EAU APRIL 2016

PROJECT ID: 7105-06-70

COUNTY: PIERCE

ORDER OF SHEETS

TOTAL SHEETS = 150

39

N

DESIGN DESIGNATION

A.A.D.T.	2015	=	1,285
A.A.D.T.	2035	=	1,490
D.H.V.		=	124
D.D.		=	6,940
T.		=	8.1%
DESIGN SPEED		=	55 MPH
ESALS		=	343,100

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ELLSWORTH - ELMWOOD

USH 63 TO CTH BB

STH 72

PIERCE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7105-06-70	WISC 2016130	1

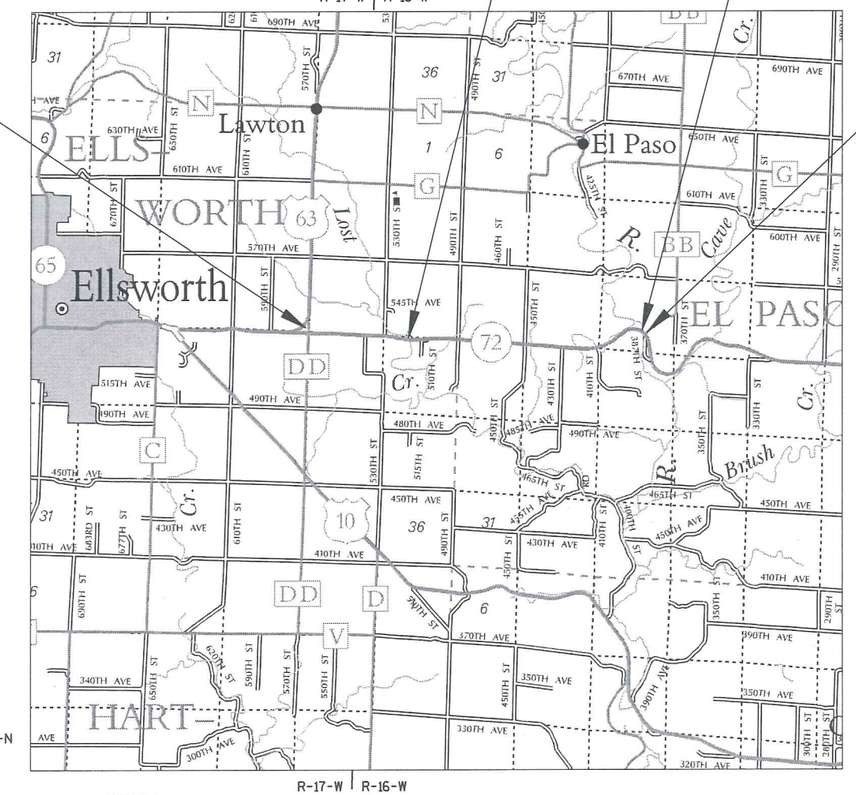
STATE PROJECT NUMBER
7105-06-70

EXCEPTION TO NET ℄
STRUCTURE B-47-0020
STA. 111+22.49 - STA. 113+08.35

EXCEPTION TO NET ℄
STRUCTURE B-47-0034
STA. 278+48.76 - STA. 280+96.14

BEGIN PROJECT
STA. 34+00
X = 500269.02
Y = 317417.58

END PROJECT
STA. 282+85



LAYOUT
SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 4.63 MI

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

ORIGINAL PLANS PREPARED BY

FAA CONSULTING ENGINEERS

WISCONSIN
CHAD
HALAMA
E-33618
MENOMONIE
WI
PROFESSIONAL ENGINEER

1-13-16 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	FAA, INC.
Designer	FAA, INC.
Project Manager	NICOLE PASSUELLO, P.E.
Regional Examiner	CHRISTINE KOSKI
Regional Supervisor	TIM MASON, P.E.

APPROVED FOR THE DEPARTMENT
DATE: 1/19/16 (Signature)

E

2

GENERAL NOTES

NO TREES OR SHRUBS SHALL BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE BEEN DESIGNATED FOR REMOVAL BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE FERTILIZED, SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

ALL PRIVATE DRIVEWAYS AND COMMERCIAL ENTRANCES SHALL BE RESTORED IN KIND. LIMITS TO BE DETERMINED BY THE ENGINEER.

PAVING LIMITS ARE TO BE DETERMINED BY THE ENGINEER.

LOCATION OF UNDERGROUND UTILITIES AS SHOWN ON THE PLAN ARE APPROXIMATE, THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

ALL RADII ARE MEASURED TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED ON THE PLAN.

CURVE DATA IS BASED ON THE ARC DEFINITION.

"ASPHALTIC SURFACE" ITEM IS TO BE USED FOR LEVELING/WEDGING AND SPOT REPAIR.

"ASPHALTIC SURFACE PATCHING" ITEM IS TO BE USED FOR RAMPING AT BUTT JOINT SAW CUTS, MISCELLANEOUS REPAIRS OF POTHOLES AND POPOUTS THAT OCCUR DURING CONSTRUCTION.

"SPECIAL 01. PREPARATION OF FOUNDATION FOR ASPHALTIC PAVING" ITEM IS ASSOCIATED WITH THE WORK FOR THE "ASPHALTIC SURFACE" AND "ASPHALTIC SURFACE" ITEMS.

PRIOR TO THE PLACEMENT OF STEEL PLATE BEAM GUARD, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLAN DETAILS ARE AT SUGGESTED LOCATIONS, THEIR EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

WETLANDS MAY EXIST IN LOCATIONS THAT ARE NOT SHOWN IN THE PLANS. DO NOT STAGE IN OR DISTURB WETLANDS AREAS.

WHEN THE QUANTITY OF BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE PROPOSED SHOULDER WIDTHS SHOWN IN THE TYPICAL SECTIONS ARE MINIMUM WIDTH, PERPETUATE EXISTING SHOULDERS THAT ARE WIDER THAN WHAT IS SHOWN IN THE TYPICAL SECTION.

SPECIAL 01. HMA PAVEMENT TYPE 5MT 5834H SHALL CONSIST OF A 1-INCH LEVELING LAYER.

SPECIAL 02. HMA PAVEMENT TYPE SMA-SPECIAL SHALL CONSIST OF A 1½-INCH UPPER LAYER.

THE LATEST APPROVED DOT ℄ WEDGE JOINT SHOULD NOT BE USED ON THE UPPER LAYER WITHIN THE FINAL PAVEMENT STRUCTURE. THE CONTRACTOR SHOULD MILL OUT ANY WEDGE USED FOR TRAFFIC STAGING PRIOR TO PLACING THE ADJACENT LANE.

REMOVE ALL EXISTING CULVERT MARKER POSTS. "MARKERS CULVERT END" REQUIRED AT ALL CROSS CULVERT LOCATIONS.

STANDARD ABBREVIATIONS

A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC
B.A.D.	BASE AGGREGATE DENSE
C/L	CENTERLINE
CMCP	CORRUGATED METAL CULVERT PIPE
CY	CUBIC YARD
D.D.	DAILY DIRECTIONAL SPLIT (TRAFFIC VOLUME)
D.H.V.	DAILY HOURLY TRAFFIC
E.A.T.	ENERGY ABSORBING TERMINAL
EB	EASTBOUND
EL.	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
FO	FIBER OPTIC
INV	INVERT
LB	POUND
LF OR L.F.	LINEAR FEET
LT.	LEFT
MAX.	MAXIMUM
MIN.	MINIMUM
NB	NORTHBOUND
NPZ	NO PASSING ZONE
OH	OVERHEAD
P.E.	PRIVATE ENTRANCE
REQ'D	REQUIRED
R/L OR RL	REFERENCE LINE
RT.	RIGHT
R/W	RIGHT OF WAY
SB	SOUTHBOUND
S.D.D.	STANDARD DETAIL DRAWING
STA.	STATION
SF	SQUARE FOOT
STH	STATE HIGHWAY
SY	SQUARE YARD
T.	PERCENT OF TRUCK TRAFFIC
T.L.E.	TEMPORARY LIMITED EASEMENT
TYP.	TYPICAL
VAR.	VARIES
WB	WESTBOUND

WISDOT REGIONAL CONTACT

TARA WEISS
WISDOT NORTHWEST REGION
EAU CLAIRE OFFICE
718 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
(715) 836-2283

TIM MASON
WISDOT NORTHWEST REGION
EAU CLAIRE OFFICE
718 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
(715) 833-5366

W.D.N.R. CONTACT

DEPARTMENT OF NATURAL RESOURCES
WEST CENTRAL REGION
1300 W. CLAIREMONT AVE.
P.O. BOX 4001
EAU CLAIRE, WI. 54701
ATTENTION: CHRIS WILLGER
(715) 839-2786

DESIGN CONTACT

FLEMING, ANDRE & ASSOCIATES, INC.
MATT GUNDRY
3615 N. HASTINGS WAY - STE. 100
EAU CLAIRE, WI 54703
(715) 832-8400
mjgundry@faa-engineers.com

UTILITIES

DAN HUEBL
NORTHERN NATURAL GAS COMPANY - GAS/PETROLEUM
4685 212TH ST. WEST
P.O. BOX 188
FARMINGTON, MN 55024-0188
(402) 530-3414
dan.huebl@nngco.com

JERRY DEWOLFE
PIERCE-PEPIN COOPERATIVE SERVICES
W7725 US HWY 10
P.O. BOX 420
ELLSWORTH, WI 54011
(715) 273-4460

RICK PODOLAK
AT&T WISCONSIN - COMMUNICATION LINE
304 S DEWEY ST
EAU CLAIRE, WI 54701
(715) 839-5565

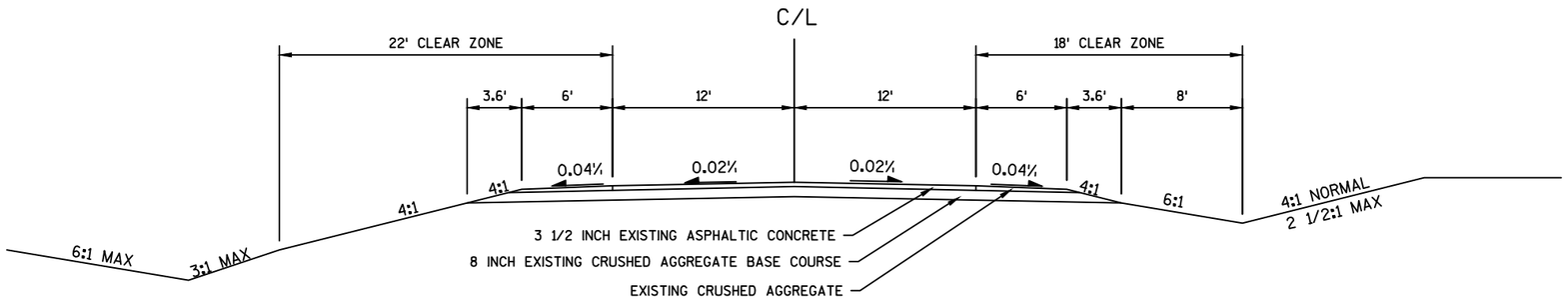
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	GENERAL NOTES	SHEET 2	E

FILE NAME : F:\DRAWINGS\2012-134\0008\71050631\SHEETSPLAN\020101_GN.DWG PLOT DATE : 2/17/2016 10:03 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:10 FT

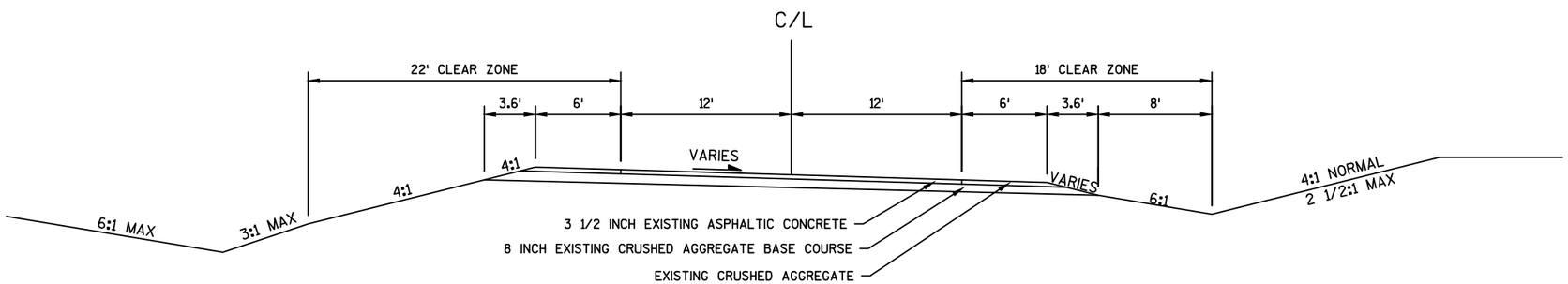
WISDOT/CADDS SHEET 42

2



EXISTING TYPICAL SECTION STH 72

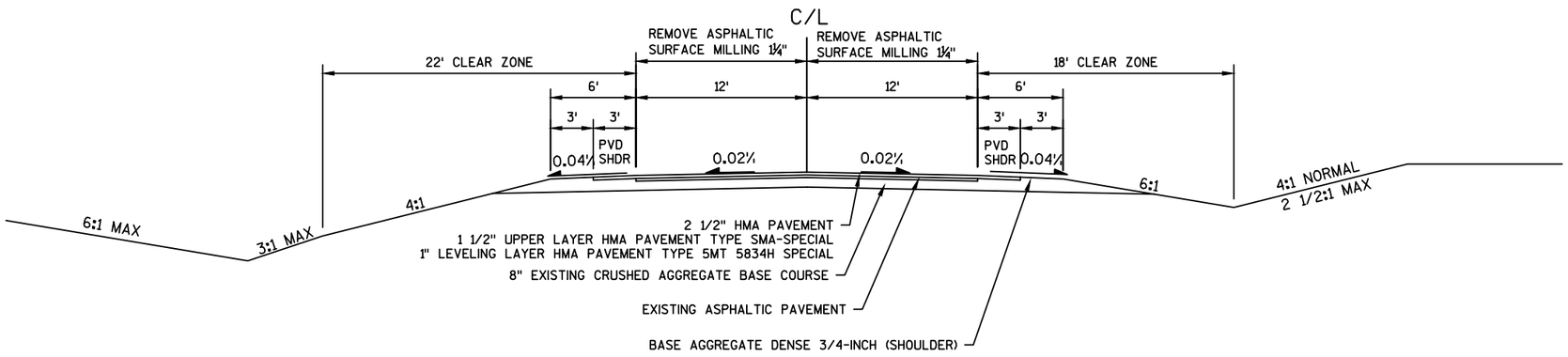
STA 34+00.00 TO STA 93+74.00
STA 102+36.46 TO STA 106+53.29
STA 122+59.74 TO STA 127+93.08
STA 136+70.81 TO STA 166+15.25
STA 172+37.41 TO STA 232+44.20
STA 262+04.59 TO STA 263+63.21



EXISTING SUPERELEVATED TYPICAL SECTION STH 72

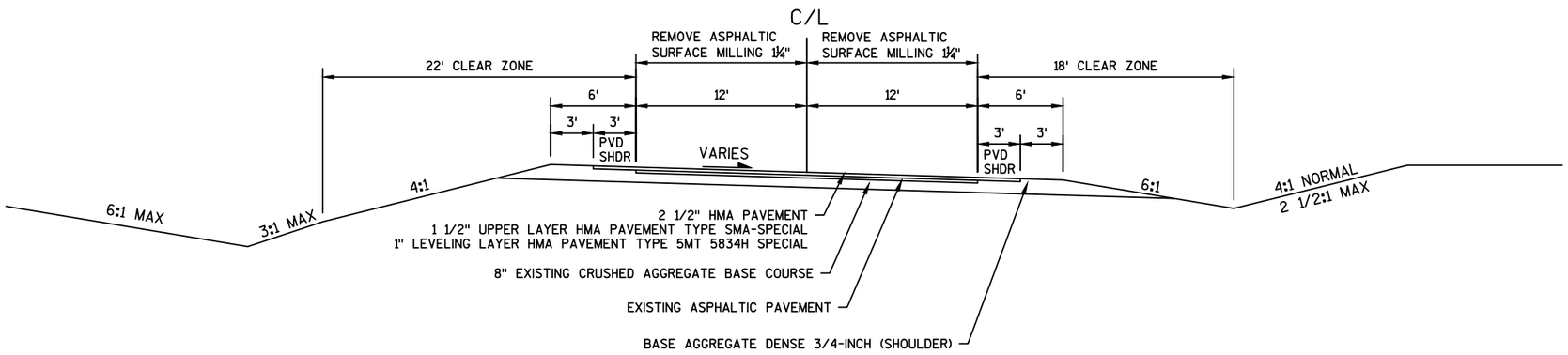
STA 93+74.00 TO STA 102+36.46
STA 106+53.29 TO STA 122+59.74
STA 127+93.08 TO STA 136+70.81
STA 232+44.20 TO STA 172+37.41
STA 263+63.21 TO STA 282+85.00

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN: TYPICAL SECTIONS	SHEET 3	E



FINISHED TYPICAL SECTION STH 72

STA 34+00.00 TO STA 93+74.00
STA 102+36.46 TO STA 106+53.29
STA 122+59.74 TO STA 127+93.08
STA 136+70.81 TO STA 166+15.25
STA 172+37.41 TO STA 232+44.20
STA 262+04.59 TO STA 263+63.21

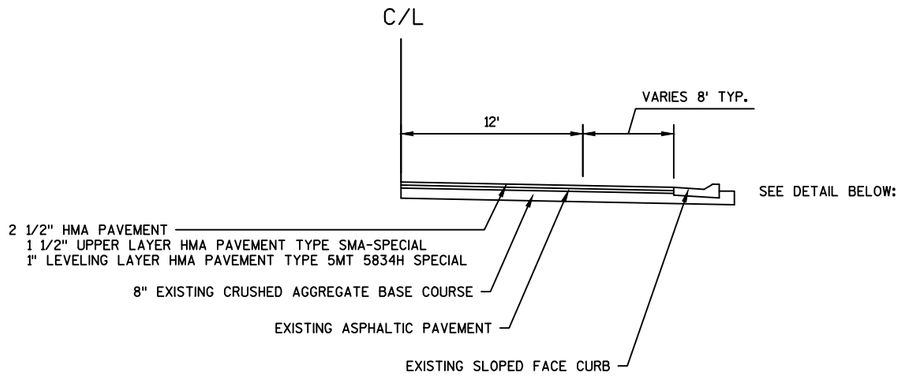


FINISHED SUPERELEVATED TYPICAL SECTION STH 72

STA 93+74.00 TO STA 102+36.46
STA 106+53.29 TO STA 122+59.74
STA 127+93.08 TO STA 136+70.81
STA 232+44.20 TO STA 172+37.41
STA 263+63.21 TO STA 282+85.00

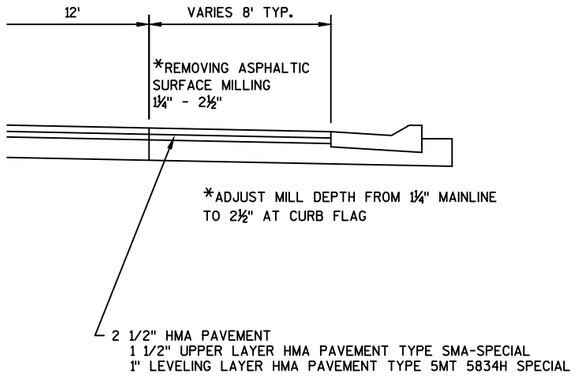
* NOTE: SURFACE MILL SLOPE SHALL MATCH SLOPE OF PROPOSED SURFACE HMA.

2



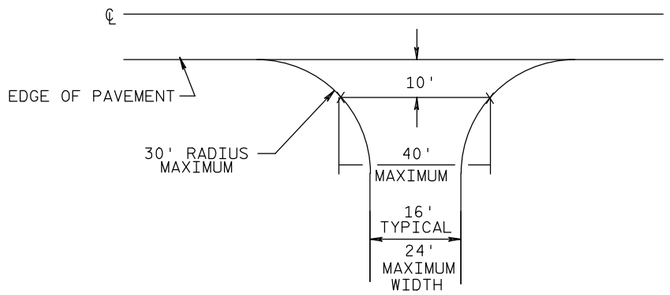
FINISHED TYPICAL SECTION STH 72

STA 263+00 TO STA 272+49



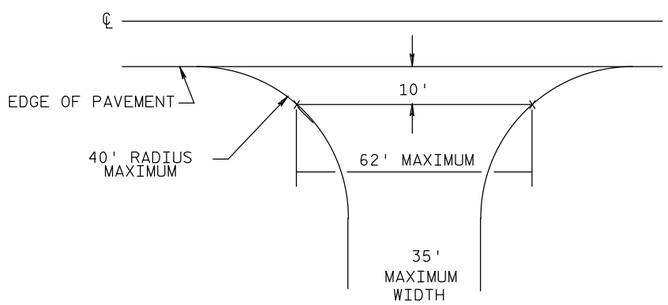
* NOTE: SURFACE MILL SLOPE SHALL MATCH SLOPE OF PROPOSED SURFACE HMA.

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN: TYPICAL SECTIONS	SHEET 5	E



TYPICAL DRIVEWAY DETAIL

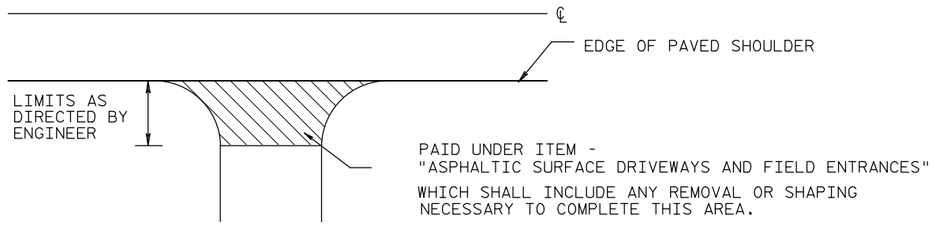
(NON-COMMERCIAL RURAL)



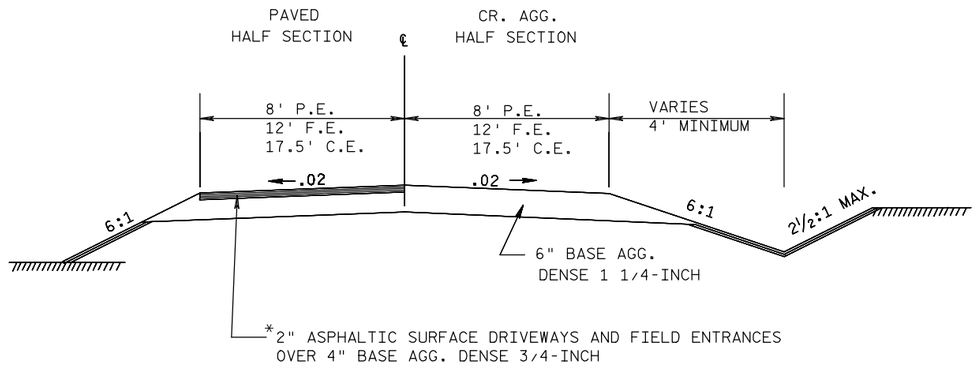
TYPICAL DRIVEWAY DETAIL

(COMMERCIAL RURAL)

RURAL DRIVEWAY DETAIL - ASPHALT



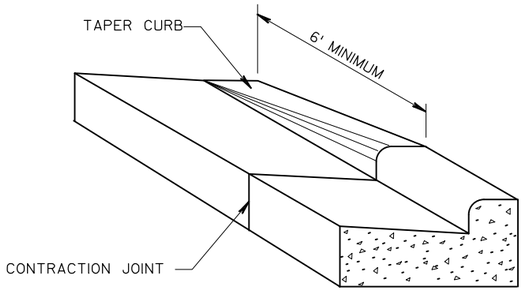
ANY ADDITIONAL BASE AGG. DENSE REQ'D. SHALL BE PAID
UNDER ITEM - "BASE AGGREGATE DENSE 3/4-INCH"



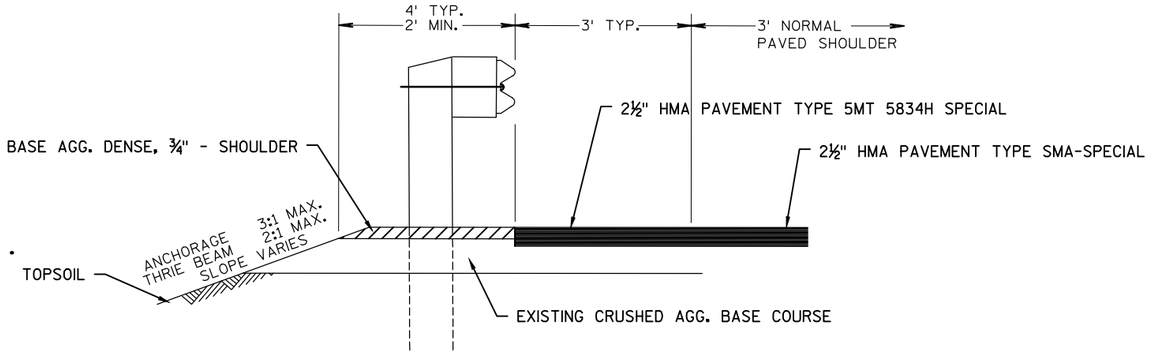
* OR MATCH EXIST.
ASPH. DEPTH

TYPICAL SECTION
FOR PRIVATE ENTRANCES

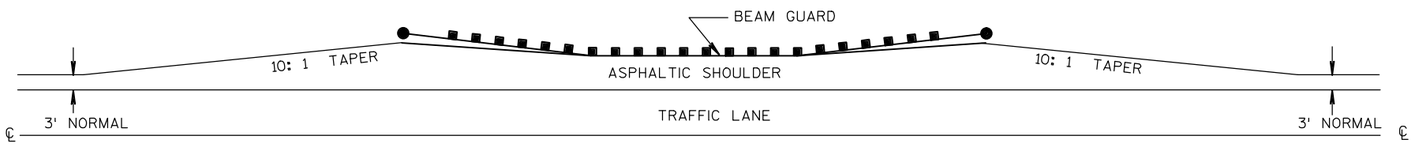
NOTE:
DRIVEWAY PROFILES NOT EXPECTED TO EXCEED 10%. PLACE LOW POINT OF DRIVEWAY PROFILE OVER DITCH FLOW LINE.



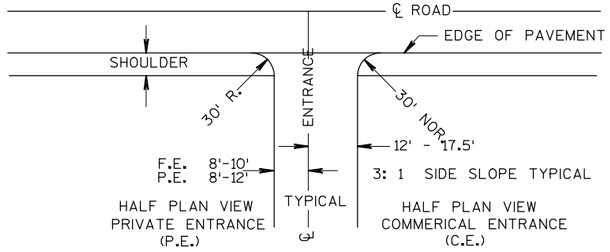
DETAIL OF CURB & GUTTER TERMINI



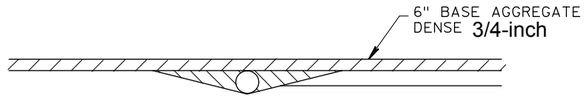
ASPHALTIC SHOULDER AT BEAM GUARD



DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

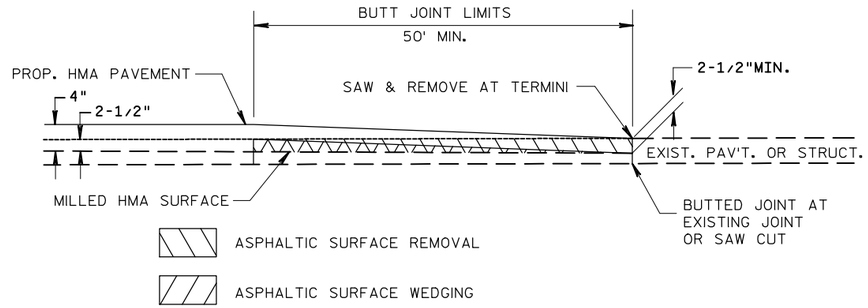


PLAN VIEW



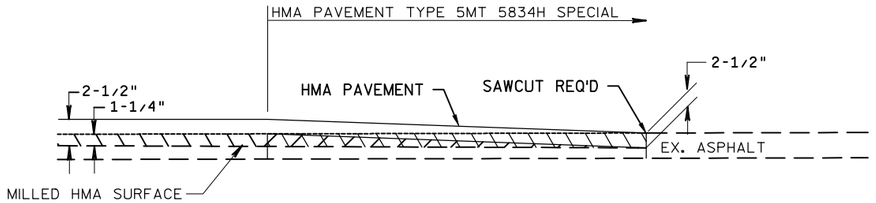
PROFILE VIEW

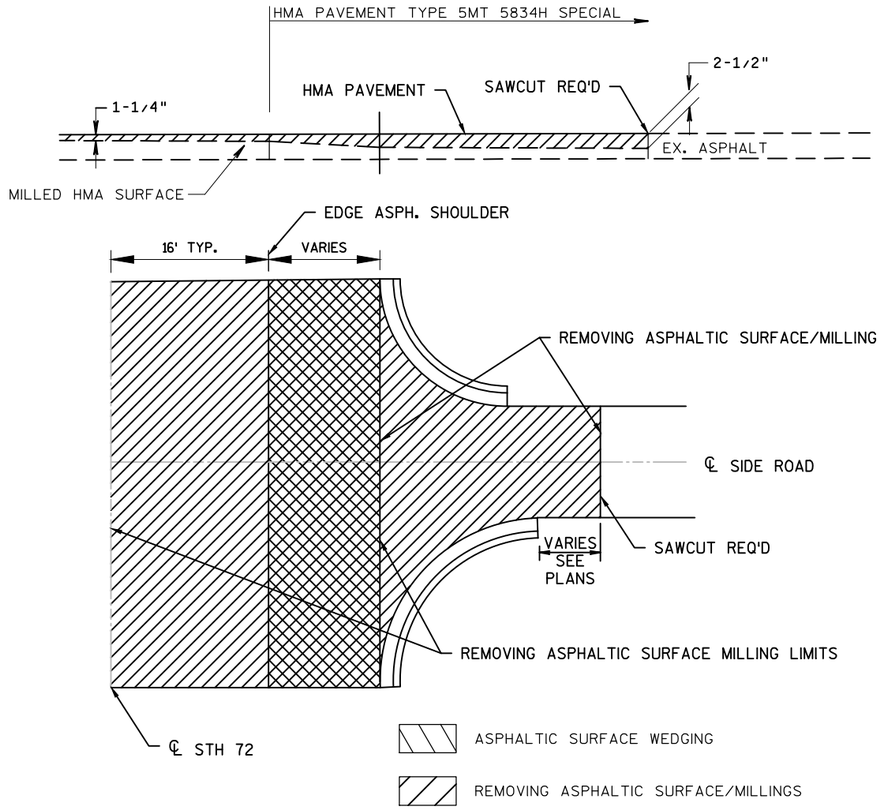
RURAL DRIVEWAY DETAIL



BUTT JOINT DETAIL AT STRUCTURE & PROJECT LIMITS

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN: CONSTRUCTION DETAILS	SHEET 7	E





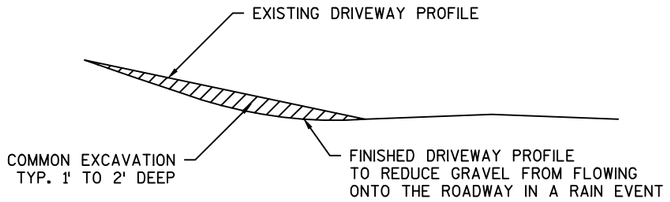
NOTES:
1. OVERLAY PAVEMENT SHALL MEET EXISTING ELEVATION AT SAWCUT.
2. WHEN EX. ASPHALT THICKNESS IS LESS THAN 4", MILL/REMOVE EX. PAVEMENT FULL DEPTH. NEW PAVEMENT SHALL MATCH EXISTING THICKNESS (3" MIN). THE BASE AGGREGATE SHALL BE ADJUSTED FOR EXISTING PAVEMENT THICKNESS LESS THAN 3".
3. WHEN EX. ASPHALT IS GREATER THAN OR EQUAL TO 4", MILL AND OVERLAY 3". THIN AND/OR FAILING AREAS ARE TO BE REPAIRED AS NECESSARY.

SIDE ROAD DETAIL - NO CURB & GUTTER

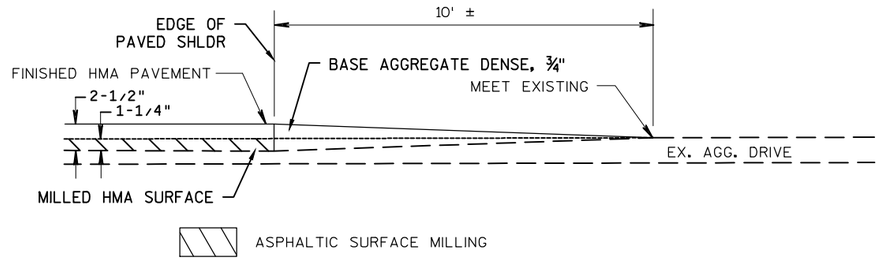
SIDEROAD DETAIL - CURB & GUTTER TO REMAIN

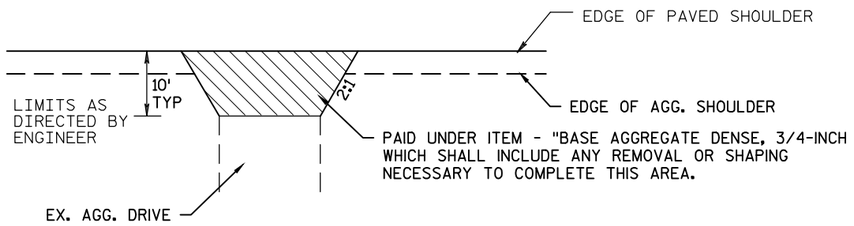
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN: CONSTRUCTION DETAILS	SHEET 8	E

2



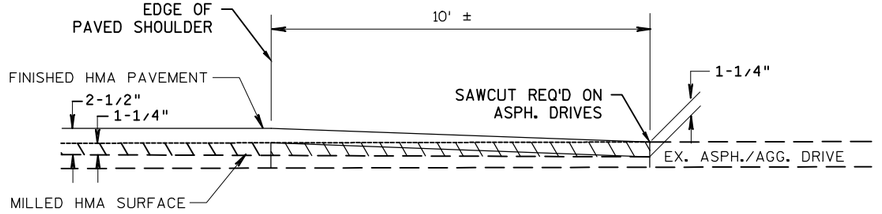
RESHAPE FIELD ENTRANCE

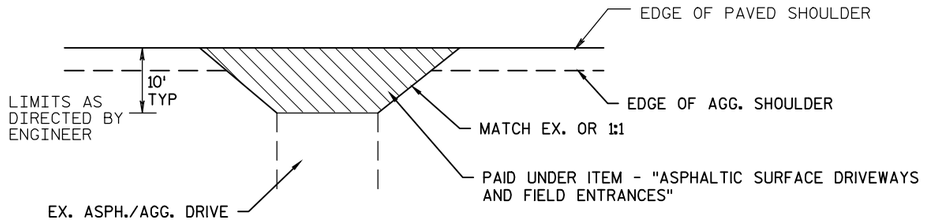




NOTE:
ANY ADDITIONAL BASE AGG. DENSE REQ'D. SHALL BE PAID
UNDER ITEM - "BASE AGGREGATE DENSE 3/4-INCH"

RURAL DRIVEWAY DETAIL - AGGREGATE

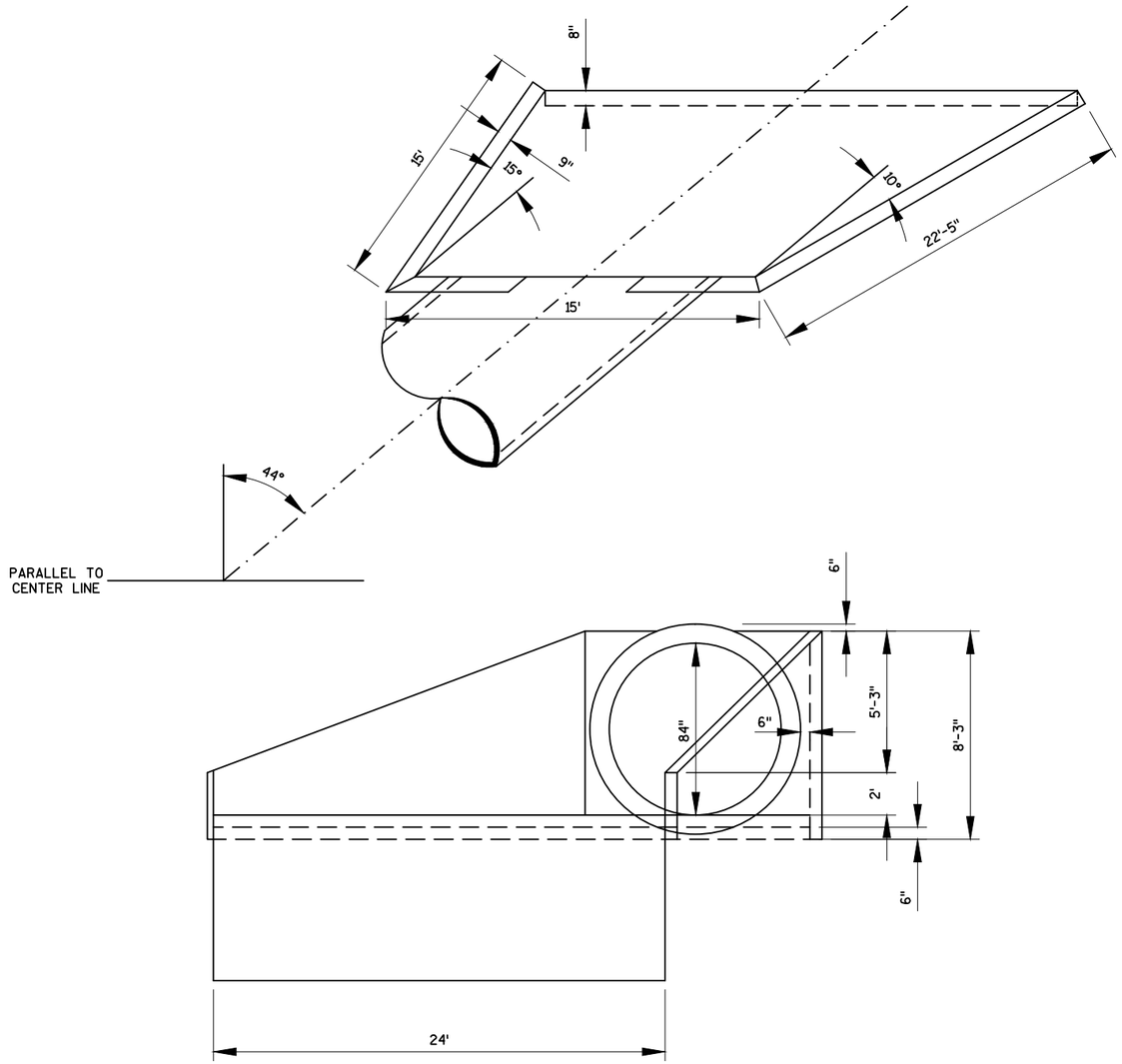




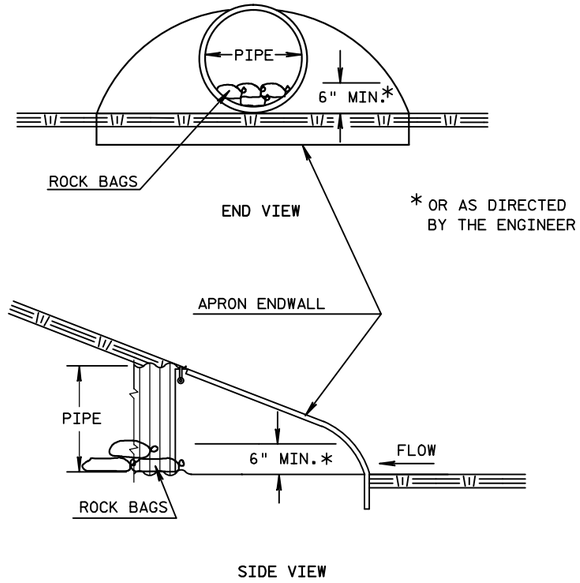
NOTE:
ANY ADDITIONAL BASE AGG. DENSE REQ'D. SHALL BE PAID
UNDER ITEM - "BASE AGGREGATE DENSE 3/4-INCH"

RURAL DRIVEWAY DETAIL - ASPHALT

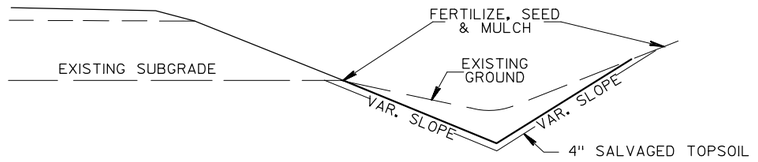
2



CONCRETE MASONRY ENDWALLS
OUTLET STA. 249+54



CULVERT PIPE CHECK



DITCH CLEANING DETAIL

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN: CONSTRUCTION DETAILS	SHEET 10	E

2

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

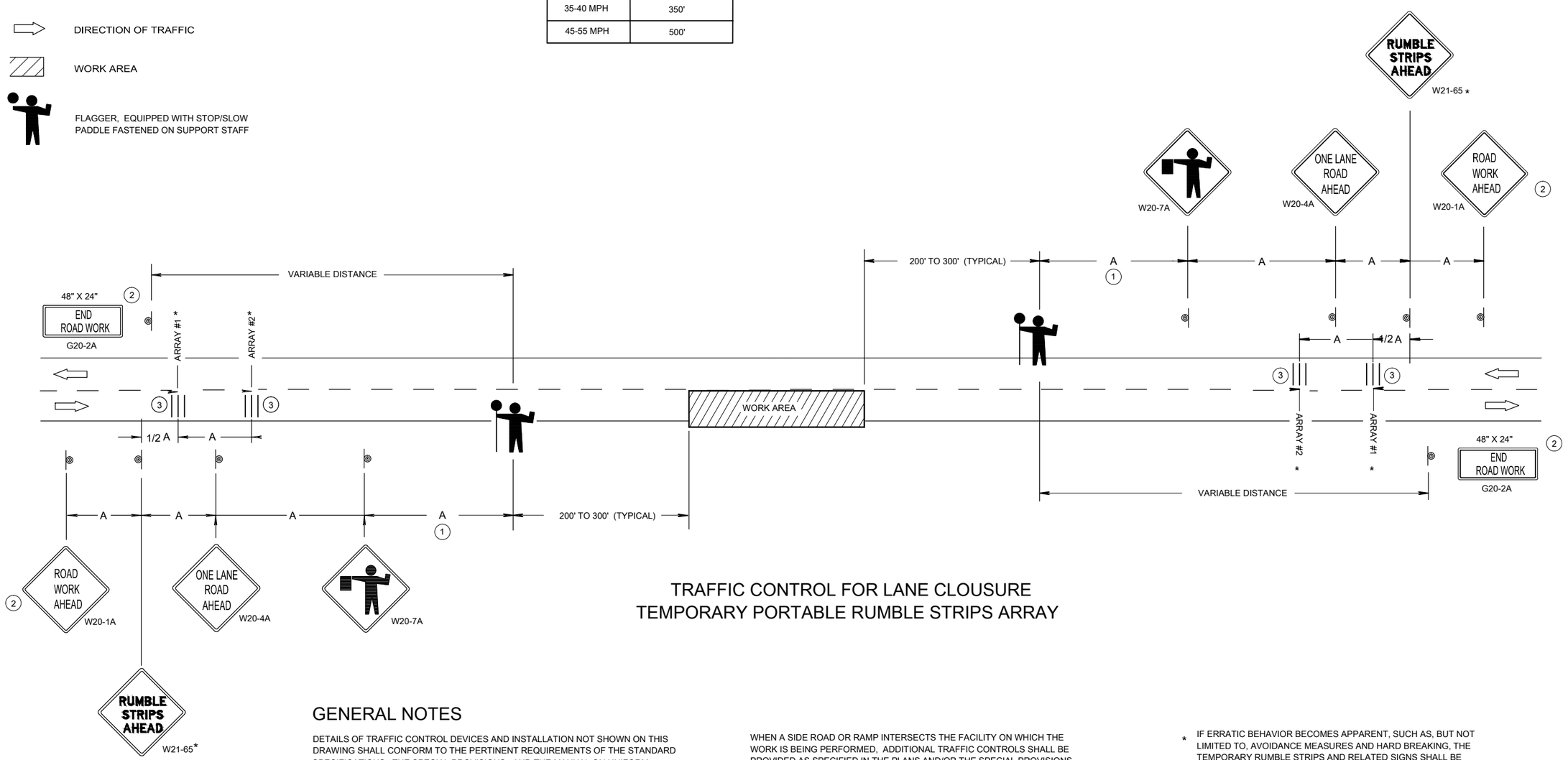
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

WO3-4

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



TRAFFIC CONTROL FOR LANE CLOUSURE
TEMPORARY PORTABLE RUMBLE STRIPS ARRAY

GENERAL NOTES

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

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

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

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

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

* IF ERRATIC BEHAVIOR BECOMES APPARENT, SUCH AS, BUT NOT LIMITED TO, AVOIDANCE MEASURES AND HARD BREAKING, THE TEMPORARY RUMBLE STRIPS AND RELATED SIGNS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

(3) EACH RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED 8 - 10 FEET CENTER TO CENTER, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

2

℄ STH 72 STA 41+36.22
℄ CTH DD STA 4+50A

PC: 33+19.87
PI: 36+62.32
PRC: 40+04.72
PRC: 48+35.83
PRC: 48+35.83
PI: 52+15.71
PT: 55+95.32
PI: 44+20.46

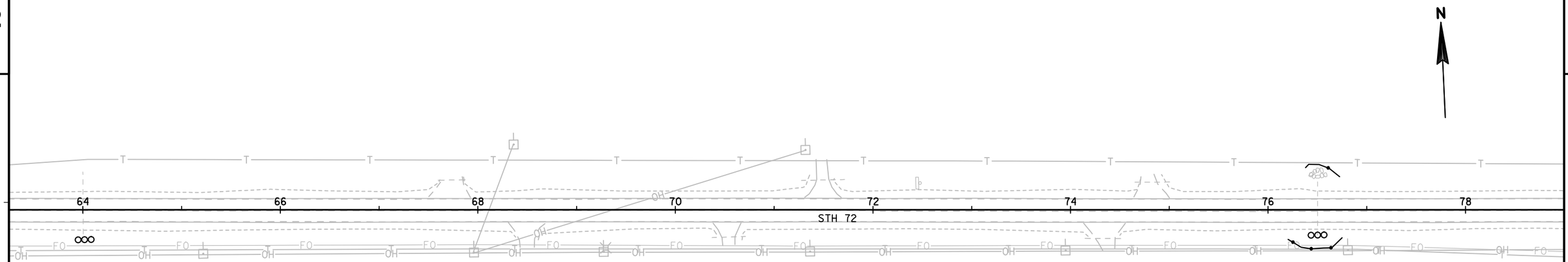
STH 72
CTH DD

N

TEMPORARY DITCH CHECKS
CULVERT PIPE CHECKS
SILT FENCE

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	EROSION CONTROL PLAN	SHEET 12	E

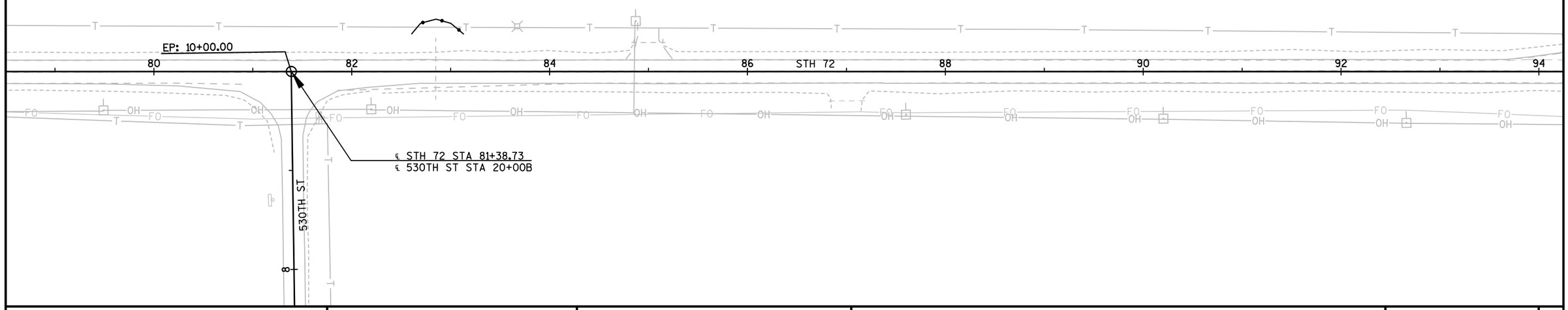
2



TEMPORARY DITCH CHECKS

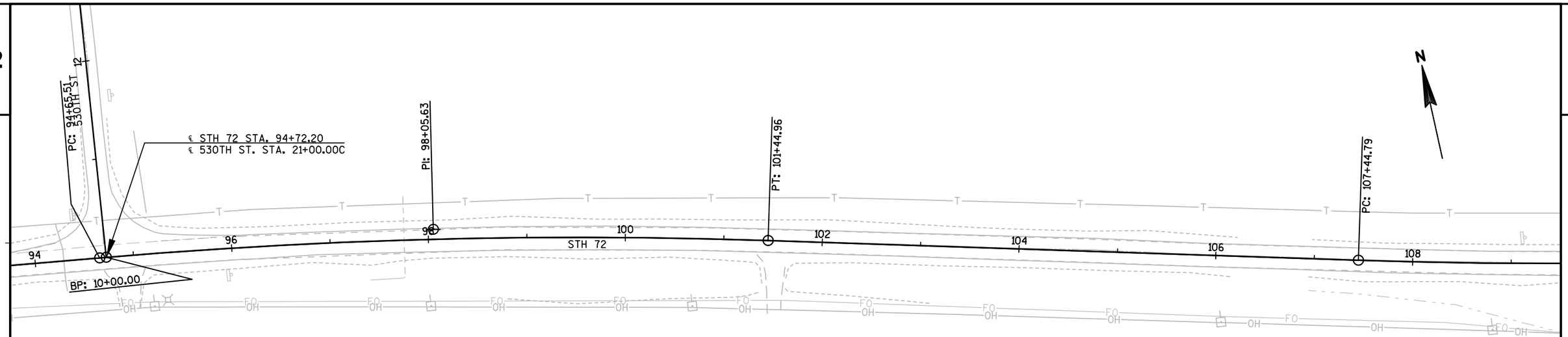
CULVERT PIPE CHECKS

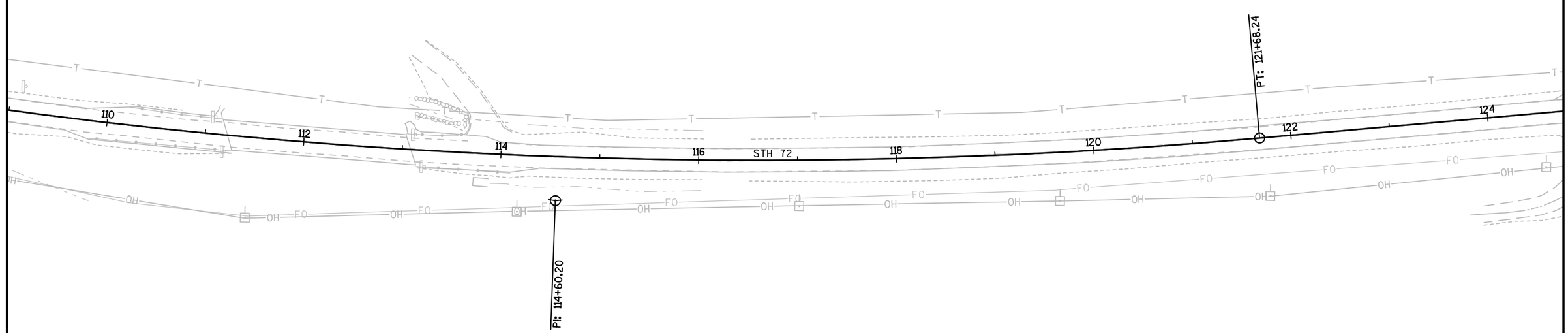
SILT FENCE



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	EROSION CONTROL PLAN	SHEET 13	E

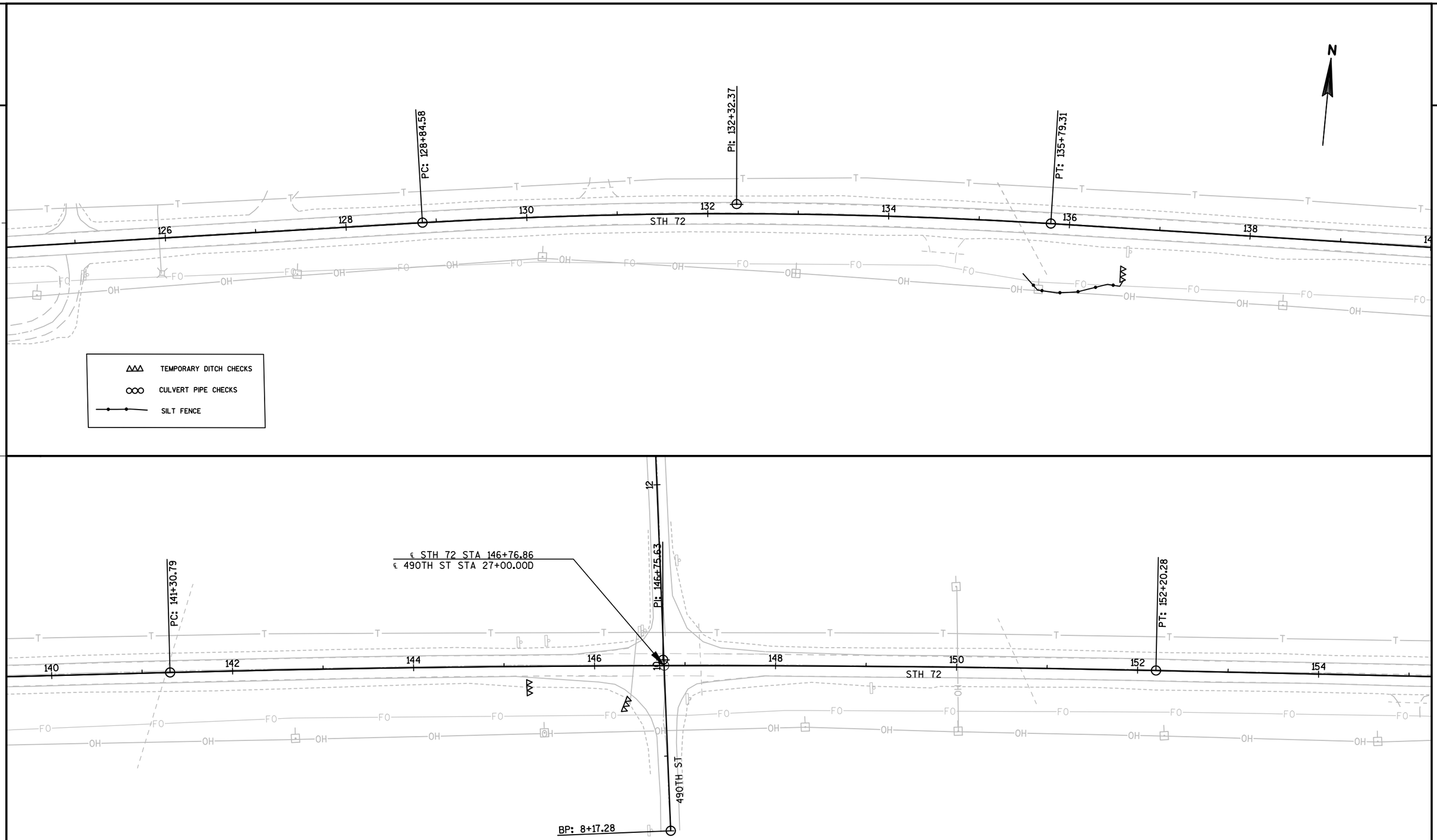
2





PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	EROSION CONTROL PLAN	SHEET 14	E

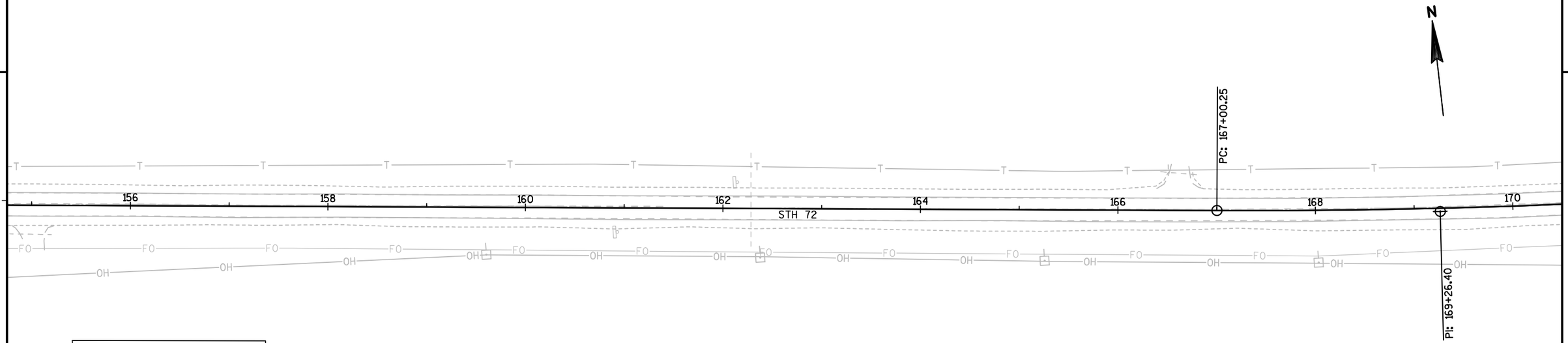
2

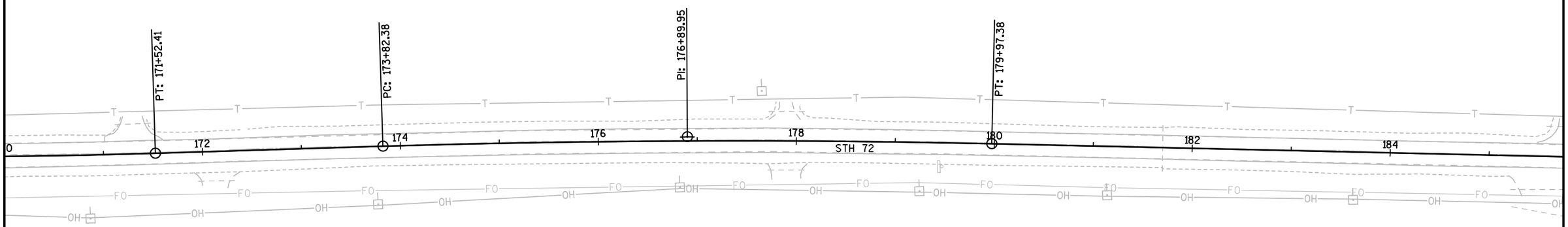


PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	EROSION CONTROL PLAN	SHEET 15	E

FILE NAME : F:\DRAWINGS\2012-134\0008\71050631\SHEETSPLAN\022001_EC.DWG PLOT DATE : 2/17/2016 10:06 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

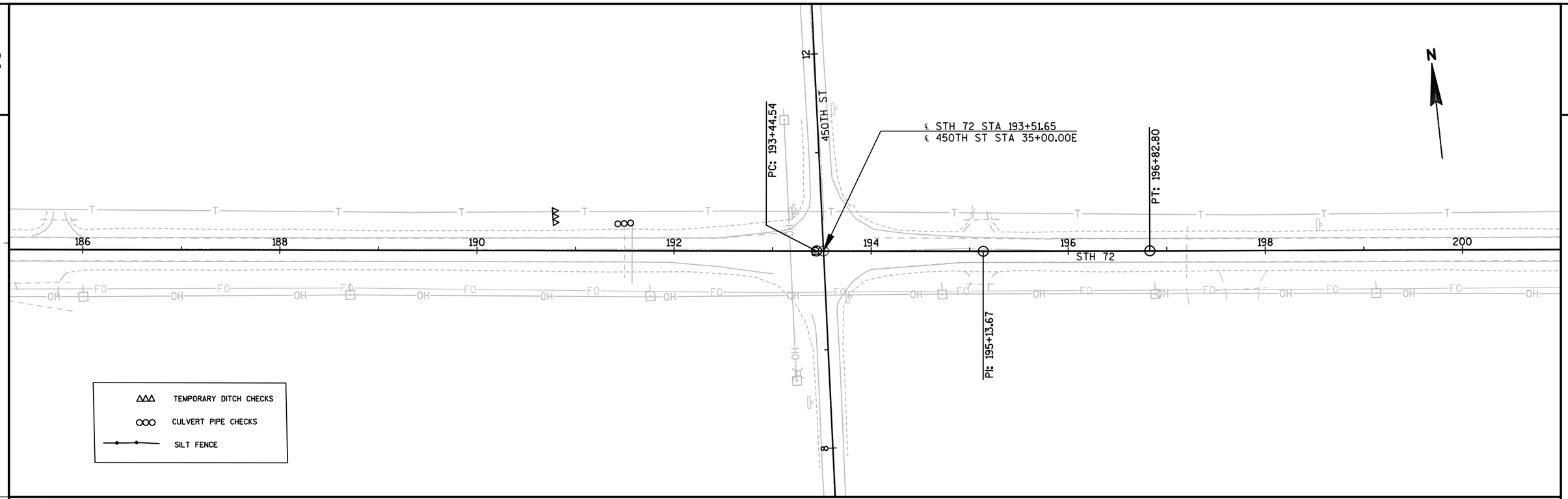
2





PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	EROSION CONTROL PLAN	SHEET 16	E

