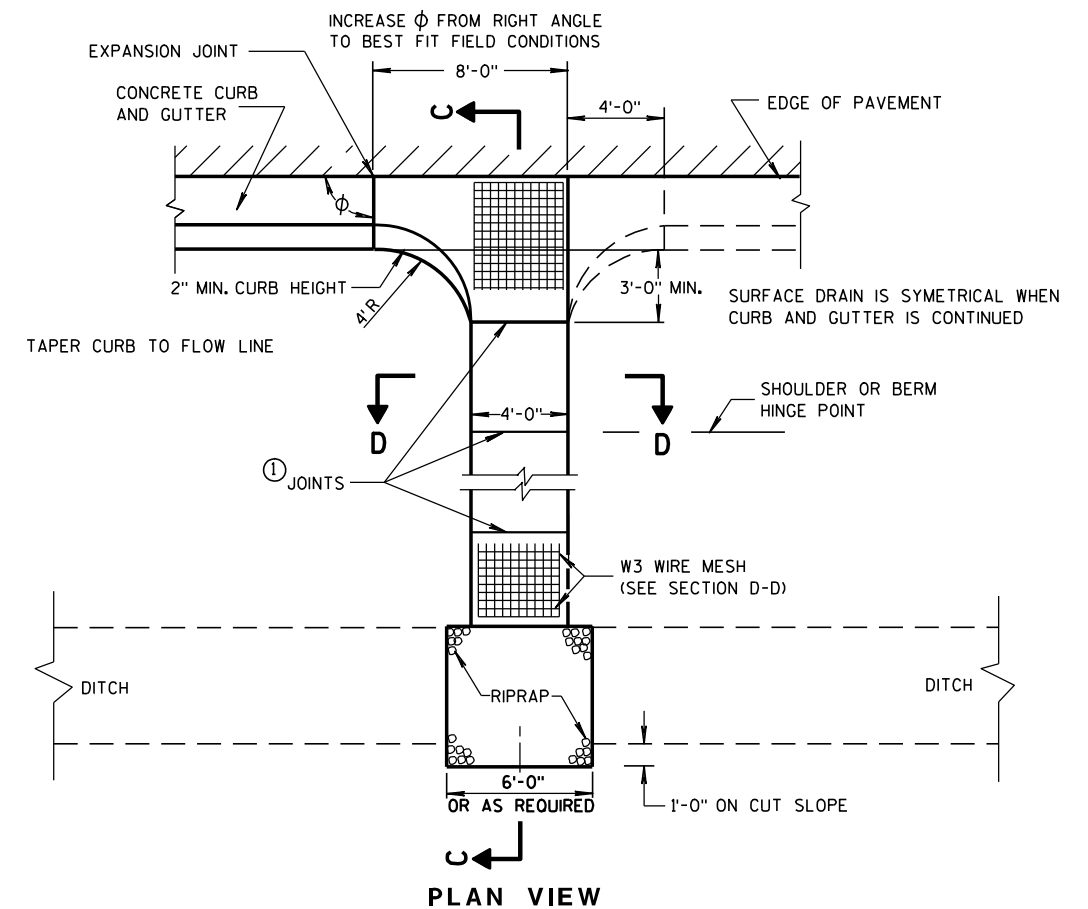
GENERAL NOTES

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

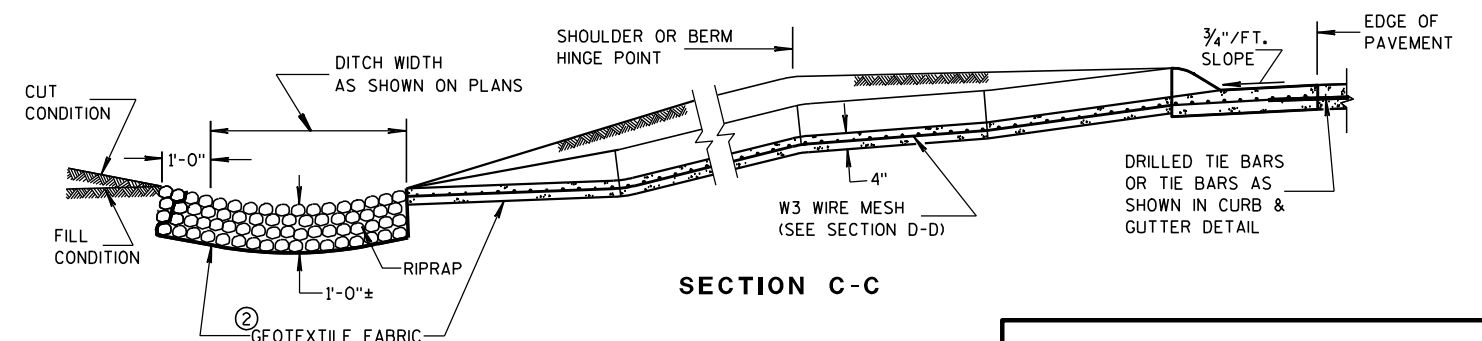
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

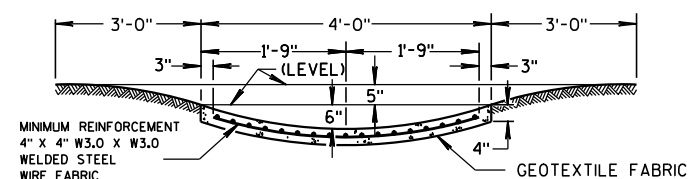
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

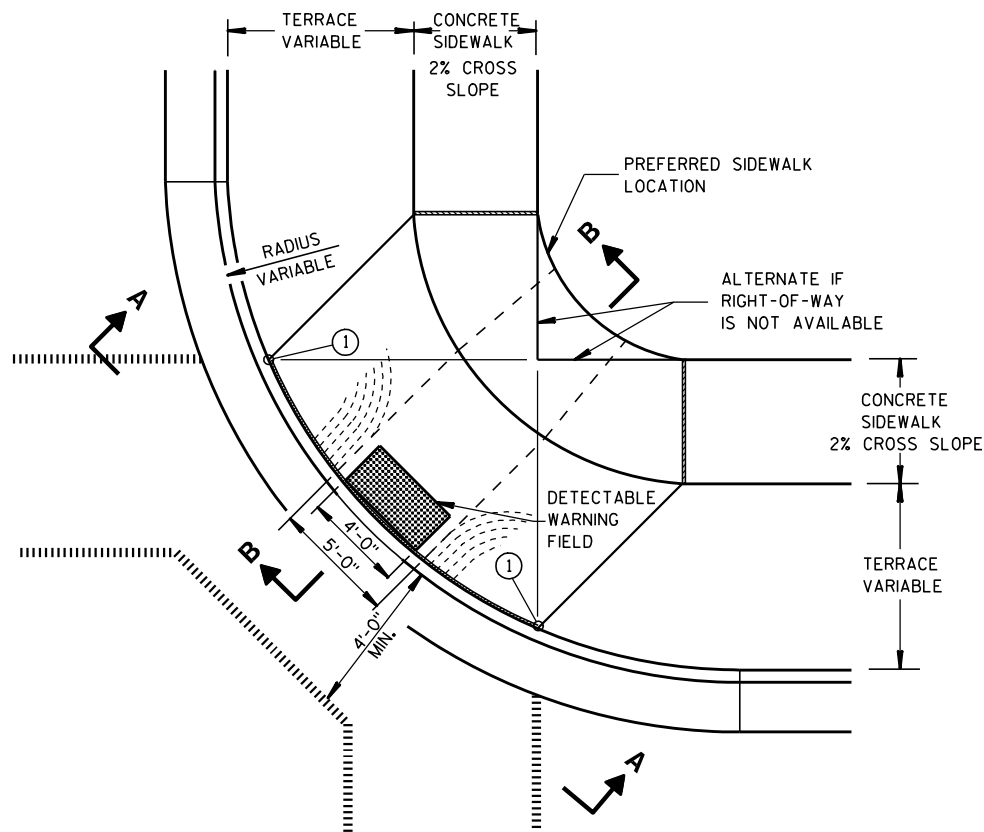
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

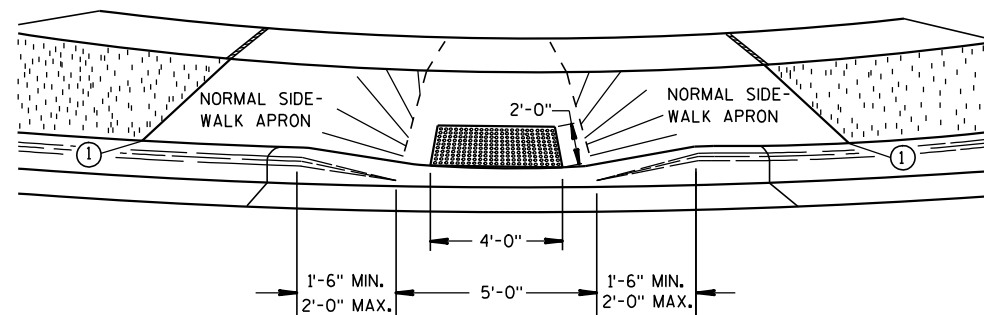
9-4-08
DATE

FHWA

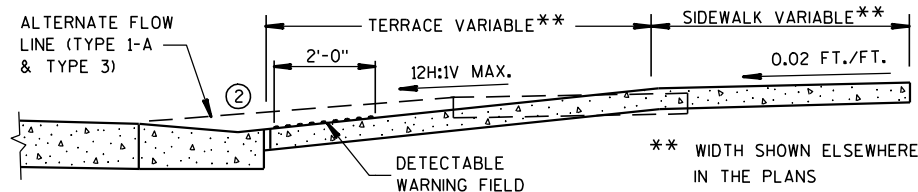
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



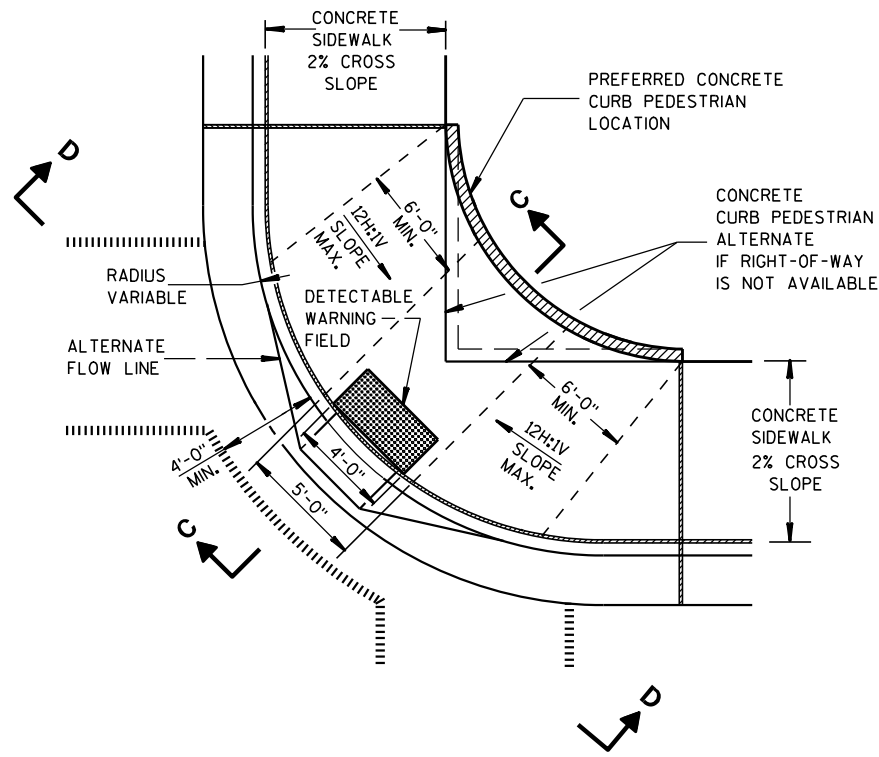
PLAN VIEW
TYPE 1 RAMP
(CENTER OF CORNER RADIUS)



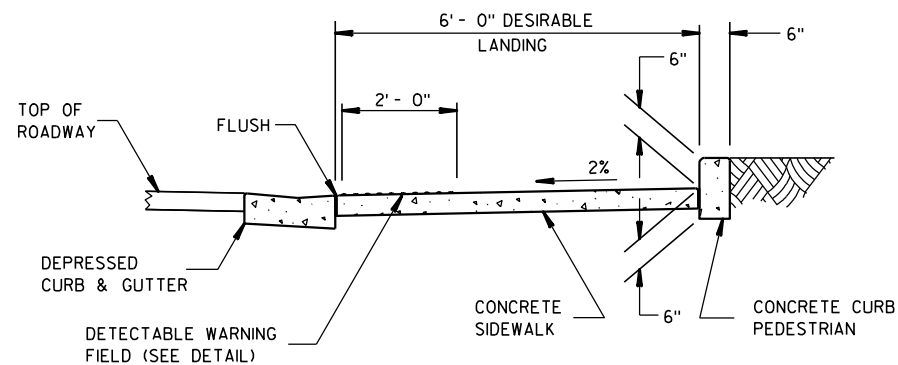
VIEW A-A



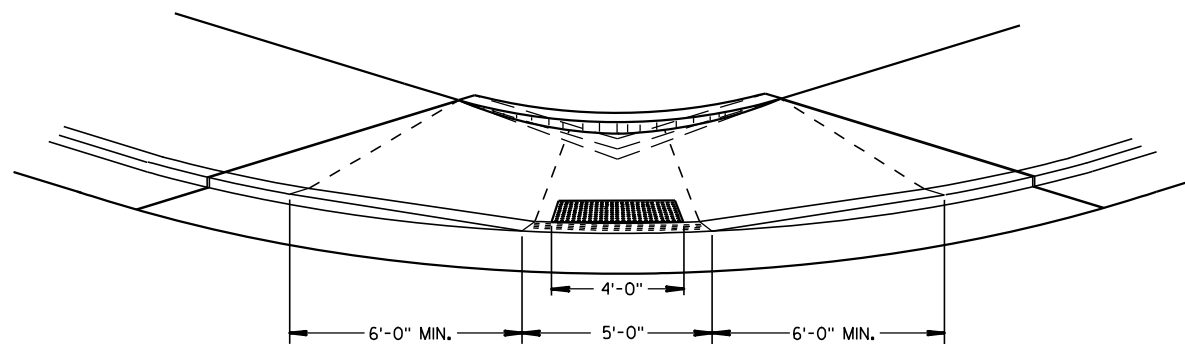
SECTION B-B



PLAN VIEW
TYPE 1-A RAMP
(NO TERRACE)



SECTION C-C



VIEW D-D

GENERAL NOTES

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

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

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

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

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

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

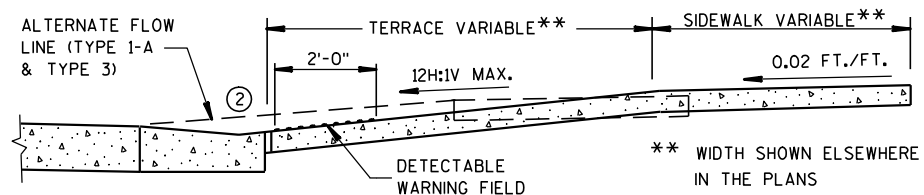
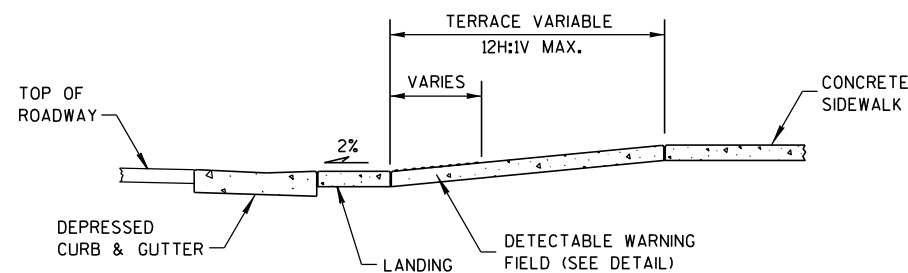
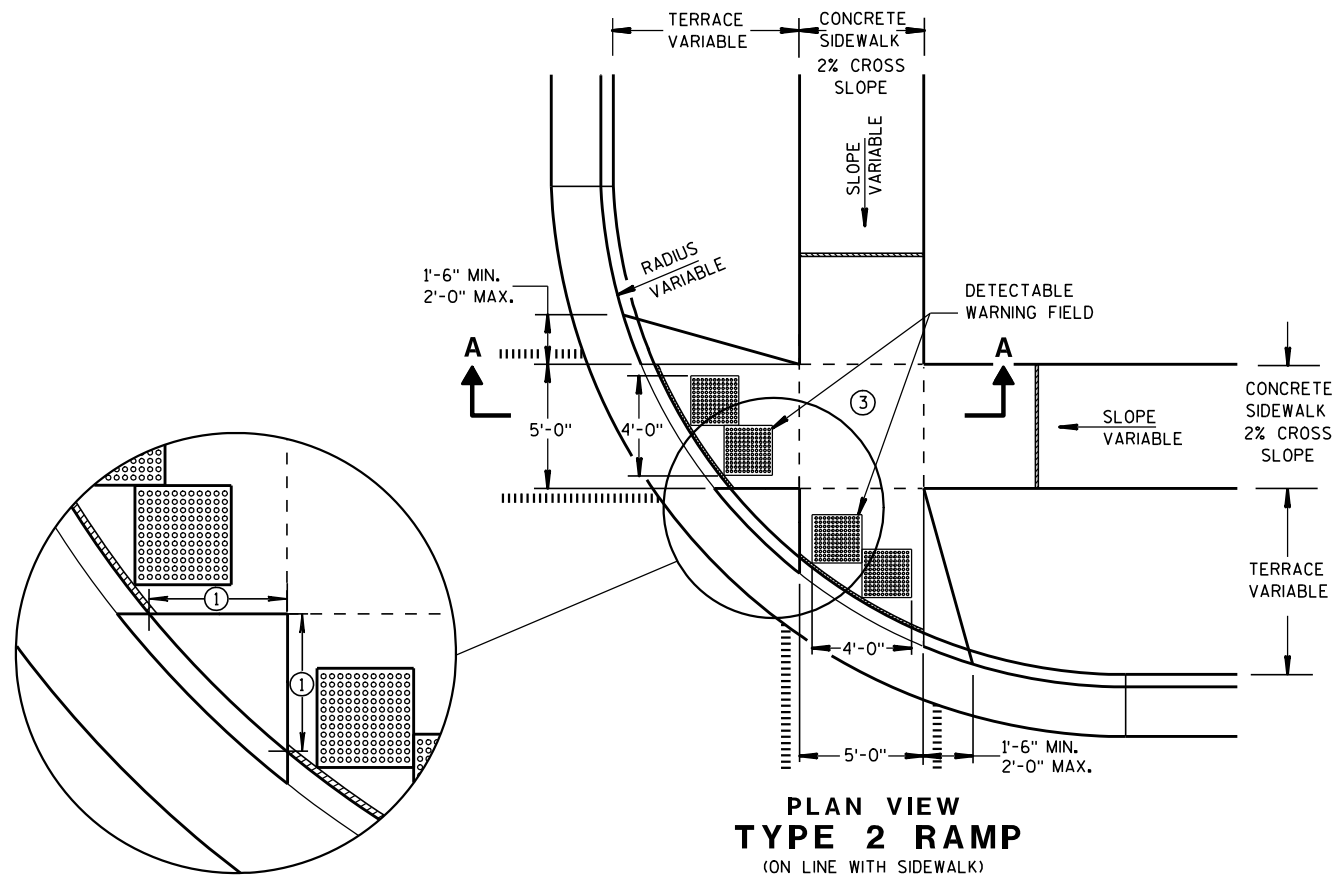
- THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

LEGEND

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

CURB RAMPS
TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



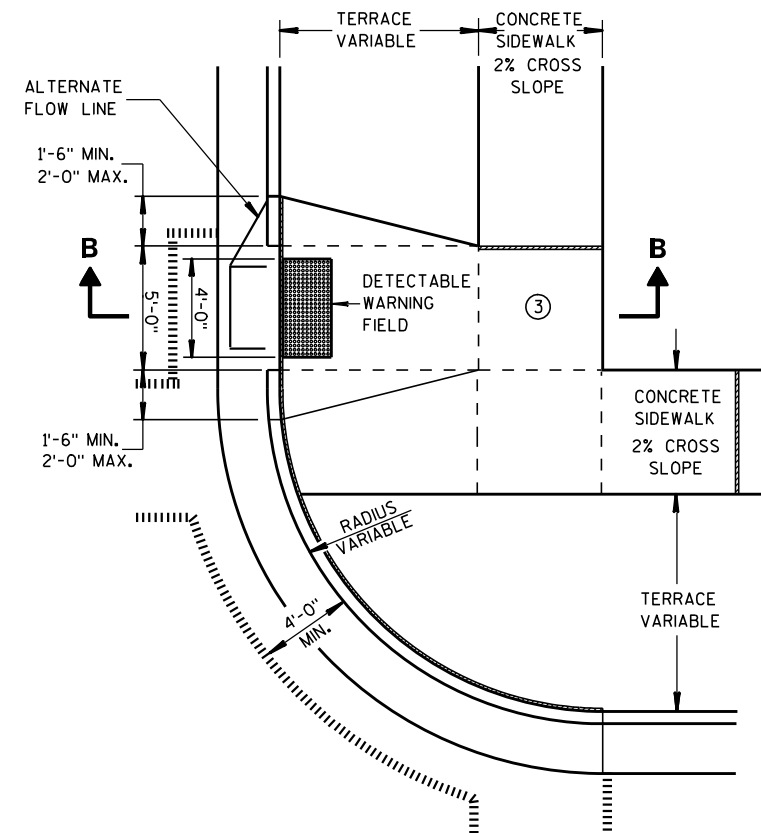
GENERAL NOTES

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

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

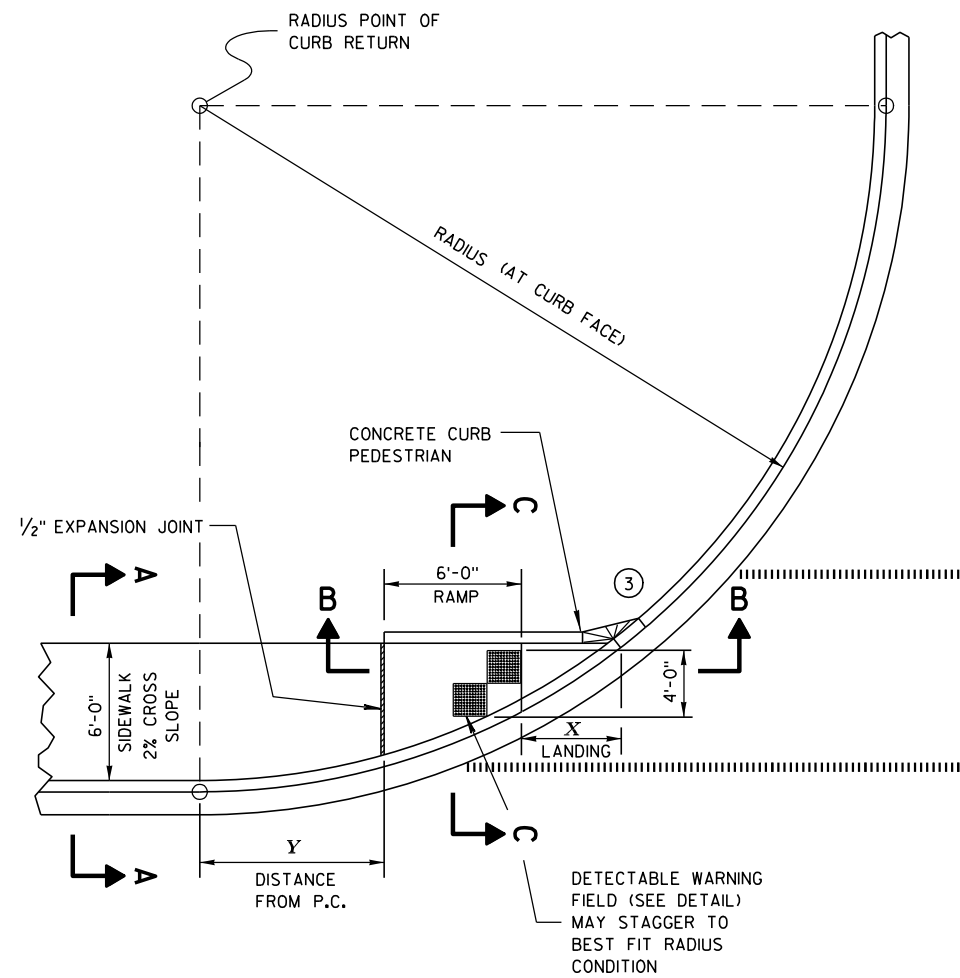
LEGEND

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

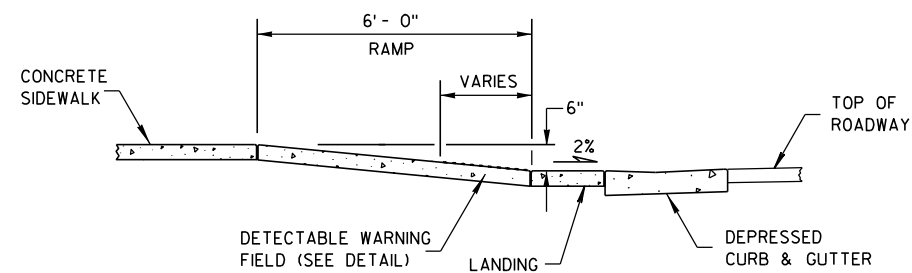


**CURB RAMPS
TYPES 2 AND 3**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



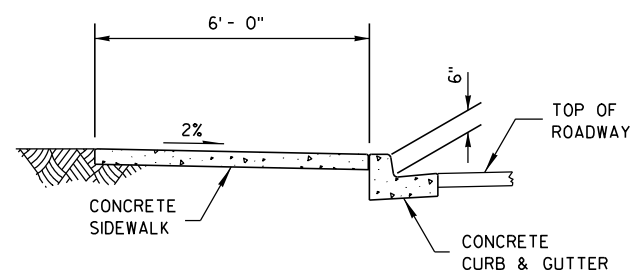
CURB RAMP TYPE 4A
PLAN VIEW



SECTION B-B

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1 $\frac{3}{4}$ "	2'-7 $\frac{1}{4}$ "
30 FEET	7'-11 $\frac{3}{4}$ "	4'-8 $\frac{1}{4}$ "
40 FEET	9'-5 $\frac{1}{4}$ "	6'-5"
50 FEET	10'-8 $\frac{3}{4}$ "	7'-11 $\frac{1}{4}$ "
60 FEET	11'-10 $\frac{1}{4}$ "	9'-3 $\frac{1}{2}$ "

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A

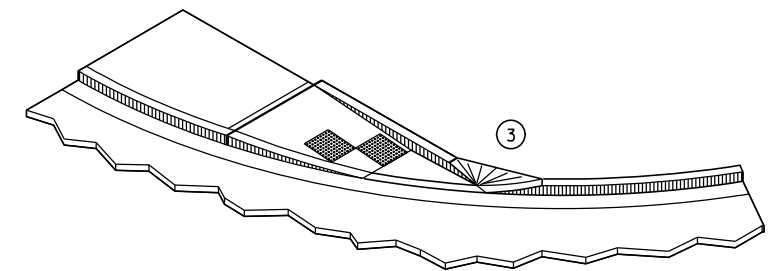
GENERAL NOTES

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

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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



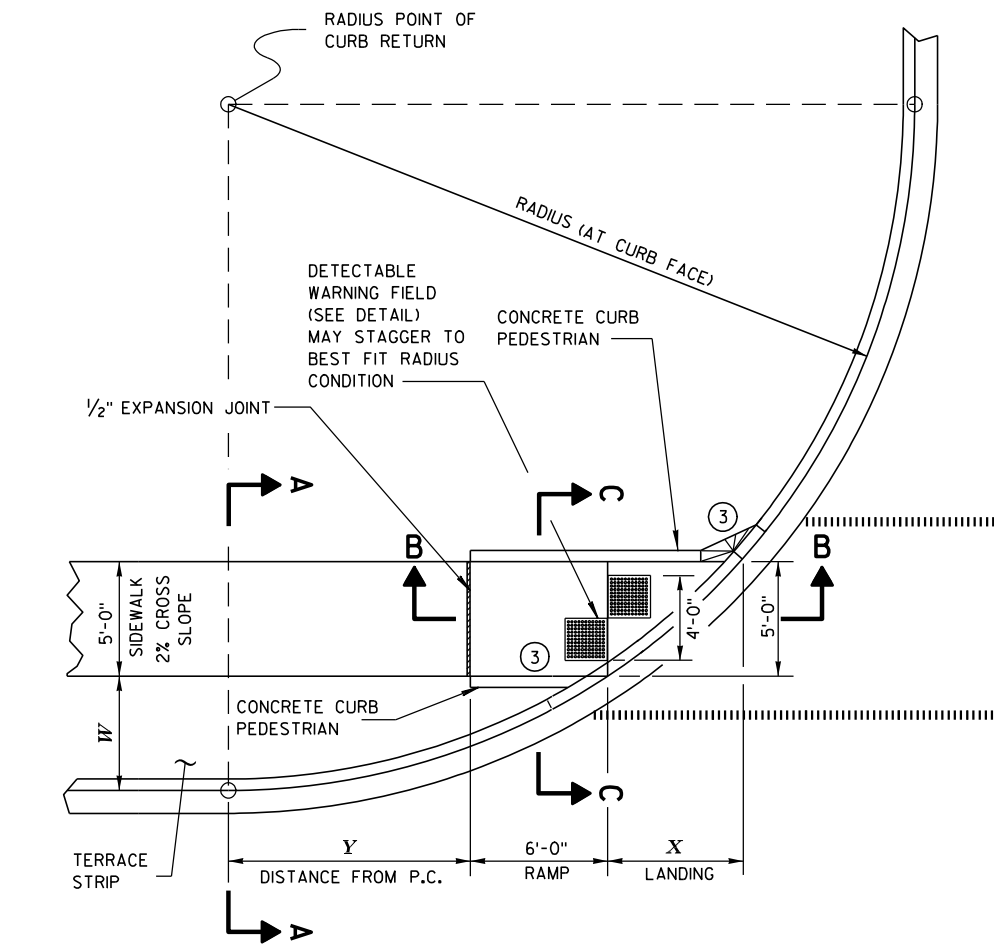
ISOMETRIC VIEW

LEGEND

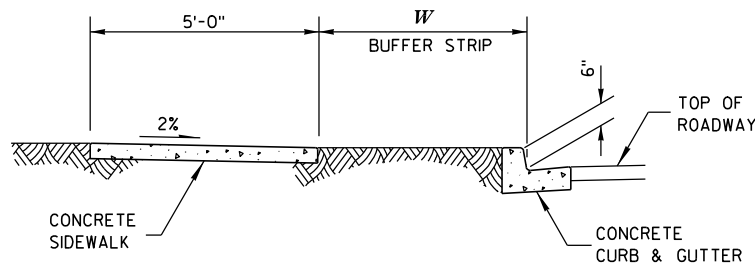
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS
TYPE 4A**

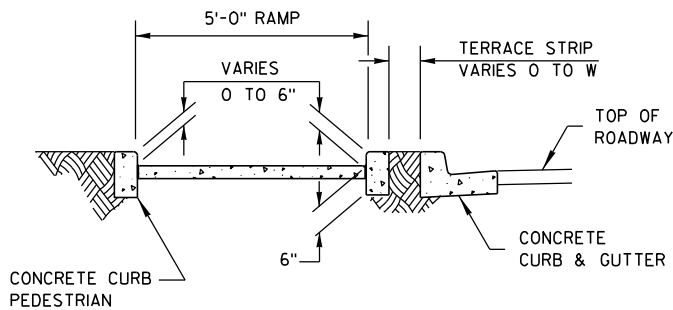
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



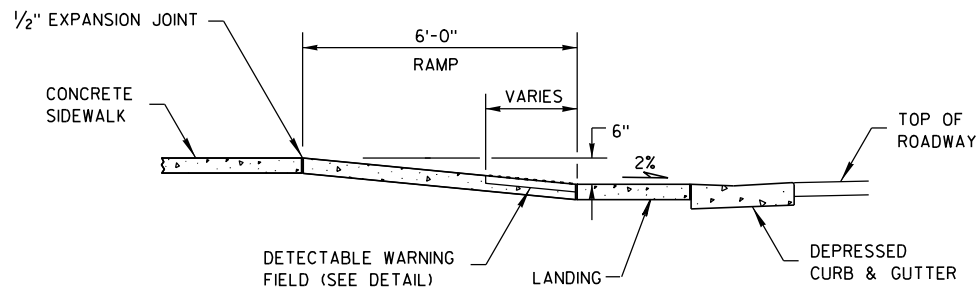
**CURB RAMP TYPE 4B
PLAN VIEW**



SECTION A-A



SECTION C-C



SECTION B-B

GENERAL NOTES

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

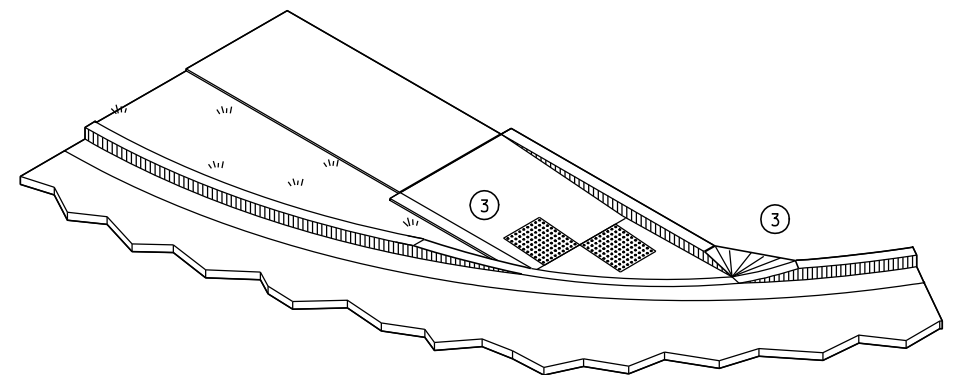
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

RADIUS (AT CURB FACE)	W = 3'- 0"		W = 4'- 0"		W = 5'- 0"		W = 6'- 0"		W = 7'- 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"
70 FEET	12'-2¾"	14'-3¼"	11'-¼"	17'-4"	10'-1"	19'-11¾"	9'-3¾"	22'-4¼"	8'-8¼"	24'-6¼"
80 FEET	13'-2"	15'-8½"	11'-10½"	18'-11¾"	10'-10¾"	21'-10"	10'-1"	24'-4¾"	9'-5"	26'-8¾"
90 FEET	14'-½"	17'-½"	12'-8¼"	20'-6½"	11'-7¾"	23'-7"	10'-9¾"	26'-3¾"	10'-1¼"	28'-9½"
100 FEET	14'-10½"	18'-3¾"	13'-5½"	22'-0"	12'-4¼"	25'-2¾"	11'-5¾"	28'-1½"	10'-9"	30'-9"

INTERMEDIATE RADII CAN BE INTERPOLATED



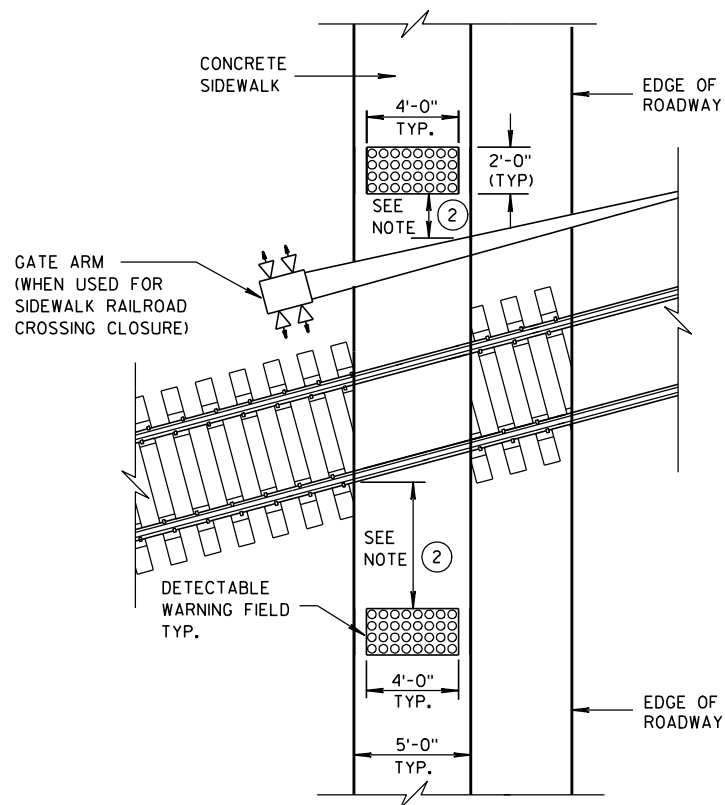
ISOMETRIC VIEW

LEGEND

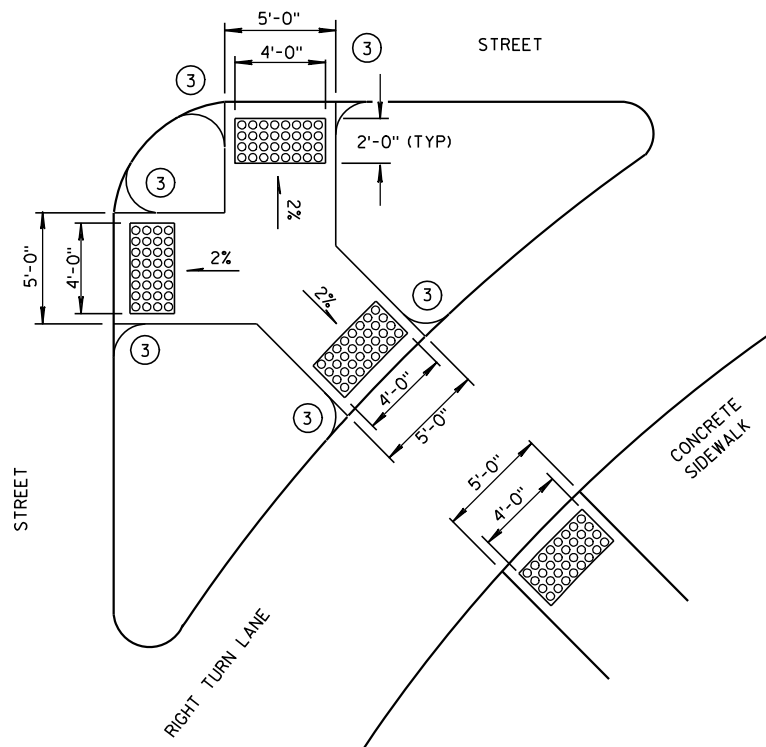
- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS
TYPE 4B**

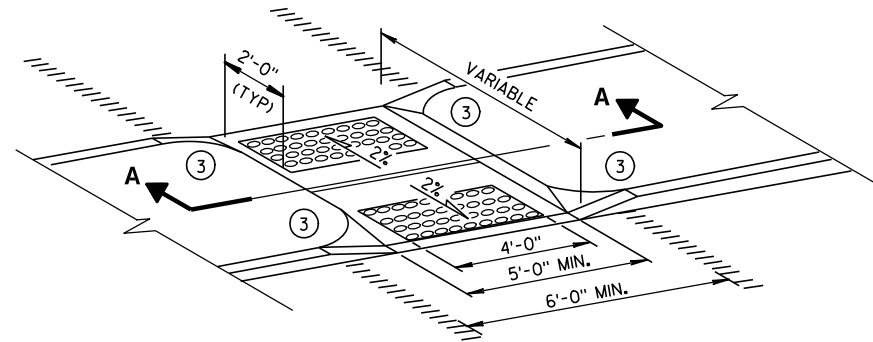
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



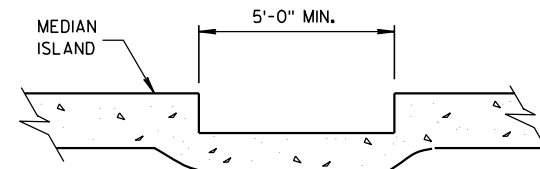
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



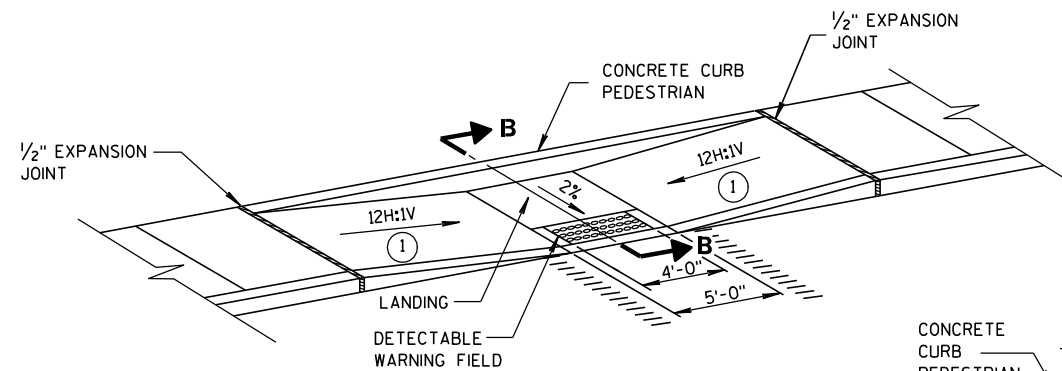
TYPE 6
DETECTABLE WARNING AT ISLANDS



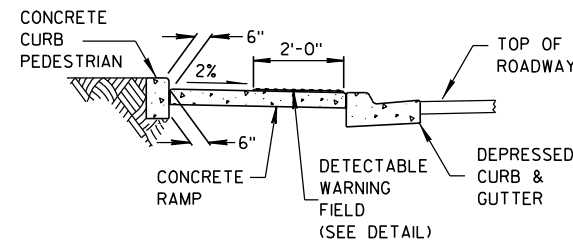
MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



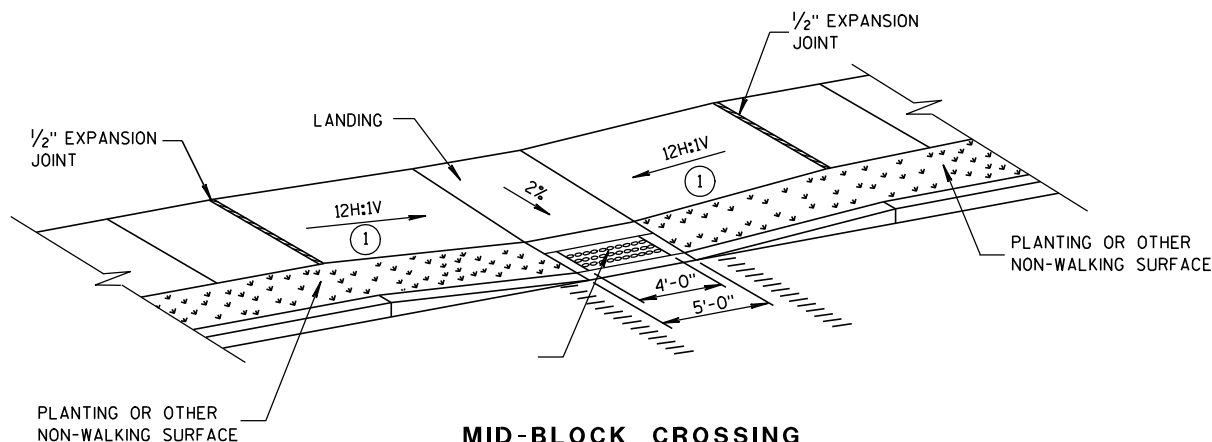
SECTION A-A



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

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

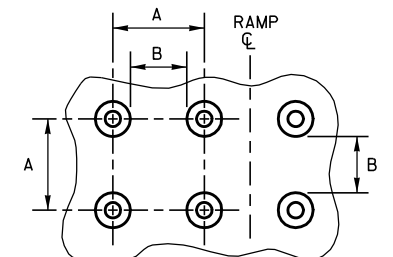
GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

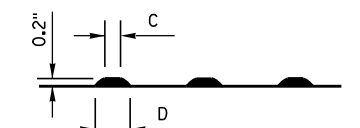
- 1 SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- 2 THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE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

LEGEND

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



PLAN VIEW

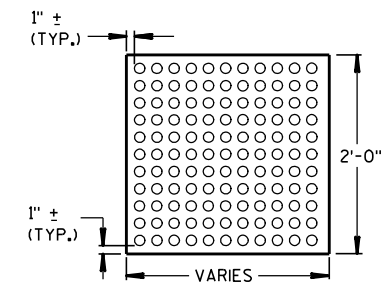


ELEVATION VIEW

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

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

TRUNCATED DOMES
DETECTABLE WARNING
PATTERN DETAIL



PLAN VIEW

DETECTABLE WARNING
FIELD (TYPICAL)

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

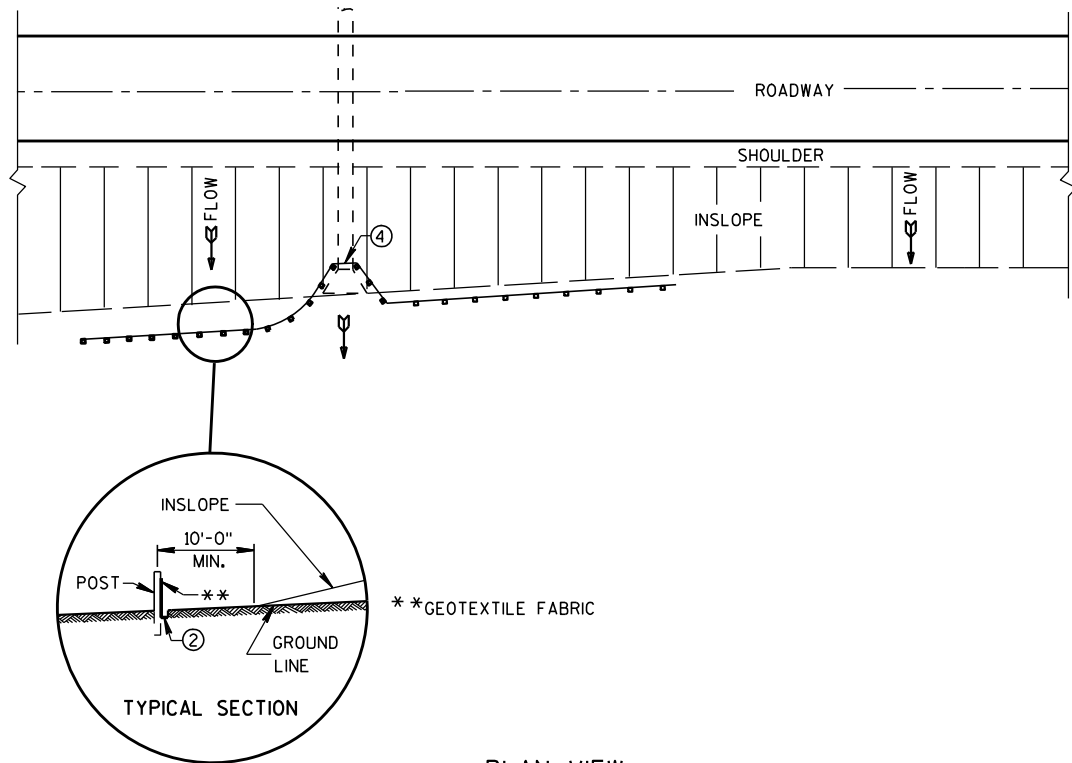
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