2



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	EROSION CONTROL PLAN	SHEET 17	E

2

2

N

EP: 10+00.00

216 218 220 222 224 226 228 230

STH 72

℄ STH 72 STA 219+77.00
℄ 430TH ST STA 42+00.00F

TEMPORARY DITCH CHECKS
CULVERT PIPE CHECKS
SILT FENCE

430TH ST

℄ STH 72 STA 243+88.53
℄ 410TH ST STA 45+00.00G

PC: 233+54.39

232 234 236 238 240 242 244 246

STH 72

EP: 10+00.00

PT: 9+60.02

PC: 9+33.82

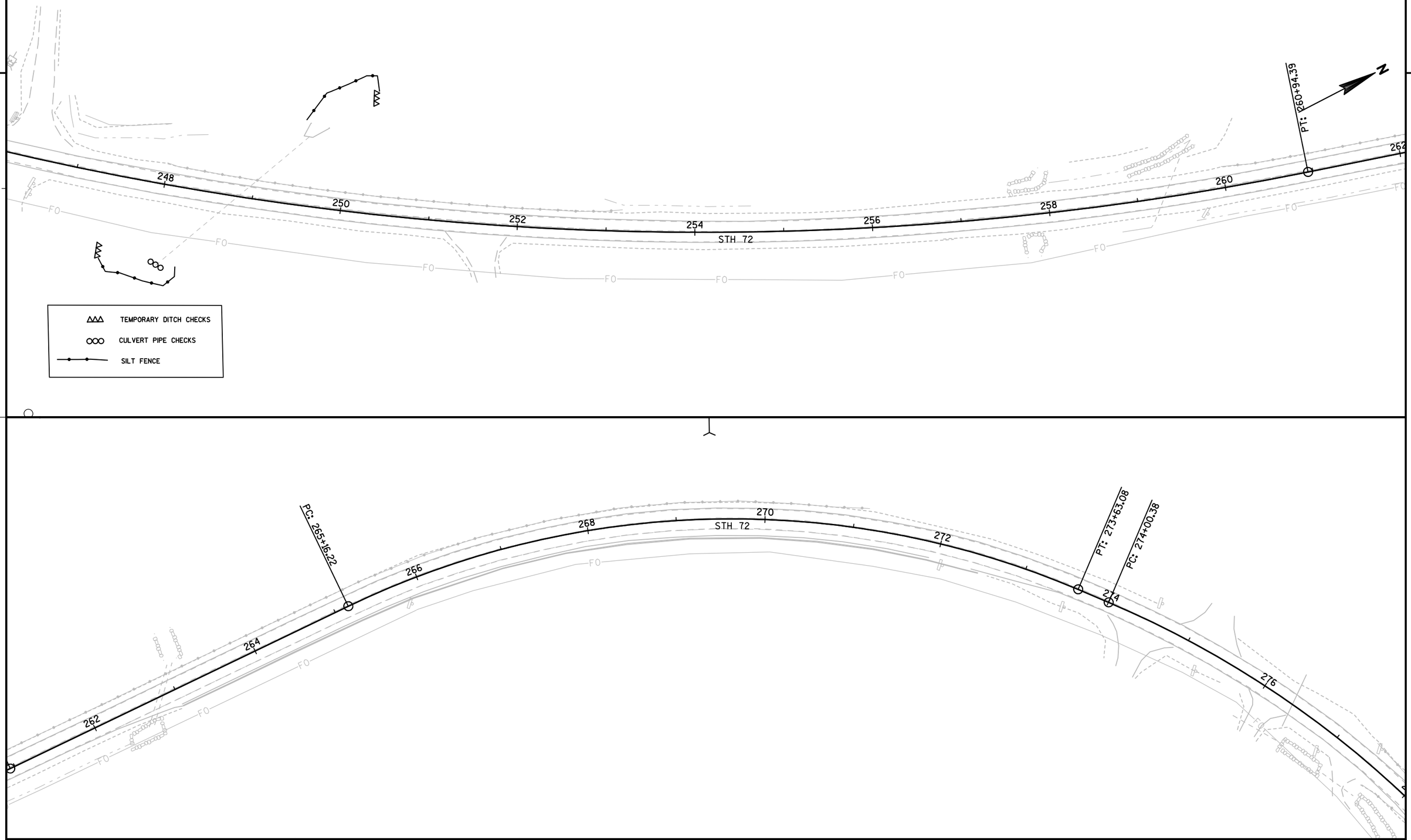
410TH ST

PT: 8+26.81

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	EROSION CONTROL PLAN	SHEET	E

FILE NAME : F:\DRAWINGS\2012-134\0008\71050631\SHEETSPLAN\022001_EC.DWG PLOT DATE : 2/17/2016 10:06 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

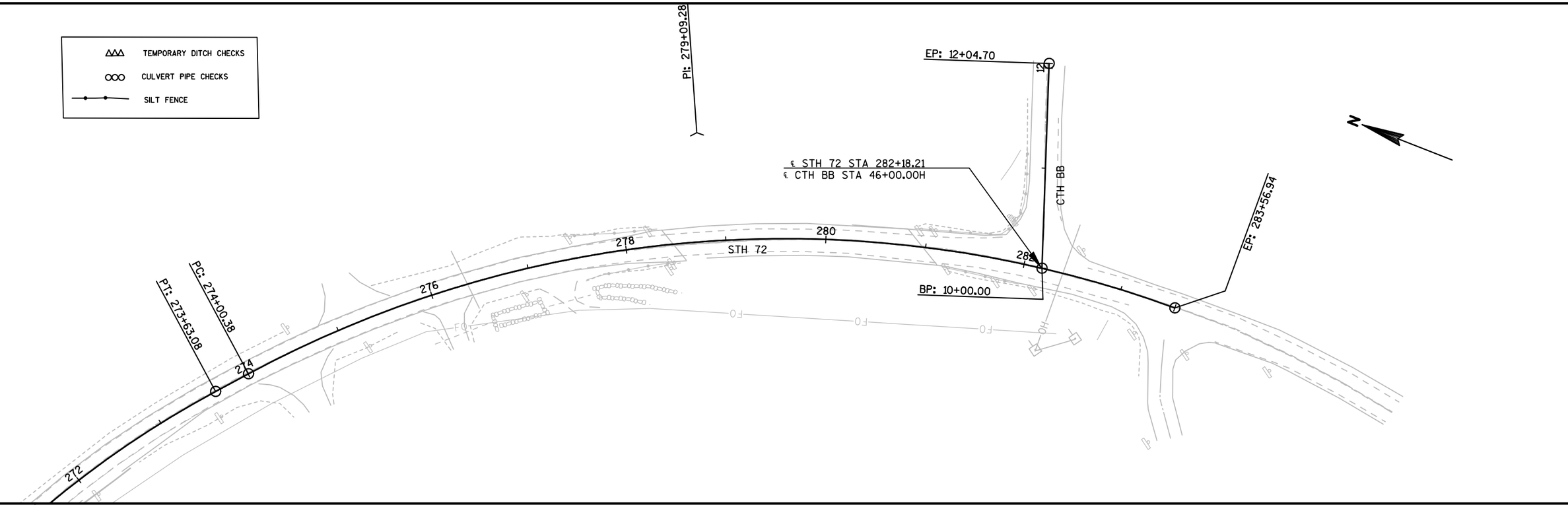


PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	EROSION CONTROL PLAN	SHEET 19	E

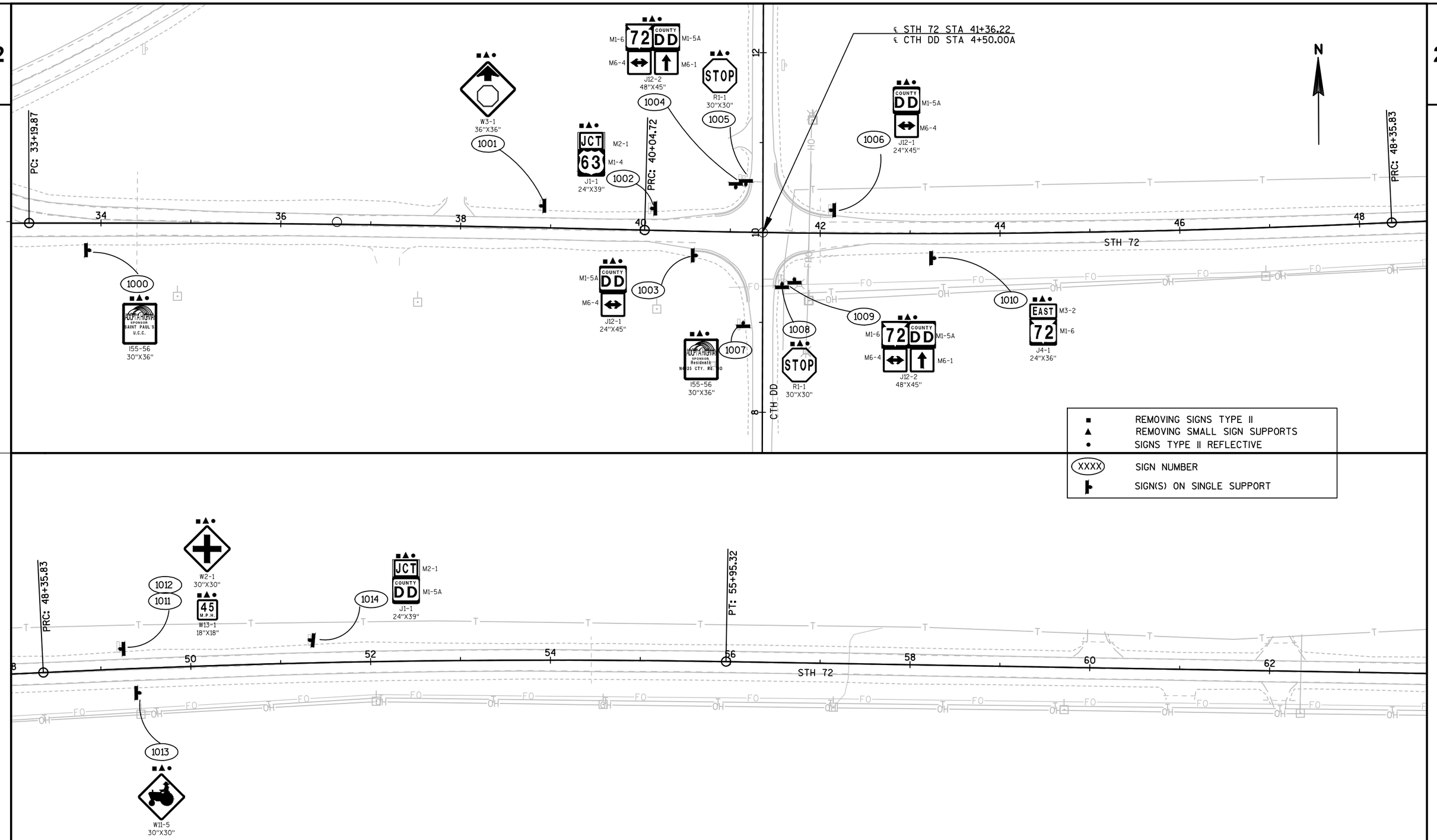
FILE NAME : F:\DRAWINGS\2012-134\0008\71050631\SHEETSPLAN\022001_EC.DWG PLOT DATE : 2/17/2016 10:06 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	EROSION CONTROL PLAN	SHEET 20	E

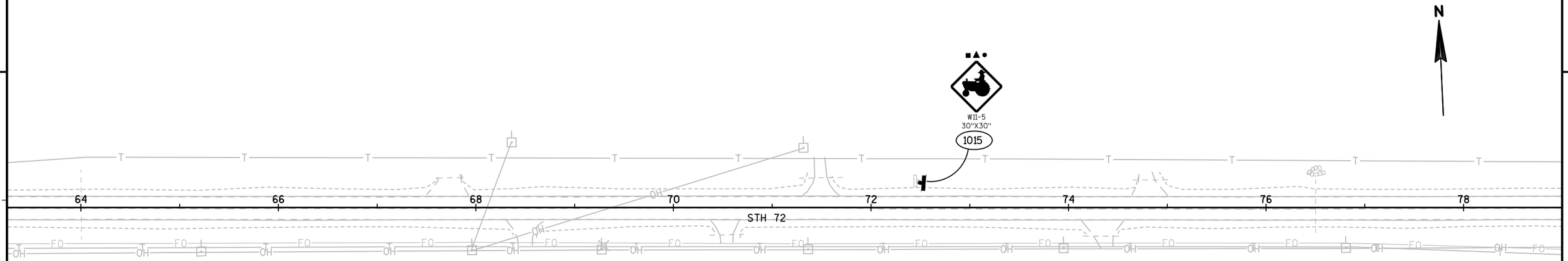


- ■ REMOVING SIGNS TYPE II
- ▲ REMOVING SMALL SIGN SUPPORTS
- ● SIGNS TYPE II REFLECTIVE
- (XXXX) SIGN NUMBER
- SIGN(S) ON SINGLE SUPPORT

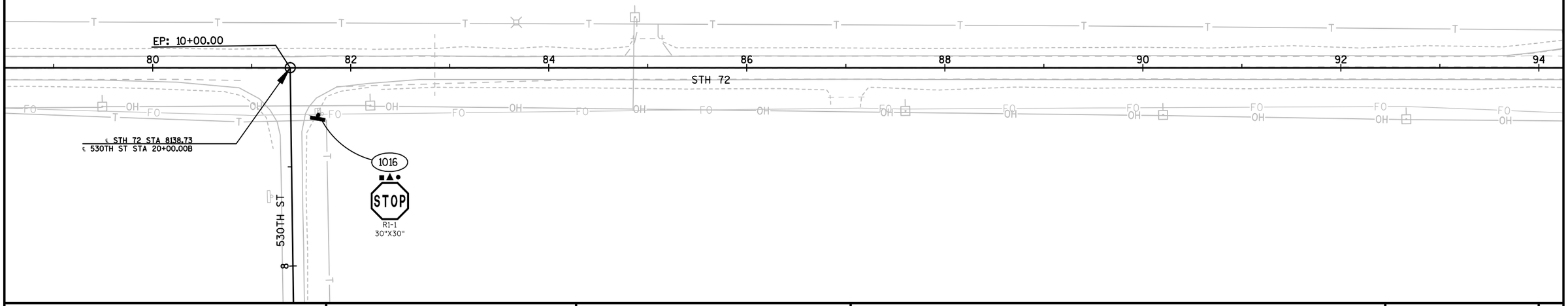
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING PLAN	SHEET	E

FILE NAME : F:\DRAWINGS\2012-134\0008\71050631\SHEETSPLAN\023201_PS.DWG PLOT DATE : 2/17/2016 10:07 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

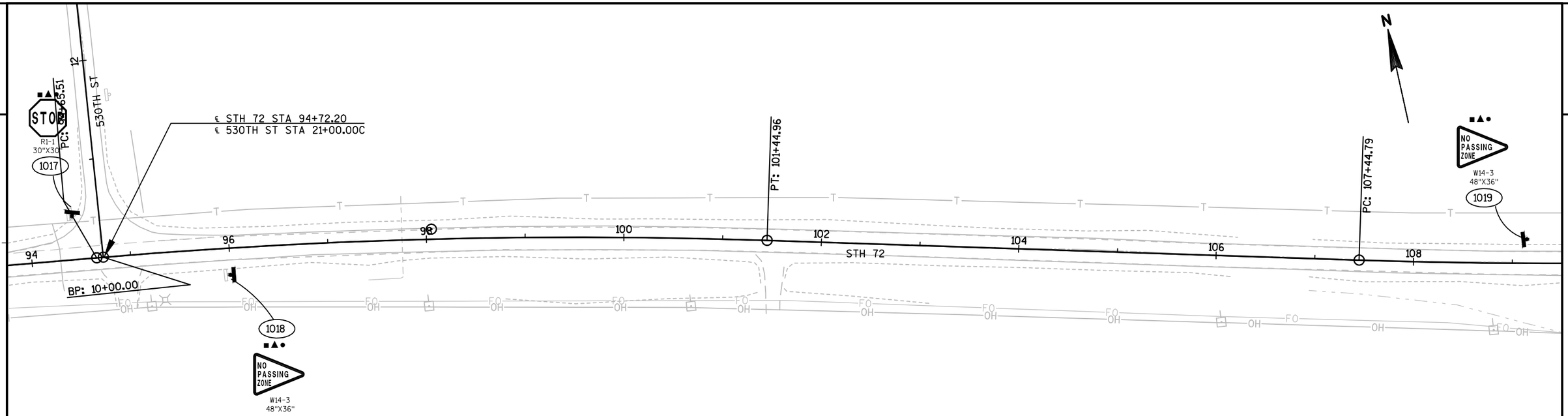


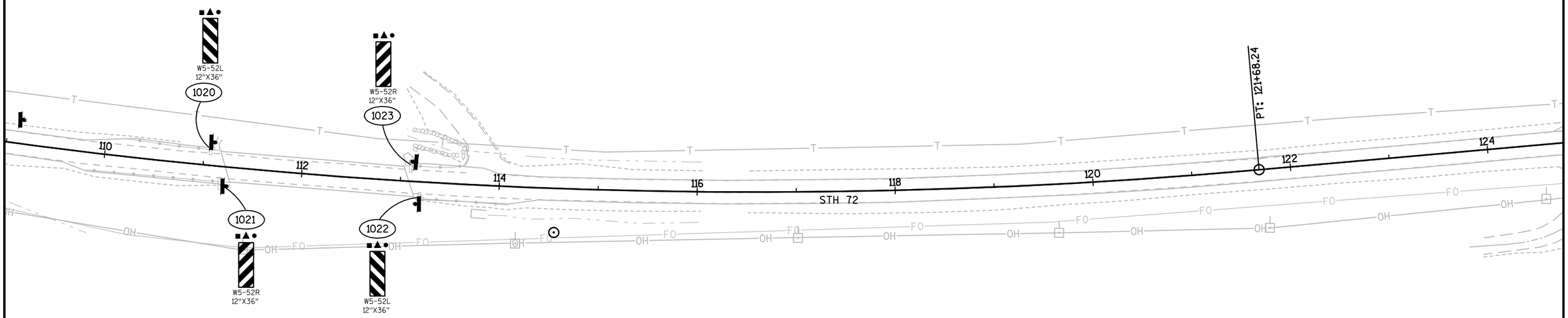
- ■ REMOVING SIGNS TYPE II
- ▲ REMOVING SMALL SIGN SUPPORTS
- ● SIGNS TYPE II REFLECTIVE
- (XXXX) SIGN NUMBER
- SIGN(S) ON SINGLE SUPPORT



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING PLAN	SHEET 22	E

2





■ REMOVING SIGNS TYPE II
▲ REMOVING SMALL SIGN SUPPORTS
● SIGNS TYPE II REFLECTIVE

(XXXX) SIGN NUMBER

SIGN(S) ON SINGLE SUPPORT

NOTE: NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED.
THE NUMBER AND LOCATION TO BE APPROVED BY THE ENGINEER.

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING PLAN	SHEET 23	E

FILE NAME : F:\DRAWINGS\2012-134\0008\71050631\SHEETSPLAN\023201_PS.DWG PLOT DATE : 2/17/2016 10:08 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N

PC: 128+84.58

PT: 135+79.31

126 128 130 132 134 136 138

STH 72

1024
STOP
R1-1
30"X30"

1025
NO PASSING ZONE
W14-3
48"X36"

- ■ REMOVING SIGNS TYPE II
- ▲ REMOVING SMALL SIGN SUPPORTS
- ● SIGNS TYPE II REFLECTIVE
- (XXXX) SIGN NUMBER
- SIGN(S) ON SINGLE SUPPORT

12

490TH ST

1026
NO PASSING ZONE
W14-3
48"X36"

1027
SPONSOR SAINT PAUL'S U.C.C.
I55-56
30"X36"

1028
STOP
R1-1
30"X30"

℄ STH 72 STA 146+76.86
℄ 490TH ST STA 27+00.00D

PC: 141+30.79

PT: 152+20.28

140 142 144 146 148 150 152 154

STH 72

1029
STOP
R1-1
30"X30"

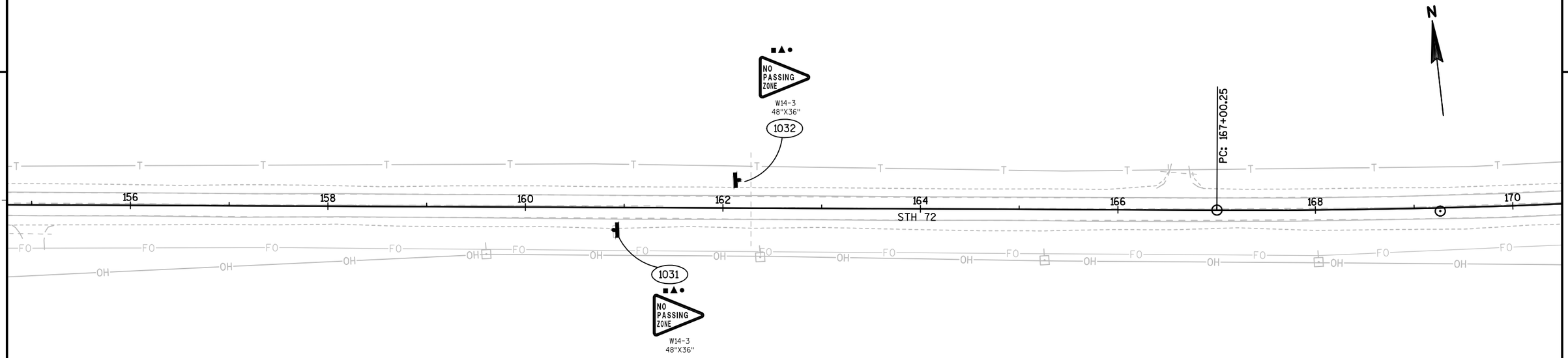
1030
SPONSOR BUCKY'S BAGGERS
I55-56
30"X36"

BP: 8+17.28

NOTE: NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED.
THE NUMBER AND LOCATION TO BE APPROVED BY THE ENGINEER.

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING PLAN	SHEET 24	E

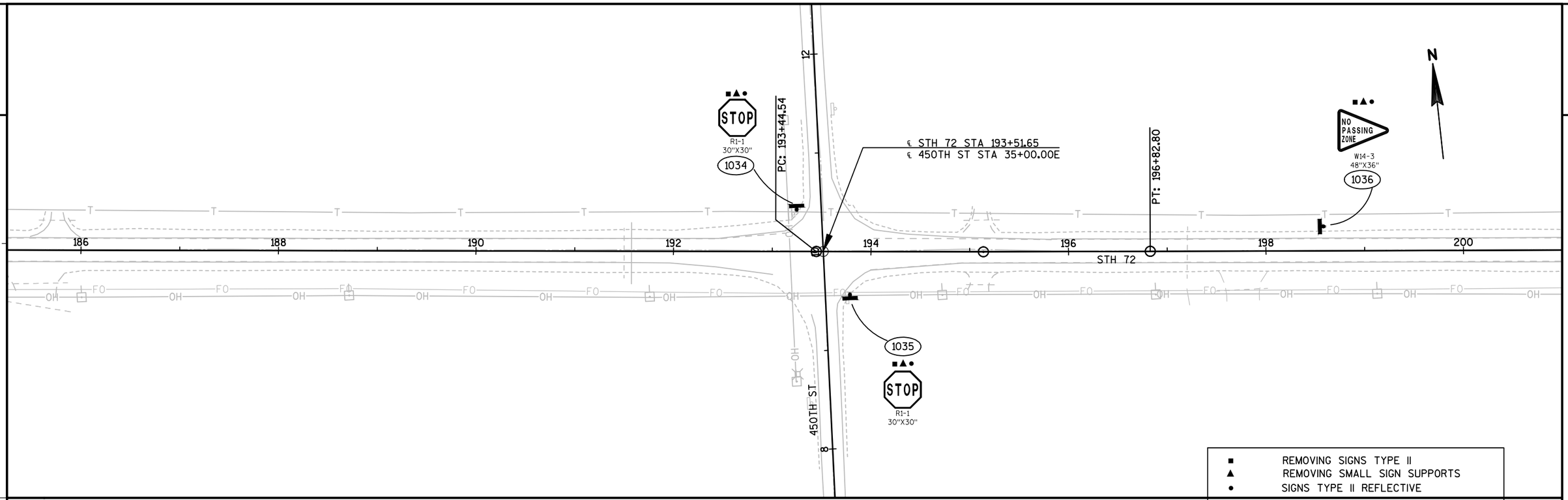
2



■ REMOVING SIGNS TYPE II
▲ REMOVING SMALL SIGN SUPPORTS
● SIGNS TYPE II REFLECTIVE
(XXXX) SIGN NUMBER
SIGN(S) ON SINGLE SUPPORT

NOTE: NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED.
THE NUMBER AND LOCATION TO BE APPROVED BY THE ENGINEER.

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING PLAN	SHEET 25	E



■ REMOVING SIGNS TYPE II
▲ REMOVING SMALL SIGN SUPPORTS
● SIGNS TYPE II REFLECTIVE

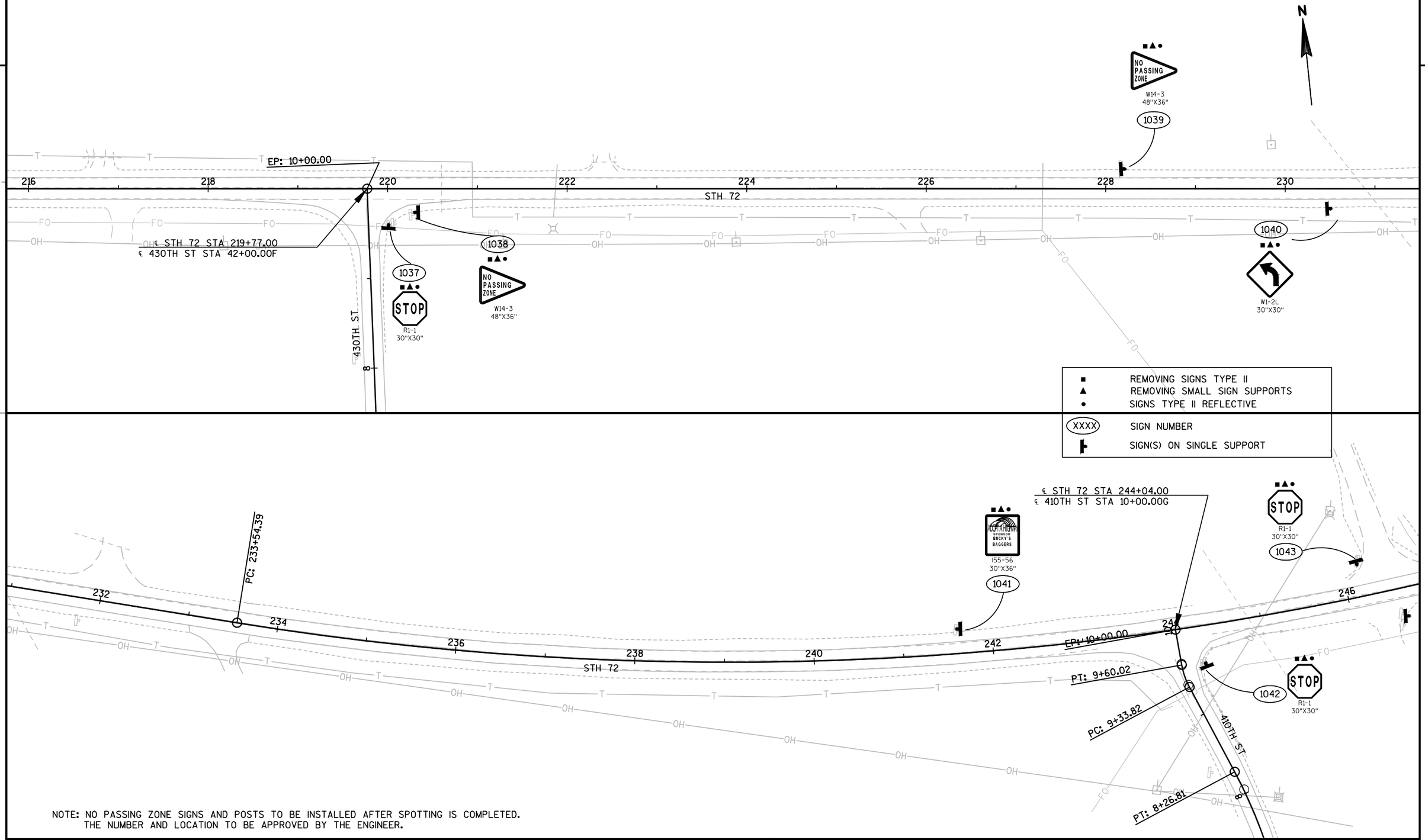
(XXXX) SIGN NUMBER

SIGN(S) ON SINGLE SUPPORT

NOTE: NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED.
THE NUMBER AND LOCATION TO BE APPROVED BY THE ENGINEER.

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING PLAN	SHEET 26	E

2

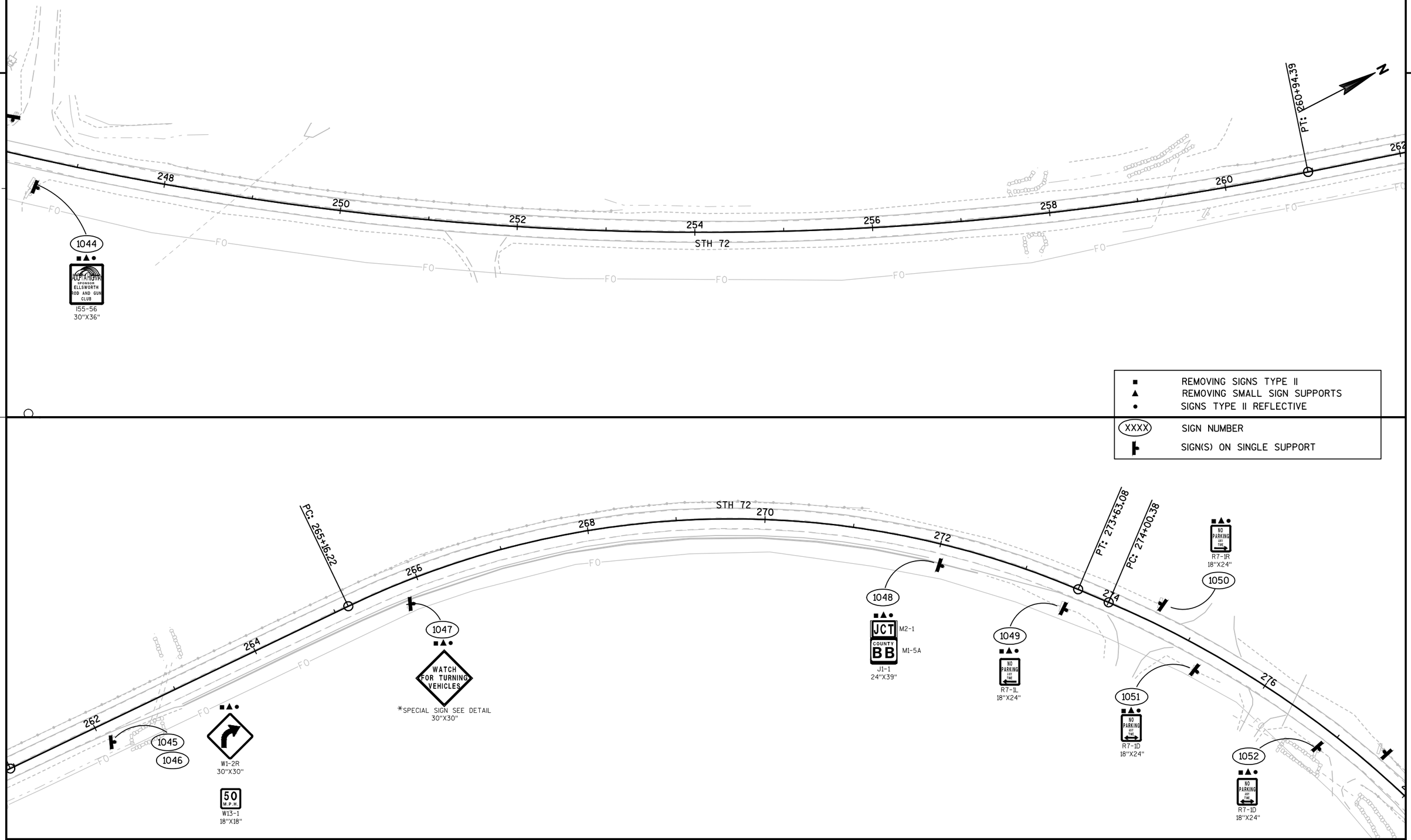


NOTE: NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED.
THE NUMBER AND LOCATION TO BE APPROVED BY THE ENGINEER.

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING PLAN	SHEET 27	E

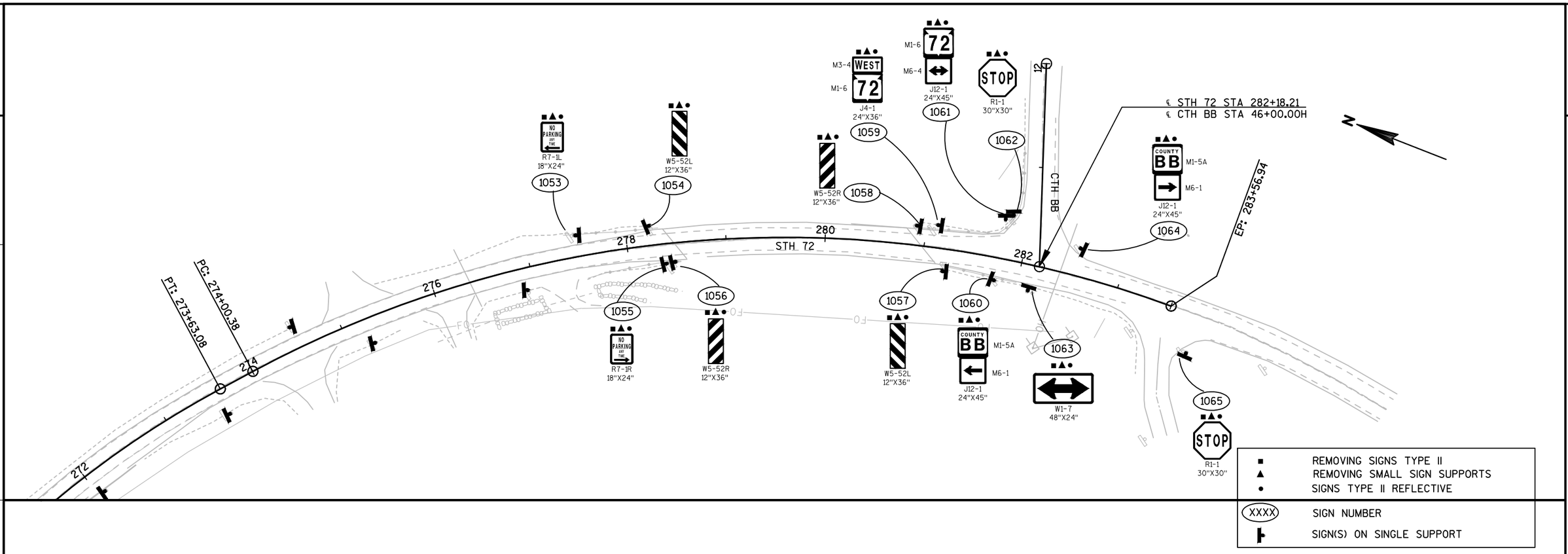
FILE NAME : F:\DRAWINGS\2012-134\0008\71050631\SHEETSPLAN\023201_PS.DWG PLOT DATE : 2/17/2016 10:08 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



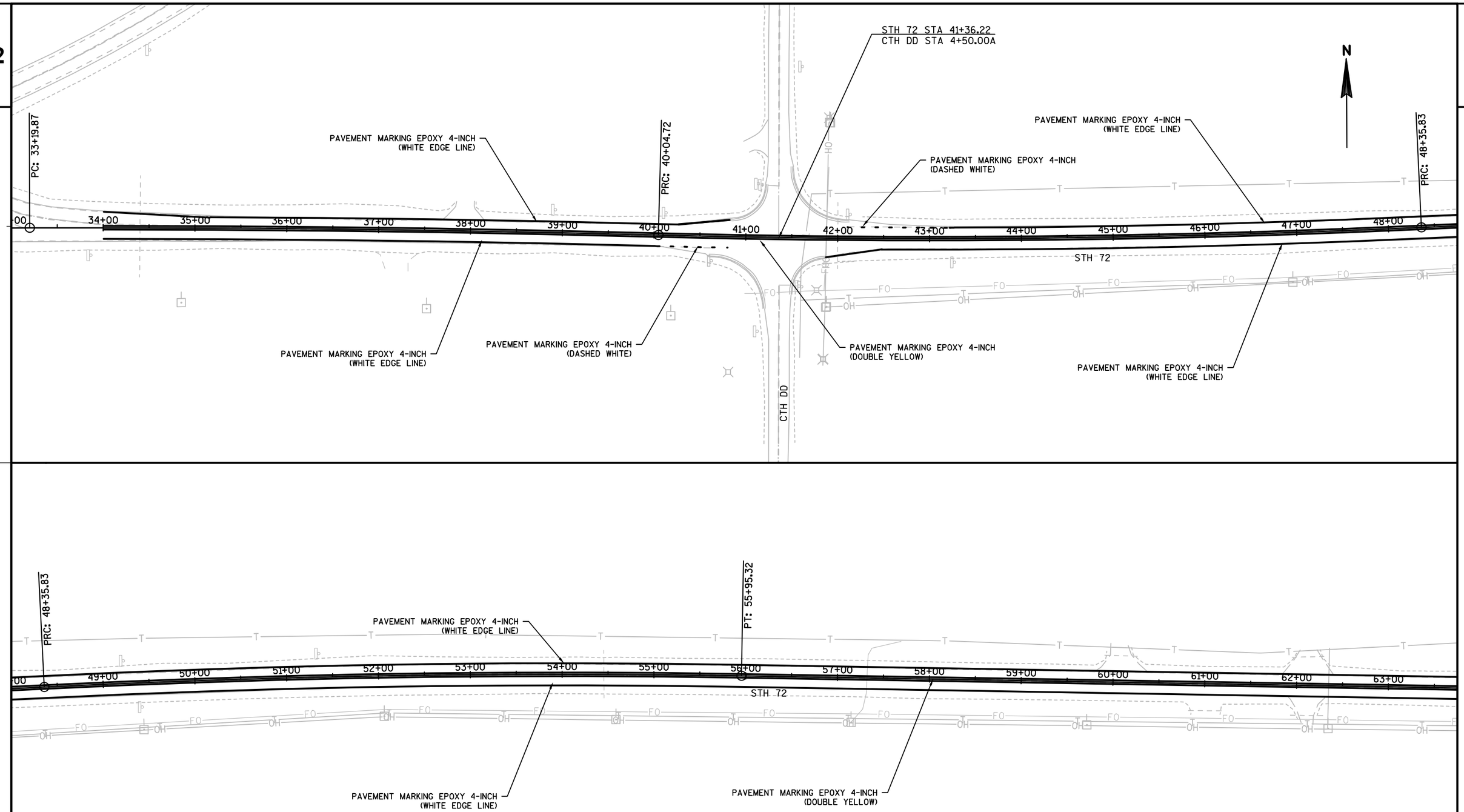
- ■ REMOVING SIGNS TYPE II
- ▲ REMOVING SMALL SIGN SUPPORTS
- ● SIGNS TYPE II REFLECTIVE
- (XXXX) SIGN NUMBER
- SIGN(S) ON SINGLE SUPPORT

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING PLAN	SHEET 28	E



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING PLAN	SHEET 29	E

FILE NAME : F:\DRAWINGS\2012-134\0008\71050631\SHEETSPLAN\023201_PS.DWG PLOT DATE : 2/17/2016 10:09 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING PLAN	SHEET 30	E

2

N

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PAVEMENT MARKING EPOXY 4-INCH
(DOUBLE YELLOW)

64+00 65+00 66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00 75+00 76+00 77+00 78+00 79+

STH 72

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PAVEMENT MARKING EPOXY 4-INCH
(DASHED WHITE)

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PAVEMENT MARKING EPOXY 4-INCH
(DOUBLE YELLOW)

PAVEMENT MARKING EPOXY 4-INCH
(SOLID YELLOW EB, DASHED YELLOW WB)

79+00 80+00 81+00 82+00 83+00 84+00 85+00 86+00 87+00 88+00 89+00 90+00 91+00 92+00 93+00 94+00

STH 72

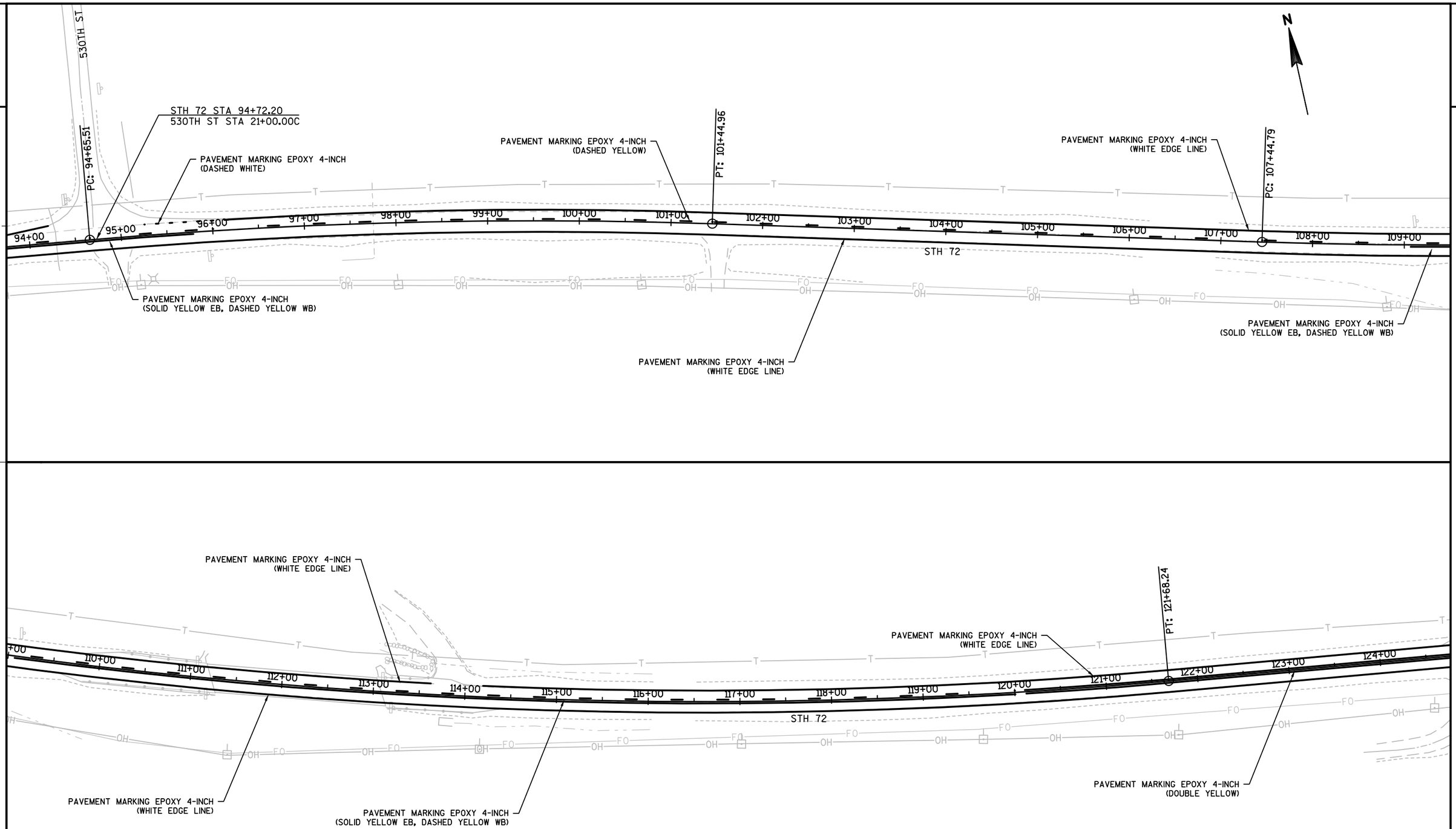
STH 72 STA 81+38.73
530TH ST STA 20+00.00B

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

530TH ST

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING PLAN	SHEET 31	E



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING PLAN	SHEET 32	E

2

N

PAVEMENT MARKING EPOXY 4-INCH
(DOUBLE YELLOW)

PC: 128+84.58

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PT: 135+79.31

PAVEMENT MARKING EPOXY 4-INCH
(DASHED YELLOW)

125+00 126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140

STH 72

PAVEMENT MARKING EPOXY 4-INCH
(SOLID YELLOW WB, DASHED YELLOW EB)

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

490TH ST

STH 72 STA 146+76.86
490TH ST STA 27+00.00D

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PC: 141+30.79

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PT: 152+20.28

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00

STH 72

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PAVEMENT MARKING EPOXY 4-INCH
(DASHED YELLOW)

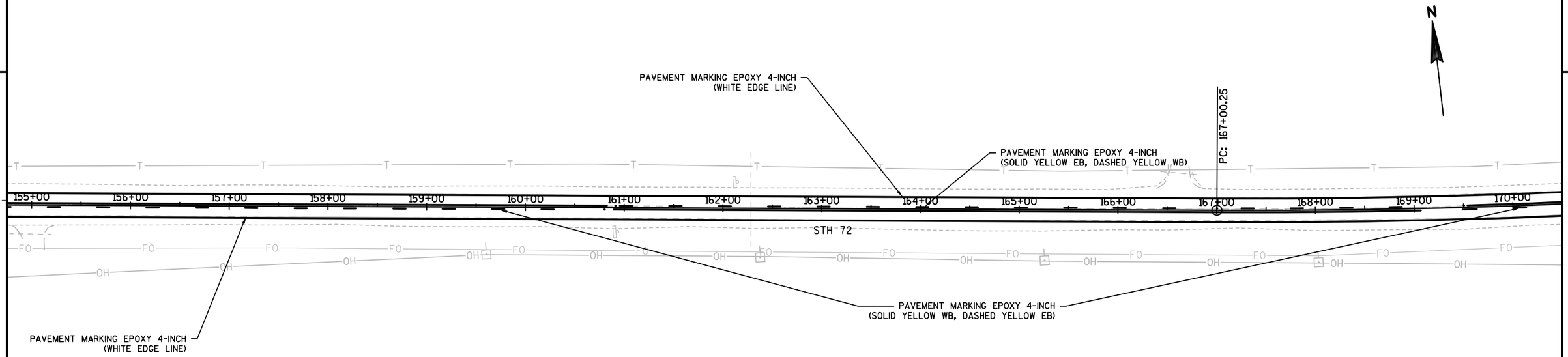
PAVEMENT MARKING EPOXY 4-INCH
(SOLID YELLOW EB, DASHED YELLOW WB)

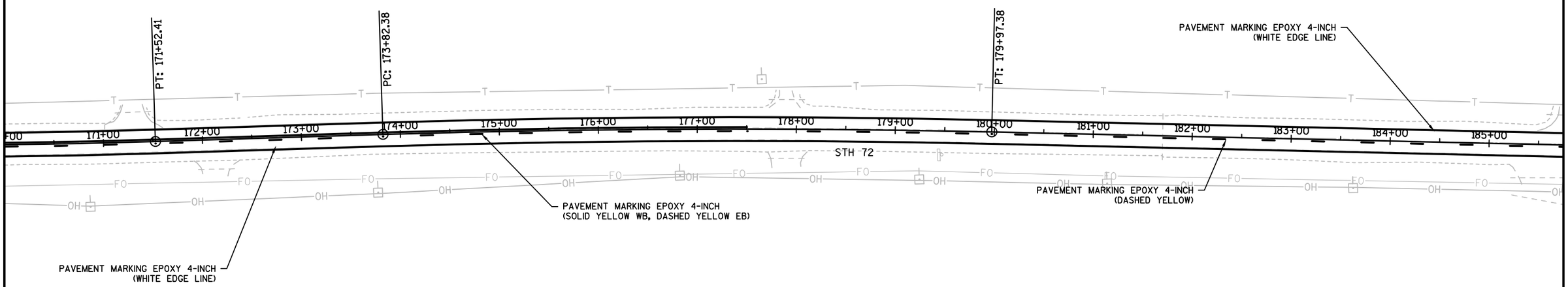
PAVEMENT MARKING EPOXY 4-INCH
(SOLID YELLOW WB, DASHED YELLOW EB)

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING PLAN	SHEET 33	E

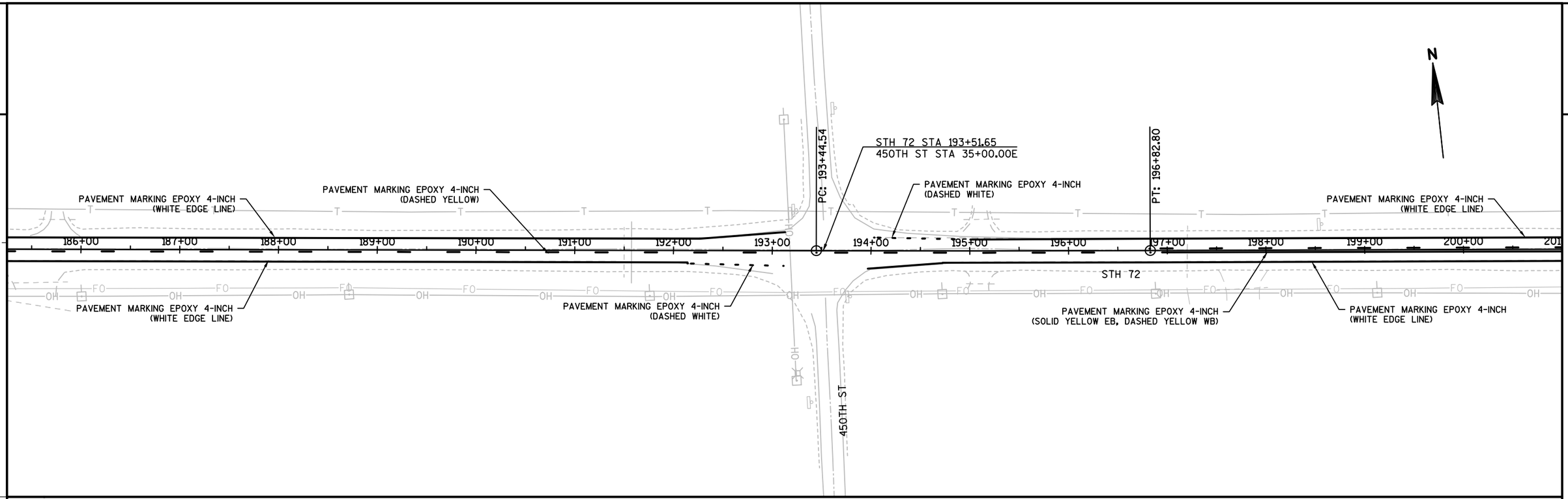
2





PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING PLAN	SHEET 34	E

2



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING PLAN	SHEET 35	E

FILE NAME : F:\PROJECTS\2012-134\0008\DRAWINGS\71050631\SHEETSPLAN\024501_PM.DWG PLOT DATE : 2/17/2016 10:10 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

N

PAVEMENT MARKING EPOXY 4-INCH
(SOLID YELLOW WB, DASHED YELLOW EB)

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PAVEMENT MARKING EPOXY 4-INCH
(SOLID YELLOW EB, DASHED YELLOW WB)

216+00 217+00 218+00 219+00 220+00 221+00 222+00 223+00 224+00 225+00 226+00 227+00 228+00 229+00 230+00 231+00

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PAVEMENT MARKING EPOXY 4-INCH
(DASHED WHITE)

STH 72 STA 219+77.00
430TH ST STA 42+00.00F

430TH ST

STH 72

PAVEMENT MARKING EPOXY 4-INCH
(DASHED YELLOW)

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

PAVEMENT MARKING EPOXY 4-INCH
(SOLID YELLOW EB, DASHED YELLOW WB)

PC: 233+54.39

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

232+00 233+00 234+00 235+00 236+00 237+00 238+00 239+00 240+00 241+00 242+00 243+00 244+00 245+00 246+00

PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

STH 72

PAVEMENT MARKING EPOXY 4-INCH
(DASHED WHITE)

STH 72 STA 244+04.00
410TH ST STA 10+00.00G

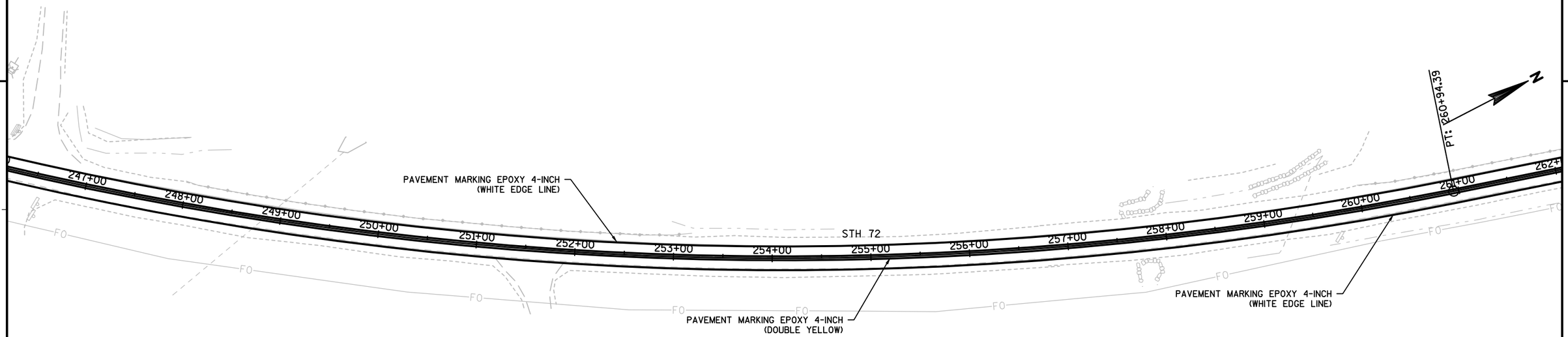
PAVEMENT MARKING EPOXY 4-INCH
(DOUBLE YELLOW)

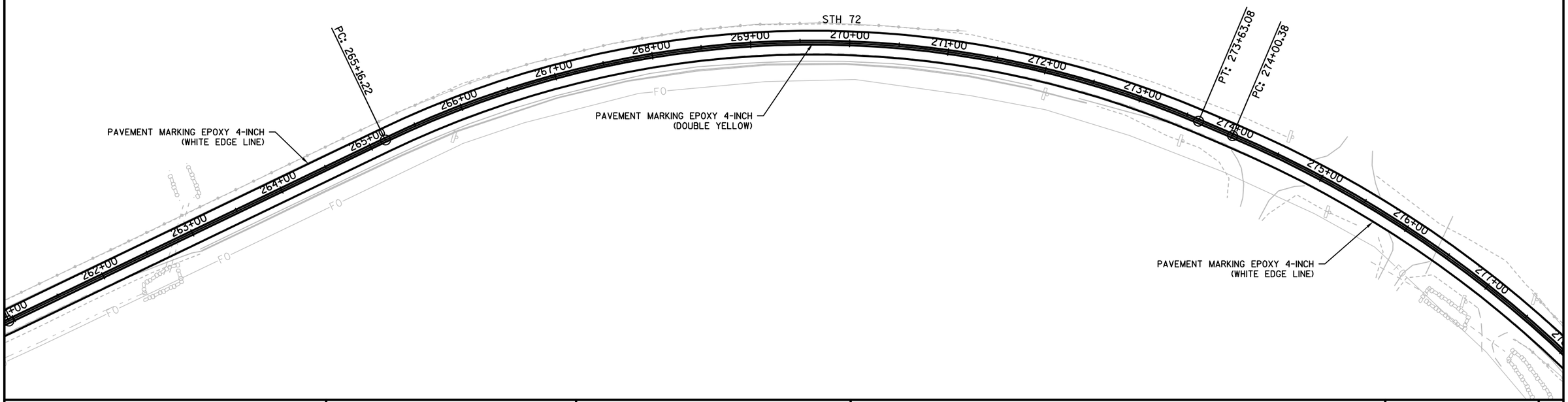
PAVEMENT MARKING EPOXY 4-INCH
(WHITE EDGE LINE)

410TH ST

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING PLAN	SHEET 36	E

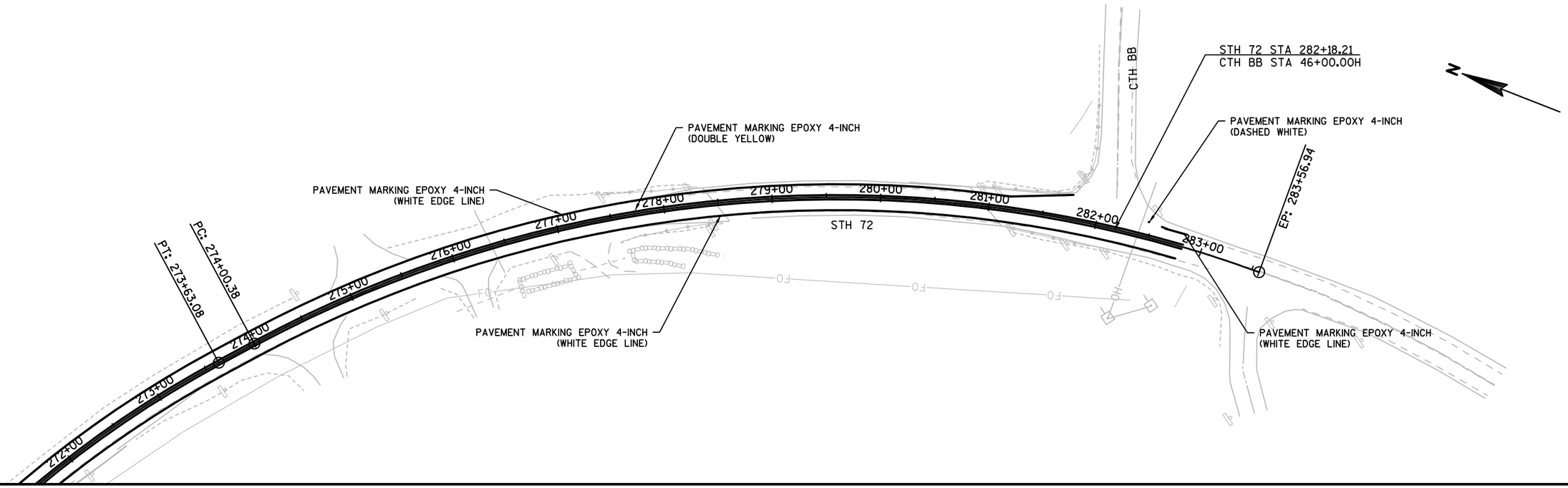
2





PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING PLAN	SHEET 37	E

FILE NAME : F:\PROJECTS\2012-134\0008\DRAWINGS\71050631\SHEETSPLAN\024501_PM.DWG PLOT DATE : 2/17/2016 10:10 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT



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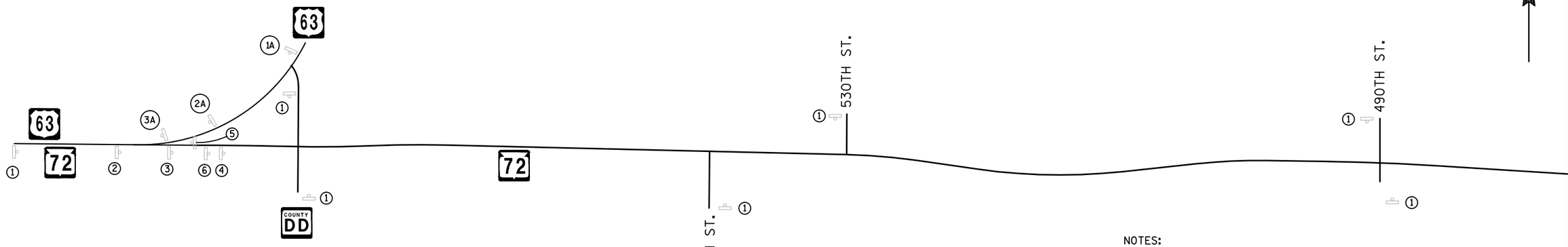
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING PLAN	SHEET 38	E



NOTES:

REFER TO SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR SIGN SPACING.

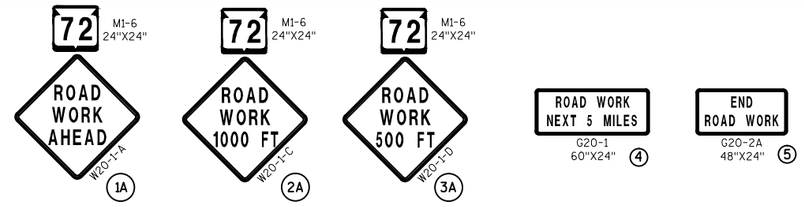
FOR TRAFFIC CONTROL SIGNING DURING MOVING OPERATIONS, SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)".

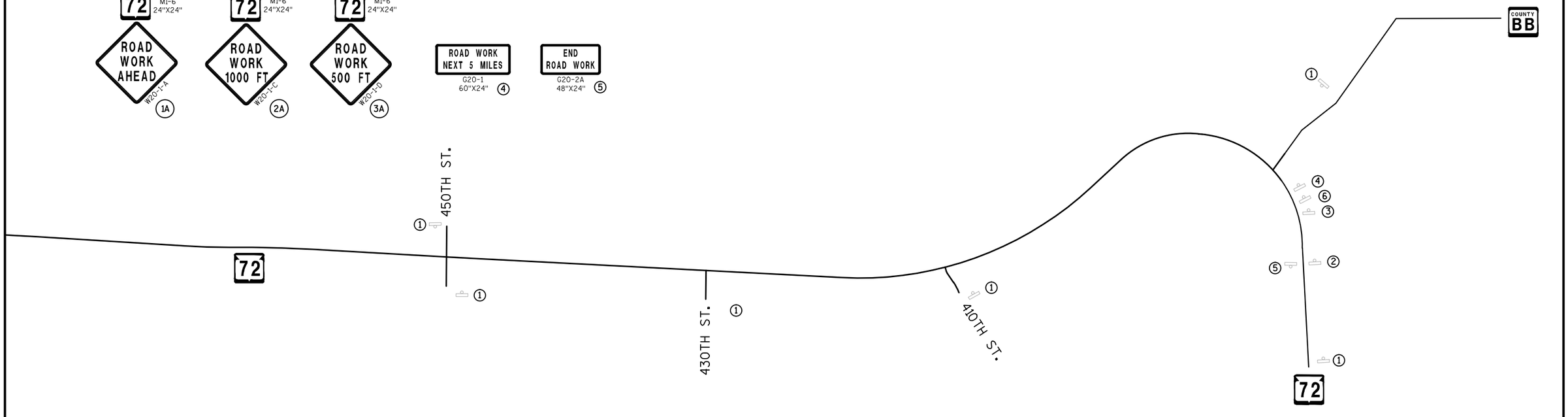
FOR TRAFFIC CONTROL SIGNING DURING SHOULDER WORK AT BEAMGUARD, SEE SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY".

ALL SIGNS ARE 48" X 48" UNLESS NOTED.

LOCAL ACCESS SHALL BE MAINTAINED AT ALL TIMES.

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





PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	TRAFFIC CONTROL	SHEET 39	E

DATE 22FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	7105-06-70 QUANTITY
0010	204.0115	Removing Asphaltic Surface Butt Joints	SY	1,150.000	1,150.000
0020	204.0120	Removing Asphaltic Surface Milling	SY	72,500.000	72,500.000
0030	204.0180	Removing Delineators and Markers	EACH	38.000	38.000
0040	204.0185	Removing Masonry	CY	18.000	18.000
0050	204.9060.S	Removing (item description) 01. Apron Endwalls	EACH	10.000	10.000
0060	205.0100	Excavation Common	CY	20.000	20.000
0070	213.0100	Finishing Roadway (project) 01. 7105-06-70	EACH	1.000	1.000
0080	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,330.000	1,330.000
0090	305.0500	Shaping Shoulders	STA	498.000	498.000
0100	440.4410	Incentive IRI Ride	DOL	18,520.000	18,520.000
0110	455.0605	Tack Coat	GAL	9,400.000	9,400.000
0120	460.2000	Incentive Density HMA Pavement	DOL	7,163.000	7,163.000
0130	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	24,885.000	24,885.000
0140	465.0105	Asphaltic Surface	TON	200.000	200.000
0150	465.0110	Asphaltic Surface Patching	TON	300.000	300.000
0160	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	65.000	65.000
0170	465.0315	Asphaltic Flumes	SY	45.000	45.000
0180	465.0475	Asphalt Center Line Rumble Strips 2-Lane Rural	LF	20,570.000	20,570.000
0190	504.0900	Concrete Masonry Endwalls	CY	10.000	10.000
0200	520.8700	Cleaning Culvert Pipes	EACH	2.000	2.000
0210	520.9700.S	Culvert Pipe Liners (size) 01. 24-inch	LF	70.000	70.000
0220	520.9700.S	Culvert Pipe Liners (size) 02. 36-inch	LF	110.000	110.000
0230	520.9750.S	Cleaning Culvert Pipes for Liner Verification	EACH	2.000	2.000
0240	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	6.000	6.000
0250	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	2.000	2.000
0260	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	2.000	2.000
0270	524.0636	Apron Endwalls for Culvert Pipe Salvaged 36-Inch	EACH	1.000	1.000
0280	606.0200	Riprap Medium	CY	34.000	34.000
0290	614.0010	Barrier System Grading Shaping Finishing	EACH	13.000	13.000
0300	614.0115	Anchorages for Steel Plate Beam Guard Type 2	EACH	2.000	2.000
0310	614.0200	Steel Thrie Beam Structure Approach	LF	78.800	78.800
0320	614.0305	Steel Plate Beam Guard Class A	LF	100.000	100.000
0330	614.0345	Steel Plate Beam Guard Short Radius	LF	62.500	62.500
0340	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	1.000	1.000
0350	614.0390	Steel Plate Beam Guard Short Radius Terminal	EACH	2.000	2.000
0360	614.0920	Salvaged Rail	LF	2,658.000	2,658.000
0370	614.2300	MGS Guardrail 3	LF	1,825.000	1,825.000
0380	614.2500	MGS Thrie Beam Transition	LF	236.400	236.400
0390	614.2610	MGS Guardrail Terminal EAT	EACH	10.000	10.000
0400	618.0100	Maintenance And Repair of Haul Roads (project) 01. 7105-06-70	EACH	1.000	1.000
0410	619.1000	Mobilization	EACH	1.000	1.000
0420	627.0200	Mulching	SY	300.000	300.000

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DATE 22FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	7105-06-70 QUANTITY
0430	628.1504	Silt Fence	LF	880.000	880.000
0440	628.1520	Silt Fence Maintenance	LF	880.000	880.000
0450	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0460	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0470	628.7504	Temporary Ditch Checks	LF	120.000	120.000
0480	628.7555	Culvert Pipe Checks	EACH	35.000	35.000
0490	629.0210	Fertilizer Type B	CWT	3.000	3.000
0500	630.0120	Seeding Mixture No. 20	LB	50.000	50.000
0510	633.5200	Markers Culvert End	EACH	38.000	38.000
0520	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	61.000	61.000
0530	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	4.000	4.000
0540	637.2210	Signs Type II Reflective H	SF	243.520	243.520
0550	637.2230	Signs Type II Reflective F	SF	134.000	134.000
0560	638.2602	Removing Signs Type II	EACH	66.000	66.000
0570	638.3000	Removing Small Sign Supports	EACH	64.000	64.000
0580	642.5001	Field Office Type B	EACH	1.000	1.000
0590	643.0100	Traffic Control (project) 01. 7105-06-70	EACH	1.000	1.000
0600	643.0900	Traffic Control Signs	DAY	1,560.000	1,560.000
0610	645.0120	Geotextile Fabric Type HR	SY	45.000	45.000
0620	646.0106	Pavement Marking Epoxy 4-Inch	LF	82,751.000	82,751.000
0630	646.0406	Pavement Marking Same Day Epoxy 4-Inch	LF	34,143.000	34,143.000
0640	648.0100	Locating No-Passing Zones	MI	4.700	4.700
0650	649.0402	Temporary Pavement Marking Paint 4-Inch	LF	68,286.000	68,286.000
0660	650.8000	Construction Staking Resurfacing Reference	LF	24,885.000	24,885.000
0670	650.9910	Construction Staking Supplemental Control (project) 01. 7105-06-70	LS	1.000	1.000
0680	690.0150	Sawing Asphalt	LF	493.000	493.000
0690	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0700	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000
0710	SPV.0060	Special 01. Temporary Portable Rumble Strip Array	EACH	4.000	4.000
0720	SPV.0090	Special 01. Ditch Cleaning	LF	715.000	715.000
0730	SPV.0105	Special 01. Preparation of Foundation for Asphaltic Paving Special	LS	1.000	1.000
0740	SPV.0105	Special 02. Material Transfer Vehicle	LS	1.000	1.000
0750	SPV.0105	Special 03. Milling and Removing Temporary Joint	LS	1.000	1.000
0760	SPV.0170	Special 01. Prepare Foundation for Asphaltic Shoulders Special	STA	498.000	498.000
0770	SPV.0195	Special 01. HMA Pavement Type 5MT5834H Special	TON	4,790.000	4,790.000
0780	SPV.0195	Special 02. HMA Pavement Type SMA-Special	TON	7,185.000	7,185.000
0790	SPV.0195	Special 03. SMA Pavement Compaction Acceptance	TON	7,185.000	7,185.000

3

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

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REMOVING ASPHALTIC SURFACE BUTT JOINTS				204.0115
STATION	TO	STATION	LOCATION	SY
34+00		34+50	BEGIN PROJECT	180
110+72		111+22	B-47-20	194
113+08		113+58	B-47-20	194
277+98		278+48	B-47-34	194
280+96		281+46	B-47-34	194
282+35		282+85	END PROJECT	194
ITEM TOTAL				1150

REMOVING ASPHALTIC SURFACE MILLING				204.0120
STATION	TO	STATION	LOCATION	SY
34+00		263+00	MAINLINE	61067
263+00		272+49	MAINLINE	3163
272+49		282+85	MAINLINE	2763
41+36			DD INTERSECTION	897
70+35			DRIVEWAY RT	36
71+49			DRIVEWAY LT	45
81+38			530TH INTERSECTION	442
94+72			530TH INTERSECTION	485
125+00			DRIVEWAY LT	67
146+76			490TH INTERSECTION	870
171+45			DRIVEWAY LT	90
185+75			DRIVEWAY LT	59
193+51			450TH INTERSECTION	934
219+77			430TH INTERSECTION	363
233+45			DRIVEWAY RT	115
243+88			410TH INTERSECTION	337
274+50			DRIVEWAT RT	163
275+25			DRIVEWAY LT	121
276+15			DRIVEWAYRT	81
282+18			BB INTERSECTION	402
ITEM TOTAL				72500

REMOVING MASONRY				204.0185
STATION	TO	STATION	LOCATION	CY
249+54			78' LT	18
ITEM TOTAL				18

REMOVING DELINEATORS AND MARKERS		204.0180
STATION	LOCATION	EACH
34+40	LT & RT	2
42+00	LT & RT	2
54+45	LT & RT	2
64+00	LT & RT	2
76+50	LT & RT	2
82+84	LT & RT	2
97+75	LT & RT	2
135+45	LT & RT	2
141+25	LT & RT	2
147+17	LT & RT	2
150+70	LT & RT	2
162+28	LT & RT	2
181+70	LT & RT	2
191+50	LT & RT	2
197+20	LT & RT	2
220+60	LT & RT	2
230+88	LT & RT	2
259+30	LT & RT	2
262+80	LT & RT	2
ITEM TOTAL		38

EXCAVATION COMMON				205.0100
STATION	TO	STATION	LOCATION	CY
101+40		101+63	RT FE	20
ITEM TOTAL				20

FINISHING ROADWAY (PROJECT) 01. 7105-06-70				213.0100
STATION	TO	STATION	LOCATION	EACH
43+00		282+85	MAINLINE	1
ITEM TOTAL				1

BASE AGGREGATE DENSE 3/4-INCH				305.0110
STATION	TO	STATION	LOCATION	TON
34+00		40+65	RT SHOULDER	18
41+87		80+88	RT SHOULDER	108
81+87		111+29	RT SHOULDER	82
113+14		146+25	RT SHOULDER	92
147+17		193+00	RT SHOULDER	127
193+95		219+33	RT SHOULDER	72
220+22		243+25	RT SHOULDER	64
244+40		278+59	RT SHOULDER	95
281+15		282+85	RT SHOULDER	5
34+00		40+82	LT SHOULDER	19
42+09		94+22	LT SHOULDER	145
95+25		111+16	LT SHOULDER	44
113+02		113+63	LT SHOULDER	3
114+19		146+38	LT SHOULDER	89
147+29		193+15	LT SHOULDER	127
194+00		278+37	LT SHOULDER	234
280+81		281+74	LT SHOULDER	4
282+45		282+85	LT SHOULDER	2
ITEM TOTAL				1330

SHAPING SHOULDERS				305.0500
STATION	TO	STATION	LOCATION	STA
34+00		282+18	RT	249
34+00		282+18	LT	249
ITEM TOTAL				498

TACK COAT				455.0605
STATION	TO	STATION	LOCATION	GAL
34+00		111+22	MAINLINE	3710
113+08		263+00	MAINLINE	5000
263+00		272+49	MAINLINE	410
272+49		278+48	MAINLINE	210
280+96		282+85	MAINLINE	70
ITEM TOTAL				9400

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REHEATING HMA PAVEMENT LONGITUDINAL JOINTS				460.4110.S
STATION	TO	STATION	LOCATION	LF
34+00		282+85	MAINLINE	24885
ITEM TOTAL				24885

ASPHALTIC SURFACE				465.0105
STATION	TO	STATION	LOCATION	TON
34+00		282+85	UNDISTRIBUTED	200
ITEM TOTAL				200

ASPHALTIC SURFACE PATCHING				465.0110
STATION	TO	STATION	LOCATION	TON
34+00		282+85	UNDISTRIBUTED	300
ITEM TOTAL				300

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES				465.0120
STATION	TO	STATION	LOCATION	TON
37+95			DRIVEWAY LT	5
70+35			DRIVEWAY RT	5
71+49			DRIVEWAY LT	5
125+00			DRIVEWAY LT	5
171+45			DRIVEWAY LT	6
185+75			DRIVEWAY LT	5
233+45			DRIVEWAY RT	8
274+50			DRIVEWAY RT	12
275+25			DRIVEWAY LT	8
276+15			DRIVEWAY RT	6
ITEM TOTAL				65

ASPHALTIC FLUMES				465.0315
STATION	TO	STATION	LOCATION	SY
272+00		273+00	RT	45
ITEM TOTAL				45

ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL				465.0475
STATION	TO	STATION	LOCATION	LF
34+00		39+36	MAINLINE	536
43+36		79+38	MAINLINE	3602
83+38		93+75	MAINLINE	1037
96+75		110+97	MAINLINE	1422
115+86		122+91	MAINLINE	705
126+91		144+76	MAINLINE	1785
148+76		191+51	MAINLINE	4275
195+51		217+77	MAINLINE	2226
221+77		241+88	MAINLINE	2011
248+52		278+23	MAINLINE	2971
ITEM TOTAL				20570

CONCRETE MASONRY ENDWALLS		504.0900
STATION	LOCATION	CY
249+54	78' LT	10.0
ITEM TOTAL		10.0

CLEANING CULVERT PIPES				520.8700
STATION	TO	STATION	LOCATION	EACH
82+84			MAINLINE	1
197+20			MAINLINE	1
ITEM TOTAL				2

CULVERT PIPE LINERS (SIZE) 01. 24-IN		520.9700.S
STATION	LOCATION	LF
64+00	MAINLINE	70
ITEM TOTAL		70

CULVERT PIPE LINERS (SIZE) 02. 36-INCH		520.9700.S
STATION	LOCATION	LF
34+40	MAINLINE	110
ITEM TOTAL		110

CLEANING CULVERT PIPES FOR LINER VERIFICATION				520.9750.S
STATION	TO	STATION	LOCATION	EACH
34+40			MAINLINE	1
64+00			MAINLINE	1
ITEM TOTAL				2

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MULCHING, FERTILIZING, & SEEDING

STATION	TO	STATION	LOCATION	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB
34+40			LT & RT	50	0.5	9
54+45			LT & RT	50	0.5	9
64+00			LT & RT	50	0.5	8
147+18			LT & RT	50	0.5	8
191+50			LT & RT	50	0.5	8
220+58			RT	50	0.3	8
ITEM TOTAL				300	3	50

CULVERT PIPE AND APRON ENDWALLS

STATION	LOCATION	204.9060.S REMOVING (ITEM DESCRIPTION) 01. APRON ENDWALLS EACH	522.1024 APRON ENDWALLS FOR CPRC 24-INCH EACH	522.1030 APRON ENDWALLS FOR CPRC 30-INCH EACH	522.1036 APRON ENDWALLS FOR CPRC 36-INCH EACH	524.0636 APRON ENDWALLS FOR CULVERT PIPE SALVAGED 36-INCH EACH
34+40.0	RT & LT	2	--	--	2	--
54+45.0	RT & LT	2	2	--	--	--
64+00	RT & LT	2	2	--	--	--
147+18	RT & LT	2	2	--	--	--
191+50	RT & LT	2	--	2	--	--
220+58	RT	--	--	--	--	1
ITEM TOTAL		10	6	2	2	1

RIPRAP MEDIUM		606.0200
STATION	LOCATION	CY
76+50	LT	4
97+75	LT	4
150+70	LT	6
259+50	LT	6
263+10	LT	6
273+00	RT	8
ITEM TOTAL		34

BARRIER SYSTEM GRADING SHAPING FINISHING 614.0010

STATION	LOCATION	AREA (SF)	*EXCAVATION COMMON (CY)	*BORROW (CY)	*SALVAGED TOPSOIL (SY)	*FERTILIZER TYPE B (CWT)	*SEEDING (LB)	*MULCHING (SY)	EACH
110+20	LT	850	--	4	125	0.1	3	125	1
109+80	RT	1400	--	5	200	0.1	4	200	1
113+67	LT	750	--	7	--	0.1	2	--	1
114+06	RT	206	--	1	50	0.0	1	50	1
245+28	RT	1350	--	16.3	250	0.1	4	250	1
248+00	LT	1550	--	19.1	200	0.1	5	200	1
253+56	LT	650	--	18.33	250	0.0	2	250	1
259+99	LT	1800	--	8.37	150	0.1	5	150	1
273+80	LT	700	--	8.7	300	0.0	2	300	1
277+43	LT	300	--	1	--	0.0	1	--	1
277+65	RT	800	--	10	50	0.1	2	50	1
282+56	RT	820	--	8.2	50	0.1	2	50	1
281+85	LT	750	--	5	--	0.1	2	--	1
ITEM TOTAL				112	1625	0.8	36	1625	13

GUARDRAIL SUMMARY

STATION	TO	STATION	LOCATION	614.0115 ANCHORAGES FOR STEEL PLATE BEAM GUARD TYPE 2 EACH	614.0200 STEEL THRIE BEAM STRUCTURAL APPROACH LF	614.0305 STEEL PLATE BEAM GUARD CLASS A LF	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS LF	614.0370 STEEL PLATE BEAM GUARD EAT EACH	614.0390 STEEL PLATE BEAM GUARD SR TERMINAL EACH	614.0920 SALVAGED RAIL LF	614.2300 MGS 3 GUARDRAIL LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
110+20.9		111+17.6	LT	--	--	--	--	--	--	97	--	39.4	1
109+80.1		111+22.6	RT	--	--	--	--	--	--	146	50	39.4	1
113+14.3		114+06.9	RT	--	--	--	--	--	--	95	--	39.4	1
113+02.7		113+67.1	LT	1	39.4	25	12.5	--	1	82	--	--	--
244+41.3		245+28.8	RT	--	--	37.5	--	1	--	132	--	--	--
248+00.		253+56.2	LT	--	--	--	--	--	--	518	450	--	2
259+99.		273+80.2	LT	--	--	--	--	--	--	1115	1275	--	2
277+43.7		278+36.2	LT	--	--	--	--	--	--	97	--	39.4	1
277+65.5		278+57.0	RT	--	--	--	--	--	--	104	--	39.4	1
281+14.1		282.56.52	RT	--	--	--	--	--	--	84	50	39.4	1
280+81.23		281+85.06	LT	1	39.4	37.5	50	--	1	188	--	--	--
ITEM TOTAL				2	78.8	100	62.5	1	2	2658	1825	236.4	10

*FOR INFORMATION ONLY

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

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MOBILIZATION			619.1000
STATION		LOCATION	EACH
34+00	282+18	PROJECT	1
ITEM TOTAL			1

SILT FENCE				628.1504
STATION	TO	STATION	LOCATION	LF
34+23		34+94	RT	80
54+15		55+00	LT	90
76+20		76+75	RT & LT	100
82+60		83+15	LT	60
135+60		136+50	RT	100
229+75		230+50	LT	60
231+30		231+90	RT	60
243+86		244+67	LT	90
245+15		245+64	RT	60
247+40		248+26	RT	90
249+50		250+25	LT	90
ITEM TOTAL				880

SILT FENCE MAINTENANCE				628.1520
STATION	TO	STATION	LOCATION	LF
34+23		34+94	RT	80
54+15		55+00	LT	90
76+20		76+75	RT & LT	100
82+60		83+15	LT	60
135+60		136+50	RT	100
229+75		230+50	LT	60
231+30		231+90	RT	60
243+86		244+67	LT	90
245+15		245+64	RT	60
247+40		248+26	RT	90
249+50		250+25	LT	90
ITEM TOTAL				880

MOBILIZATIONS EROSION CONTROL			628.1905
STATION		LOCATION	EACH
34+00	282+85	MAINLINE	2
ITEM TOTAL			2

MOBILIZATIONS EMERGENCY EROSION CONTROL			628.1910
STATION		LOCATION	EACH
34+00	282+85	MAINLINE	2
ITEM TOTAL			2

TEMPORARY DITCH CHECKS		628.7504
STATION	LOCATION	LF
34+94	RT	10
55+00	LT	10
136+50	RT	10
145+25	RT	10
146+25	RT	10
190+80	LT	10
229+75	LT	10
231+90	RT	10
243+91	LT	10
245+64	RT	10
248+06	RT	10
250+25	LT	10
ITEM TOTAL		120

CULVERT PIPE CHECKS				628.7555
STATION	TO	STATION	LOCATION	EACH
34+41			LT	5
54+45			RT	4
64+00			RT	4
76+50			RT	5
191+50			LT	5
244+86			LT	12
ITEM TOTAL				35

MARKERS CULVERT END		633.5200
STATION	LOCATION	EACH
34+40	LT & RT	2
42+00	LT & RT	2
54+45	LT & RT	2
64+00	LT & RT	2
76+50	LT & RT	2
82+84	LT & RT	2
97+75	LT & RT	2
135+45	LT & RT	2
141+25	LT & RT	2
147+17	LT & RT	2
150+70	LT & RT	2
162+28	LT & RT	2
181+70	LT & RT	2
191+50	LT & RT	2
197+20	LT & RT	2
220+60	LT & RT	2
230+88	LT & RT	2
259+30	LT & RT	2
262+80	LT & RT	2
ITEM TOTAL		38

FIELD OFFICE TYPE B	642.5001
STATION	EACH
PROJECT	1
ITEM TOTAL	1

TRAFFIC CONTROL (PROJECT) 01. 7105-06-70	643.0100
STATION	EACH
PROJECT	1
ITEM TOTAL	1

TRAFFIC CONTROL SIGNS				643.0900
STATION	TO	STATION	LOCATION	DAYS
34+00		282+85	PROJECT	1560
ITEM TOTAL				1560

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

STATION	SIGN NUMBER	SIGN CODE	SIGN DESCRIPTION	WIDTH INCHES	HEIGHT INCHES	637.2210 SIGNS, TYPE II, REFLECTIVE H SF	637.2230 SIGNS, TYPE II, REFLECTIVE F SF	634.0614 WOOD POSTS, 4X6-INCH X 14 FT EACH	634.0616 WOOD POSTS, 4X6-INCH X 16 FT EACH	638.2602 REMOVING SIGNS, TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
33+86	1000	I55-56	ADOPT-A-HIGHWAY	30	36	7.50	--	1	--	1	1	"SAINT PAUL'S U.C.C."
38+91	1001	W3-1	STOP AHEAD	36	36	9.00	--	1	--	1	1	
40+12	1002	J1-1	JCT USH 63	24	39	6.50	--	--	1	1	1	
40+60	1003	J12-1	COUNTY DD DIRECTIONAL ARROW AHEAD	24	45	7.50	--	--	1	1	1	
41+15	1004	J12-2	STH 72 DIRECTIONAL ARROW AHEAD COUNTY DD DIRECTIONAL ARROW AHEAD	48	45	15.00	--	--	1	1	1	
41+15	1005	R1-1	STOP	30	30	5.18	--	1	--	1	1	
42+10	1006	J12-1	COUNTY DD DIRECTIONAL ARROW LEFT OR RIGHT	24	45	7.50	--	1	--	1	1	
41+15	1007	I55-56	ADOPT-A-HIGHWAY	30	36	7.50	--	1	--	1	1	"RESIDENTS N4925 CTY. Rd. DD"
41+63	1008	R1-1	STOP	30	30	5.18	--	1	--	1	1	
41+63	1009	J12-2	STH 72 DIRECTIONAL ARROW LEFT OR RIGHT COUNTY DD DIRECTIONAL ARROW AHEAD	48	45	15.00	--	--	1	1	1	
43+25	1010	J4-1	EAST STH 72	24	36	6.00	--	1	--	1	1	
49+25	1011	W13-1	ADVISORY SPEED LIMIT (45)	18	18	--	2.25	1	--	1	1	NOTE: PLACE SIGNS 1011 AND 1012 ON SAME POST
49+25	1012	W2-1	INTERSECTION	30	30	--	6.25	--	--	1	--	
49+40	1013	W11-5	FARM MACHINERY SYMBOL	30	30	--	6.25	1	--	1	1	
51+35	1014	J1-1	JCT COUNTY DD	24	39	6.50	--	1	--	1	1	
72+45	1015	W11-5	FARM MACHINERY SYMBOL	30	30	--	6.25	1	--	1	1	
81+65	1016	R1-1	STOP	30	30	5.18	--	1	--	1	1	
94+45	1017	R1-1	STOP	30	30	5.18	--	1	--	1	1	
96+00	1018	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1	
109+15	1019	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1	
111+05	1020	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12	36	--	3.00	1	--	1	1	
111+20	1021	W5-52R	CLEARANCE STRIPER DOWN LEFT	12	36	--	3.00	1	--	1	1	
113+20	1022	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12	36	--	3.00	1	--	1	1	
113+10	1023	W5-52R	CLEARANCE STRIPER DOWN LEFT	12	36	--	3.00	1	--	1	1	
125+10	1024	R1-1	STOP	30	30	5.18	--	1	--	1	1	
136+70	1025	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1	
145+20	1026	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1	
145+50	1027	I55-56	ADOPT-A-HIGHWAY	30	36	7.50	--	1	--	1	1	"SAINT PAUL'S U.C.C."
146+55	1028	R1-1	STOP	30	30	5.18	--	1	--	1	1	
147+05	1029	R1-1	STOP	30	30	5.18	--	1	--	1	1	
149+10	1030	I55-56	ADOPT-A-HIGHWAY	30	36	7.50	--	1	--	1	1	"BUCKY'S BAGGERS"
160+90	1031	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1	
162+15	1032	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1	
TOTAL SHEET 1						139.26	69.00	28	4	33	32	

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

STATION	SIGN NUMBER	SIGN CODE	SIGN DESCRIPTION	WIDTH INCHES	HEIGHT INCHES	637.2210 SIGNS, TYPE II, REFLECTIVE H SF	637.2230 SIGNS, TYPE II, REFLECTIVE F SF	634.0614 WOOD POSTS, 4X6-INCH X 14 FT EACH	634.0616 WOOD POSTS, 4X6-INCH X 16 FT EACH	638.2602 REMOVING SIGNS, TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
179+45	1033	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1	
193+20	1034	R1-1	STOP	30	30	5.18	--	1	--	1	1	
193+80	1035	R1-1	STOP	30	30	5.18	--	1	--	1	1	
198+55	1036	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1	
220+05	1037	R1-1	STOP	30	30	5.18	--	1	--	1	1	
220+25	1038	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1	
228+20	1039	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1	
230+50	1040	W1-2L	LEFT CURVE	30	30	--	6.25	1	--	1	1	
241+60	1041	I55-56	ADOPT-A-HIGHWAY	30	36	7.50	--	1	--	1	1	"BUCKY'S BAGGERS"
244+30	1042	R1-1	STOP	30	30	5.18	--	1	--	1	1	
246+20	1043	R1-1	STOP	30	30	5.18	--	1	--	1	1	
246+55	1044	I55-56	ADOPT-A-HIGHWAY	30	36	7.50	--	1	--	1	1	"ELLSWORTH ROD AND GUN CLUB"
259+75	1045	W1-2R	RIGHT CURVE	30	30	--	6.25	1	--	1	1	NOTE:PLACE SIGNS 1040 AND 1041 ON SAME POST
259+75	1046	W13-1	AVISORY SPEED LIMIT (50)	18	18	--	2.25	1	--	1	--	
265+80	1047	SPECIAL	WATCH FOR TURNING VEHICLES	30	30	--	6.25	1	--	1	1	*SPECIAL SIGN SEE DETAIL
272+05	1048	J1-1	JCT COUNTY BB	24	39	6.50	--	1	--	1	1	
273+55	1049	R7-1L	NO PARKING WITH LEFT ARROW	18	24	3.00	--	1	--	1	1	
274+55	1050	R7-1R	NO PARKING WITH RIGHT ARROW	18	24	3.00	--	1	--	1	1	
275+25	1051	R7-1D	NO PARKING WITH LT. OR RT. ARROW	18	24	3.00	--	1	--	1	1	
276+90	1052	R7-1D	NO PARKING WITH LT. OR RT. ARROW	18	24	3.00	--	1	--	1	1	
277+47	1053	R7-1L	NO PARKING WITH LEFT ARROW	18	24	3.00	--	1	--	1	1	
278+25	1054	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12	36	--	3.00	1	--	1	1	
278+40	1055	R7-1R	NO PARKING WITH RIGHT ARROW	18	24	3.00	--	1	--	1	1	
278+50	1056	W5-52R	CLEARANCE STRIPER DOWN LEFT	12	36	--	3.00	1	--	1	1	
281+25	1057	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12	36	--	3.00	1	--	1	1	
280+95	1058	W5-52R	CLEARANCE STRIPER DOWN LEFT	12	36	--	3.00	1	--	1	1	
281+10	1059	J4-1	WEST STH 72	24	36	6.00	--	1	--	1	1	
281+75	1060	J12-1	COUNTY BB LEFT ARROW	24	45	7.50	--	1	--	1	1	
281+80	1061	J12-1	STH 72 DIRECTIONAL ARROW LEFT OR RIGHT	24	45	7.50	--	1	--	1	1	
281+80	1062	R1-1	STOP	30	30	5.18	--	1	--	1	1	
282+15	1063	W1-7	DIRECTIONAL ARROW LEFT OR RIGHT	48	24	--	8.00	1	--	1	1	
282+55	1064	J12-1	COUNTY BB RIGHT ARROW	24	45	7.50	--	1	--	1	1	
	1065	R1-1	STOP	30	30	5.18	--	1	--	1	1	
TOTAL SHEET 2						104.26	65.00	33	0	33	32	
TOTAL SHEET 1						139.26	69.00	28	4	33	32	
TOTAL						243.52	134.00	61	4	66	64	

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

3

PAVEMENT MARKING EPOXY 4-INCH					646.0106
STATION	TO	STATION	LOCATION	YELLOW LF	WHITE LF	LF
34+00		40+00	RT WHITE EDGELINE		600	600
34+00		40+82	LT WHITE EDGELINE		682	682
40+00		40+65	RT WHITE EDGELINE (DASHED)		65	65
41+87		79+81	RT WHITE EDGELINE		3794	3794
42+09		43+09	LT WHITE EDGELINE (DASHED)		100	100
43+09		94+22	LT WHITE EDGELINE		5113	5113
79+81		80+88	RT WHITE EDGELINE (DASHED)		107	107
81+87		145+42	RT WHITE EDGELINE		6355	6355
95+25		96+17	LT WHITE EDGELINE (DASHED)		92	92
96+17		113+63	LT WHITE EDGELINE		1746	1746
114+19		146+38	LT WHITE EDGELINE		3219	3219
145+42		146+25	RT WHITE EDGELINE (DASHED)		83	83
147+17		192+14	RT WHITE EDGELINE		4497	4497
147+29		148+51	LT WHITE EDGELINE (DASHED)		122	122
148+51		193+15	LT WHITE EDGELINE		4464	4464
192+14		193+00	RT WHITE EDGELINE (DASHED)		86	86
193+95		218+19	RT WHITE EDGELINE		2424	2424
194+00		194+98	LT WHITE EDGELINE (DASHED)		98	98
194+98		281+74	LT WHITE EDGELINE		8676	8676
218+19		219+33	RT WHITE EDGELINE (DASHED)		114	114
220+22		242+64	RT WHITE EDGELINE		2242	2242
242+64		243+25	RT WHITE EDGELINE (DASHED)		61	61
244+40		282+85	RT WHITE EDGELINE		3845	3845
282+62		282+85	LT WHITE EDGELINE		23	23
34+00		88+00	CL: DOUBLE YELLOW	10800		10800
88+00		96+00	CL: WB DASHED, EB YELLOW	1000		1000
96+00		109+00	CL: DASHED	325		325
109+00		120+00	CL: WB DASHED, EB YELLOW	1375		1375
120+00		128+00	CL: DOUBLE YELLOW	1600		1600
128+00		136+00	CL: EB DASHED, WB YELLOW	1000		1000
136+00		145+00	CL: DASHED	225		225
145+00		152+00	CL: WB DASHED, EB YELLOW	875		875
152+00		152+50	CL: DASHED	13		13
152+50		160+30	CL: EB DASHED, WB YELLOW	975		975
160+30		169+50	CL: WB DASHED, EB YELLOW	1150		1150
169+50		177+50	CL: EB DASHED, WB YELLOW	1000		1000
177+50		196+75	CL: DASHED	481		481
196+75		205+00	CL: WB DASHED, EB YELLOW	1031		1031
205+00		209+50	CL: DOUBLE YELLOW	900		900
209+50		218+50	CL: EB DASHED, WB YELLOW	1125		1125
218+50		228+40	CL: DASHED	248		248
228+40		240+00	CL: WB DASHED, EB YELLOW	1450		1450
240+00		282+85	CL: DOUBLE YELLOW	8570		8570
ITEM TOTAL				34143	48608	82751

GEOTEXTILE FABRIC TYPE HR		645.0120
STATION	LOCATION	SY
76+50	LT	4
97+75	LT	4
150+70	LT	4
259+50	LT	8
263+10	LT	8
273+00	RT	17
ITEM TOTAL		45

PAVEMENT MARKING SAME DAY EPOXY 4-INCH				646.0406
STATION	TO	STATION	LOCATION	LF
34+00		88+00	CL: DOUBLE YELLOW	10800
88+00		96+00	CL: WB DASHED, EB YELLOW	1000
96+00		109+00	CL: DASHED	325
109+00		120+00	CL: WB DASHED, EB YELLOW	1375
120+00		128+00	CL: DOUBLE YELLOW	1600
128+00		136+00	CL: EB DASHED, WB YELLOW	1000
136+00		145+00	CL: DASHED	225
145+00		152+00	CL: WB DASHED, EB YELLOW	875
152+00		152+50	CL: DASHED	13
152+50		160+30	CL: EB DASHED, WB YELLOW	975
160+30		169+50	CL: WB DASHED, EB YELLOW	1150
169+50		177+50	CL: EB DASHED, WB YELLOW	1000
177+50		196+75	CL: DASHED	481
196+75		205+00	CL: WB DASHED, EB YELLOW	1031
205+00		209+50	CL: DOUBLE YELLOW	900
209+50		218+50	CL: EB DASHED, WB YELLOW	1125
218+50		228+40	CL: DASHED	248
228+40		240+00	CL: WB DASHED, EB YELLOW	1450
240+00		282+85	CL: DOUBLE YELLOW	8570
ITEM TOTAL				34143

LOCATING NO-PASSING ZONES				648.0100
STATION	TO	STATION	LOCATION	MI
34+00		282+18	MAINLINE	4.70
ITEM TOTAL				4.70

TEMPORARY PAVEMENT MARKING PAINT 4-INCH				649.0402
STATION	TO	STATION	LOCATION	LF
34+00		88+00	CL: DOUBLE YELLOW	21600
88+00		96+00	CL: WB DASHED, EB YELLOW	2000
96+00		109+00	CL: DASHED	650
109+00		120+00	CL: WB DASHED, EB YELLOW	2750
120+00		128+00	CL: DOUBLE YELLOW	3200
128+00		136+00	CL: EB DASHED, WB YELLOW	2000
136+00		145+00	CL: DASHED	450
145+00		152+00	CL: WB DASHED, EB YELLOW	1750
152+00		152+50	CL: DASHED	26
152+50		160+30	CL: EB DASHED, WB YELLOW	1950
160+30		169+50	CL: WB DASHED, EB YELLOW	2300
169+50		177+50	CL: EB DASHED, WB YELLOW	2000
177+50		196+75	CL: DASHED	962
196+75		205+00	CL: WB DASHED, EB YELLOW	2062
205+00		209+50	CL: DOUBLE YELLOW	1800
209+50		218+50	CL: EB DASHED, WB YELLOW	2250
218+50		228+40	CL: DASHED	496
228+40		240+00	CL: WB DASHED, EB YELLOW	2900
240+00		282+85	CL: DOUBLE YELLOW	17140
ITEM TOTAL				68286

CONSTRUCTION STAKING RESURFACING REFERENCE				650.8000
STATION	TO	STATION	LOCATION	LF
34+00		282+18	MAINLINE	24885
ITEM TOTAL				24885

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 7105-06-70		650.9910
STRUCTURE	LOCATION	LS
34+00 282+85	PROJECT	1
ITEM TOTAL		1

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

SAWING ASPHALT				690.0150
STATION	TO	STATION	LOCATION	LF
38+00			DRIVEWAY LT (30' OFFSET)	27
41+36			DD LT (85' OFFSET)	25
41+36			DD RT (85' OFFSET)	27
70+35			DRIVEWAY RT (30' OFFSET)	15
71+49			DRIVEWAY LT (30' OFFSET)	13
81+38			530TH RT (80' OFFSET)	22
94+72			530TH LT (100' OFFSET)	22
125+00			DRIVEWAY LT (40' OFFSET)	13
146+76			490TH LT (75' OFFSET)	24
146+76			490TH RT (75' OFFSET)	22
171+45			DRIVEWAY LT (35' OFFSET)	20
185+75			DRIVEWAY LT (35' OFFSET)	13
193+51			450TH LT (85' OFFSET)	22
193+51			450TH RT (90' OFFSET)	22
219+77			430TH RT (60' OFFSET)	24
233+45			DRIVEWAY RT (30' OFFSET)	27
243+88			410TH RT (60' OFFSET)	25
274+50			DRIVEWAY RT (35' OFFSET)	32
275+25			DRIVEWAY LT (30' OFFSET)	48
276+15			DRIVEWAY RT (35' OFFSET)	22
282+18			BB LT (70' OFFSET)	28
ITEM TOTAL				493

SPECIAL 01. DITCH CLEANING			SPV.0090
STATION		LOCATION	LF
54+45		RT & LT	90
76+50		RT	50
100+90	101+40	RT	50
101+65	102+15	RT	50
135+44		LT	50
145+15	146+20	RT	105
191+50		RT	50
230+90		RT & LT	90
244+86		RT & LT	90
248+80		RT & LT	90
ITEM TOTAL			715

SPECIAL 01. TEMPORARY PORTABLE RUMBLE STRIP ARRAY				SPV.0060
STATION	TO	STATION	LOCATION	EACH
34+00		282+85	PROJECT	4
ITEM TOTAL				4

SPECIAL 01. PREPARATION OF FOUNDATION FOR ASPHALTIC PAVING SPECIAL				SPV.0105
STATION	TO	STATION	LOCATION	LS
34+00		282+85	PROJECT	1
ITEM TOTAL				1

SPECIAL 02. MATERIAL TRANSFER VEHICLE				SPV.0105
STATION	TO	STATION	LOCATION	LS
34+00		282+85	PROJECT	1
ITEM TOTAL				1

SPECIAL 03. MILLING AND REMOVING TEMPORARY JOINT				SPV.0105
STATION	TO	STATION	LOCATION	LS
34+00		282+85	PROJECT	1
ITEM TOTAL				1

SPECIAL 01. HMA PAVEMENT TYPE 5MT 5834H SPECIAL				SPV.0195
STATION	TO	STATION	LOCATION	TON
34+00		111+22	MAINLINE	1416
113+08		263+00	MAINLINE	2749
263+00		272+49	MAINLINE	220
272+49		278+48	MAINLINE	110
280+96		282+85	MAINLINE	35
41+36			DD INTERSECTION	49
81+38			530TH INTERSECTION	24
94+72			530TH INTERSECTION	27
146+76			490TH INTERSECTION	48
193+51			450TH INTERSECTION	51
219+77			430TH INTERSECTION	20
243+88			410TH INTERSECTION	19
282+18			BB INTERSECTION	22
ITEM TOTAL				4790

SPECIAL 01. PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS SPECIAL				SPV.0170
STATION	TO	STATION	LOCATION	STA
34+00		282+85	RT	249
34+00		282+85	LT	249
ITEM TOTAL				498

SPECIAL 02. HMA PAVEMENT TYPE SMA-SPECIAL				SPV.0195
STATION	TO	STATION	LOCATION	TON
34+00		111+22	MAINLINE	2124
113+08		263+00	MAINLINE	4123
263+00		272+49	MAINLINE	331
272+49		278+48	MAINLINE	165
280+96		282+85	MAINLINE	52
41+36			DD INTERSECTION	74
81+38			530TH INTERSECTION	36
94+72			530TH INTERSECTION	40
146+76			490TH INTERSECTION	72
193+51			450TH INTERSECTION	77
219+77			430TH INTERSECTION	30
243+88			410TH INTERSECTION	28
282+18			BB INTERSECTION	33
ITEM TOTAL				7185

SPECIAL 03. SMA COMPACTION ACCEPTANCE				SPV.0195
STATION	TO	STATION	LOCATION	TON
34+00		111+22	MAINLINE	2124
113+08		263+00	MAINLINE	4123
263+00		272+49	MAINLINE	331
272+49		278+48	MAINLINE	165
280+96		282+85	MAINLINE	52
41+36			DD INTERSECTION	74
81+38			530TH INTERSECTION	36
94+72			530TH INTERSECTION	40
146+76			490TH INTERSECTION	72
193+51			450TH INTERSECTION	77
219+77			430TH INTERSECTION	30
243+88			410TH INTERSECTION	28
282+18			BB INTERSECTION	33
ITEM TOTAL				7185

BEGIN PROJECT
STA 34+00
Y = 317417.58
X = 500269.02

PC: 33+19.87

STA 34+40
EXISTING 36"x110' CPCS TO REMAIN
1-36"x110' CULVERT PIPE LINER REQ'D
REMOVE EXISTING APRON ENDWALLS(2)
2-36" APRON ENDWALLS REQ'D

SAWCUT REQ'D

PE (ASPH)

STH 72 STA 41+36.22
CTH DD STA 10+00.00A

PRC: 40+04.72

CTH DD

SAWCUT REQ'D

STA 42+00
EXISTING 24"x72' CPCS TO REMAIN

EXIST R/W

PRC: 48+35.83

90°14'39"

STH 72

FE

EXIST R/W

PIERCE-PEPIN COOPERATIVE SERVICES

CTH DD

SAWCUT REQ'D

AT&T WI

N

5

5

ALIGNMENT DATA
STH 72

PI STA 31+46.17
Y = 317417.70
X = 500015.20
PI STA 36+62.32
Y = 317417.70
X = 500531.30
DELTA = 1°42'43.64"
D = 0°15'0"
T = 342.45'
L = 684.85'
R = 22918.31'
LCH = 684.82'
LCB = S 89°08'48.34" E
PC STA 33+19.87
Y = 317417.70
X = 500188.90
PRC STA 40+04.72
Y = 317407.50
X = 500873.60
CURVE 1 : NC

ALIGNMENT DATA
STH 72

PI STA 44+20.46
Y = 317395.10
X = 501289.20
DELTA = 4°09'19.88"
D = 0°30'0"
T = 415.74'
L = 831.11'
R = 11459.16'
LCH = 830.92'
LCB = N 89°37'53.55" E
PRC STA 40+04.72
Y = 317407.50
X = 500873.60
PRC STA 48+35.83
Y = 317412.90
X = 501704.60
CURVE 2 : NC

ALIGNMENT DATA
STH 72

PI STA 52+15.71
Y = 317429.10
X = 502084.10
DELTA = 3°47'50.86"
D = 0°30'0"
T = 379.89'
L = 759.49'
R = 11459.16'
LCH = 759.35'
LCB = N 89°27'09.04" E
PRC STA 48+35.83
Y = 317412.90
X = 501704.60
PRC STA 55+95.32
Y = 317420.10
X = 502463.90
PI STA 98+05.63
Y = 317320.80
X =506673.00
CURVE 3 : NC

PRC: 48+35.83

PT: 55+95.32

PIERCE-PEPIN COOPERATIVE SERVICES

PE (AGG)

EXIST R/W

S88° 38' 56"E
3870.19'

STH 72

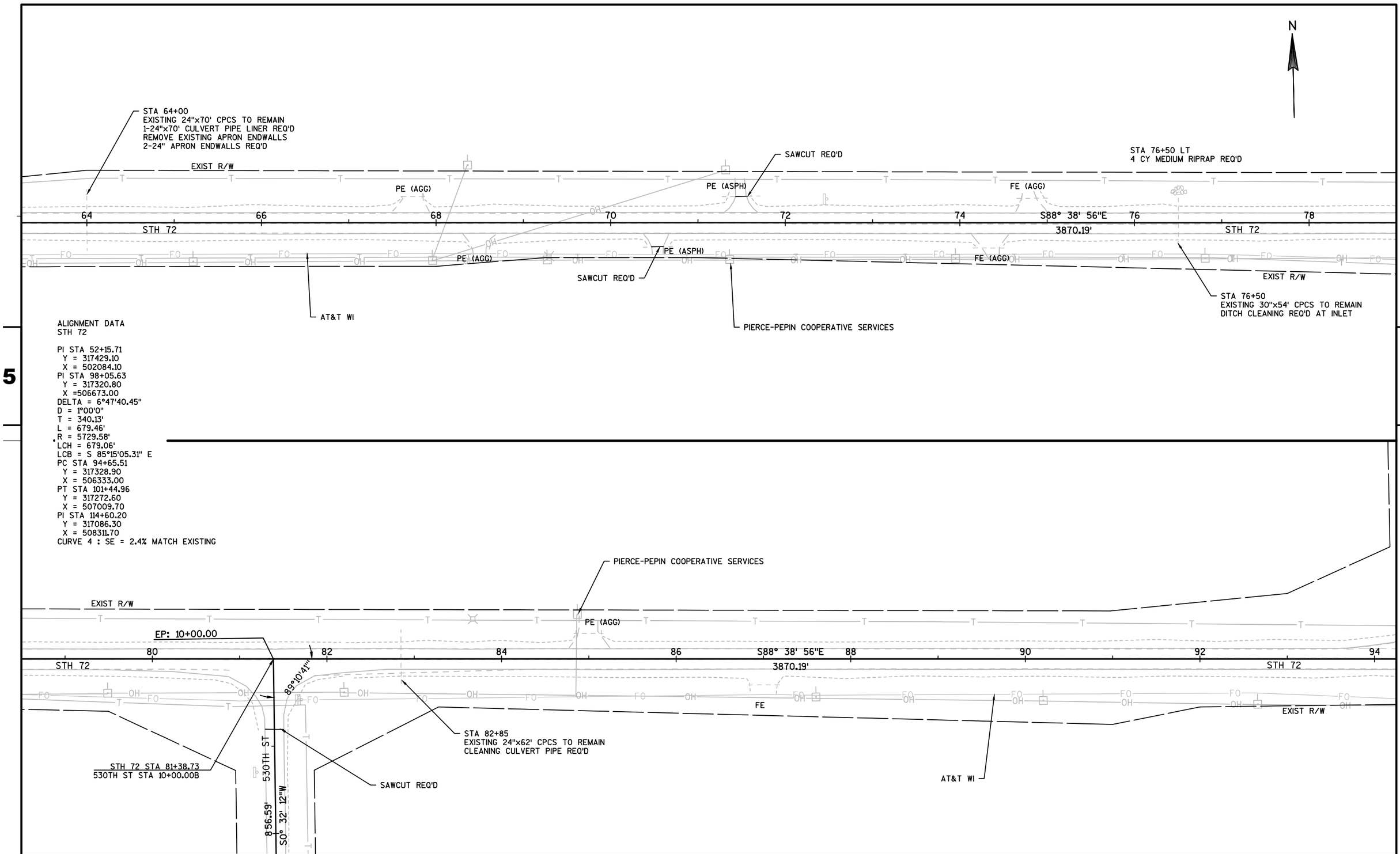
FE

EXIST R/W

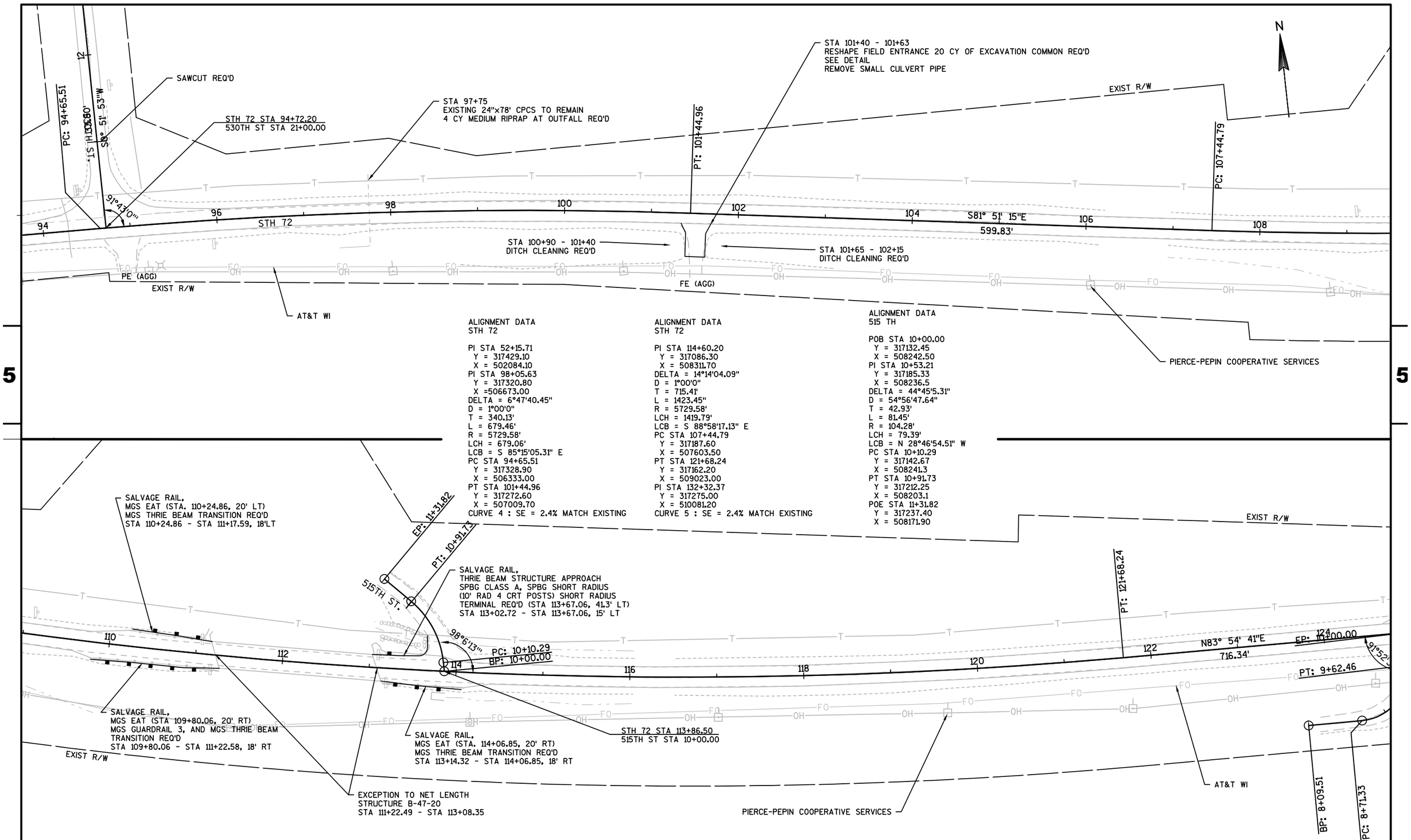
AT&T WI

STA 54+45
EXISTING 24"x52' CPCS TO REMAIN
REMOVE EXISTING APRON ENDWALLS
2-24" APRON ENDWALLS REQ'D
DITCH CLEANING REQ'D AT INLET AND OUTLET

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN	SHEET 50	E



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN	SHEET 51	E



ALIGNMENT DATA
STH 72

PI STA 52+15.71
Y = 317429.10
X = 502084.10
PI STA 98+05.63
Y = 317320.80
X =506673.00
DELTA = 6°47'40.45"
D = 1°00'0"
T = 340.13'
L = 679.46'
R = 5729.58'
LCH = 679.06'
LCB = S 85°15'05.31" E
PC STA 94+65.51
Y = 317328.90
X = 506333.00
PT STA 101+44.96
Y = 317272.60
X = 507009.70
CURVE 4 : SE = 2.4% MATCH EXISTING

ALIGNMENT DATA
STH 72

PI STA 114+60.20
Y = 317086.30
X = 508311.70
DELTA = 14°14'04.09"
D = 1°00'0"
T = 715.41'
L = 1423.45'
R = 5729.58'
LCH = 1419.79'
LCB = S 88°58'17.13" E
PC STA 107+44.79
Y = 317187.60
X = 507603.50
PT STA 121+68.24
Y = 317162.20
X = 509023.00
PI STA 132+32.37
Y = 317275.00
X = 510081.20
CURVE 5 : SE = 2.4% MATCH EXISTING

ALIGNMENT DATA
515 TH

POB STA 10+00.00
Y = 317132.45
X = 508242.50
PI STA 10+53.21
Y = 317185.33
X = 508236.5
DELTA = 44°45'5.31"
D = 54°56'47.64"
T = 42.93'
L = 81.45'
R = 104.28'
LCH = 79.39'
LCB = N 28°46'54.51" W
PC STA 10+10.29
Y = 317142.67
X = 508241.3
PT STA 10+91.73
Y = 317212.25
X = 508203.1
POE STA 11+31.82
Y = 317237.40
X = 508171.90

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN	SHEET 52	E

N

SAWCUT REQ'D

EXIST R/W

PE (ASPH)

PE (AGG)

PC: 128+84.58

FE

STA 135+44
1-36"x115' CPCS TO REMAIN
DITCH CLEANING REQ'D AT OUTFALL

PT: 135+79.31

126 128 130 132 134 136 138

N83° 54' 41"E
716.34'

STH 72

S89° 08' 29"E
551.48'

91°52'13"

510TH ST

AT&T WI

PIERCE-PEPIN COOPERATIVE SERVICES

EXIST R/W

STH 72 STA 124+91.20
510TH ST STA 10+00.00

ALIGNMENT DATA
510 TH

POB STA 08+09.51
Y = 317088.00
X = 509237.50
PI STA 09+29.95
Y = 317101.20
X = 509357.30
DELTA = 91°37'9.35"
D = 100°32'41.15"
T = 58.62'
L = 91.12'
R = 56.99'
LCH = 81.72'
LCB = N 37°53'58.13" E
PC STA 08+71.33
Y = 317094.70
X = 509299.00
PT STA 09+62.46
Y = 317159.20
X = 509349.20
POE STA 10+00.00
Y = 317196.40
X = 509344.00

ALIGNMENT DATA
STH 72

PI STA 114+60.20
Y = 317086.30
X = 508311.70
PI STA 132+32.37
Y = 317275.00
X = 510081.20
DELTA = 6°56'50.23"
D = 1°00'0"
T = 347.79'
L = 694.73'
R = 5729.58'
LCH = 694.30'
LCB = N 87°23'05.94" E
PC STA 128+84.58
Y = 317238.10
X = 509735.30
PT STA 135+79.31
Y = 317269.80
X = 510428.90
CURVE 6 : SE 2.4% MATCH EXISTING

ALIGNMENT DATA
STH 72

PI STA 146+75.63
Y = 317253.40
X = 511525.10
DELTA = 2°43'25.42"
D = 0°15'0"
T = 544.85'
L = 1089.49'
R = 22918.31'
LCH = 1089.39'
LCB = S 87°46'46.23" E
PC STA 141+30.79
Y = 317261.60
X = 510980.30
PT STA 152+20.28
Y = 317219.30
X = 512068.90
PI STA 169+26.40
Y = 317112.70
X = 513771.70
CURVE 7 : NC

PC: 8+71.33

PC: 141+30.79

SAWCUT REQ'D

490TH ST. 12

STA 147+18
1-24"x79' CPCS TO REMAIN
REMOVE EXISTING ENDWALLS
2-24" APRON ENDWALLS REQ'D

STA 150+70
1-24"x103' CPCS TO REMAIN
6 CY MEDIUM RIPRAP REQ'D AT OUTFALL

PT: 152+20.28

EXIST R/W

STH 72 STA 146+76.86
490TH ST STA 27+00.00D

91°50'32"

140 142 144 146 148 150 152 154

S89° 08' 29"E
551.48'

STH 72

S86° 25' 04"E
1479.98'

PE (AGG)

STA 145+15 TO 146+20 RT
DITCH CLEANING REQ'D

AT&T WI

PIERCE-PEPIN COOPERATIVE SERVICES

EXIST R/W

STA 141+27
1-72"x212' CPCS TO REMAIN

SAWCUT REQ'D

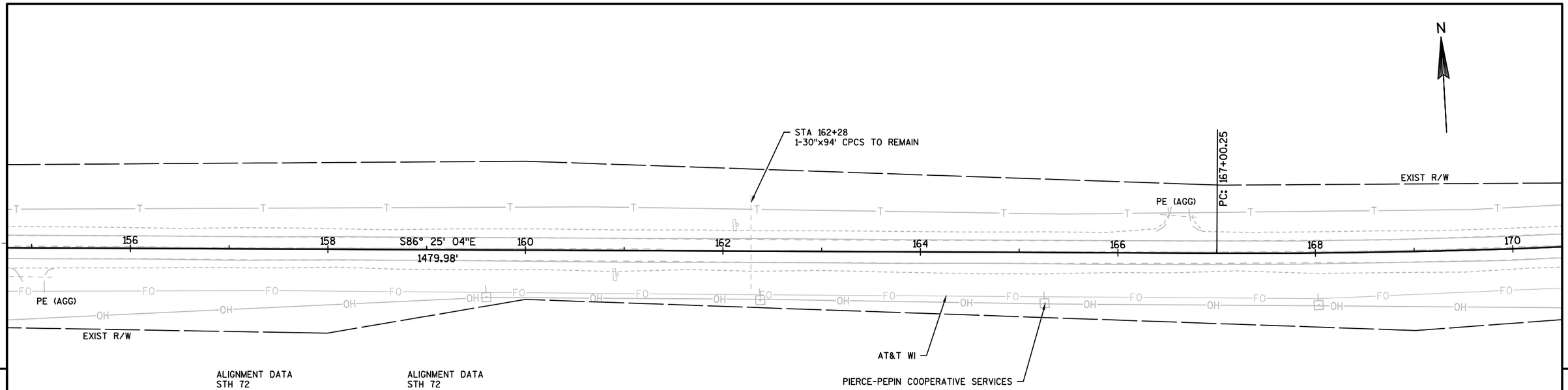
490TH ST.