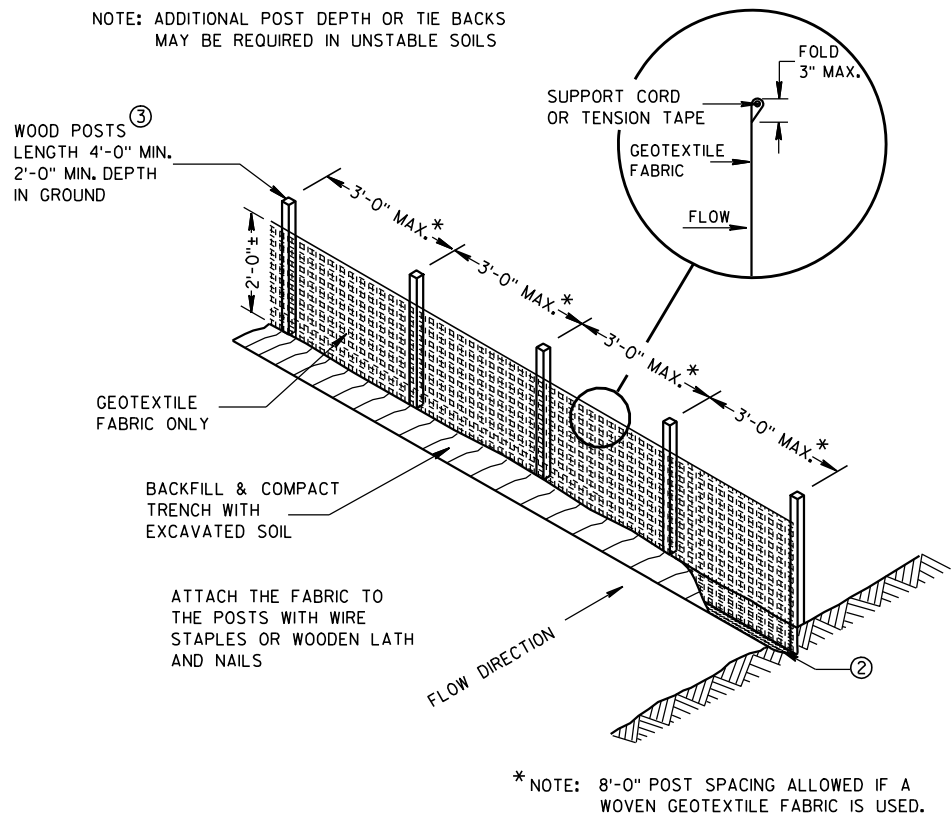
2-9-10
DATE

FHWA

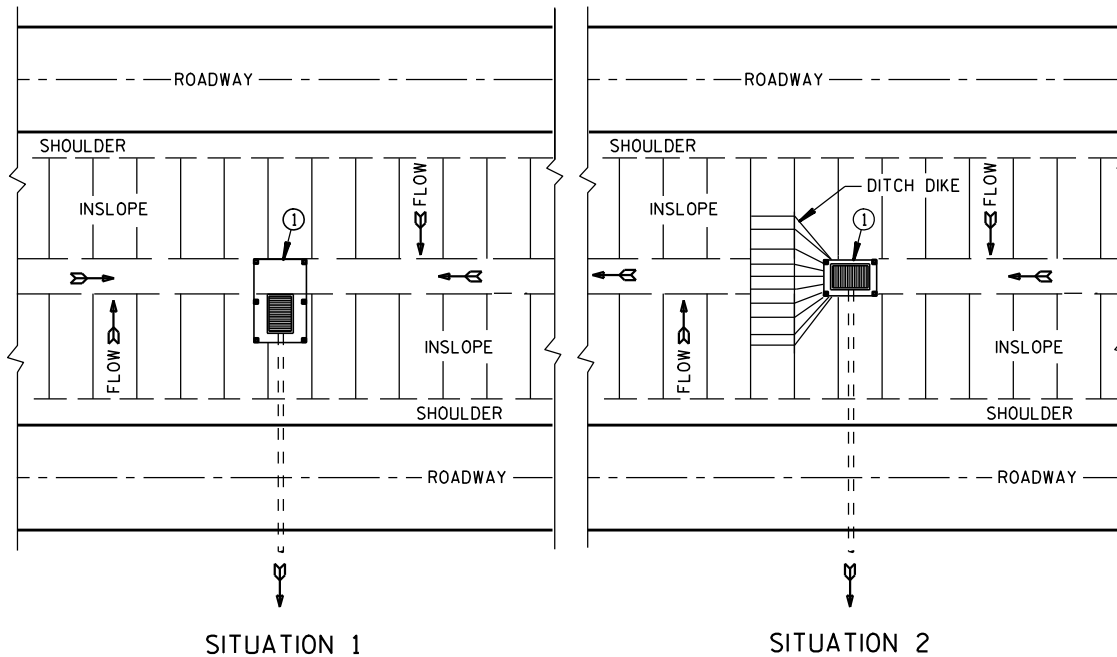
/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



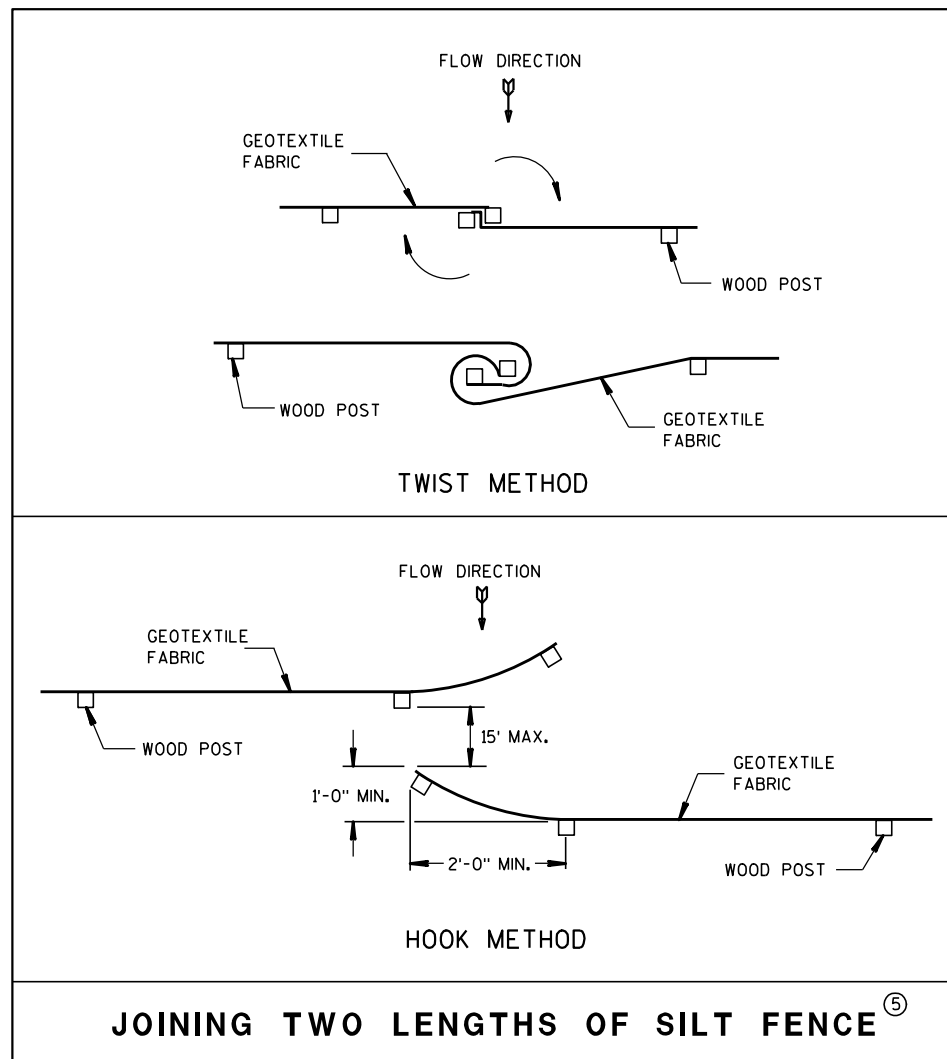
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

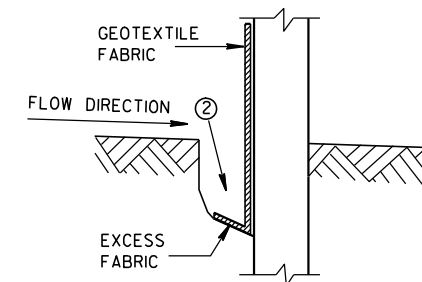


JOINING TWO LENGTHS OF SILT FENCE ⑤

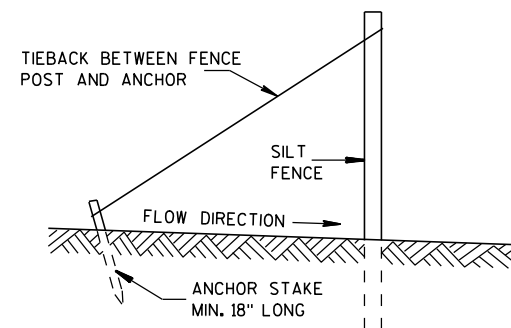
GENERAL NOTES

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

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

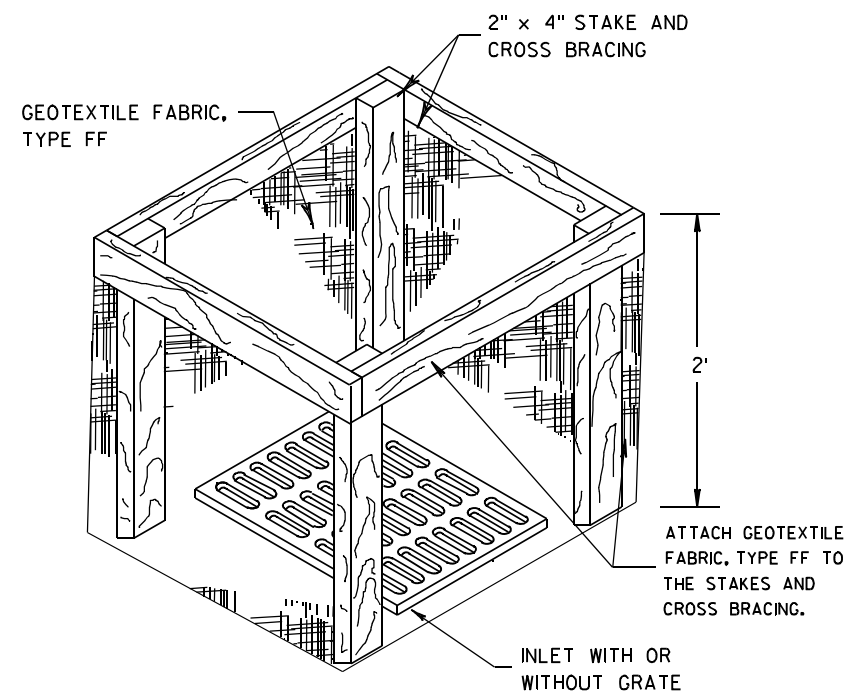
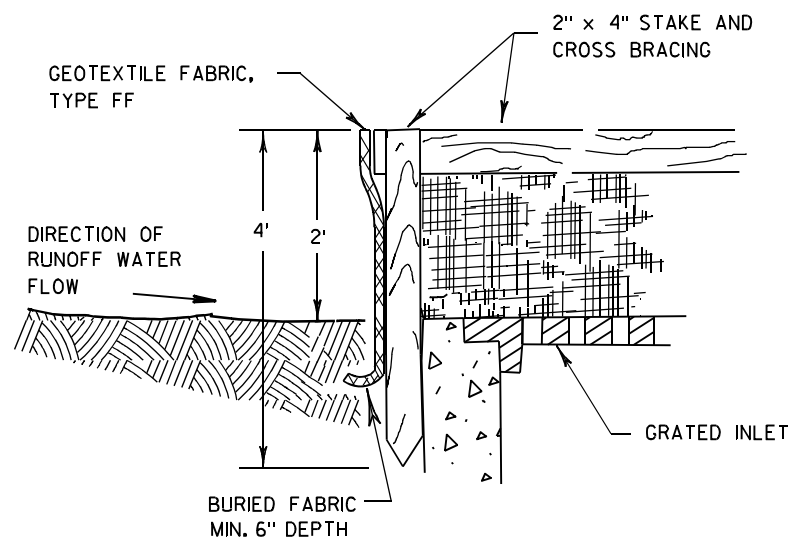


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



INLET PROTECTION, TYPE A

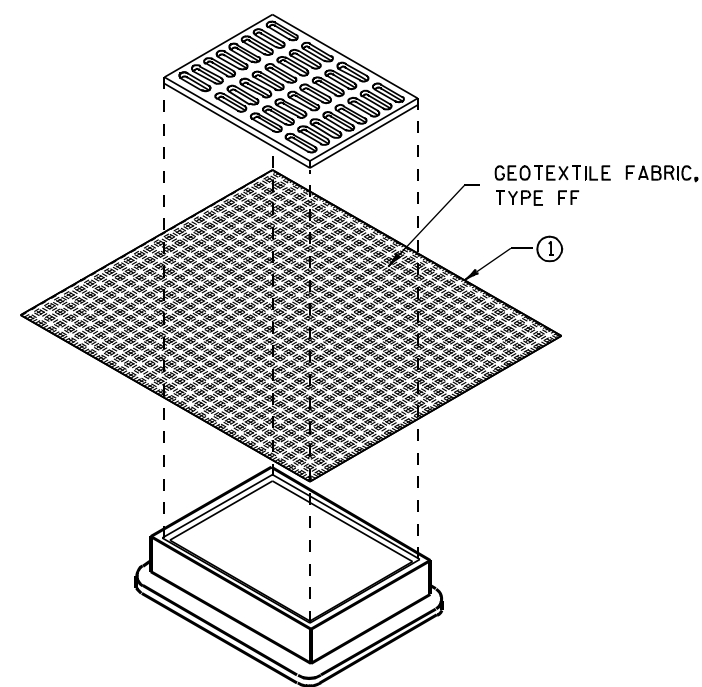
GENERAL NOTES

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.

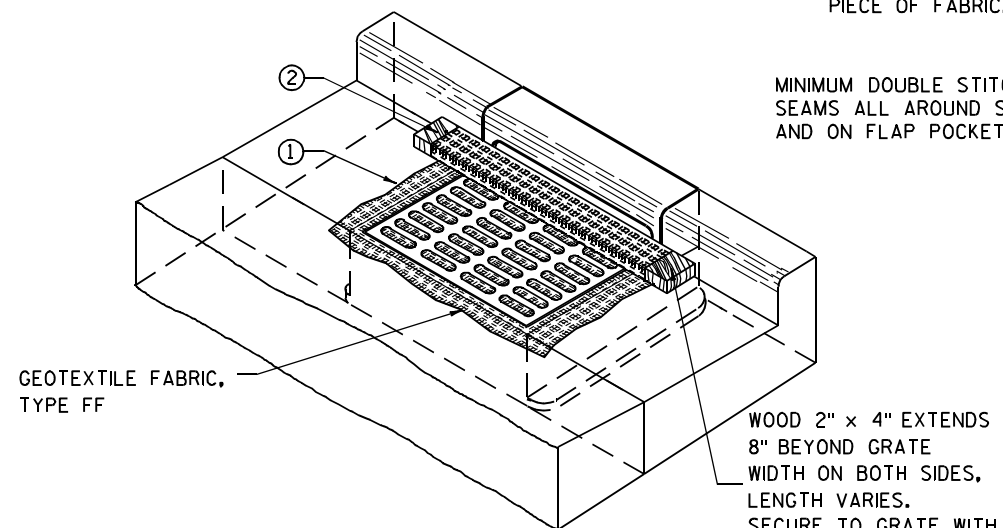
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

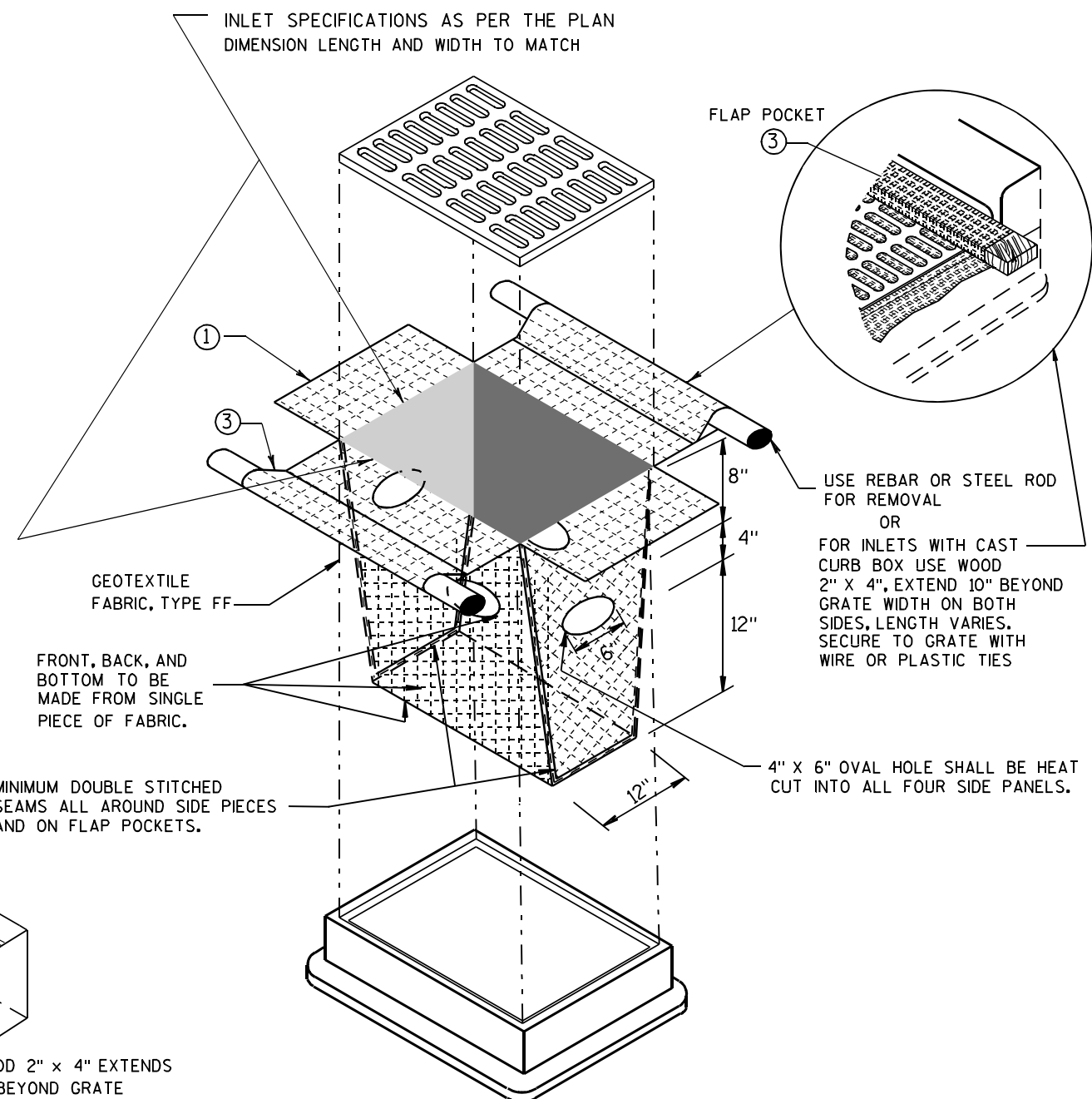
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.



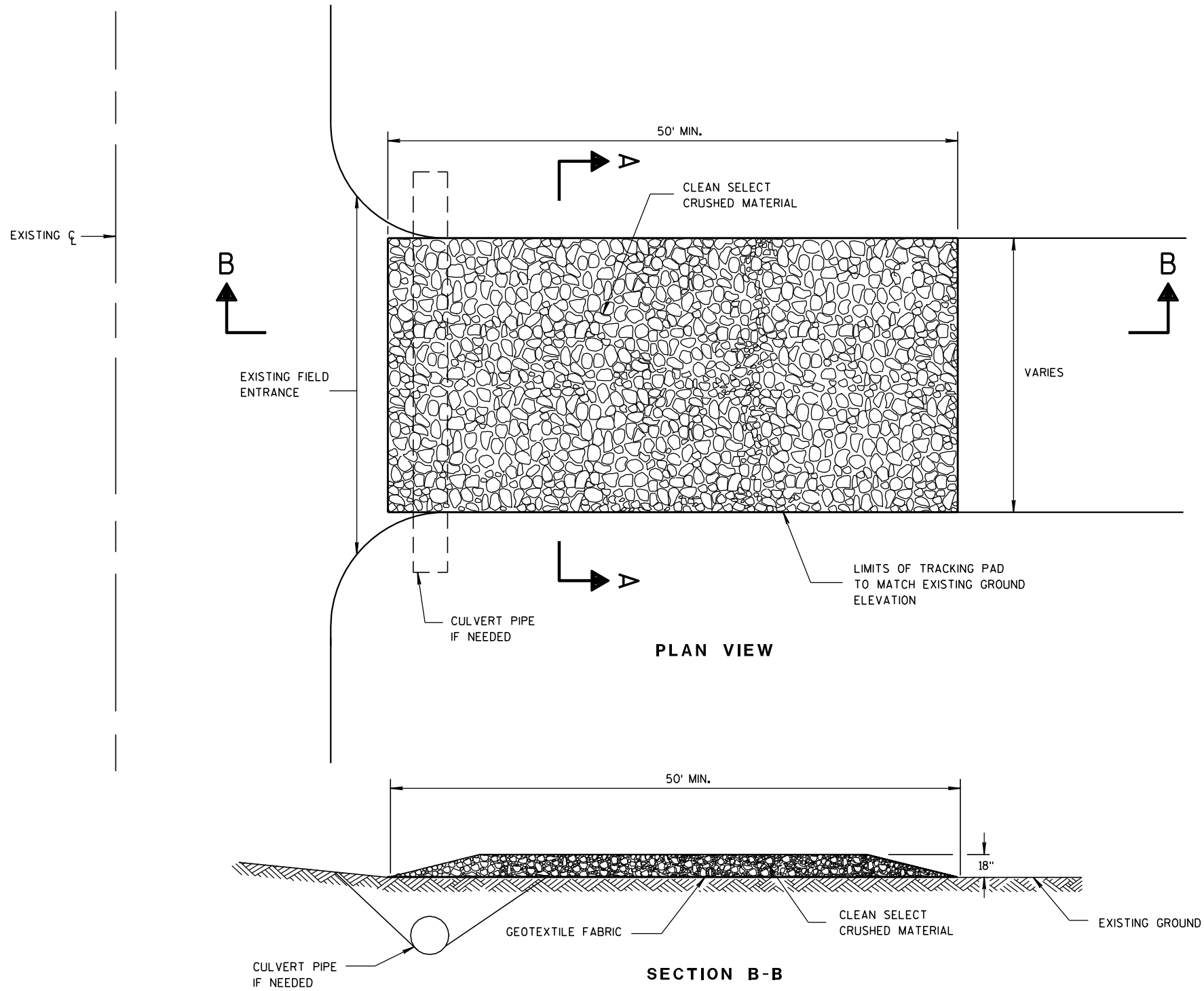
INLET PROTECTION, TYPE D

(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



TRACKING PAD

GENERAL NOTES

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

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

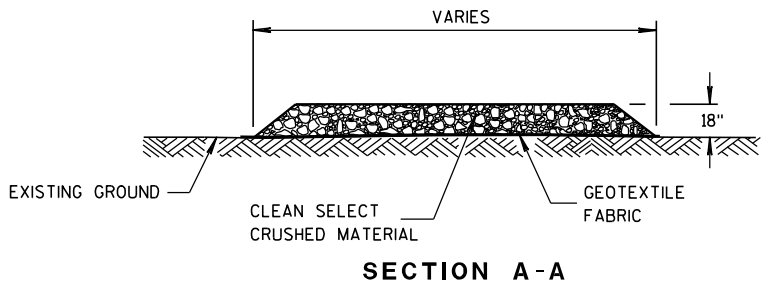
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



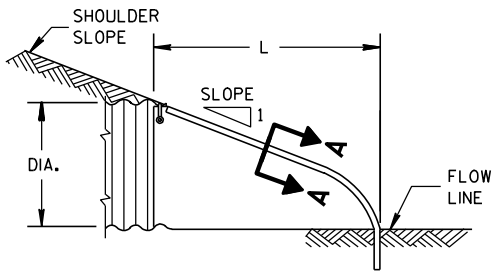
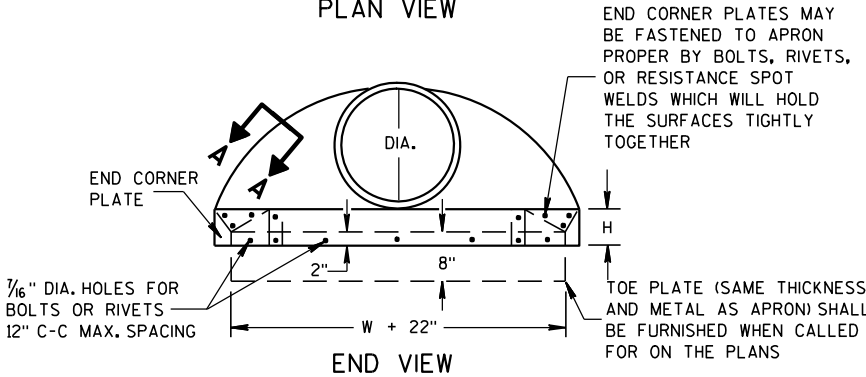
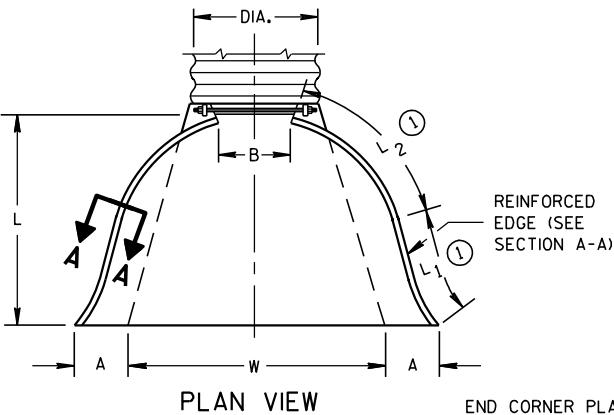
TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE		BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±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.

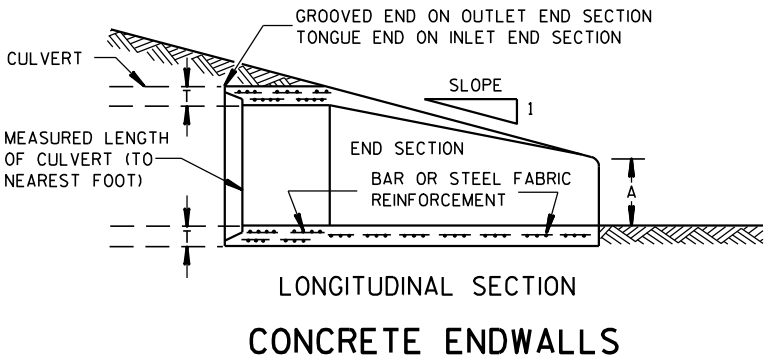
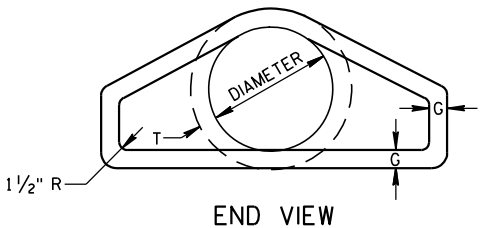
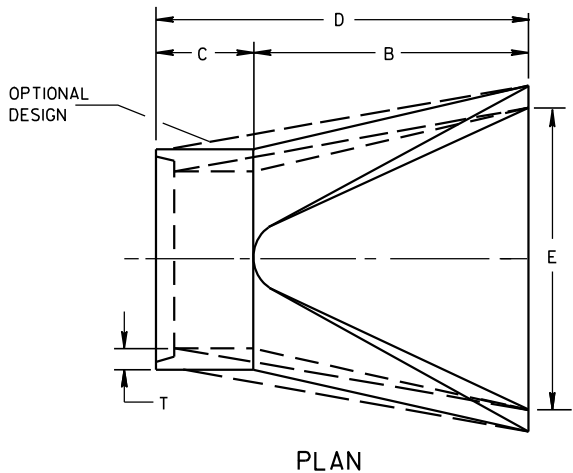
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



SIDE ELEVATION
METAL ENDWALLS

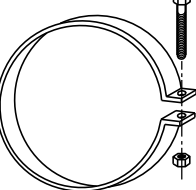
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9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

* MINIMUM
** MAXIMUM

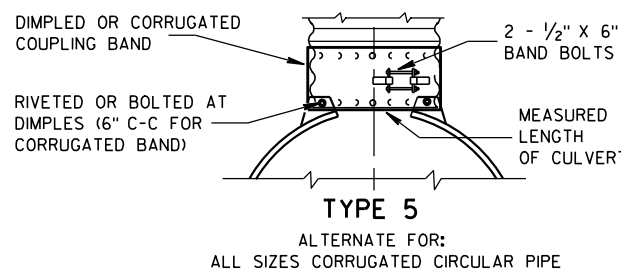
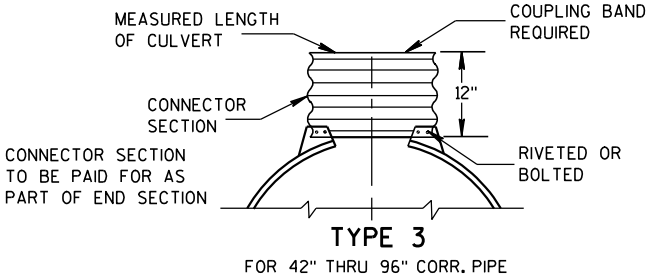
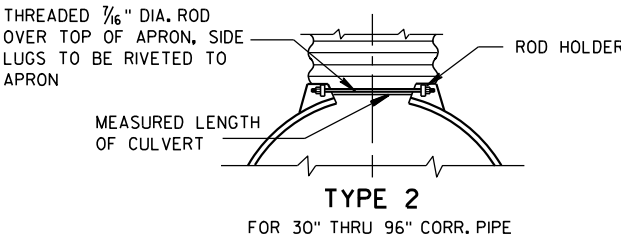
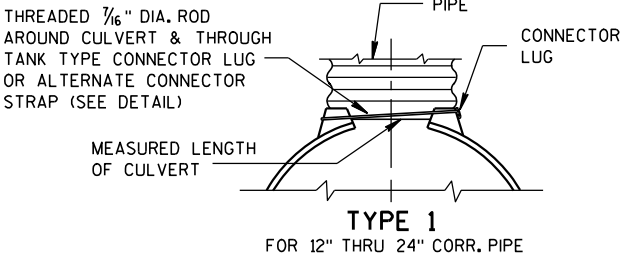


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



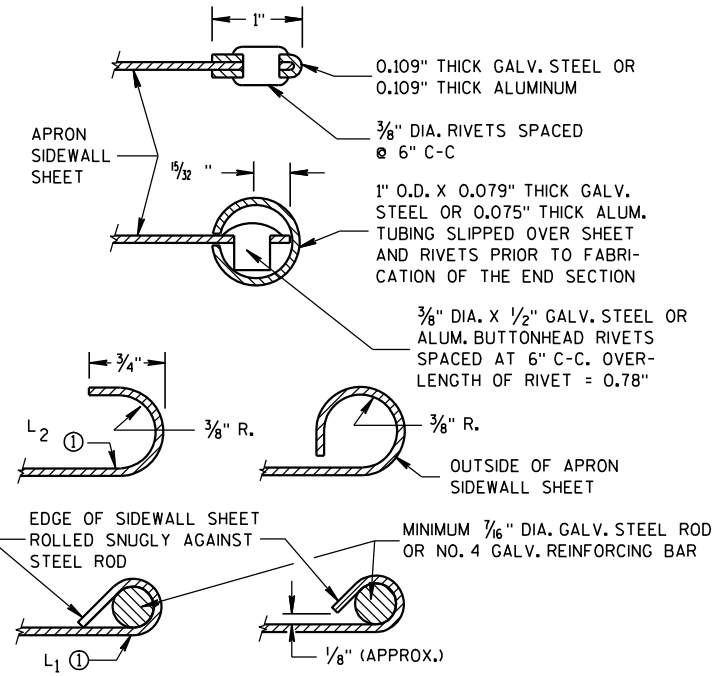
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

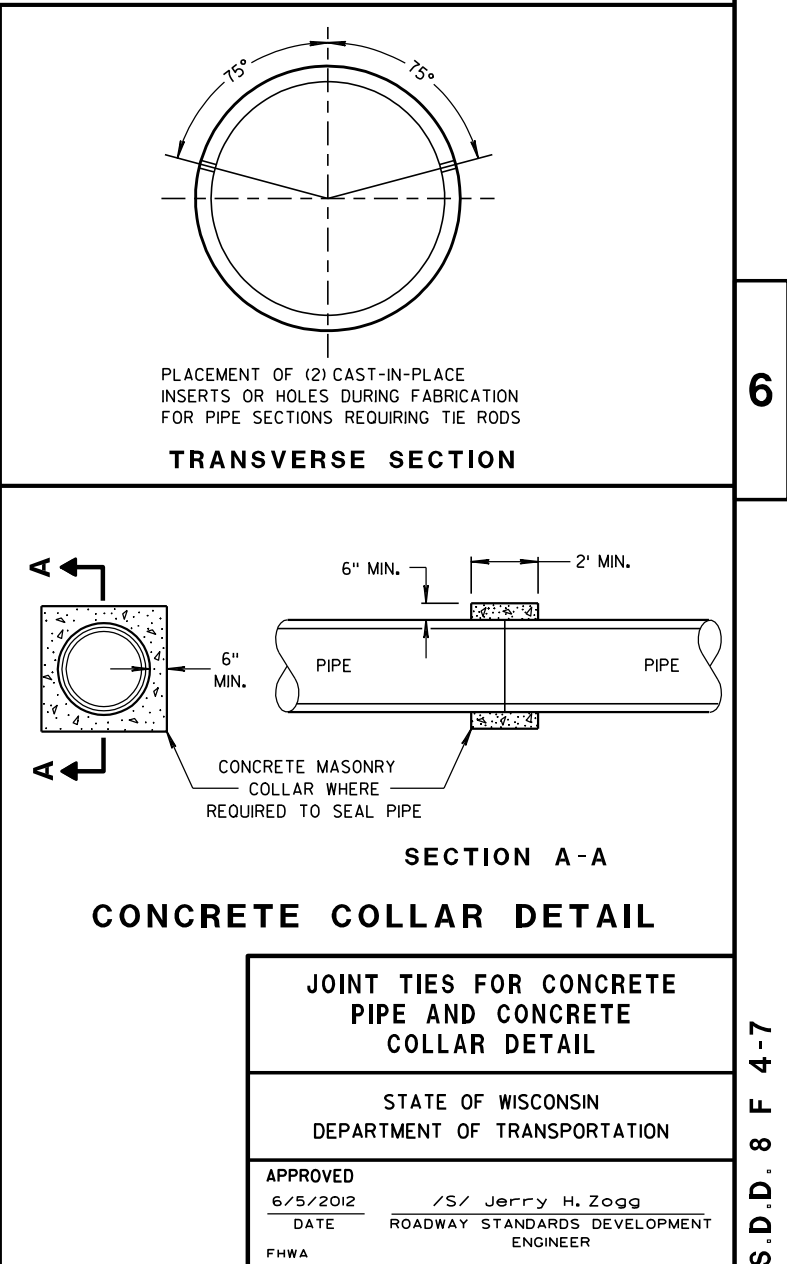
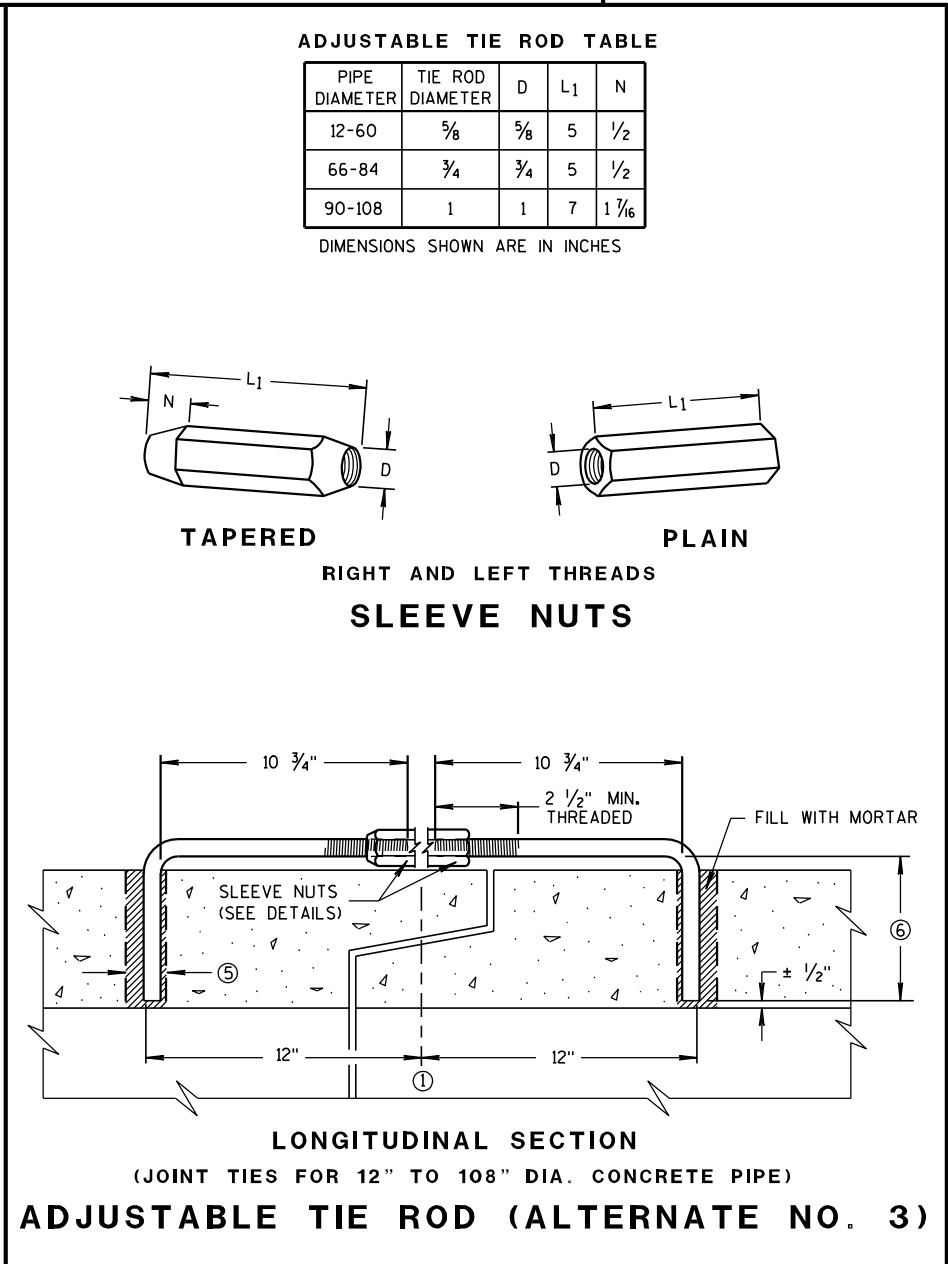
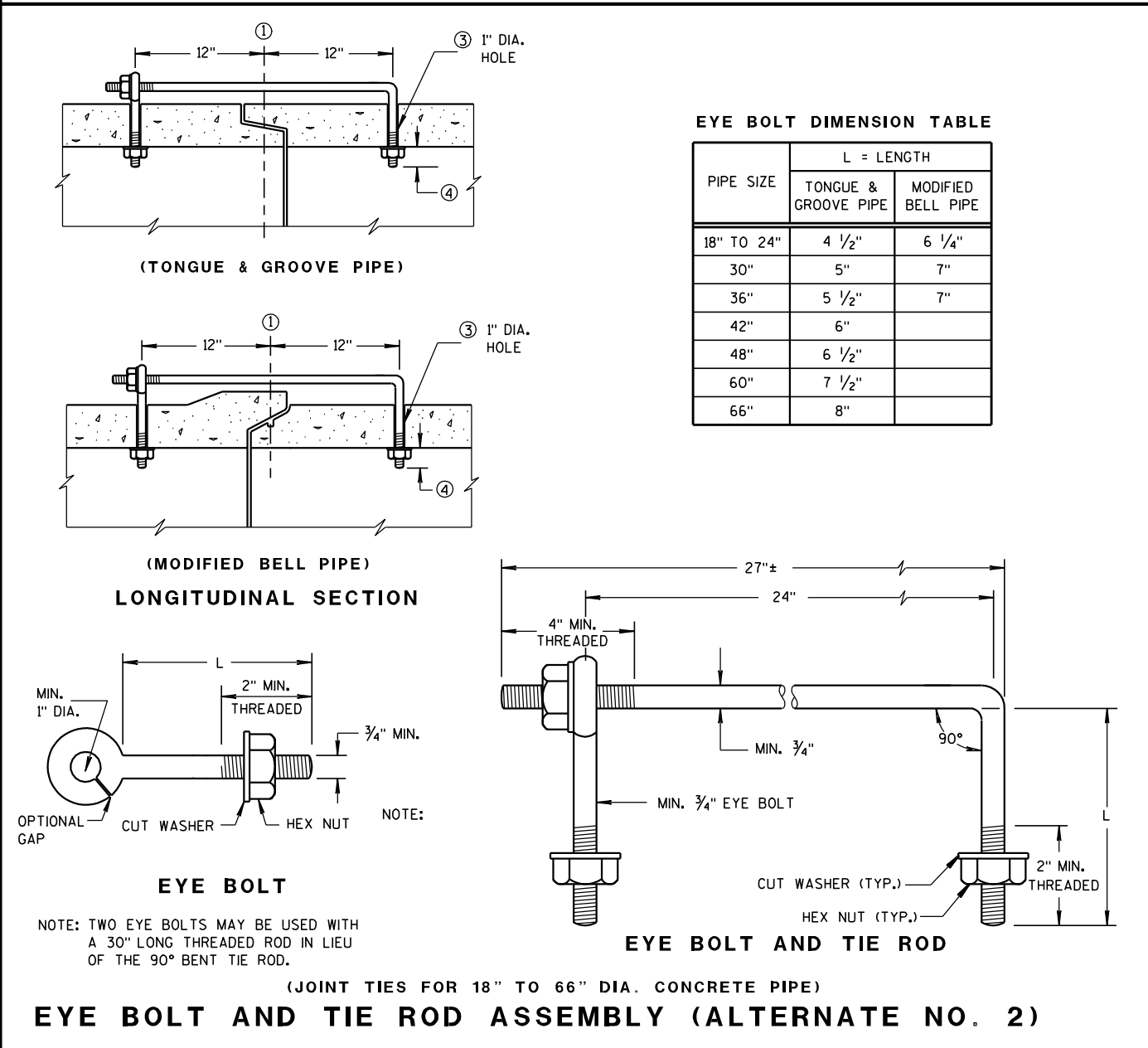
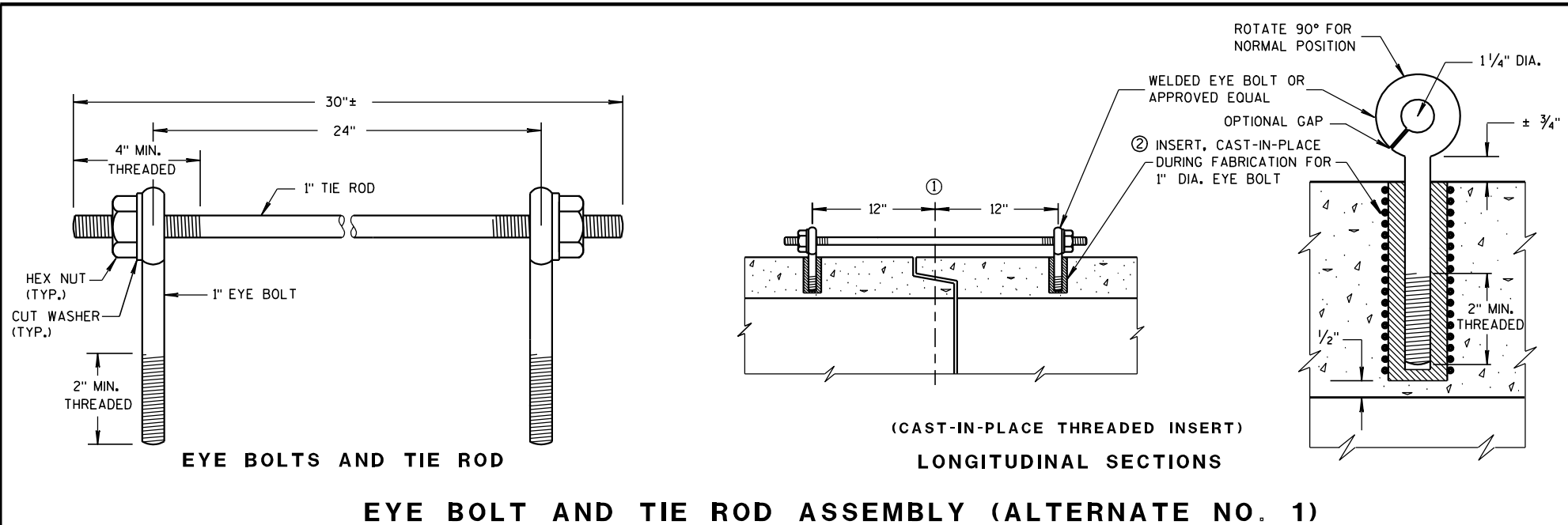
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

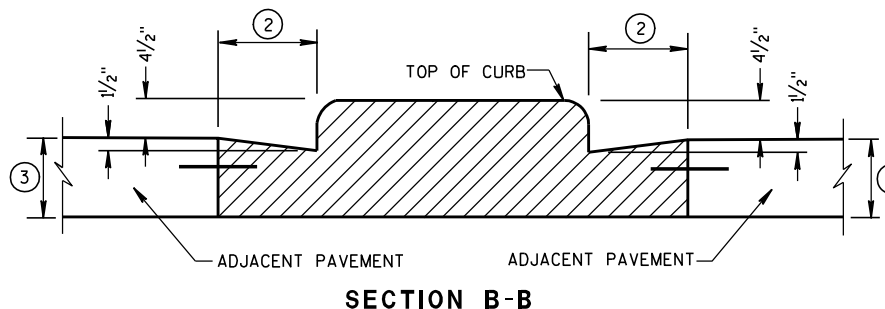
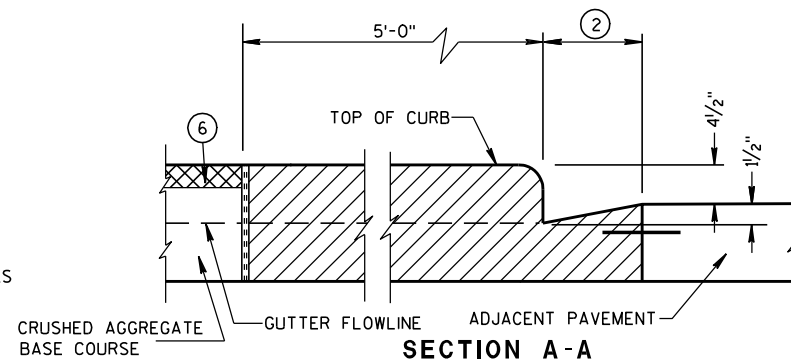
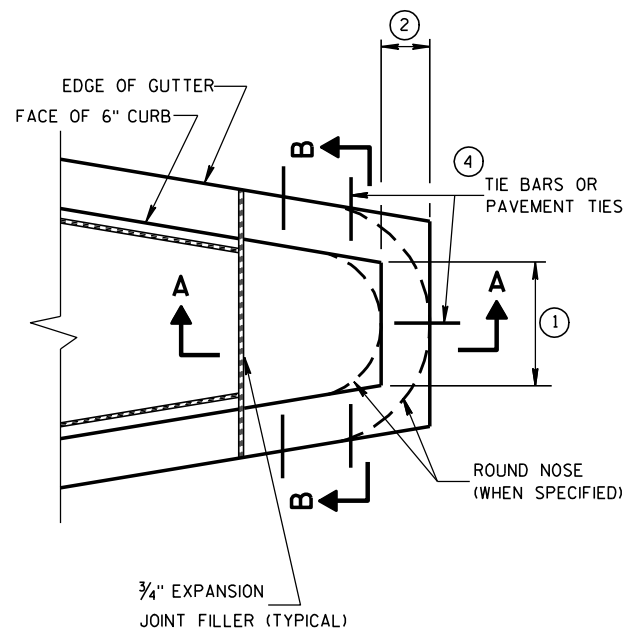
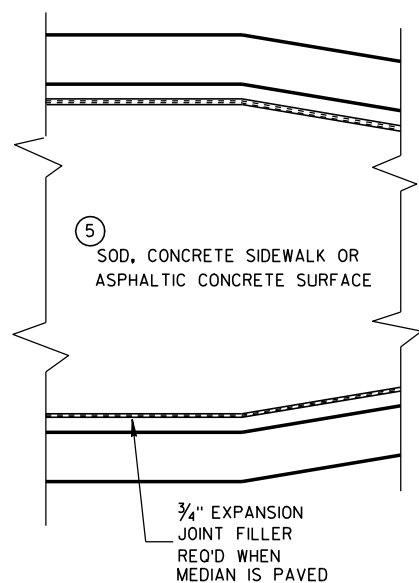
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES.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