BP: 8+17.28

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN	SHEET 53	E

FILE NAME : F:\DRAWINGS\2012-134\0008\71050631\SHEETSPLAN\050201_PN.DWG PLOT DATE : 2/17/2016 10:14 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



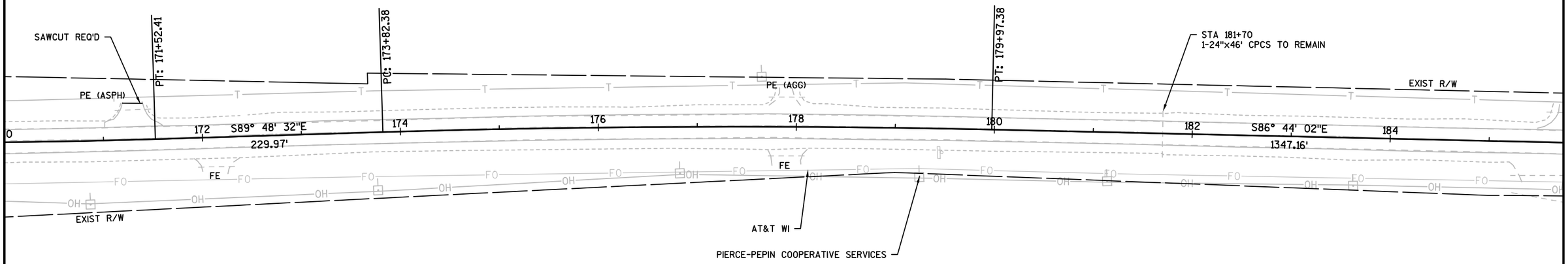
5

ALIGNMENT DATA
STH 72

PI STA 146+75.63
Y = 317253.40
X = 511525.10
PI STA 169+26.40
Y = 317112.70
X = 513771.70
DELTA = 3°23'28.20"
D = 0°45'0"
T = 226.14'
L = 452.16'
R = 7639.44'
LCH = 452.09'
LCB = S 88°06'47.62" E
PC STA 167+00.25
Y = 317126.90
X = 513546.00
PT STA 171+52.41
Y = 317112.00
X = 513997.80
CURVE 8 : SE = 2.0% MATCH EXISTING

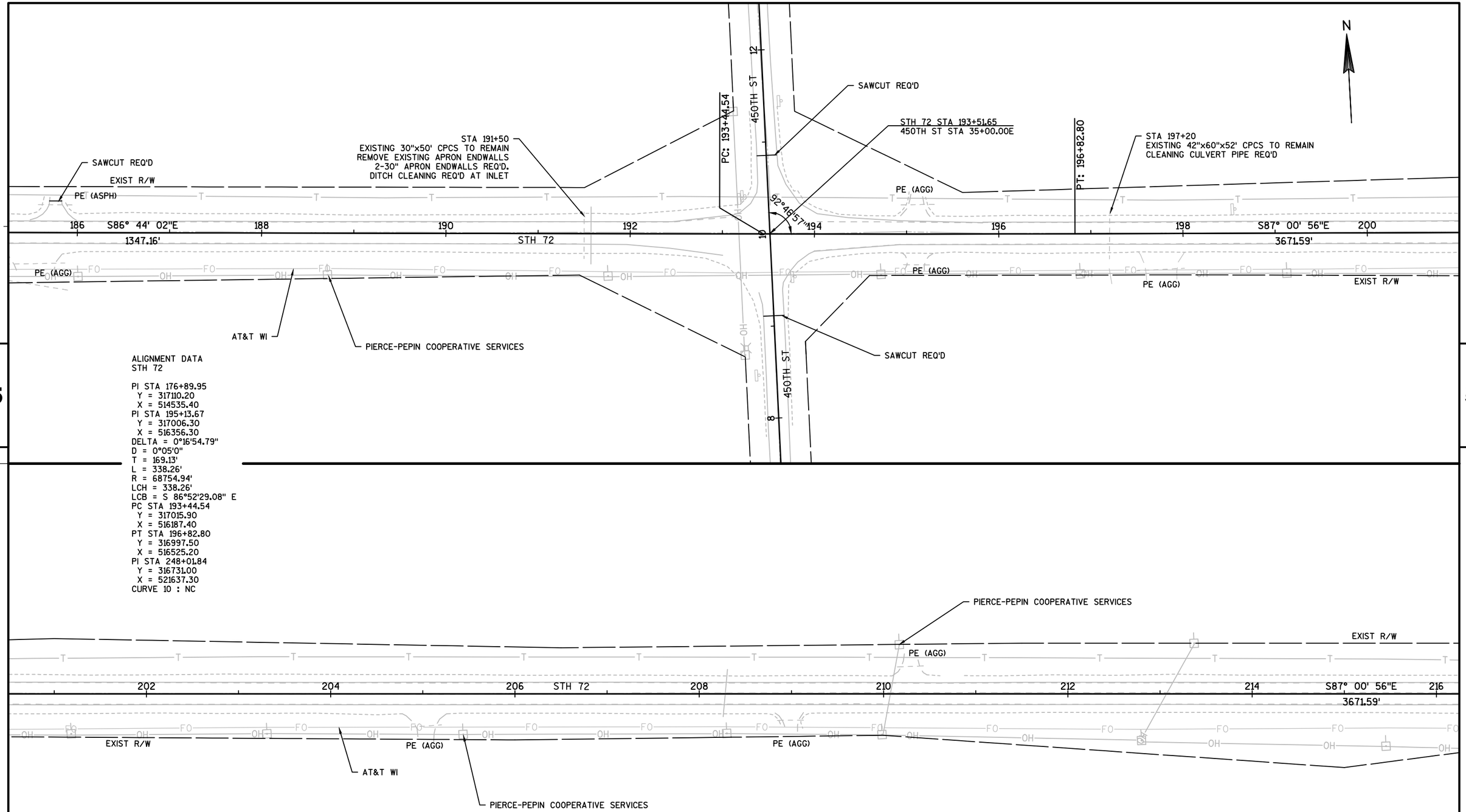
ALIGNMENT DATA
STH 72

PI STA 176+89.95
Y = 317110.20
X = 514535.40
DELTA = 3°04'30.03"
D = 0°30'0"
T = 307.78'
L = 615.00'
R = 11459.16'
LCH = 614.93'
LCB = S 88°16'16.70" E
PC STA 173+82.38
Y = 317111.20
X = 514227.80
PT STA 179+97.38
Y = 317092.70
X = 514842.50
PI STA 195+13.67
Y = 317006.30
X = 516356.30
CURVE 9 : NC



5

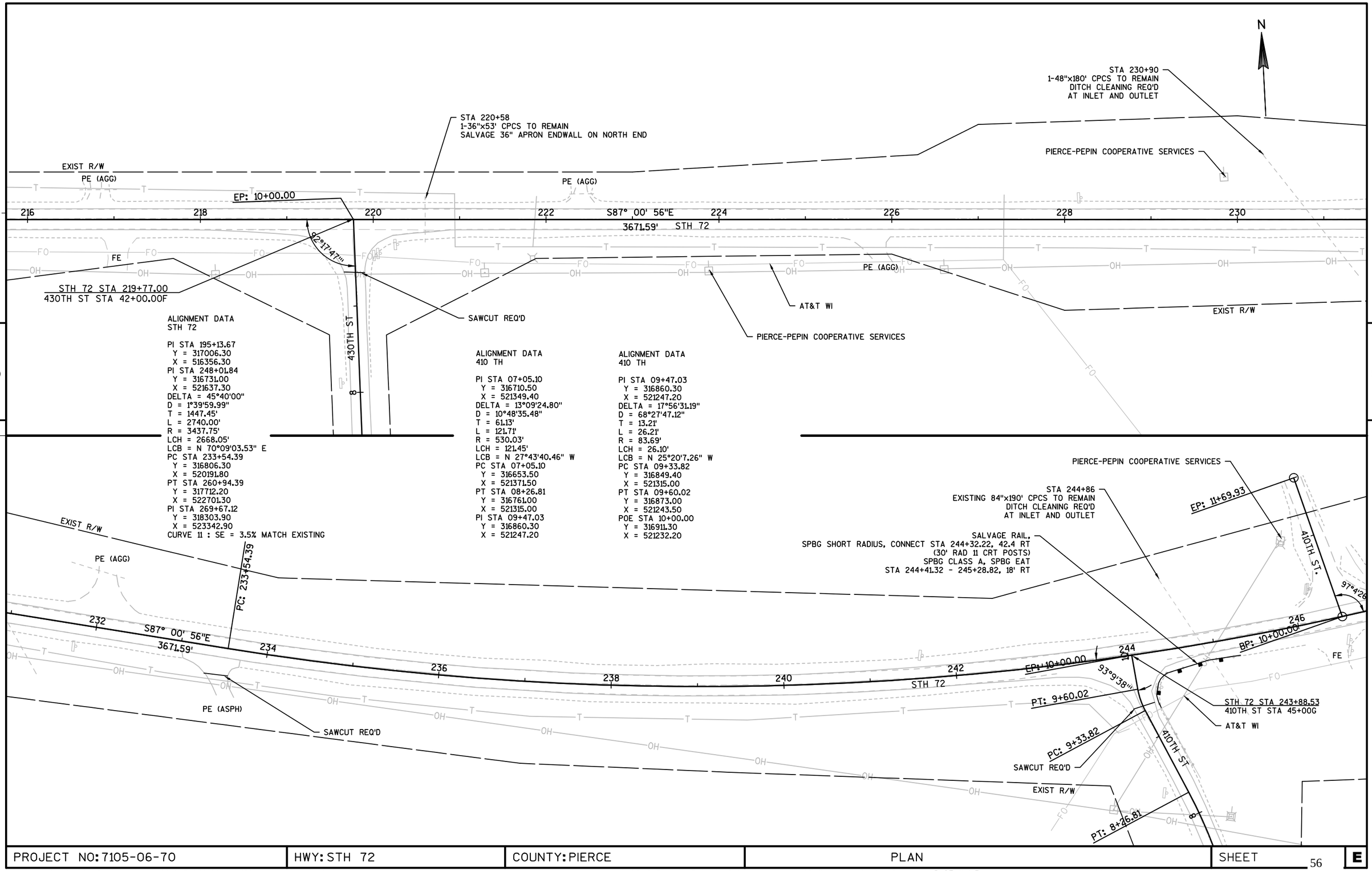
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN	SHEET 54	E



ALIGNMENT DATA
STH 72

PI STA 176+89.95
Y = 317110.20
X = 514535.40
PI STA 195+13.67
Y = 317006.30
X = 516356.30
DELTA = 0°16'54.79"
D = 0°05'0"
T = 169.13'
L = 338.26'
R = 68754.94'
LCH = 338.26'
LCB = S 86°52'29.08" E
PC STA 193+44.54
Y = 317015.90
X = 516187.40
PT STA 196+82.80
Y = 316997.50
X = 516525.20
PI STA 248+01.84
Y = 316731.00
X = 521637.30
CURVE 10 : NC

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN	SHEET 55	E



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN	SHEET 56	E

FILE NAME : F:\DRAWINGS\2012-134\0008\71050631\SHEETSPLAN\050201_PN.DWG PLOT DATE : 2/17/2016 10:15 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

STA 249+54, 78' LT
REMOVE EXISTING CONCRETE ENDWALL
1-CONCRETE MASONRY ENDWALL REQ'D
(SEE DETAIL)

SALVAGE RAIL,
MGS EAT (STA 248+00, 20' LT
AND STA 253+56.2, 20' LT)
MGS GUARDRAIL 3 REQ'D
STA 248+00 - STA 253+56.2, 18' LT

EXIST R/W

410TH ST

97°4'26"

248 250 252 254 256 258 260 262

STH 72

STA 259+50 LT
6 CY MEDIUM RIPRAP REQ'D

PT: 260+94.39

STH 72 STA 246+52.55
410TH ST STA 10+00.00

STA 248+80
1-84"x226' CPCS TO REMAIN
DITCH CLEANING REQ'D
AT INLET AND OUTLET

PE (AGG)

AT&T WI

STA 259+20
EXISTING 24"x76' CSCP TO REMAIN

EXIST R/W

FO

5

SALVAGE RAIL,
MGS EAT (STA 259+98.97, 20' LT
AND STA 273+80.21, 20' LT)
MGS GUARDRAIL REQ'D
STA 259+98.97 - STA 273+80.21, 18' LT

PC: 265+16.22

262 264 266 268 270 272 274 276

STH 72

PT: 273+63.08

PC: 274+00.38

STA 263+10 LT.
6 CY MEDIUM RIPRAP REQ'D

N47° 19' 04"E
421.82'

AT&T WI

STA 262+90
2 EXISTING 24"x72' CSCP'S TO REMAIN

EXIST R/W

STA 272+00 TO 273+00
ASPHALTIC FLUME REQ'D
8 CY MEDIUM RIPRAP REQ'D

S83° 59' 16"E
37.30'

SAWCUT REQ'D

PE (ASPH)

SAWCUT REQ'D

PE (ASPH)

SAWCUT REQ'D

PE (ASPH)

PE (AGG)

EXIST R/W

FO

ALIGNMENT DATA
STH 72

PI STA 195+13.67
Y = 317006.30
X = 516356.30
PI STA 248+01.84
Y = 316731.00
X = 521637.30
DELTA = 45°40'00"
D = 1°39'59.99"
T = 1447.45'
L = 2740.00'
R = 3437.75'
LCH = 2668.05'
LCB = N 70°09'03.53" E
PC STA 233+54.39
Y = 316806.30
X = 520191.80
PT STA 260+94.39
Y = 317712.20
X = 522701.30
CURVE 11 :
SE = 3.5% MATCH EXISTING

ALIGNMENT DATA
STH 72

PI STA 269+67.12
Y = 318303.90
X = 523342.90
DELTA = 48°41'40"
D = 5°44'59.97"
T = 450.90'
L = 846.86'
R = 996.45'
LCH = 821.60'
LCB = N 71°39'53.53" E
PC STA 265+16.22
Y = 317998.20
X = 523011.40
PT STA 273+63.08
Y = 318256.70
X = 523791.30
CURVE 12 :
SE = 6.0% MATCH EXISTING

ALIGNMENT DATA
STH 72

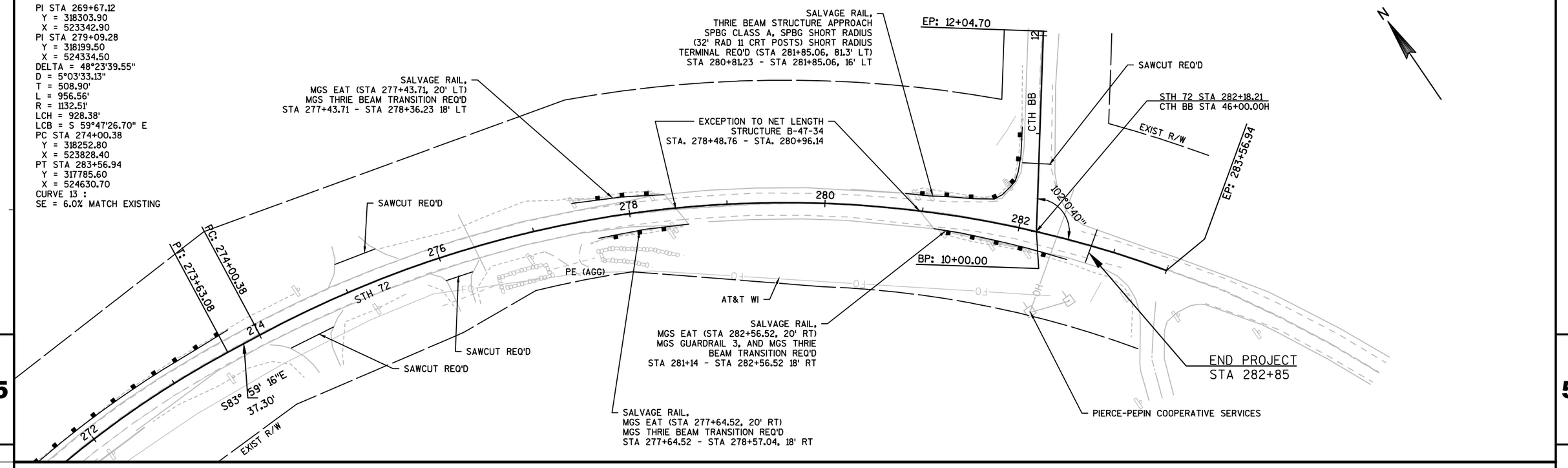
PI STA 279+09.28
Y = 318199.50
X = 524334.50
DELTA = 48°23'39.55"
D = 5°03'33.13"
T = 508.90'
L = 956.56'
R = 1132.50'
LCH = 928.38'
LCB = S 59°47'26.70" E
PC STA 274+00.38
Y = 318252.80
X = 523828.40
PT STA 283+56.94
Y = 317785.60
X = 524630.70
CURVE 13 :
SE = 6.0% MATCH EXISTING

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN	SHEET 57	E

FILE NAME : F:\DRAWINGS\2012-134\0008\71050631\SHEETSPLAN\050201_PN.DWG PLOT DATE : 2/17/2016 10:15 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:100 FT

ALIGNMENT DATA
STH 72

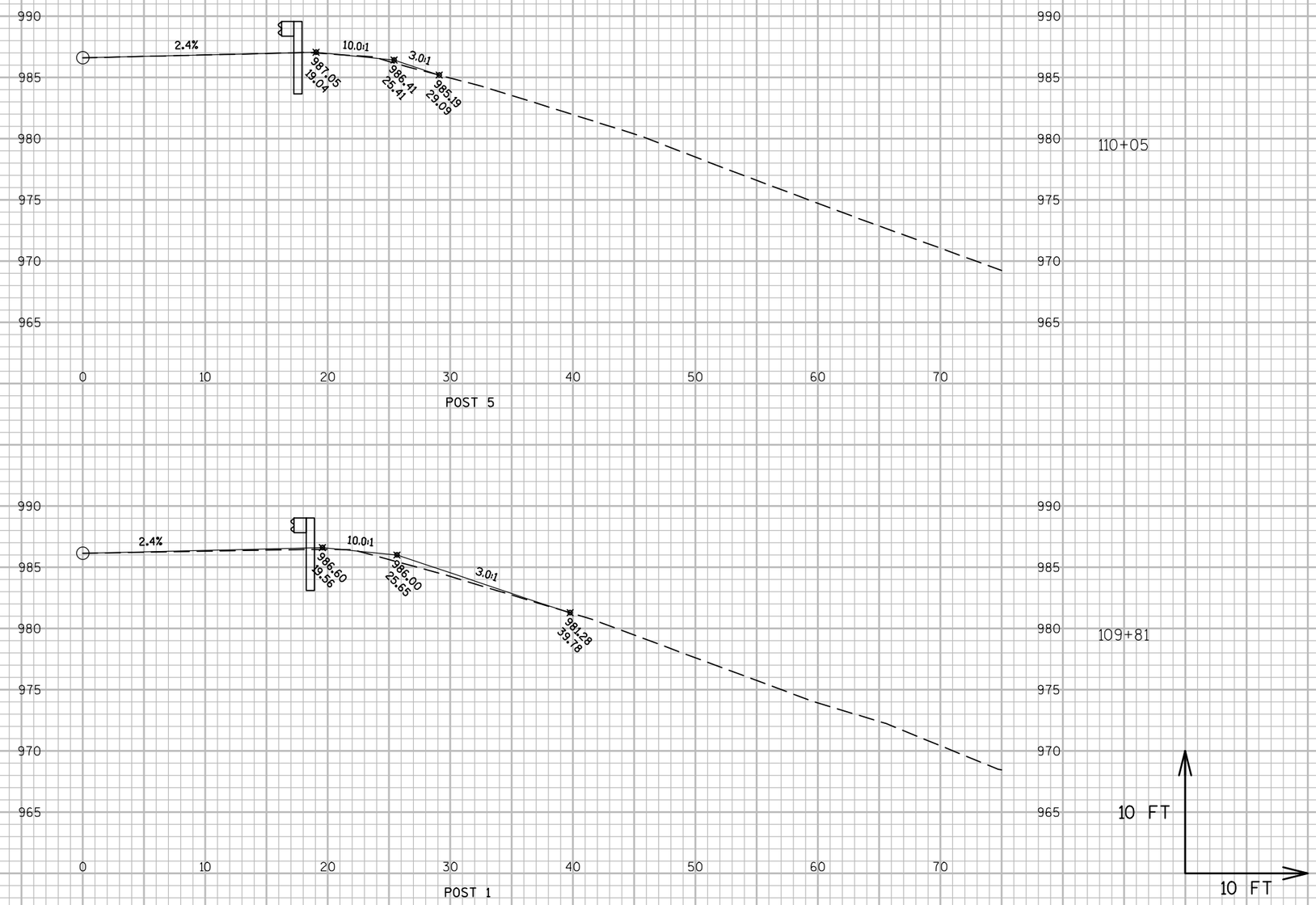
PI STA 269+67.12
Y = 318303.90
X = 523342.90
PI STA 279+09.28
Y = 318199.50
X = 524334.50
DELTA = 48°23'39.55"
D = 5°03'33.13"
T = 508.90'
L = 956.56'
R = 1132.51'
LCH = 928.38'
LCB = S 59°47'26.70" E
PC STA 274+00.38
Y = 318252.80
X = 523828.40
PT STA 283+56.94
Y = 317785.60
X = 524630.70
CURVE 13 :
SE = 6.0% MATCH EXISTING



5

5

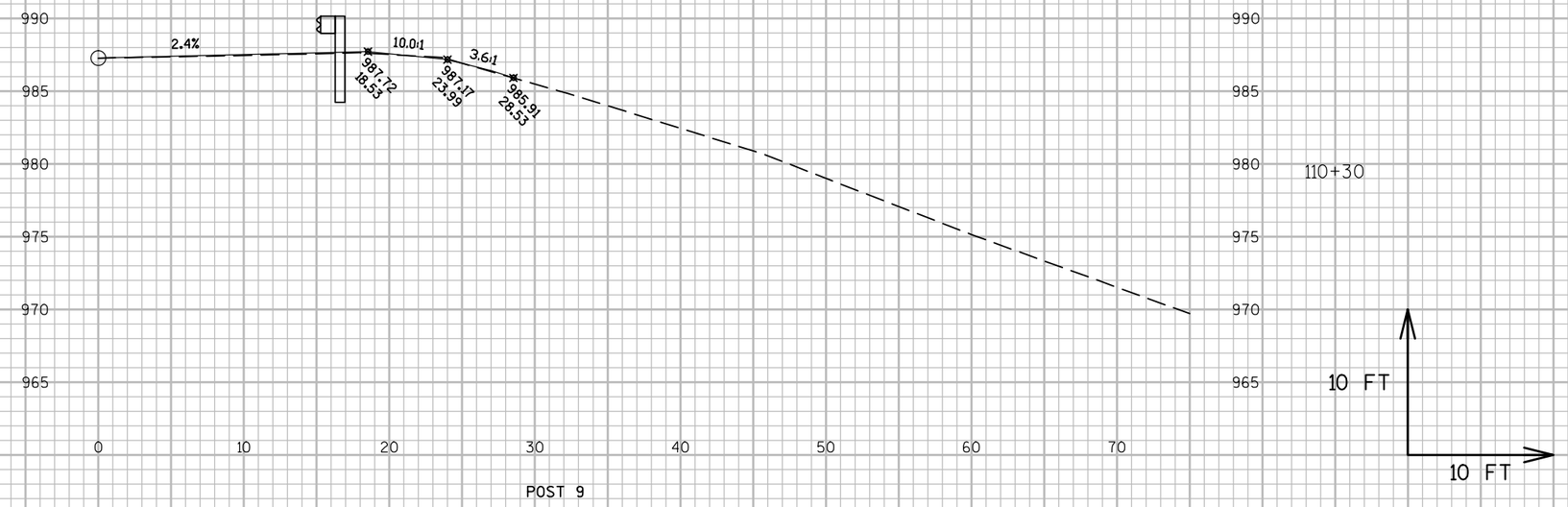
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	PLAN	SHEET 58	E



9

9

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 59	E



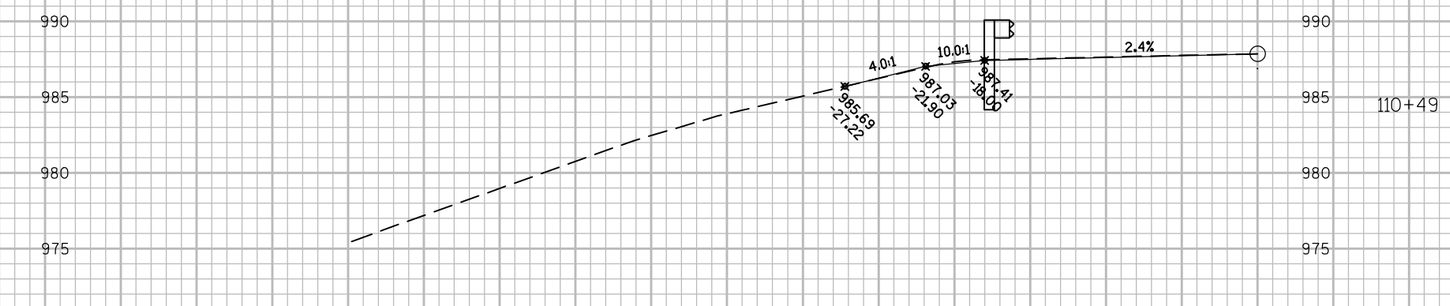
9

9

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 60	E

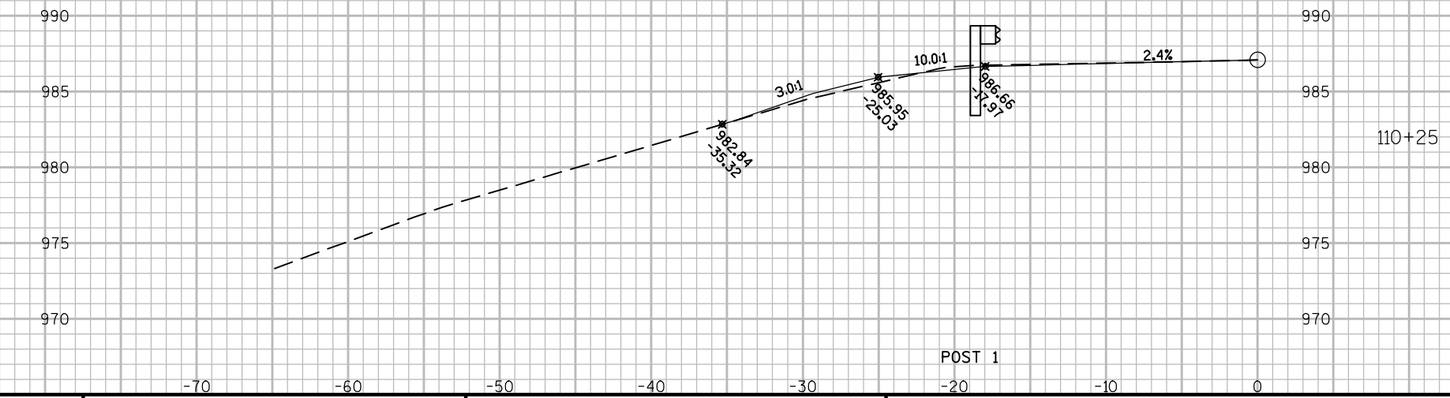
110+74

POST 9



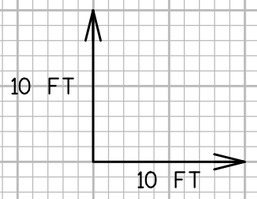
110+49

POST 5

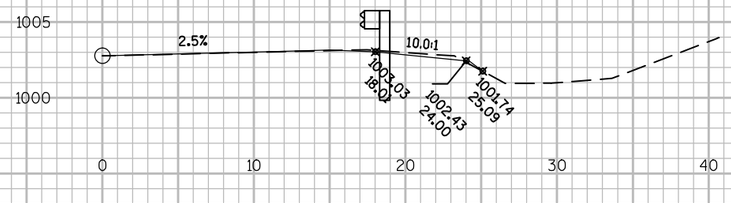


110+25

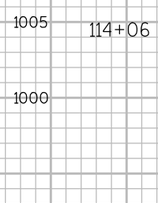
POST 1

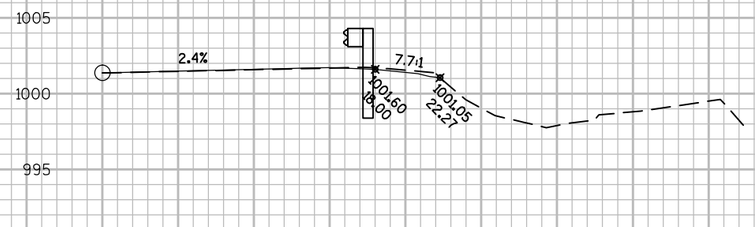


PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 61	E

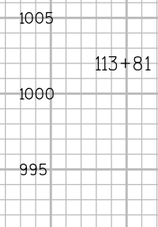


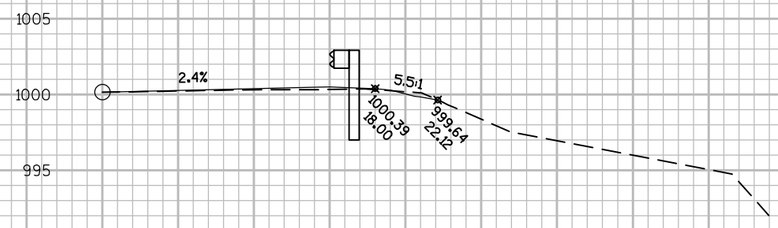
POST 1



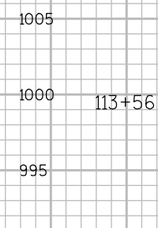


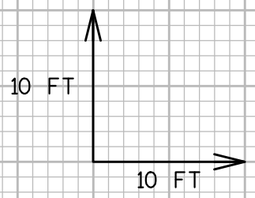
POST 5





POST 9

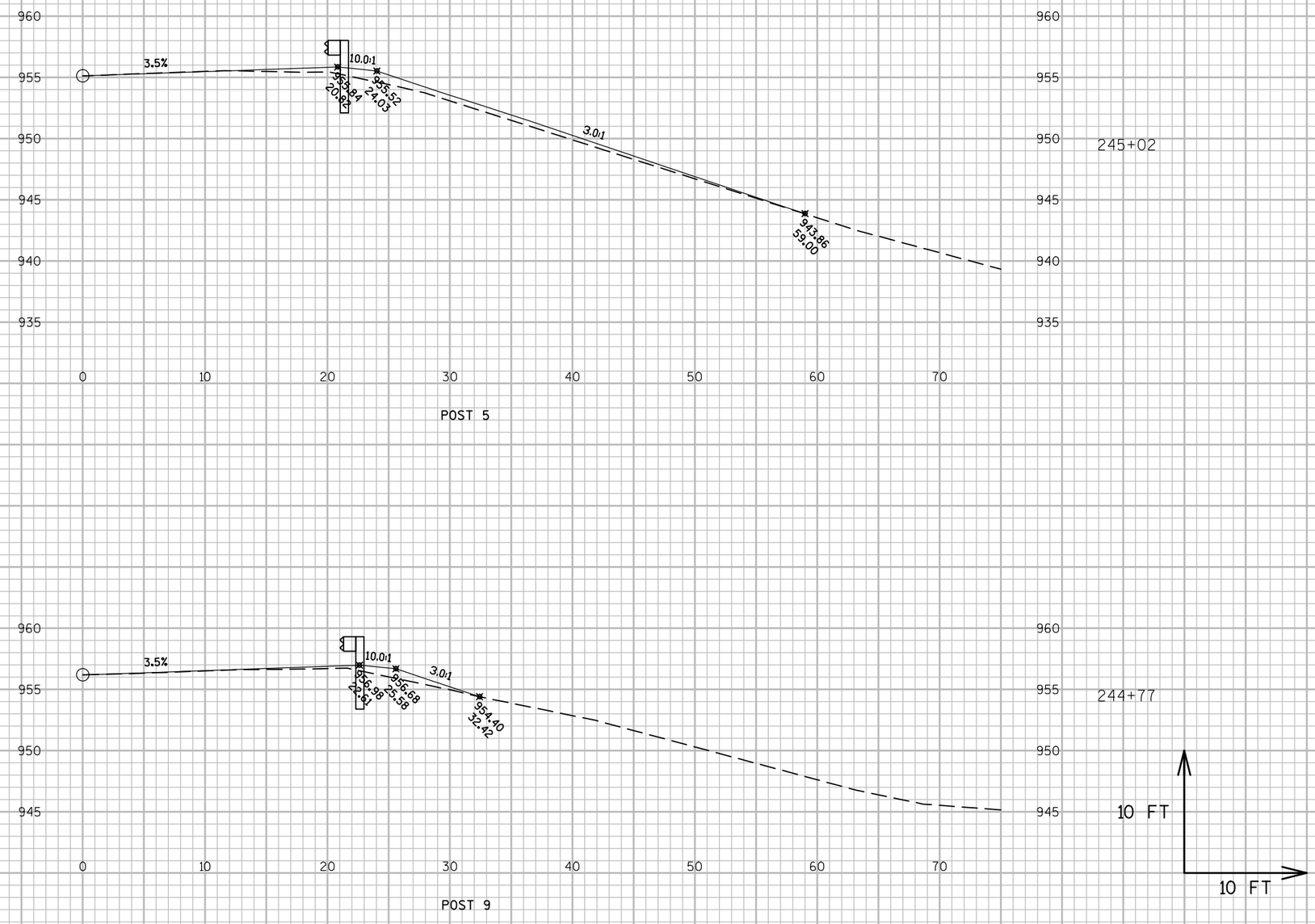




9

9

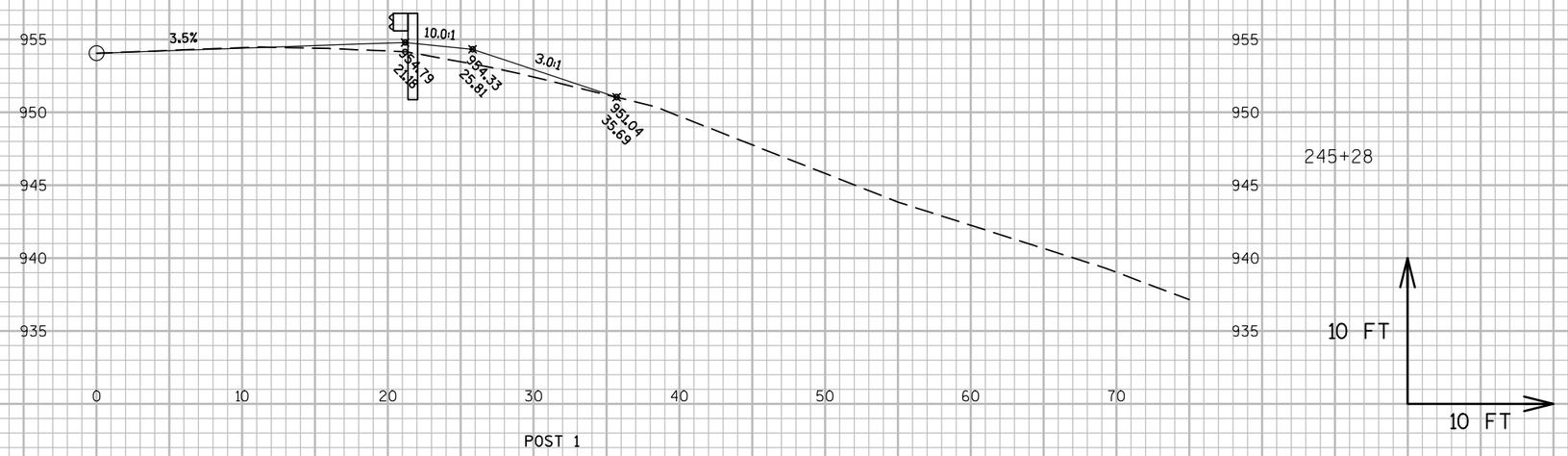
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 62	E



9

9

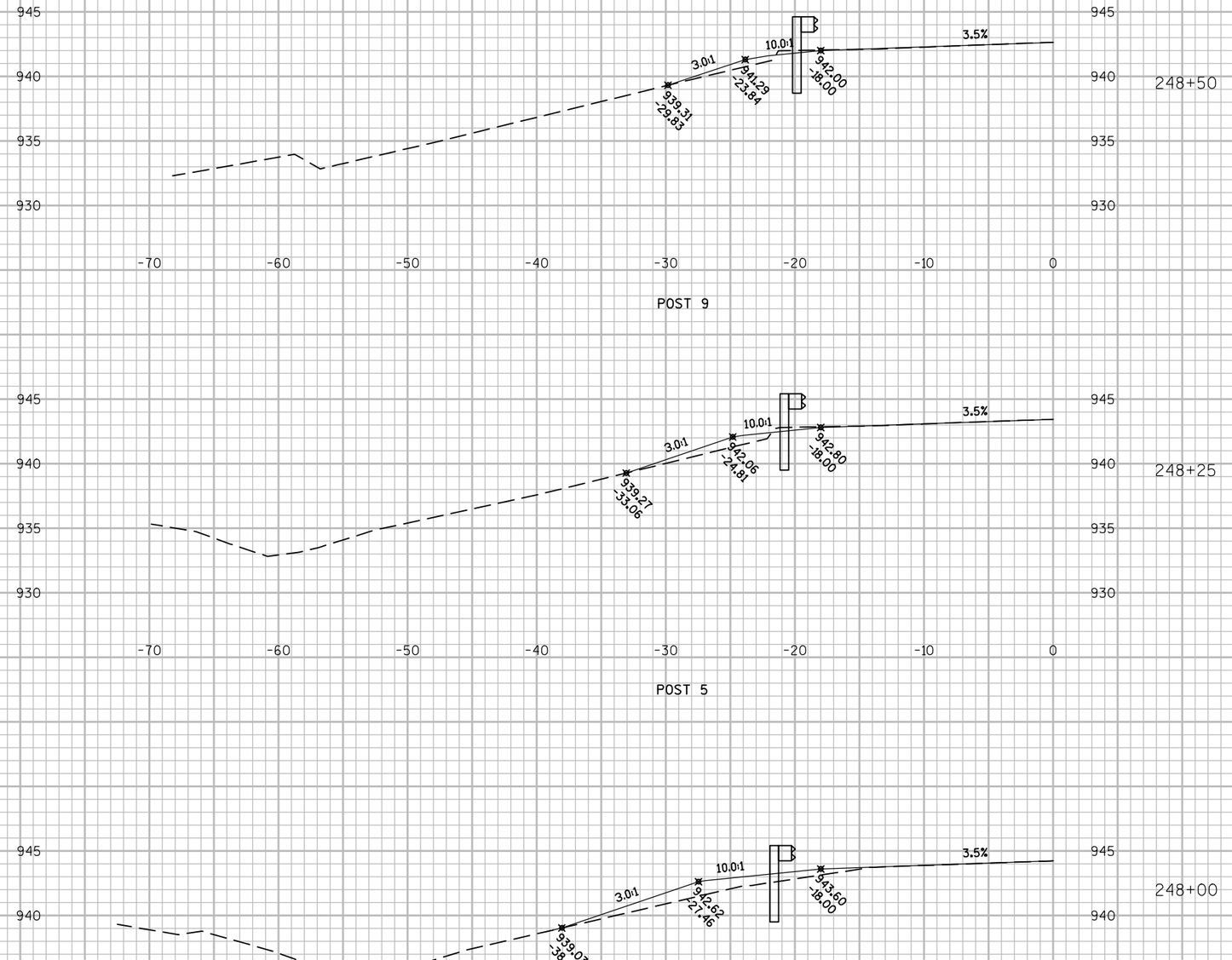
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 63	E



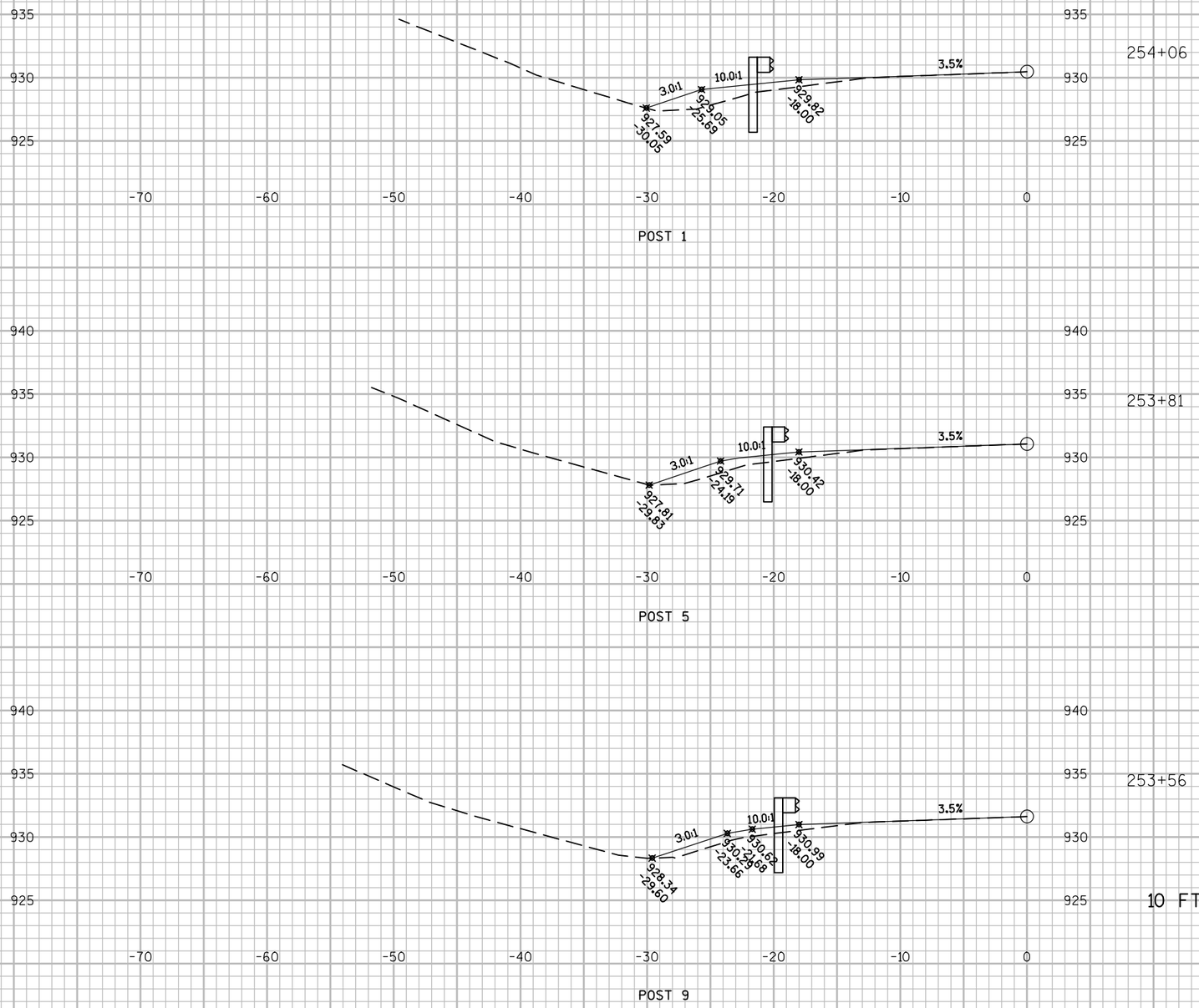
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET	E

FILE NAME : F:\PROJECTS\2012-134\0008\DRAWINGS\71050631\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/17/2016 10:18 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 65	E

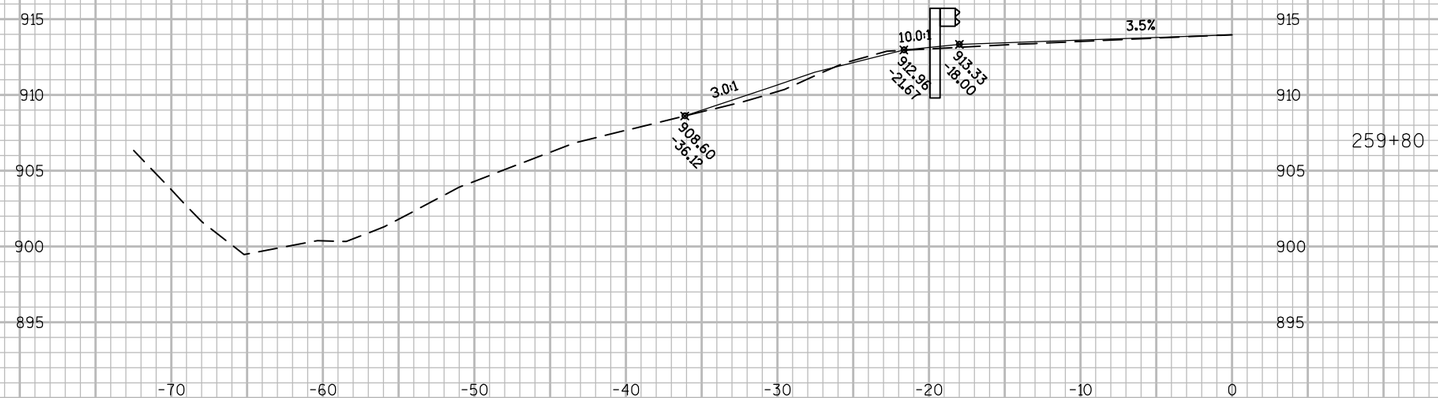


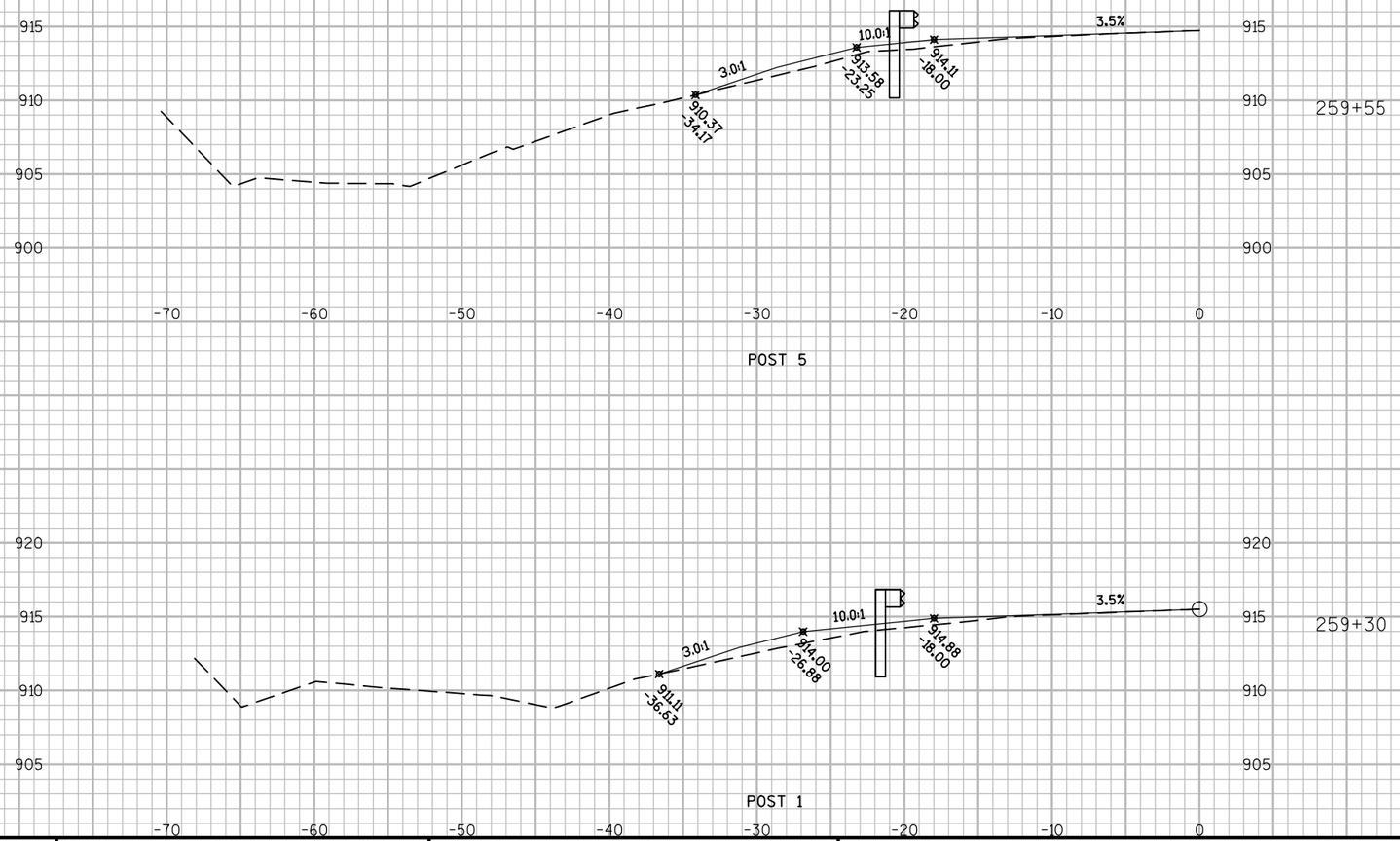
9

9

PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET	E

FILE NAME : F:\PROJECTS\2012-134\0008\DRAWINGS\71050631\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/17/2016 10:19 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:10 FT





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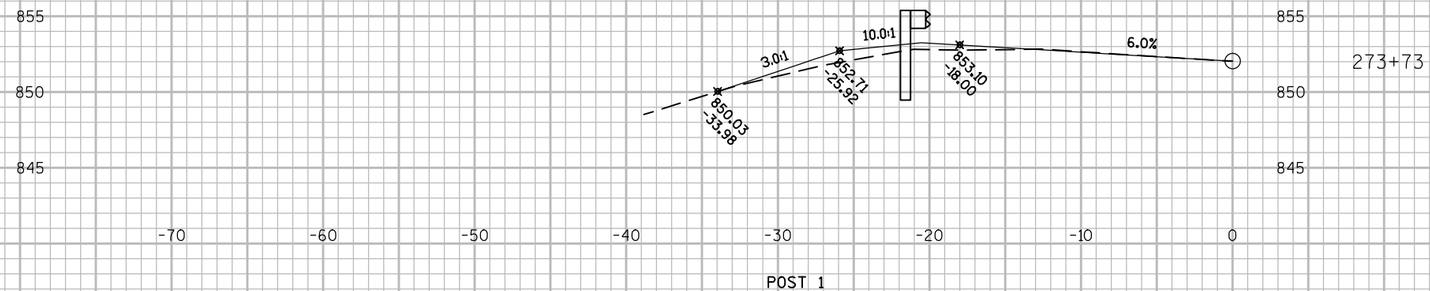
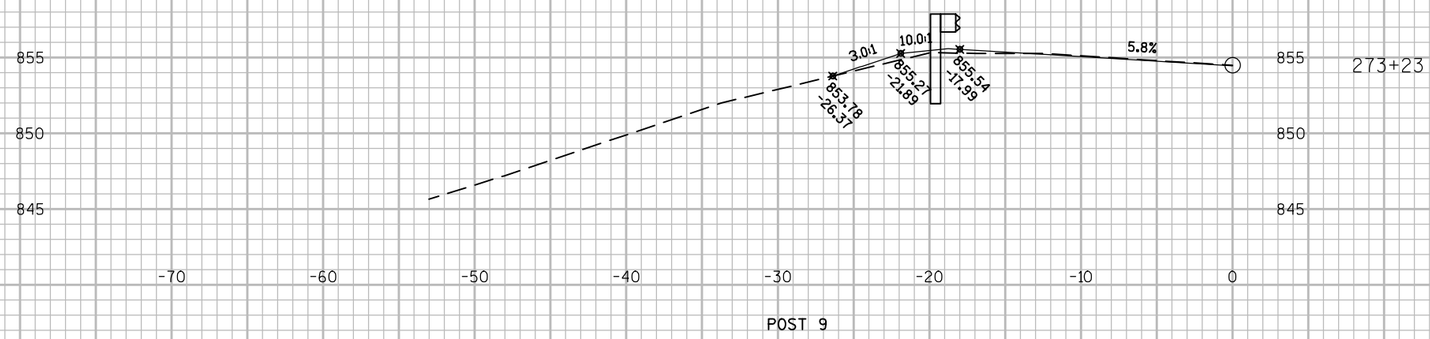
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 67	E

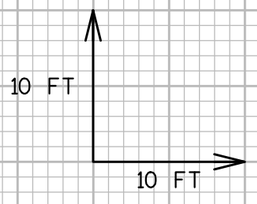


POST 1

POST 5



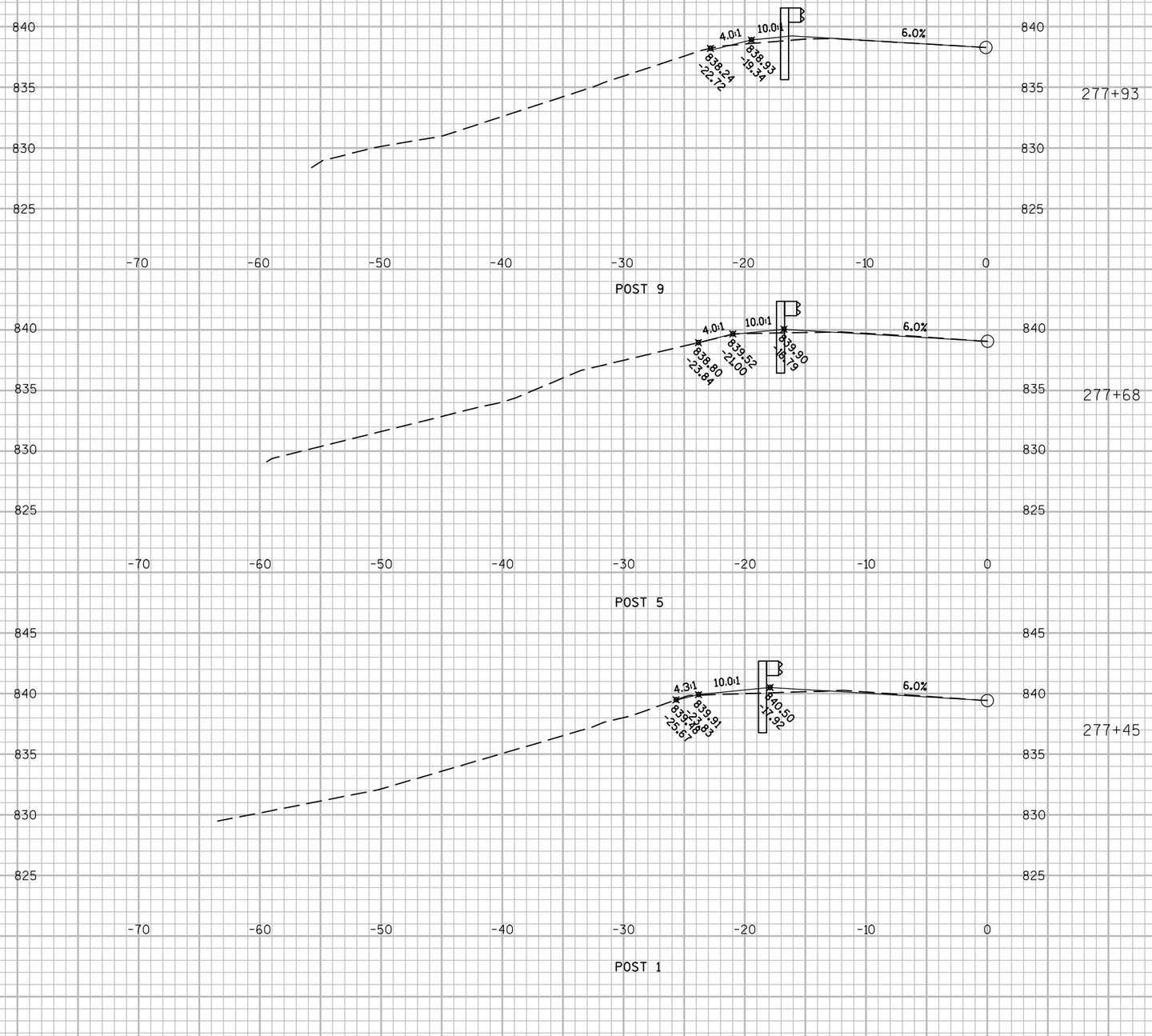
POST 9



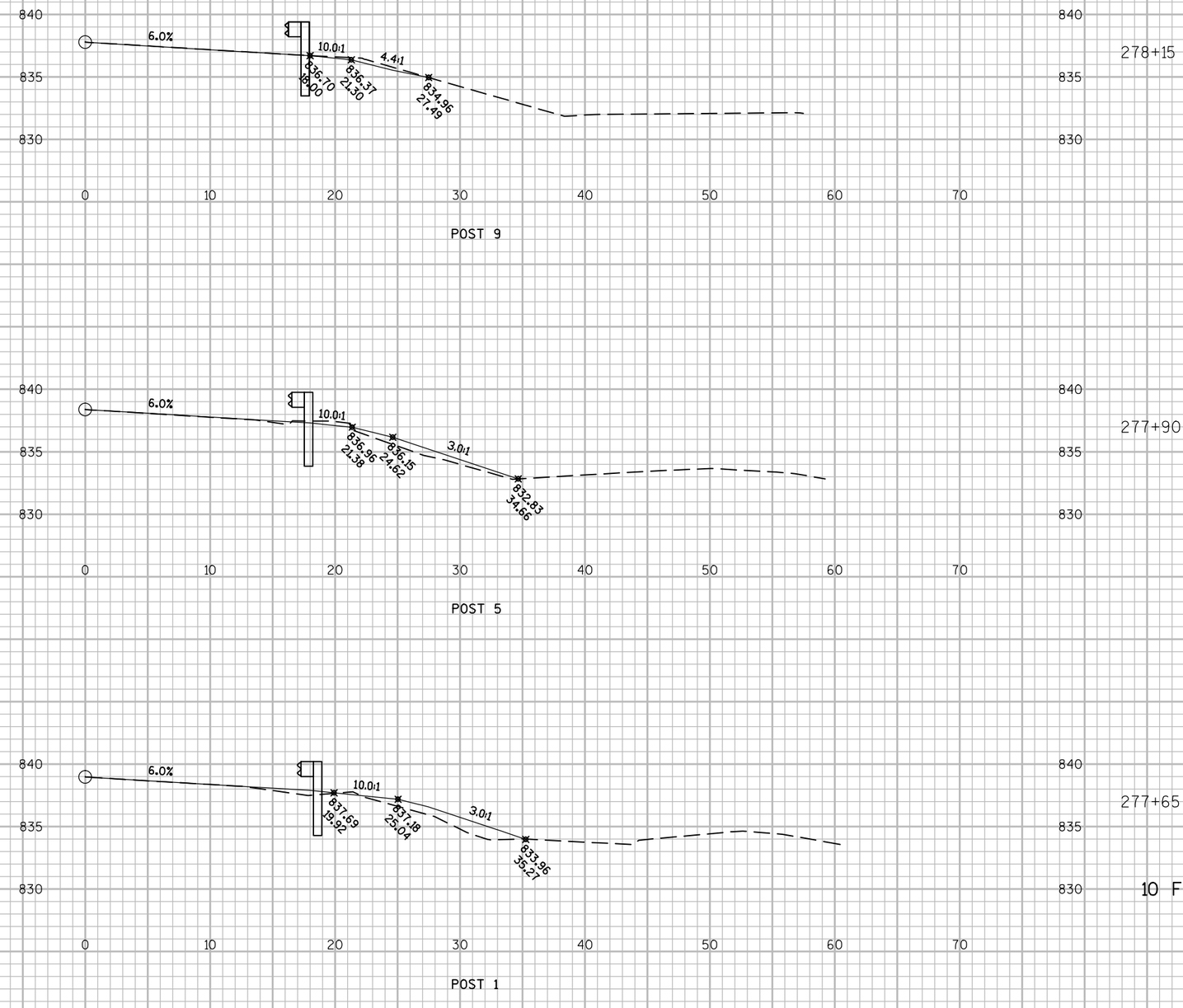
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 68	E

FILE NAME : F:\PROJECTS\2012-134\0008\DRAWINGS\71050631\SHEETSPLAN\090201_XS.DWG PLOT DATE : 2/17/2016 10:19 AM PLOT BY : DEVLIN BAUER PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 69	E



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PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 70	E

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LAYOUT NAME - 090212_XS

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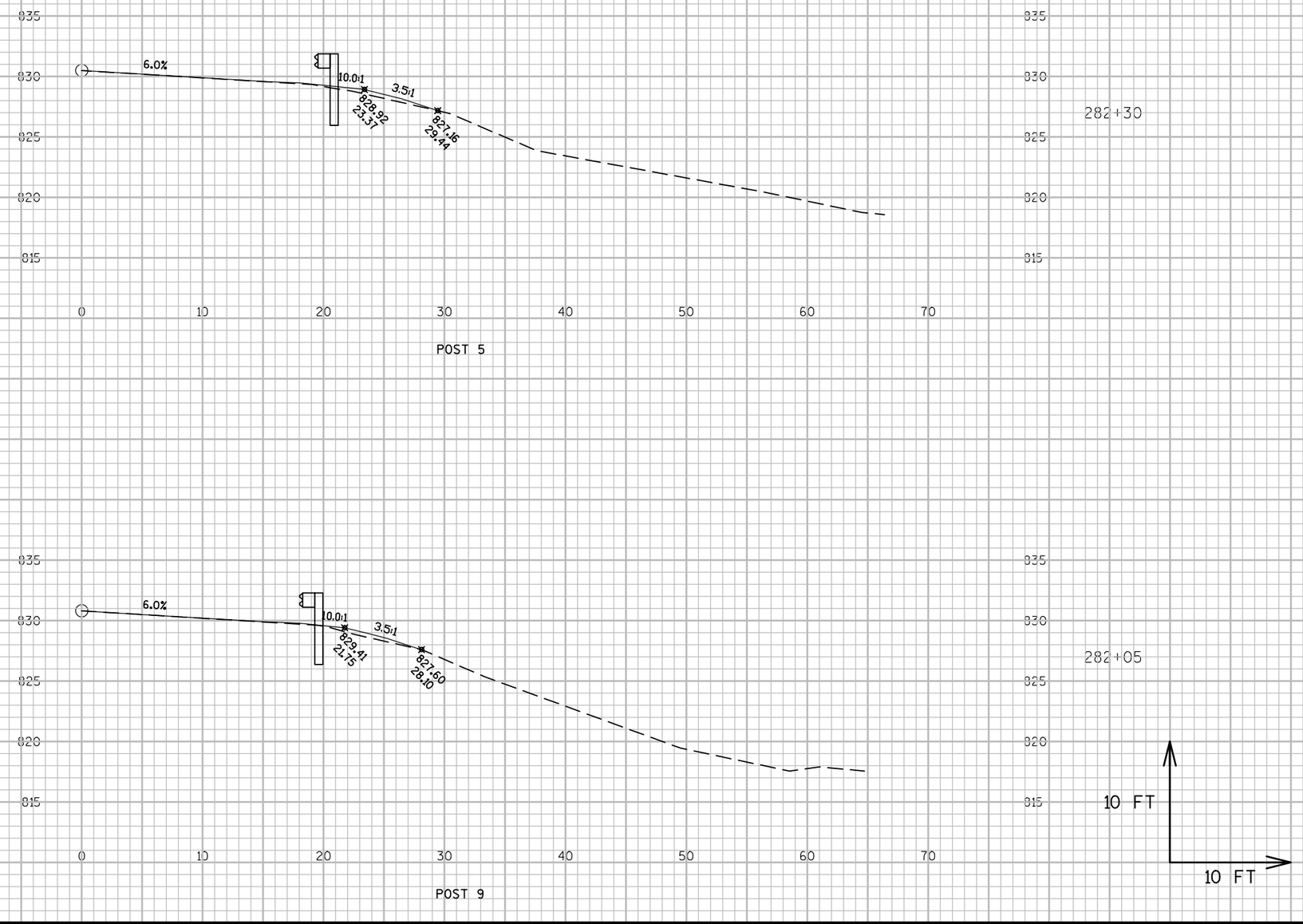

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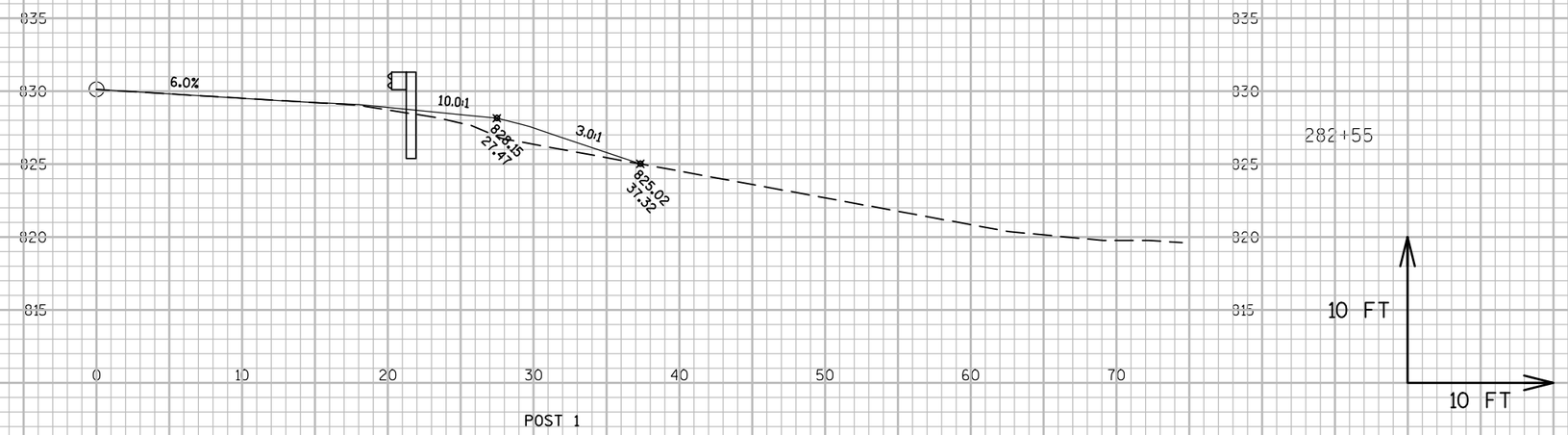
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 71	E



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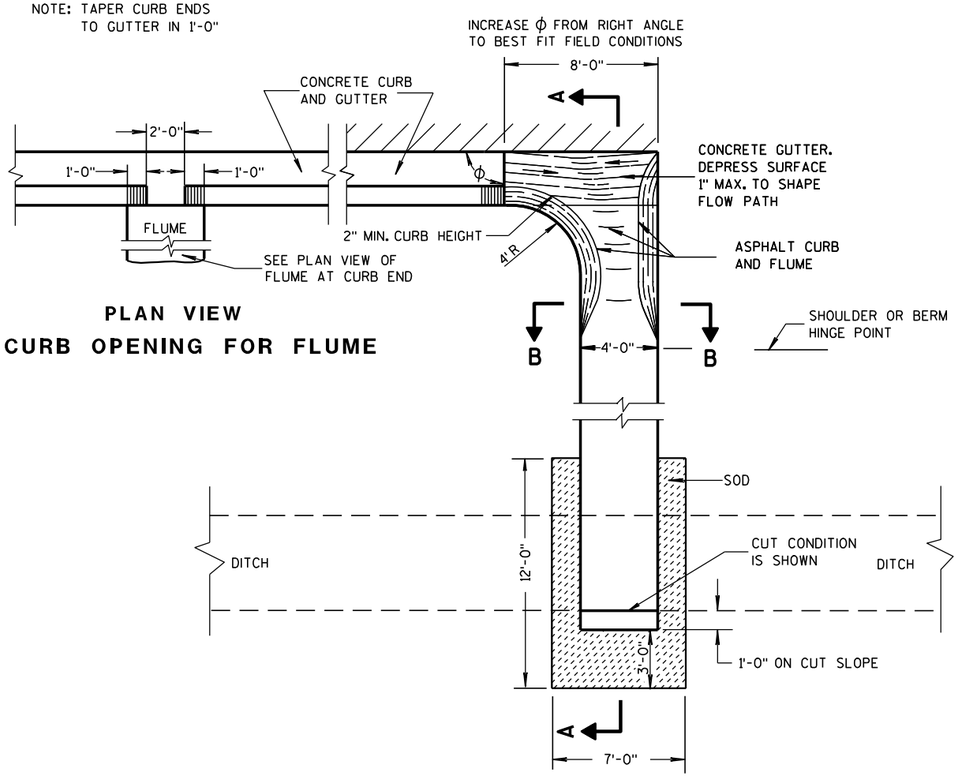
PROJECT NO: 7105-06-70	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS: BEAMGUARD END TERMINALS	SHEET 72	E

Standard Detail Drawing List

08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F10-01	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B15-08A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B16-04A	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B16-04B	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B24-08A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B29-01	SAFETY EDGE
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

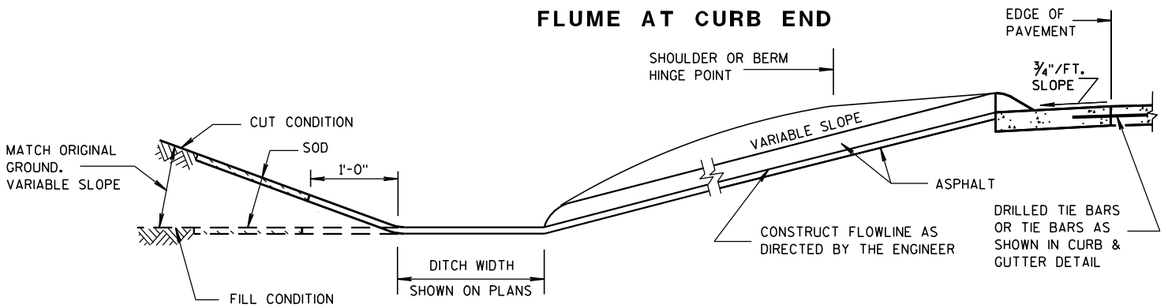
6

ASPHALTIC FLUME

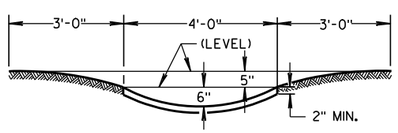


PLAN VIEW
CURB OPENING FOR FLUME

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.