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

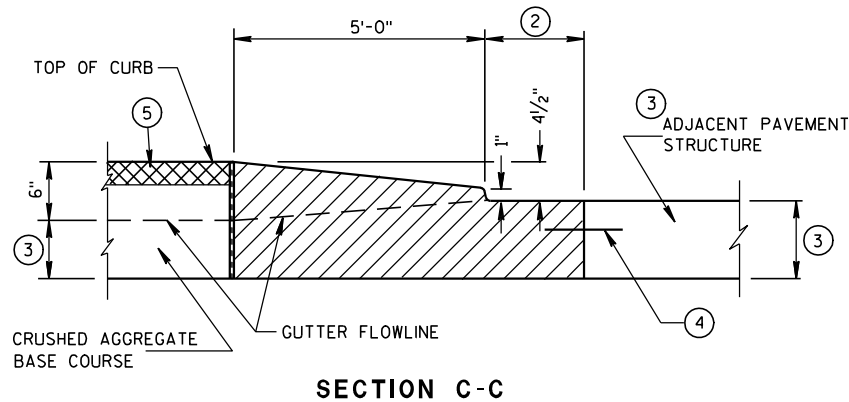
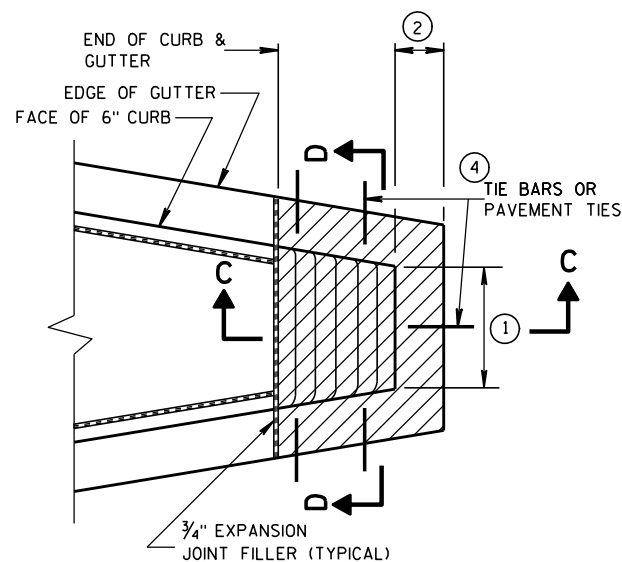
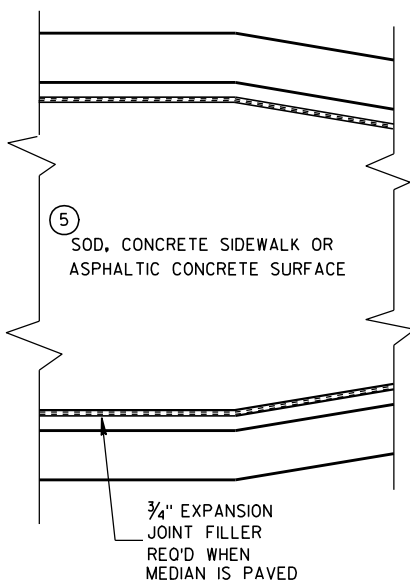
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

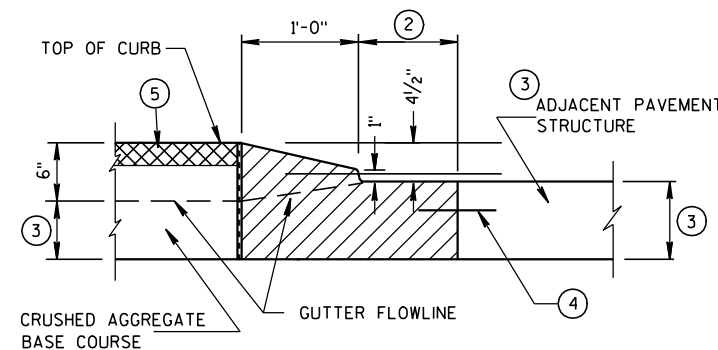
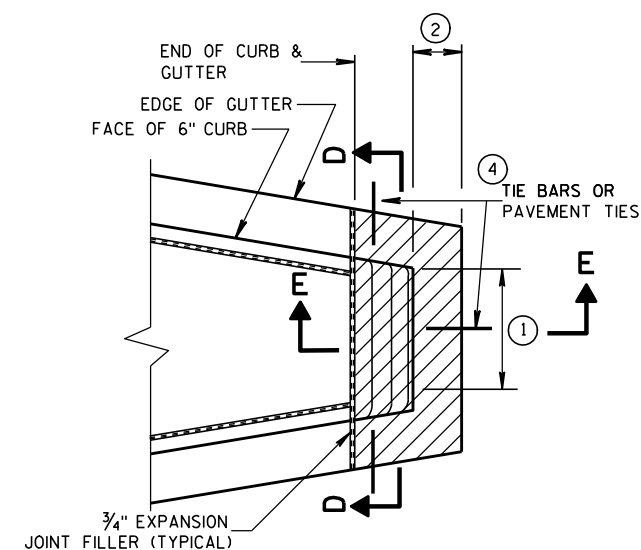




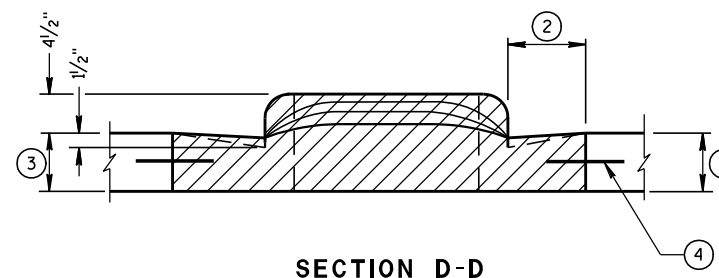
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



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 SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
 - (1) NEW OR EXISTING CONCRETE PAVEMENT.
 - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
 - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

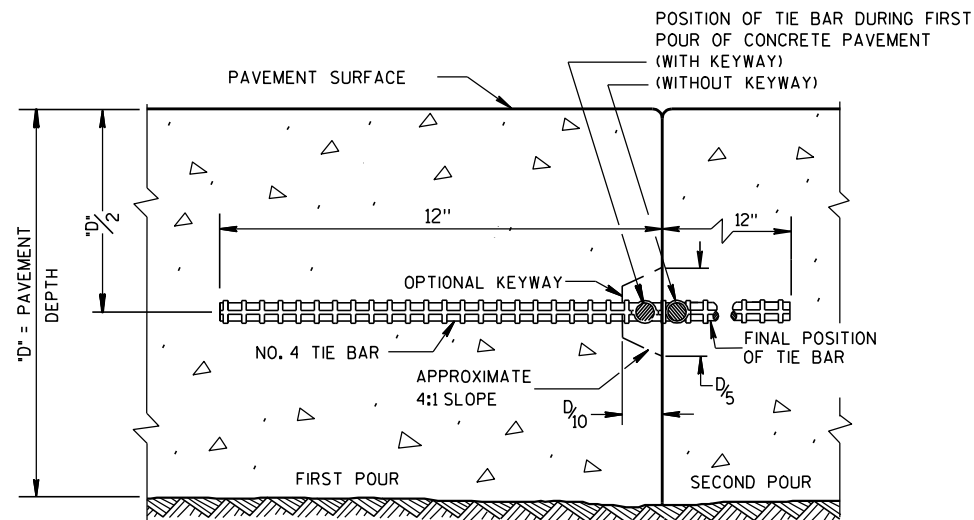
APPROVED

6/8/2006

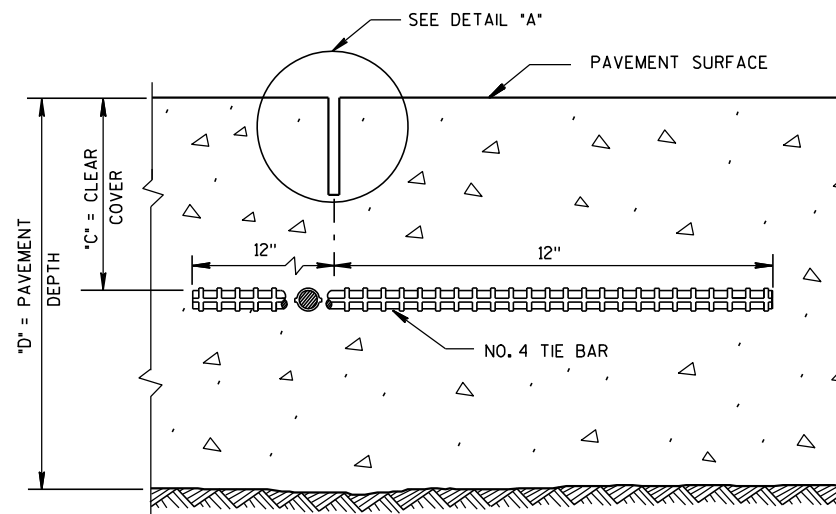
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



CONSTRUCTION JOINT



SAWED JOINT

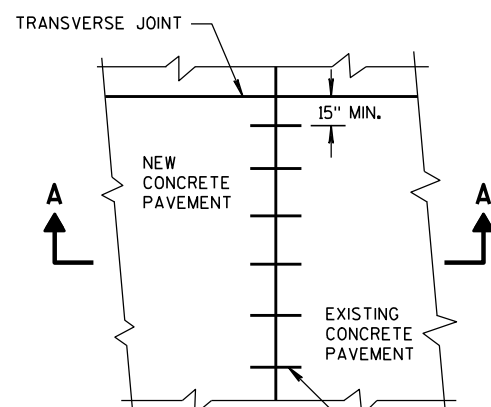
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

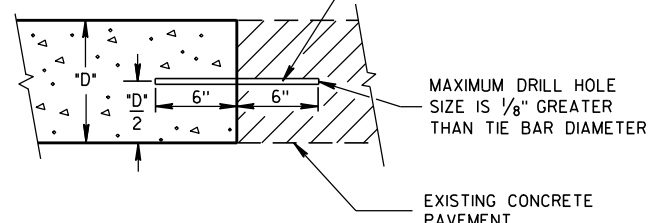
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

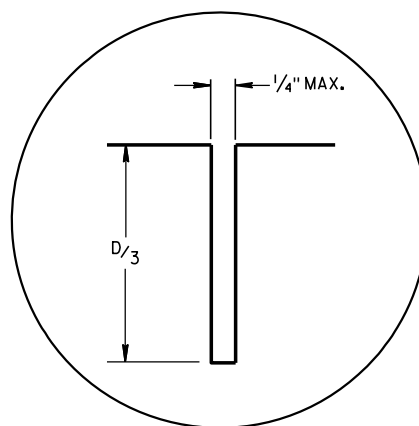


PLAN VIEW

NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①

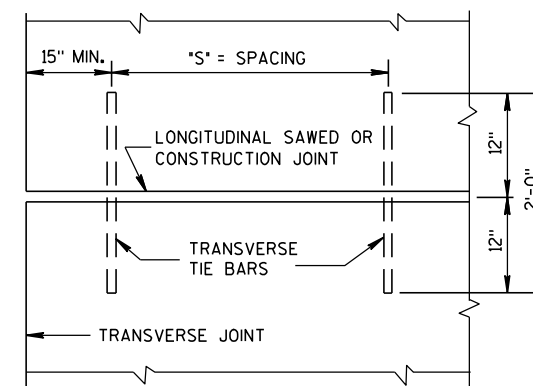


**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6, 6 1/2"	3" ± 1/2"	48"	42"
7, 7 1/2"	3 1/4" ± 1"	45"	36"
8, 8 1/2"	3 3/4" ± 1"	39"	30"
9, 9 1/2"	4 1/4" ± 1"	33"	27"
10, 10 1/2"	4 3/4" ± 1"	30"	24"
11, 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"



**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

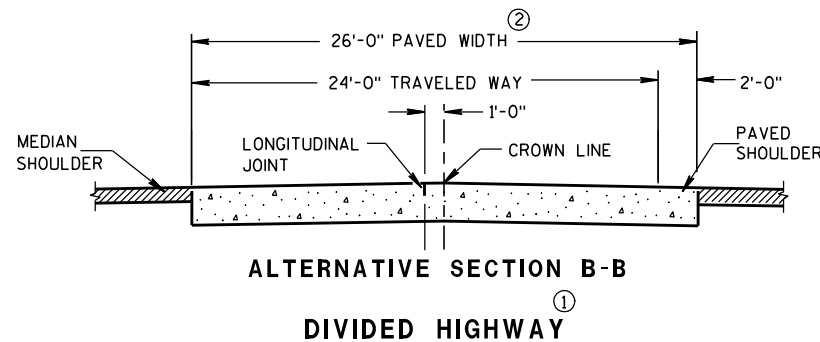
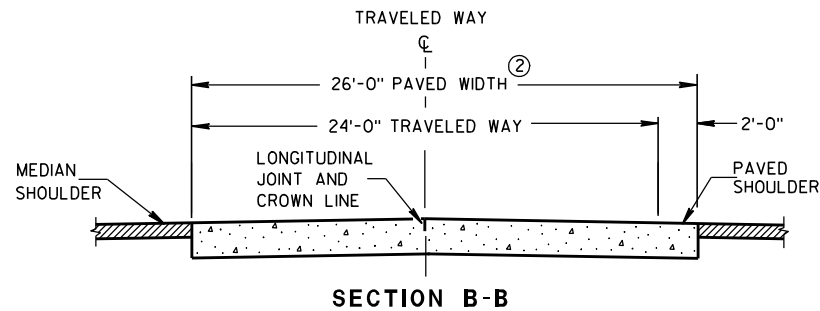
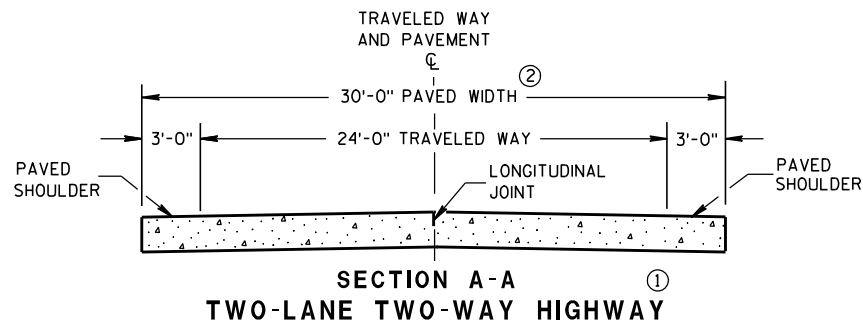
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10-5-2010
DATE

FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

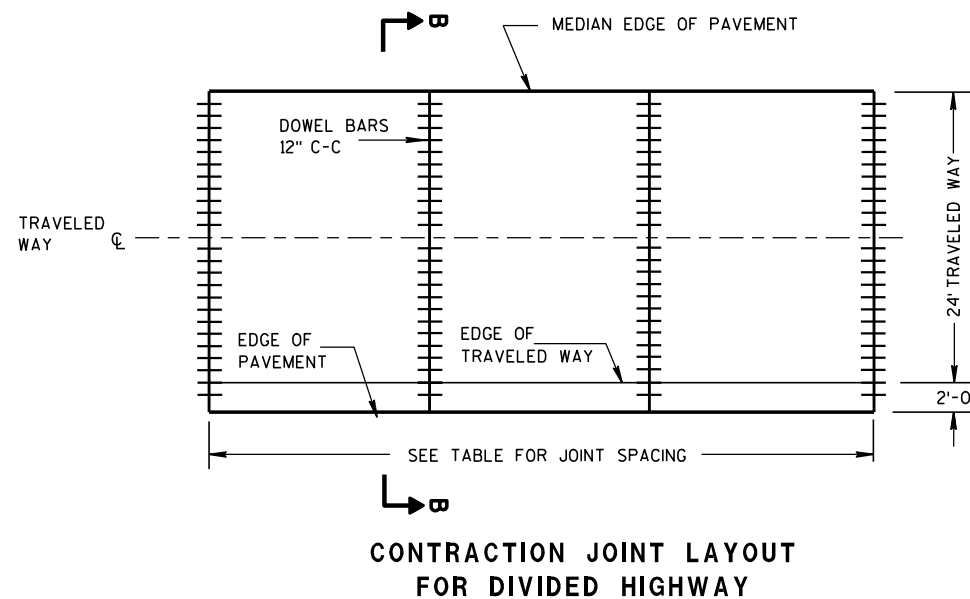
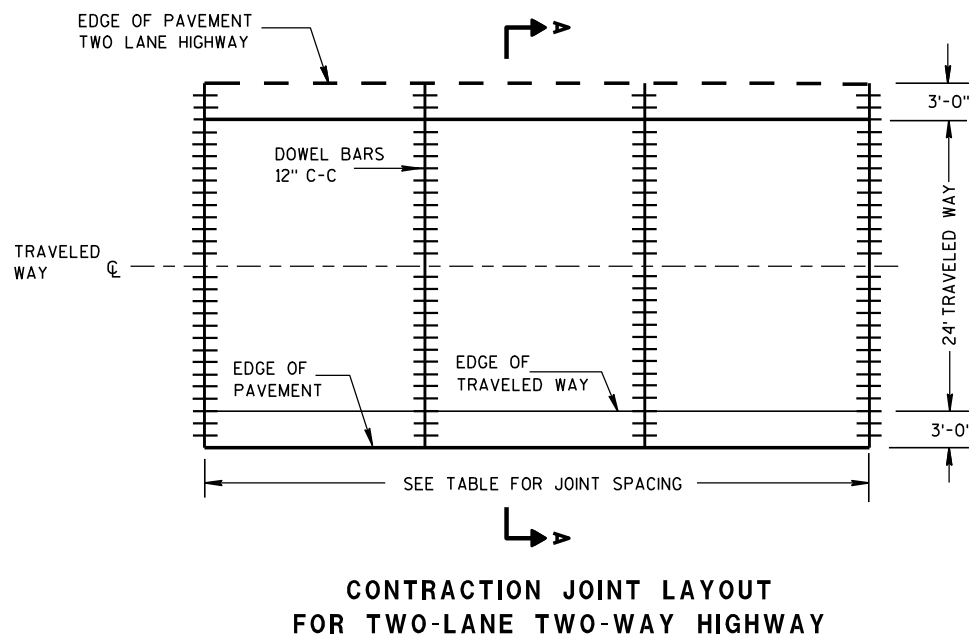
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

- ① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.
- ② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

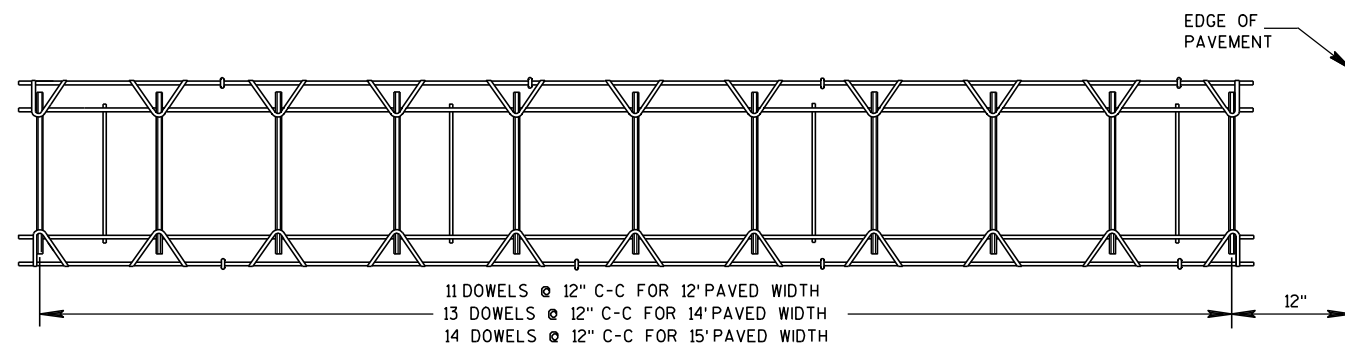
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

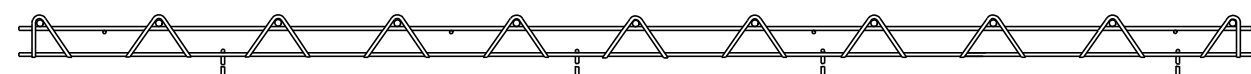


RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

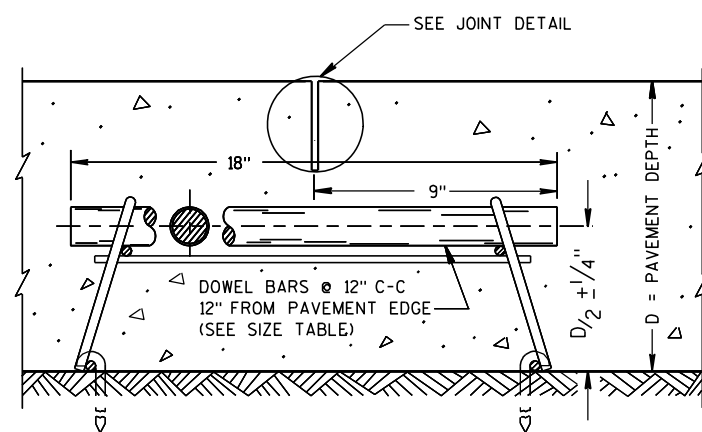


PLAN VIEW

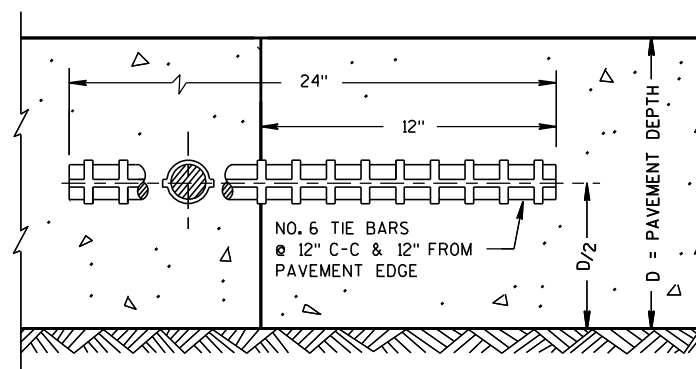


SIDE VIEW

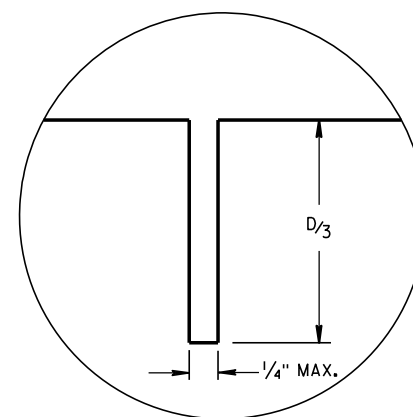
(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY^①

DOWELED CONTRACTION JOINT



CONSTRUCTION JOINT

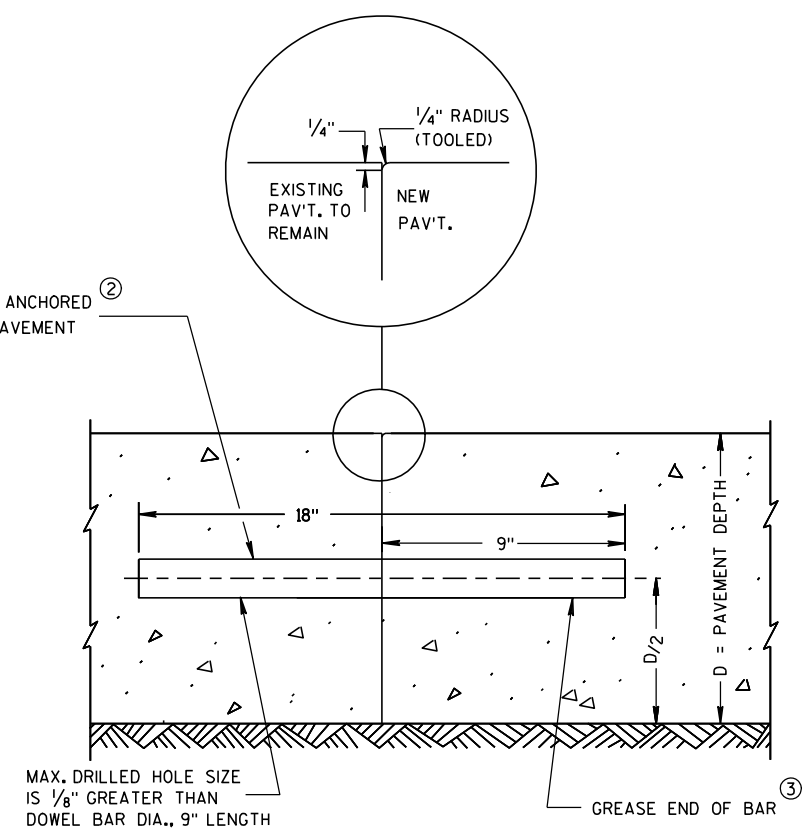


JOINT DETAIL

GENERAL NOTES

- ① THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. THE CONTRACTOR MAY USE MECHANICAL DOWEL BAR INSERTERS INSTEAD OF DOWEL ASSEMBLIES.
- ② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.
- ③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.
- ⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

18" DOWEL BARS ANCHORED
INTO EXISTING PAVEMENTTRANSVERSE CONTRACTION JOINTS ABUTTING
EXISTING PAVEMENT

④ DOWEL BAR DETAIL

RURAL DOWELED
CONCRETE PAVEMENTSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

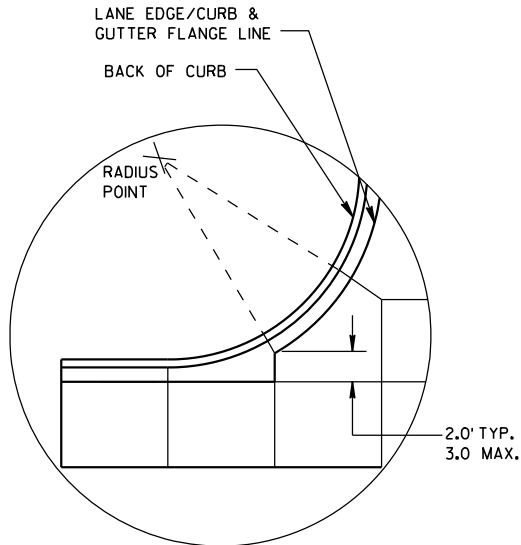
12/11/09

DATE

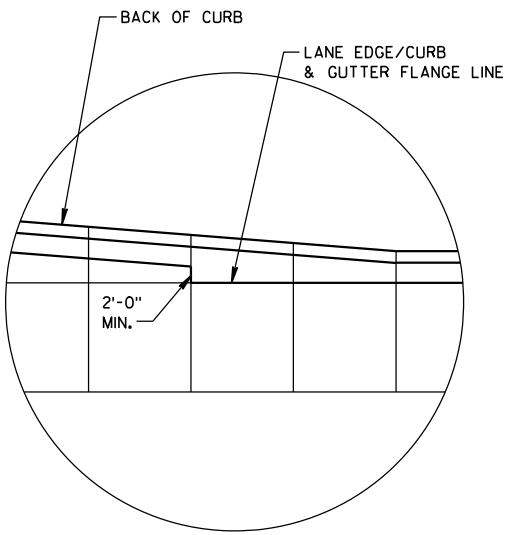
/S/ Deb Bischoff

PAVEMENT POLICY & DESIGN ENGINEER

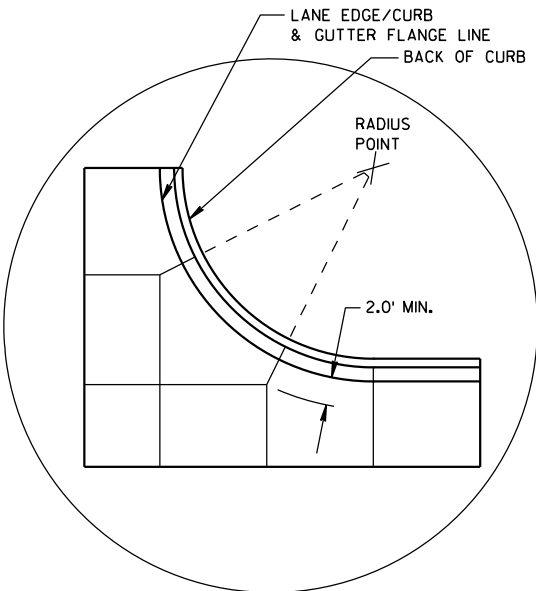
FHWA



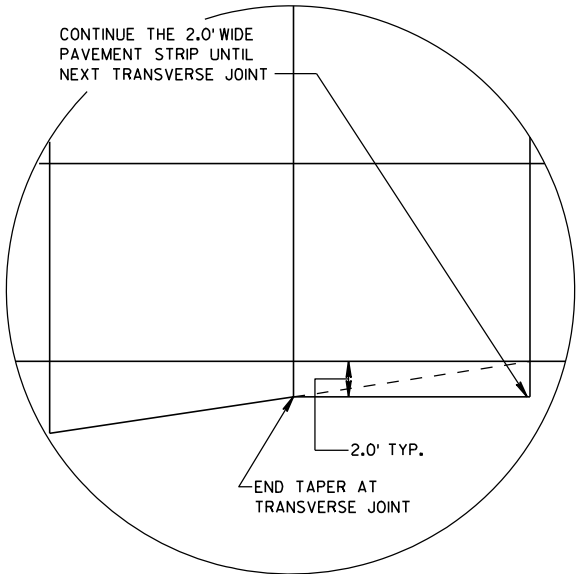
DETAIL "A"



DETAIL "B"



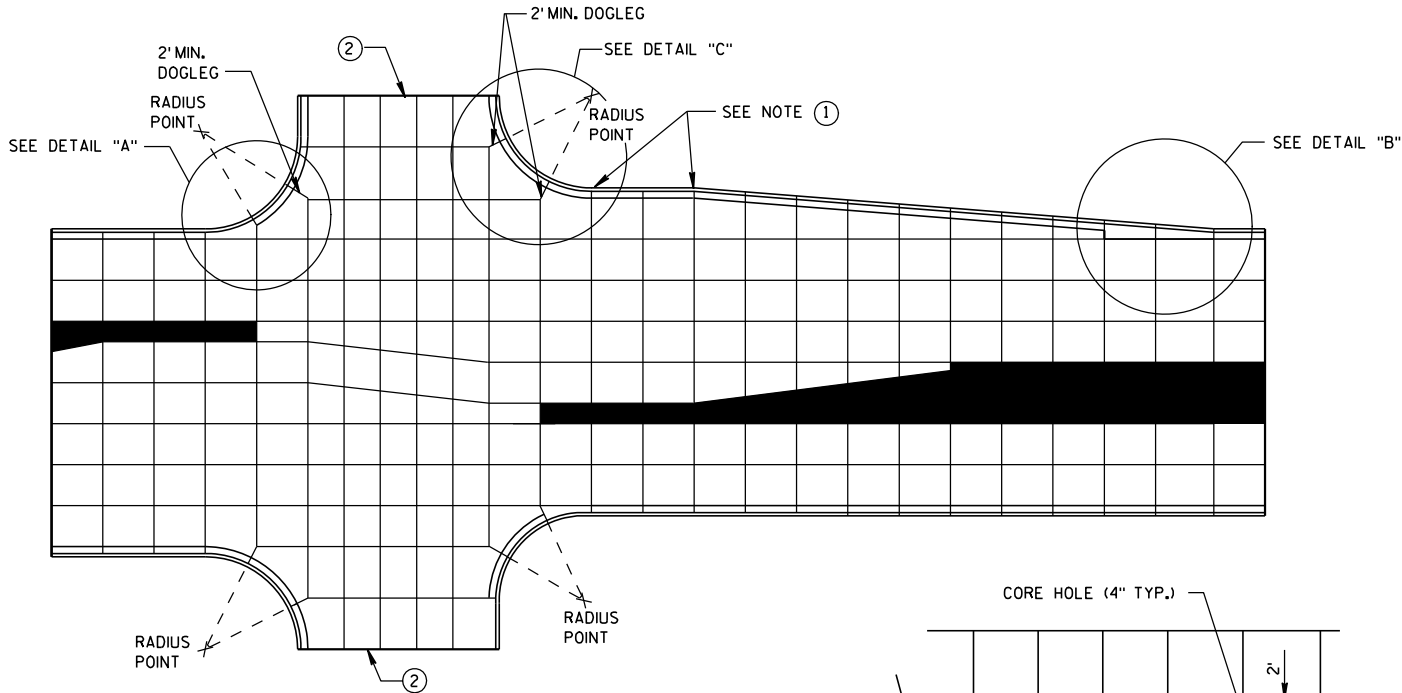
DETAIL "C"



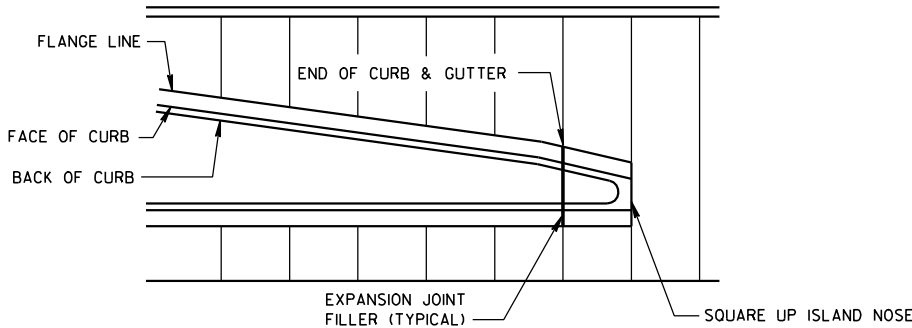
DETAIL "D"

GENERAL NOTES

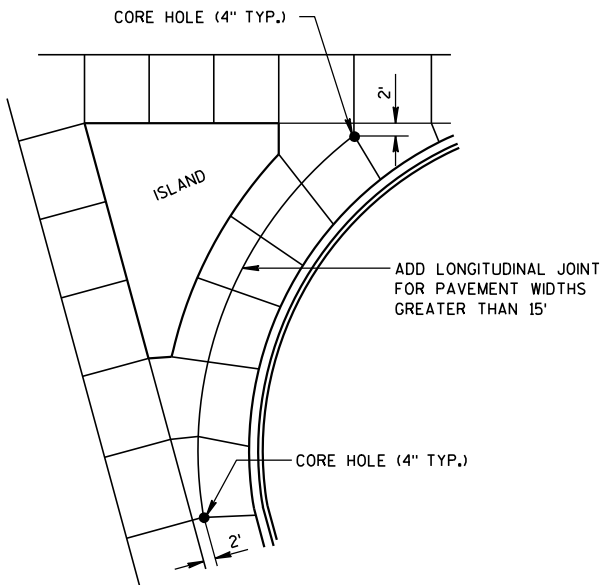
- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.
- AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.
- SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.
- AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
 2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
 3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



STANDARD INTERSECTION



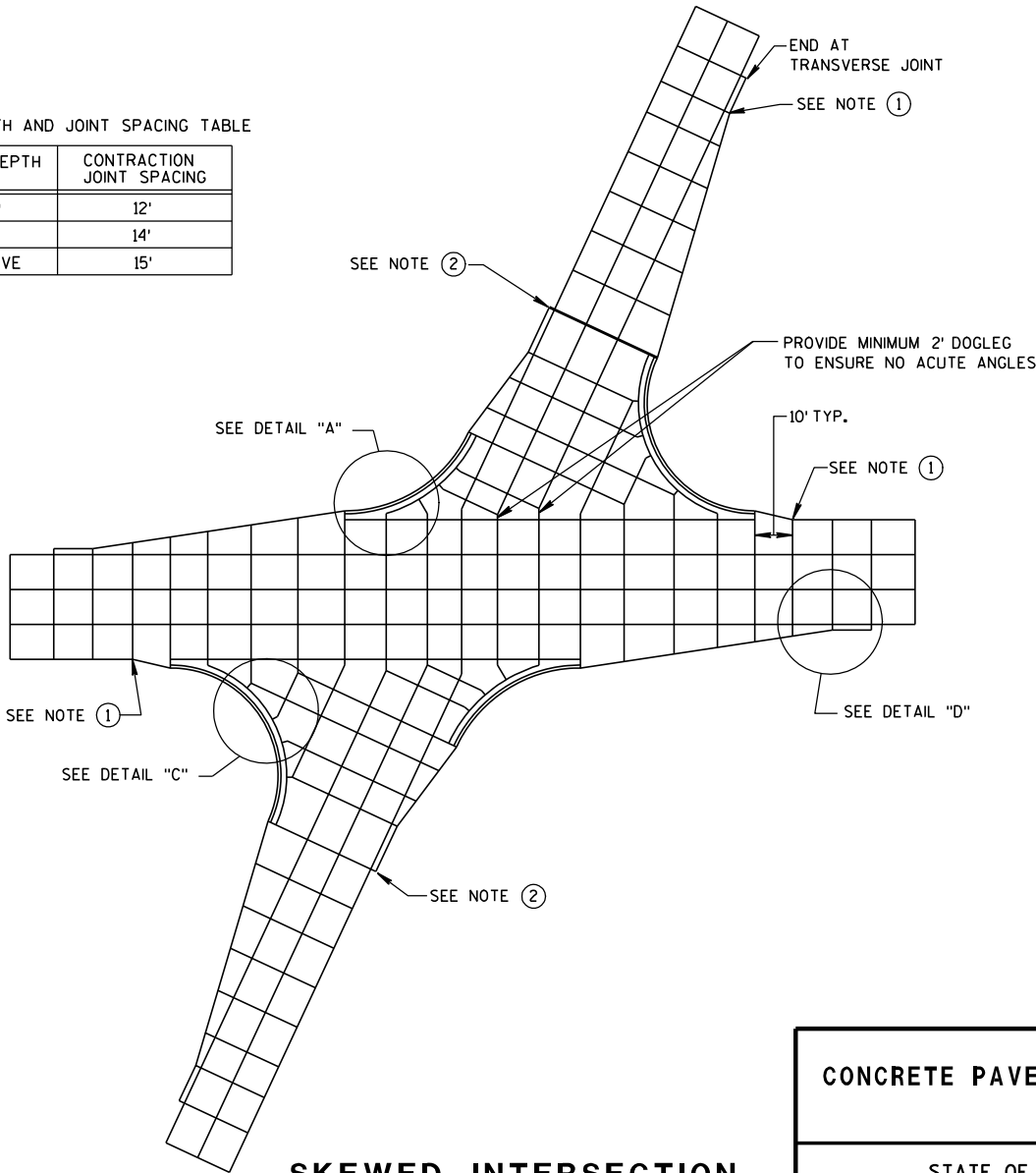
APPROACH TO MEDIAN



LARGE RIGHT TURN

PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



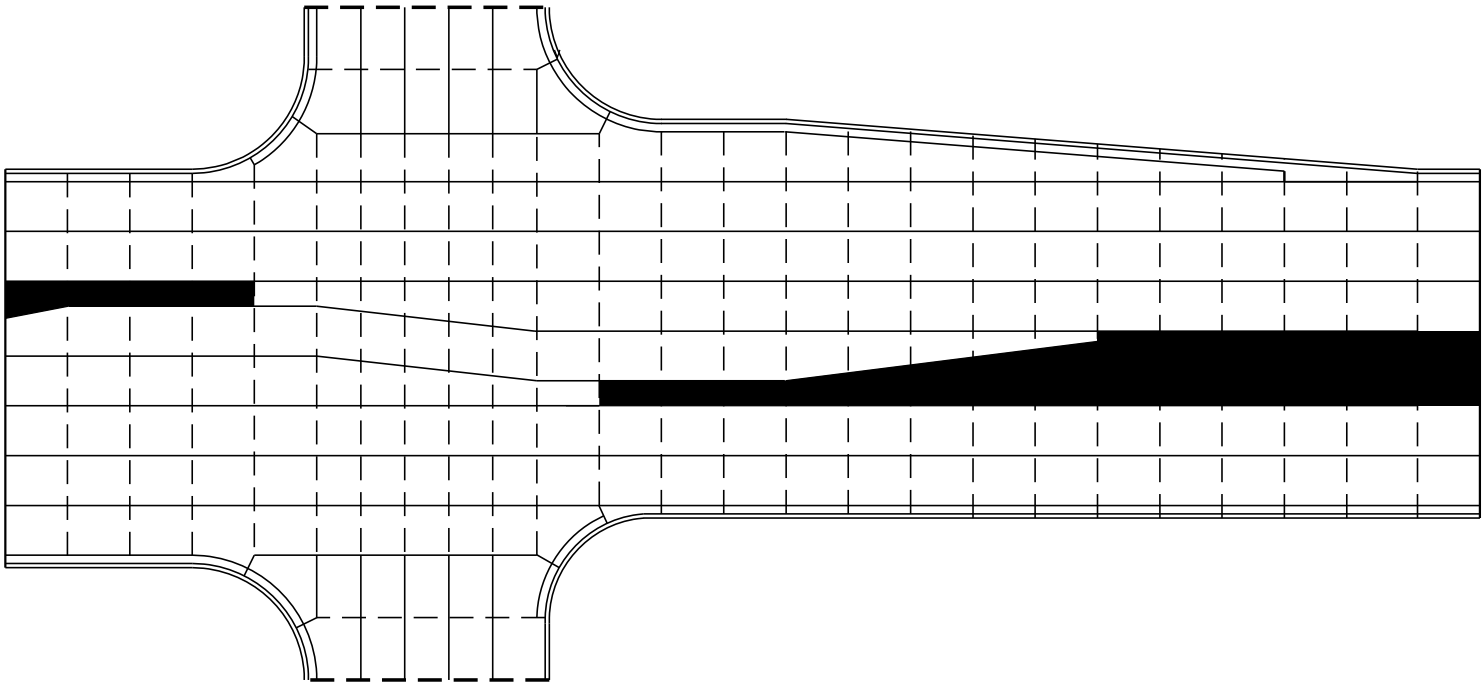
SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

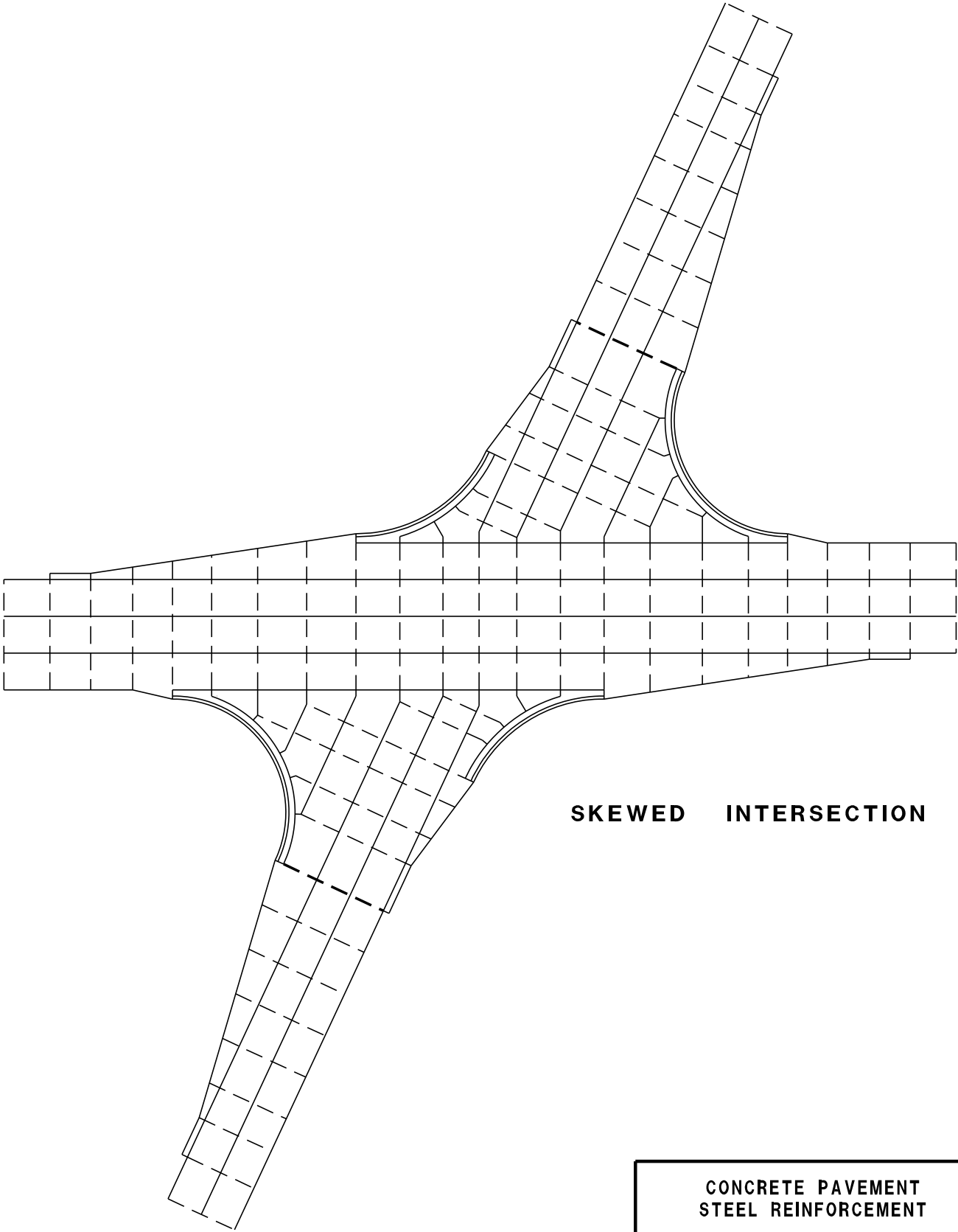
- POTENTIAL DOWELED EXPANSION JOINT
- - - DOWELED JOINT
- _____ TIED JOINT



STANDARD INTERSECTION

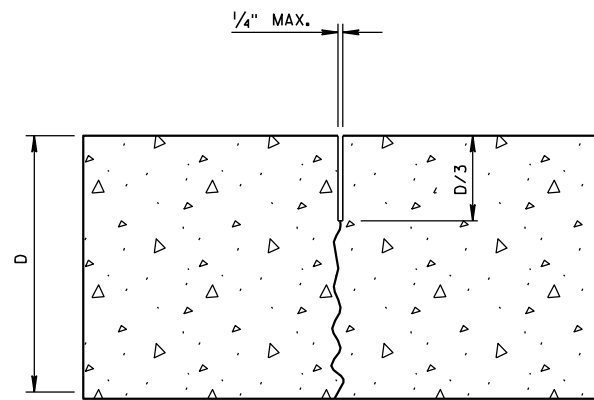
GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.