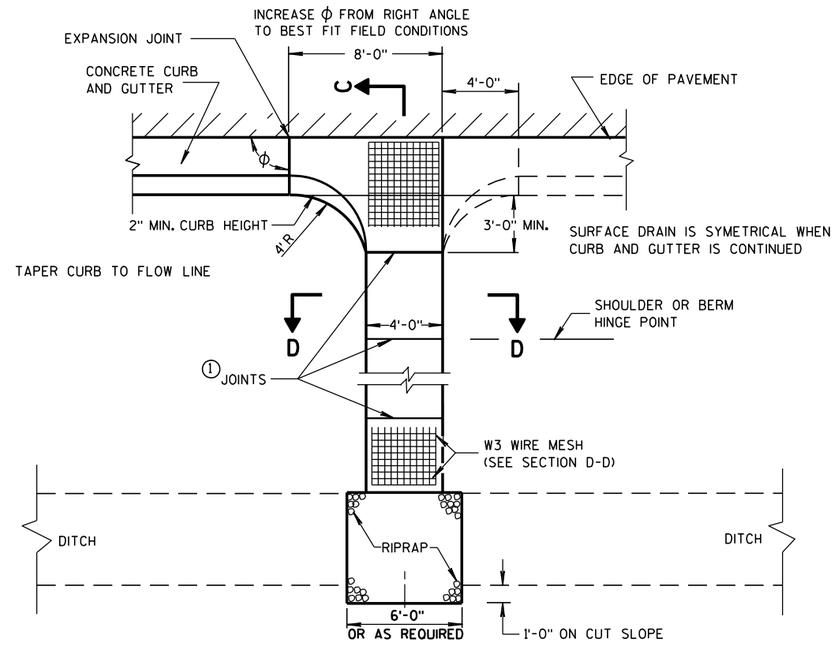
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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.

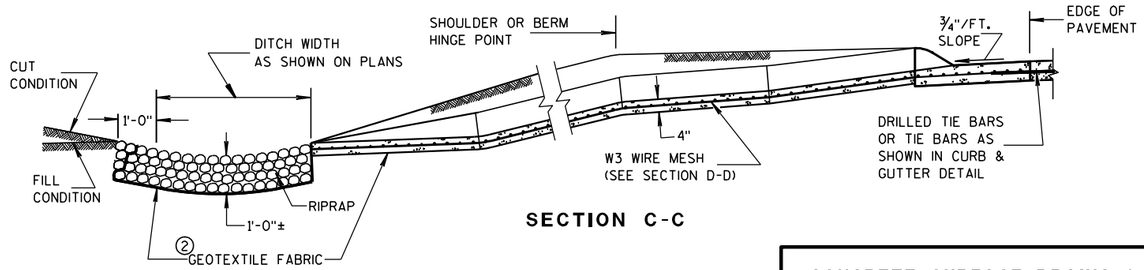
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

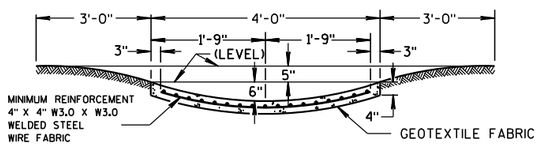
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

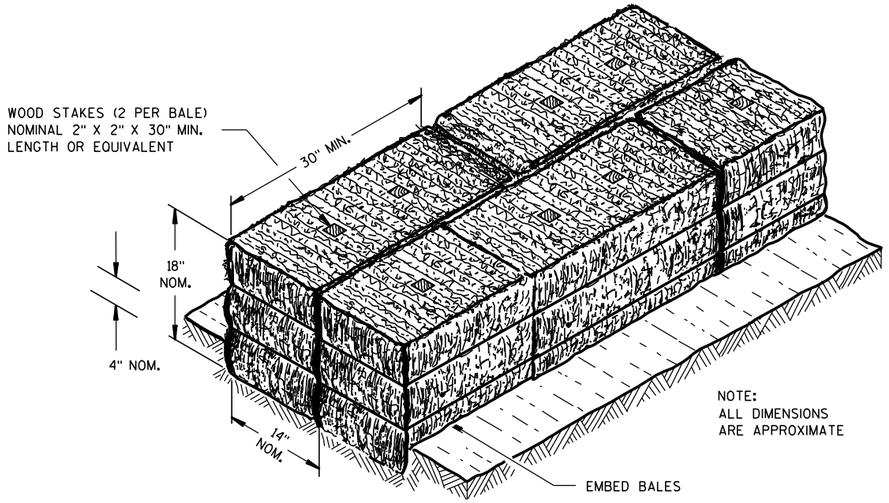
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
74
MENT
FHWA

6

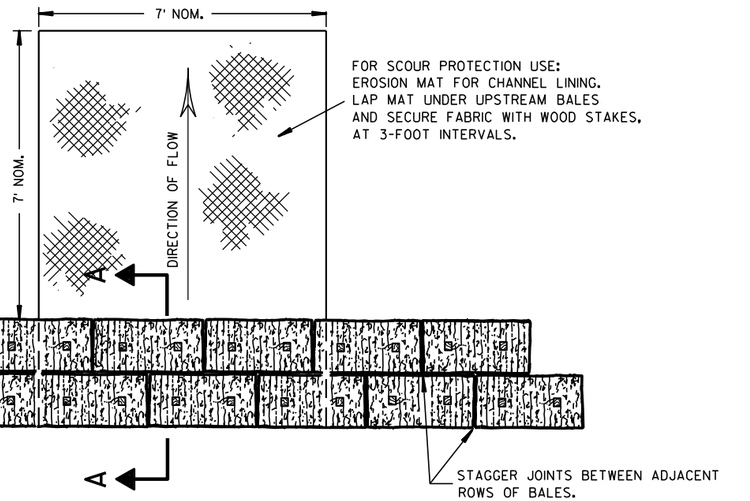
S.D.D. 8 D 4-5

6

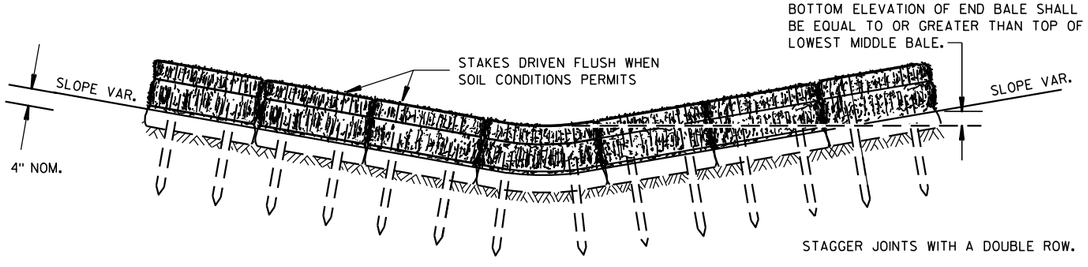
S.D.D. 8 D 4-5



SECTION A-A



PLAN VIEW



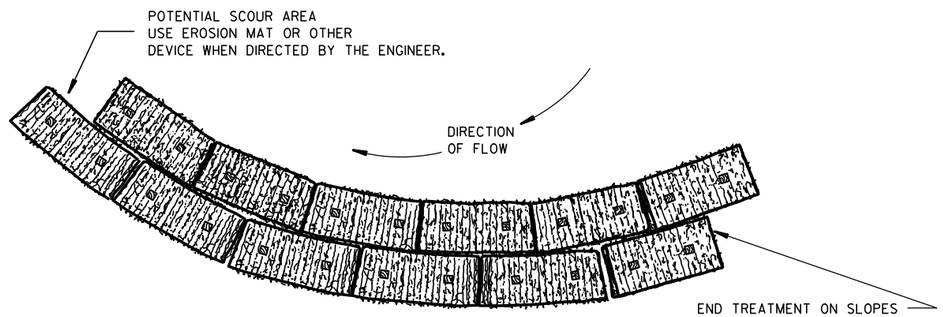
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

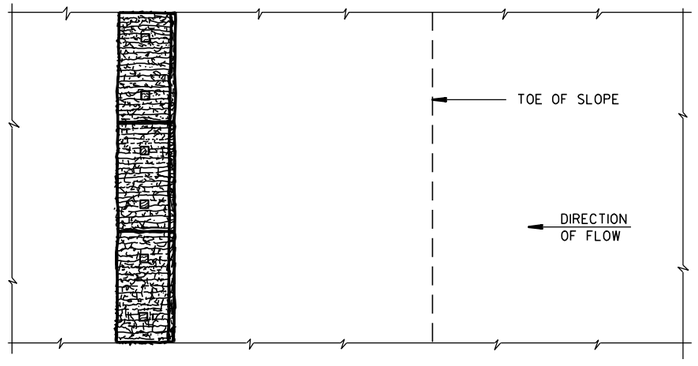
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

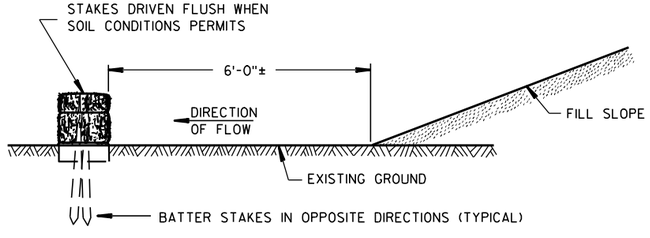


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

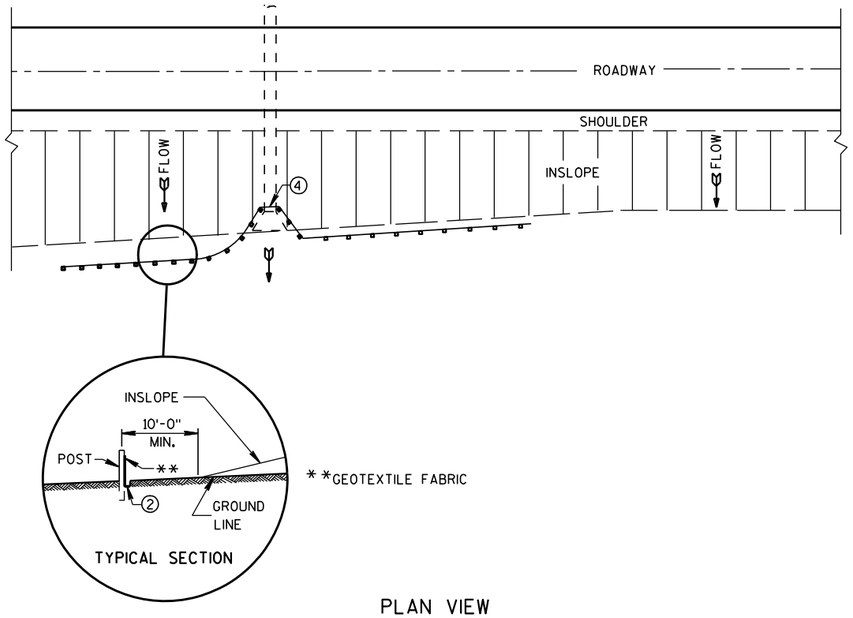
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

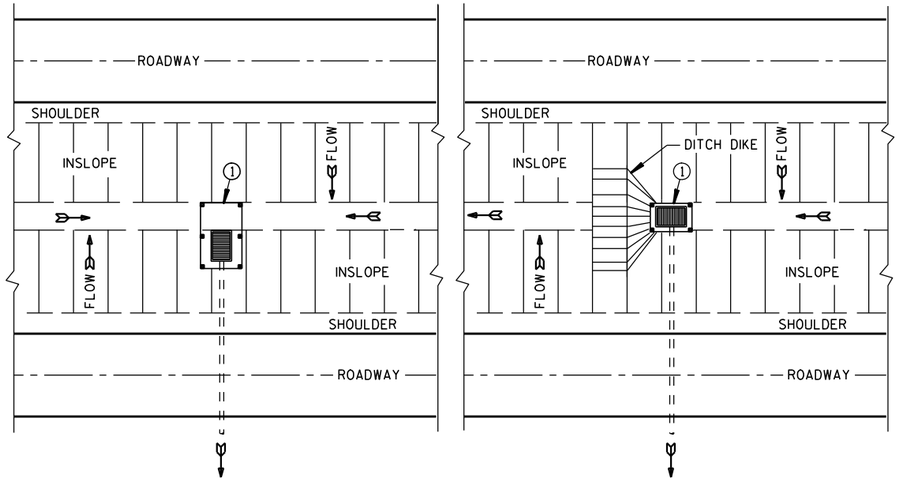
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

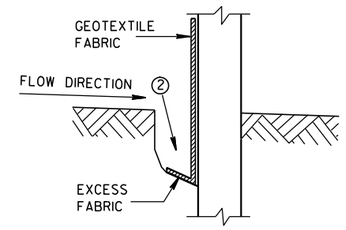
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

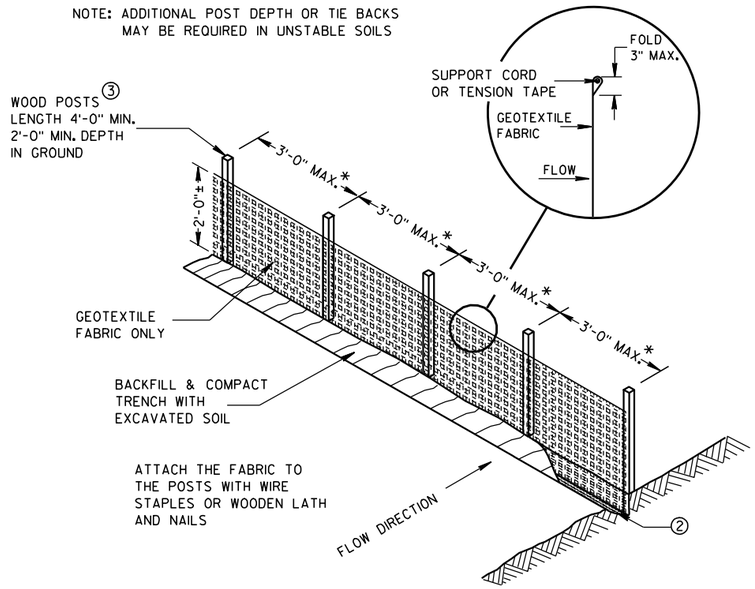
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

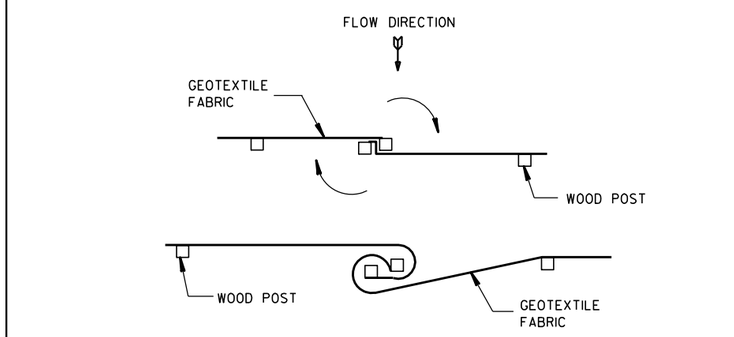
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



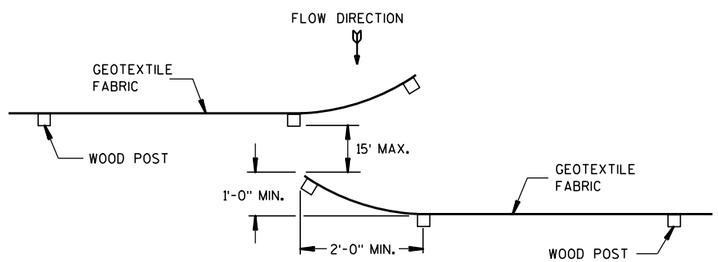
TRENCH DETAIL



SILT FENCE

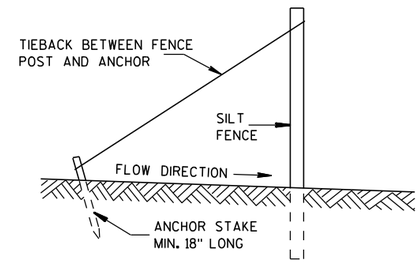


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

METAL APRON ENDWALLS

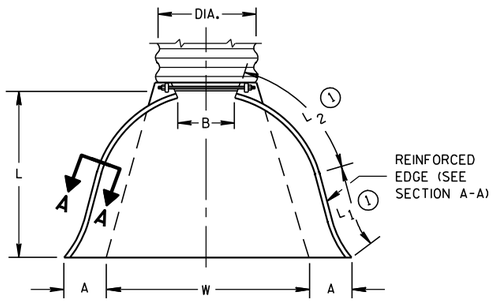
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

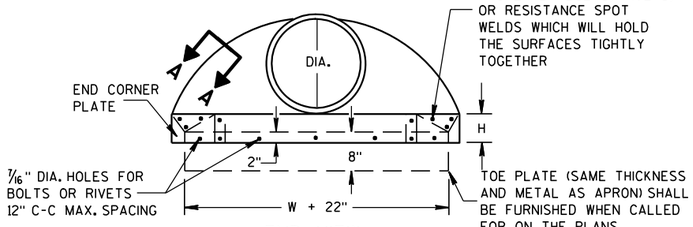
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	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 2/5 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

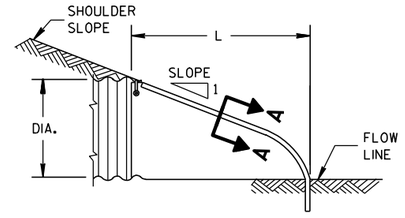
*MINIMUM
**MAXIMUM



PLAN VIEW

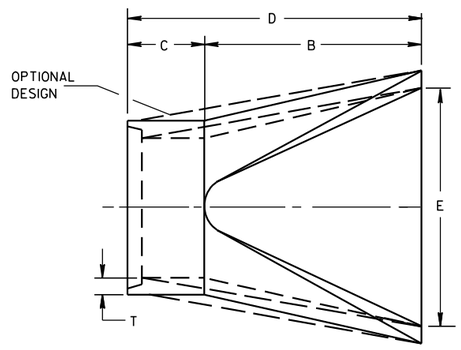


END VIEW

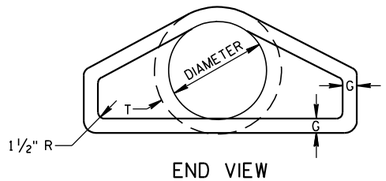


SIDE ELEVATION

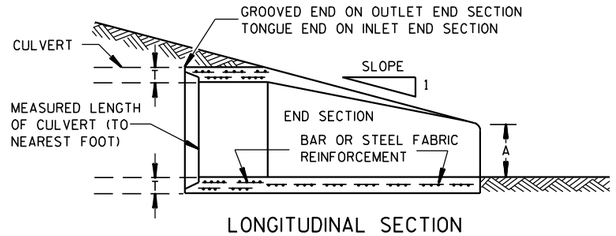
METAL ENDWALLS



PLAN

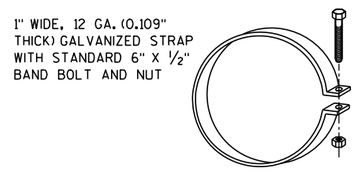


END VIEW



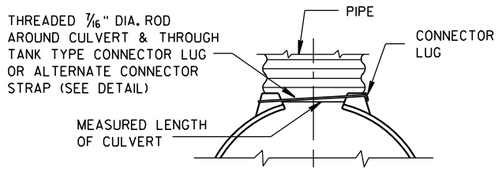
LONGITUDINAL SECTION

CONCRETE ENDWALLS

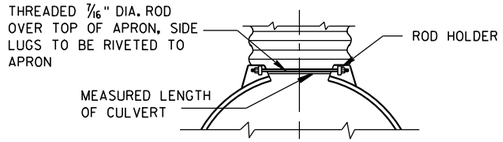


ALTERNATE FOR TYPE 1 CONNECTION

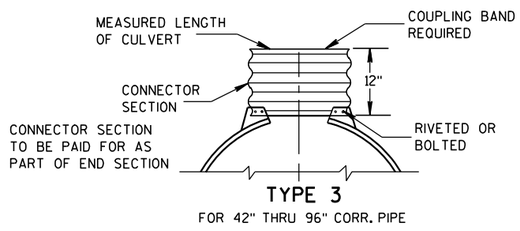
END SECTION CONNECTOR STRAP



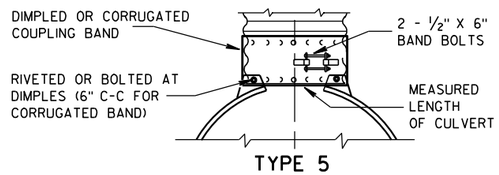
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

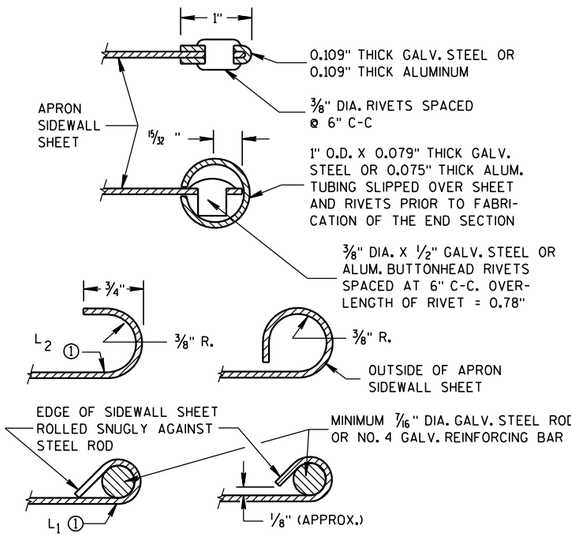
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

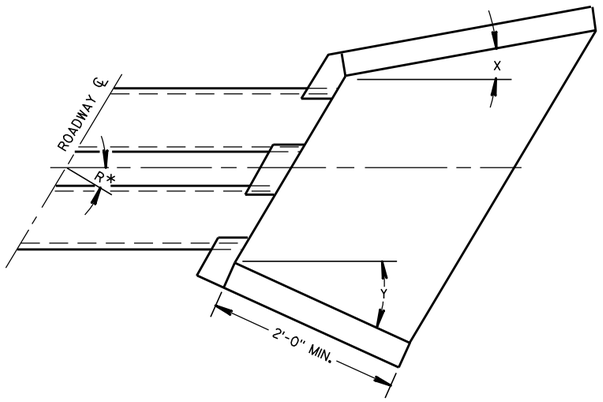
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 F 1-11



WINGWALL ANGLE DETAILS

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

*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

GENERAL NOTES

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

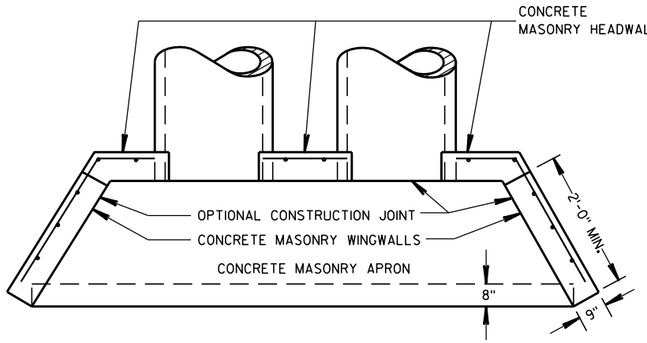
FILL SLOPES FLATTER THAN 2 ½:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

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

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

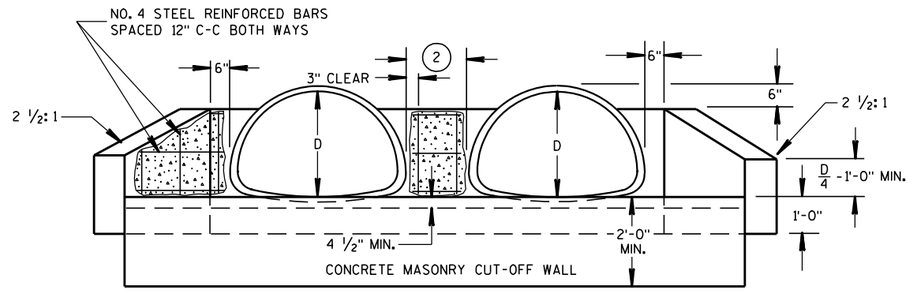
(2) THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2'-0"
OVER 48" TO 72"	½ DIA. OR SPAN
OVER 72"	3'-0"



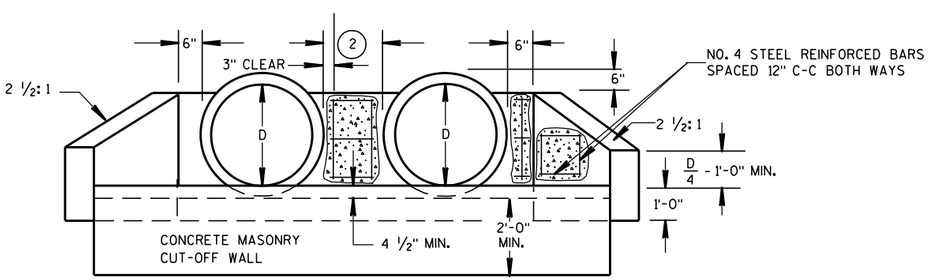
PLAN VIEW

CULVERT PIPE AND PIPE ARCH



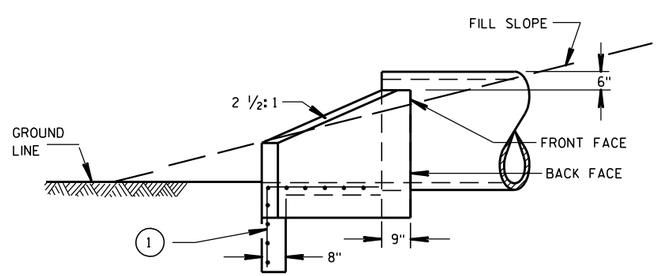
END ELEVATION

PIPE ARCH



END ELEVATION

CULVERT PIPE



SIDE ELEVATION

CULVERT PIPE AND PIPE ARCH

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

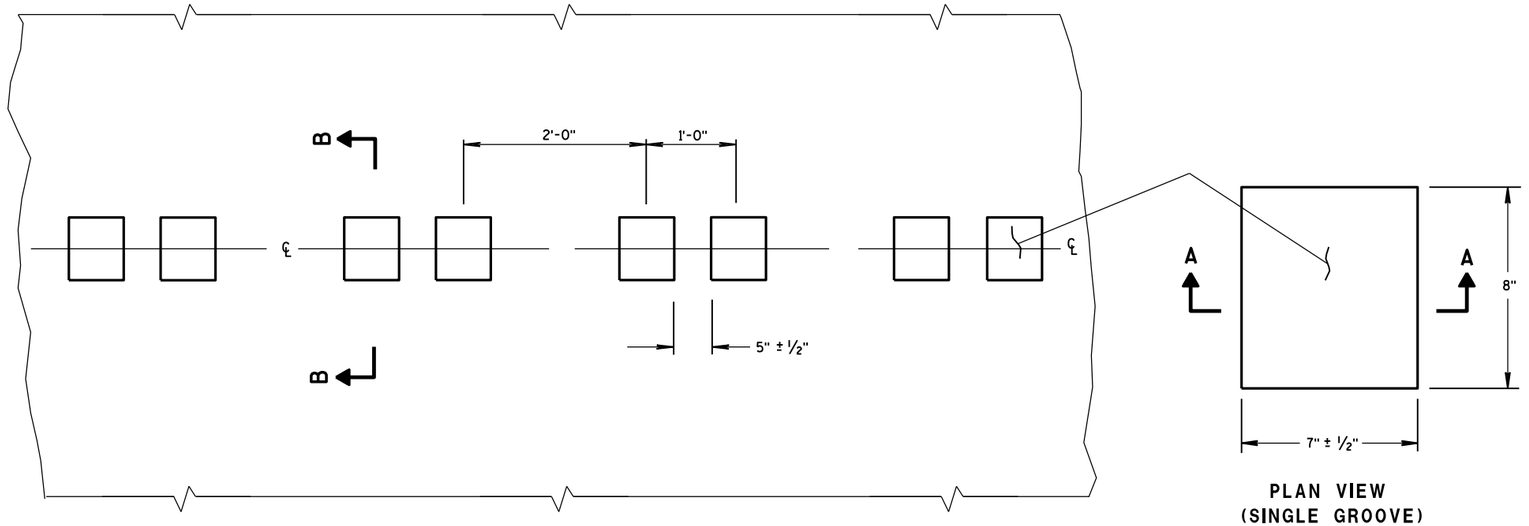
APPROVED
9/14/98 DATE
/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 10-1

6

S.D.D. 8 F 10-1



PLAN VIEW
CENTER LINE WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

GENERAL NOTES

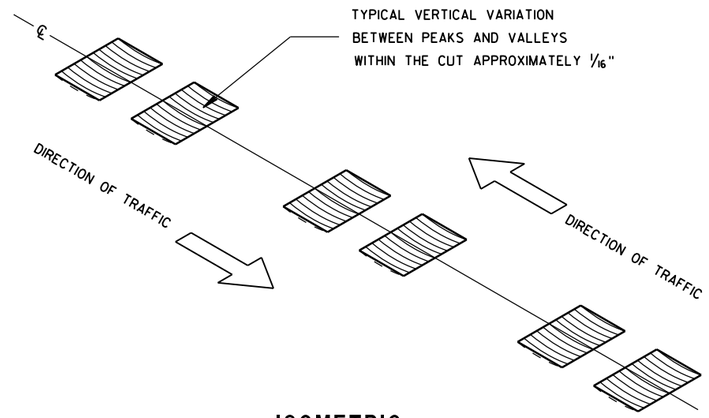
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

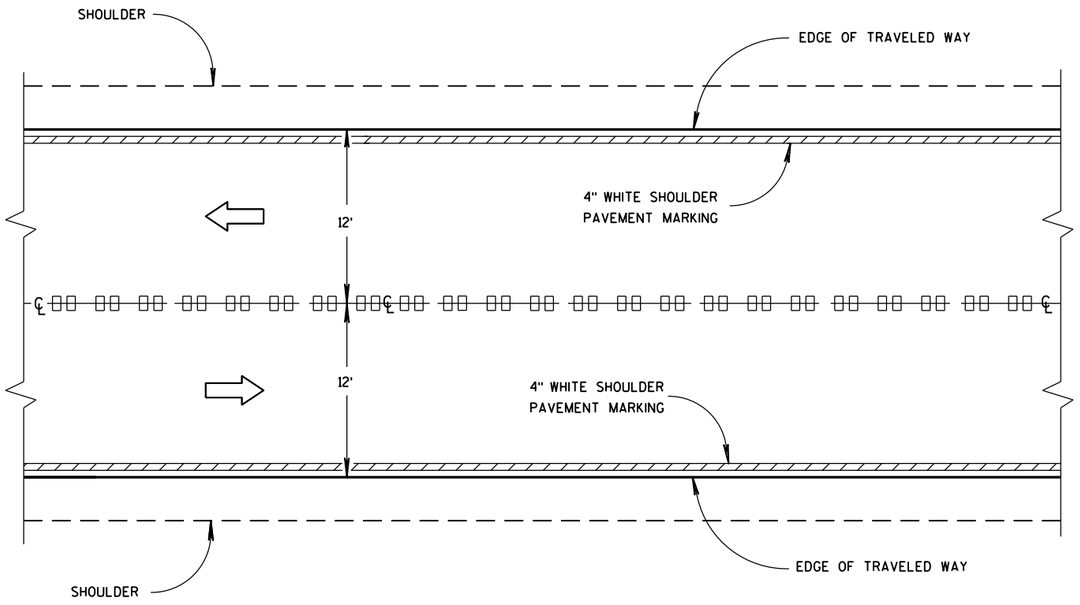
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

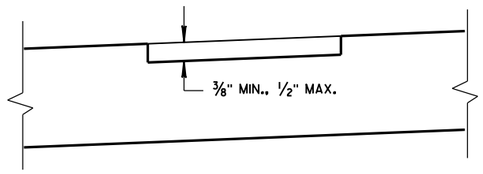
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



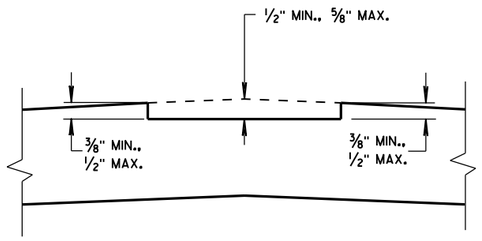
ISOMETRIC



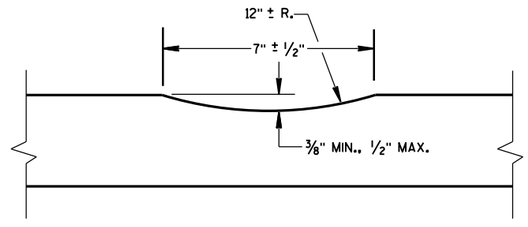
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



SECTION B-B
CROWNED ROADWAY



SECTION A-A

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

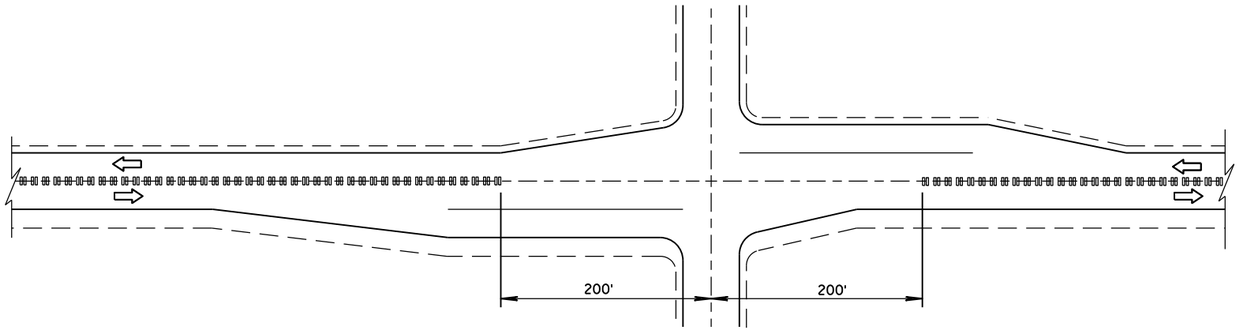
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 79

6

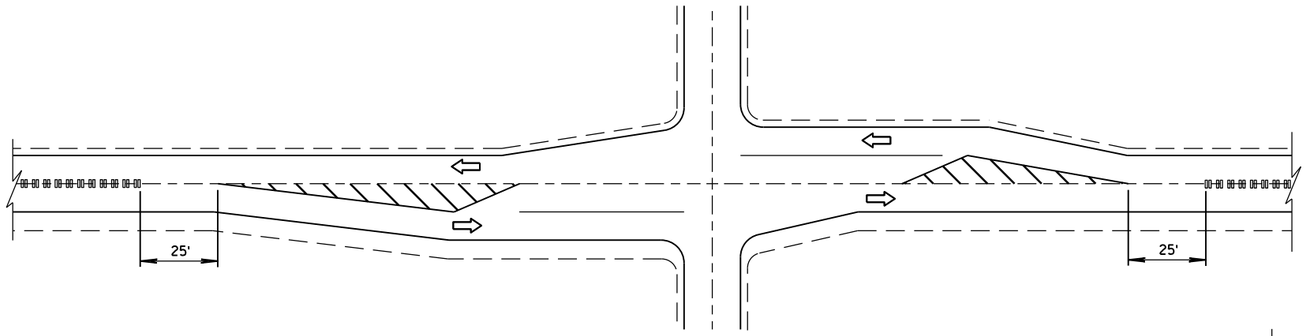
S.D.D. 13 A 11-2a

6

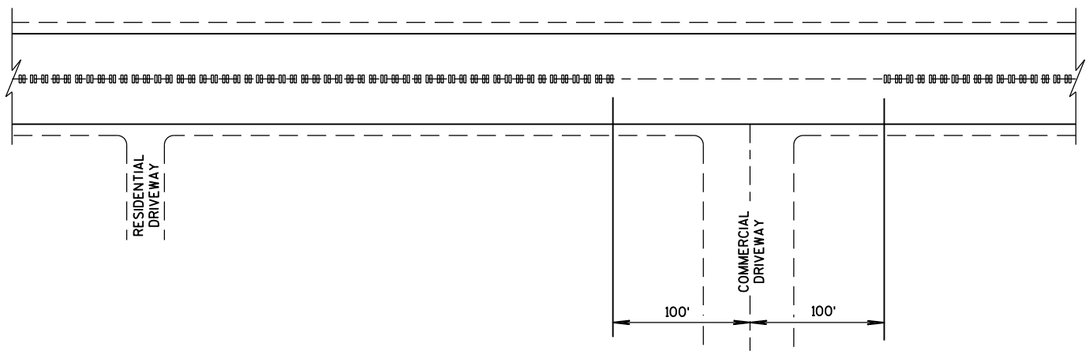
S.D.D. 13 A 11-2a



CENTER LINE GROOVES AT INTERSECTIONS

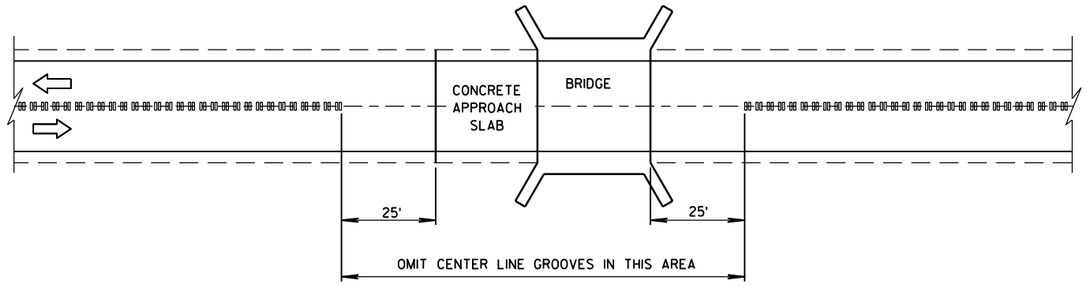


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

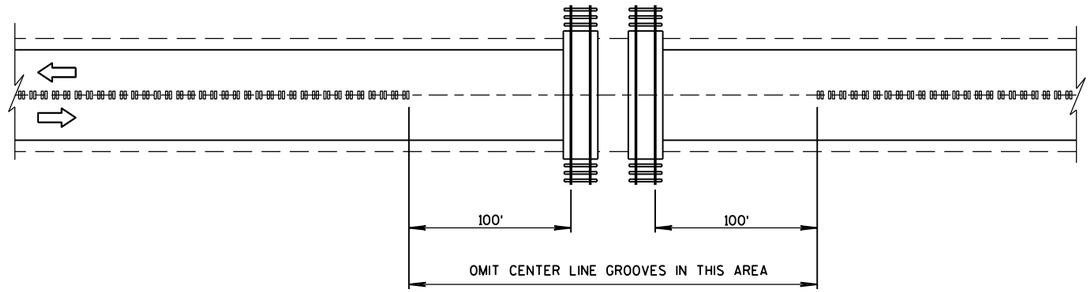


CENTER LINE GROOVES AT DRIVEWAYS (1)

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



CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

6

S.D.D. 13 A 11-2b

6

S.D.D. 13 A 11-2b

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/15/2013
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

NT

FHWA

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) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

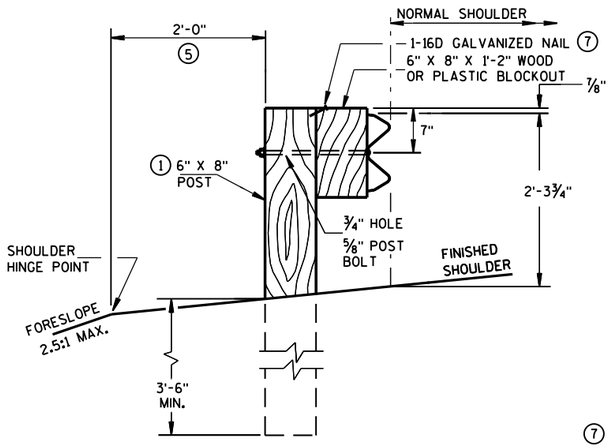
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

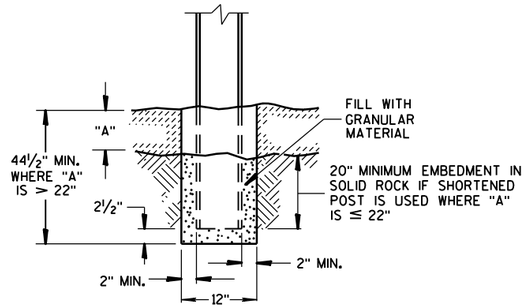
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

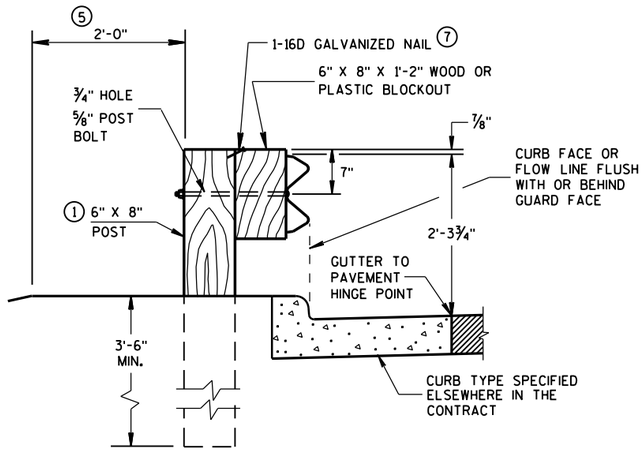
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



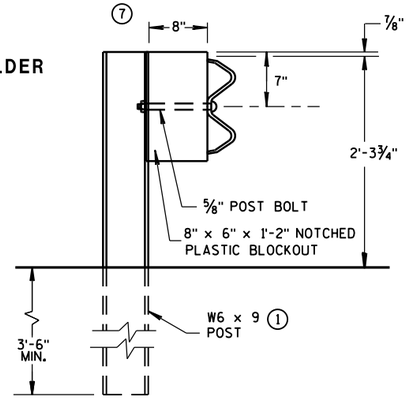
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



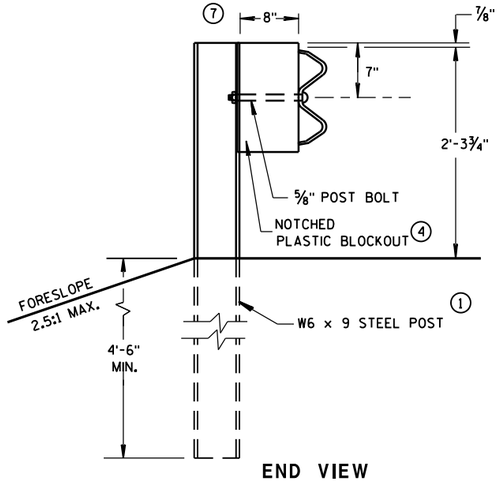
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



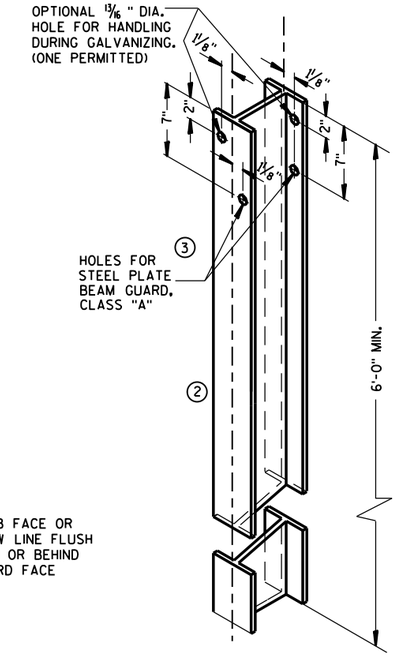
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION

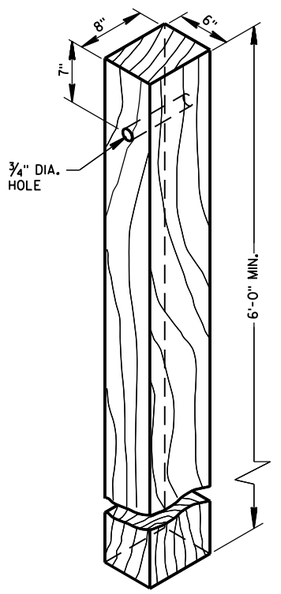


END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

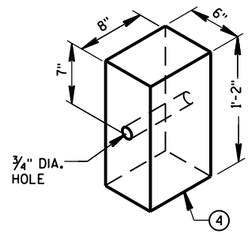


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

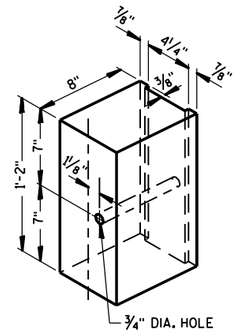
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



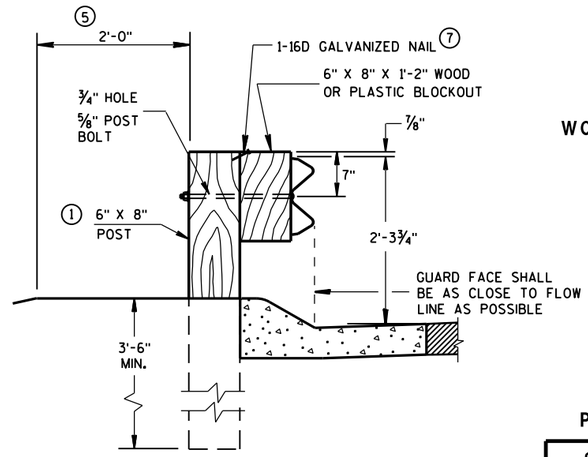
WOOD POST
(6"X8") NOMINAL



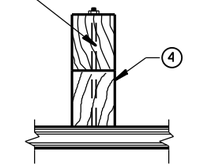
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



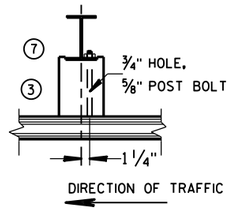
TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO 81

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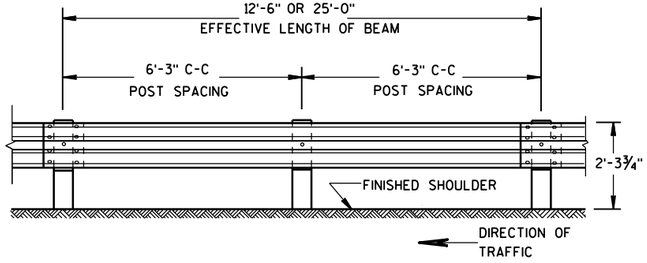
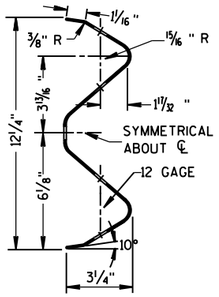
S.D.D. 14 B 15-8a

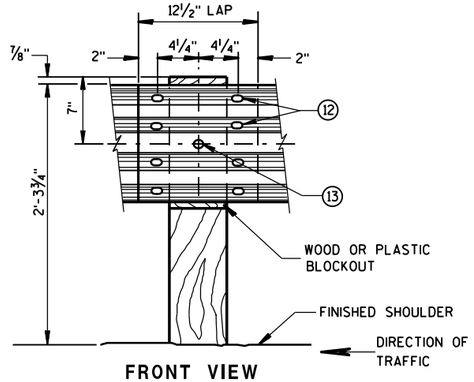


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

(8) PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

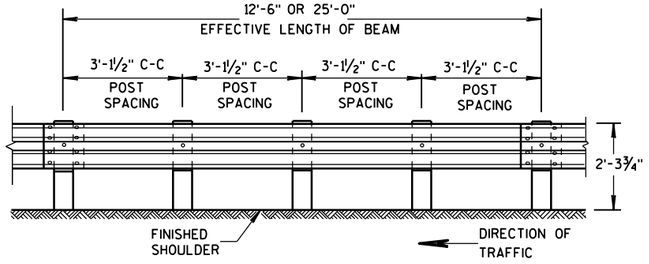
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

(10) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

(11) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

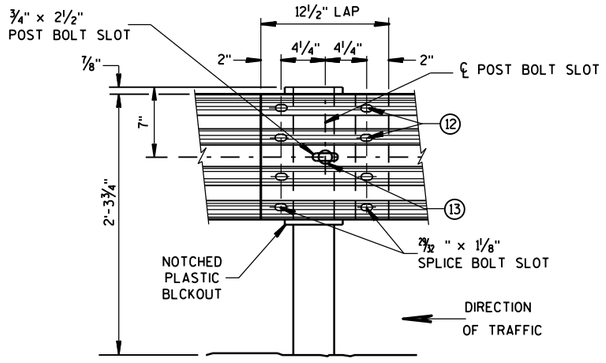
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

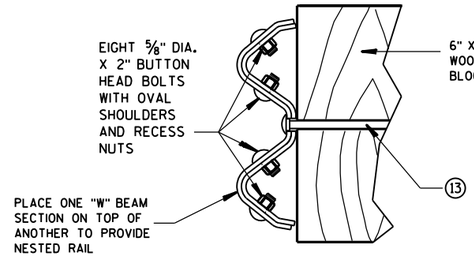
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

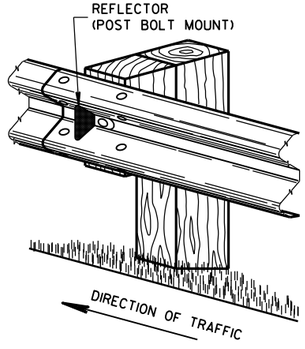


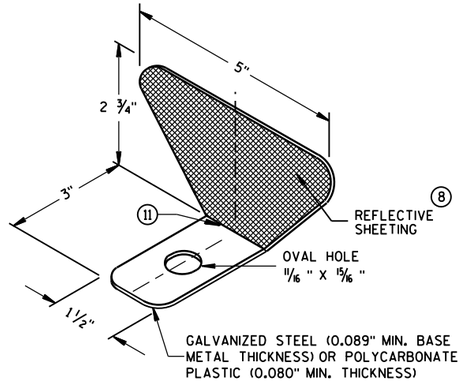
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (9)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (10)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 (11)	3
	> 200'	100' C-C	2	





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (8)

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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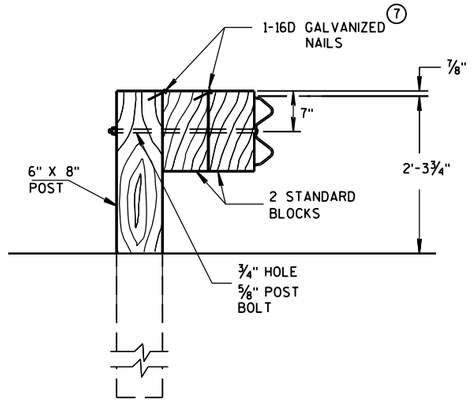
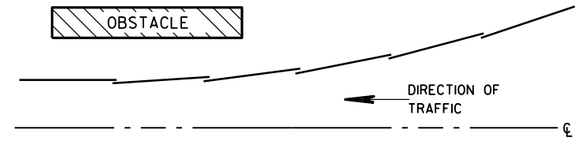
S.D.D. 14 B 15-8b

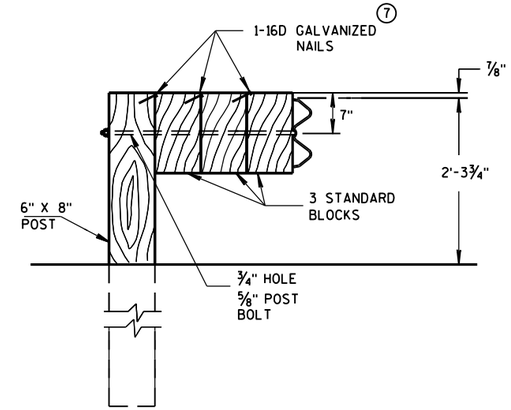


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

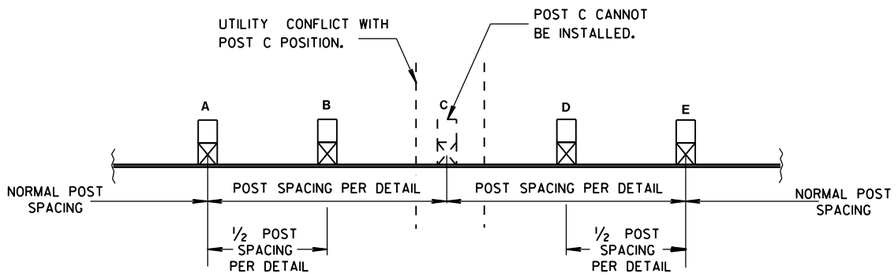


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

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

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014	/S/ Jerry H. Zogg
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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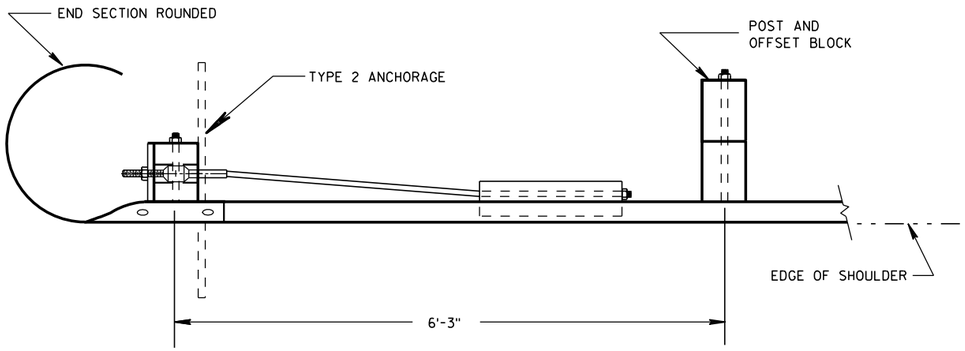
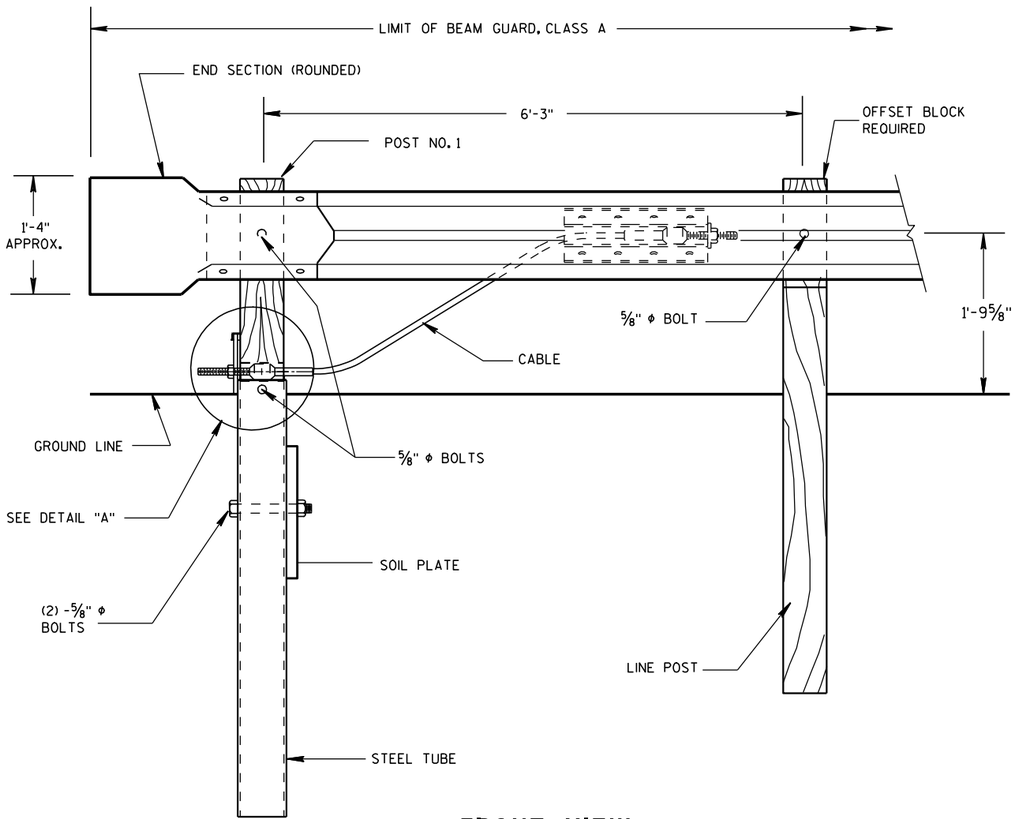
S.D.D. 14 B 15-8c



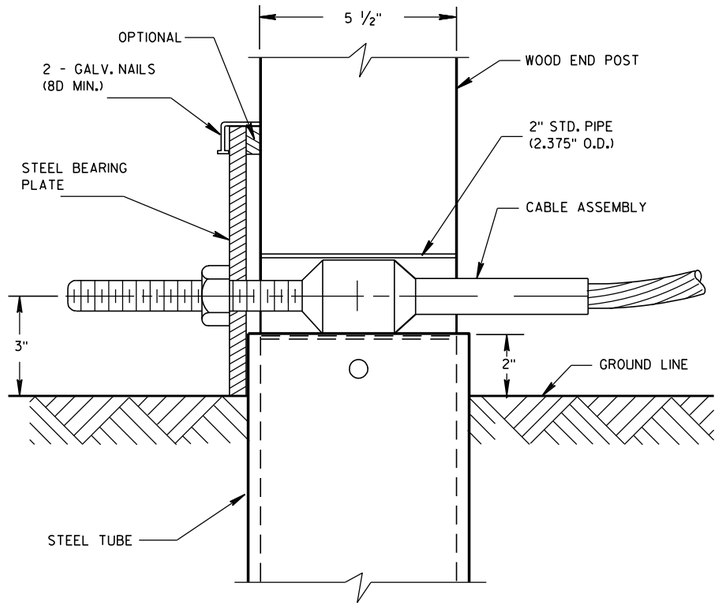
PLAN VIEW



FRONT VIEW

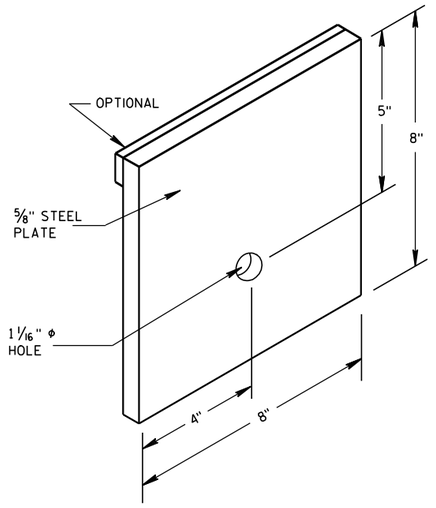
END TREATMENT WITH TYPE 2 ANCHORAGE

(USE ON ONE-WAY ROADWAYS ONLY - DEPARTING END)



DETAIL "A"

POST NO. 1



STEEL BEARING PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....T

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S.D.D. 14 B 16-4a

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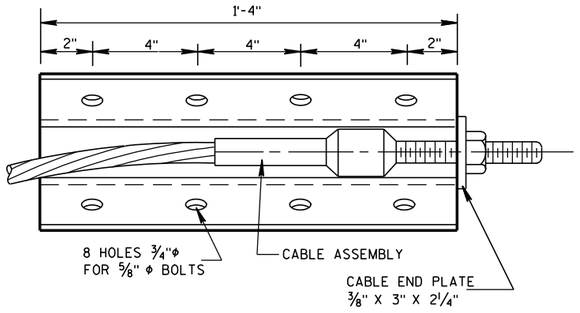
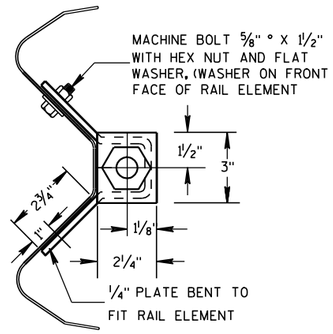
S.D.D. 14 B 16-4a

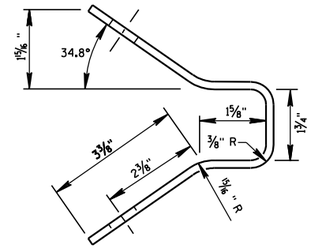


FRONT VIEW

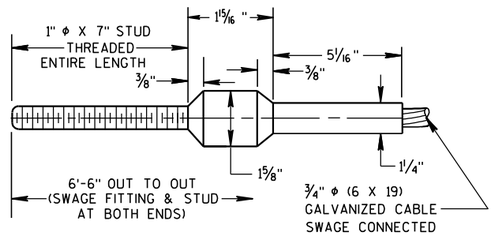


END VIEW

ANCHOR PLATE DETAIL



END VIEW OF BRACKET



CABLE ASSEMBLY

CABLE, SWAGE FITTING, STUD AND NUT SHALL DEVELOP
A MINIMUM BREAKING STRENGTH OF 40,000 LB
(TIGHTEN UNTIL TAUT)

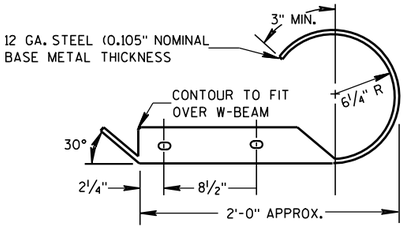
GENERAL NOTES

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

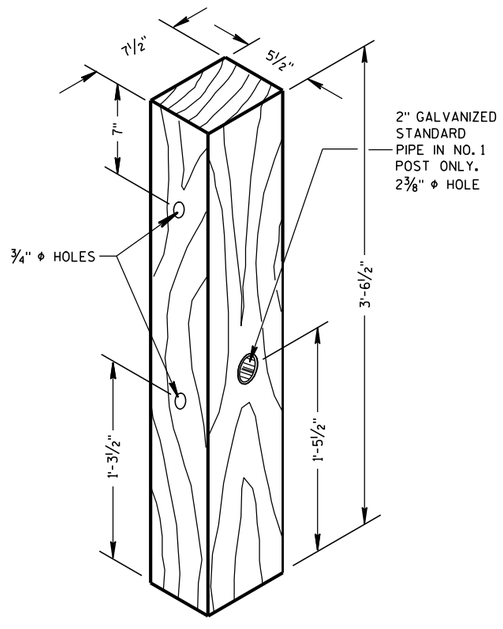
STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500 GRADE B OR ASTM A-501.