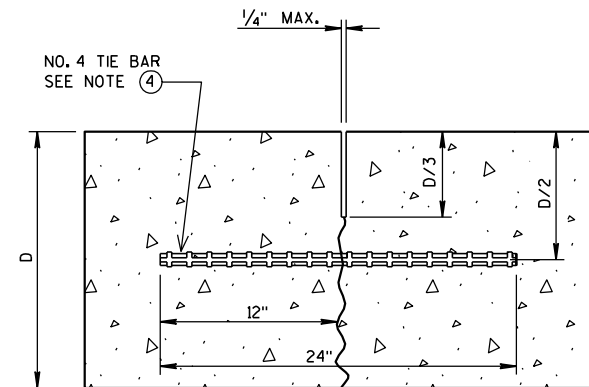


SKewed INTERSECTION

CONCRETE PAVEMENT STEEL REINFORCEMENT
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

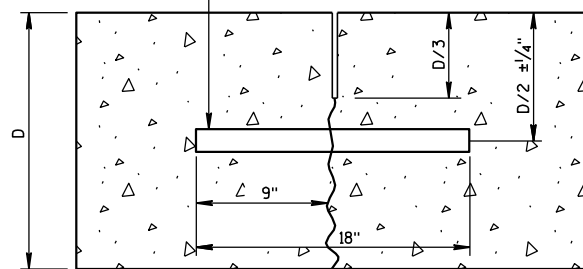


UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

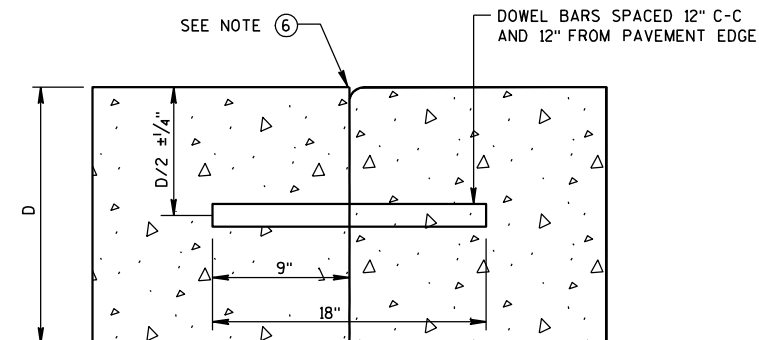
DOWEL BARS AT 12" C-C
12" FROM PAVEMENT EDGE



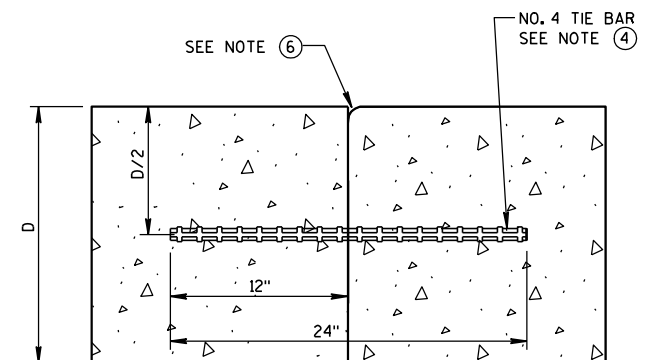
DOWELED-TRANSVERSE

CONTRACTION JOINTS

SEE NOTE ②

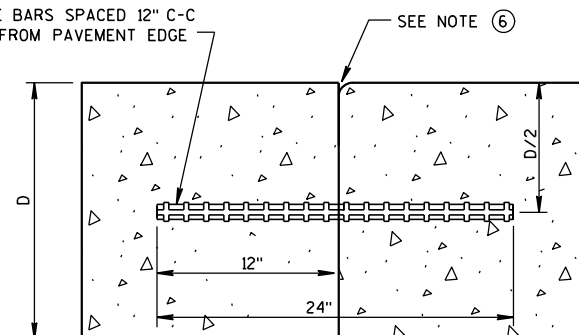


DOWELED TRANSVERSE



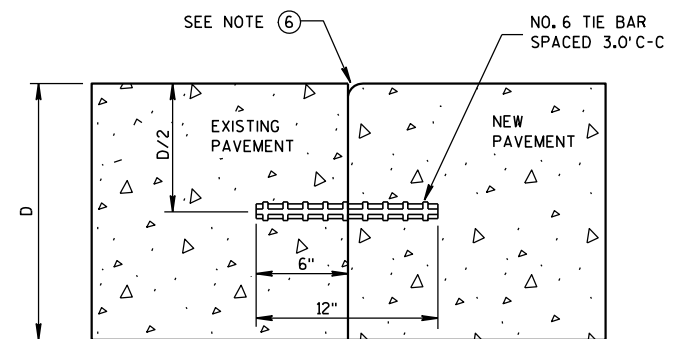
TIED LONGITUDINAL

NO. 6 TIE BARS SPACED 12" C-C
AND 12" FROM PAVEMENT EDGE



TIED TRANSVERSE

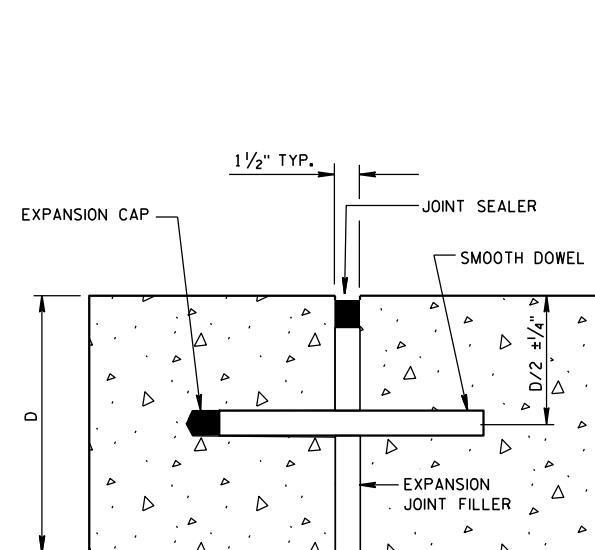
SEE NOTE ③



TIED LONGITUDINAL TO EXISTING

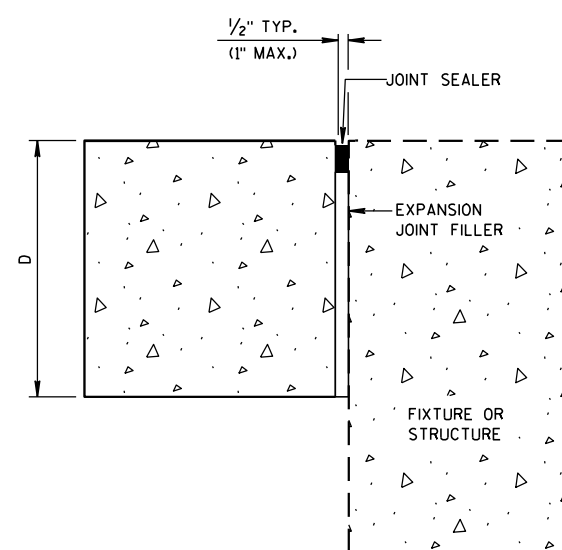
CONSTRUCTION JOINTS

SEE NOTE ⑤



DOWELED-TRANSVERSE

SEE NOTE ①



UNTIED-LONGITUDINAL

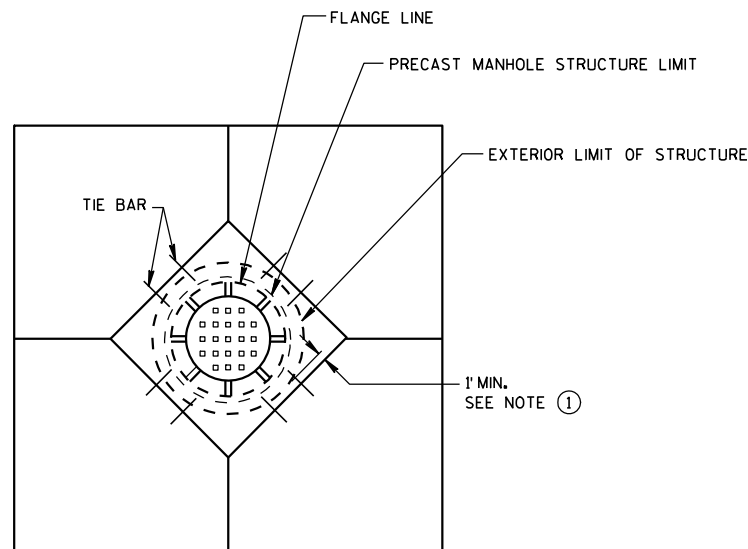
EXPANSION JOINTS

GENERAL NOTES

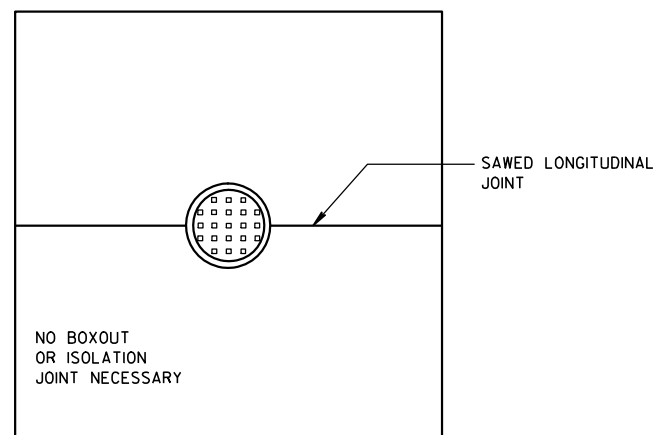
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.

CONCRETE PAVEMENT
JOINT TYPES

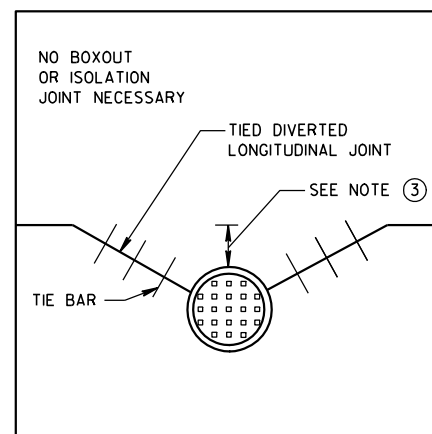
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



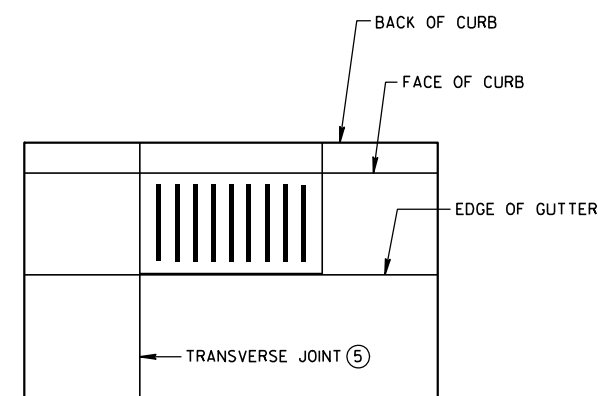
**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**



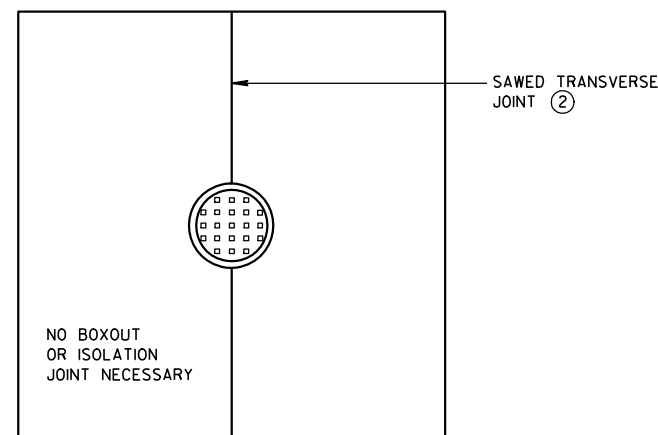
**MANHOLE WITH
LONGITUDINAL JOINT**



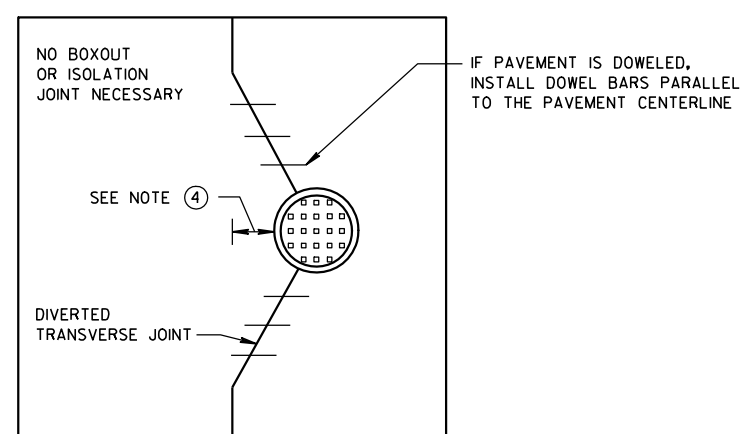
**MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**INLET WITH
TRANSVERSE JOINT**



**MANHOLE WITH
TRANSVERSE JOINT**



**MANHOLE WITH DIVERTED
TRANSVERSE CONTRACTION JOINT**

GENERAL NOTES

1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS GREATER THAN 2 FEET, DO NOT DIVERT JOINT AND SAW LONGITUDINAL JOINT AS NORMAL. IF DISTANCE IS 2 FEET OR LESS, DIVERT LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE.
4. IF DISTANCE FROM THE EDGE OF MANHOLE TO THE NEAREST TRANSVERSE JOINT IS GREATER THAN 4 FEET, REDIRECT JOINT TO INTERSECT MANHOLE. IF DISTANCE IS 4 FEET OR LESS, PLACE REBAR REINFORCEMENT AROUND MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

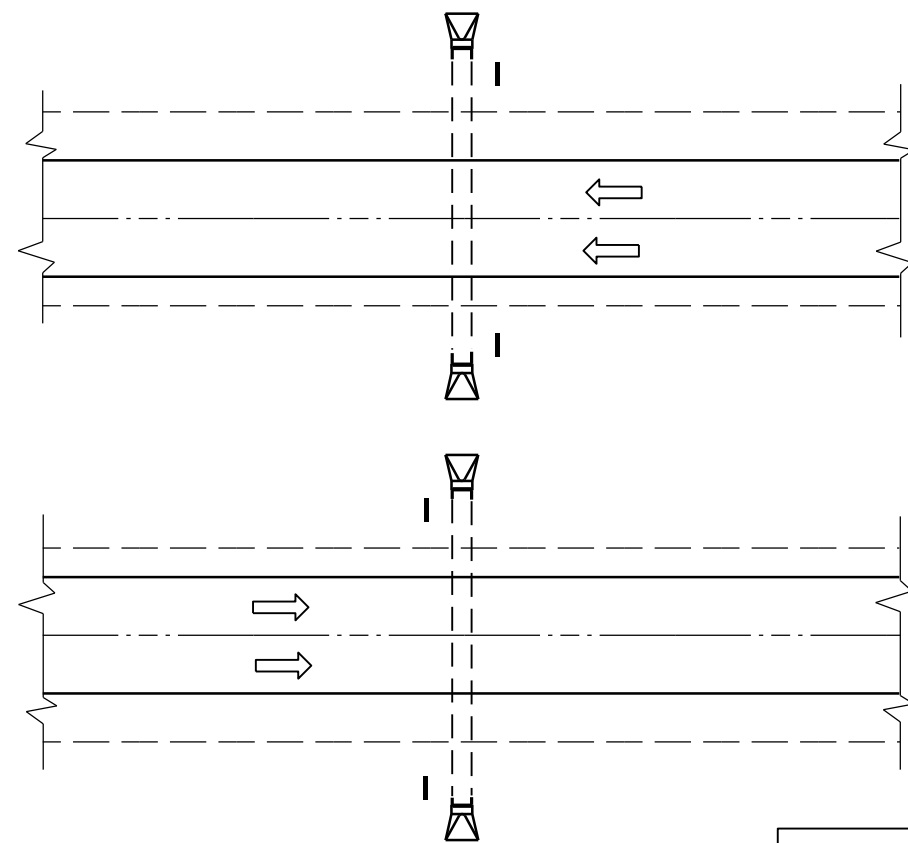
APPROVED

10-5-2010

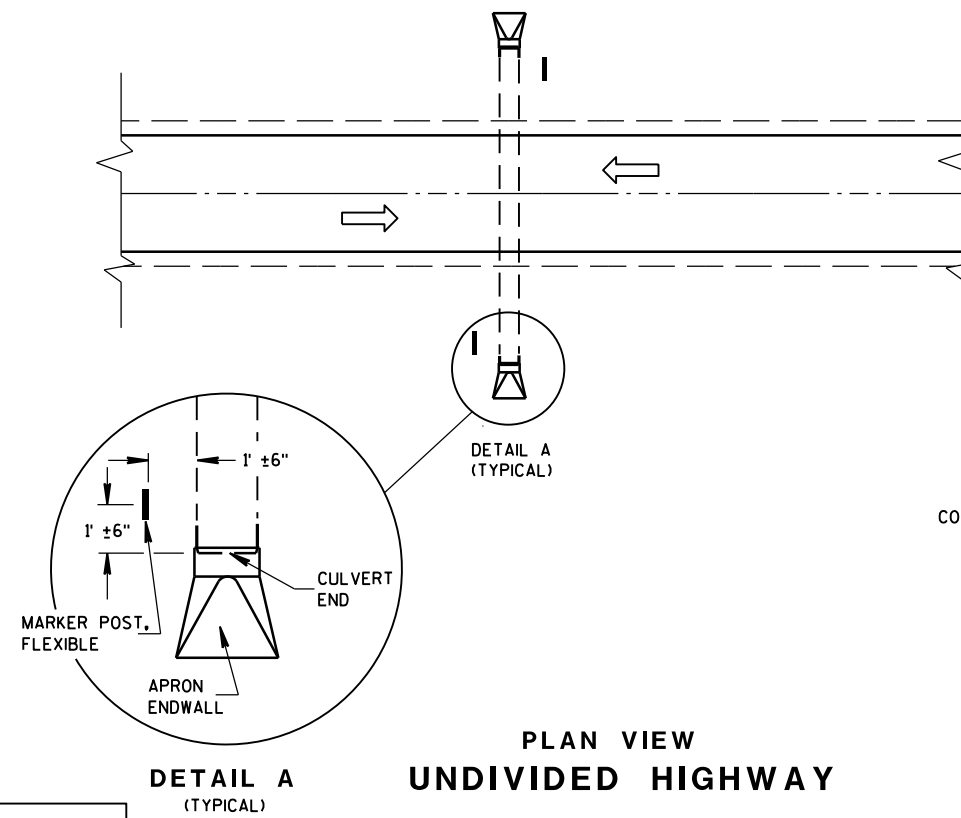
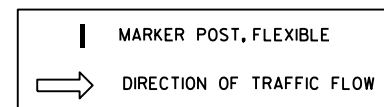
DATE

FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



PLAN VIEW
DIVIDED HIGHWAY



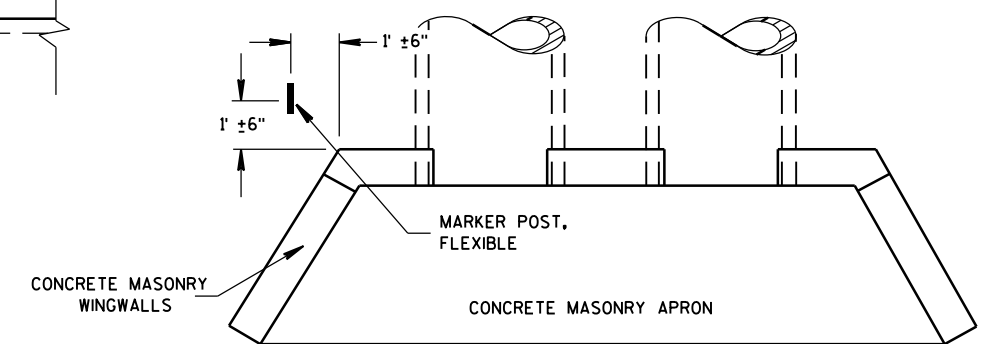
DETAIL A
(TYPICAL)

PLAN VIEW
UNDIVIDED HIGHWAY

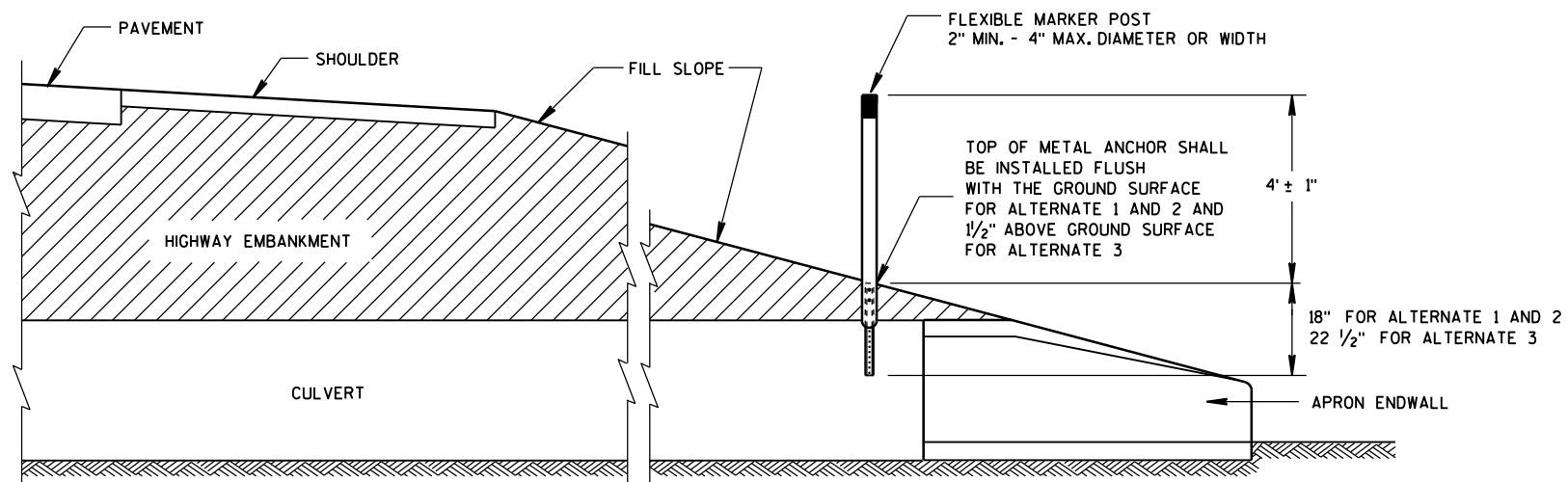
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



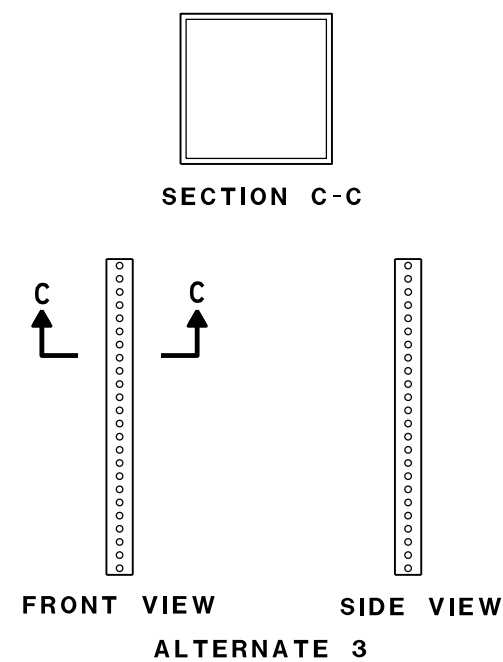
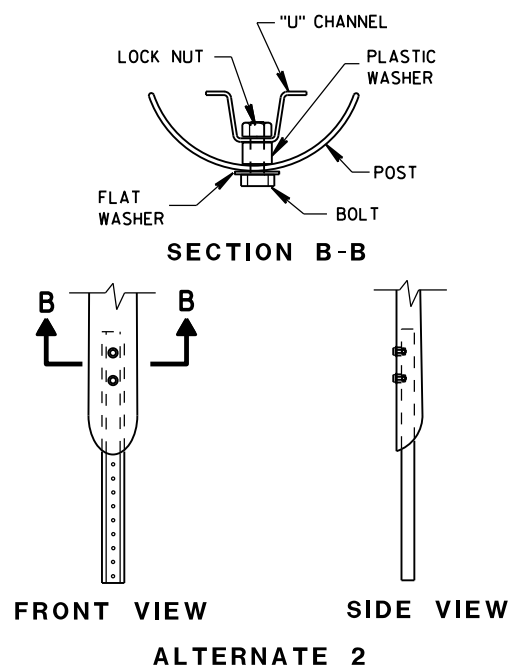
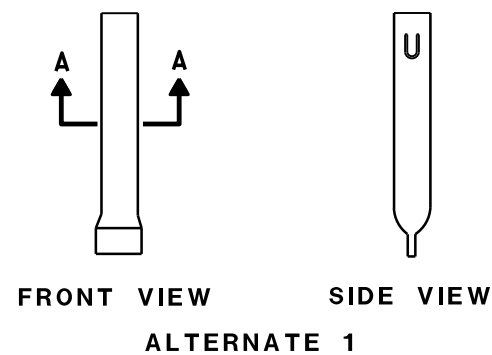
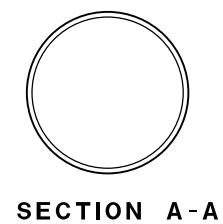
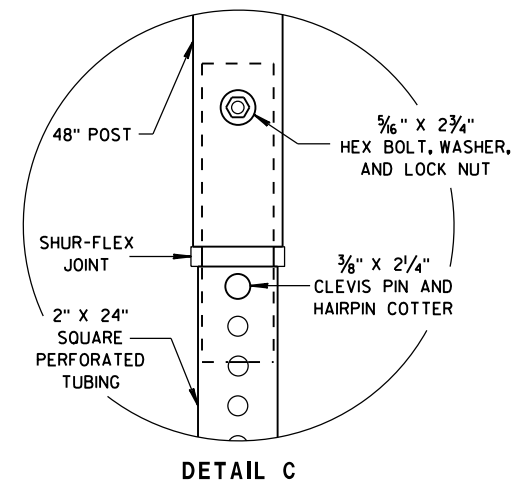
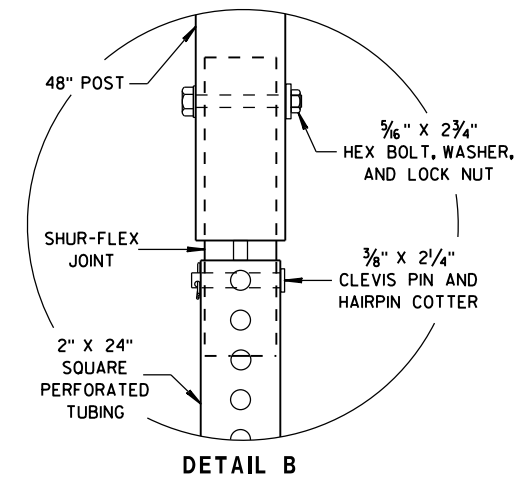
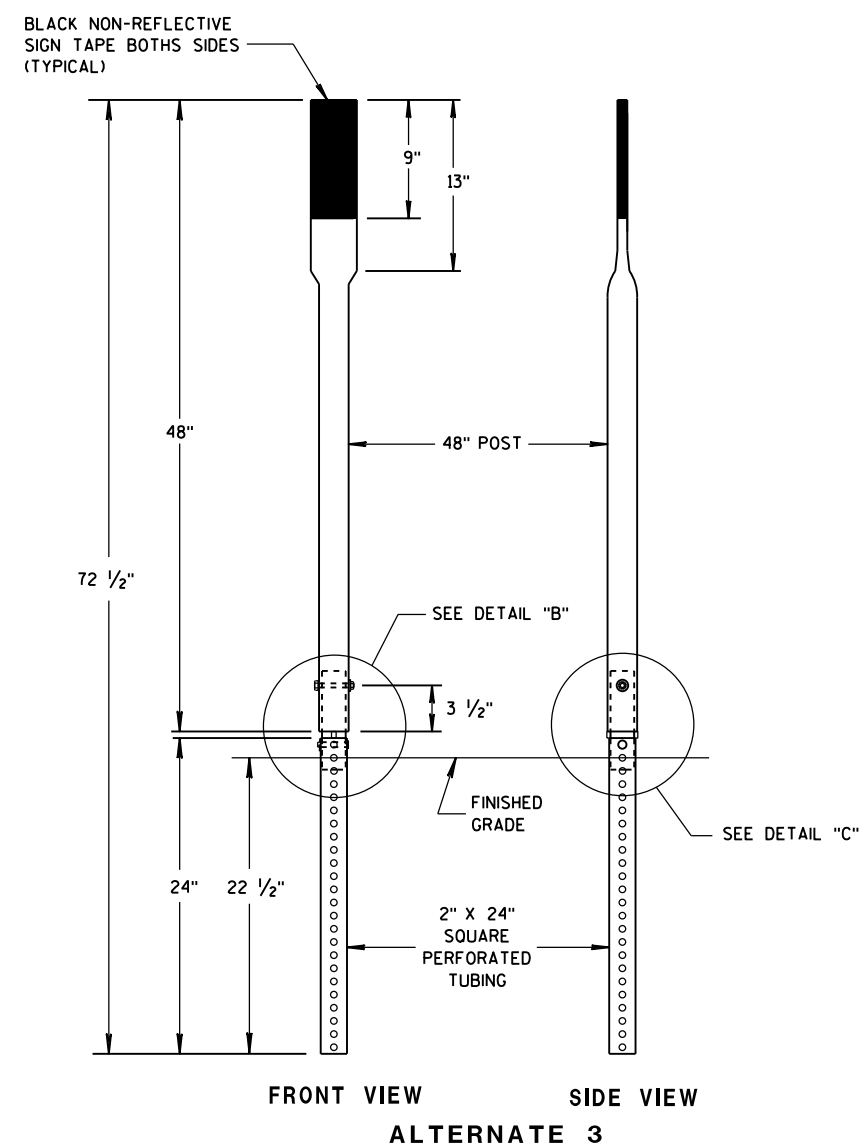
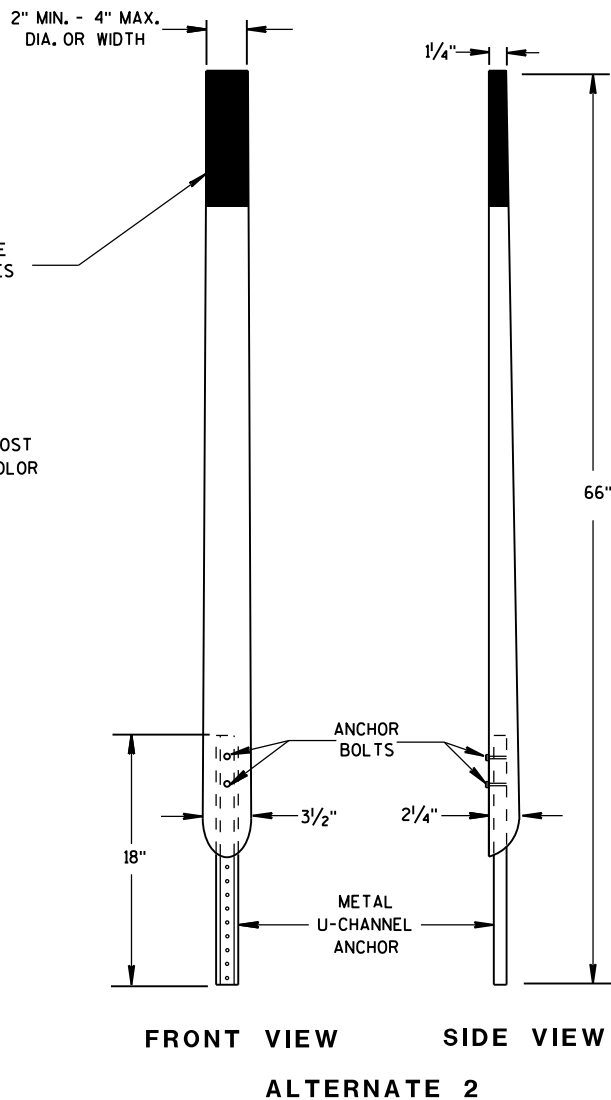
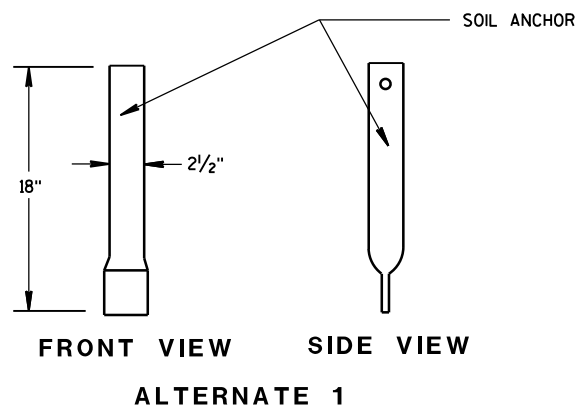
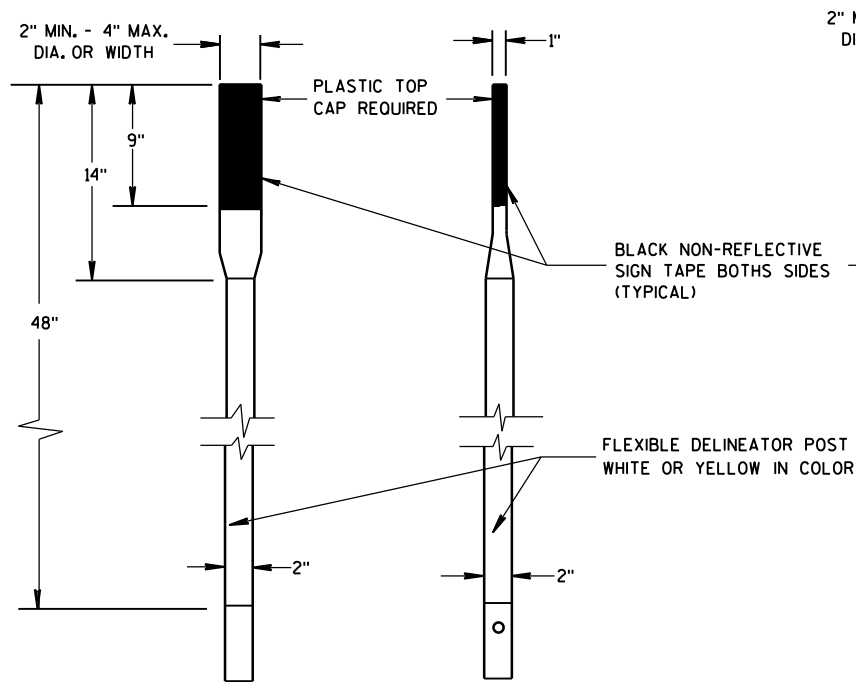
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

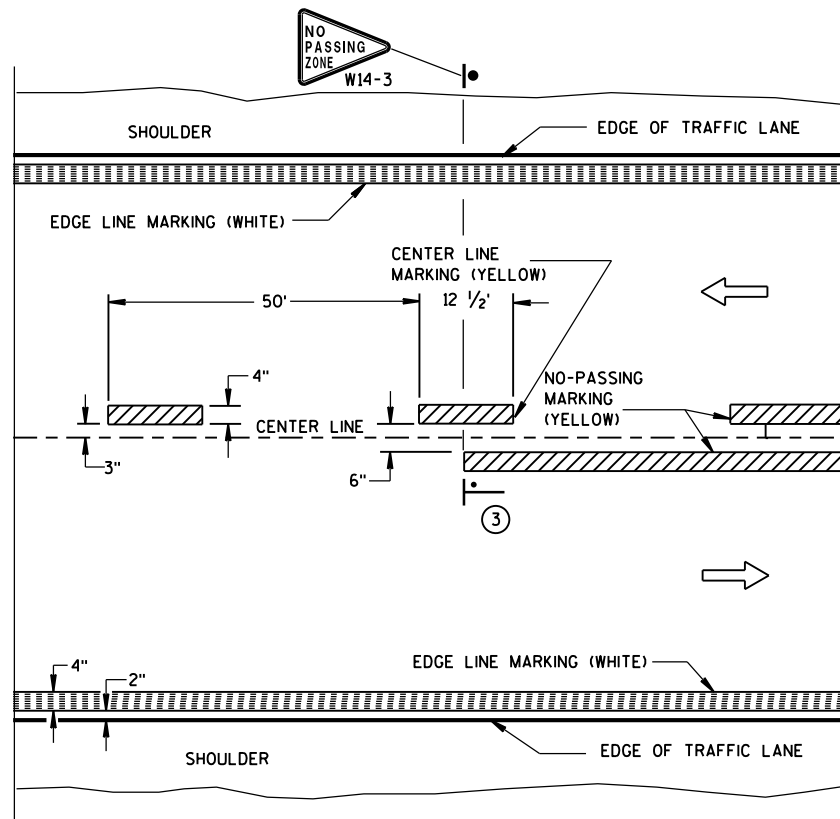
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



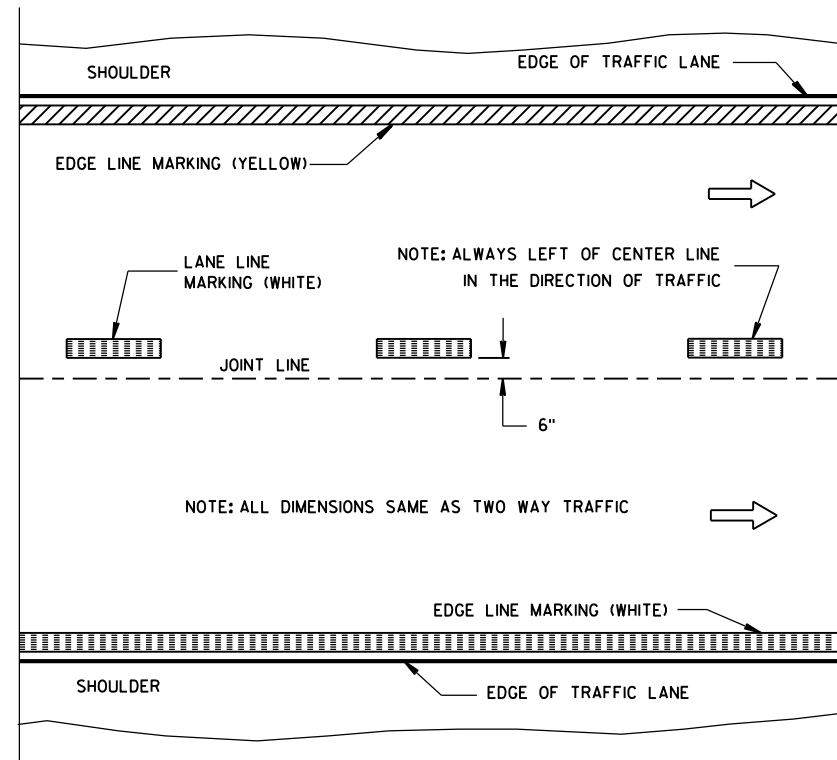
FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

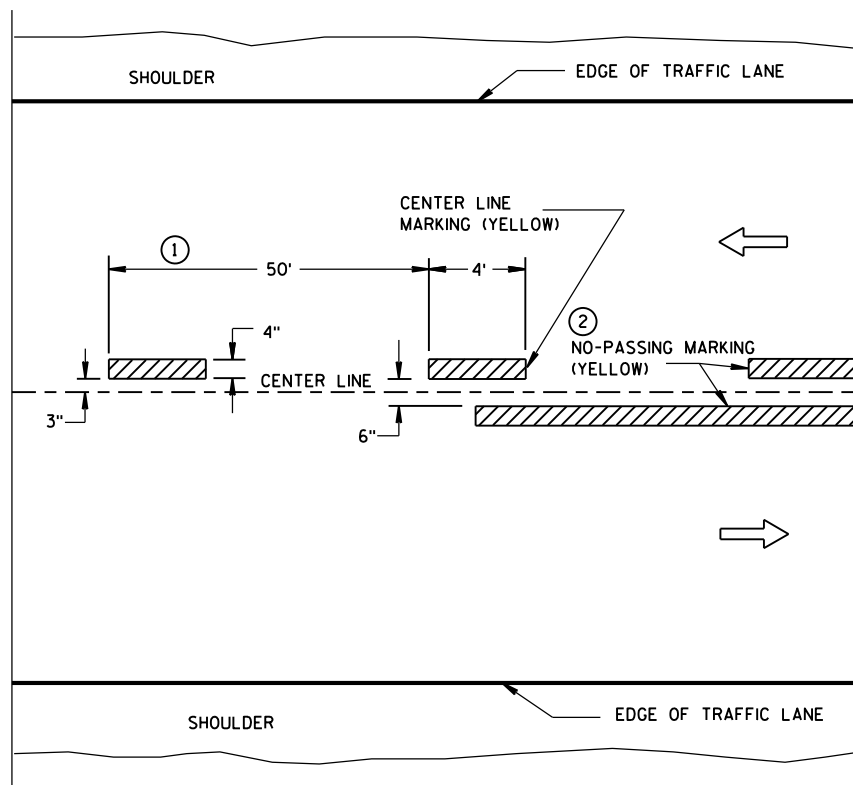


TWO WAY TRAFFIC

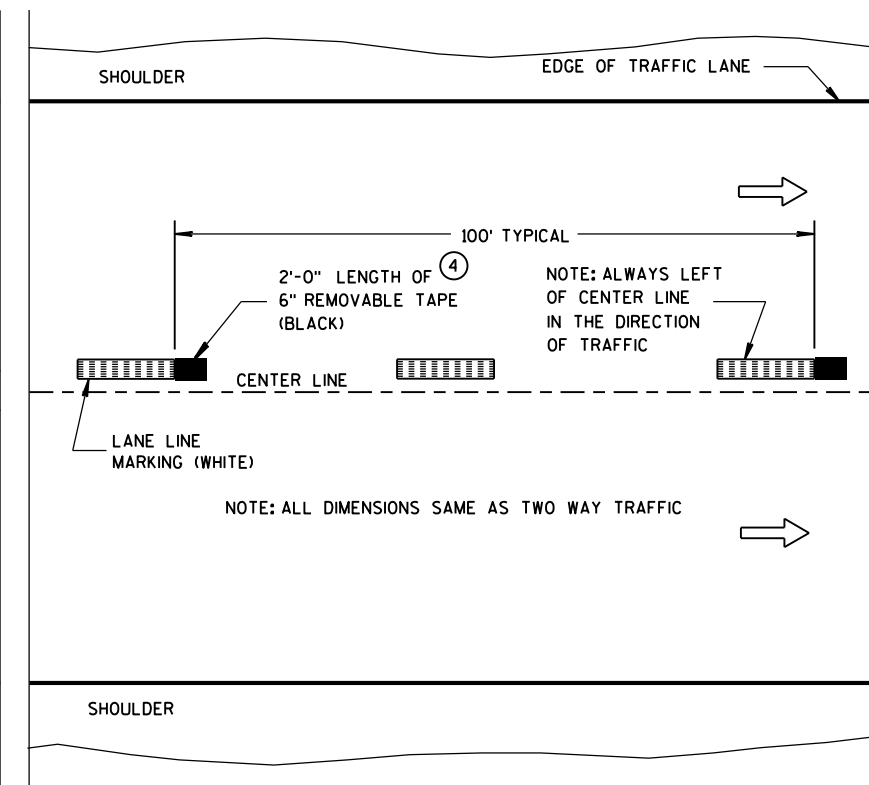


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

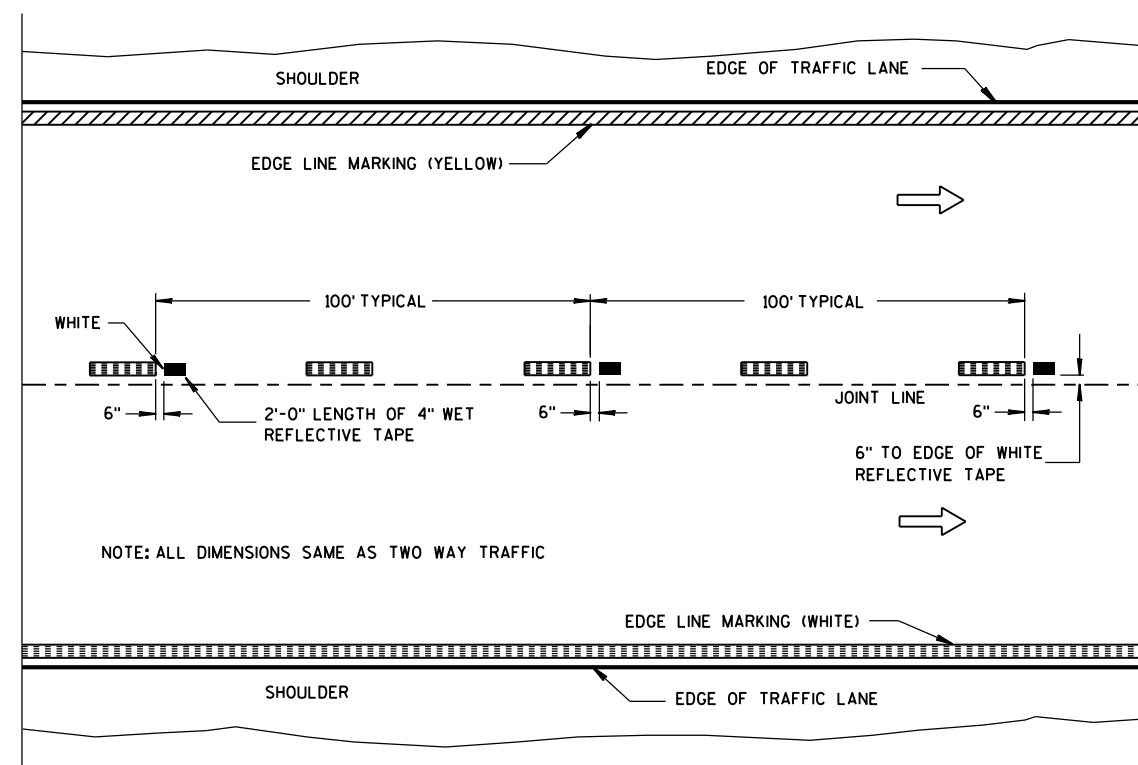
GENERAL NOTES

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

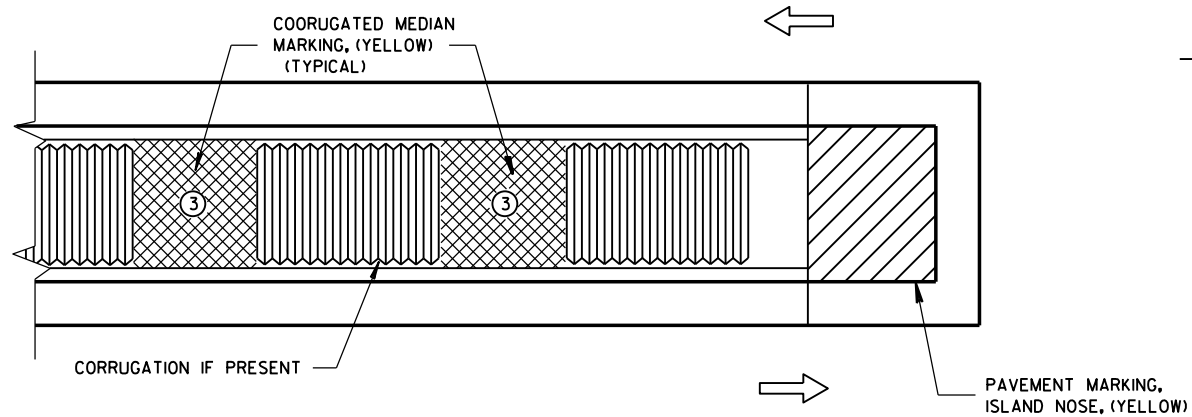
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

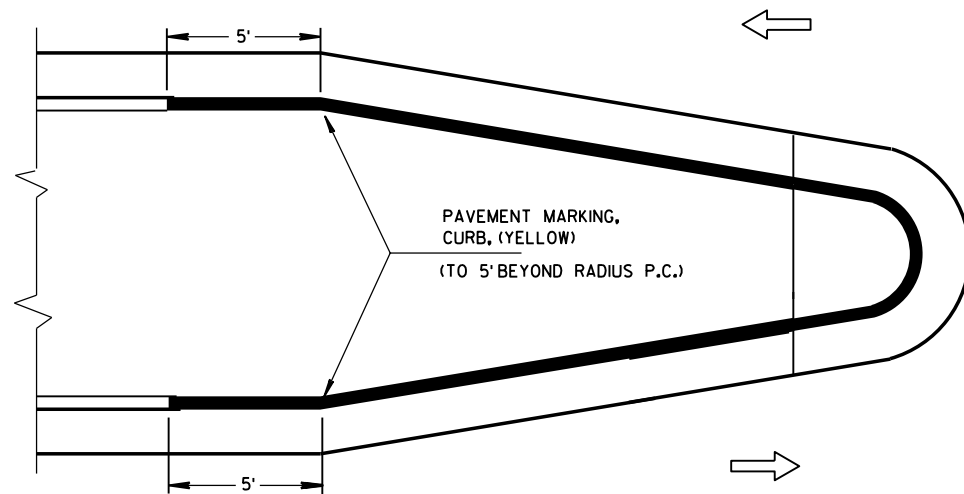
PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

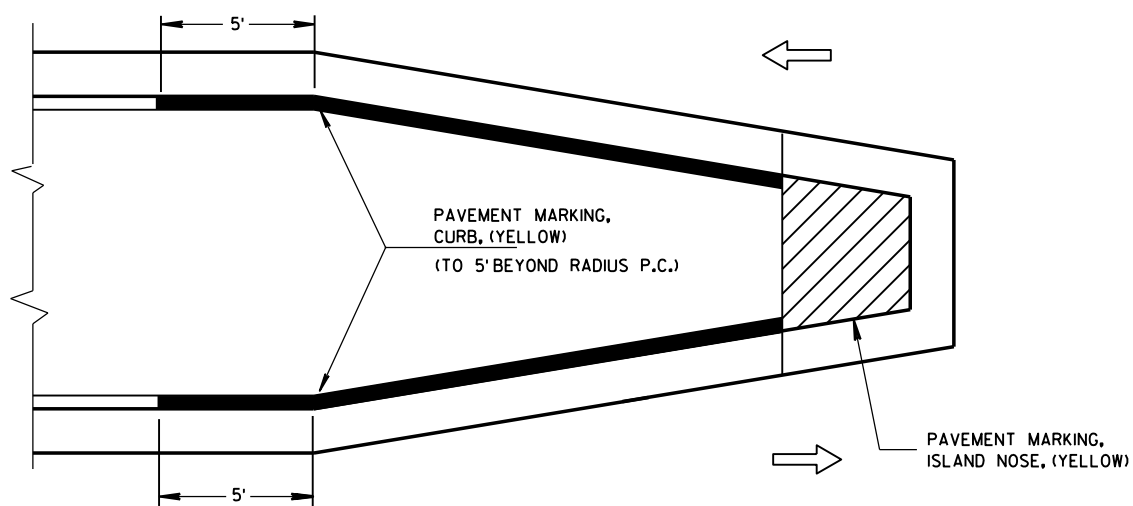
APPROVED
10-1-2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

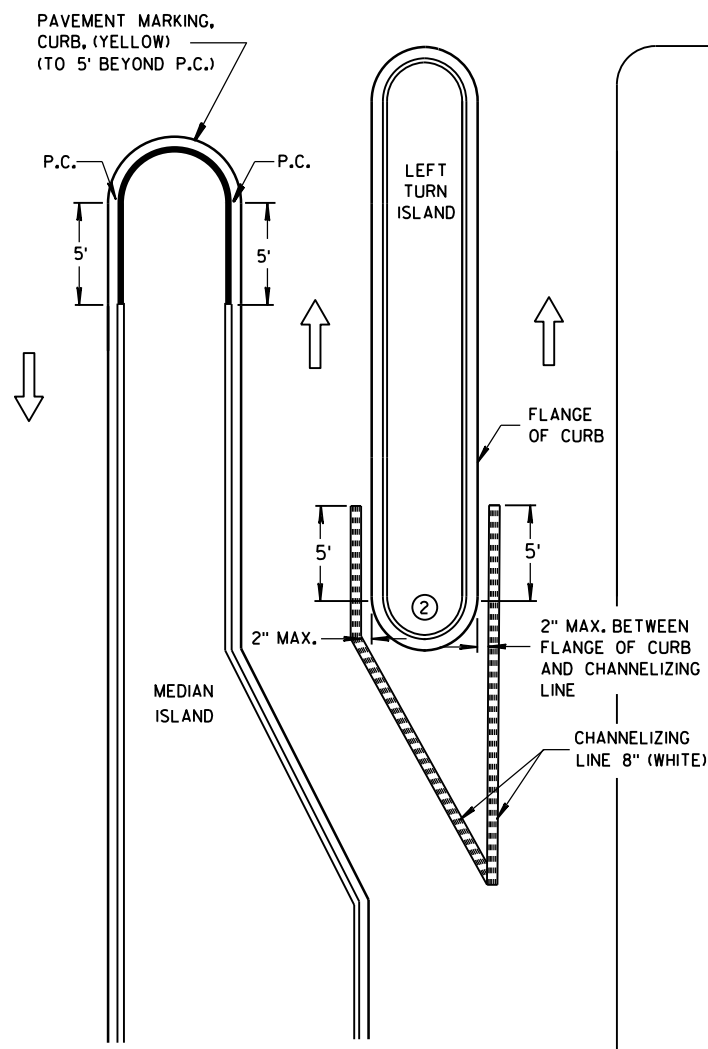


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

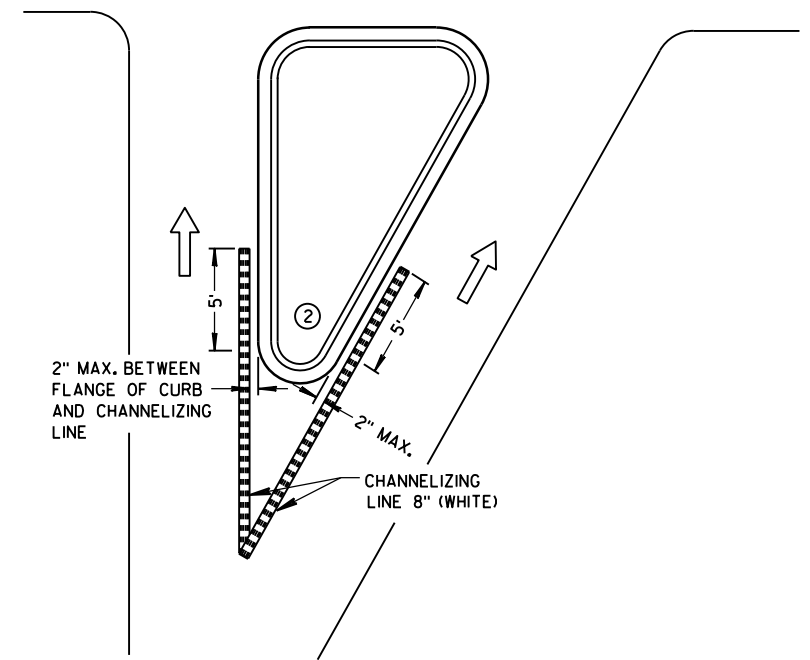
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



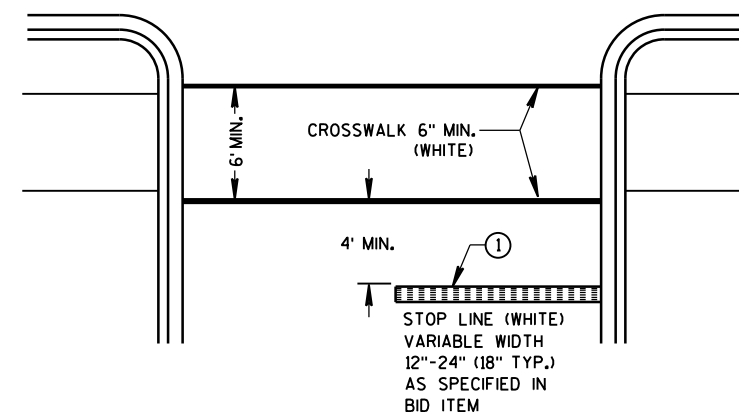
LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

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



RIGHT TURN ISLAND



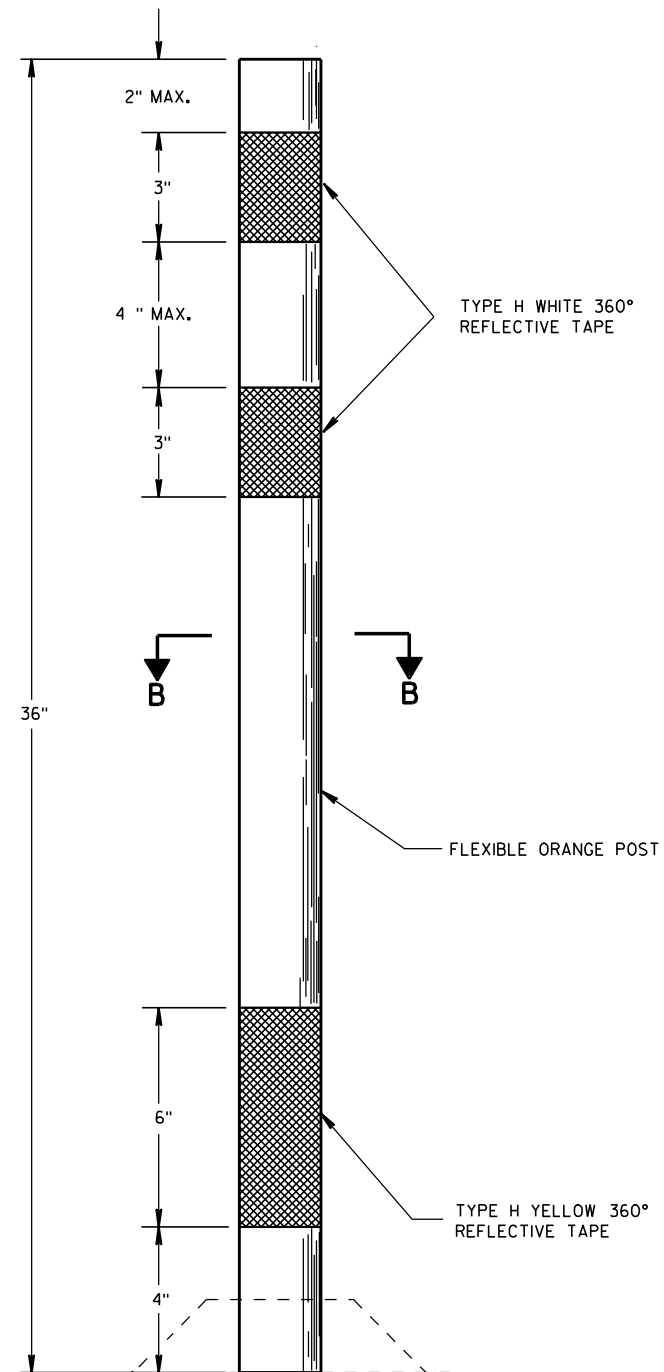
STOP LINE AND CROSSWALK

LEGEND

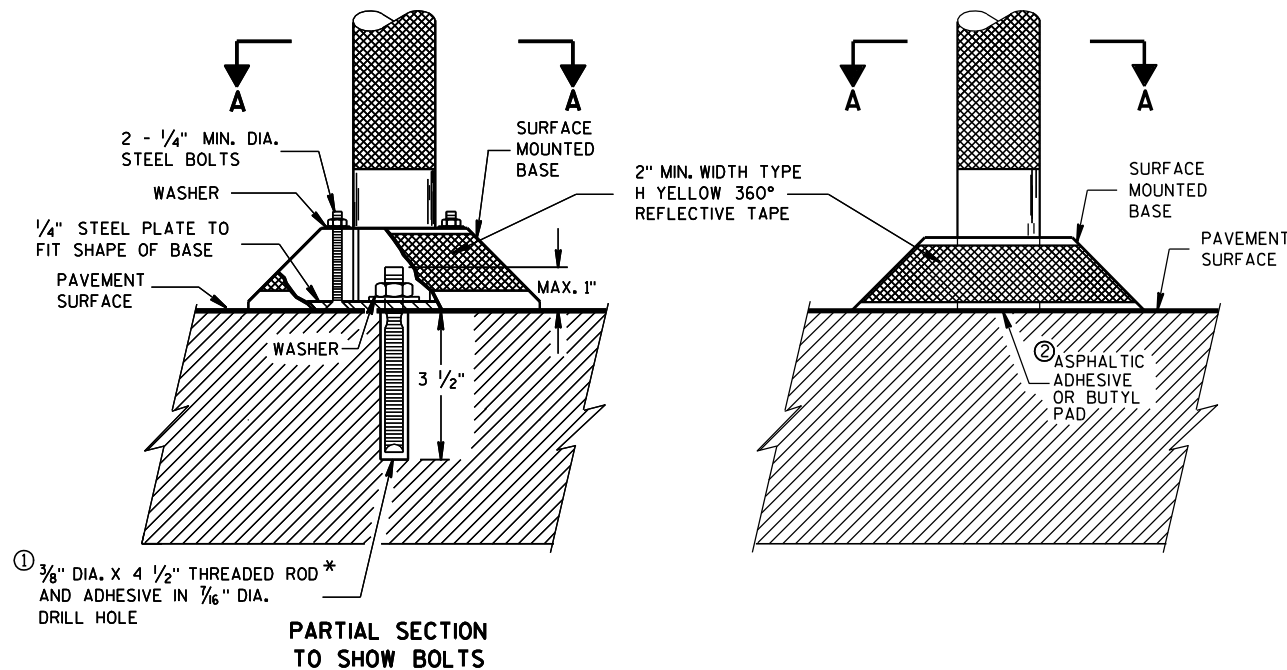
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)

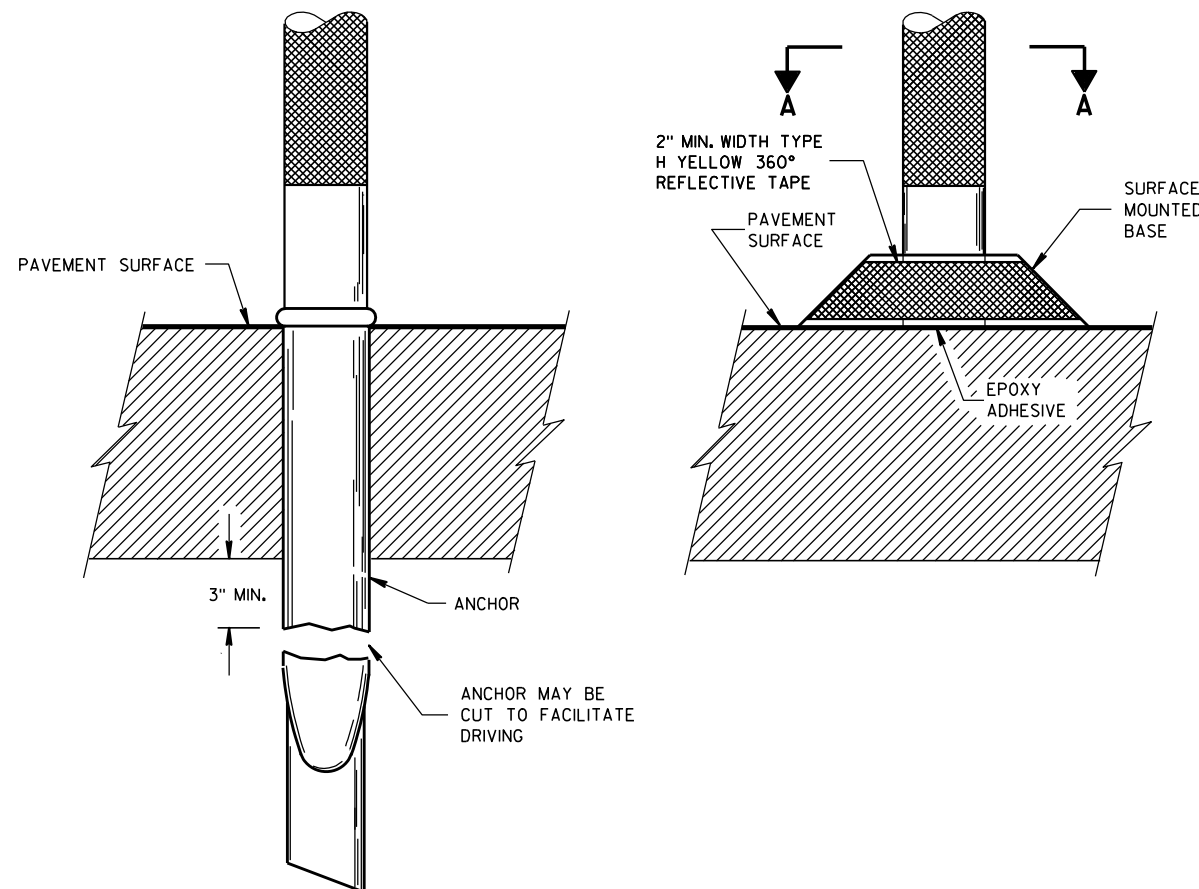
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FLEXIBLE TUBULAR MARKER POST

PARTIAL SECTION
TO SHOW BOLTS

POST BASES ON NEW OR EXISTING PAVEMENT



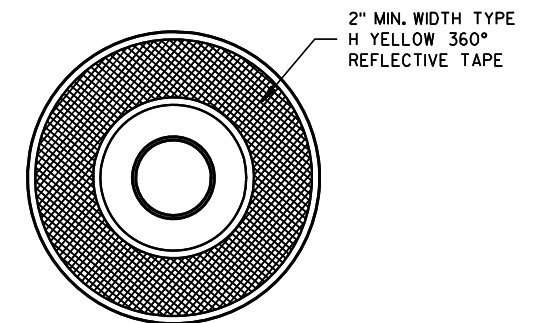
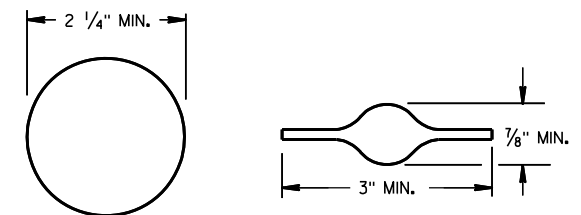
POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

- ① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4" INCHES FROM THE TOP.
- ② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

SECTION A-A
SURFACE MOUNTED BASESECTION B-B
ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER
POST, ANCHOR & BASES

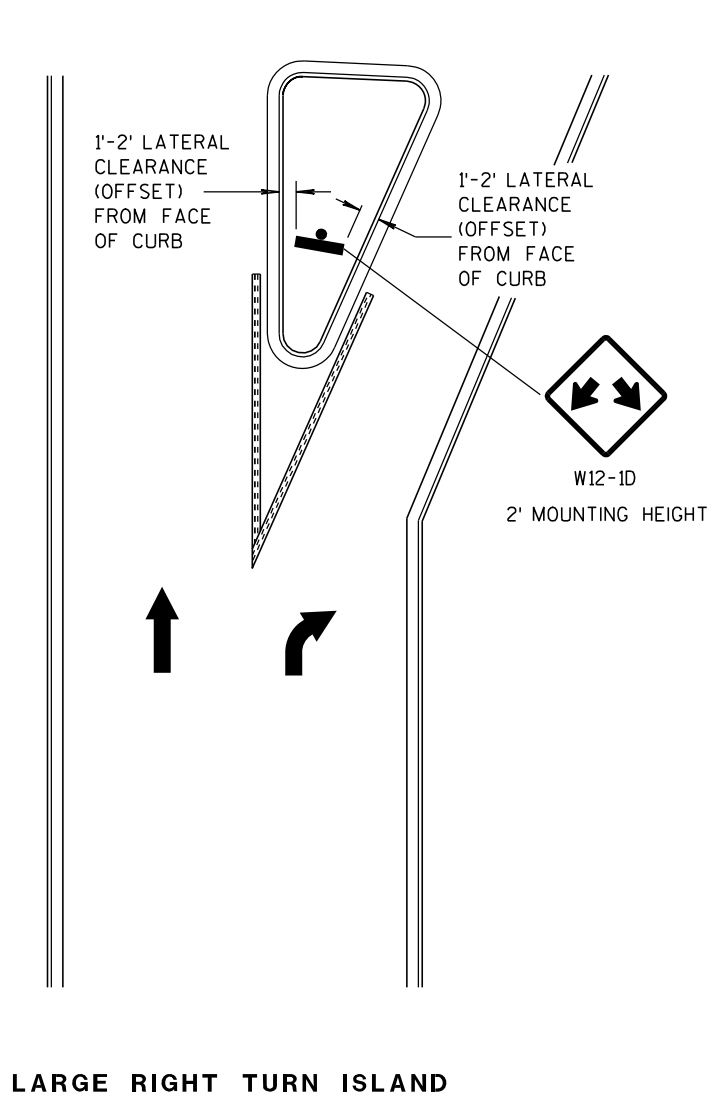
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

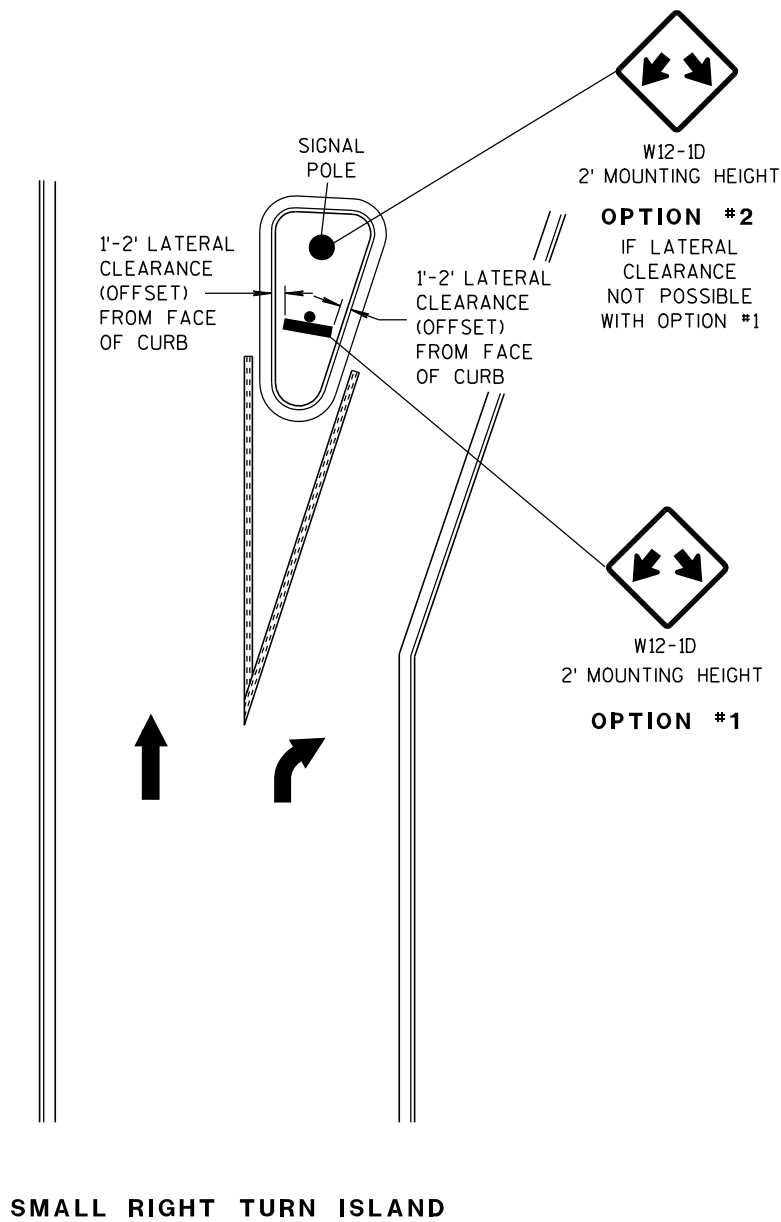
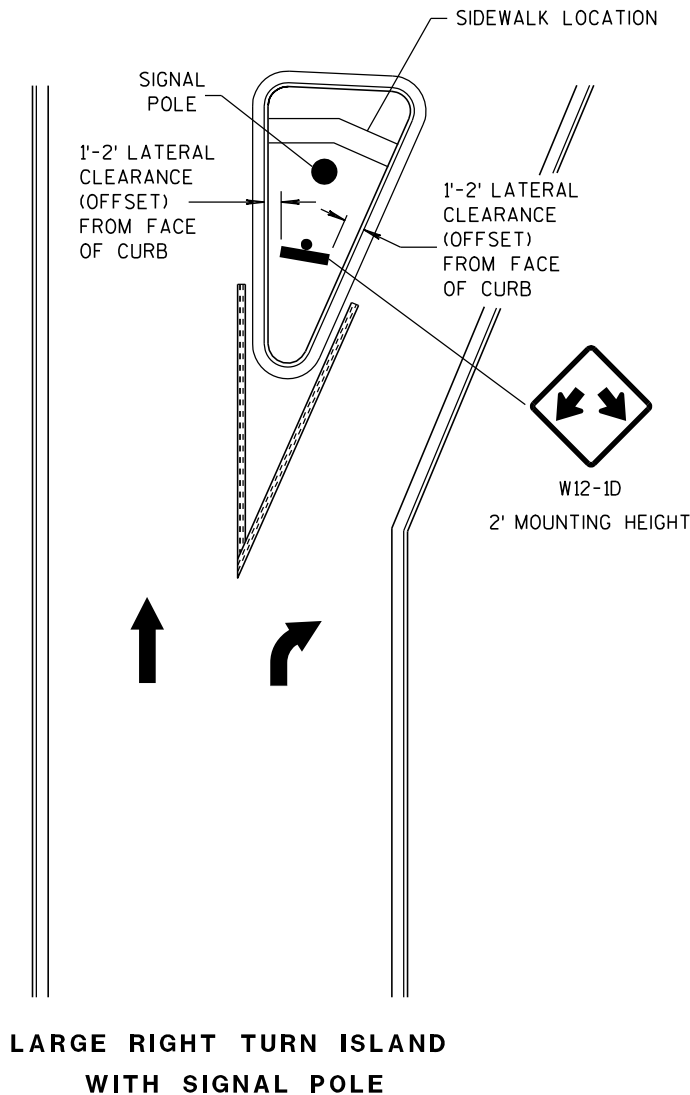
2/17/94
DATE

FHWA

/S/ Chester J. Spang
DIRECTOR, OFFICE OF TRAFFIC



DOUBLE ARROW WARNING SIGN PLACEMENT



GENERAL NOTE

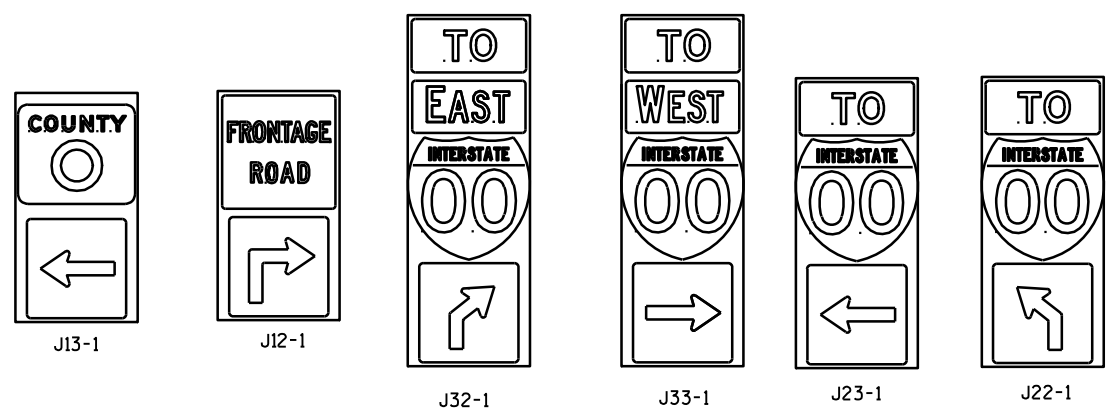
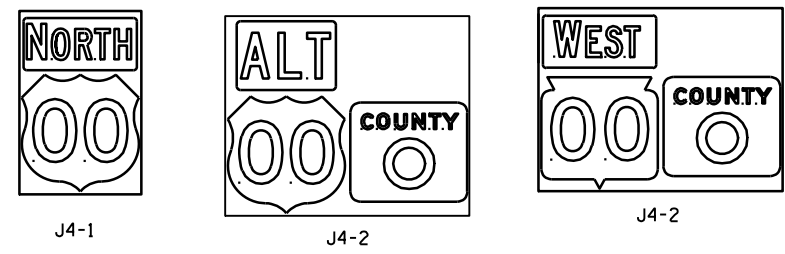
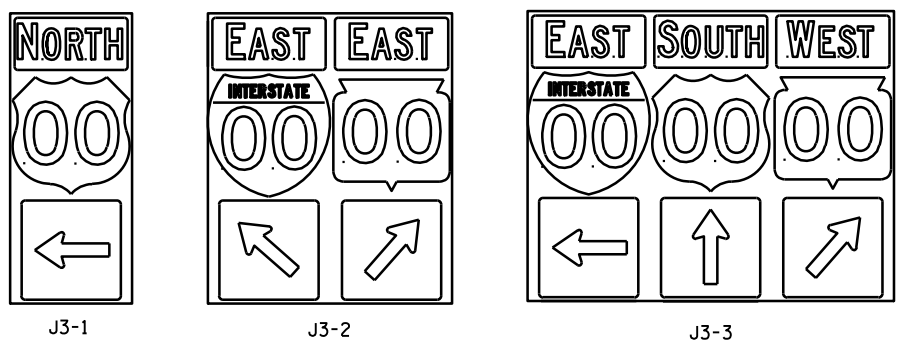
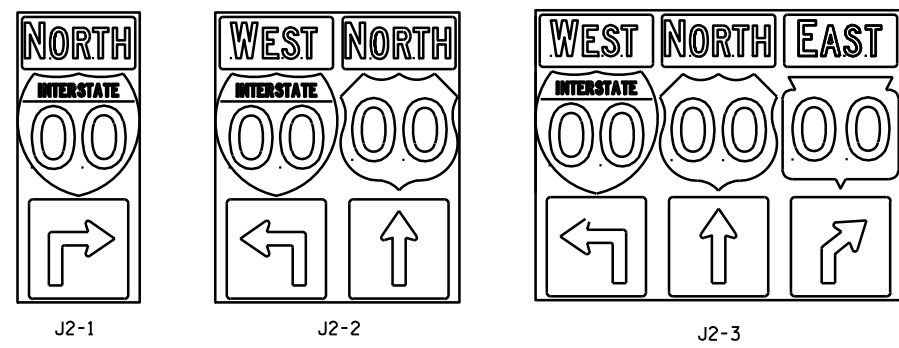
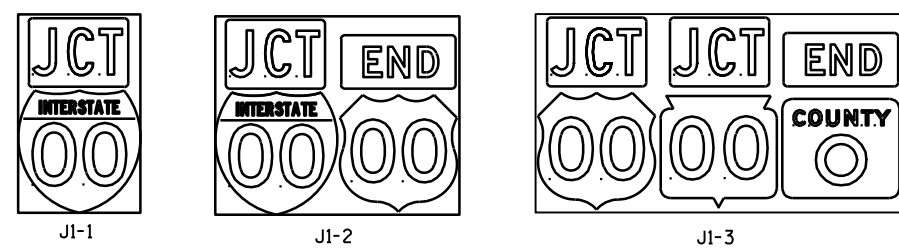
APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

DOUBLE ARROW
WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

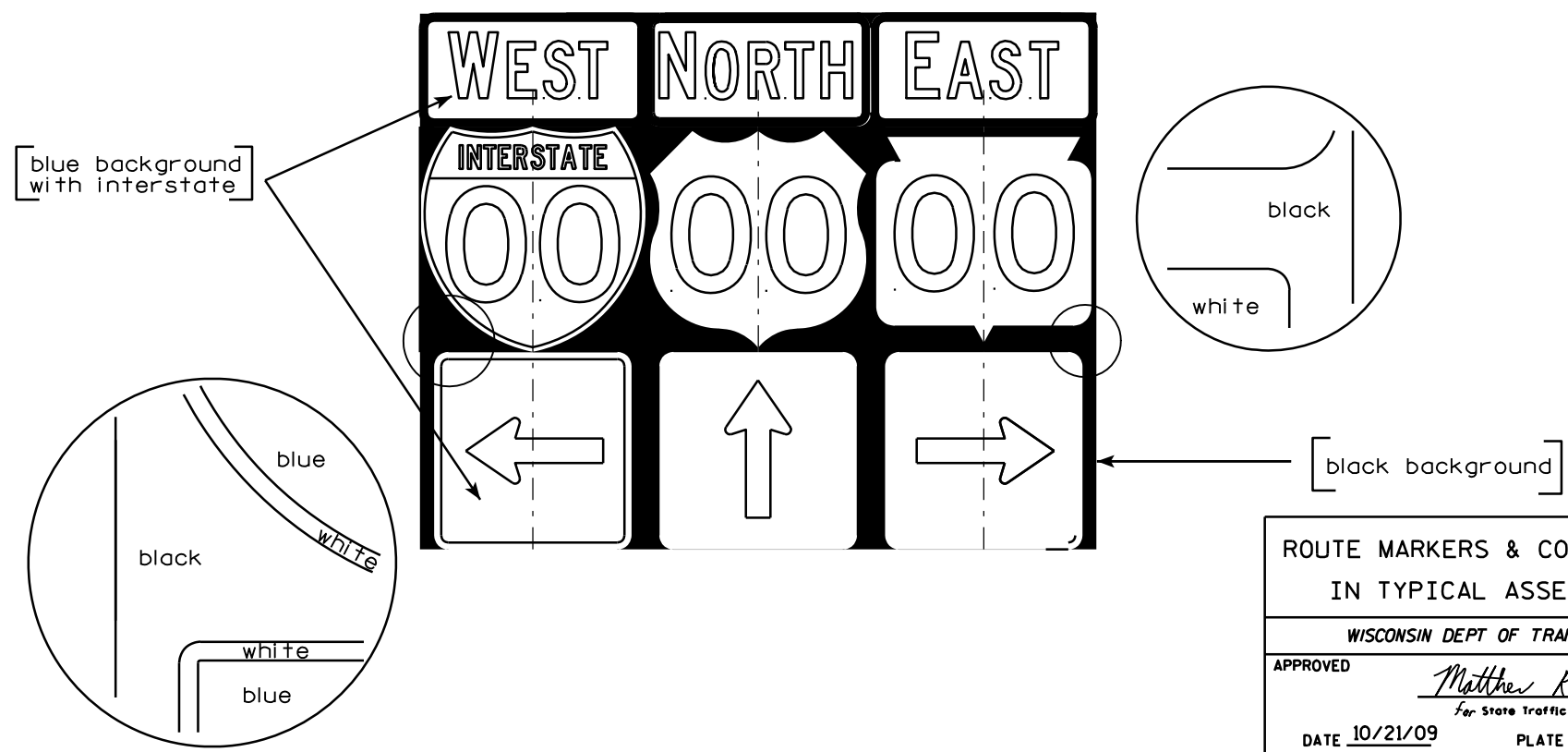
APPROVED
10-22-08
DATE
/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN
FHWA

TYPICAL ASSEMBLIES



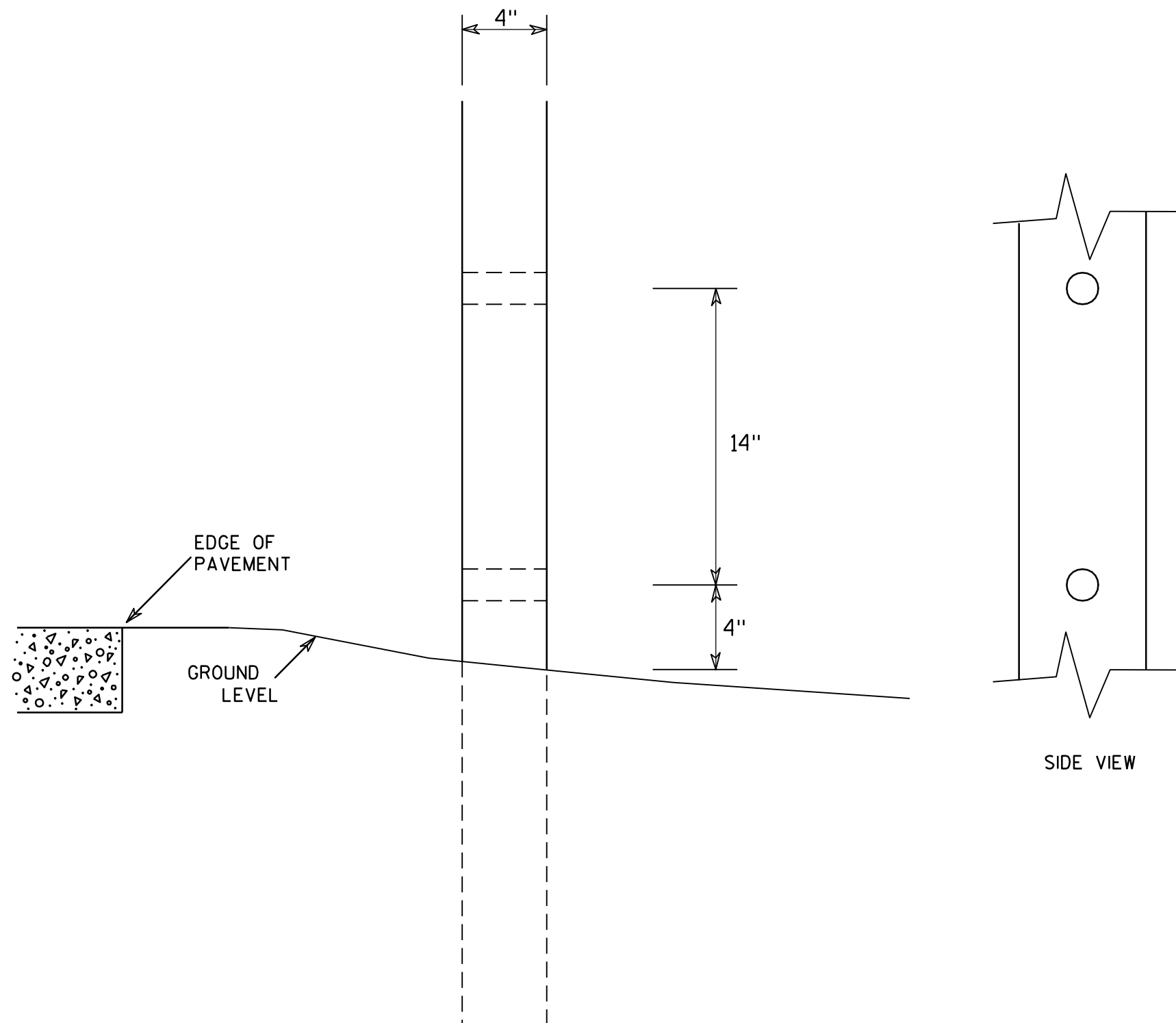
NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Black Non-reflective
Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square since base material is plywood.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. 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.
7. 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.
8. 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.
9. 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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 10/21/09	PLATE NO. A2-1S.6

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:

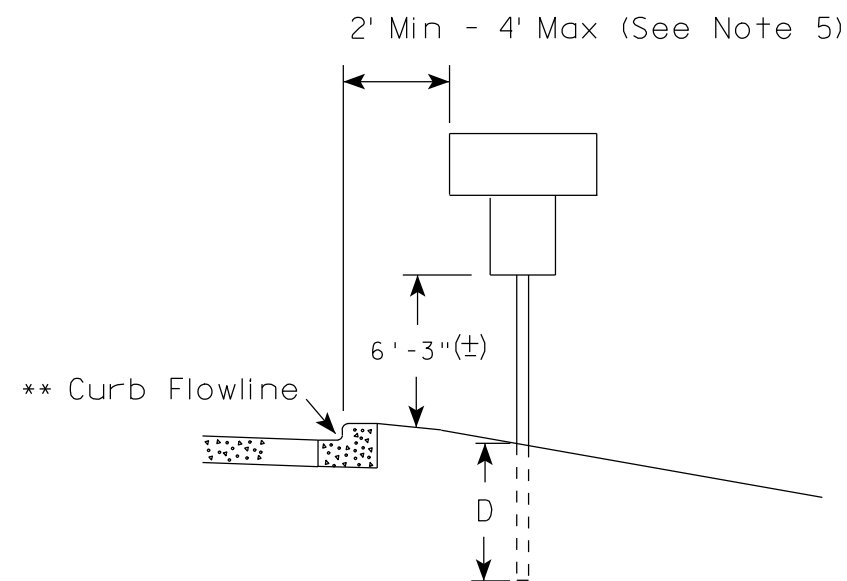
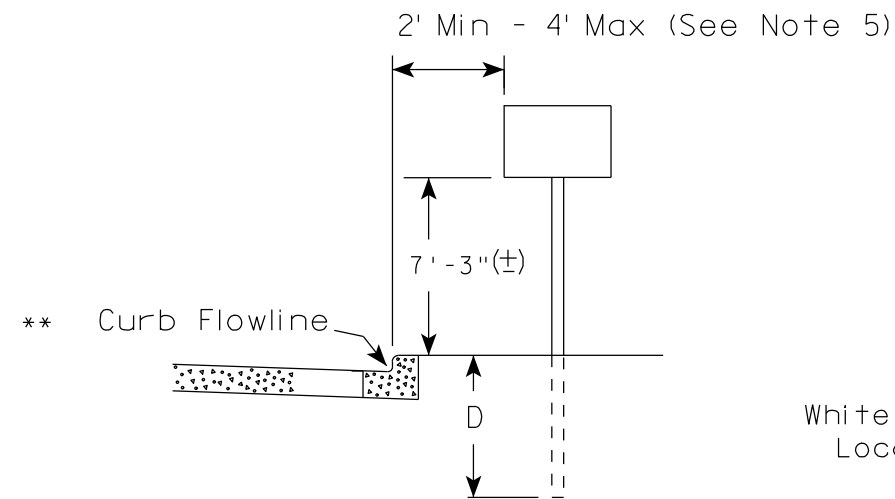
HWY:

COUNTY:

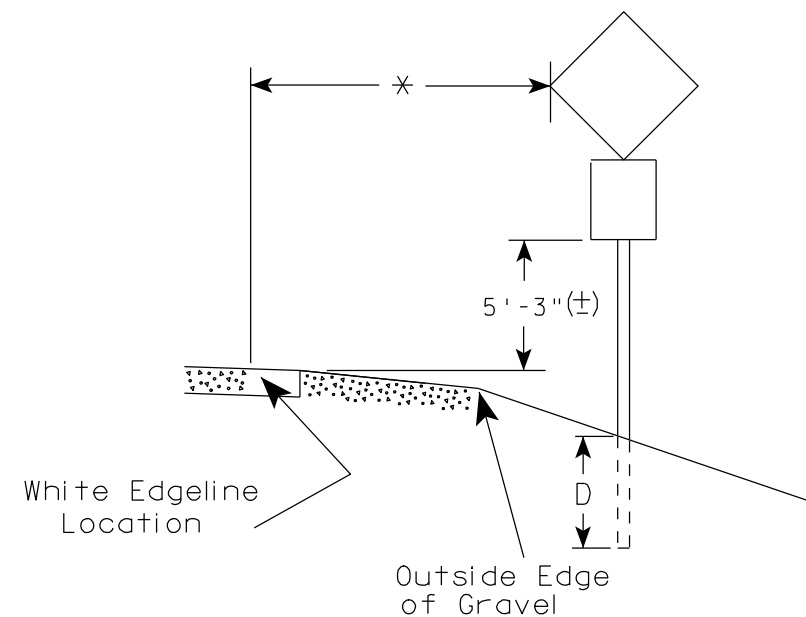
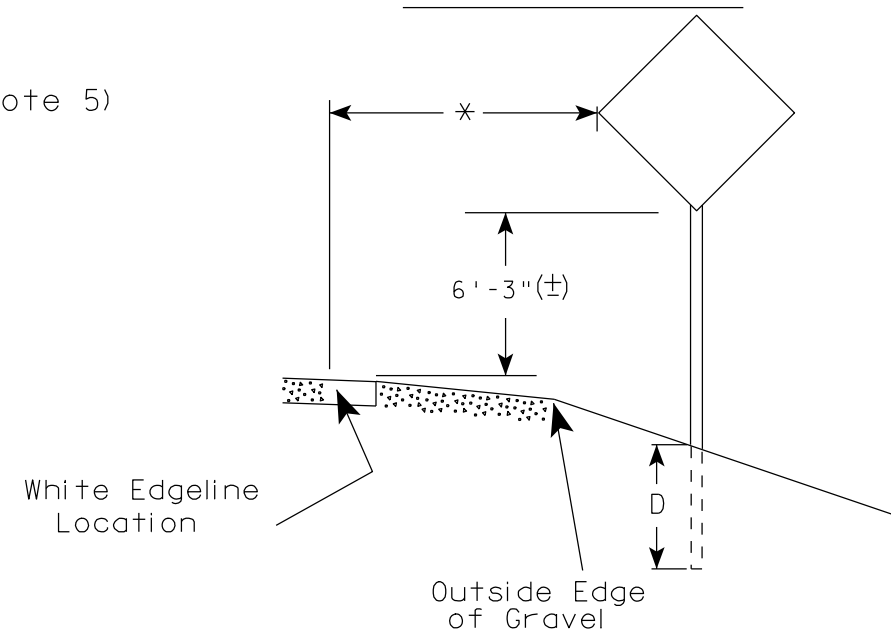
SHEET NO:

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'

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

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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

GENERAL NOTES

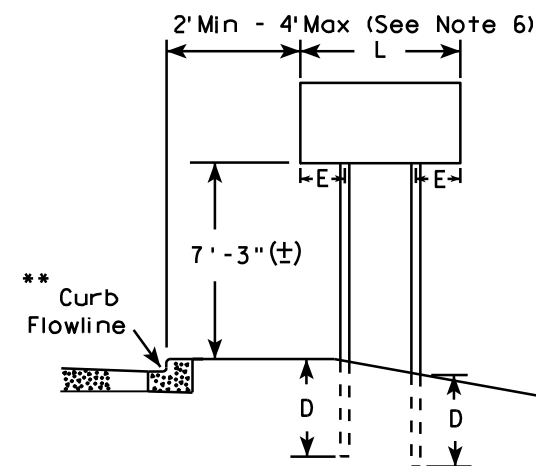
- For multiple post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.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

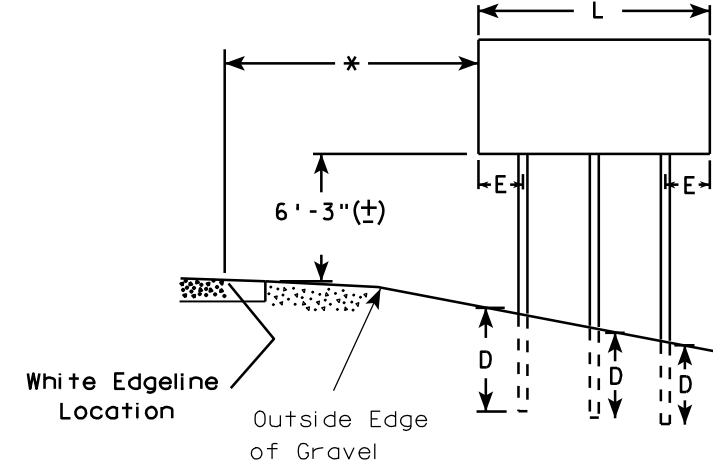
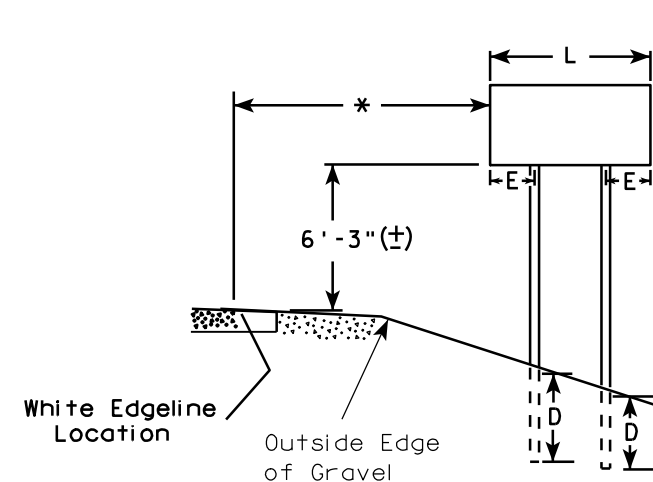
** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs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

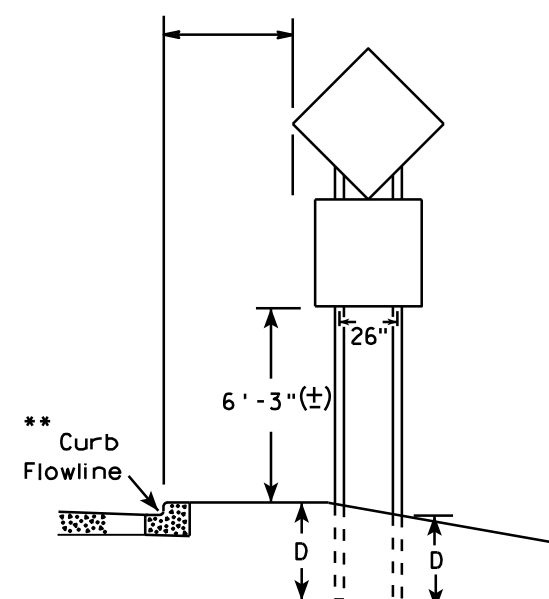
URBAN AREA



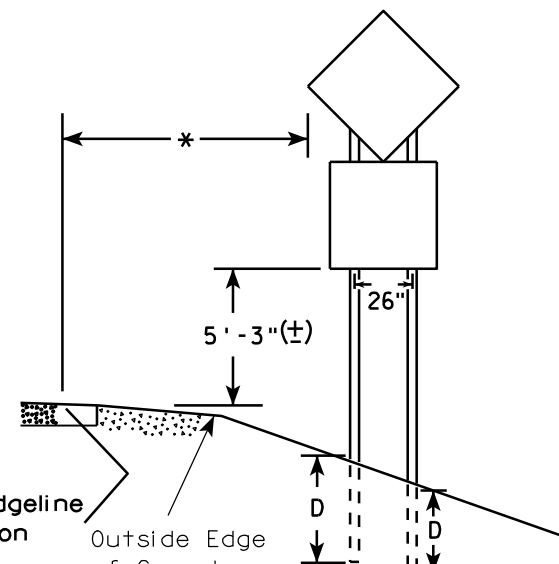
RURAL AREA (See Note 3)



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" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" 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

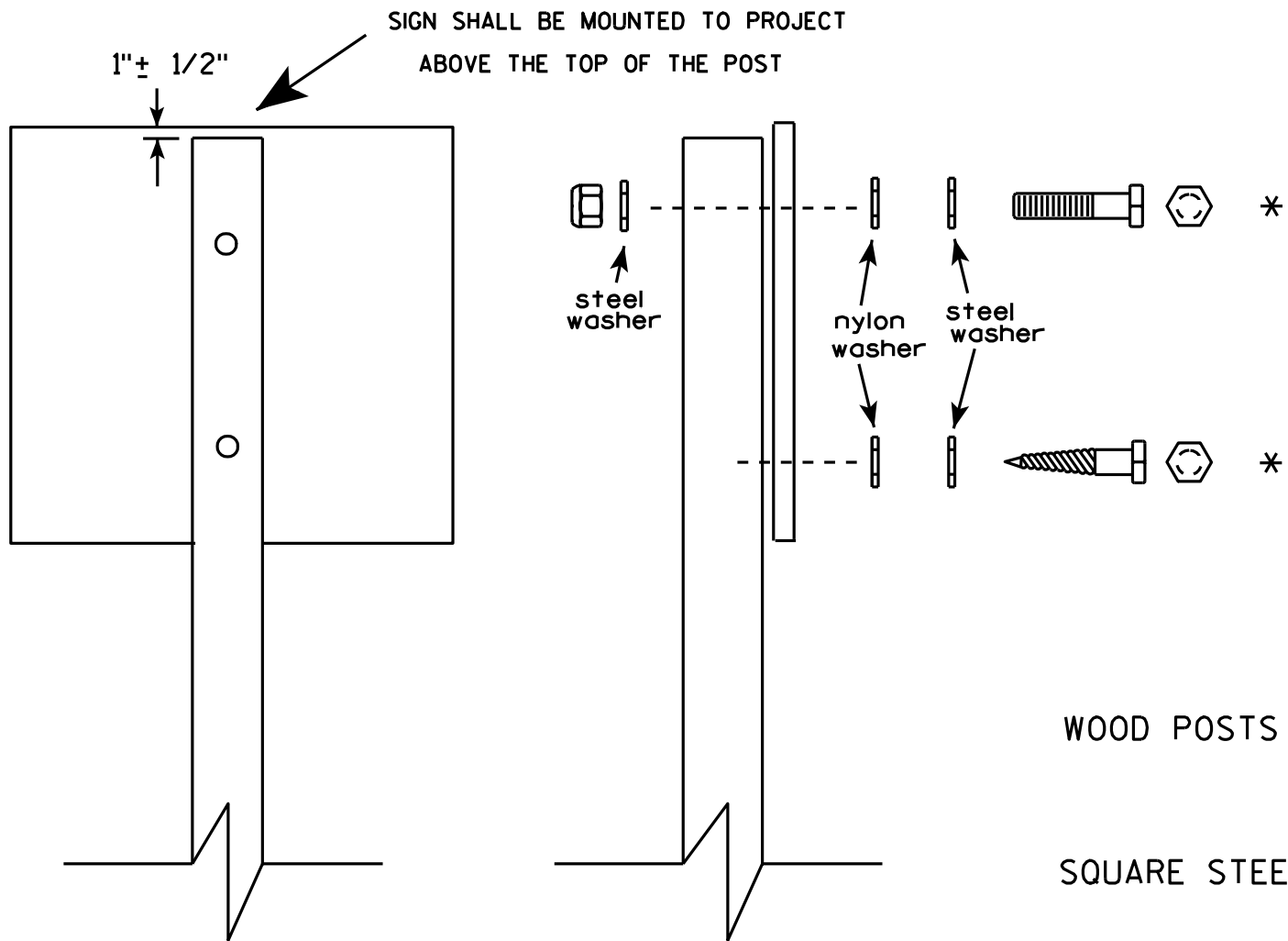
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

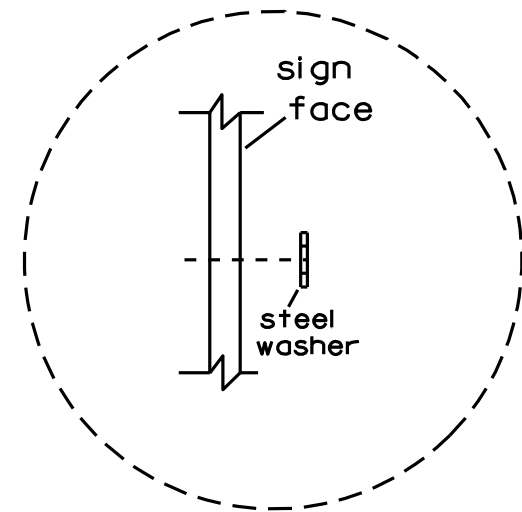


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- 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.