POST NO. 1 SHALL BE WOOD BREAKAWAY POST INSERTED AND BOLTED INTO STEEL TUBE.

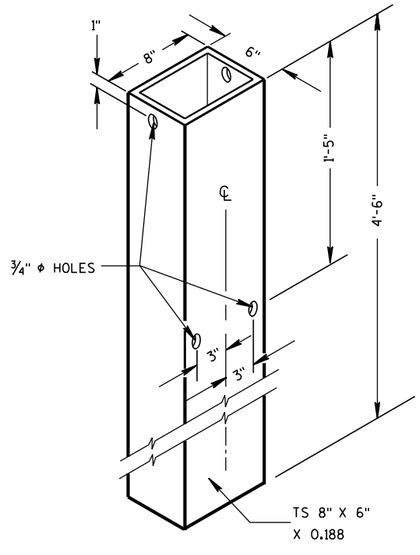
TYPE 2 ANCHORAGE SHALL CONSIST OF A STEEL TUBE, SOIL PLATE WOOD BREAKAWAY POST, BEARING PLATE, ANCHOR PLATE, CABLE ASSEMBLY AND ALL ASSOCIATED HARDWARE, ALL STEEL PARTS SHALL BE GALVANIZED.



PLAN VIEW

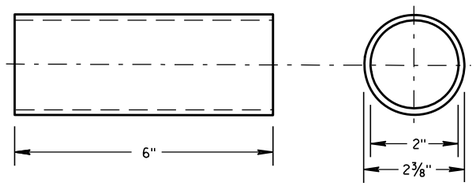


WOOD BREAKAWAY POST



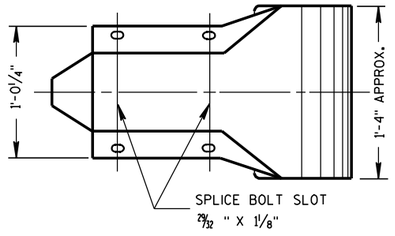
STEEL TUBE

STEEL TUBE SHALL CONFORM TO
REQUIREMENTS OF ASTM A500

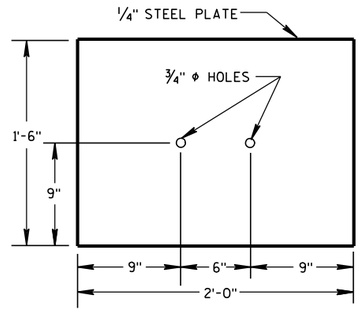


BREAKAWAY TERMINAL POST SLEEVE

GALVANIZED STANDARD STRENGTH STEEL PIPE, ASTM 53 GRADE "B"



FRONT VIEW
W BEAM END SECTION ROUNDED



SOIL PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/21/2007
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
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FHWA

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S.D.D. 14 B 16-4b

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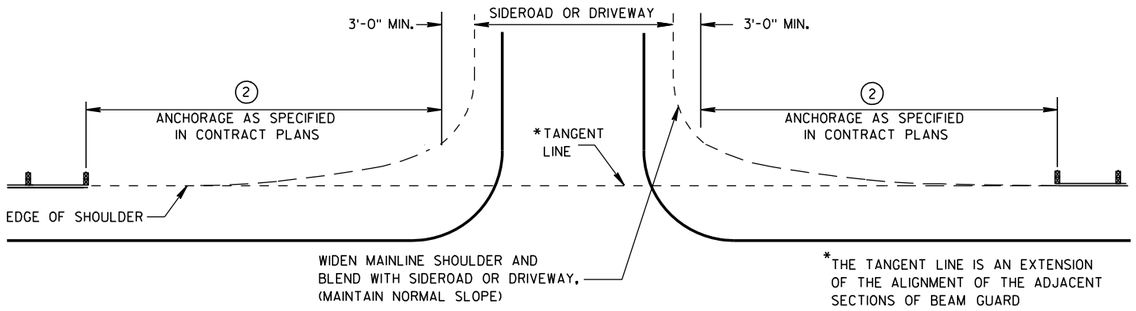
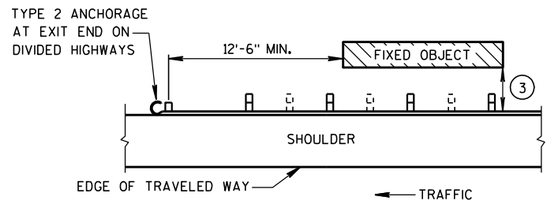
S.D.D. 14 B 16-4b



BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

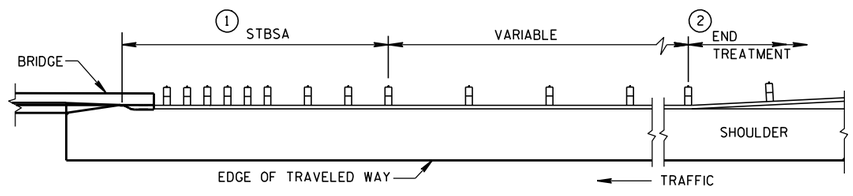
THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

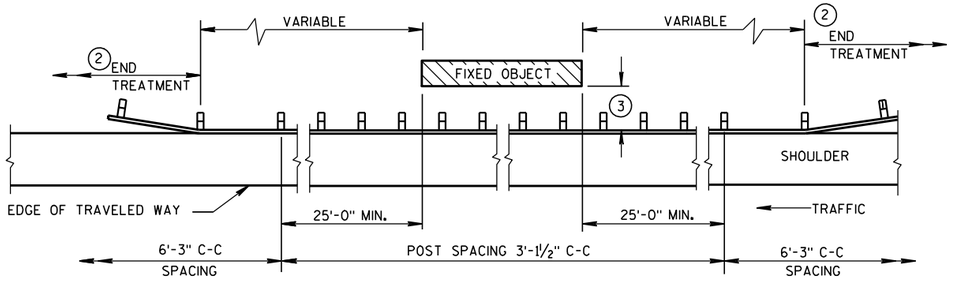
(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

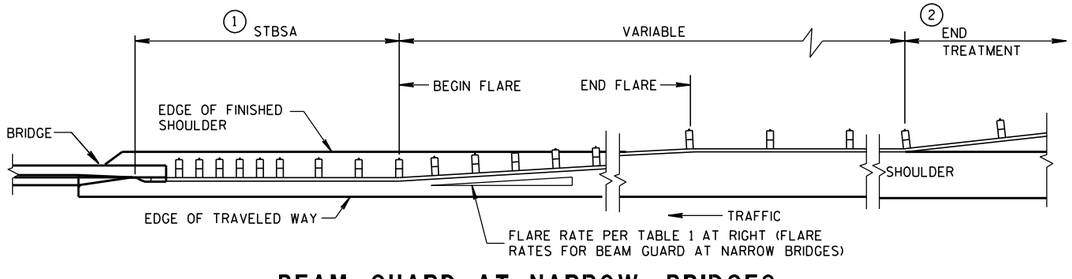


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES
(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

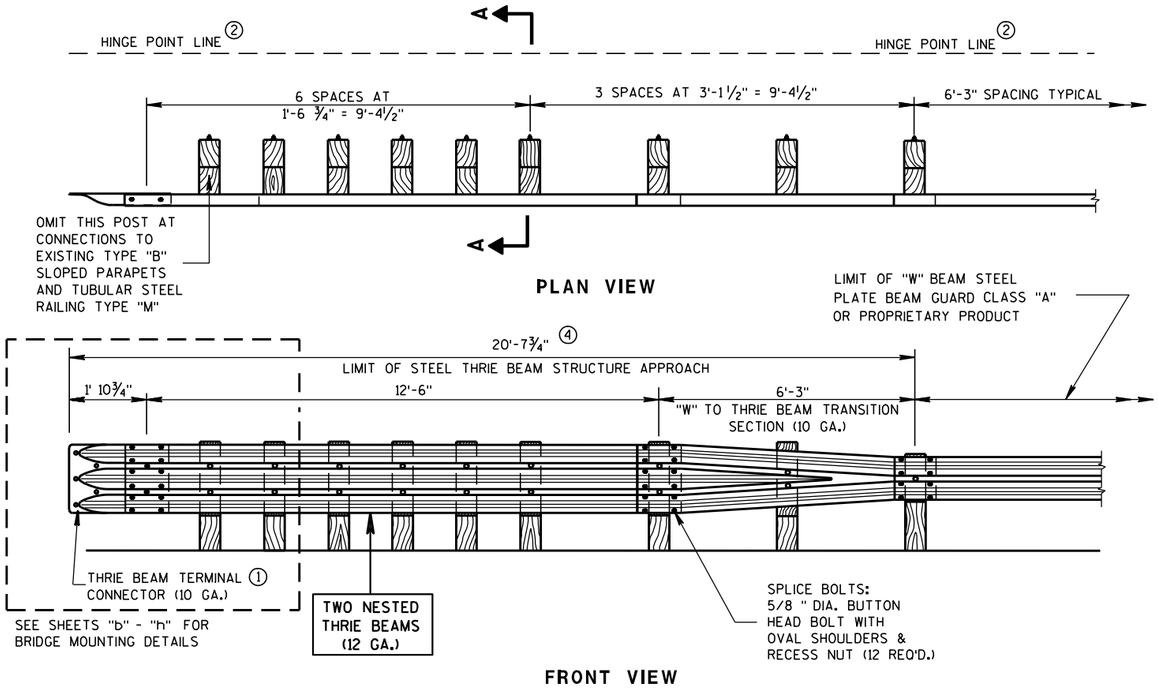
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-21-07 DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA



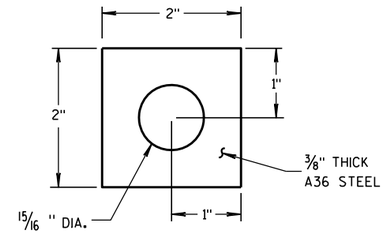


PLATE WASHER DETAIL

GENERAL NOTES

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

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

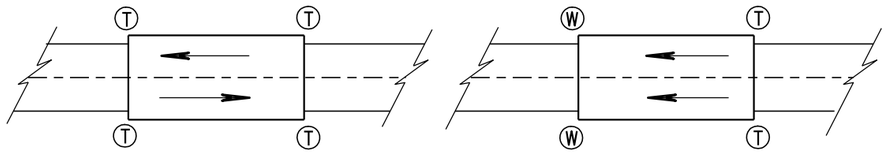
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



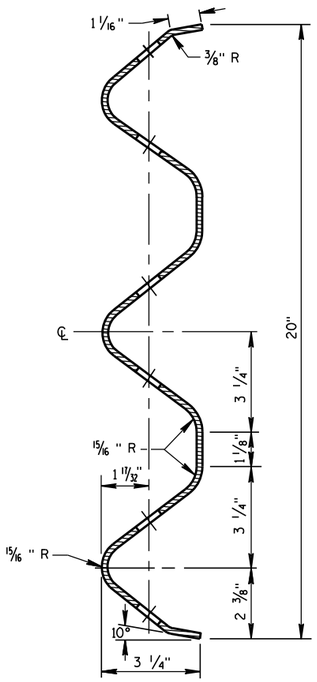
TWO WAY TRAFFIC

ONE WAY TRAFFIC

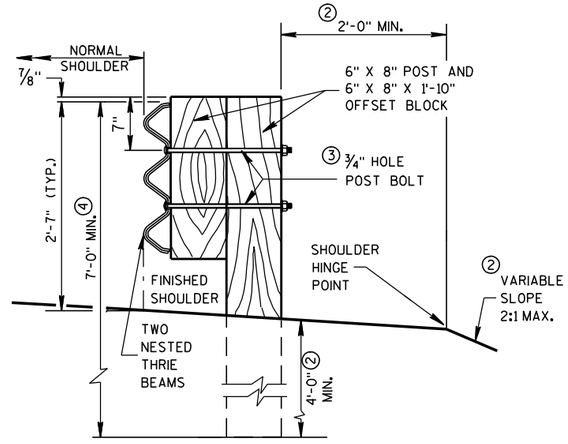
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

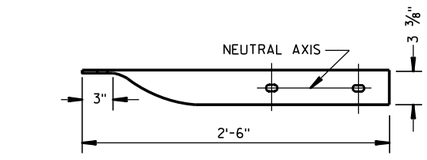
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

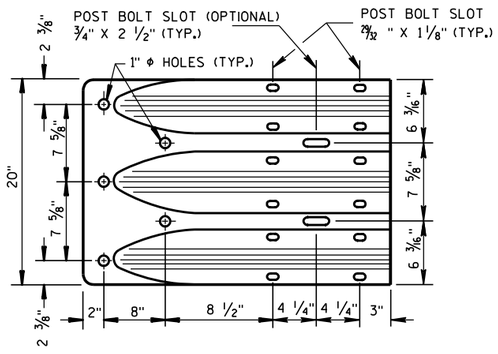


SECTION THRU THRIE BEAM RAIL ELEMENT

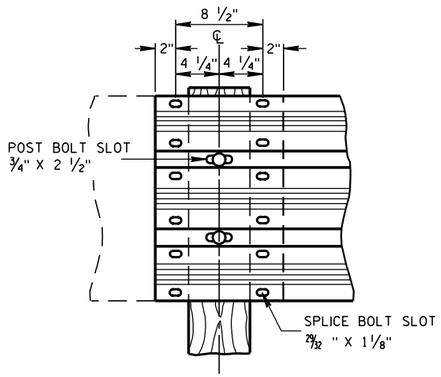


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
①	4	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
②	**	STEEL TUBE: OPTION 1 - QUANITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
③	2	SOIL PLATE: 2'-0" X 1'-6" X ¼" **
④	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	1	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
⑦	1	BEARING PLATE
⑧	1	BCT CABLE ASSEMBLY
⑨	1	CABLE ANCHOR BOX
⑩	1	STRUT & YOKE
⑪	1	STEEL PLATE BEAM, END PANEL 12 GA. 13'-6½" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
⑫	3	STEEL PLATE BEAM: 12 GA. 13'-6½"
⑬	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
⑭	1	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑮	1	E.A.T. MARKER POST

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS. IF NONE ARE AVAILABLE, INSTALL ⅝" ø X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

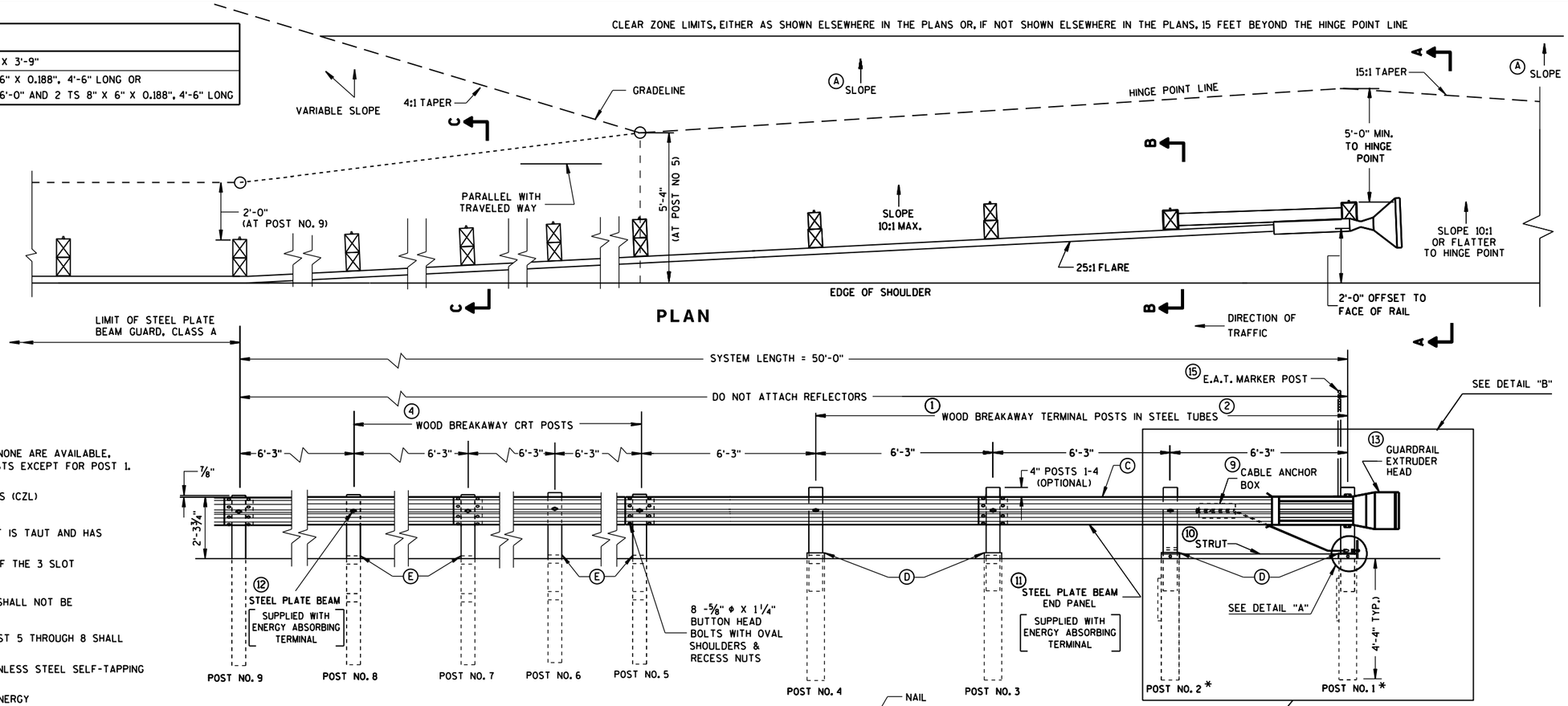
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

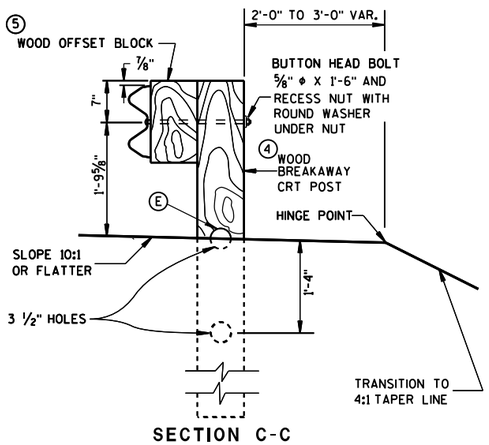
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

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

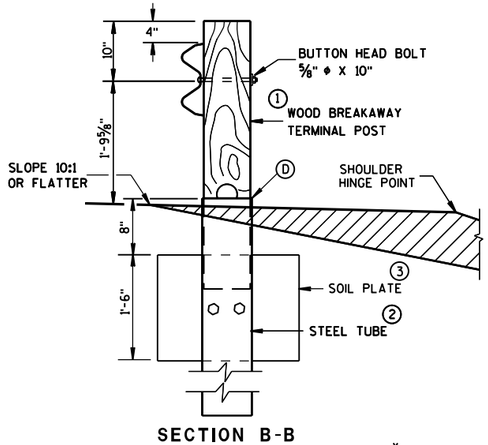
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH SOIL TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL PLATES.

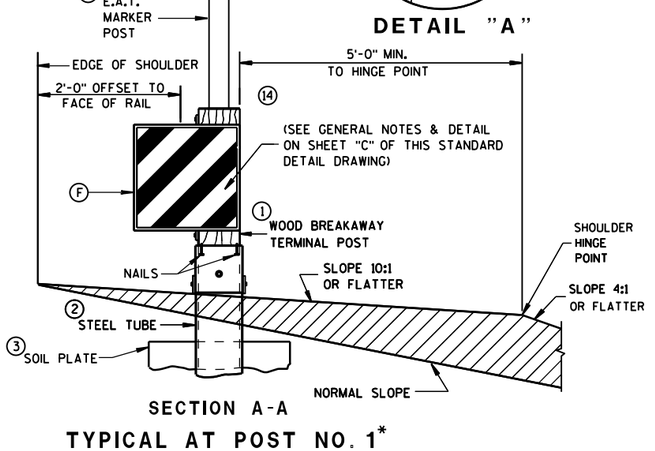




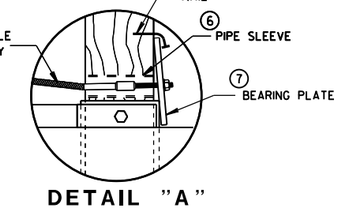
SECTION C-C
TYPICAL AT POST NOS. 6, 8



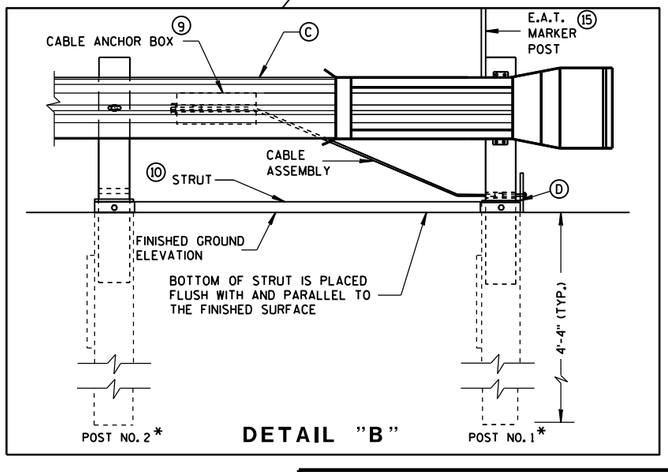
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



DETAIL "B"

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

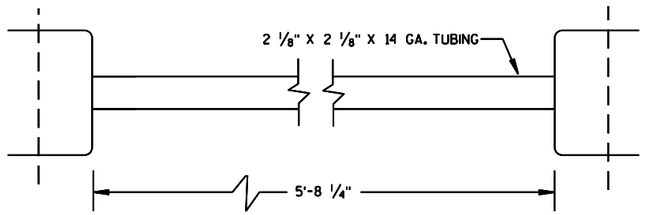
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO 88

6

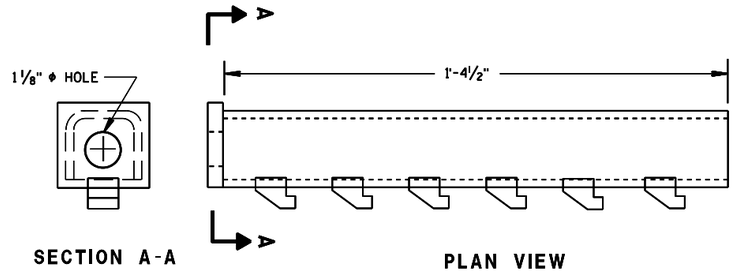
S.D.D. 14 B 24-8a

6

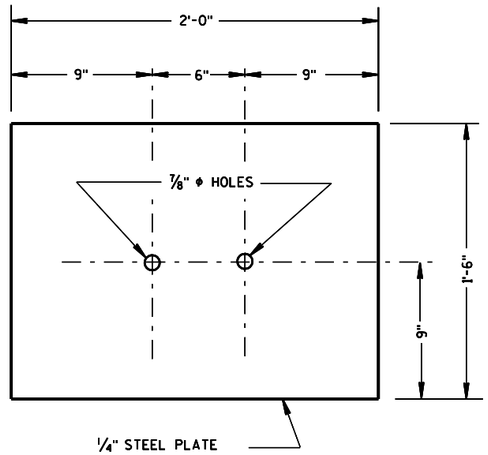
S.D.D. 14 B 24-8a



⑩ STRUT DETAIL (SKT-350)

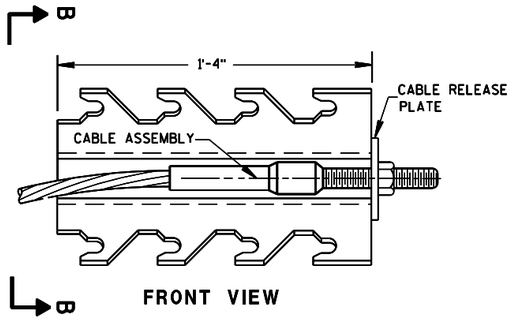


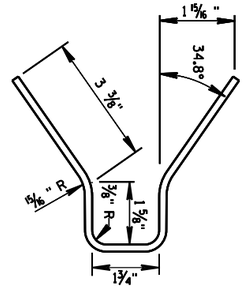
⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



③ SOIL PLATE

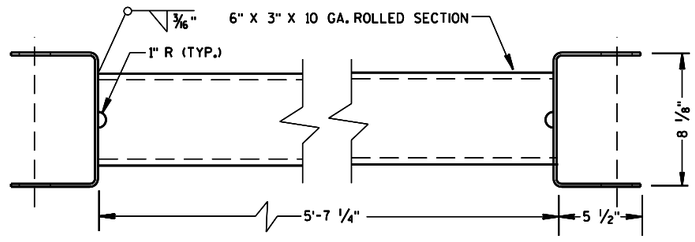
(SKT-350, ET-2000/ET-2000 PLUS)





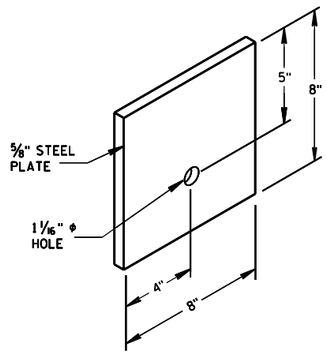
⑨ CABLE ANCHOR BOX (SKT-350)

(SKT-350)



⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)



⑦ STEEL BEARING PLATE

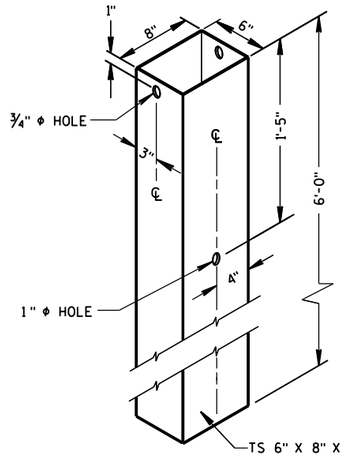
(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

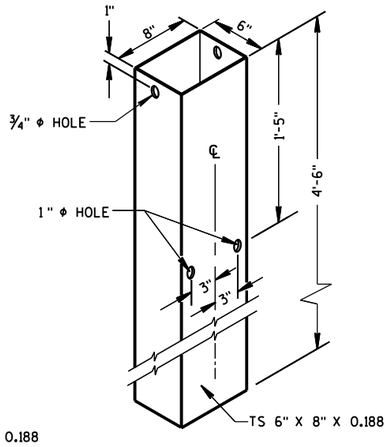
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

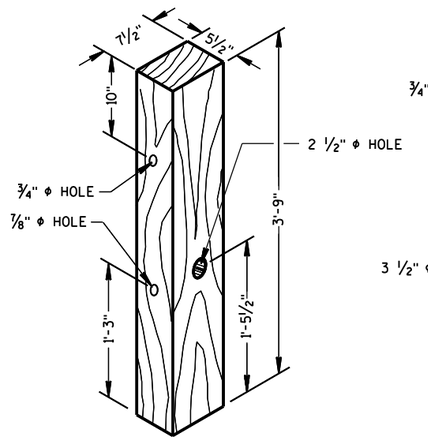
S.D.D. 14 B 24-8b



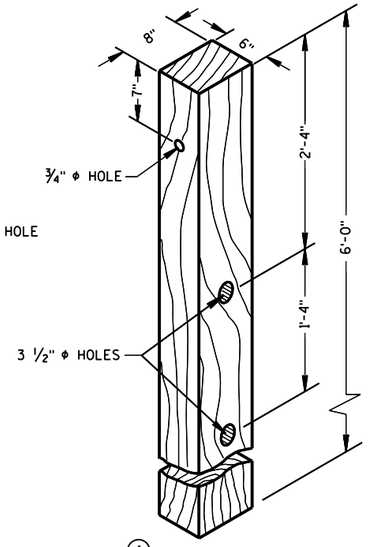
② 72" STEEL TUBE
(POSTS NO. 1-4



② 54" STEEL TUBE
(POSTS NO. 1-4



① TERMINAL POST
(POSTS NO. 1-4



④ CRT POST
(POSTS NO'S 5-8

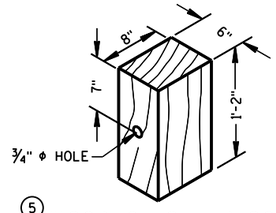
WOOD BREAKAWAY POSTS

GENERAL NOTES

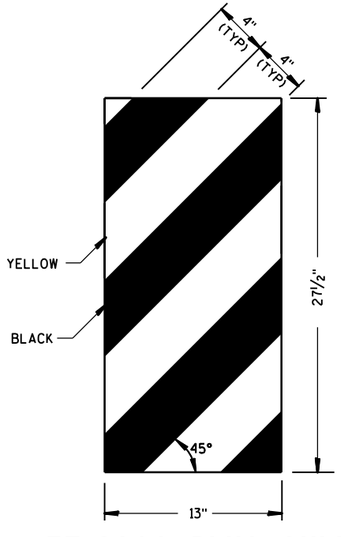
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

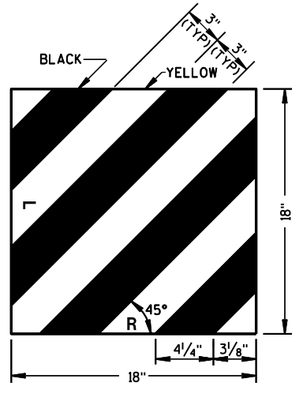
(G) ½" DIA. X 3" LAG BOLT WITH WASHER.



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

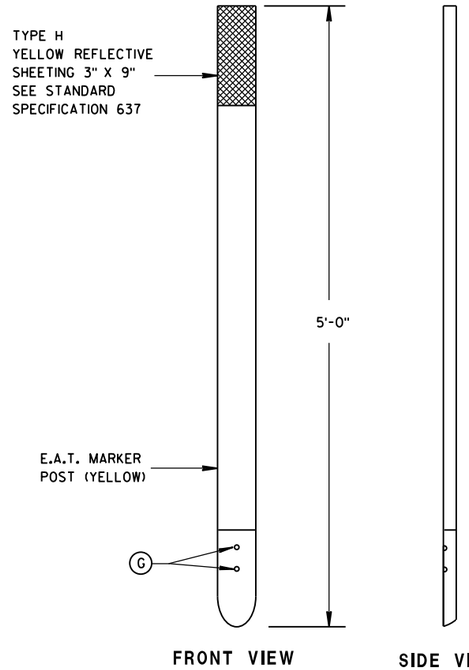


ET-2000 PLUS ONLY



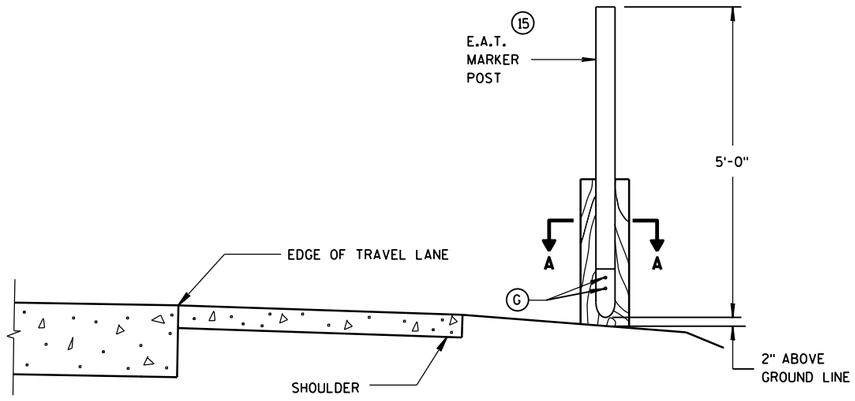
ET-2000 AND SKT-350

⑭ REFLECTIVE SHEETING DETAILS

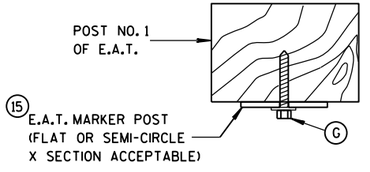


FRONT VIEW SIDE VIEW

⑮ E.A.T. MARKER POST



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



SECTION A-A

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

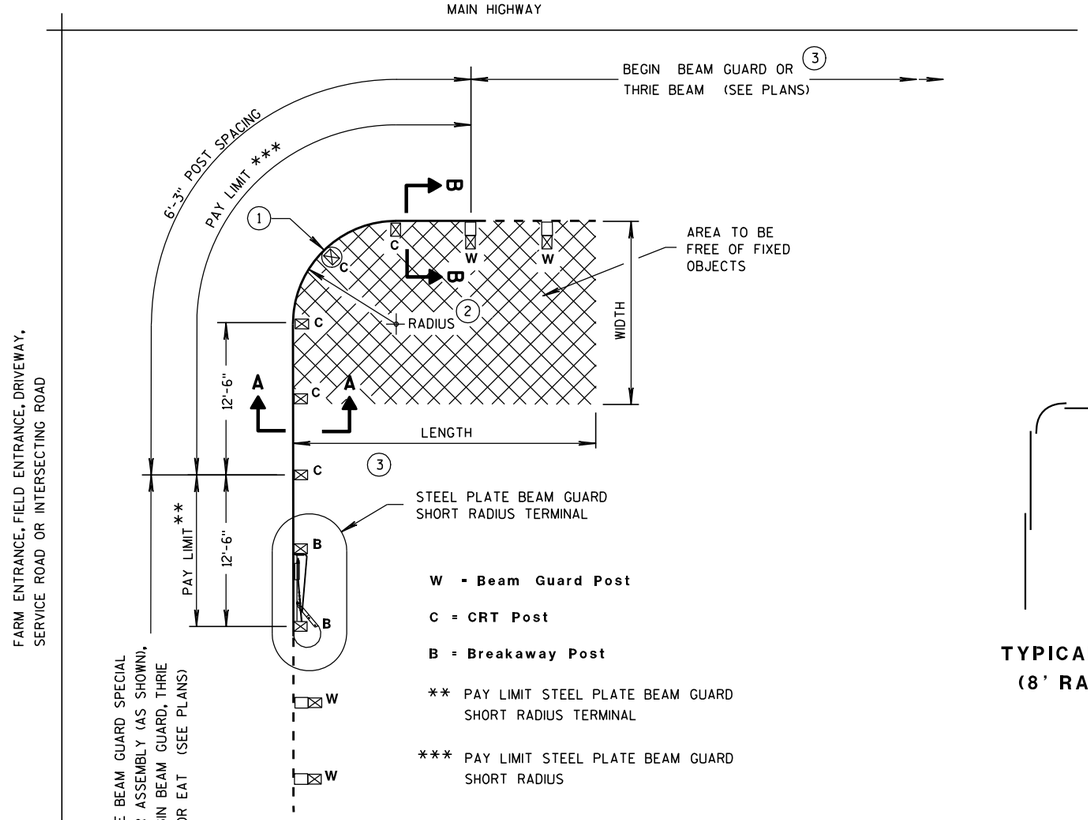
APPROVED
June 2014
DATE
/S/ Jerry H. Zoaa
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 24-8c

6

S.D.D. 14 B 24-8c



W = Beam Guard Post

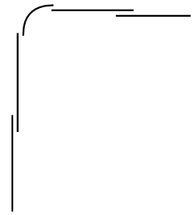
C = CRT Post

B = Breakaway Post

** PAY LIMIT STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

*** PAY LIMIT STEEL PLATE BEAM GUARD SHORT RADIUS

TYPICAL LAYOUT
(8' RADIUS SHOWN)



TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2. UNLESS NOTED OTHERWISE.

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

(1) ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.

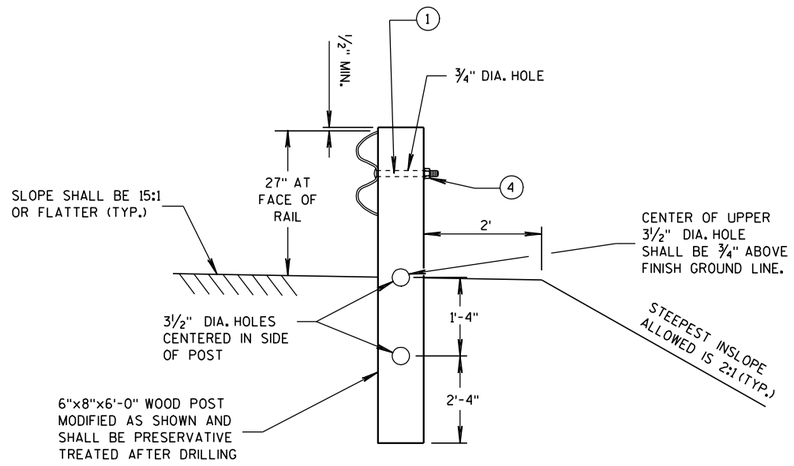
(2) RADIUS FROM 8' - 36'. SEE PLAN.

(3) HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.

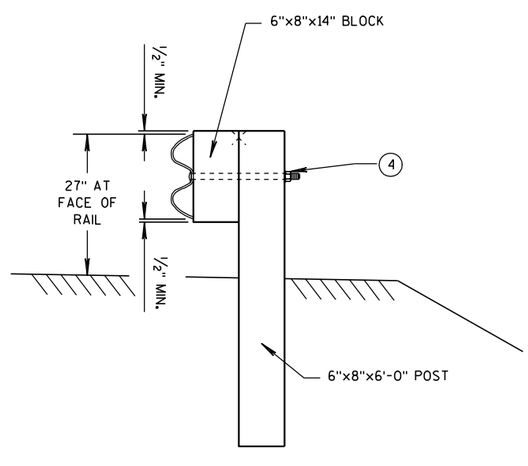
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



SECTION A-A
(CRT POST)

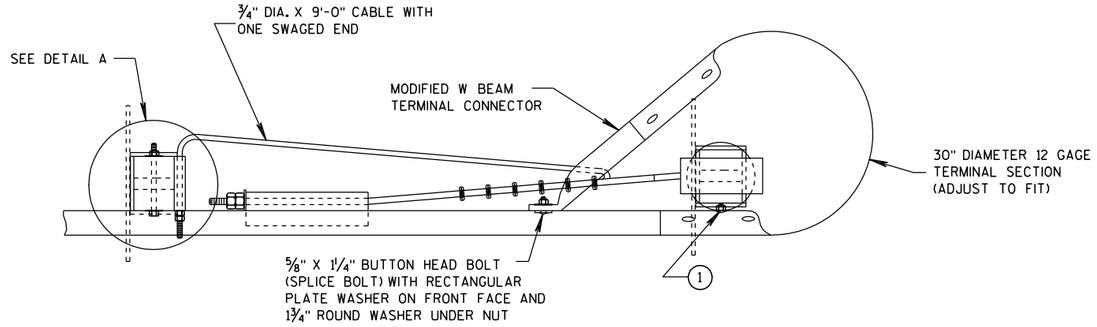


SECTION B-B
(BEAM GUARD POST)

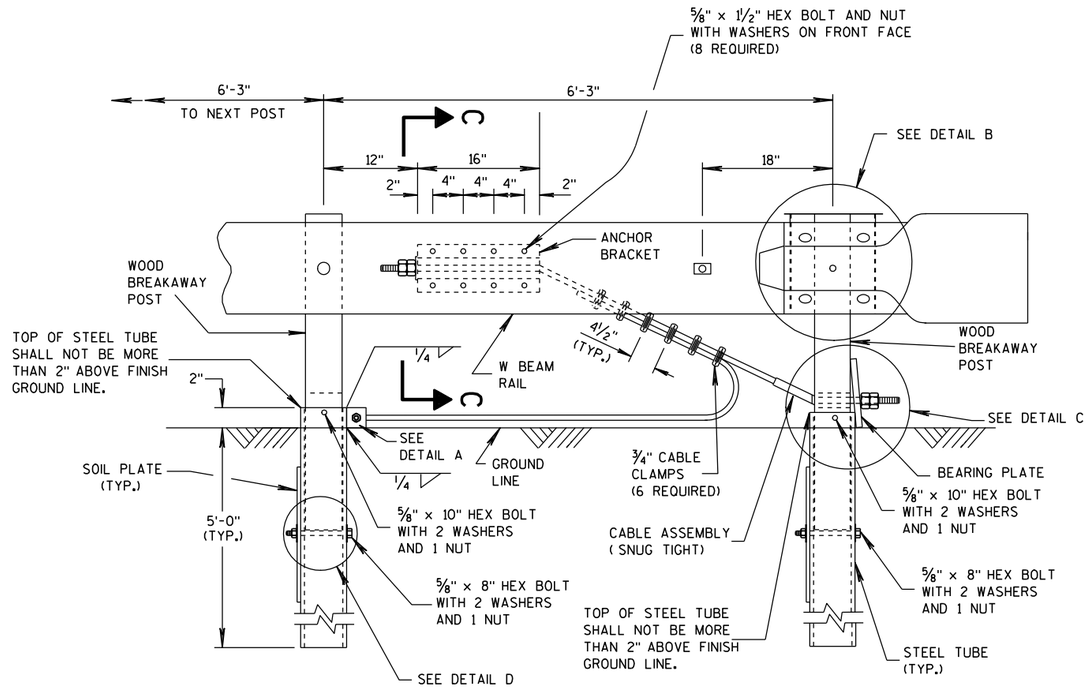
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 27-1a



PLAN VIEW



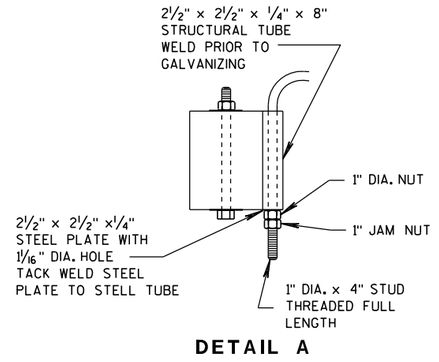
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

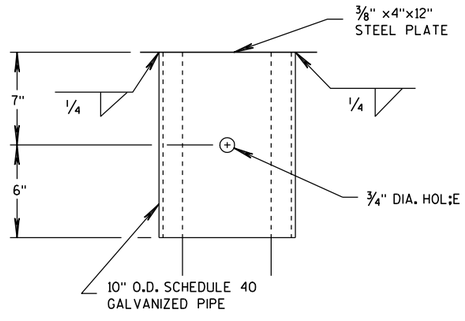
GENERAL NOTES

(1) ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A ⅝" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.

INSTALL GALVANIZED ¾" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A



DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

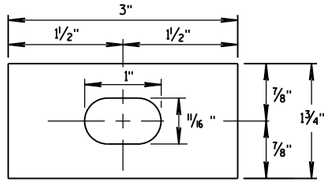
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

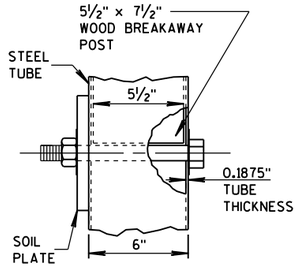
S.D.D. 14 B 27-1b

6

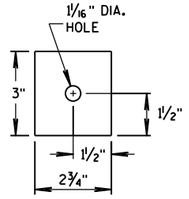
S.D.D. 14 B 27-1b



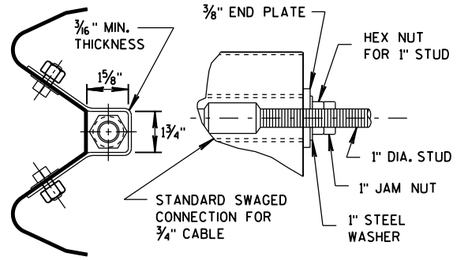
RECTANGULAR PLATE WASHER



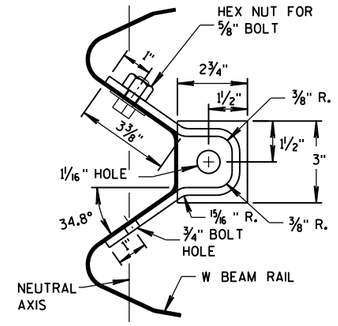
DETAIL D



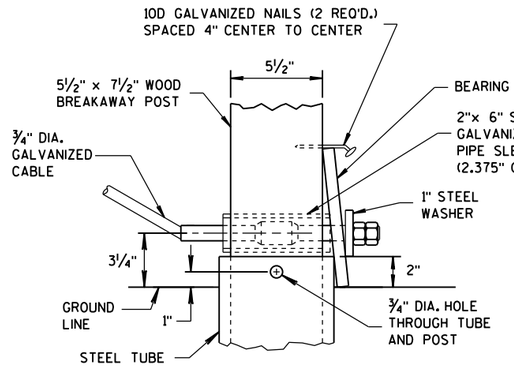
END PLATE



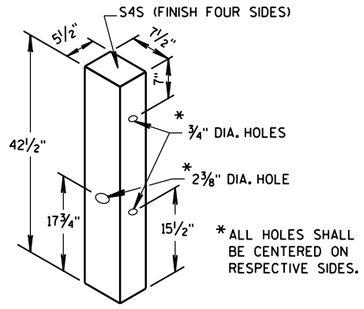
SECTION C-C
(END PLATE REMOVED)



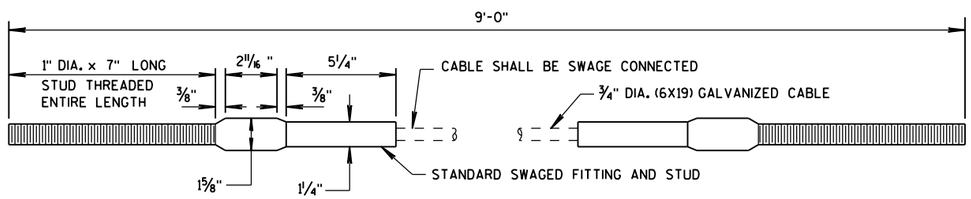
ANCHOR BRACKET



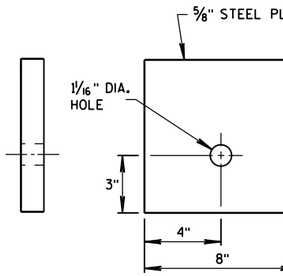
DETAIL C



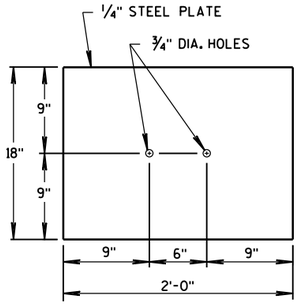
WOOD BREAKAWAY POST



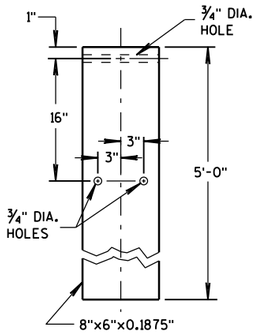
CABLE ASSEMBLY



BEARING PLATE



SOIL PLATE



STEEL TUBE

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
12/18/08 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS ENGINEER
FHWA	93

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S.D.D. 14 B 27-1c

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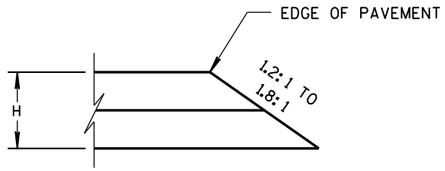
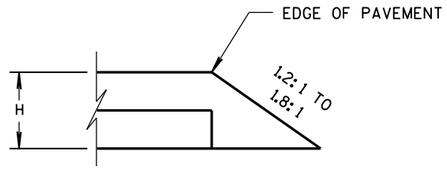
S.D.D. 14 B 27-1c



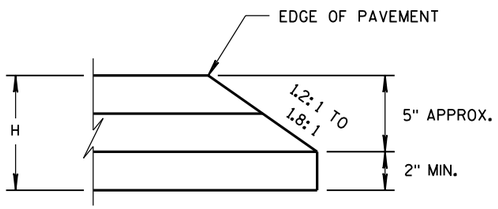
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



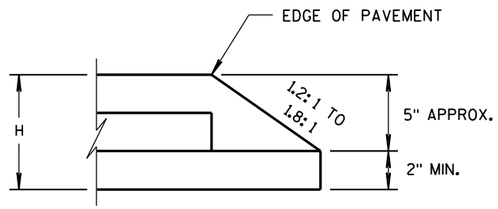
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

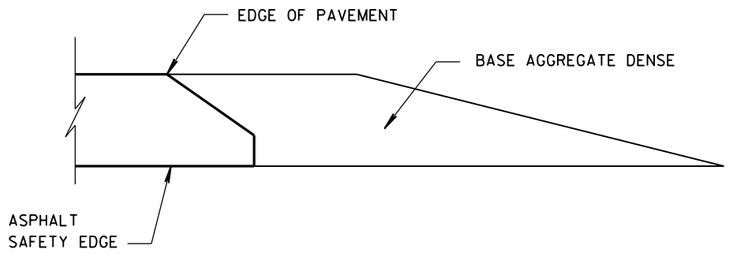
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

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S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

GENERAL NOTES

1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

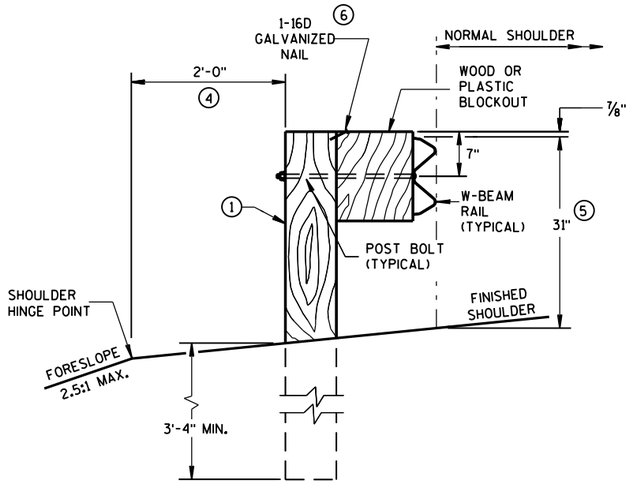
2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

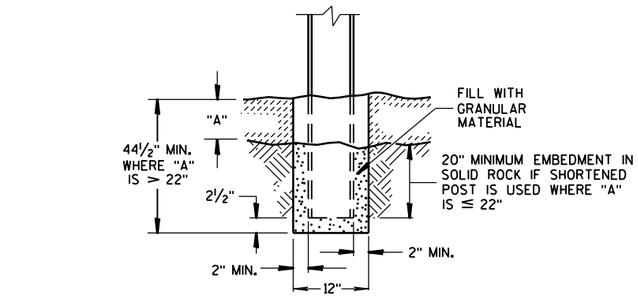
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

6. WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



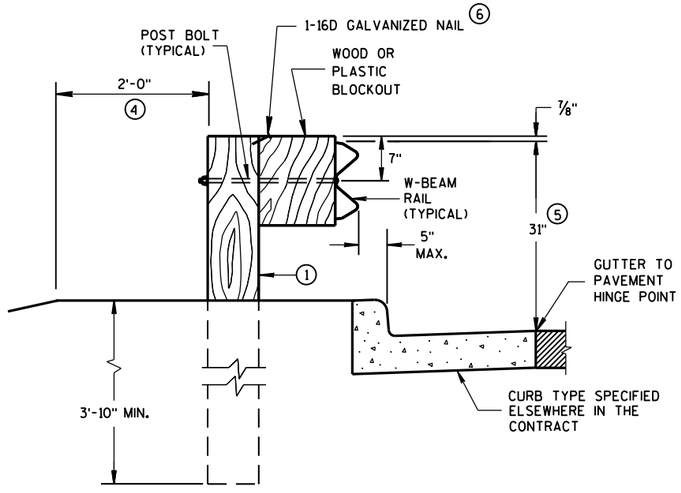
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



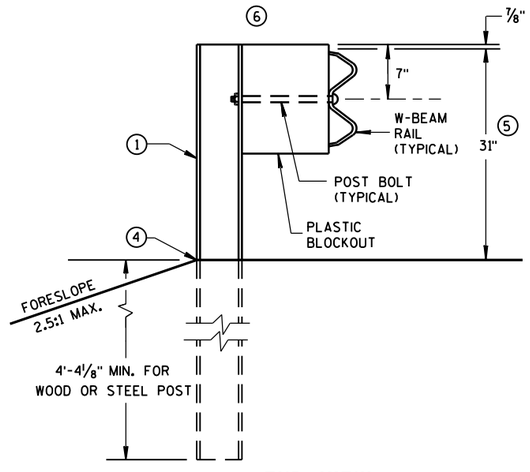
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



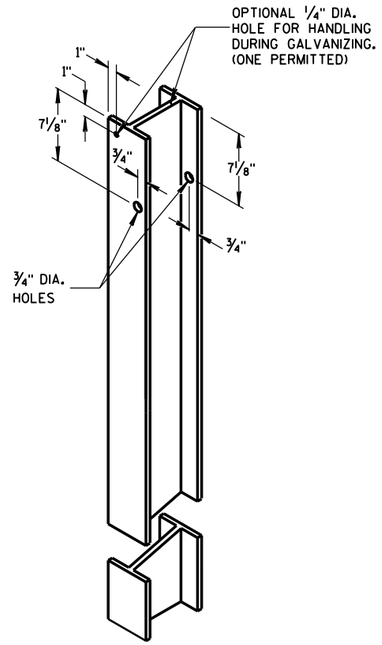
END VIEW

LOCATED ALONG A CURBED ROADWAY

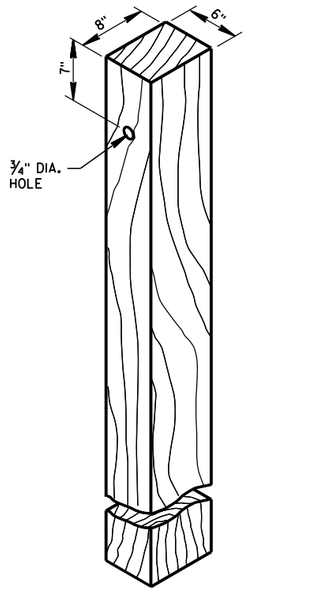


END VIEW

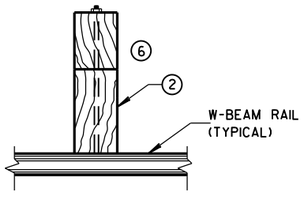
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



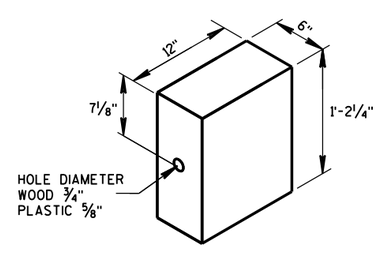
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



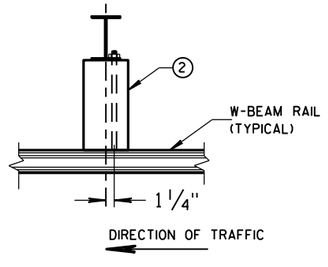
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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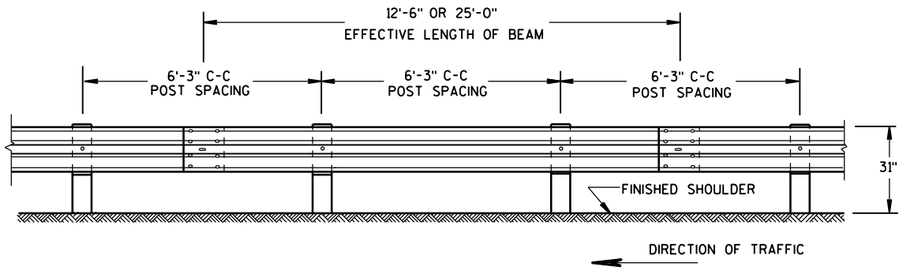
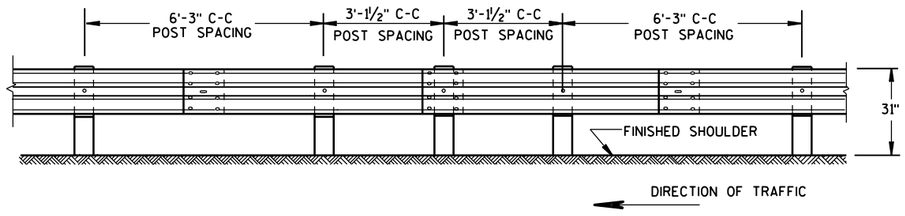
S.D.D. 14 B 42-3a



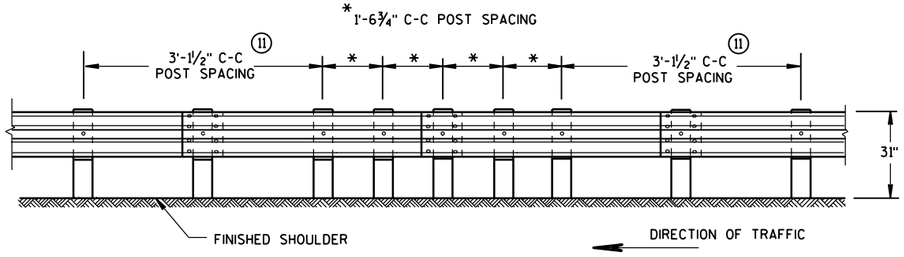
FRONT VIEW

POST SPACING STANDARD INSTALLATION



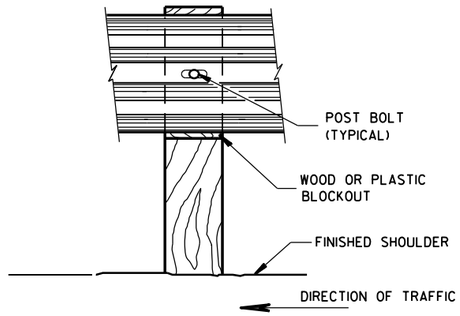
FRONT VIEW

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

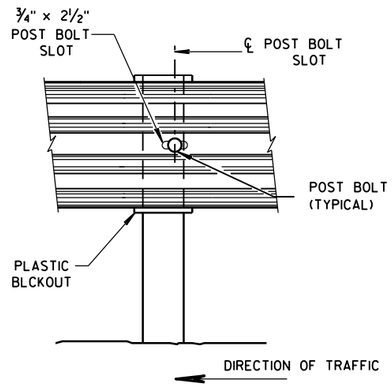


FRONT VIEW

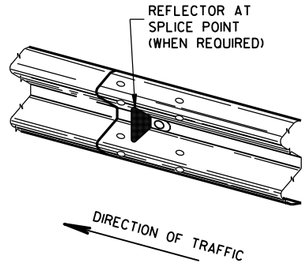
QUARTER POST SPACING (QS)

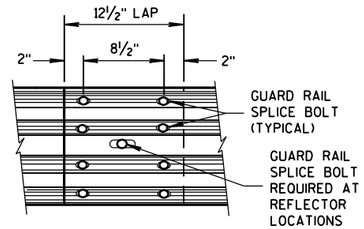


FRONT VIEW AT WOOD POST



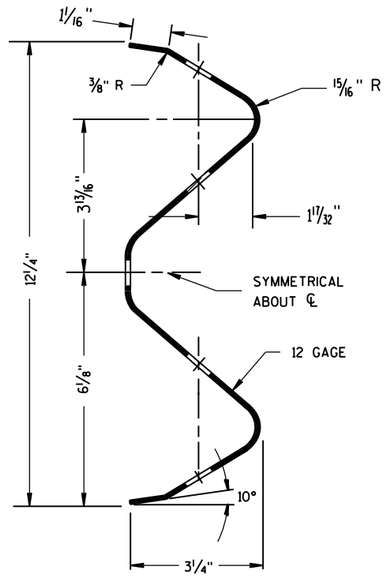
FRONT VIEW AT STEEL POST



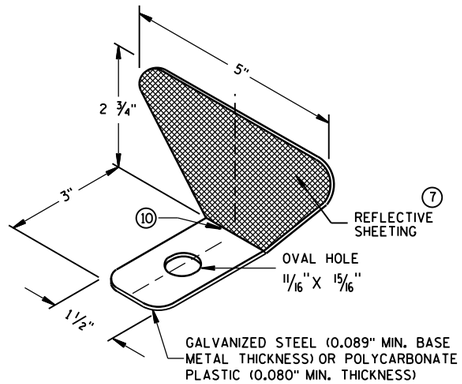


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ⑧

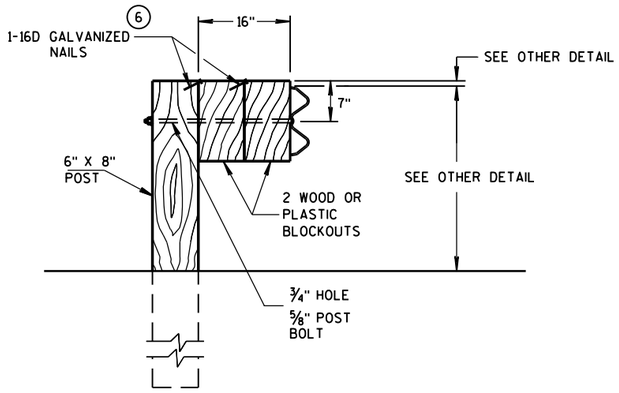
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 ⑩	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

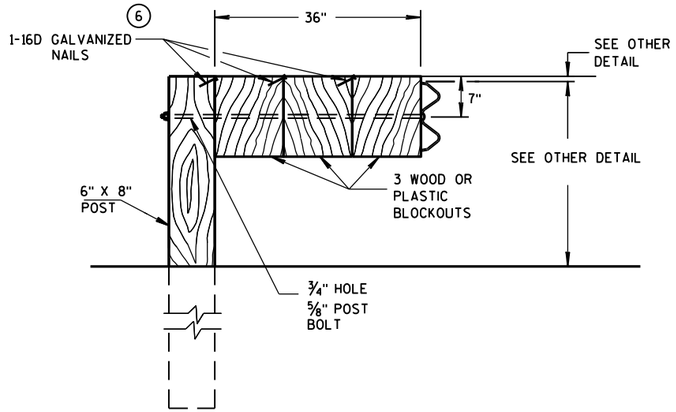
6

S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

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

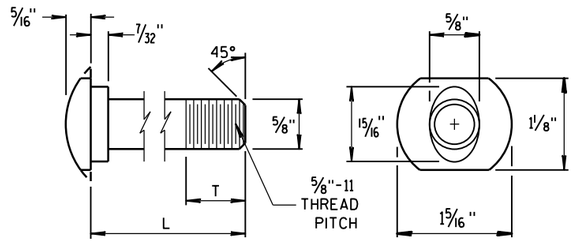


DETAIL FOR 36" BLOCKOUT DEPTH

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

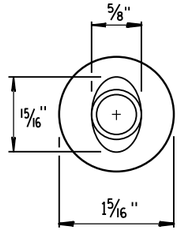
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

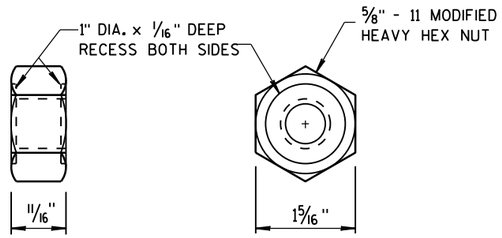


POST BOLT TABLE

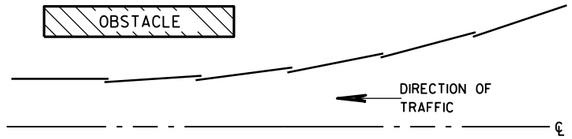
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

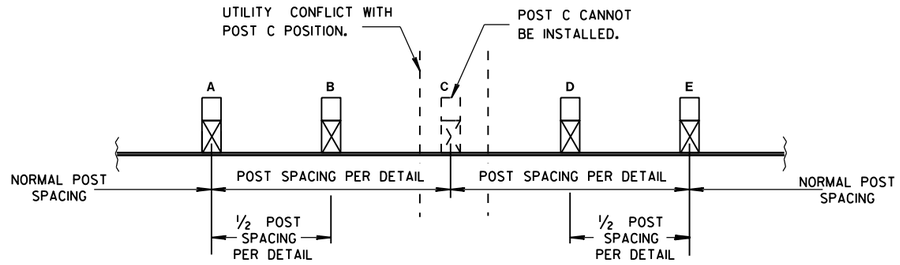


POST BOLT AND RECESS NUT

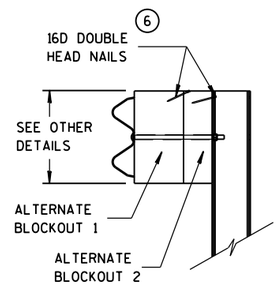


PLAN VIEW

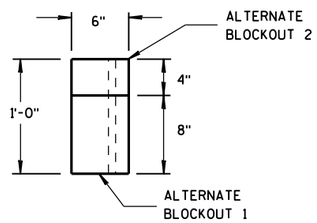
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 42-3c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

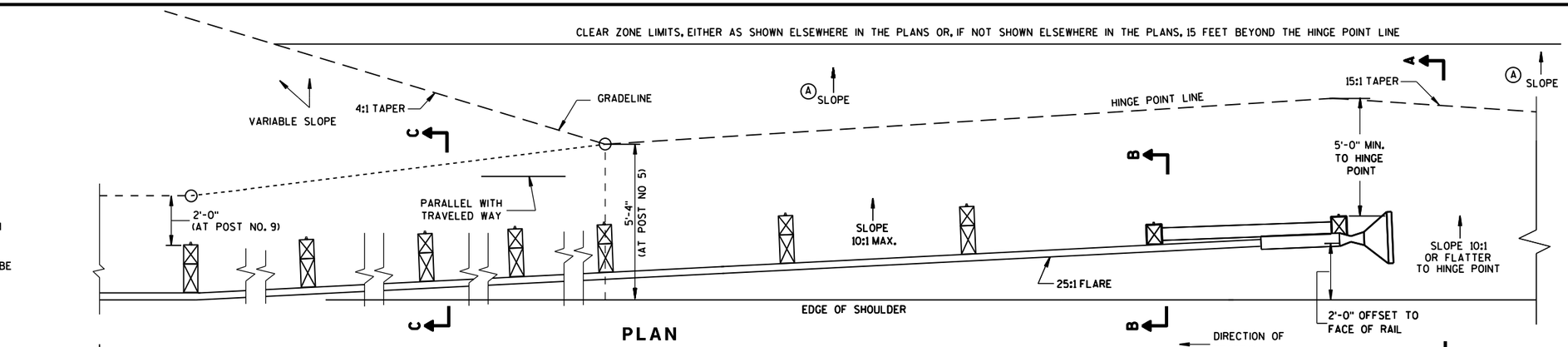
SEE SDD 14B42 FOR MORE INFORMATION.

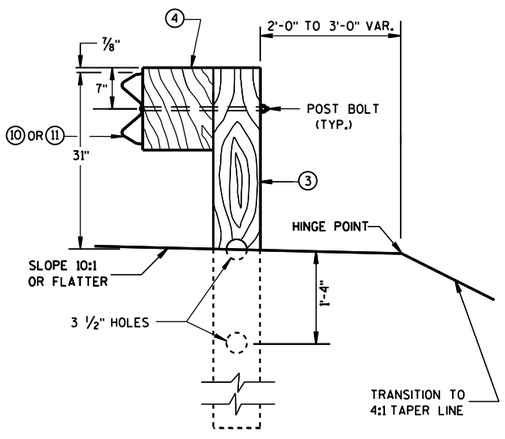
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

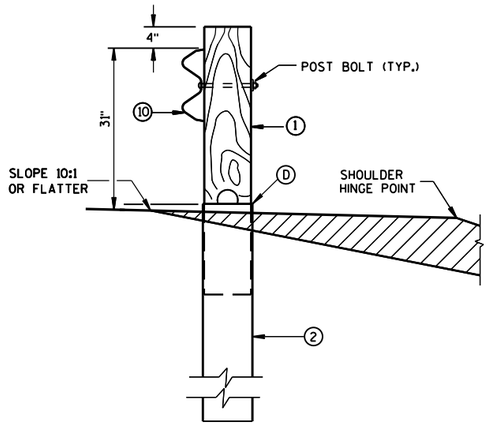
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

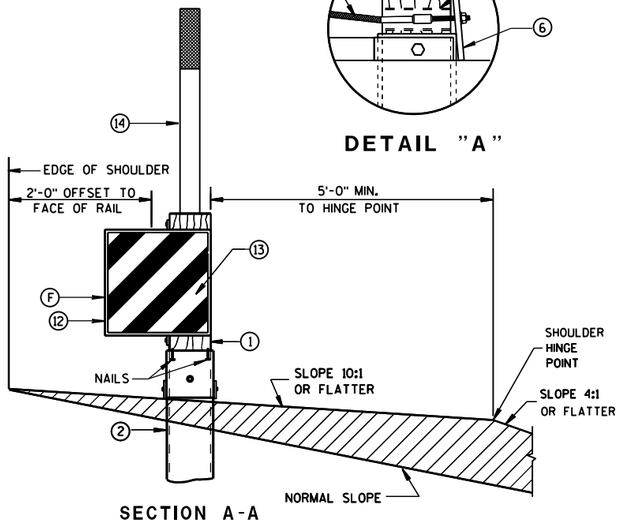




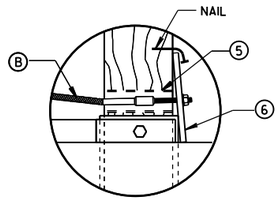
SECTION C-C
TYPICAL AT POST NOS. 3-9



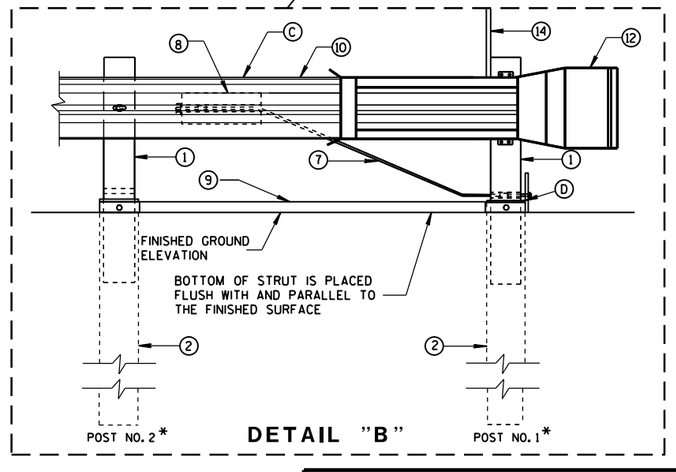
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



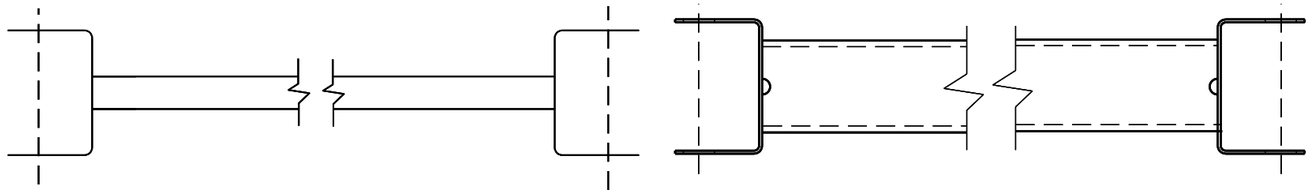
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

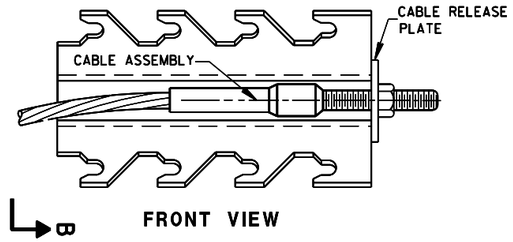
S.D.D. 14 B 44-2a



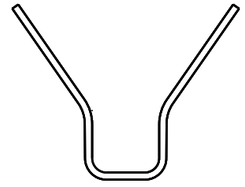
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

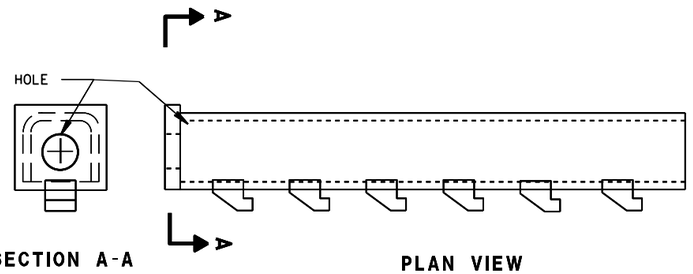
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



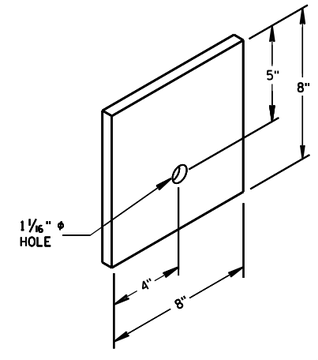
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



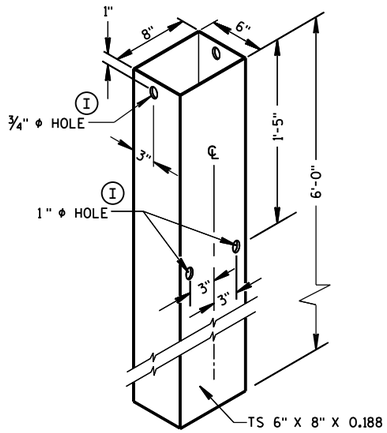
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

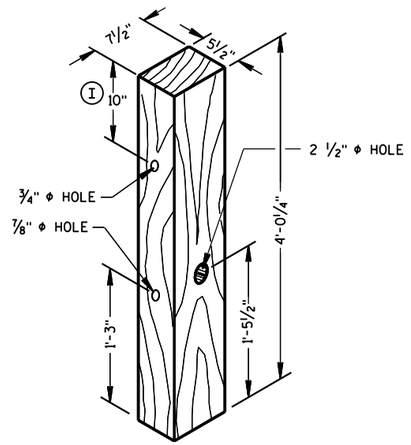
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 44-2b

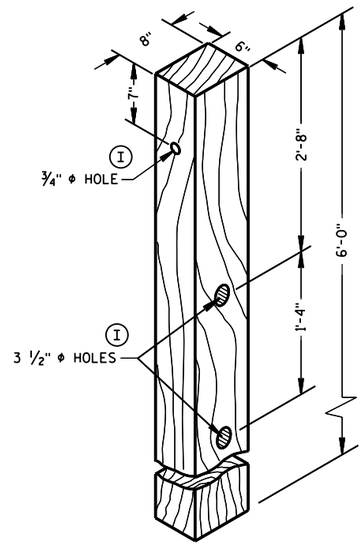


FOUNDATION TUBE (2)



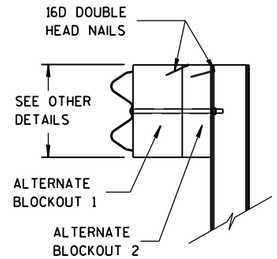
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

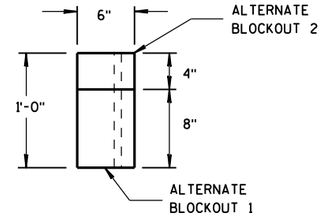


POSTS NUMBER 3-9

WOOD CRT POST (3)

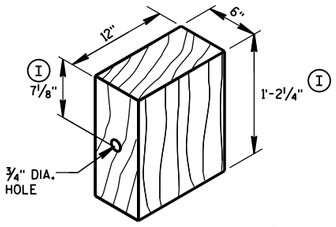


SIDE VIEW



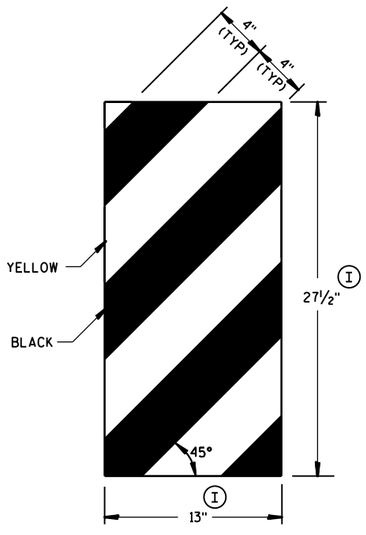
TOP VIEW

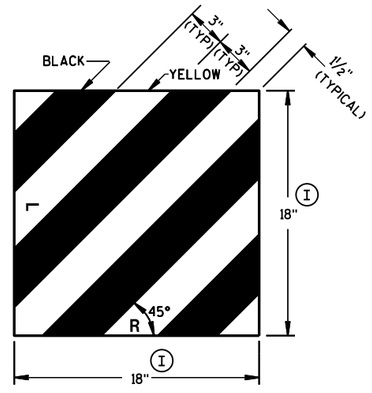
ALTERNATE WOOD BLOCKOUT DETAIL



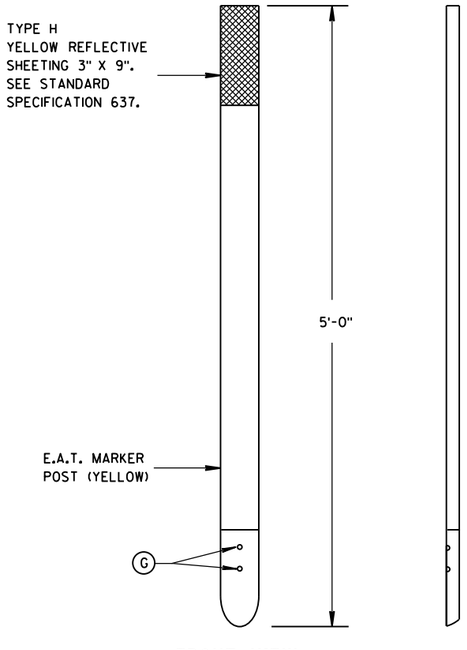
WOOD BLOCKOUT (4)

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





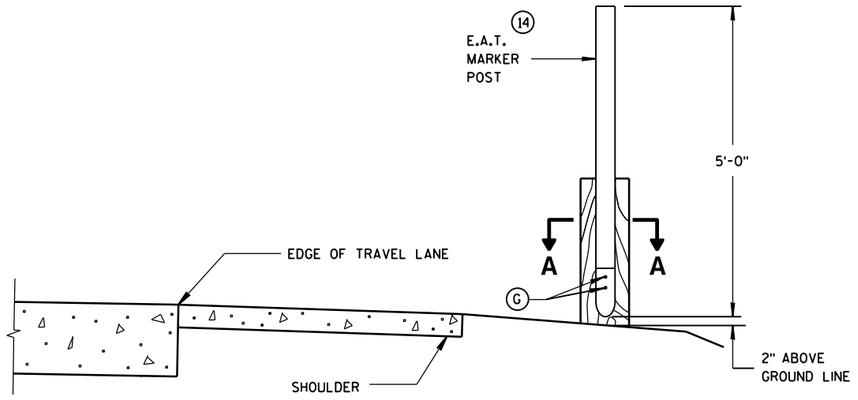
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

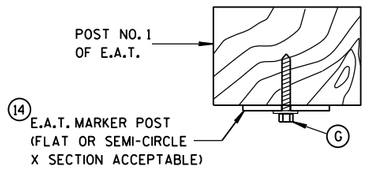
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

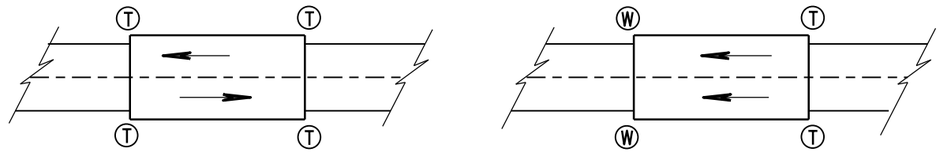
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

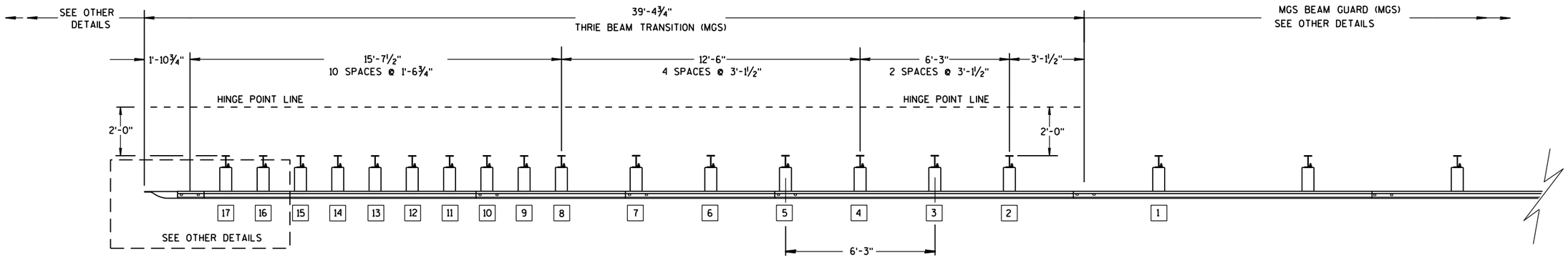
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

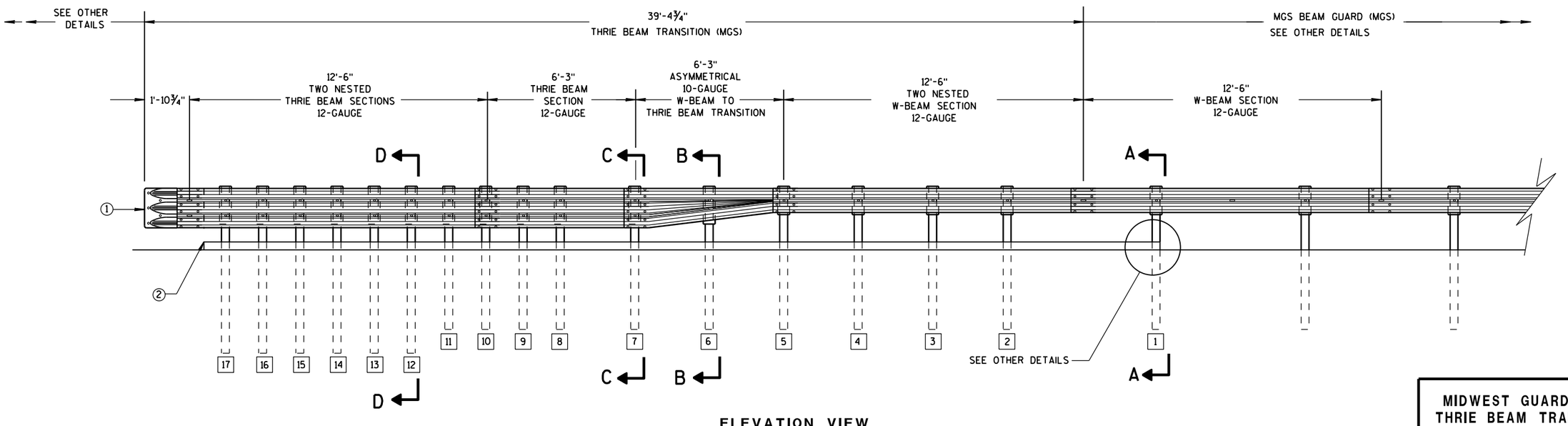
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 45-4a

6

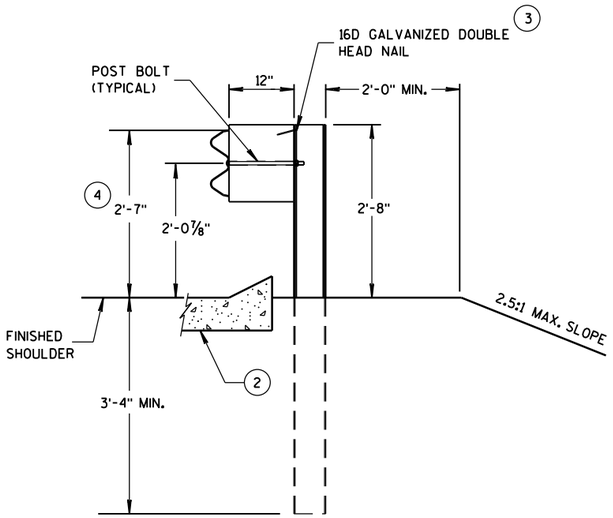
S.D.D. 14 B 45-4a

GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

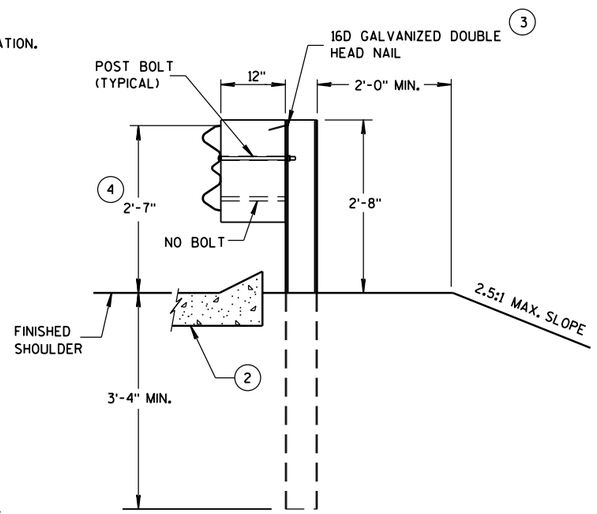
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



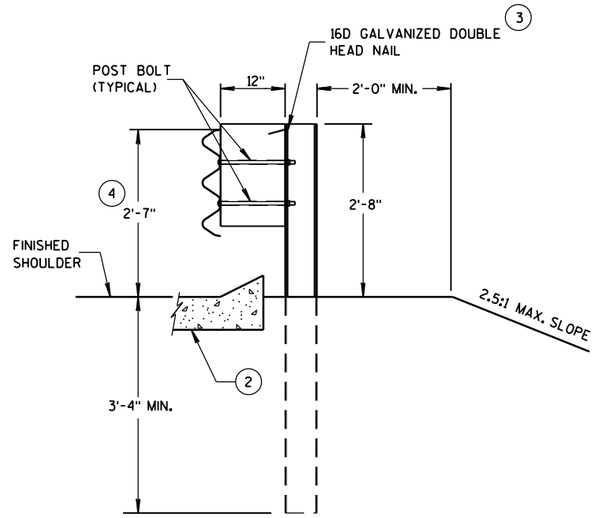
SECTION A-A

POSTS 1-5



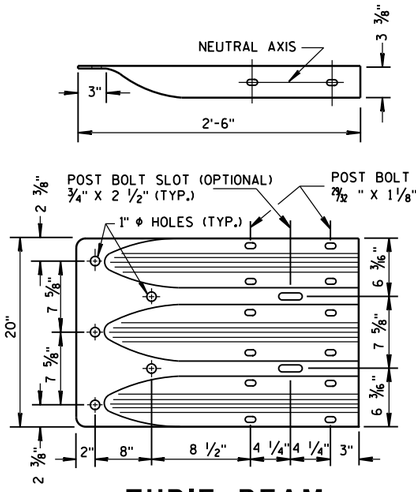
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

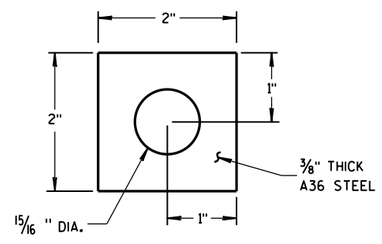
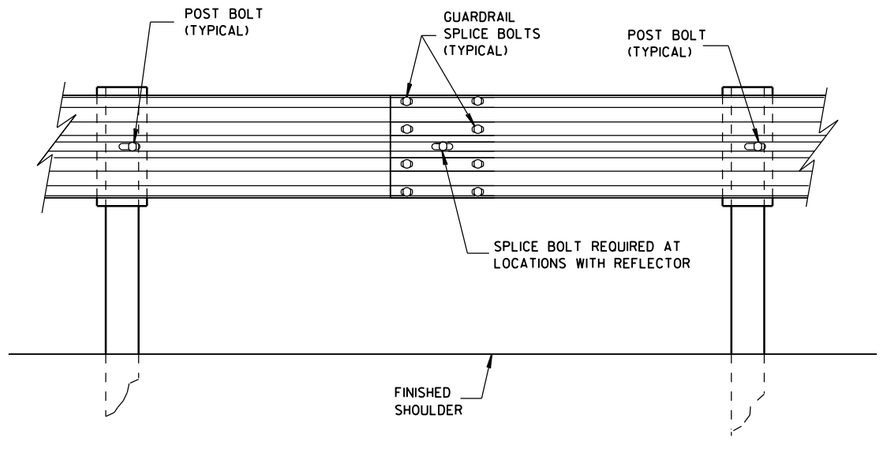
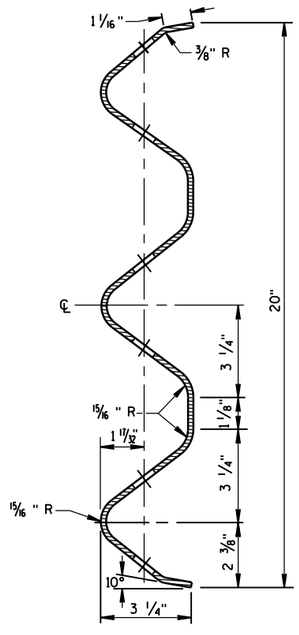


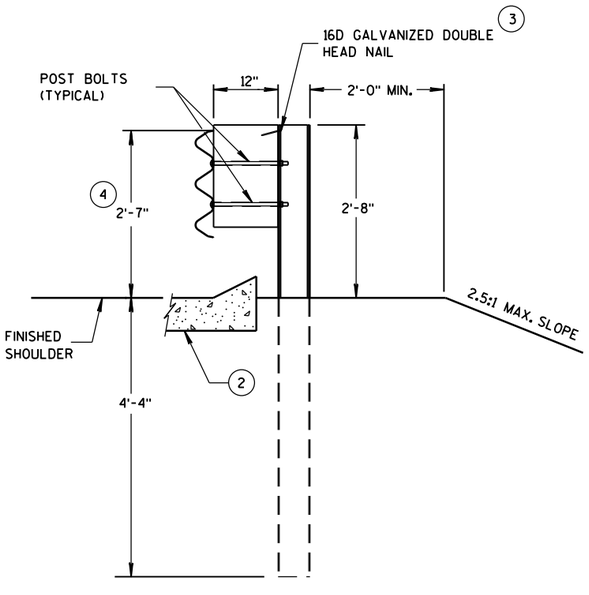
PLATE WASHER DETAIL



SPLICE DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

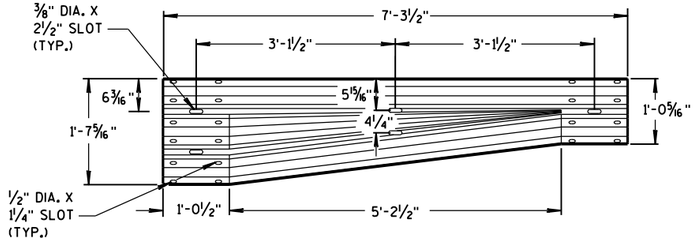
POSTS 12-17

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

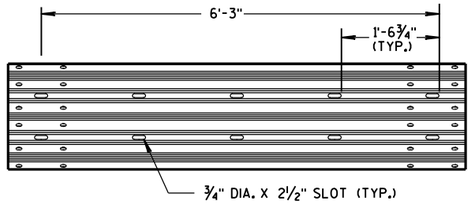
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

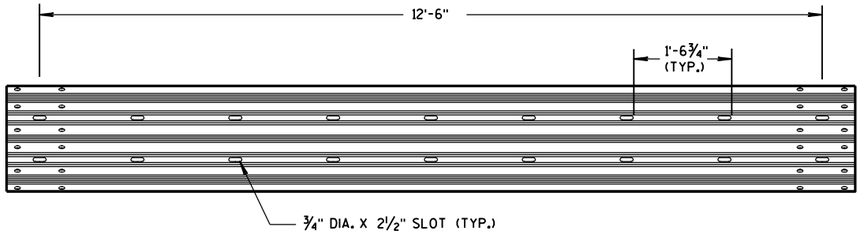
S.D.D. 14 B 45-4b



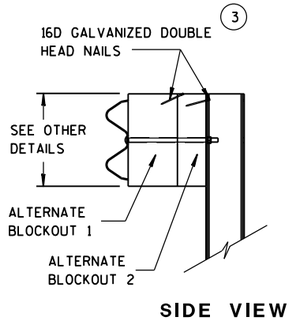
W-BEAM TO THRIE BEAM TRANSITION SECTION



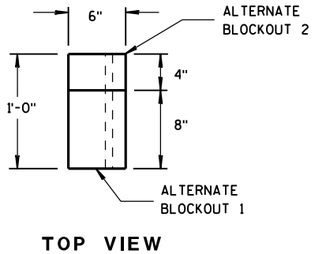
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

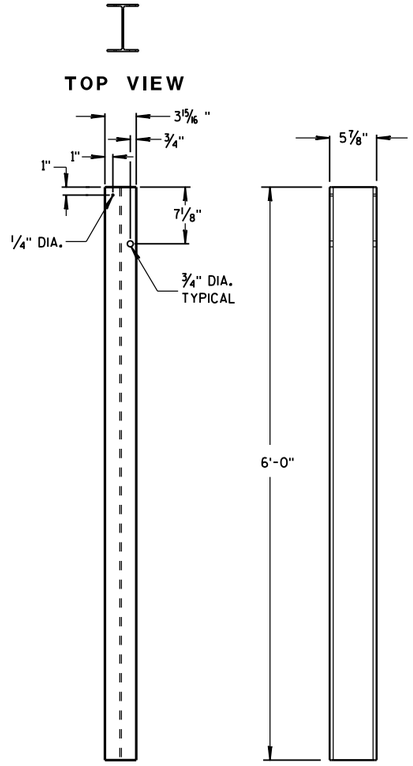


SIDE VIEW

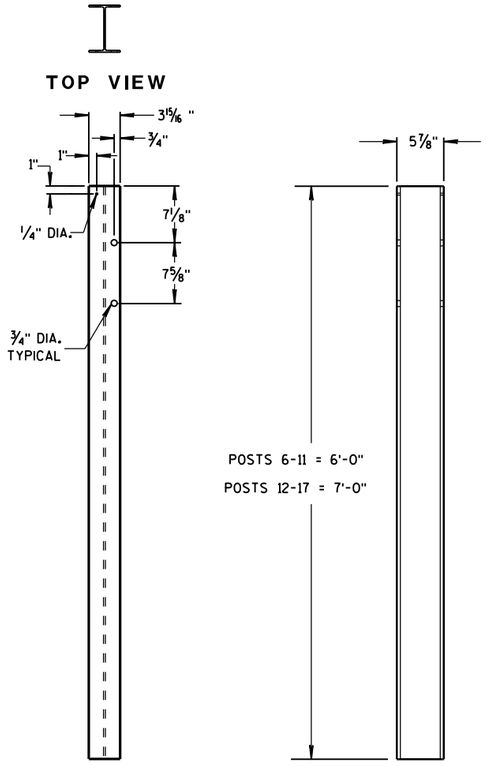


TOP VIEW

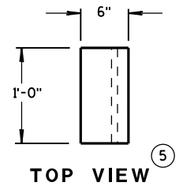
ALTERNATE WOOD BLOCKOUT DETAIL



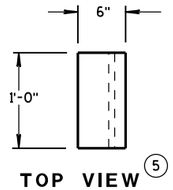
STEEL POSTS 1-5



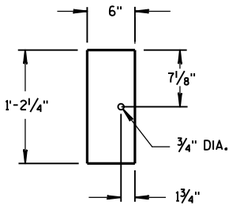
STEEL POSTS 6-17



TOP VIEW (5)

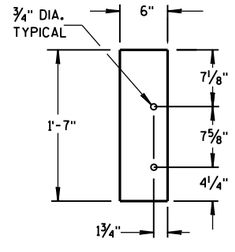


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

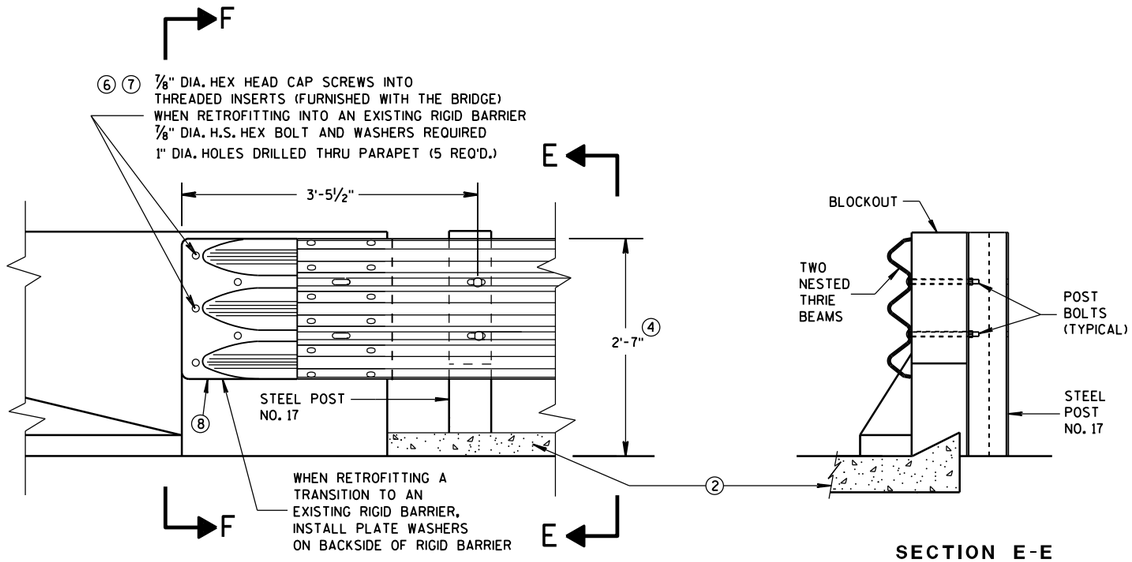
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

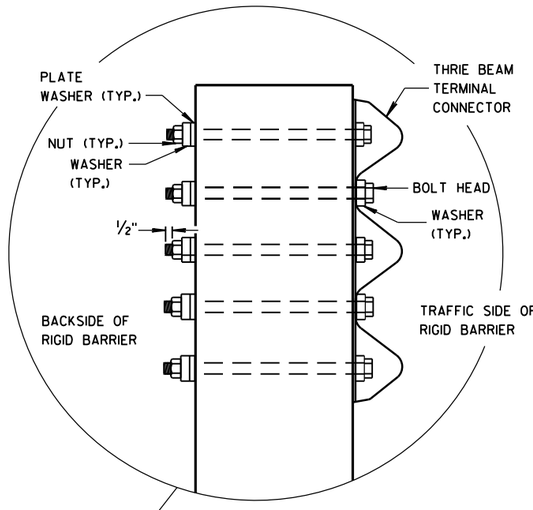
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

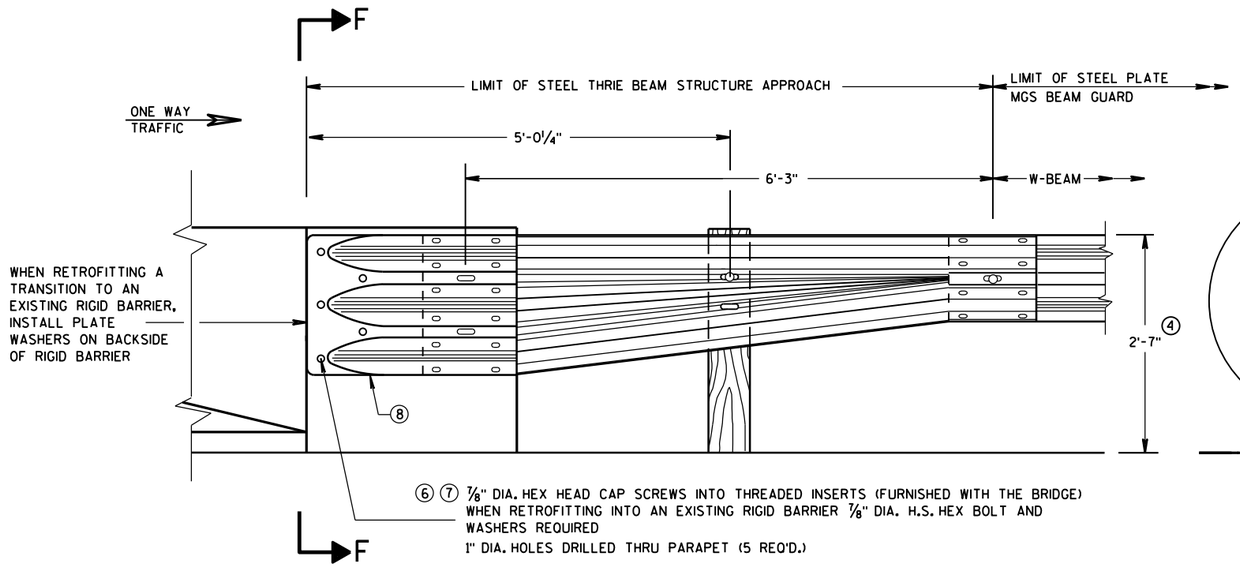
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

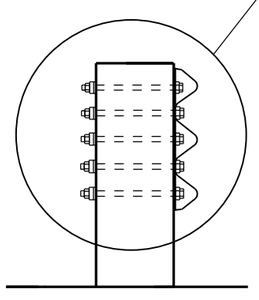
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

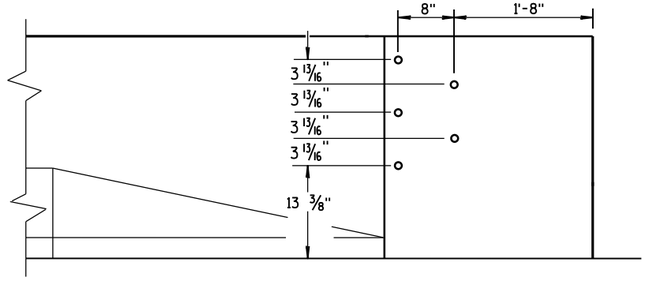




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 45-4d

6

S.D.D. 14 B 45-4d

GENERAL NOTES

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

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

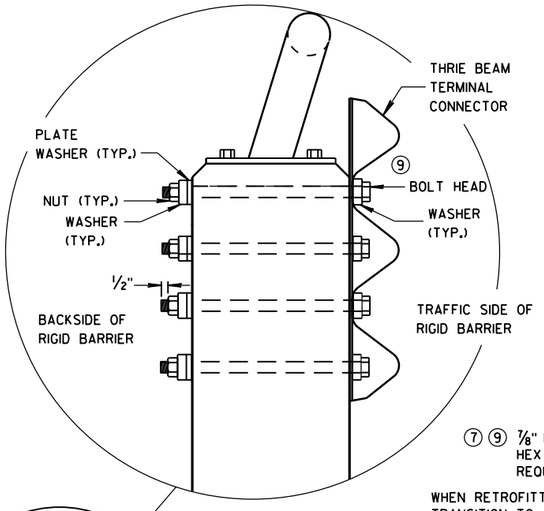
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

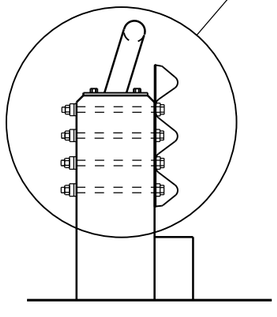
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

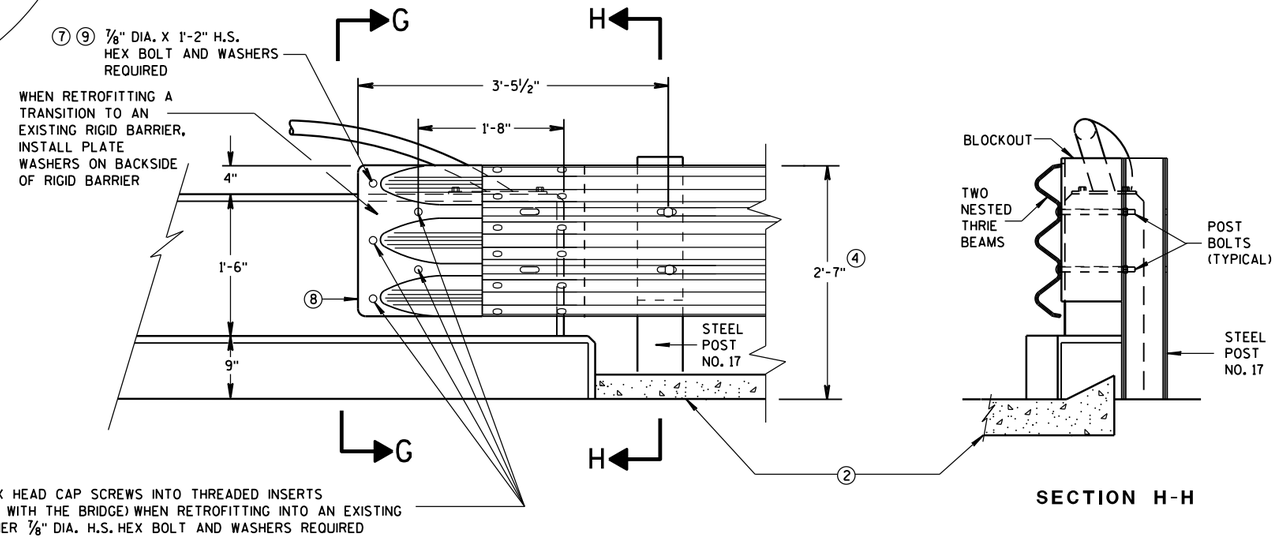
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





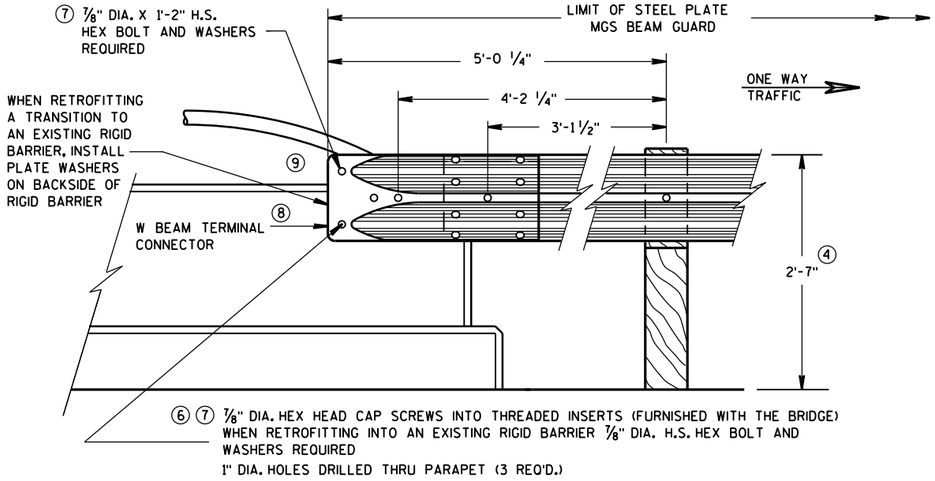
SECTION G-G



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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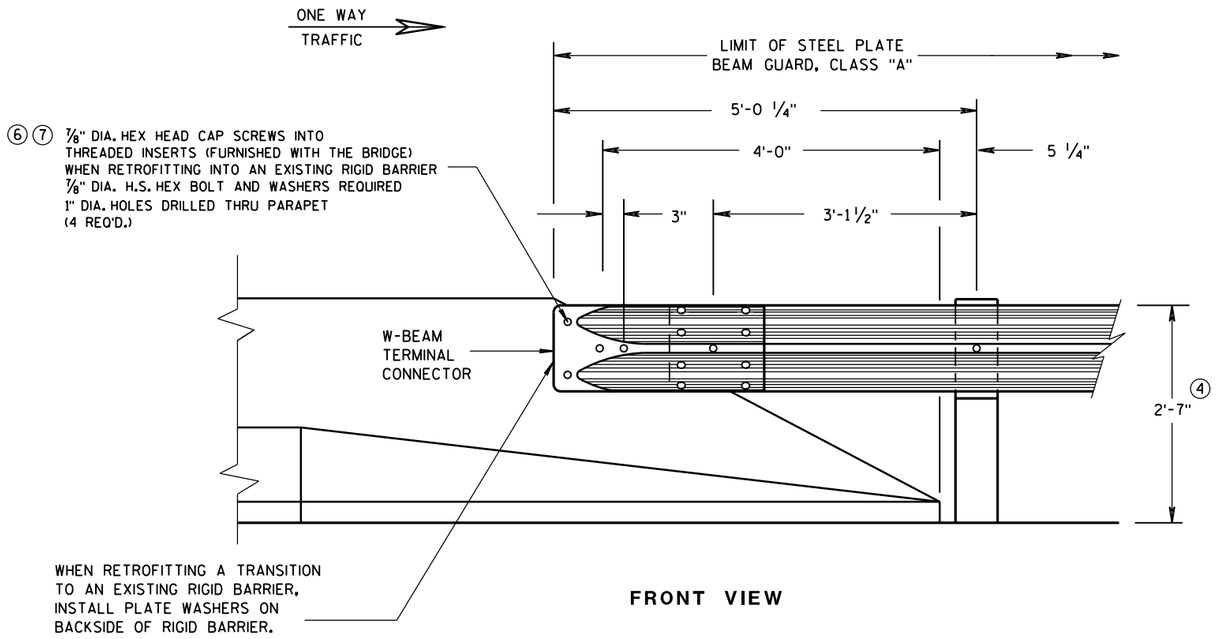


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

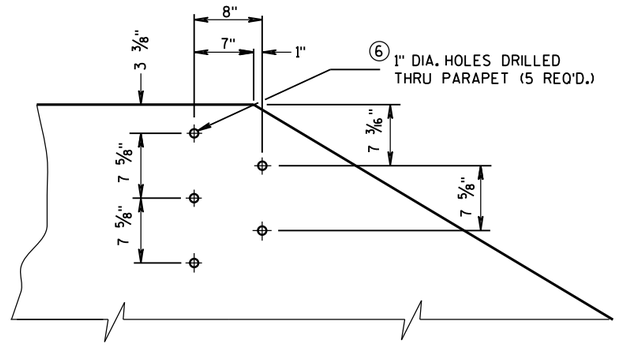
GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

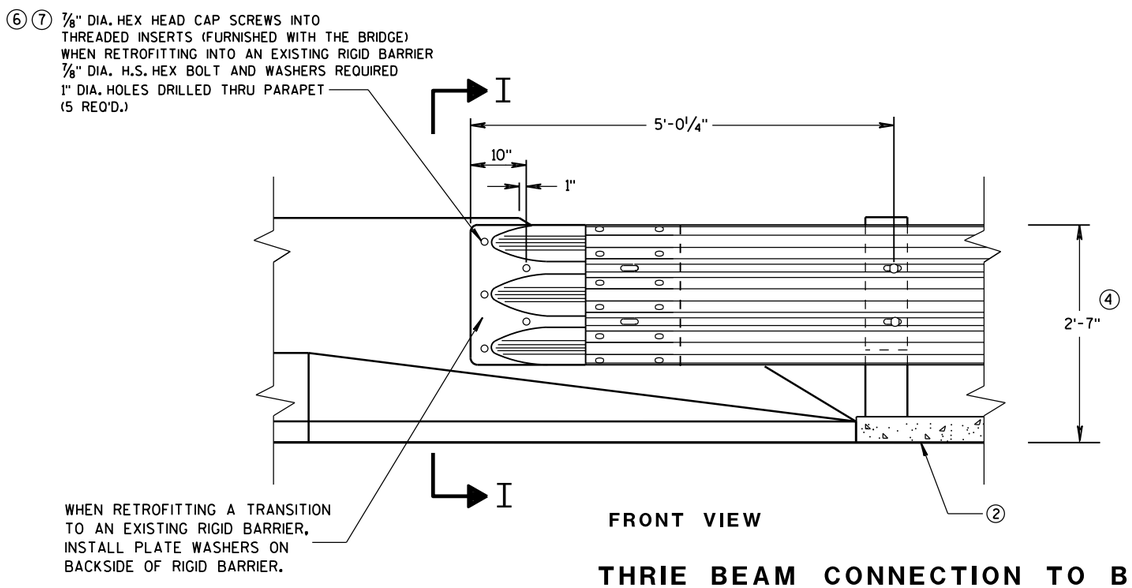
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

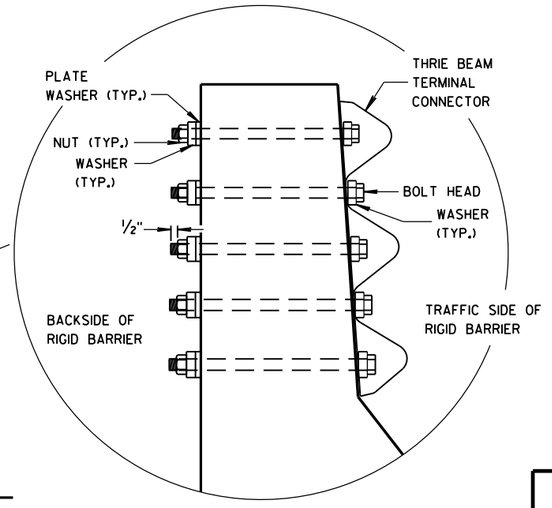


DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW

SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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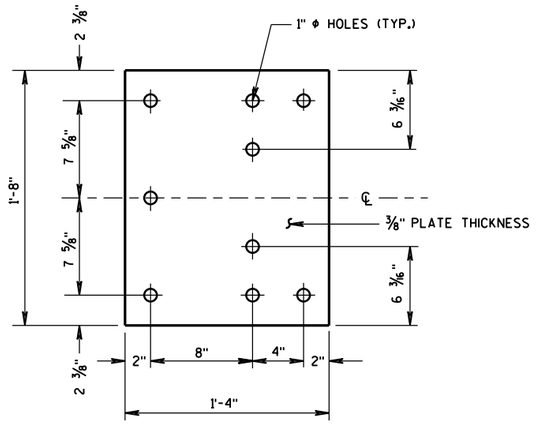
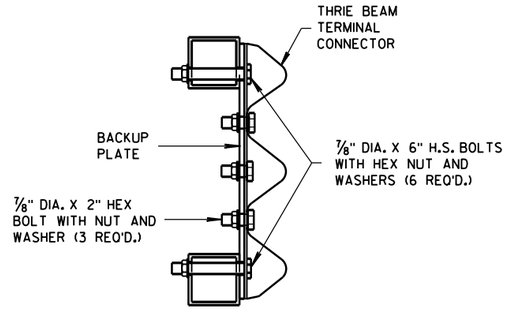
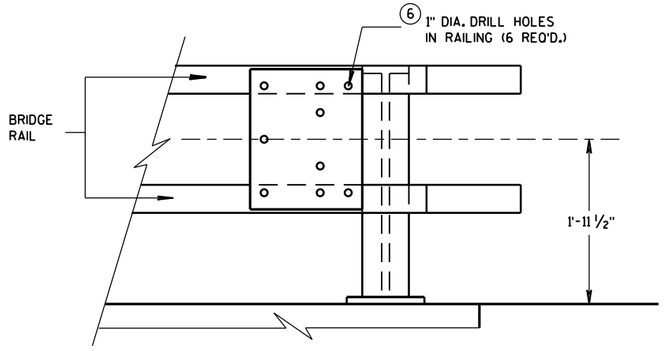


BACK-UP PLATE DETAIL



SECTION J-J

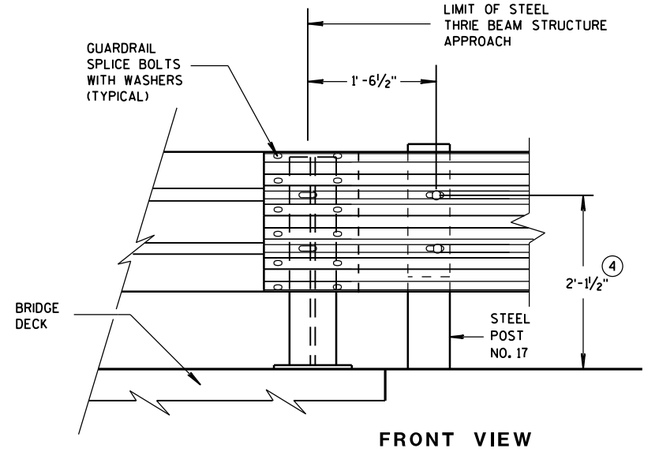


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

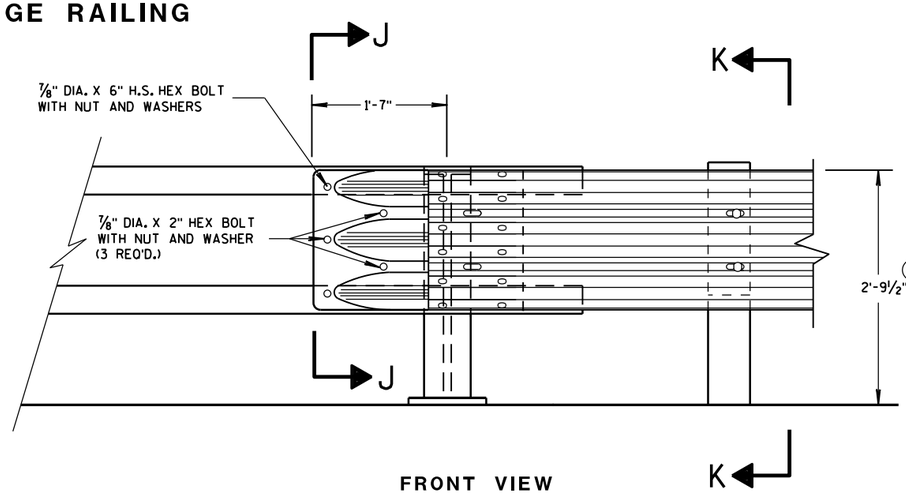
4 TOLERANCE FOR TOP OF BEAM IS ± 1".