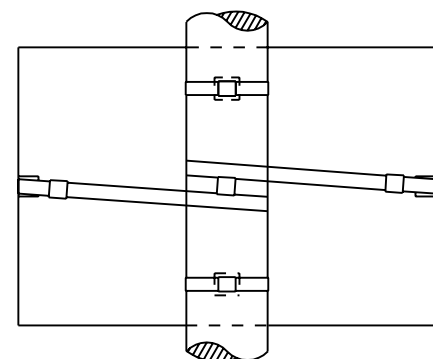
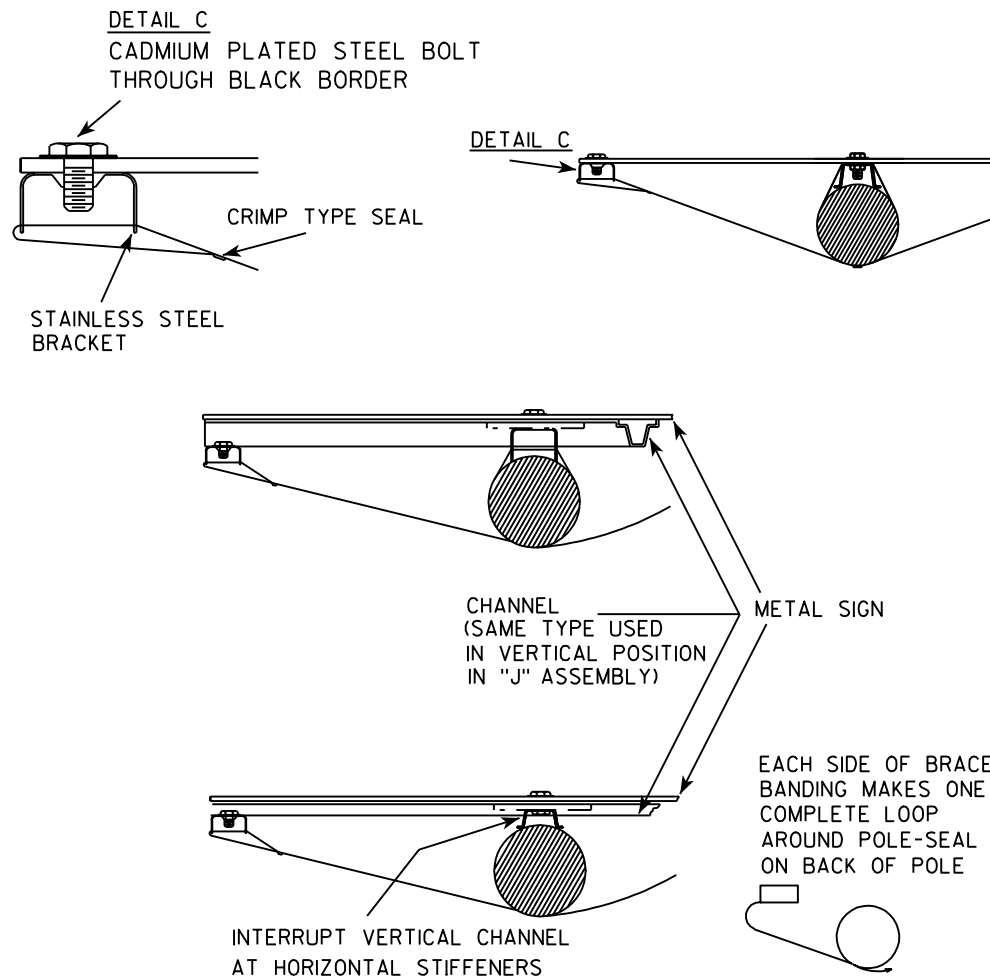


Washer Placement when Sign Has Other Than Type H or Type F Face

* 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.

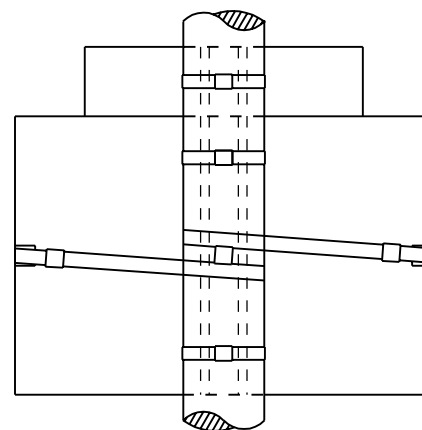
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

BRACE BANDING



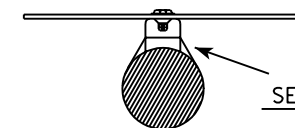
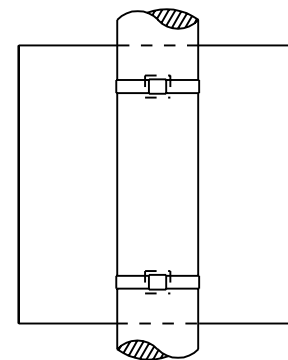
BRACE BANDING

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

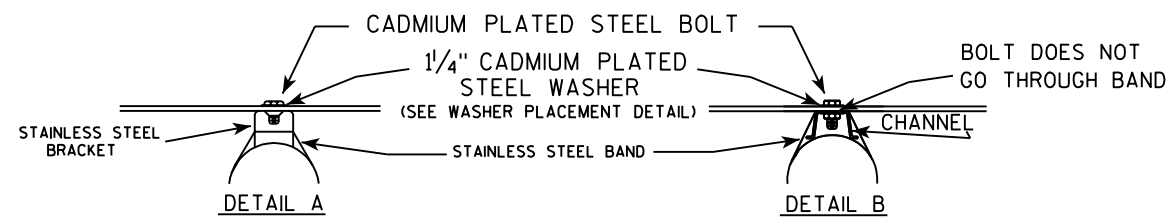


BRACKET BANDING

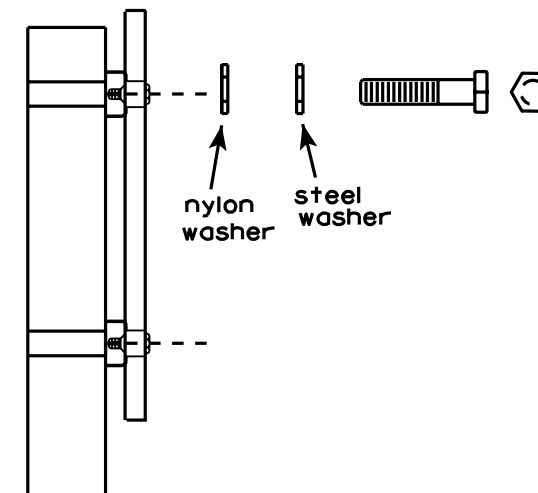
SINGLE SIGN



SEE DETAIL A



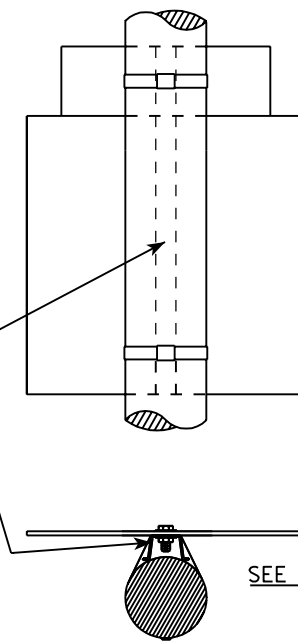
WASHER PLACEMENT



WASHERS (ALL POSTS) -

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

"J" ASSEMBLY



SEE DETAIL B

GENERAL NOTES

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

STANDARD SIGN SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

PROJECT NO:

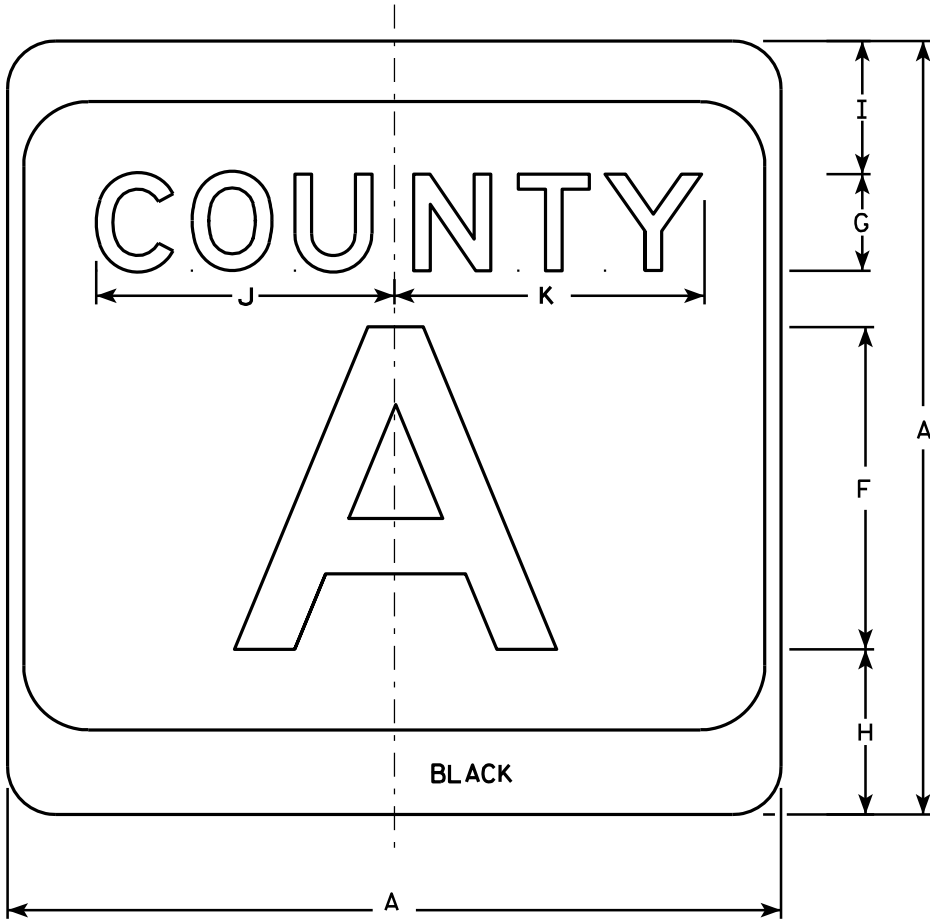
HWY:

COUNTY:

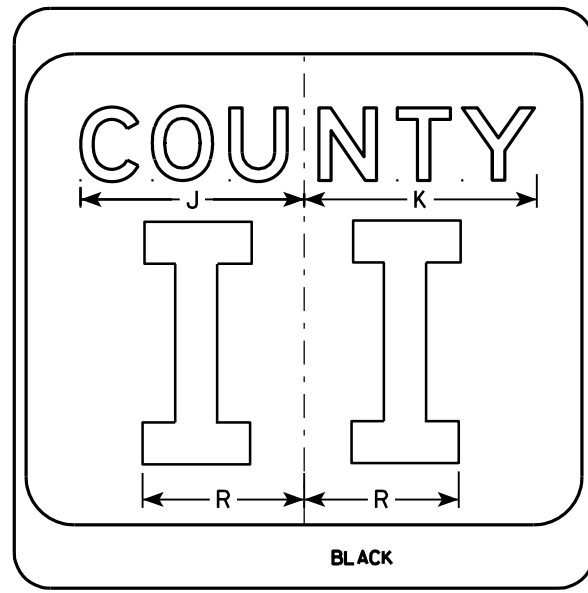
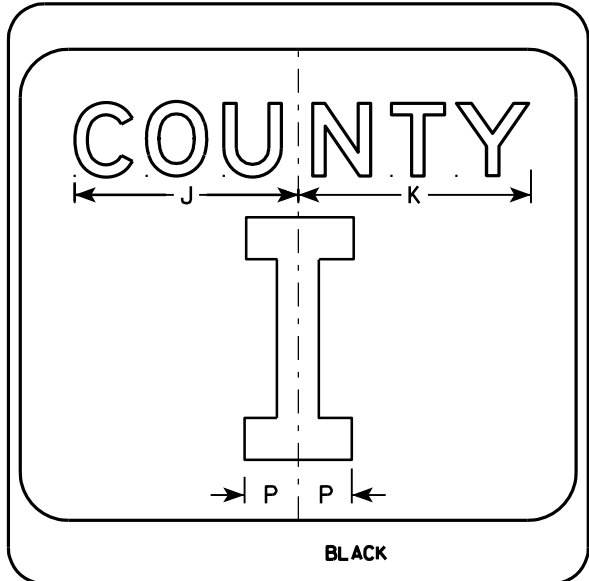
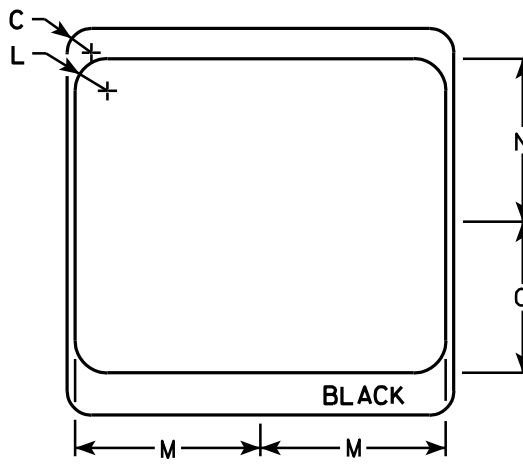
SHEET NO:

E

7



M1-5A



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 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:

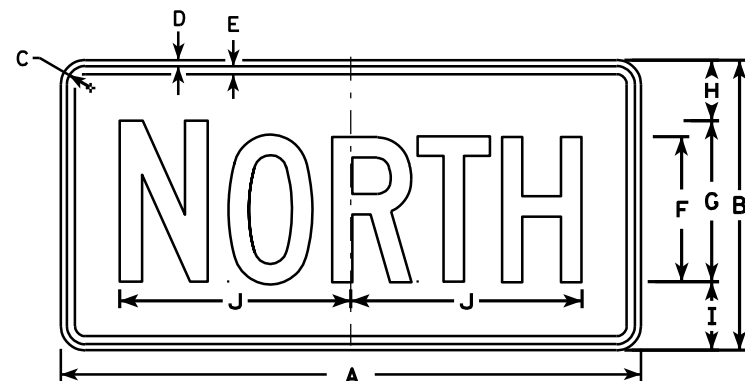
E

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

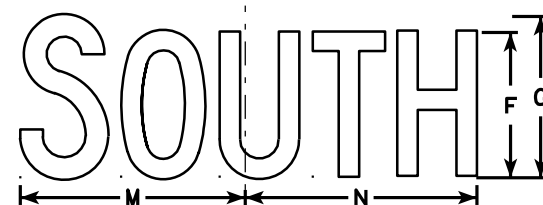
DATE 9/27/11 PLATE NO. M1-5A.8



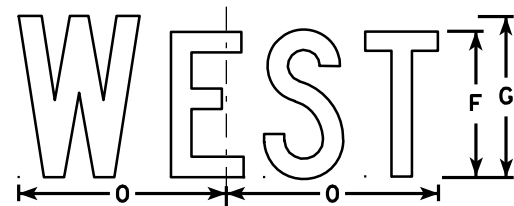
M3-1
MK3-1
M03-1



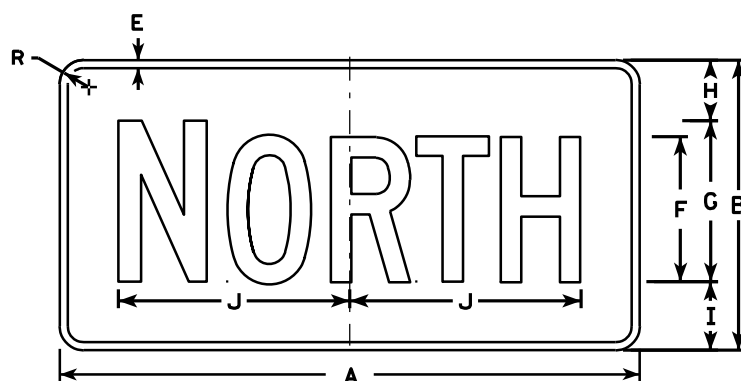
M3-2
MK3-2
M03-2



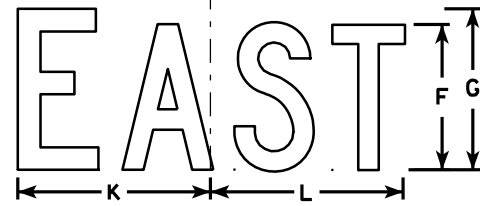
M3-3
MK3-3
M03-3



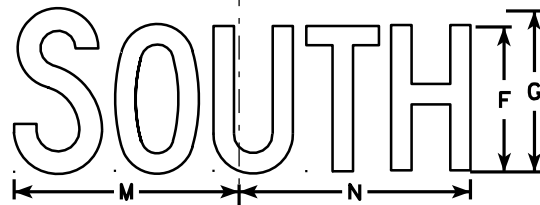
M3-4
MK3-4
M03-4



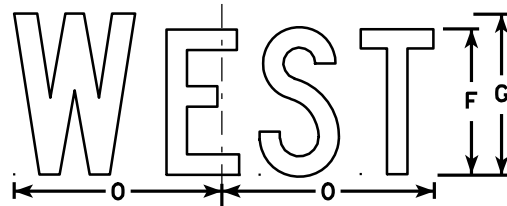
MB3-1
MG3-1
MM3-1
MN3-1



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 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

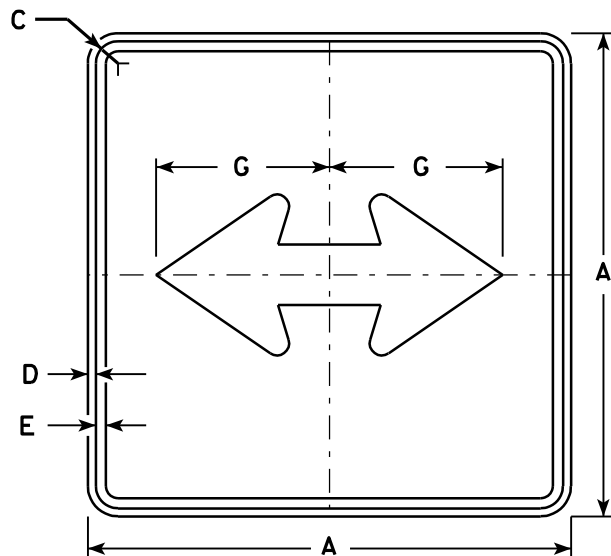
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E

STANDARD SIGNS M3-1 thru M3-4 SERIES

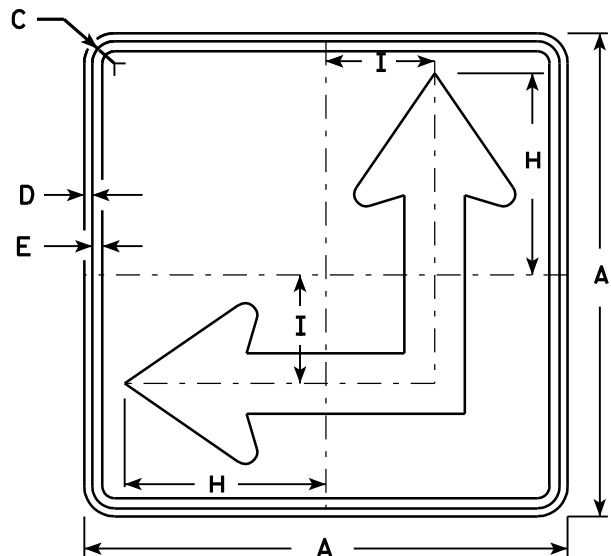
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

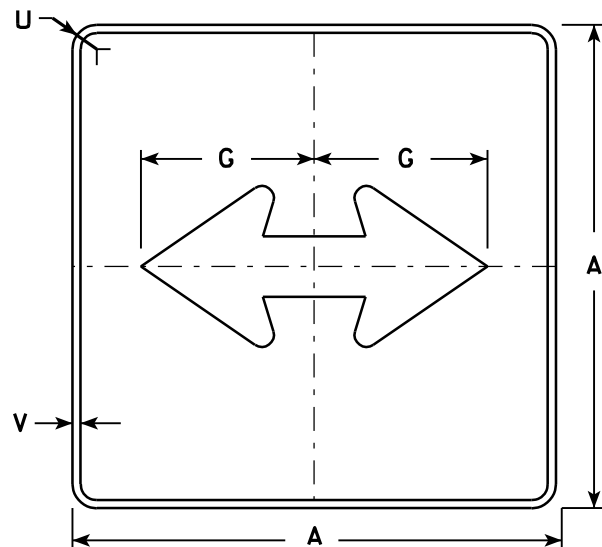
DATE 11/10/10 PLATE NO. M3-1.12



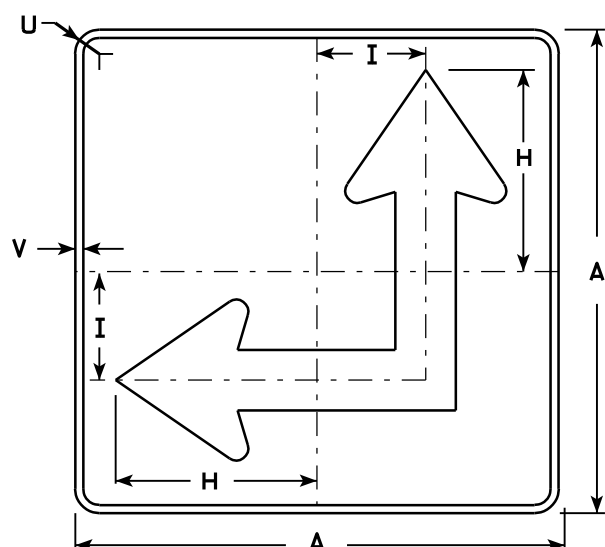
M6 - 4
MK6 - 4
MM6 - 4
MO6 - 4
MR6 - 4



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



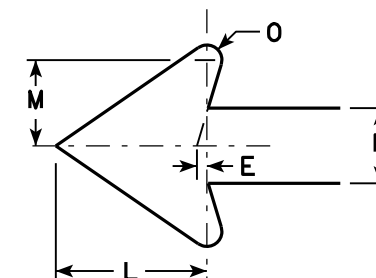
MB6 - 4
MG6 - 4
MN6 - 4



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 sq. ft.	Area sq.
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

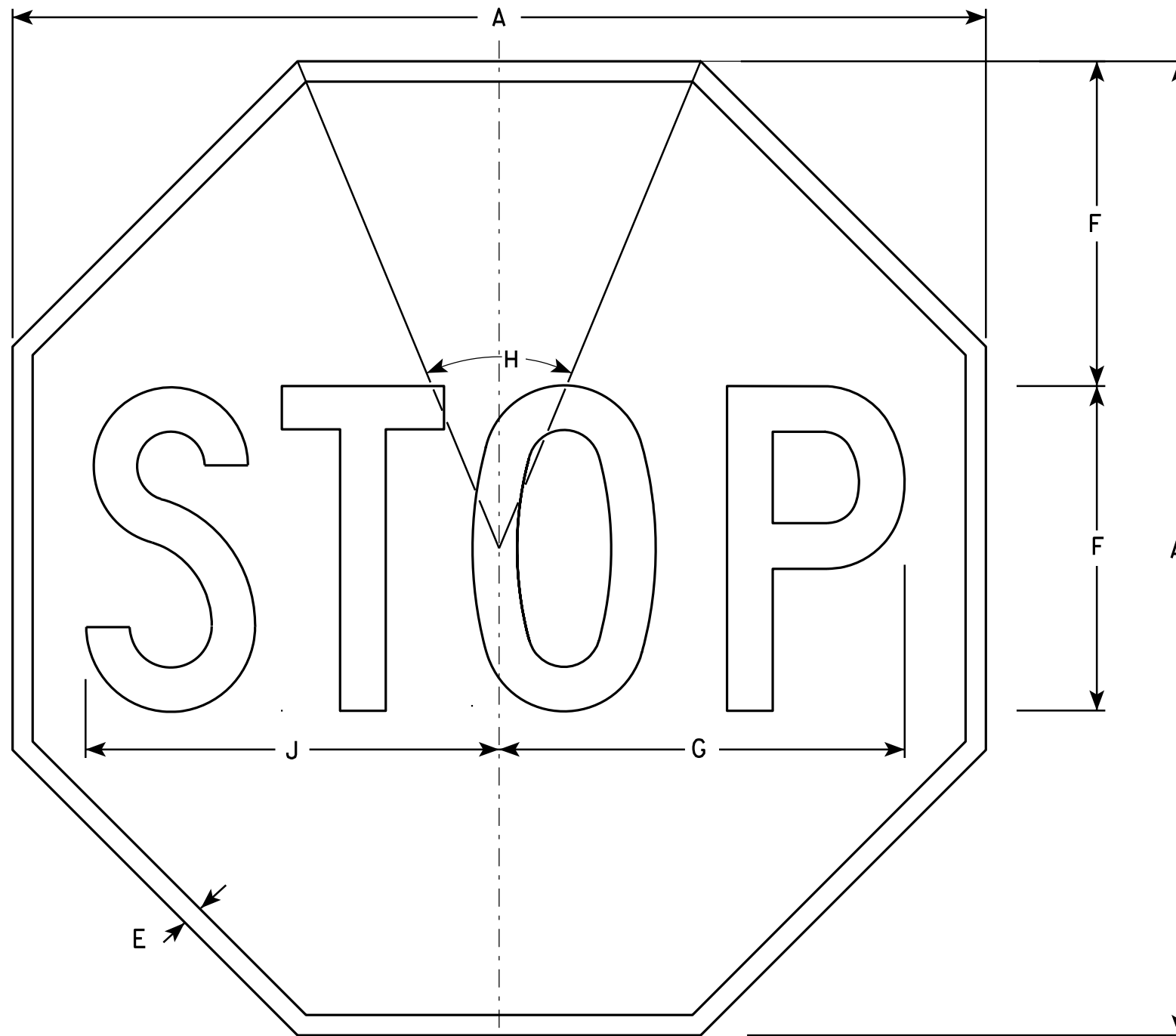
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M6 - 4 & M6 - 6
SERIES

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

STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

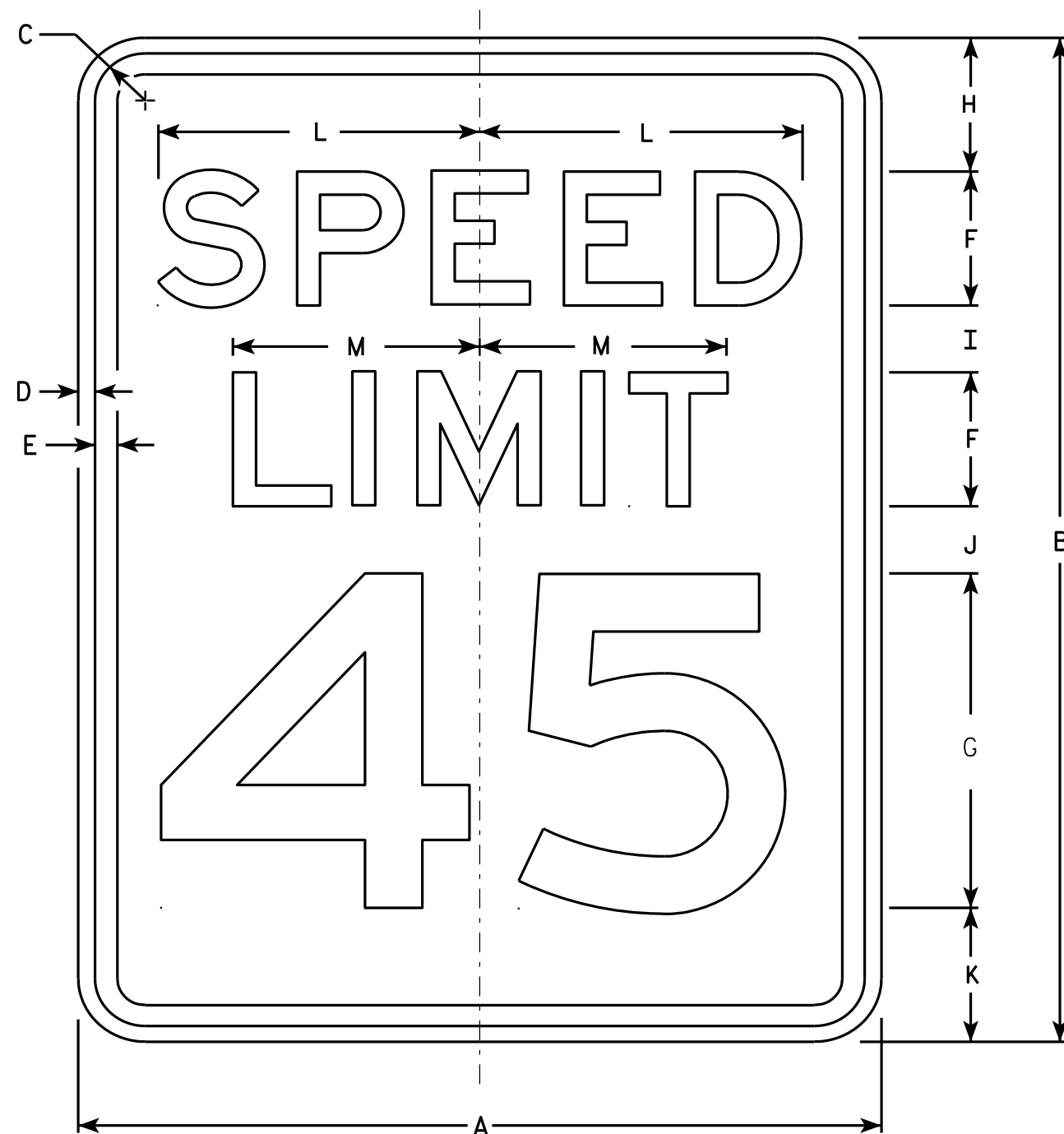
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R2-1

NOTES

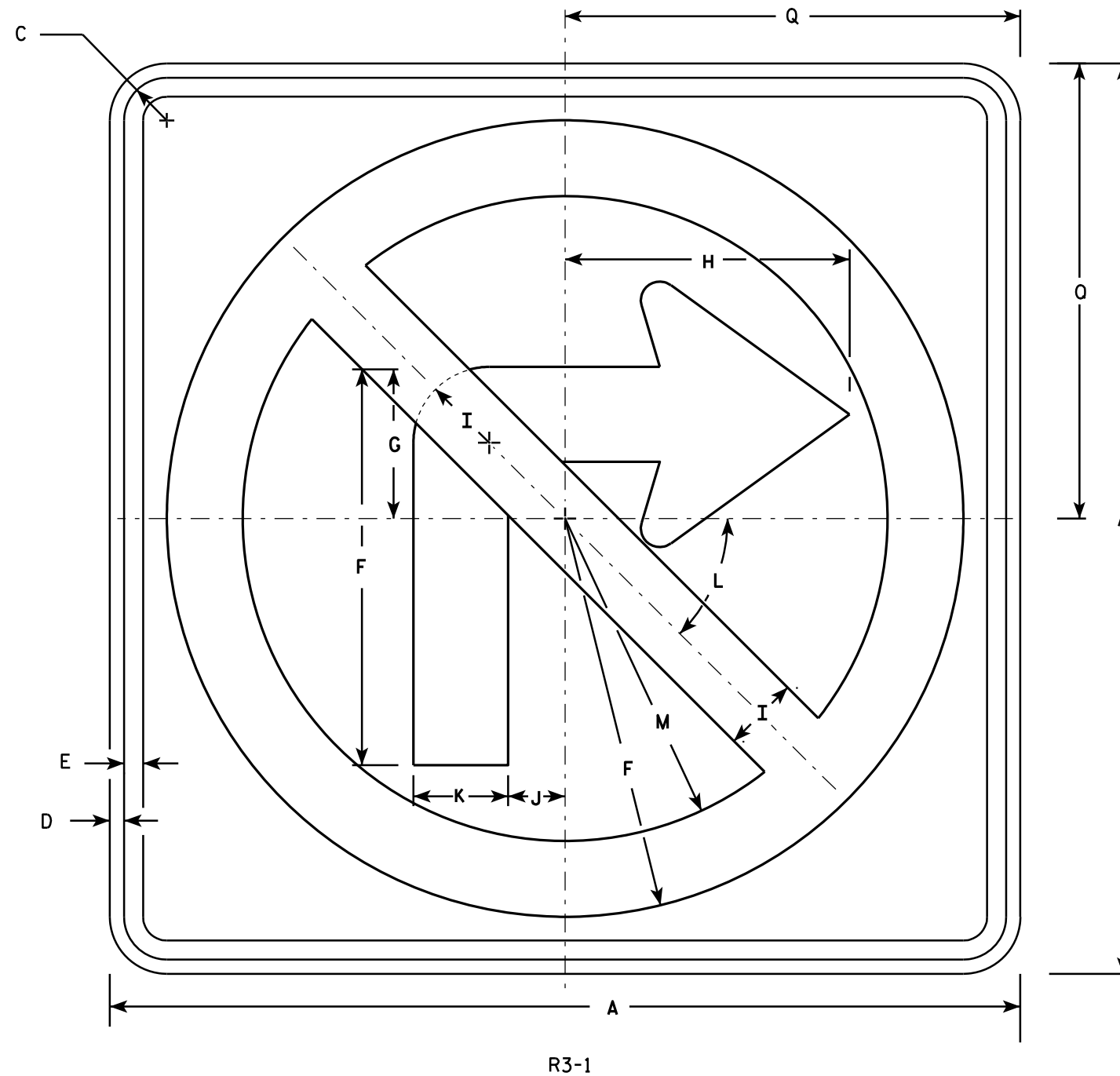
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as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

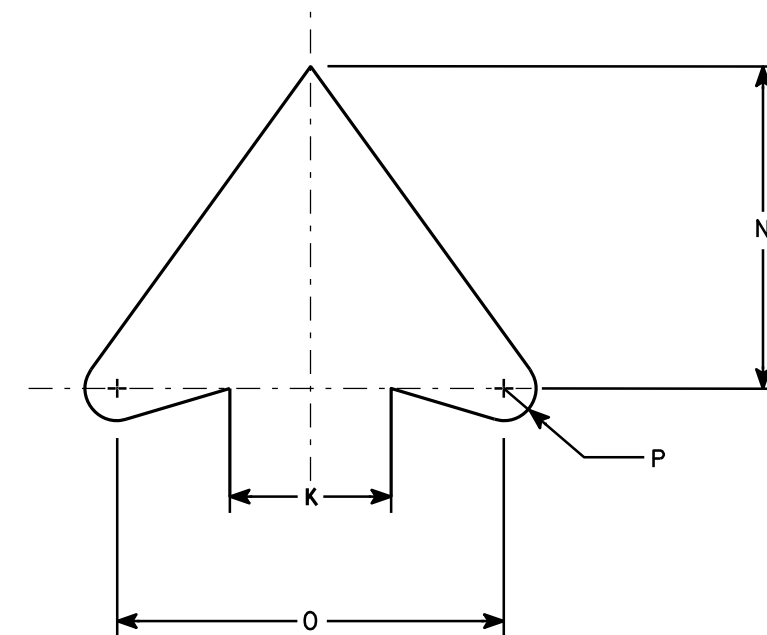
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

STANDARD SIGN

R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

PROJECT NO:

HWY:

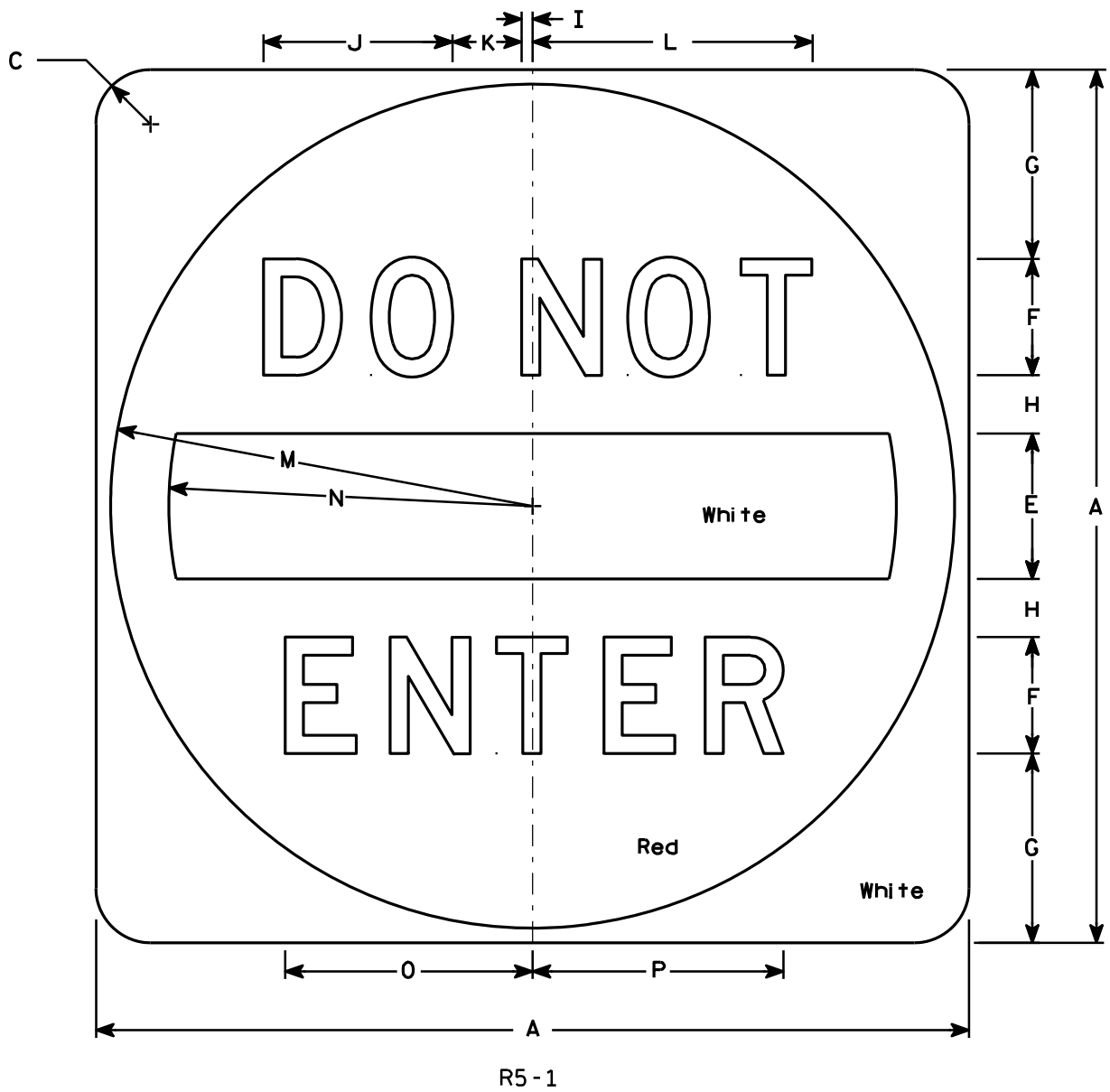
COUNTY:

SHEET NO:

E

NOTES

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



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

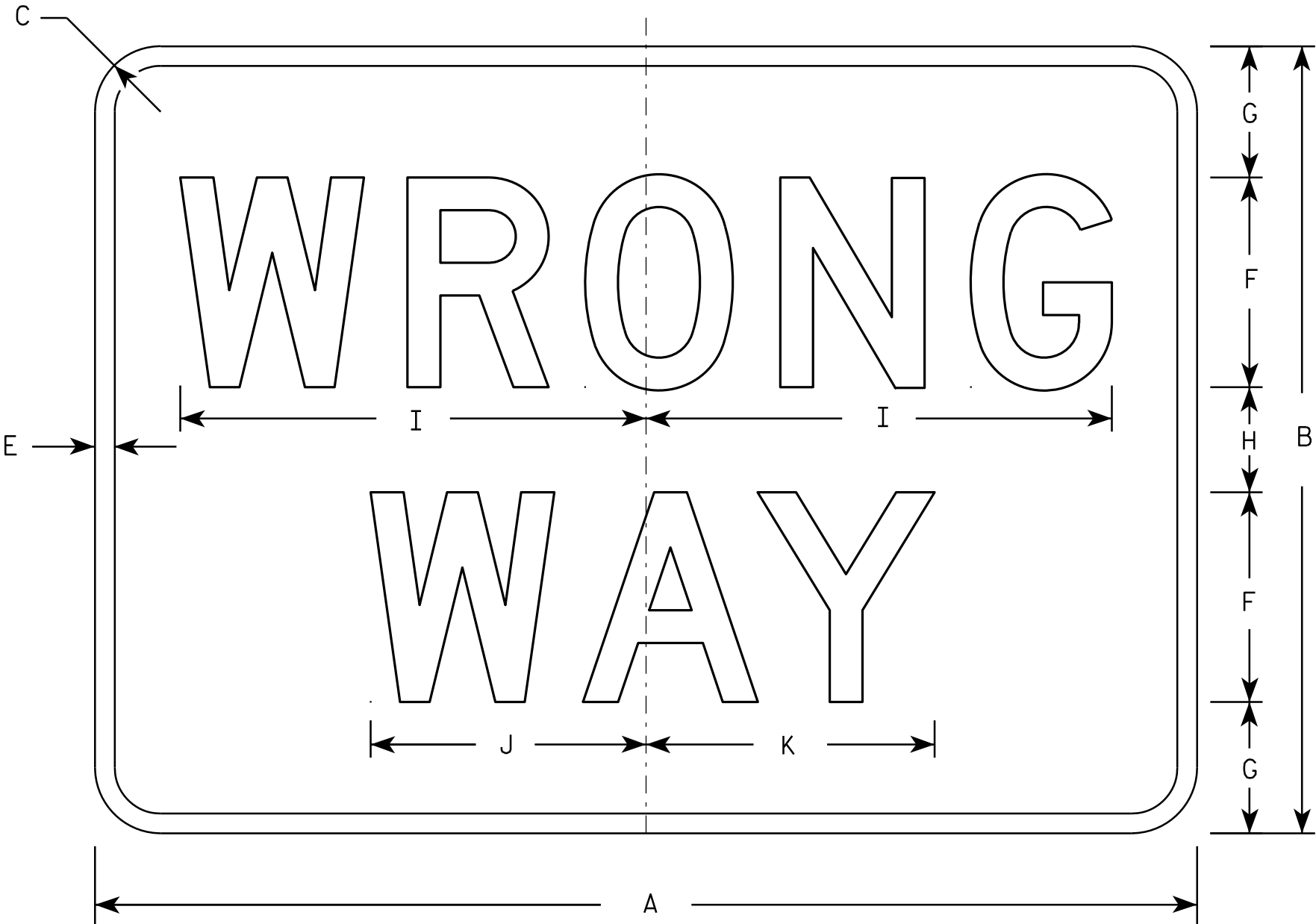
STANDARD SIGN

R5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



NOTES

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

7

7

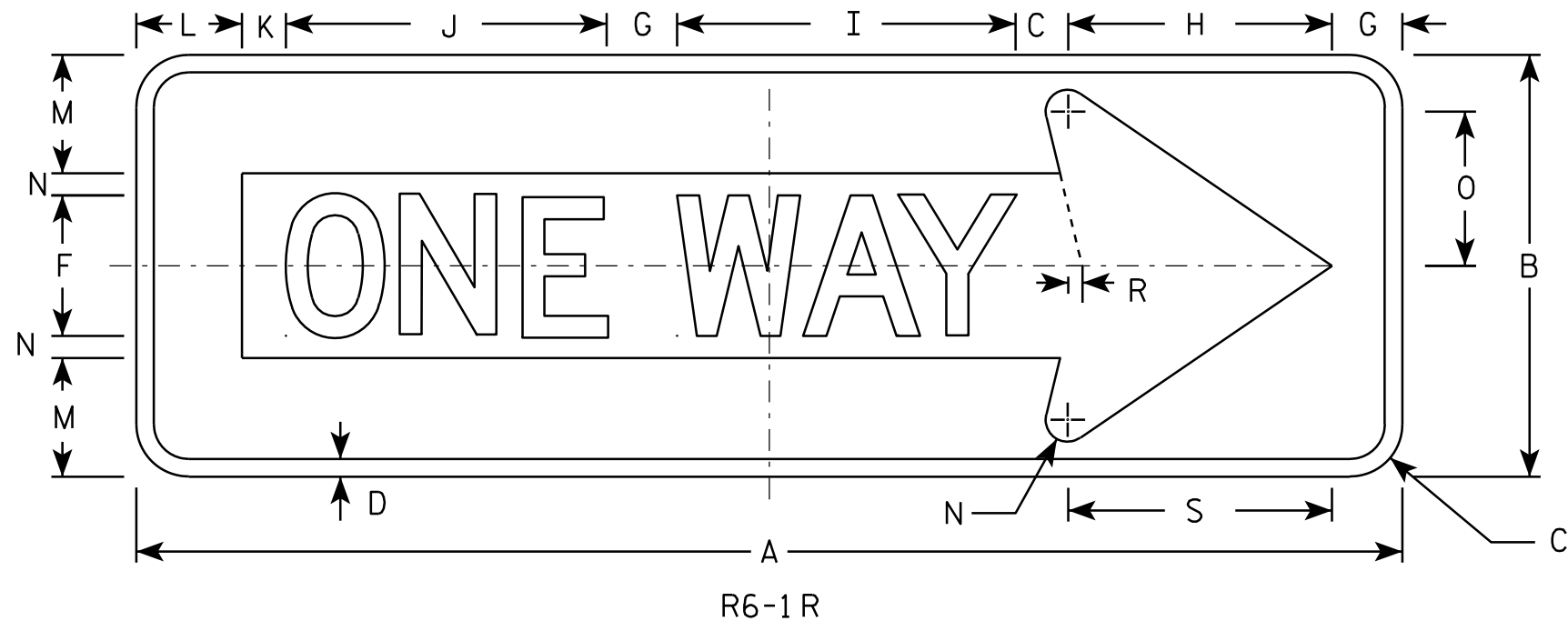
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

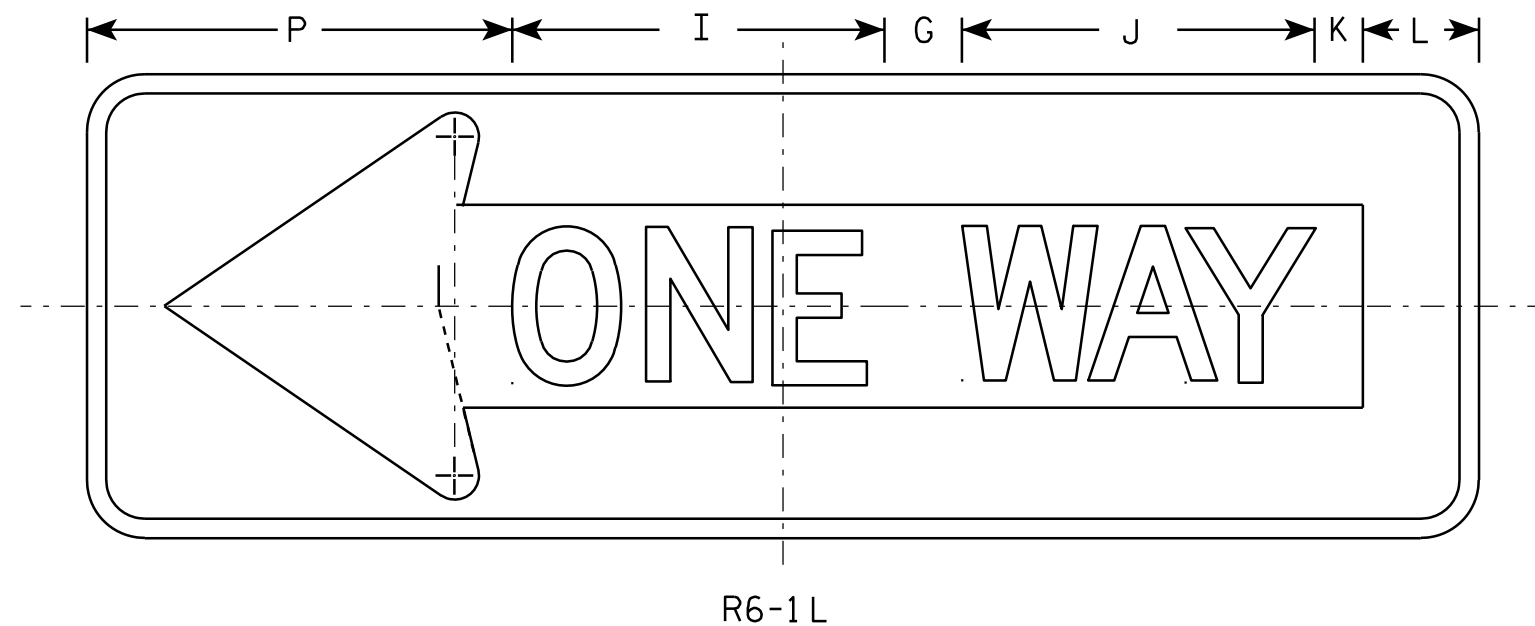
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2



NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	12	1 1/2	1/2		4	2	7 1/2	9 5/8	9 1/8	1 1/4	3	3 3/8	5/8	4 3/8	11		3/8	7 1/2								3.0
2M	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
3	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
4	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
5																											

STANDARD SIGN R6-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

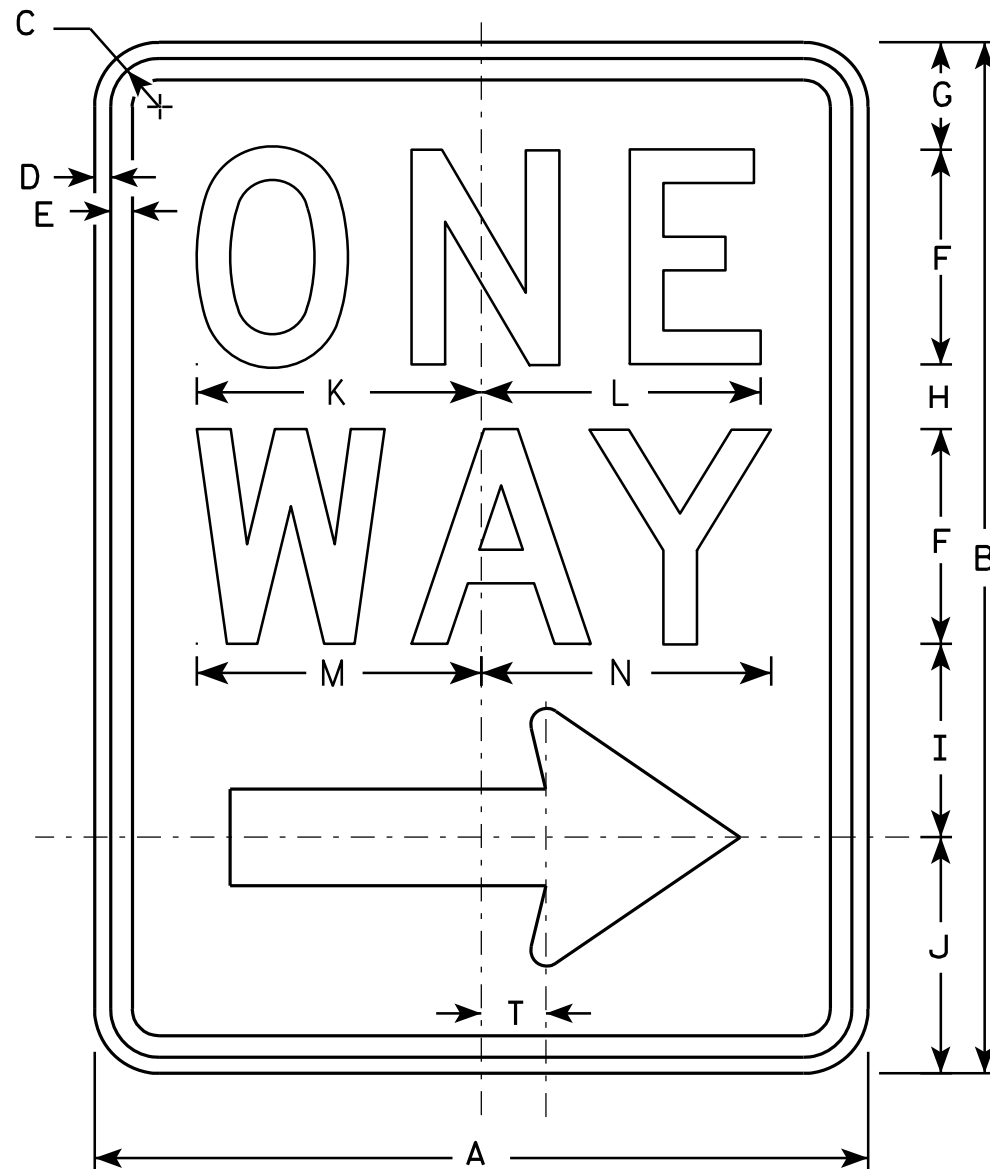
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 12/17/10 PLATE NO. R6-1.2

PROJECT NO:

SHEET NO:

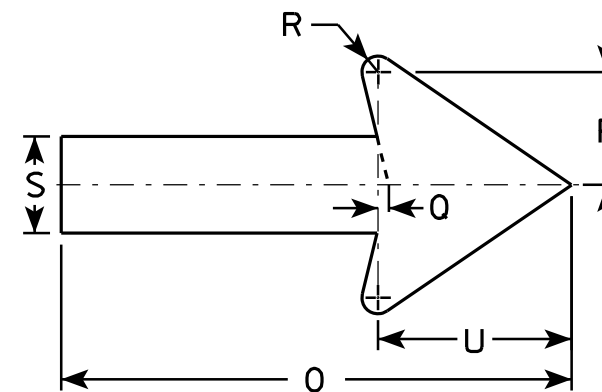
E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



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
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

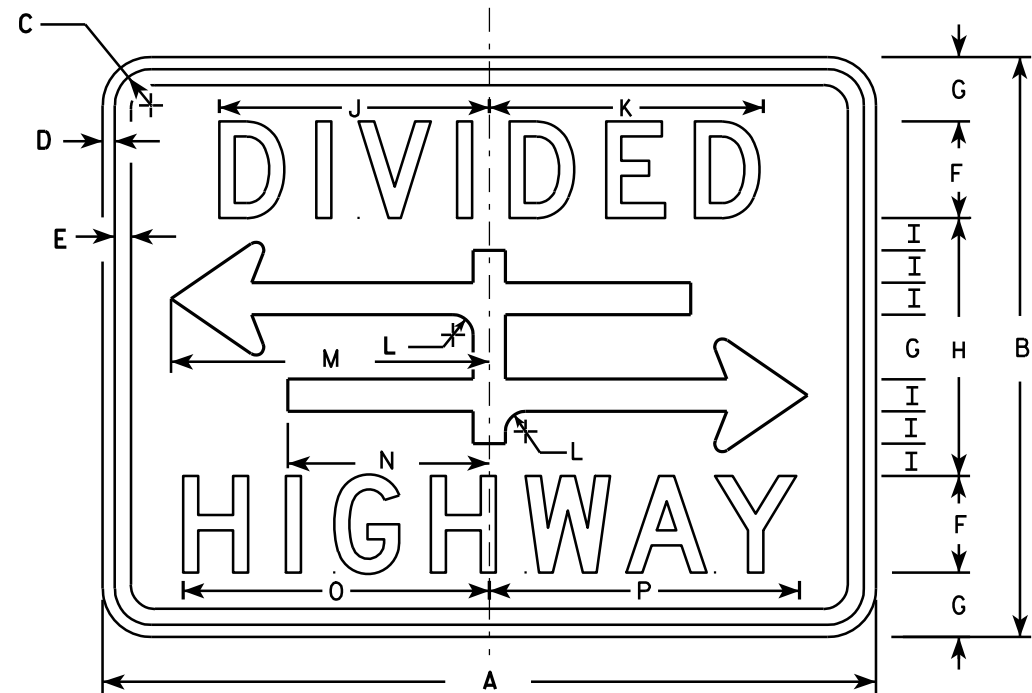
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

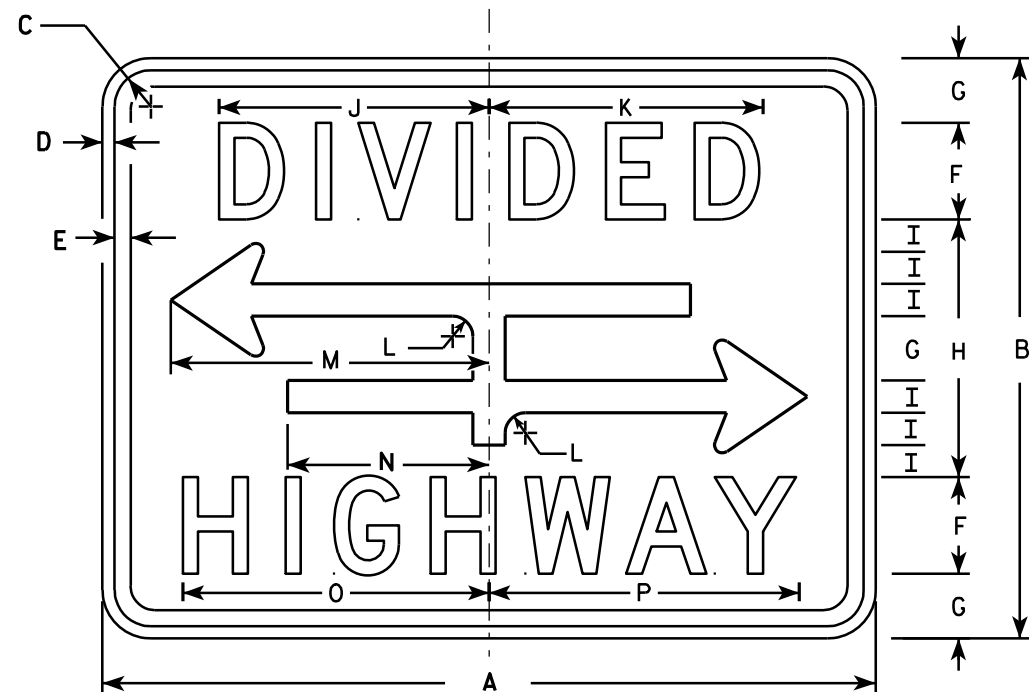
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



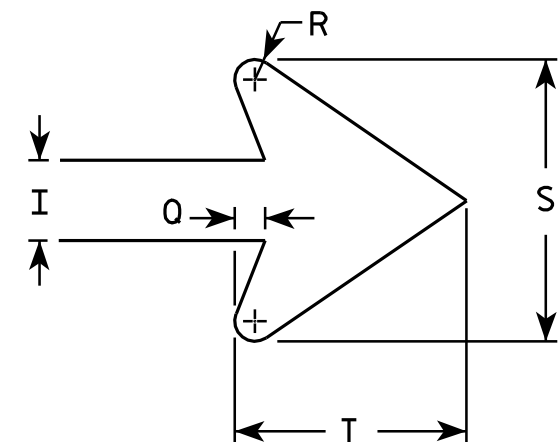
R6-3



R6-3A

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN R6-3 & R6-3A

WISCONSIN DEPT OF TRANSPORTATION

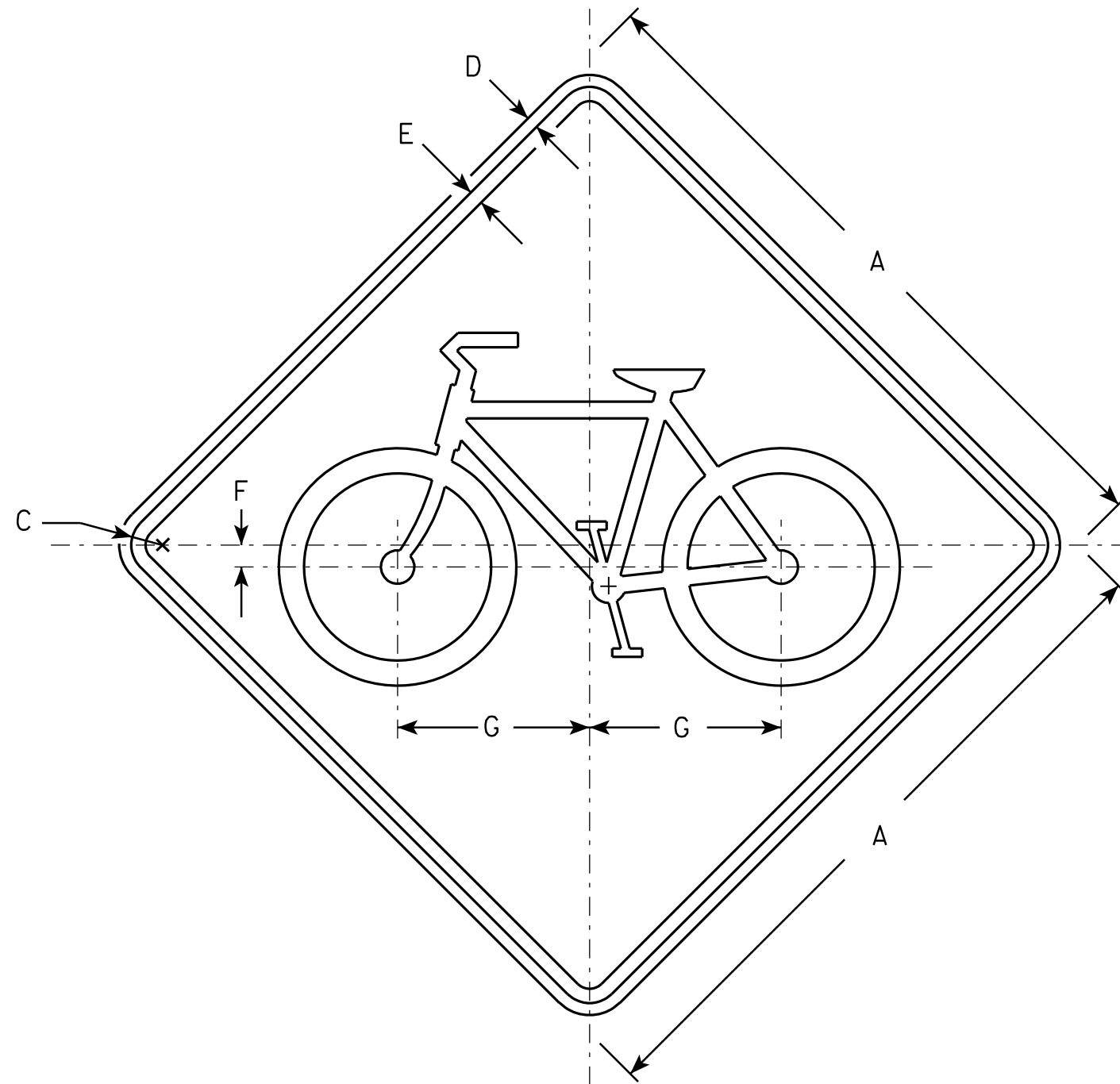
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

SHEET NO:

E



W11-1

NOTES

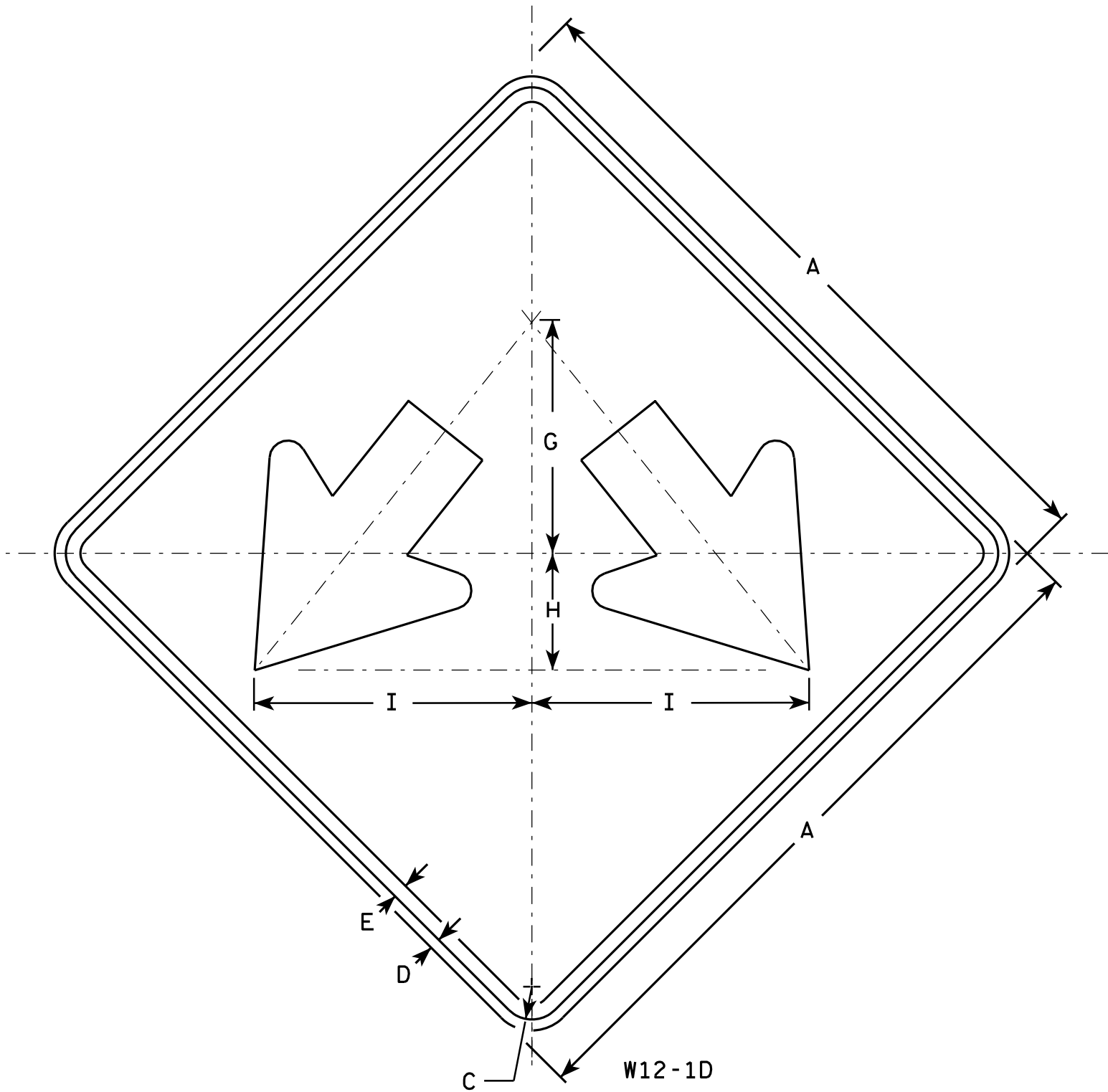
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/4	1/2	3/4	6 5/8																				4.0
2S	30		1 3/8	1/2	5/8	1	8 1/2																				6.25
2M	36		1 5/8	5/8	3/4	1 1/4	10																				9.0
3	36		1 5/8	5/8	3/4	1 1/4	10																				9.0
4	48		2 1/4	3/4	1	1 5/8	13 3/8																				16.0
5																											16.0

STANDARD SIGN
W11-1

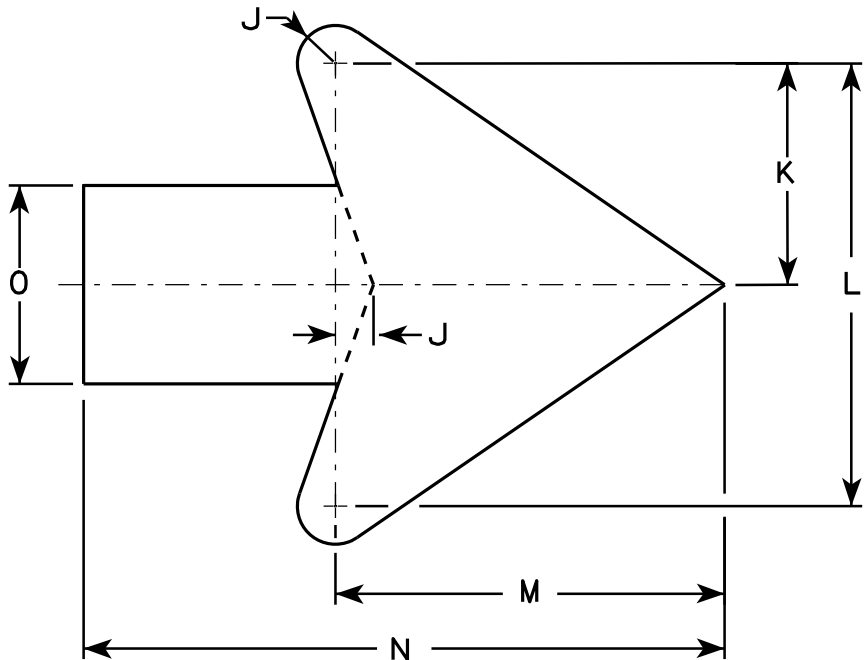
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 12/21/10 PLATE NO. W11-1.9

PROJECT NO: HWY: COUNTY: SHEET NO: E



NOTES

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



Arrow Detail

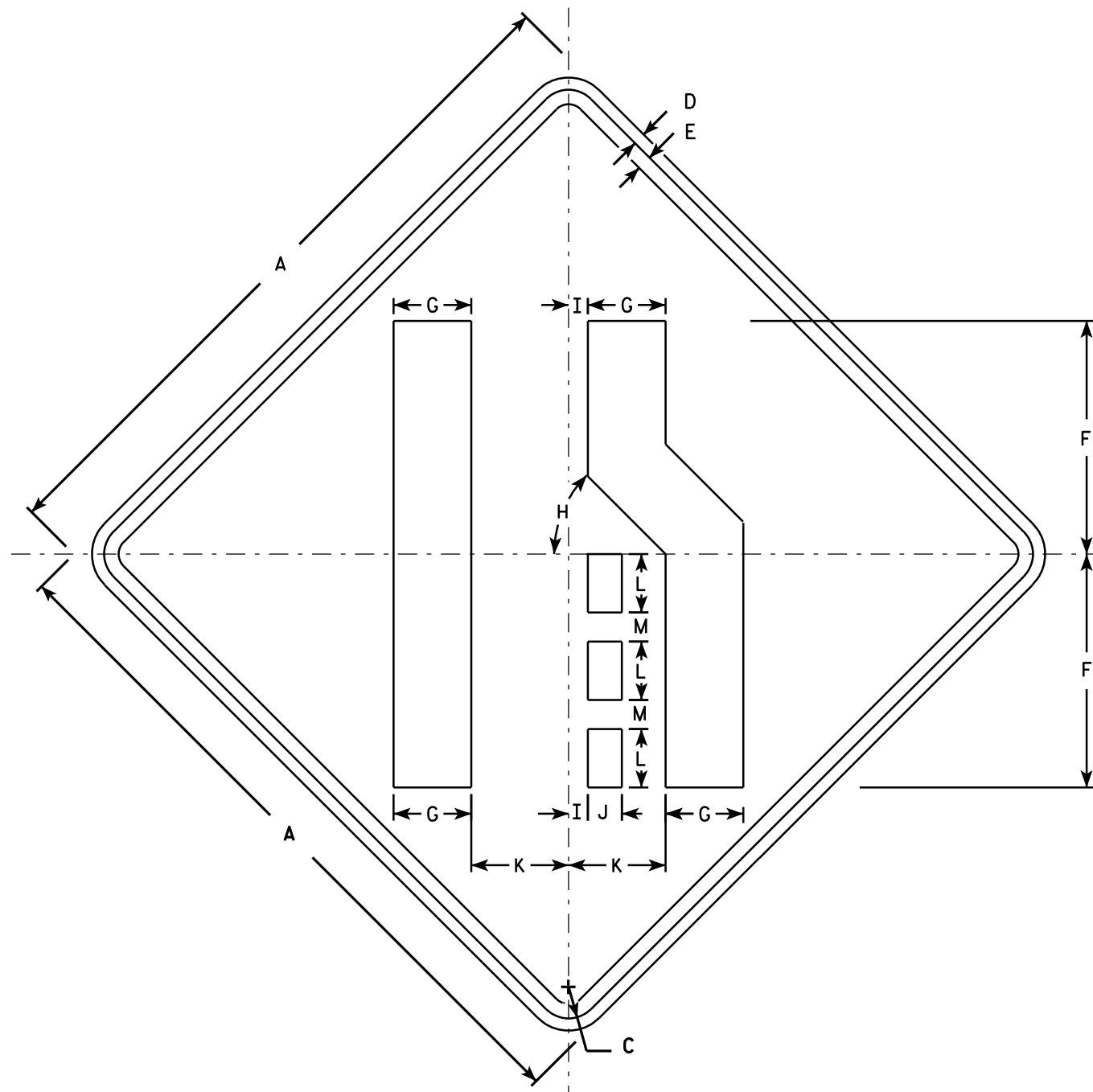
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/15/11 PLATE NO. W12-1D.14



W4-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-2L is the same as W4-2R except the symbol is reversed along the vertical centerline.

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 sq. ft.
1	30		1 3/8	1/2	5/8	10	3 3/8	45°	7/8	1 1/2	4 1/4	2 1/2	1 1/4														6.25
2S	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2M	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
3	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN W4-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 2/29/2012 PLATE NO. W4-2.13

PROJECT NO:

SHEET NO:

E

EARTHWORK SUMMARY												MASS ORDINATE
STAGE	STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOLUME (CY)		
				CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	UNEXPANDED FILL	CUT 1.00 NOTE 1	EXPANDED FILL 1.25 NOTE 4	
II	101+00.00	10100.00		10	0	0						
	101+25.00	10125.00	25.00	19	0	0	13	0	0	13	0	13
	101+50.00	10150.00	25.00	11	0	0	14	0	0	27	0	27
	101+75.00	10175.00	25.00	9	0	11	9	0	5	36	6	30
	102+00.00	10200.00	25.00	10	0	16	9	0	13	45	22	23
	102+25.00	10225.00	25.00	10	0	54	9	0	32	54	62	-9
	102+50.00	10250.00	25.00	8	0	47	8	0	47	62	121	-59
	102+75.00	10275.00	25.00	10	0	37	8	0	39	70	169	-99
III												
	103+00.00	10300.00		59	11	19						
	103+50.00	10350.00	50.00	87	23	0	135	0	17	135	22	113
	104+00.00	10400.00	50.00	60	5	131	136	0	121	271	173	98
	104+50.00	10450.00	50.00	31	0	200	84	0	307	355	557	-201
	104+75.17	10475.17	25.17	28	0	214	28	0	193	383	798	-415
	104+78.25	10478.25	3.08	21	0	299	3	0	29	386	835	-449
	105+00.00	10500.00	21.75	53	0	484	30	0	316	415	1229	-814
	105+50.00	10550.00	50.00	15	0	297	63	0	723	479	2134	-1655
	106+00.00	10600.00	50.00	12	0	312	25	0	563	504	2838	-2334
	106+50.00	10650.00	50.00	20	0	304	29	0	570	533	3551	-3017
	107+00.00	10700.00	50.00	57	0	294	70	0	554	604	4243	-3640
	107+11.96	10711.96	11.96	68	0	293	28	0	130	631	4406	-3775
	107+50.00	10750.00	38.04	10	0	204	55	0	350	686	4844	-4158
	108+00.00	10800.00	50.00	18	0	130	26	0	309	712	5230	-4518
	108+50.00	10850.00	50.00	20	0	59	35	0	174	747	5448	-4701
	109+00.00	10900.00	50.00	23	0	9	40	0	63	787	5527	-4740
	109+50.00	10950.00	50.00	24	0	0	44	0	9	831	5538	-4707
	110+00.00	11000.00	50.00	20	0	7	41	0	6	872	5546	-4674
	110+50.00	11050.00	50.00	17	0	3	34	0	9	906	5557	-4651
	111+00.00	11100.00	50.00	18	0	11	32	0	13	938	5573	-4634
	111+50.00	11150.00	50.00	24	0	3	39	0	13	977	5590	-4613
	111+88.98	11188.98	38.98	27	0	0	37	0	2	1014	5593	-4579
	112+00.00	11200.00	11.02	28	0	0	11	0	0	1025	5593	-4568
	112+50.00	11250.00	50.00	21	0	0	45	0	0	1070	5593	-4522
113+00.00	11300.00	50.00	16	0	10	34	0	10	1105	5605	-4500	

COLUMN TOTALS STAGE II

COLUMN TOTALS STAGE III

70

1105

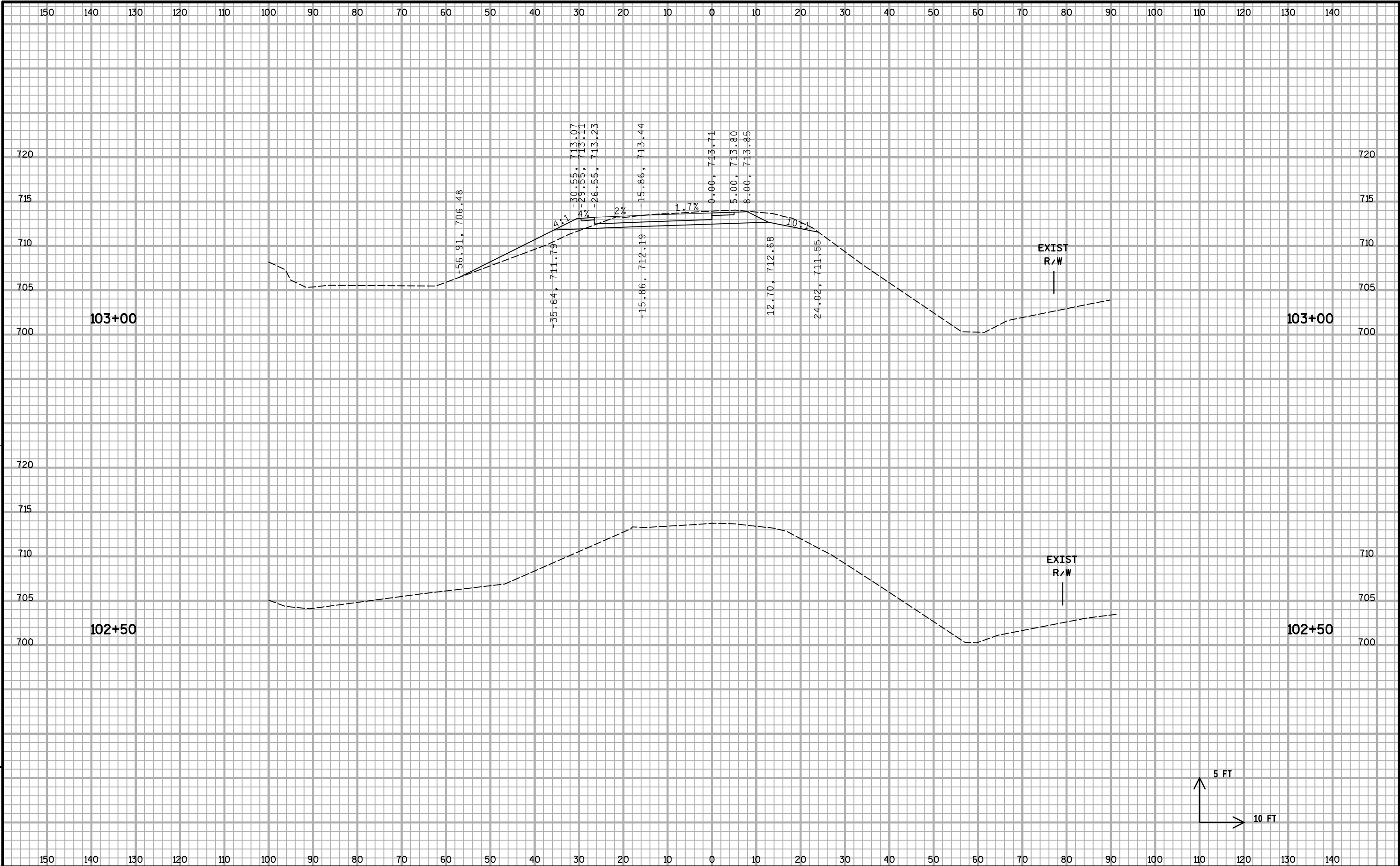
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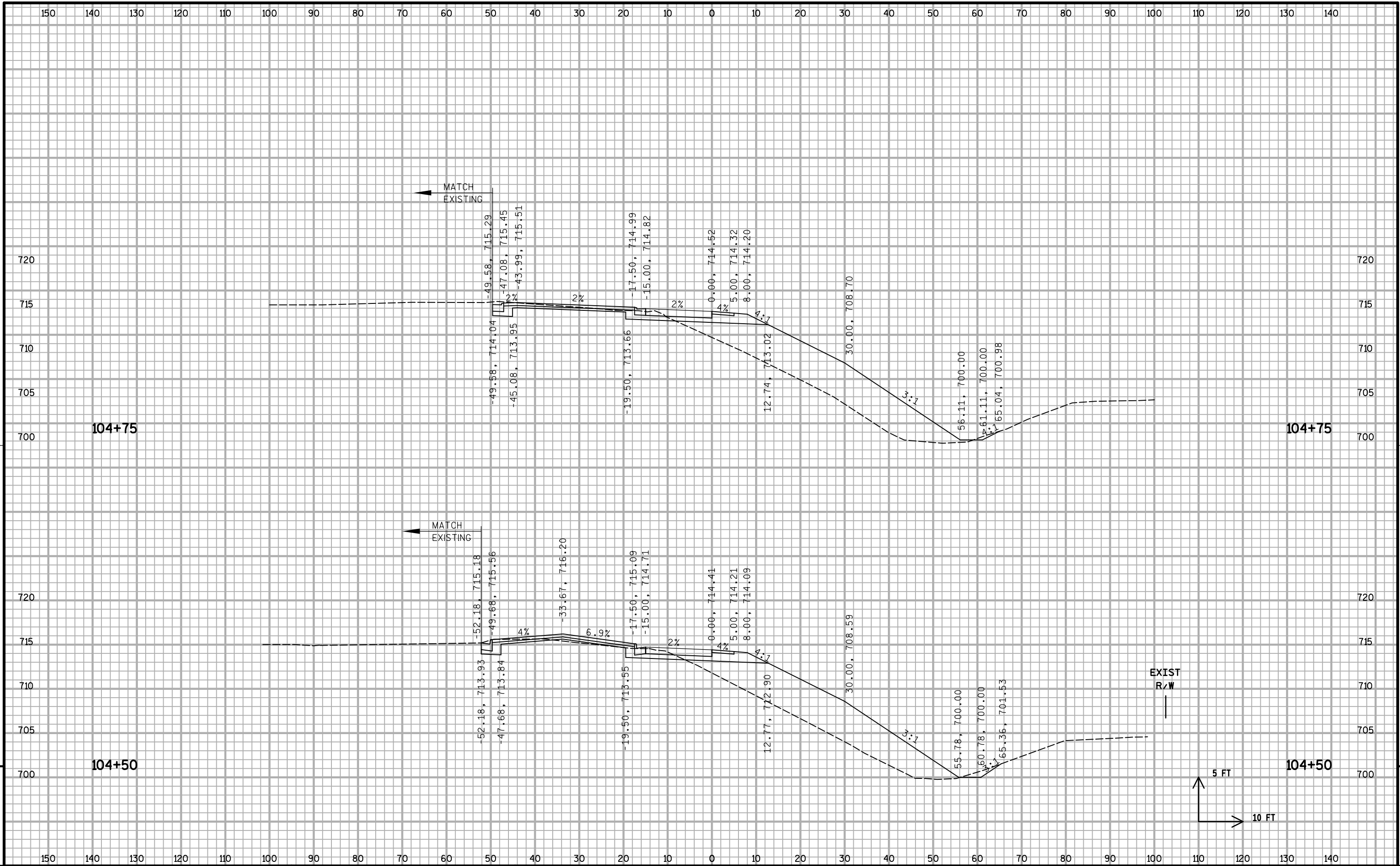
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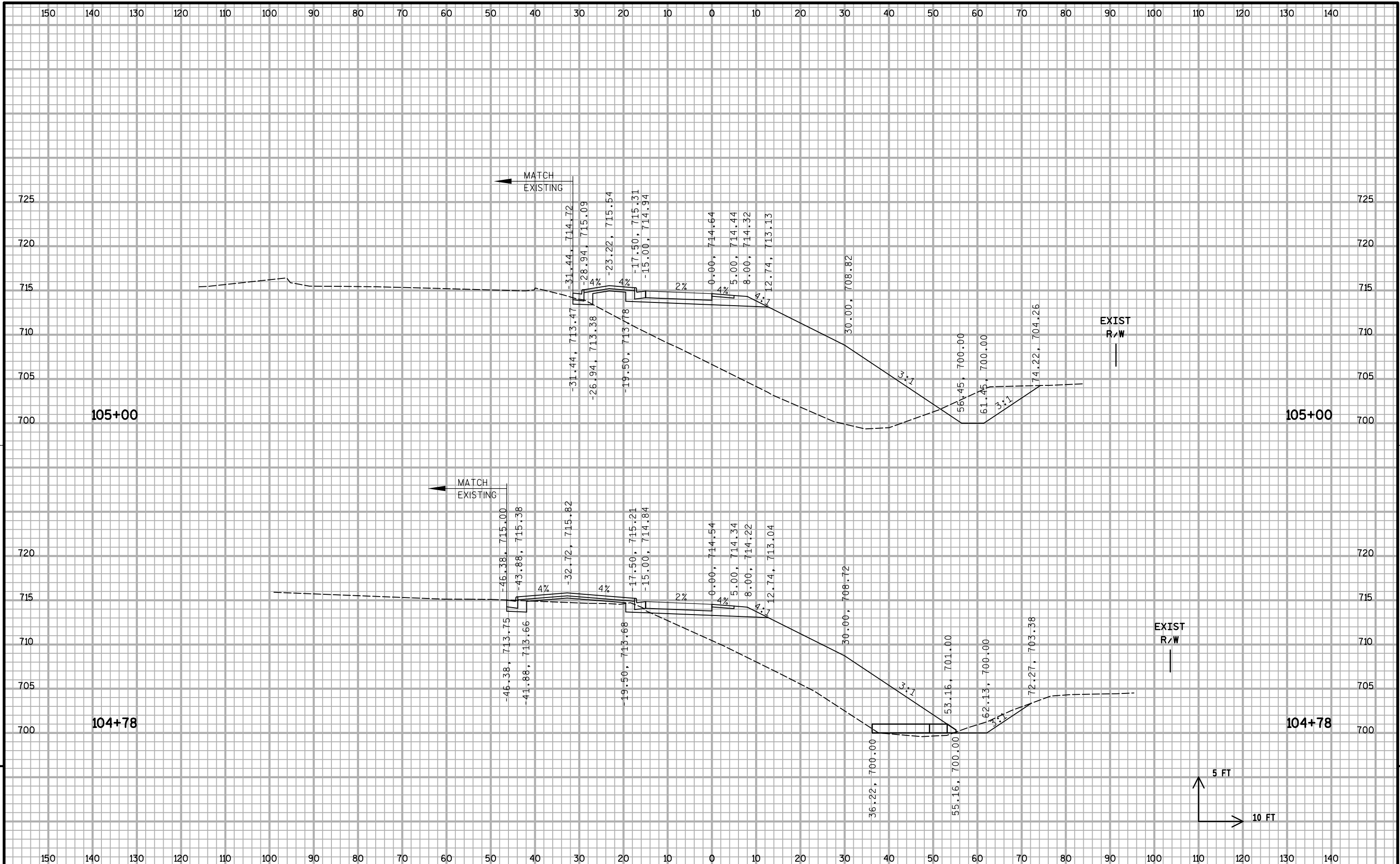
135

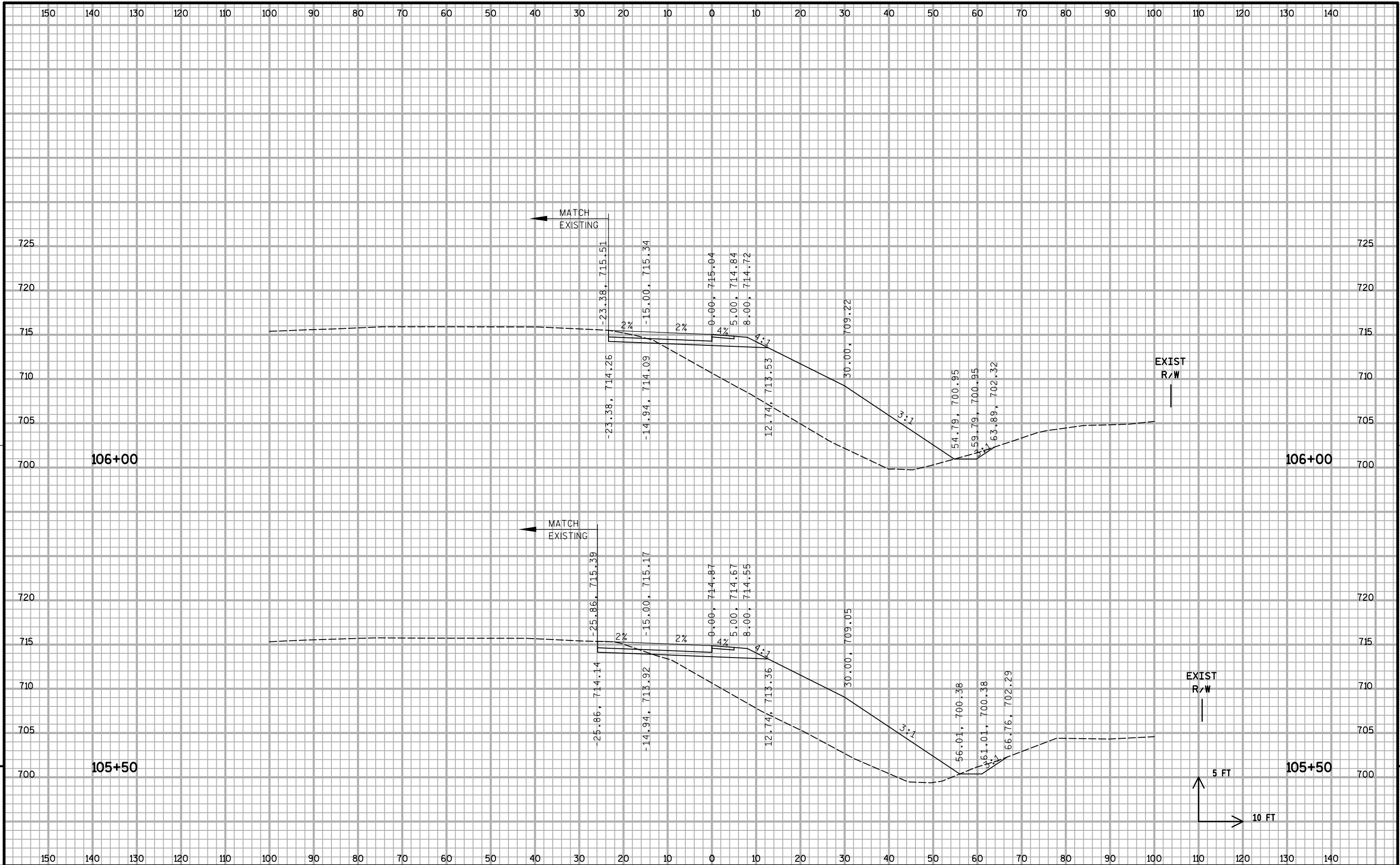
4484

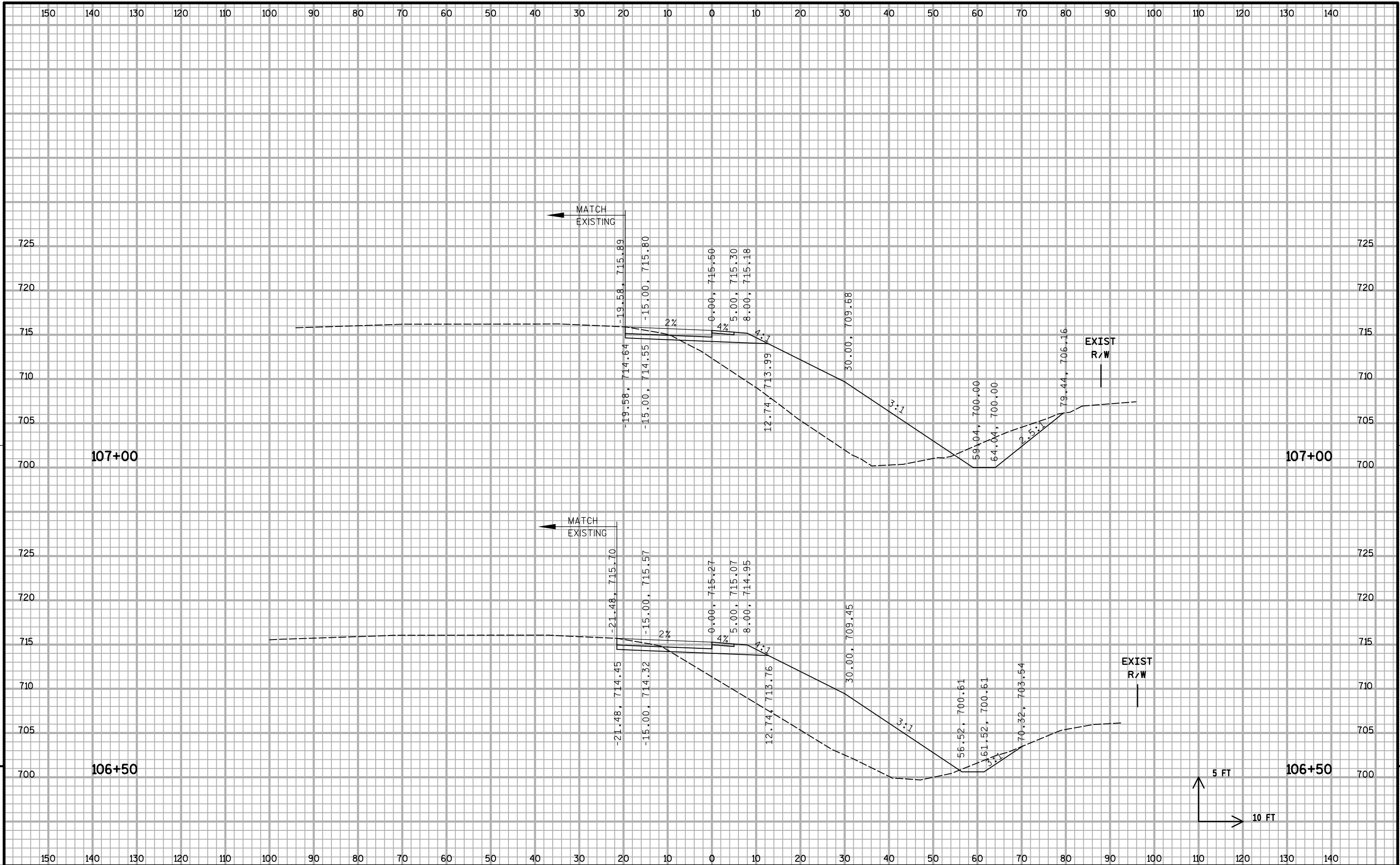
NOTES:
1 - CUT: CUT includes SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL: Is not shown in cross sections
3 - FILL: Does not include Unusable Pavement Exc Volume
4 - MASS ORDINATE: Cut - Salvaged/Unusable Pavement Material -FIII*FIII Factor

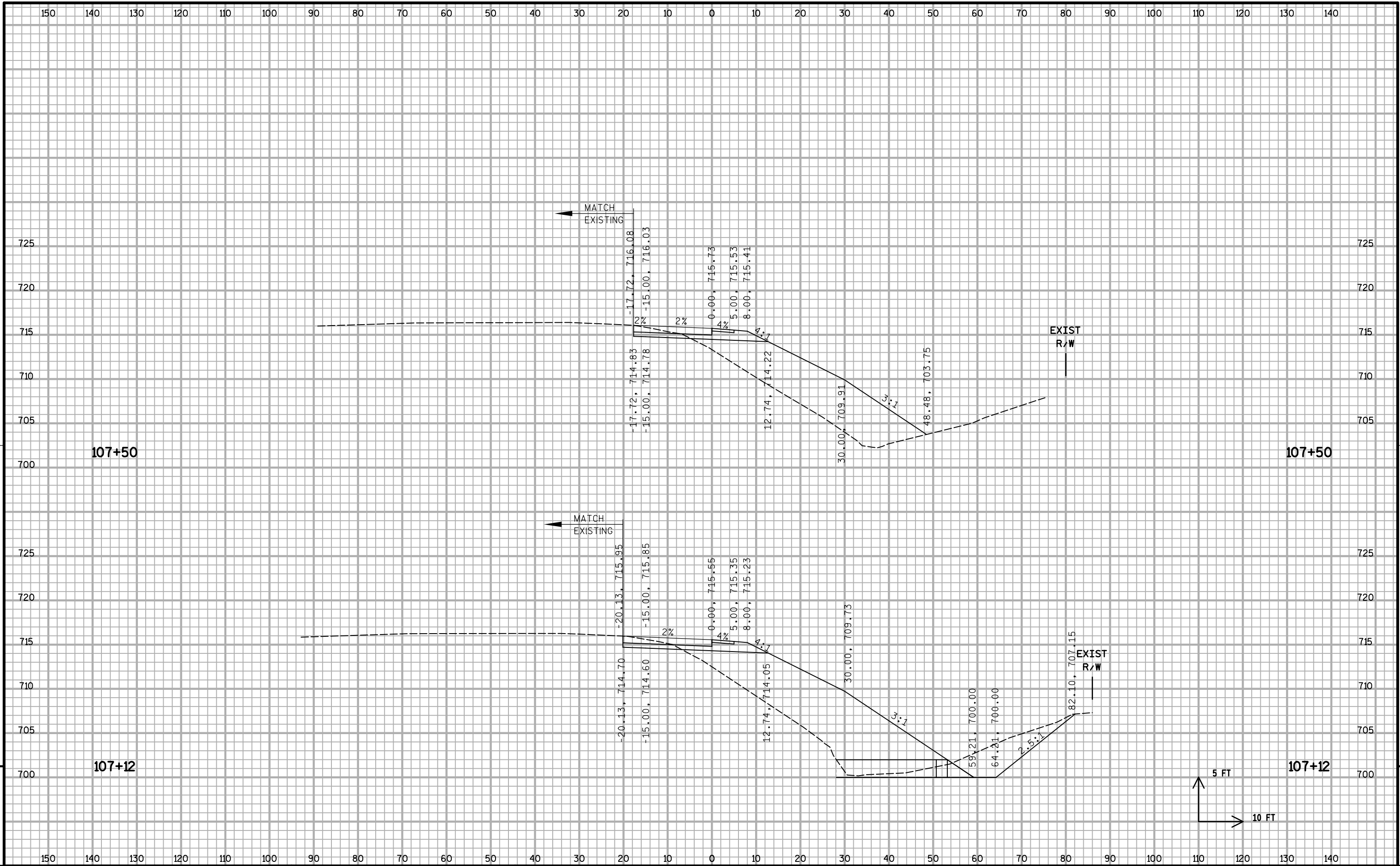


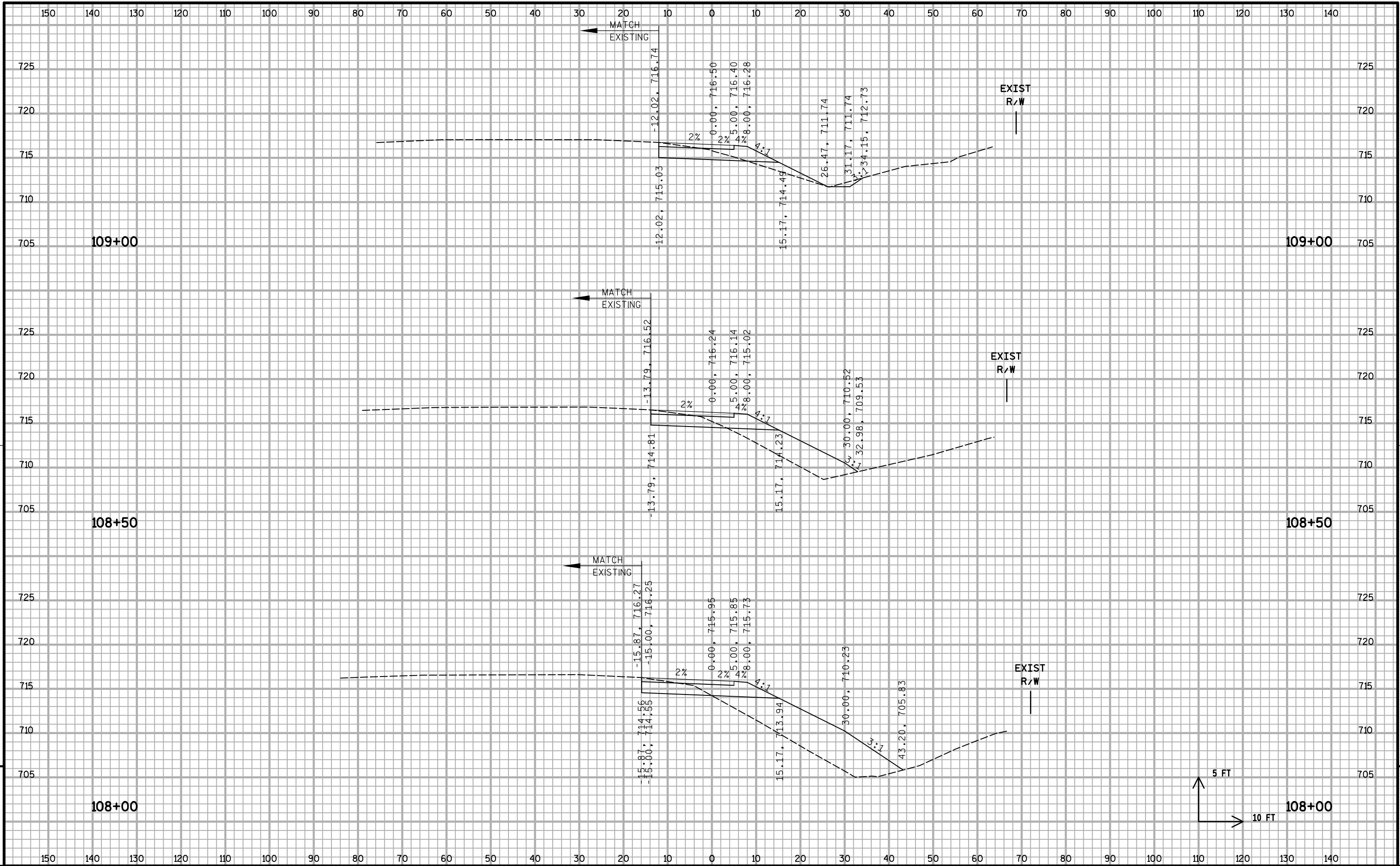


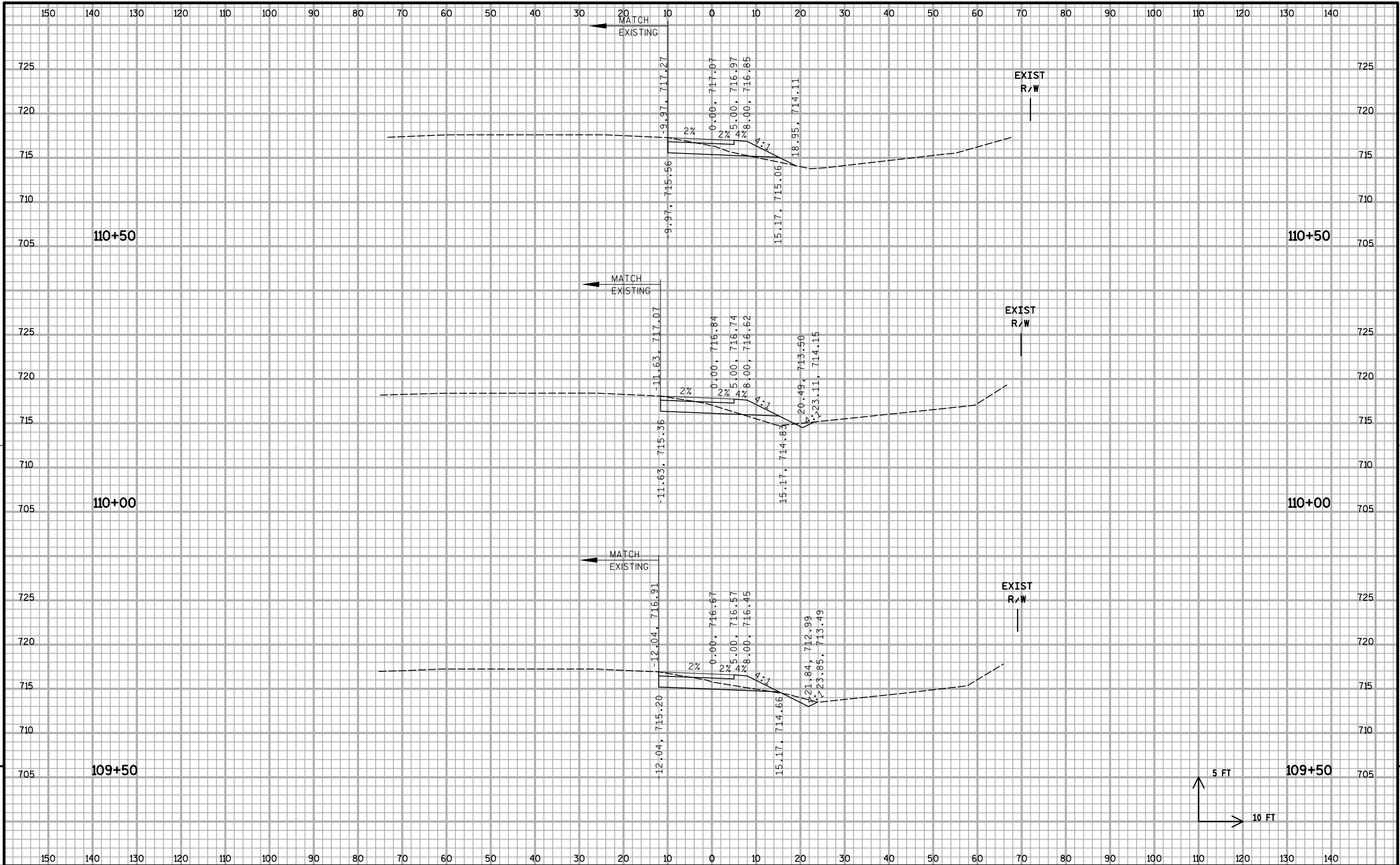


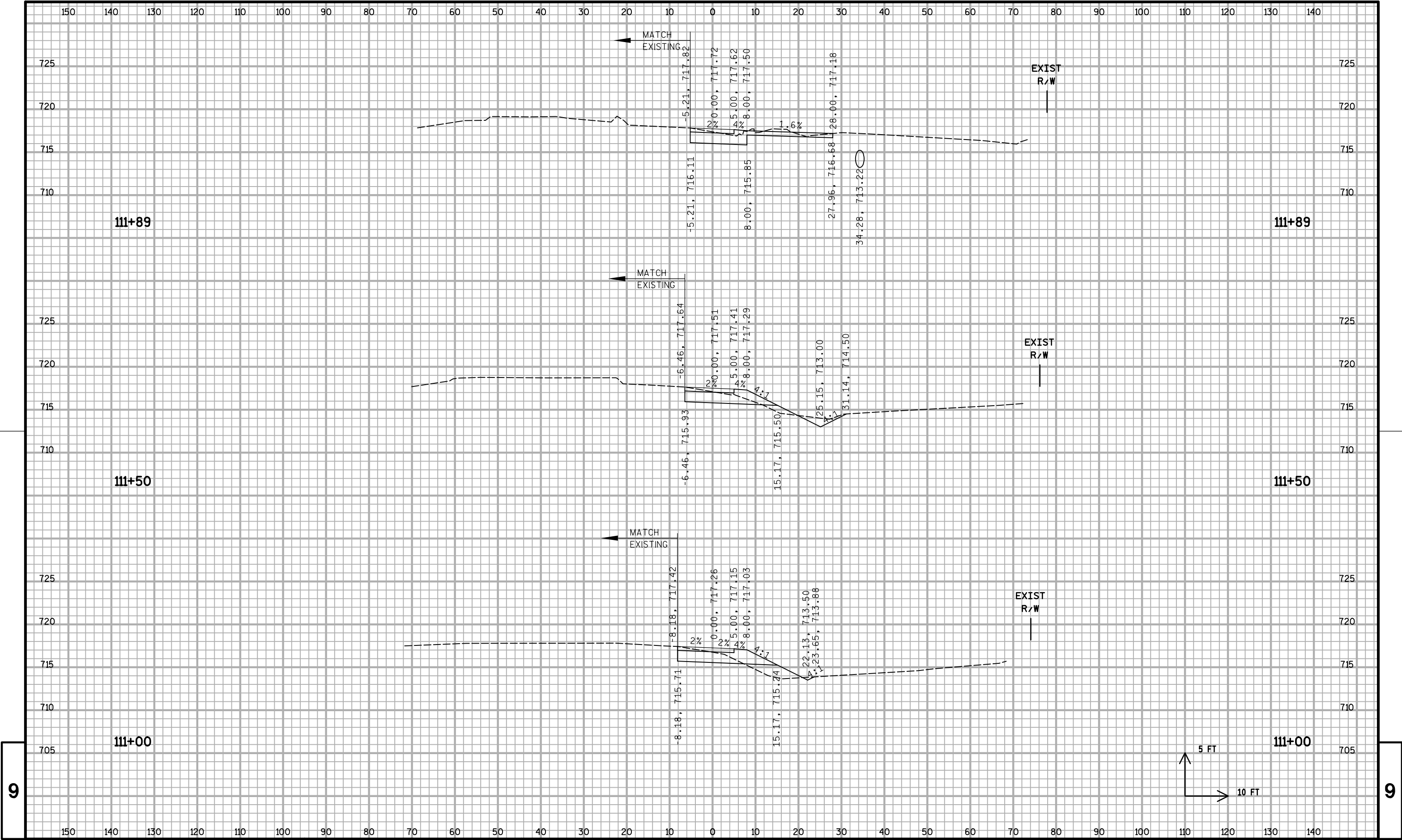


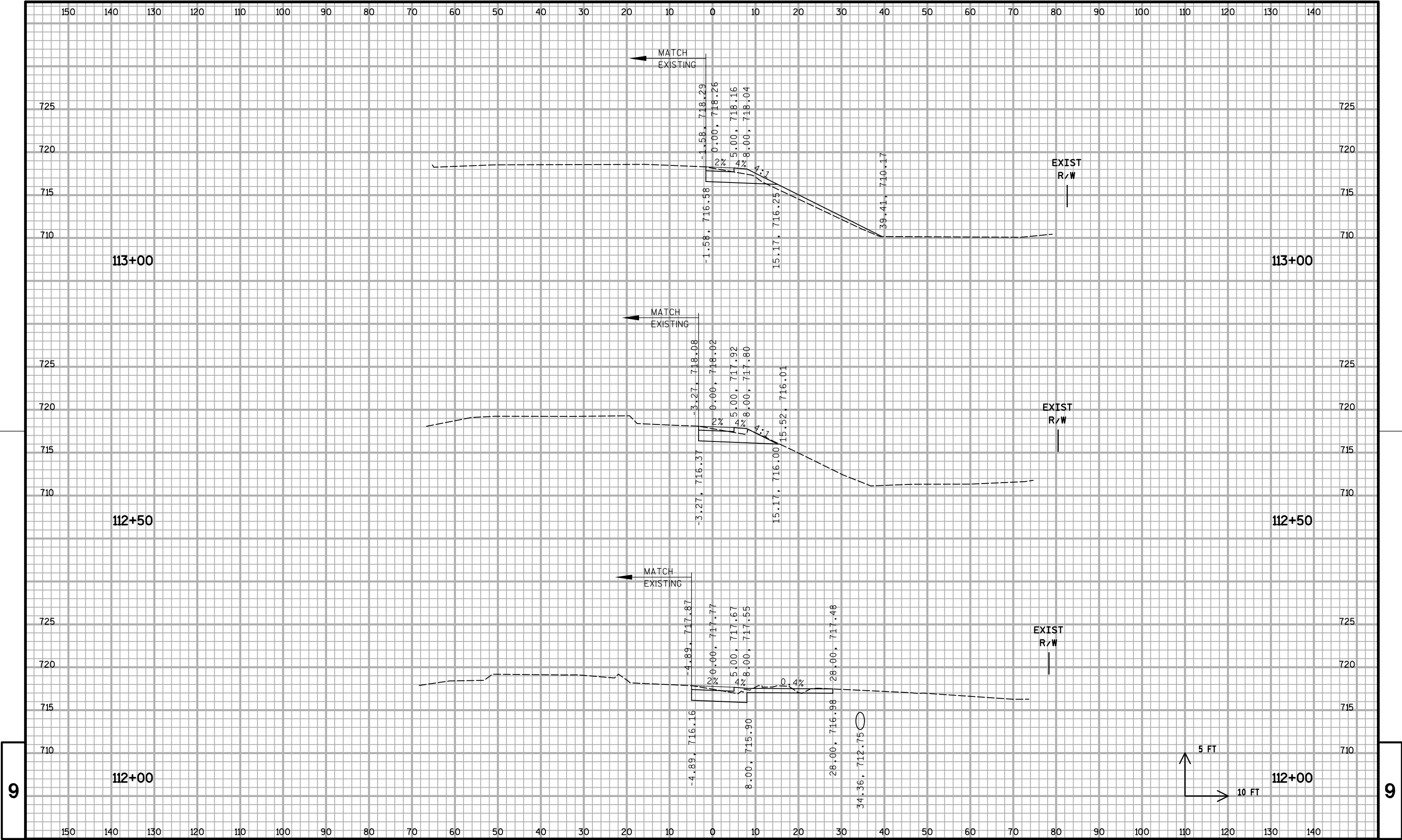












9

9

PROJECT NO: 1630-00-75

HWY: USH 53

COUNTY:

LA CROSSE

CROSS SECTIONS: MAINLINE

SHEET

E

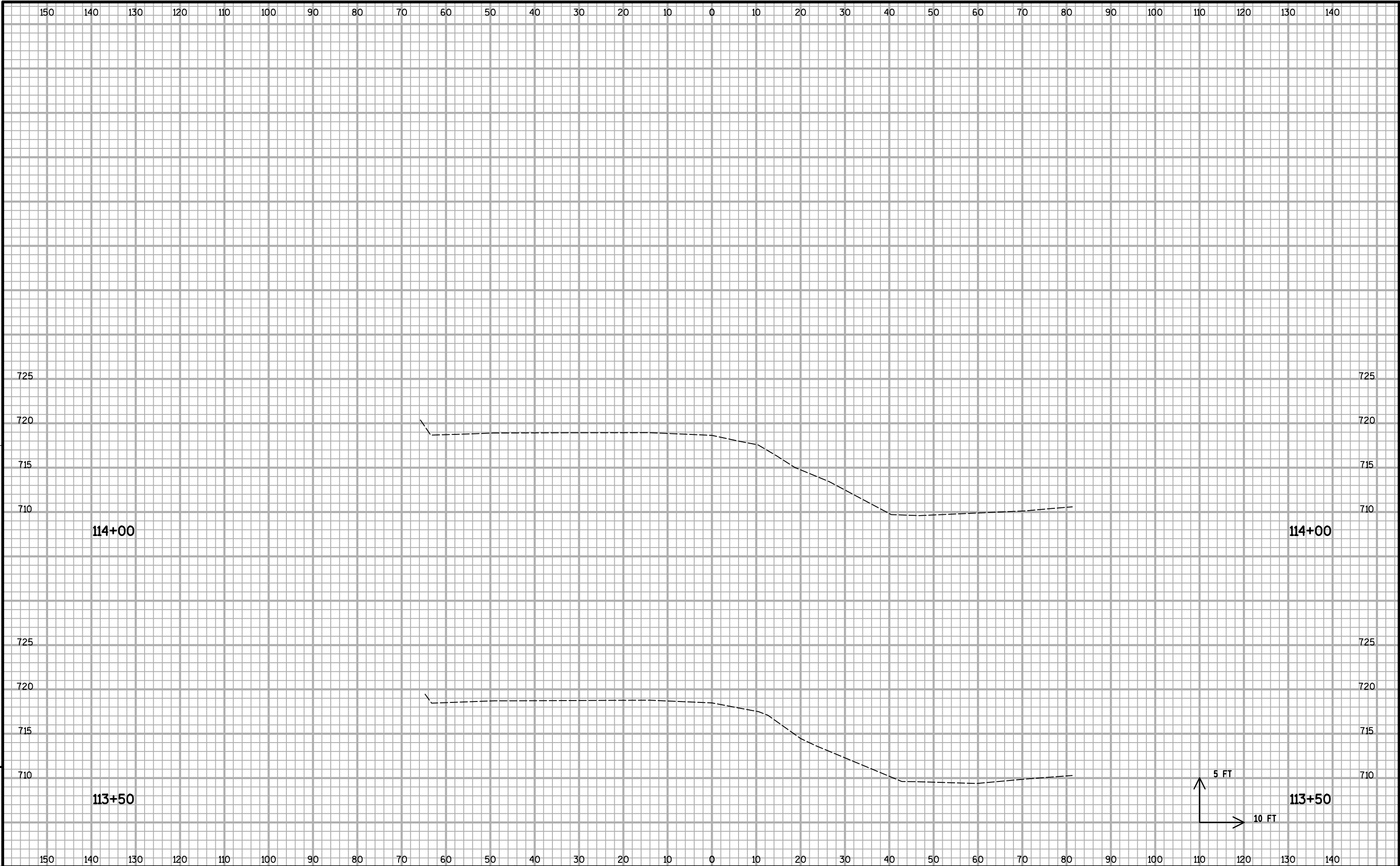
FILE NAME : S:\MAD\1000--1099\1089\294\Micros\Design\Plan\090201_xs.dgn

PLOT DATE : 7/13/2012

PLOT BY : _username_

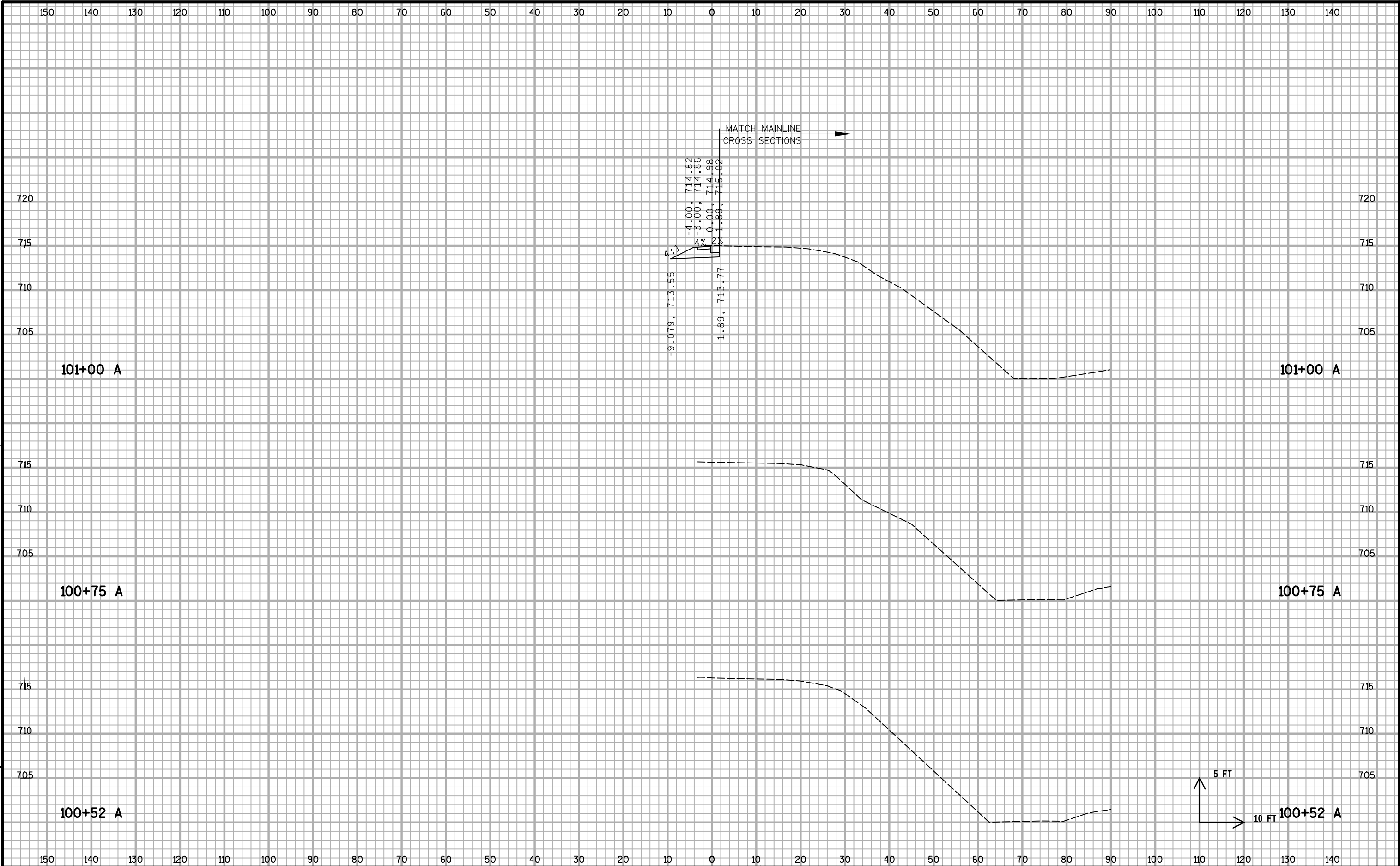
PLOT NAME :

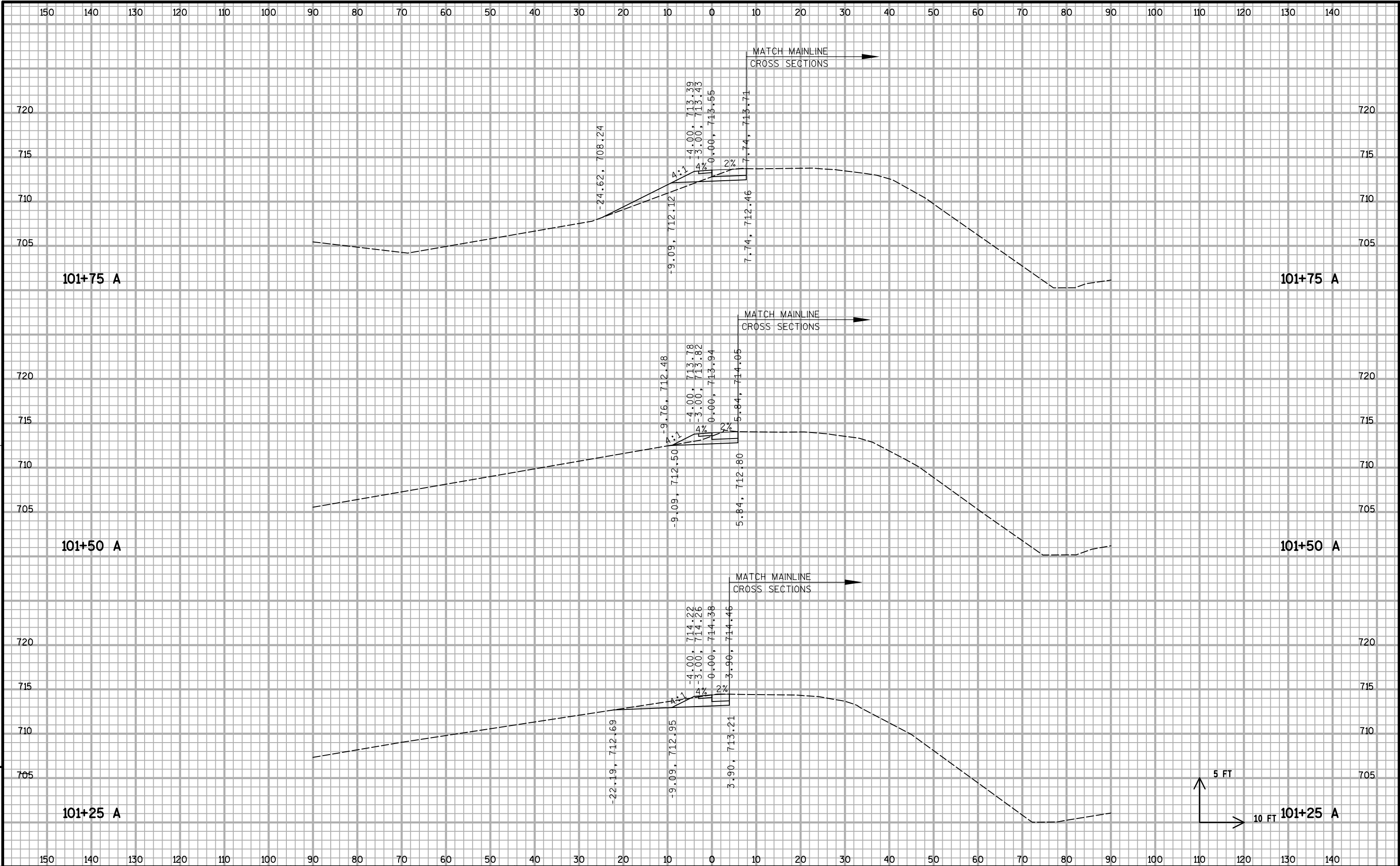
PLOT SCALE : \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 21

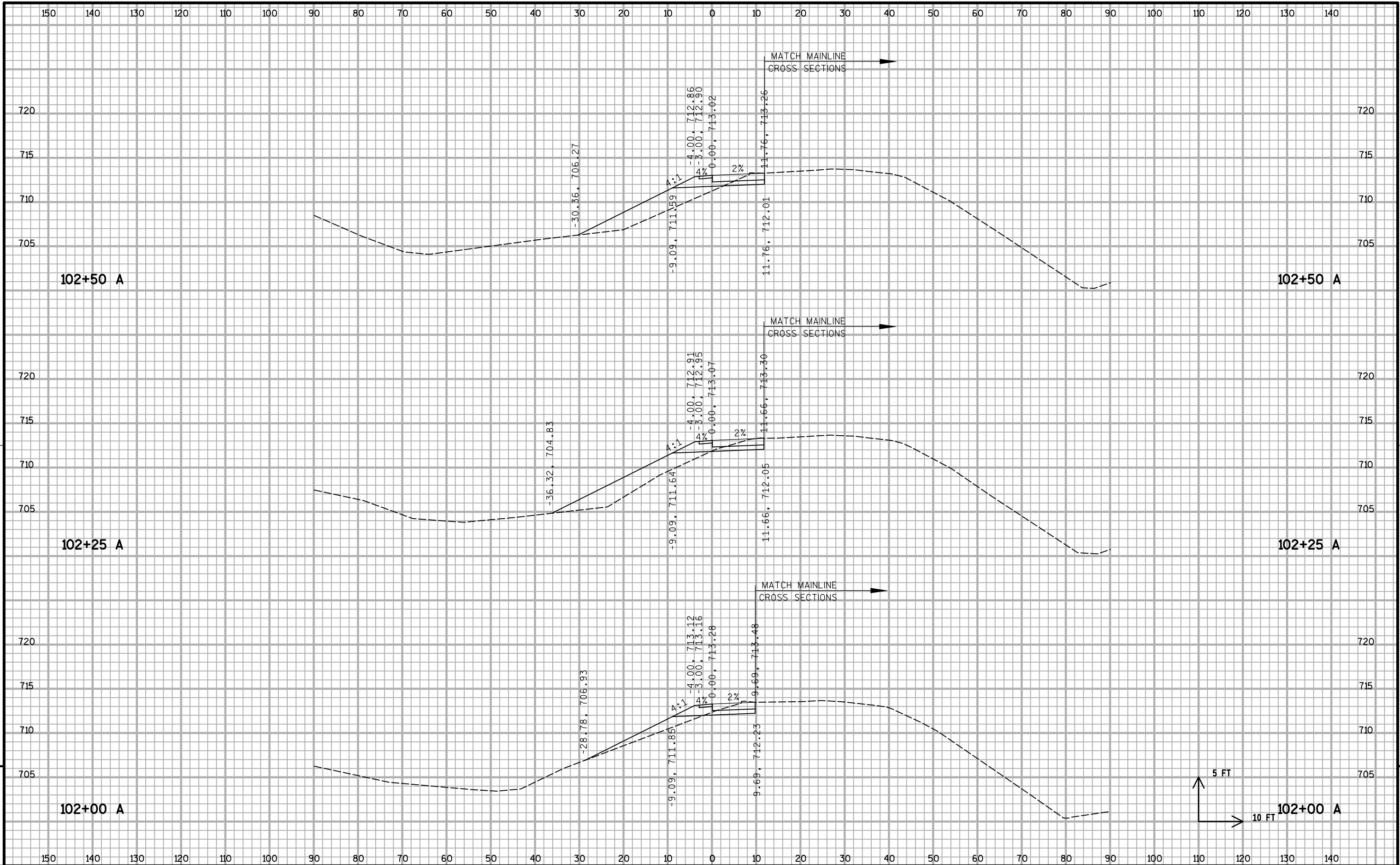


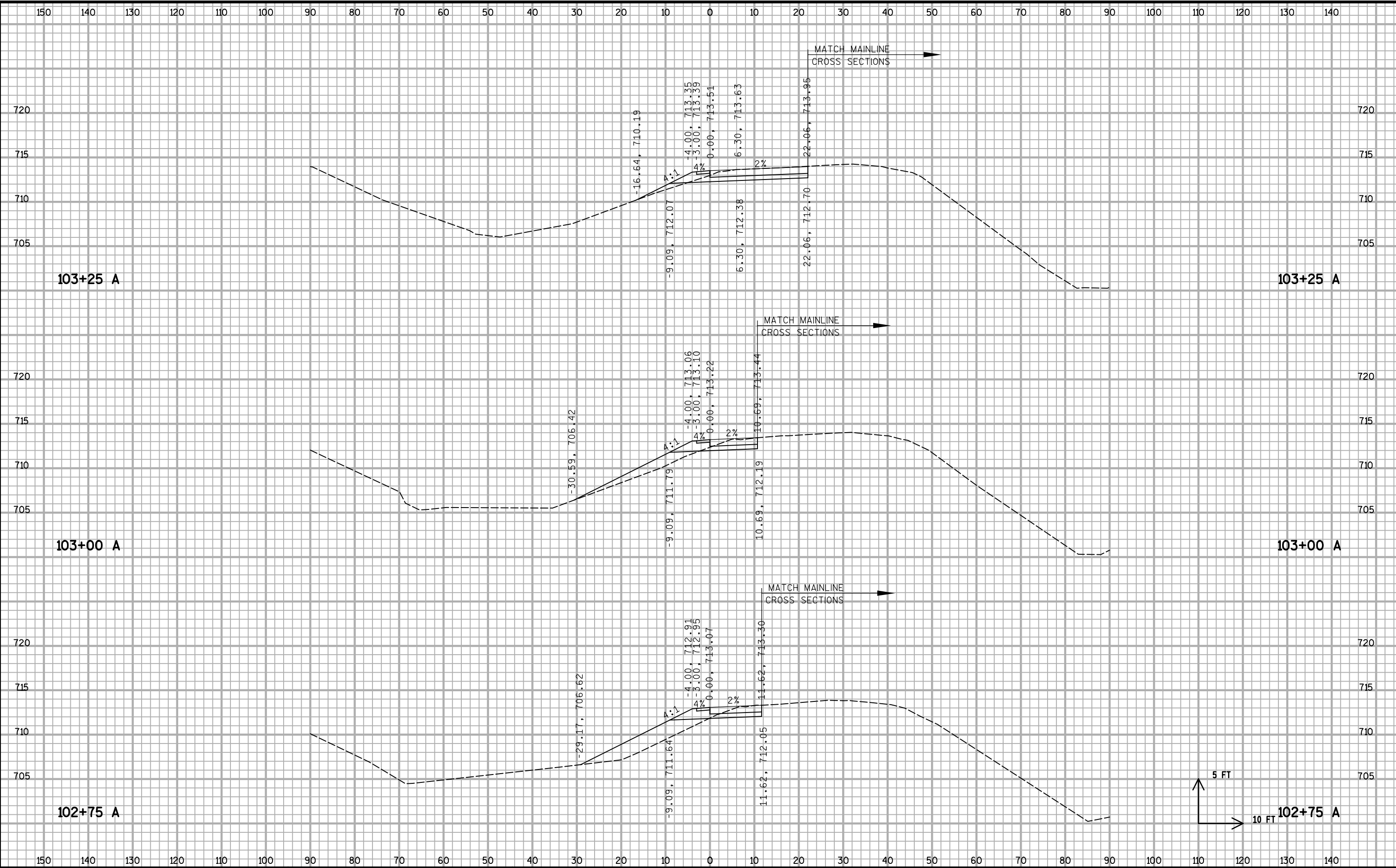
9

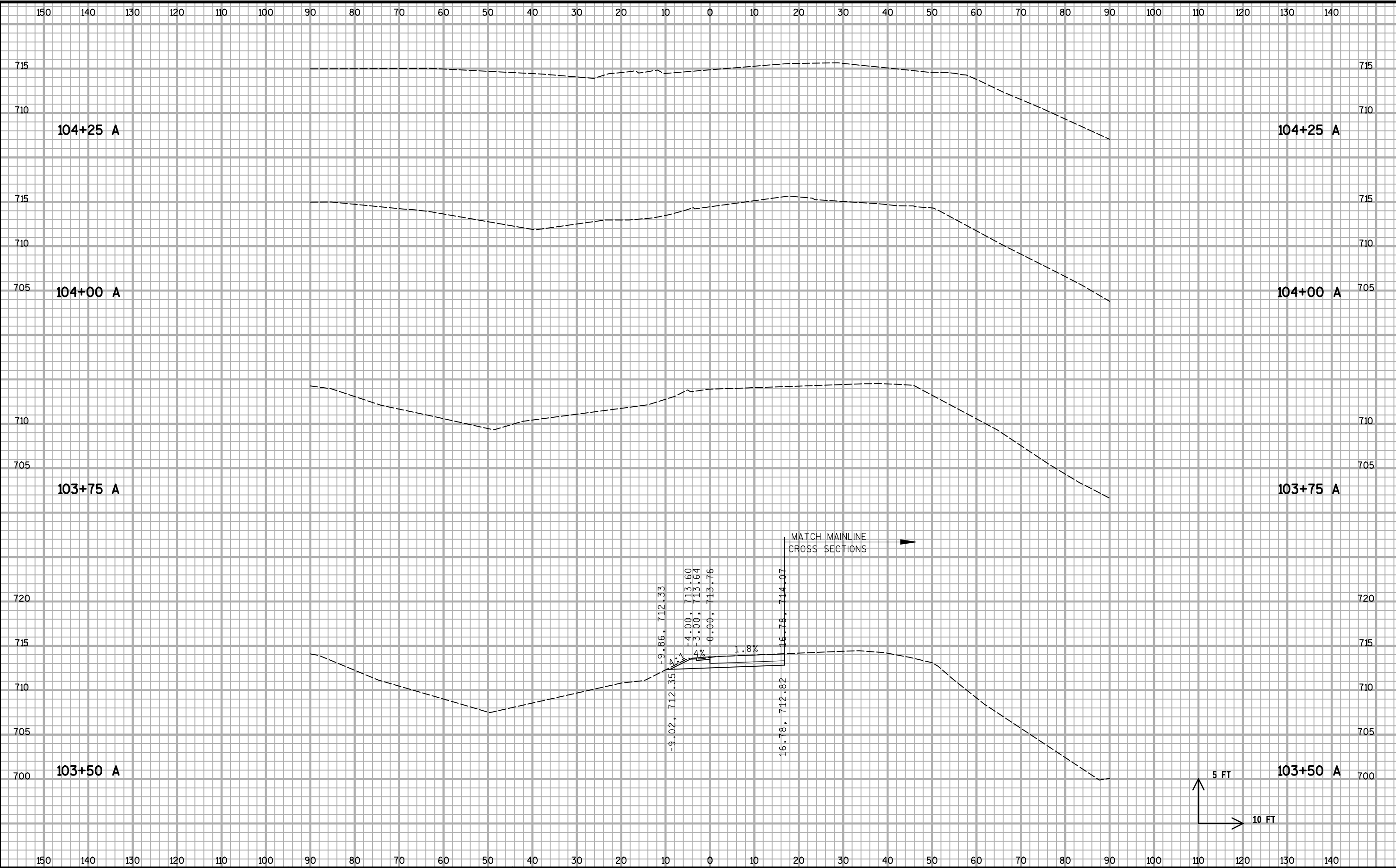
9

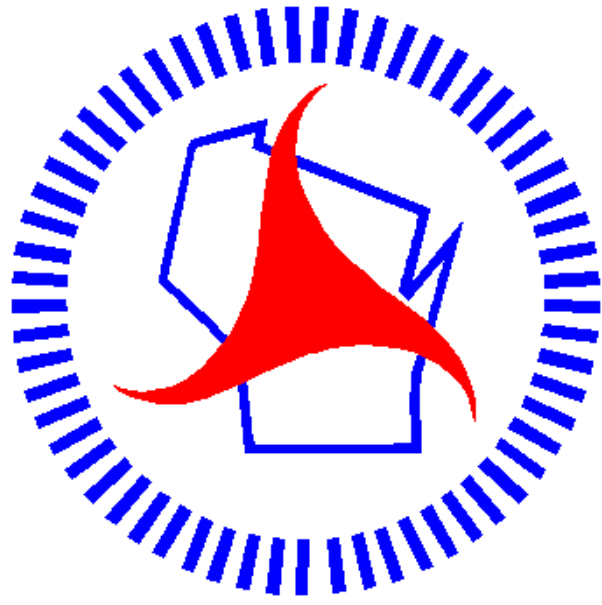












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