6 DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

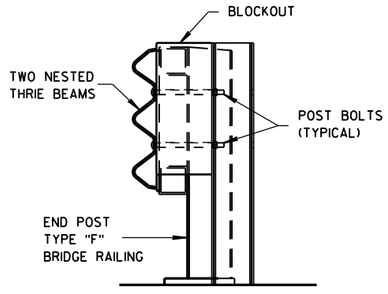


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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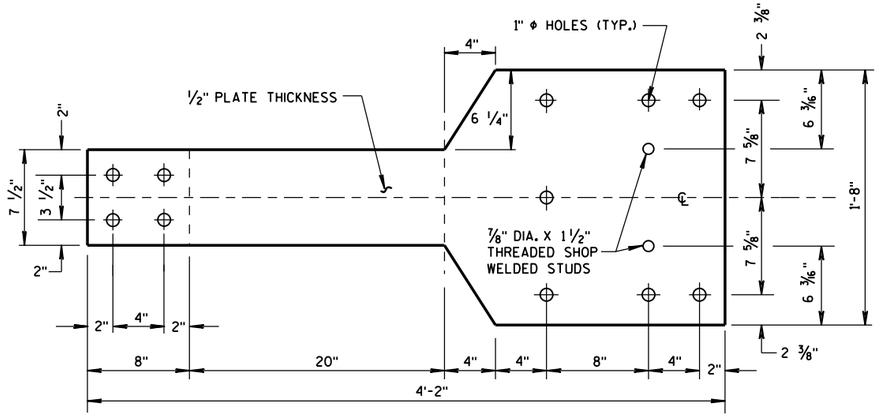
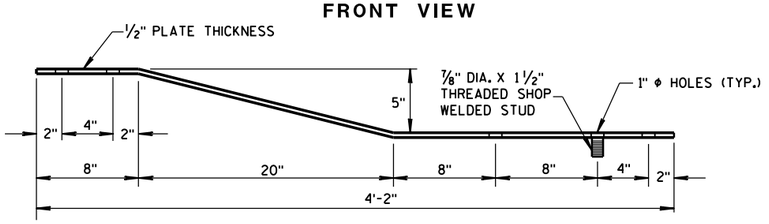
GENERAL NOTES

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

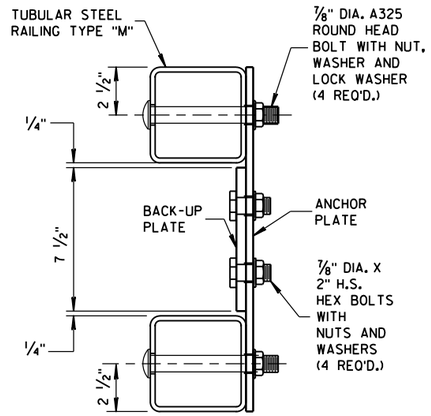


FRONT VIEW

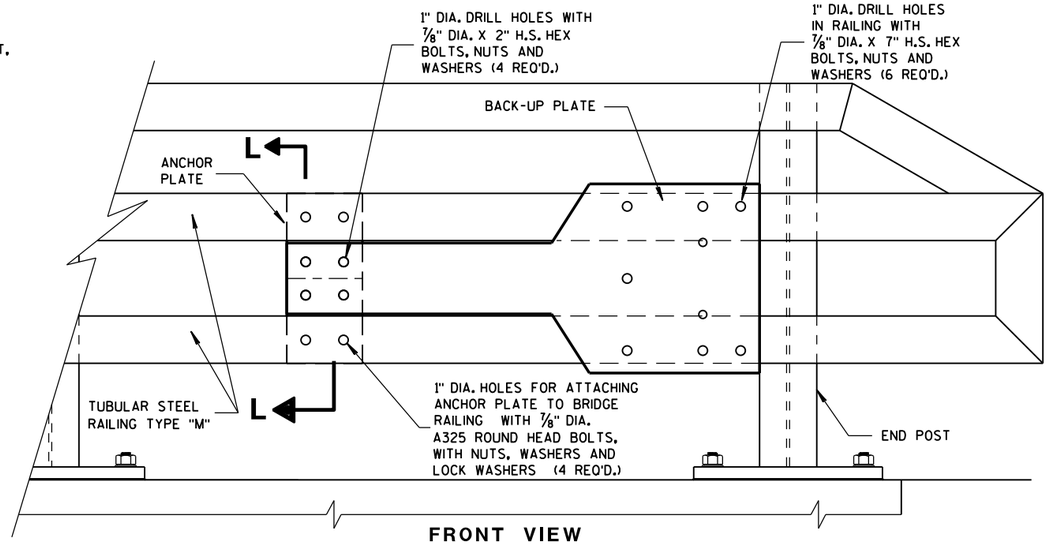


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

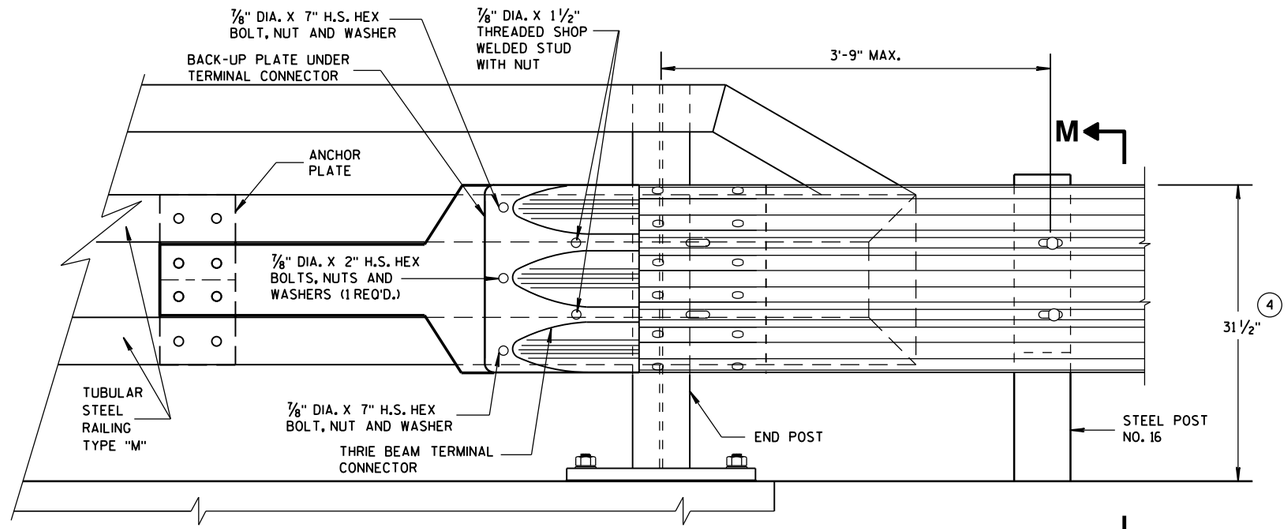


SECTION L-L

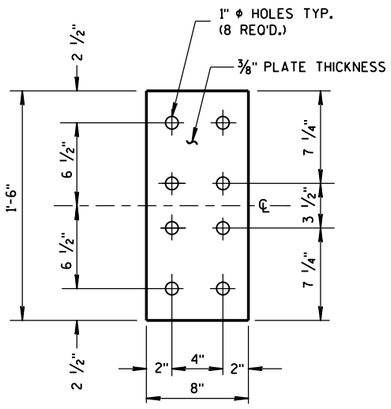


FRONT VIEW

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

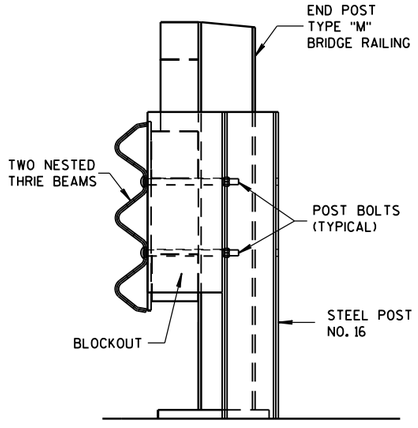


FRONT VIEW

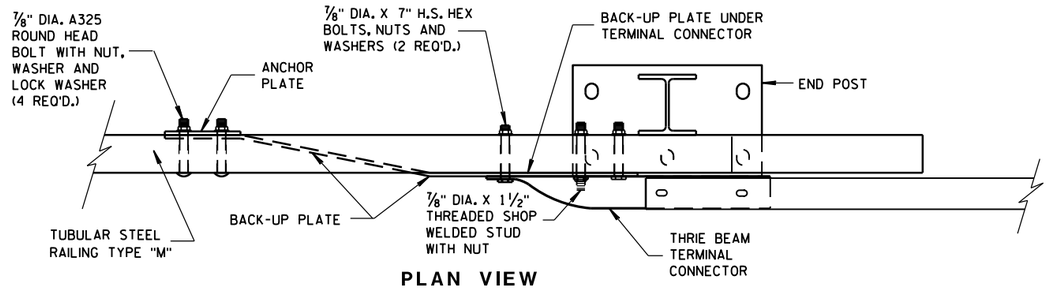


FRONT VIEW

ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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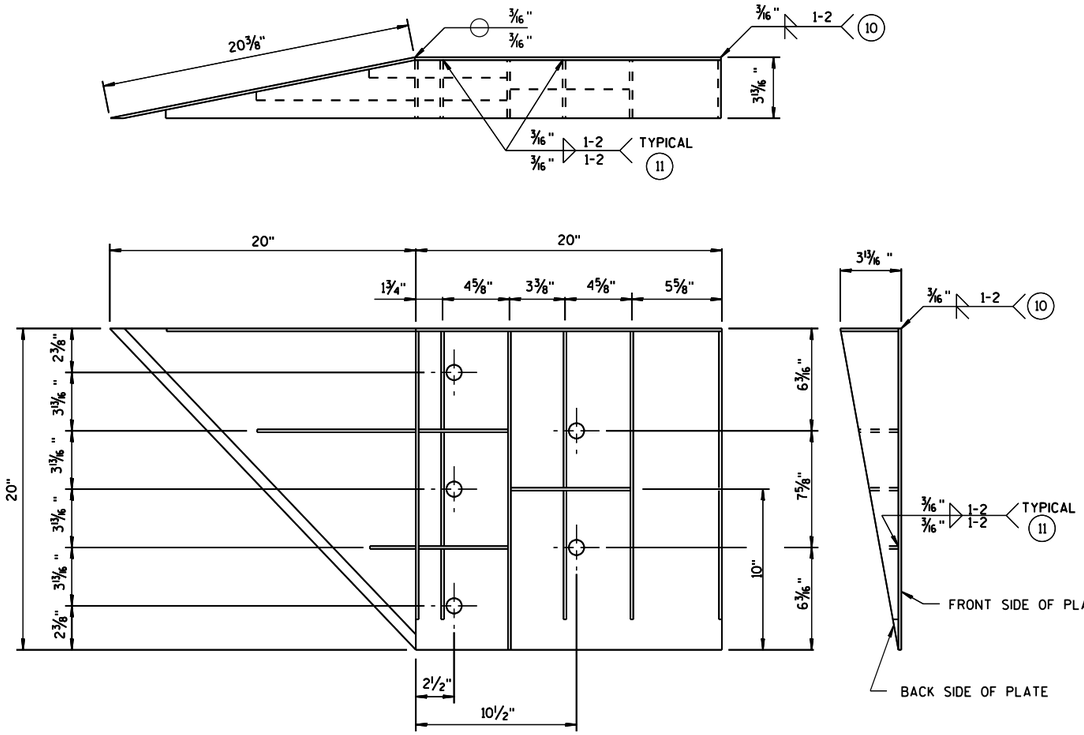

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

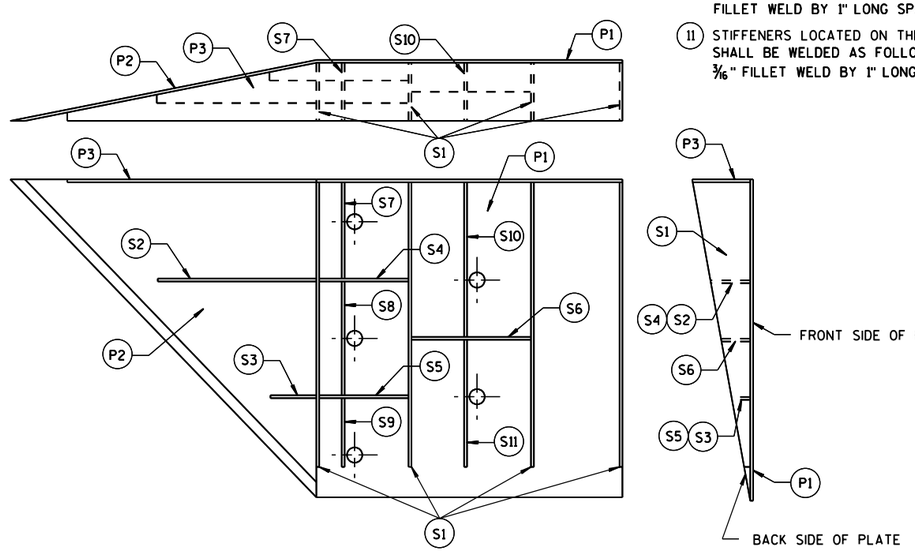

PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 3/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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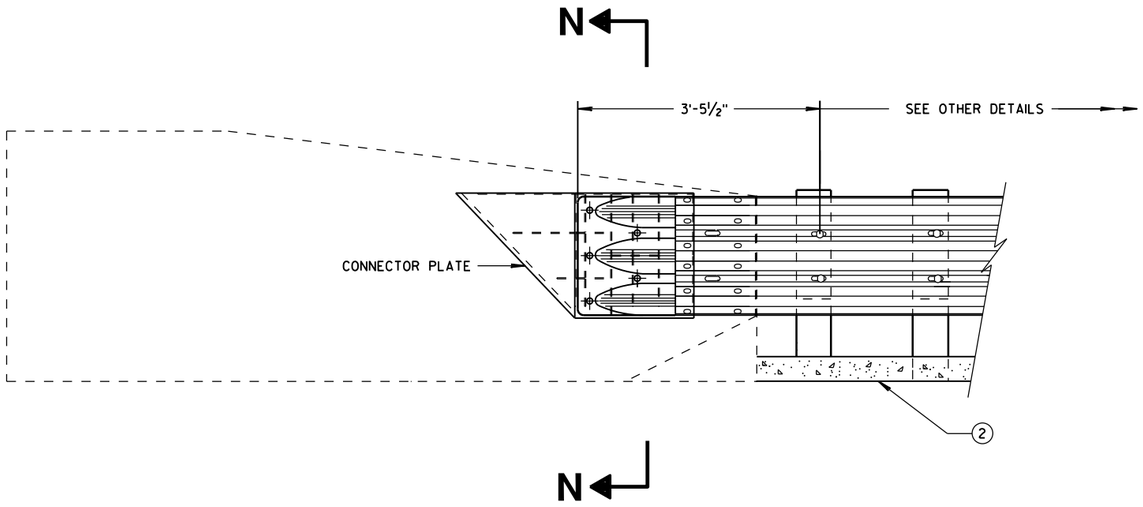
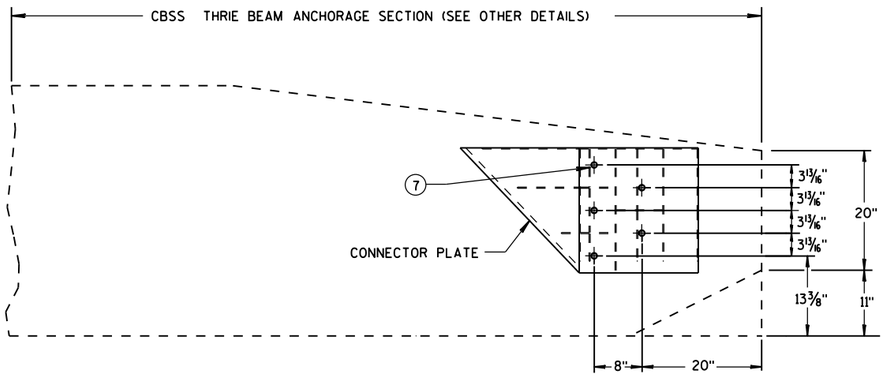


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



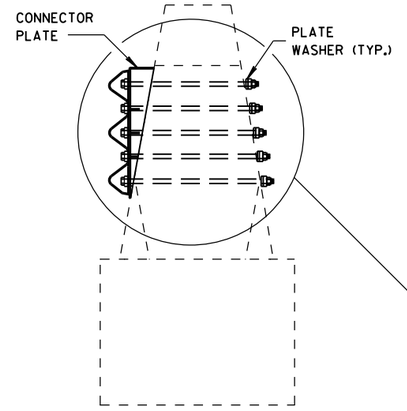
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

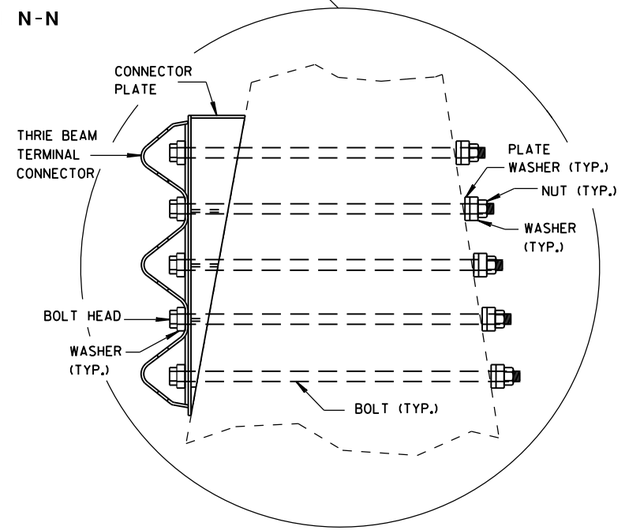
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

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



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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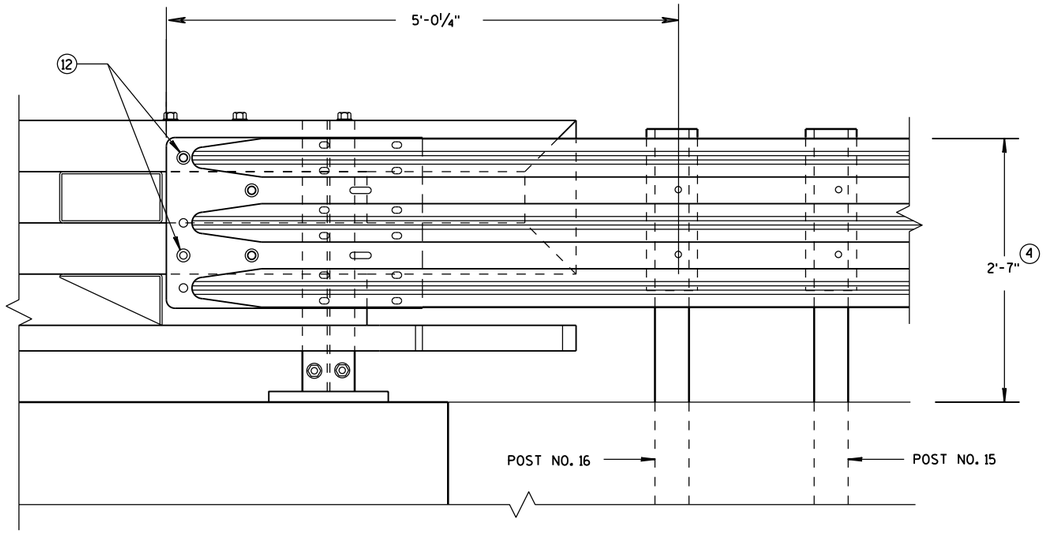
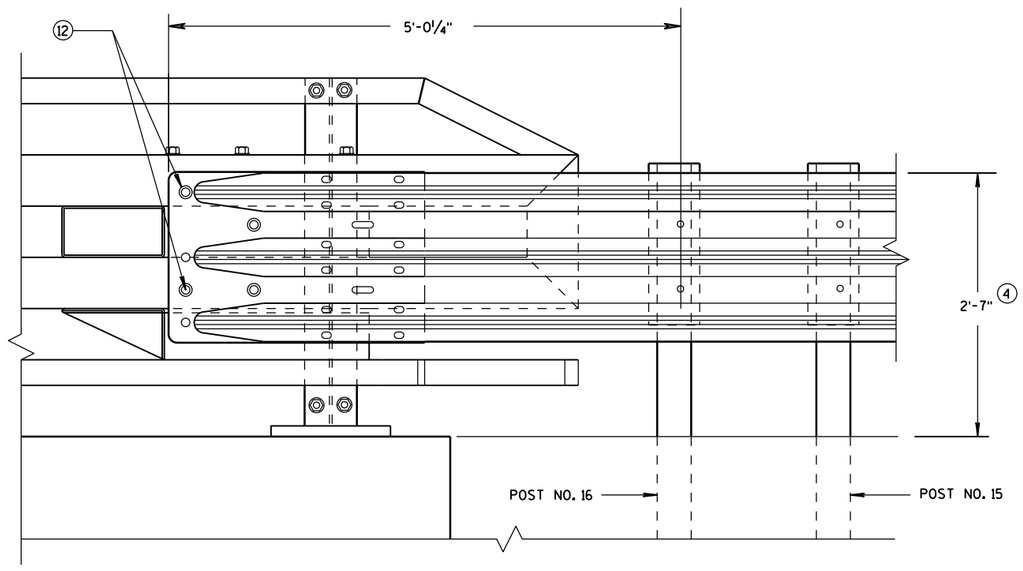


ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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June, 2015
DATE

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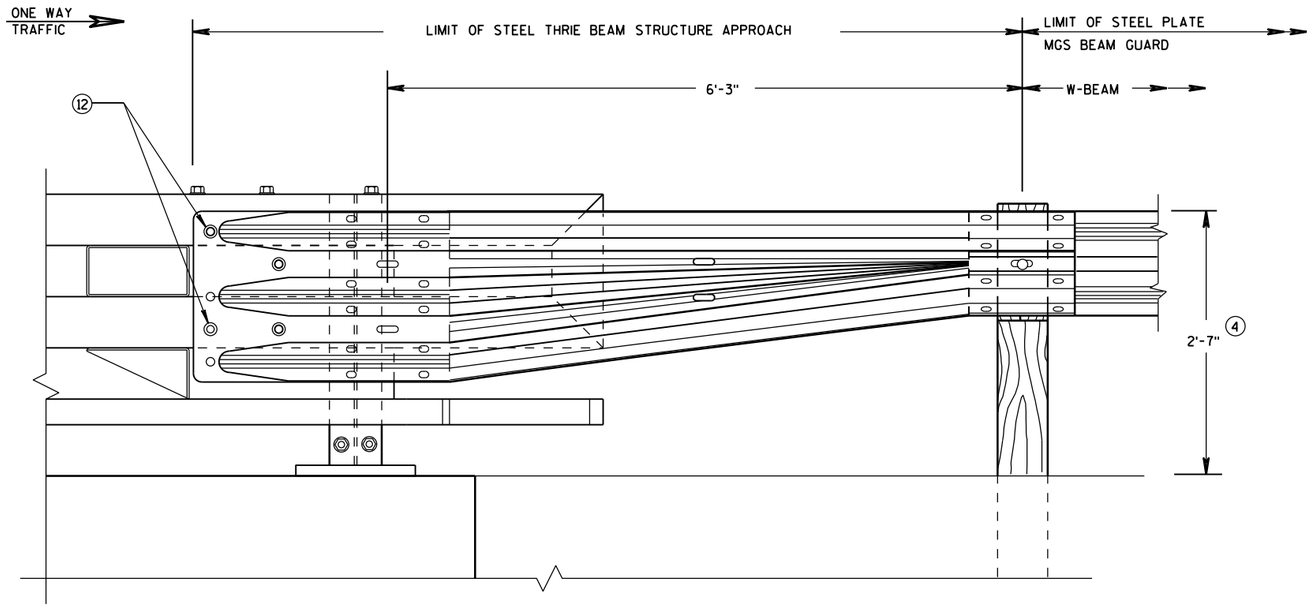

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

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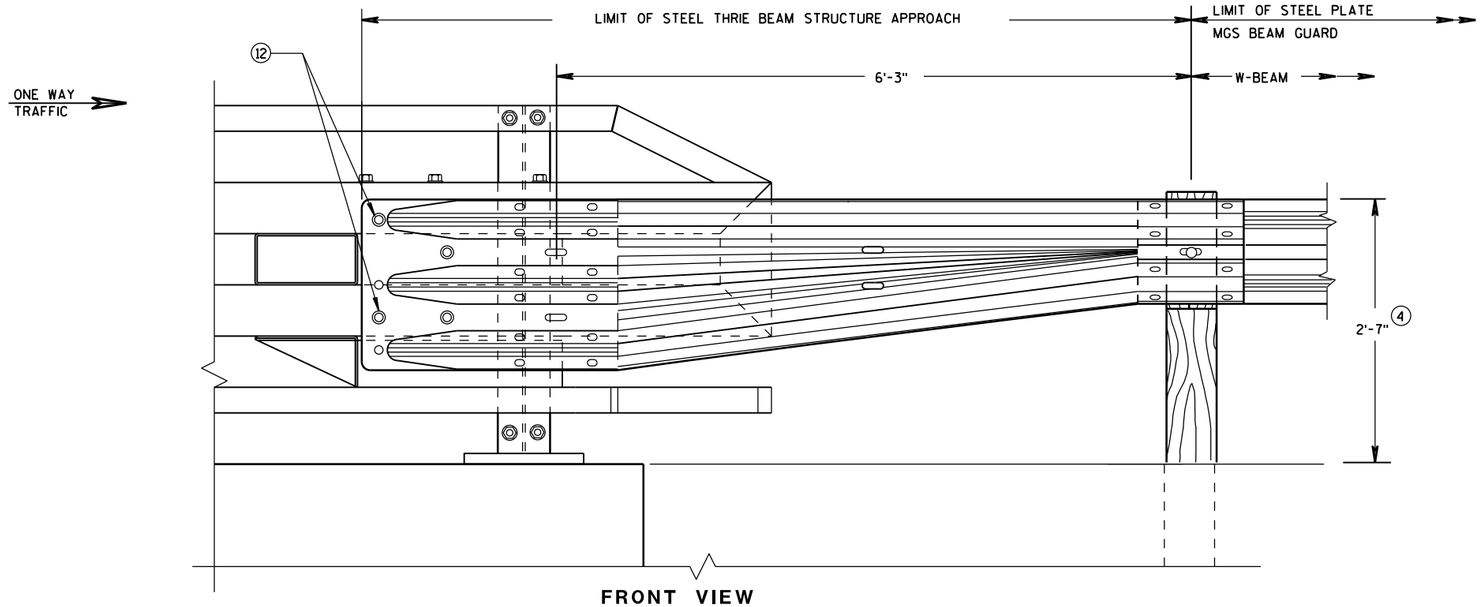

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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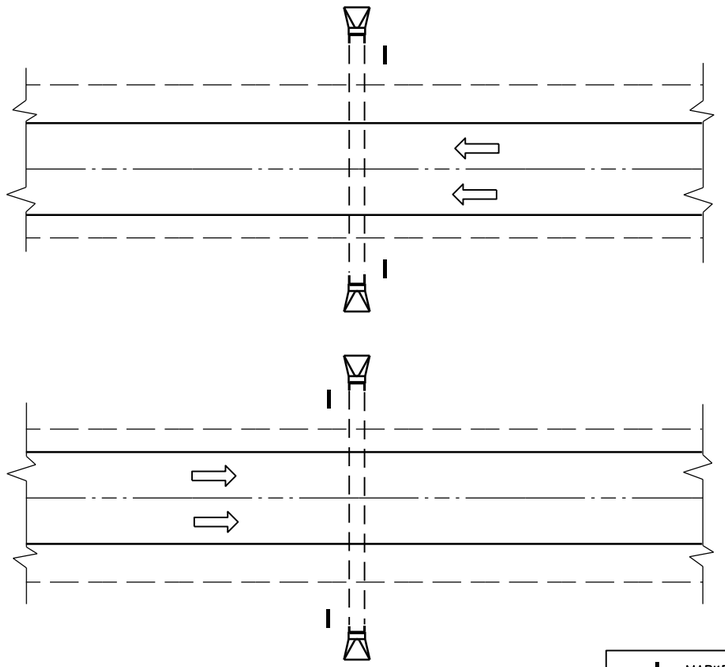
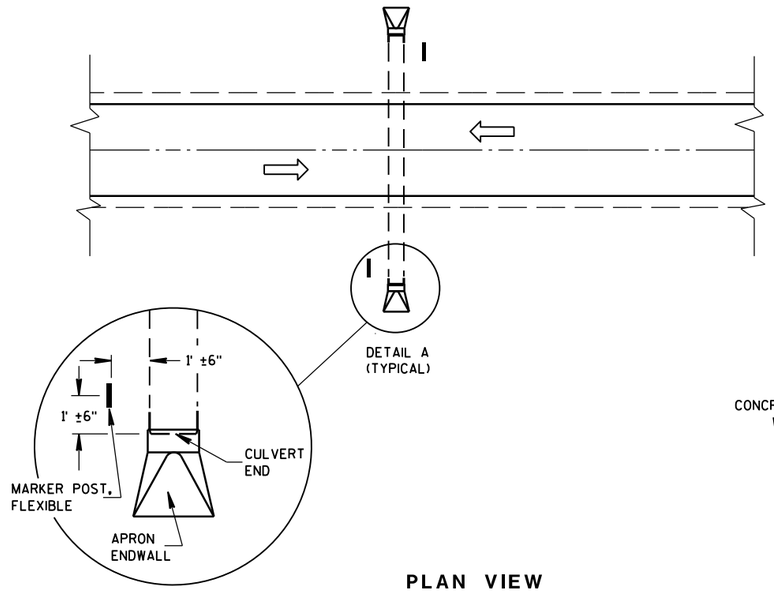


PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

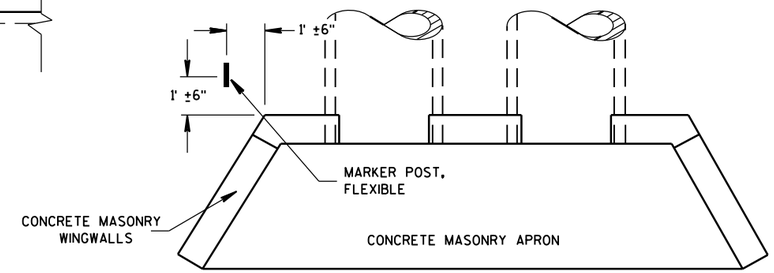
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

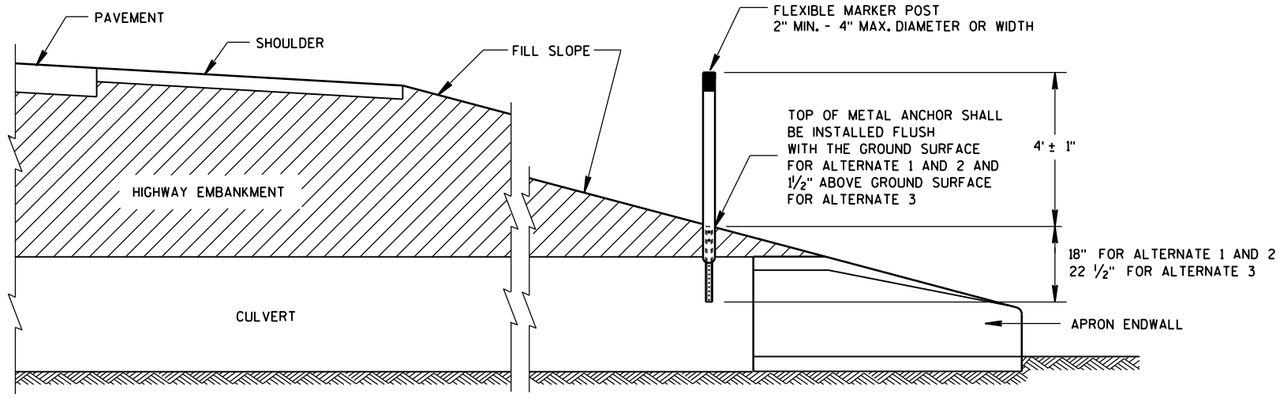
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 A 3-2a

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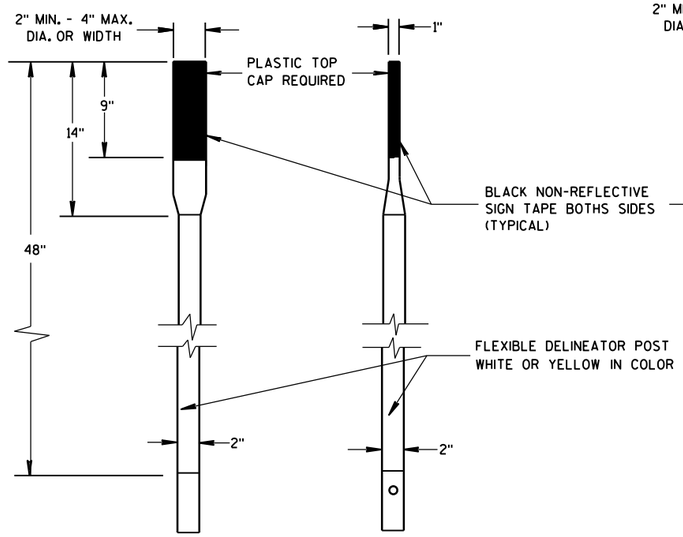
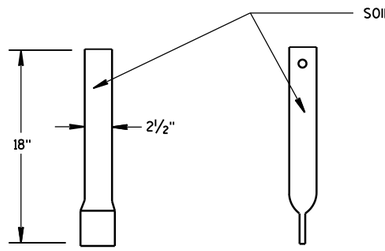
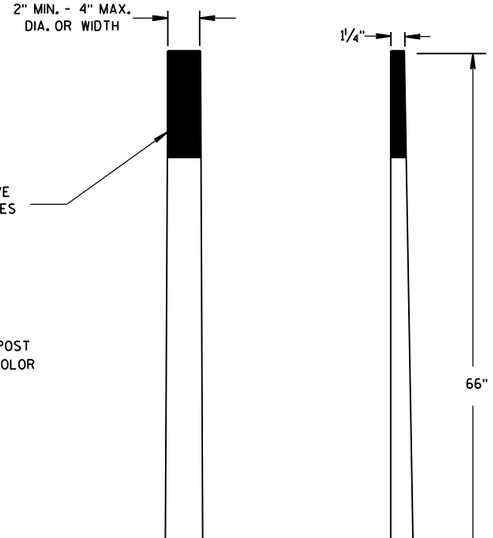
S.D.D. 15 A 3-2a





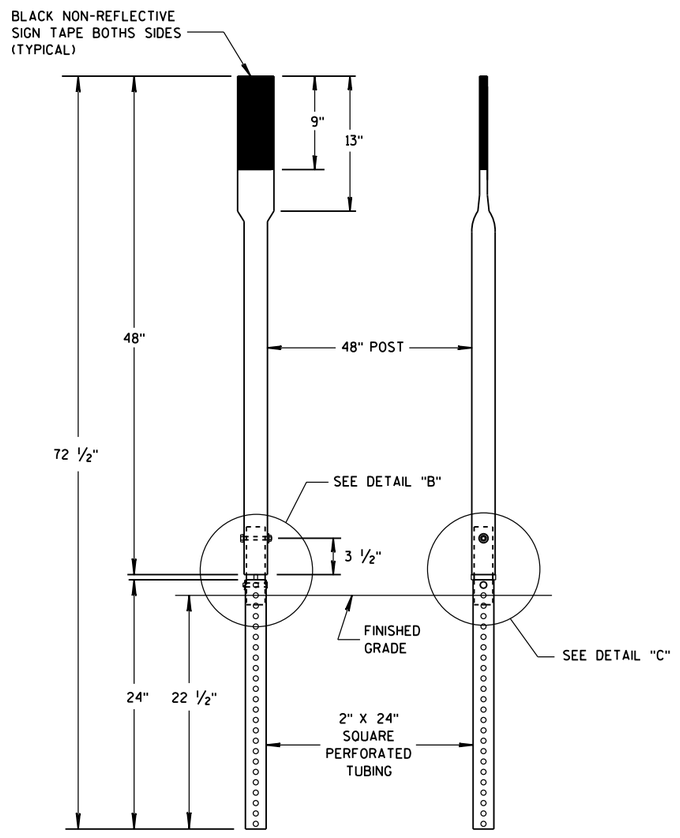
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

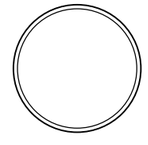
ALTERNATE 2



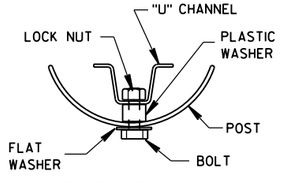
FRONT VIEW SIDE VIEW

ALTERNATE 3

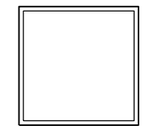
FLEXIBLE MARKER POSTS



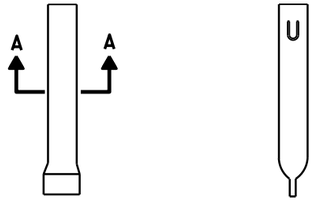
SECTION A-A



SECTION B-B

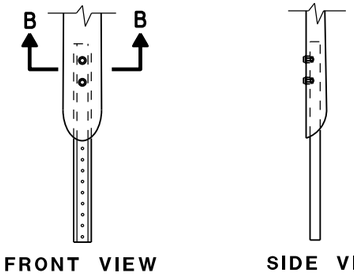


SECTION C-C



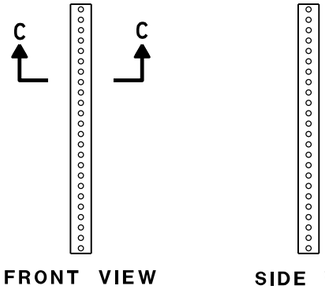
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

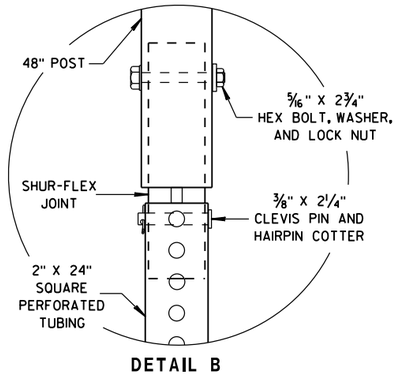
ALTERNATE 2



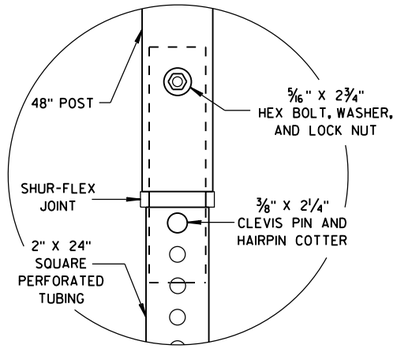
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

S.D.D. 15 A 3-2b

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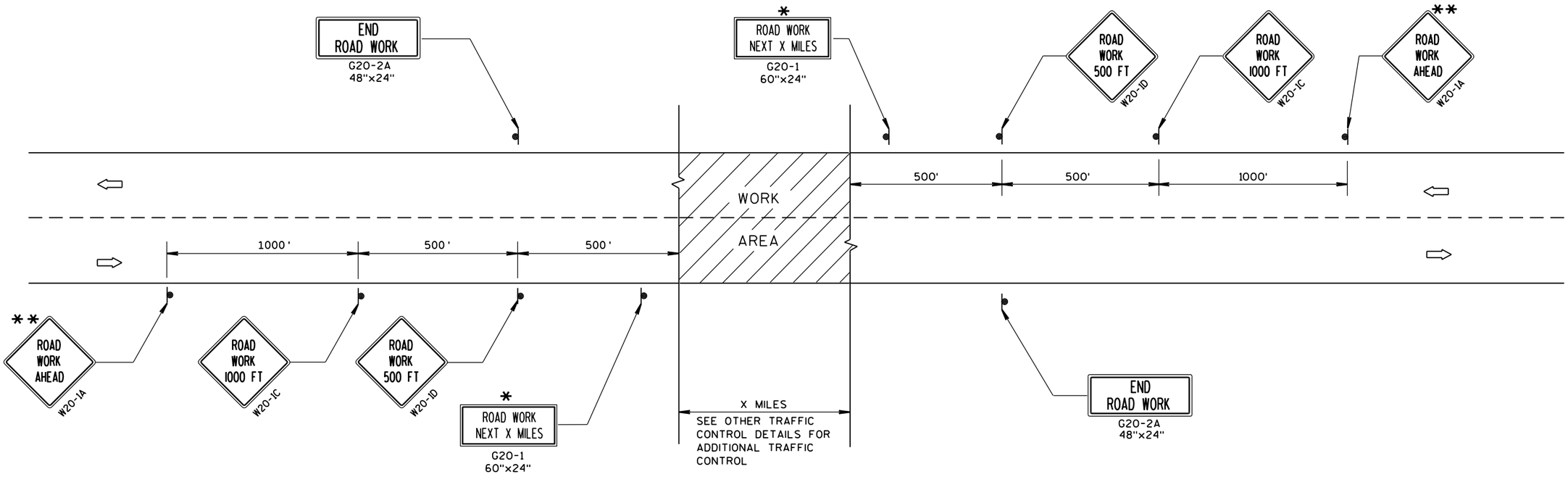
S.D.D. 15 A 3-2b



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

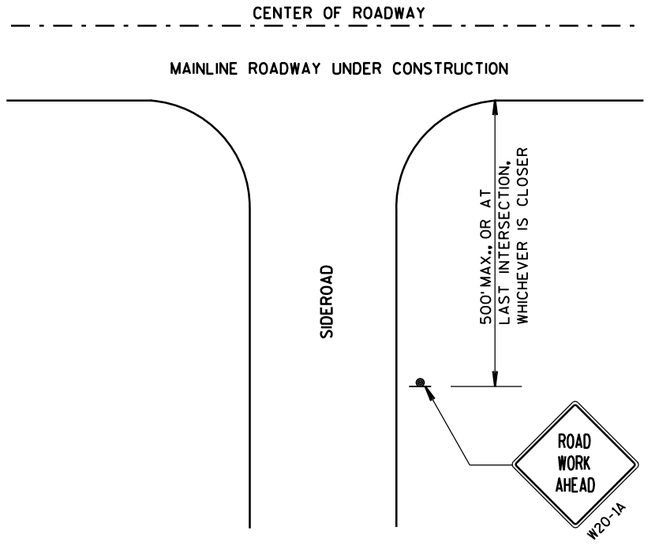
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZOI SAFETY ENGIN IC

FHWA

6

S.D.D. 15 C 4-3

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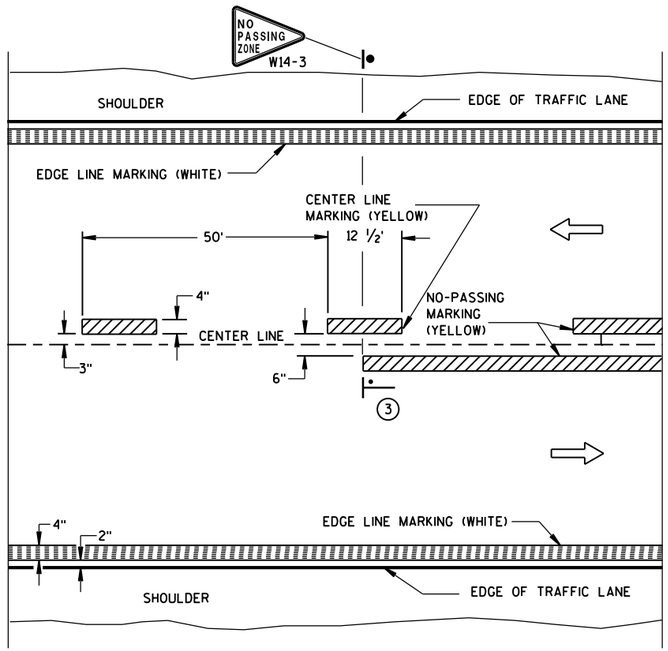
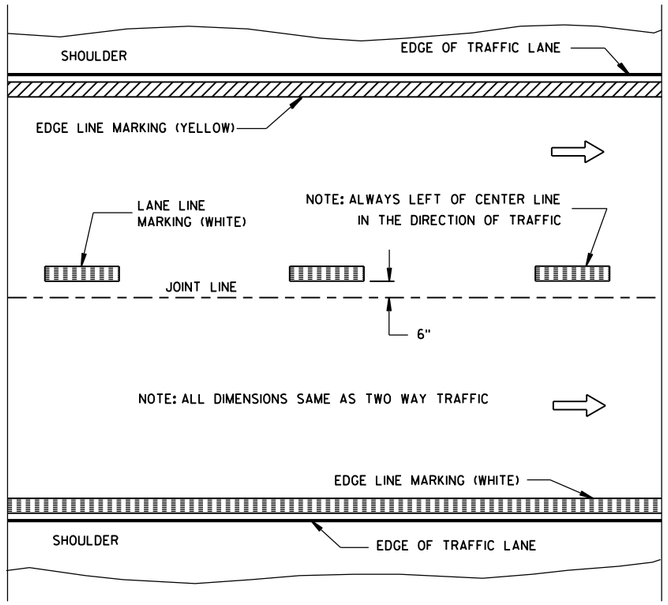
S.D.D. 15 C 4-3

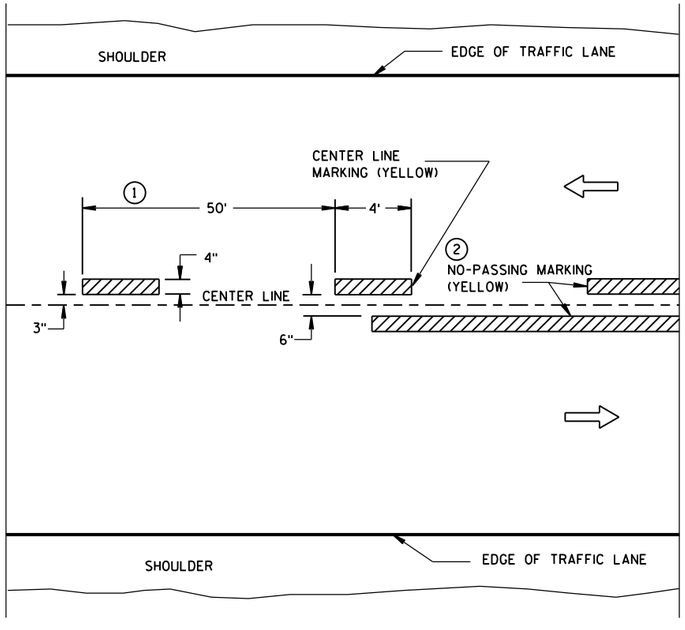


TWO WAY TRAFFIC

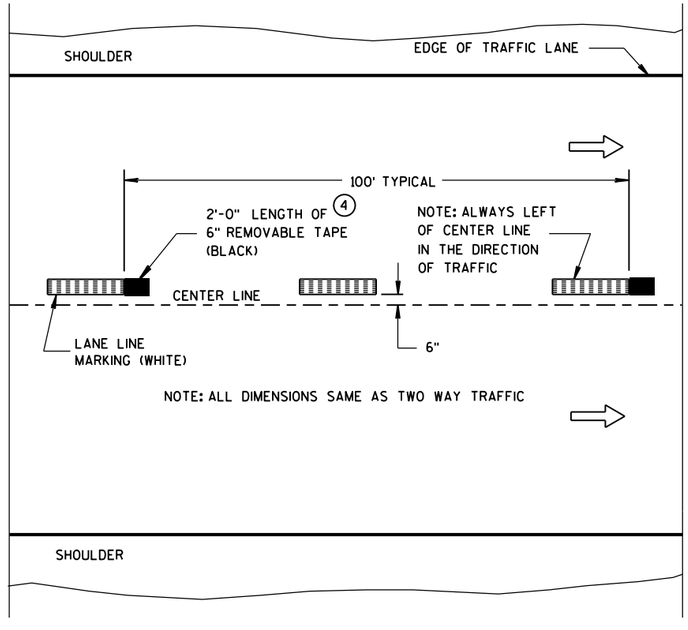


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

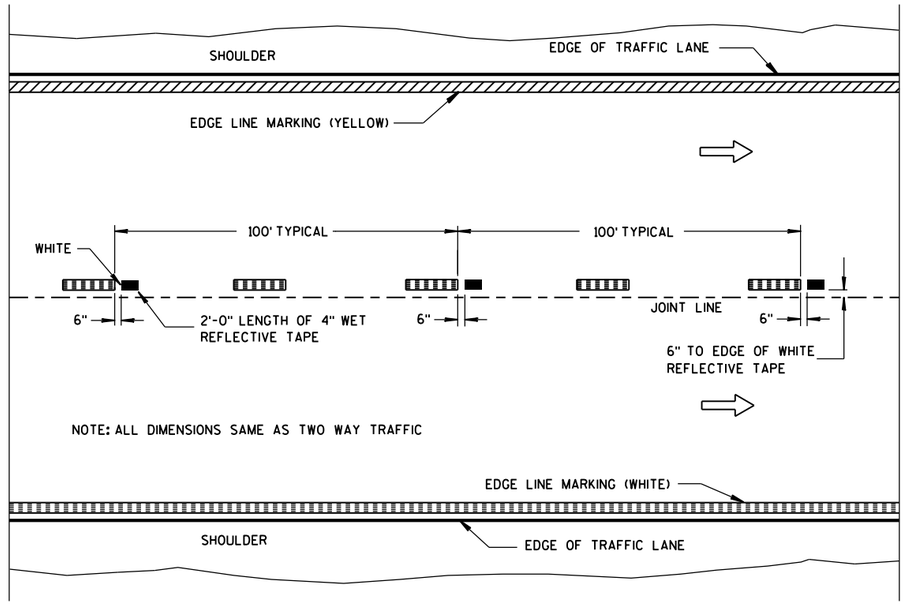
GENERAL NOTES

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

5-13-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

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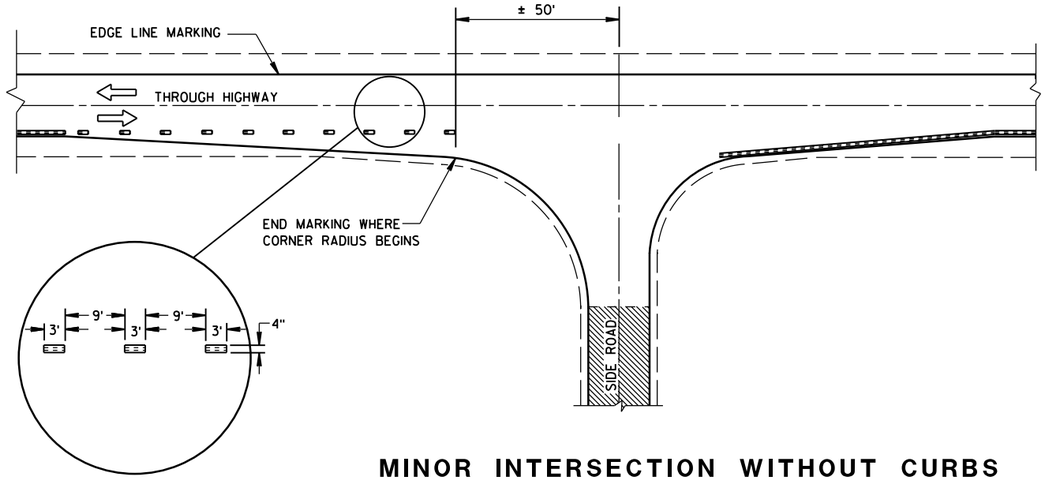
S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

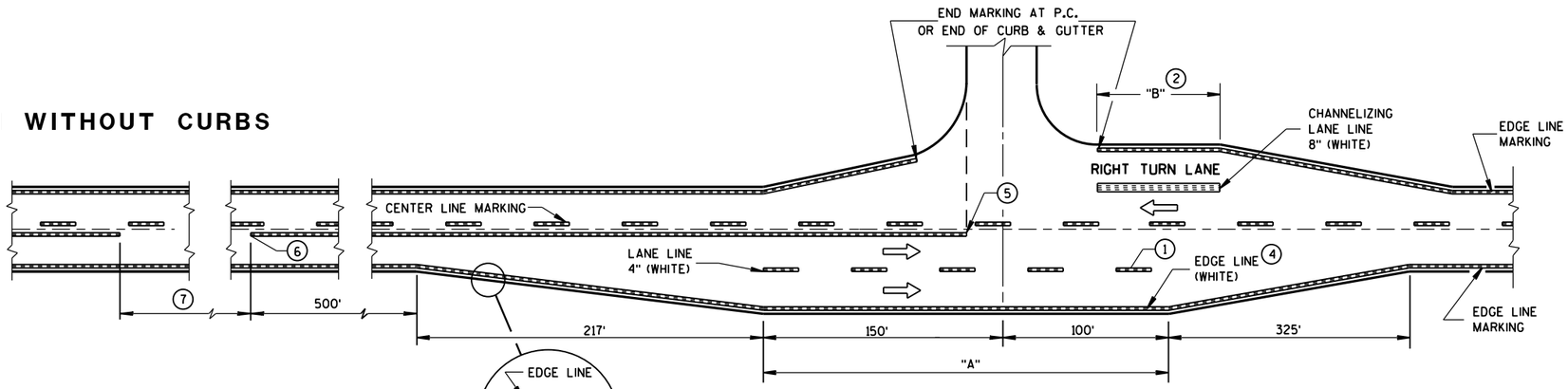
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

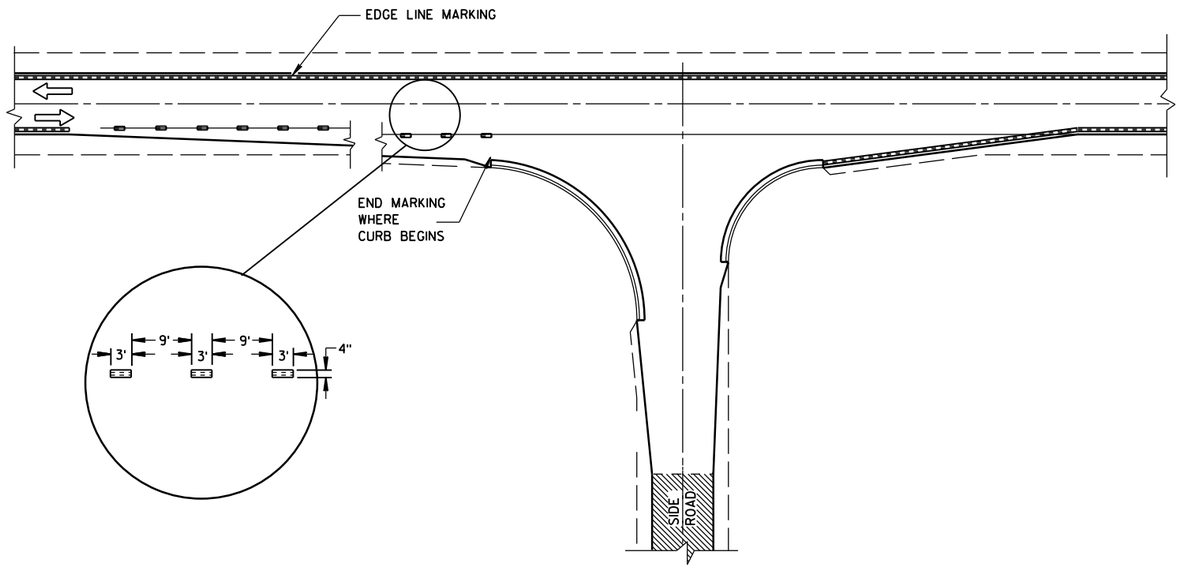
(7)

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



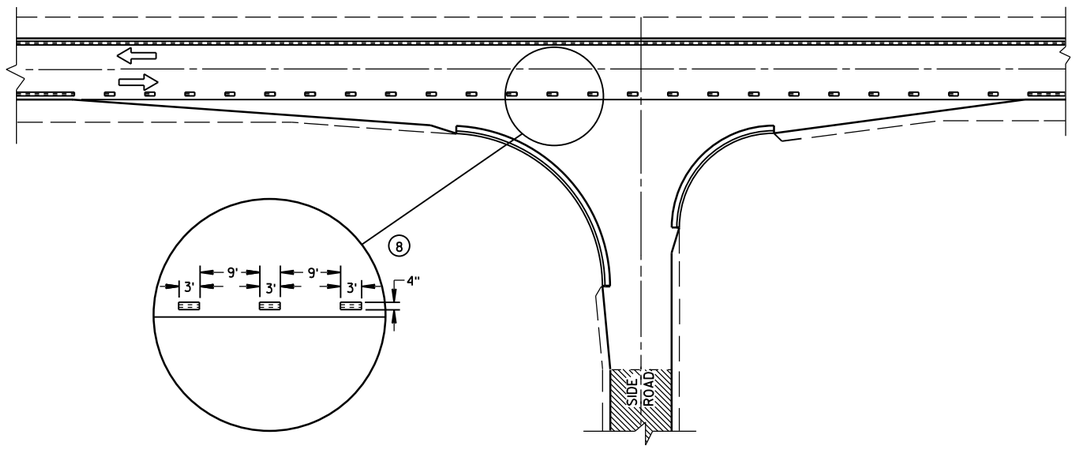
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 8-16b

6

S.D.D. 15 C 8-16b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

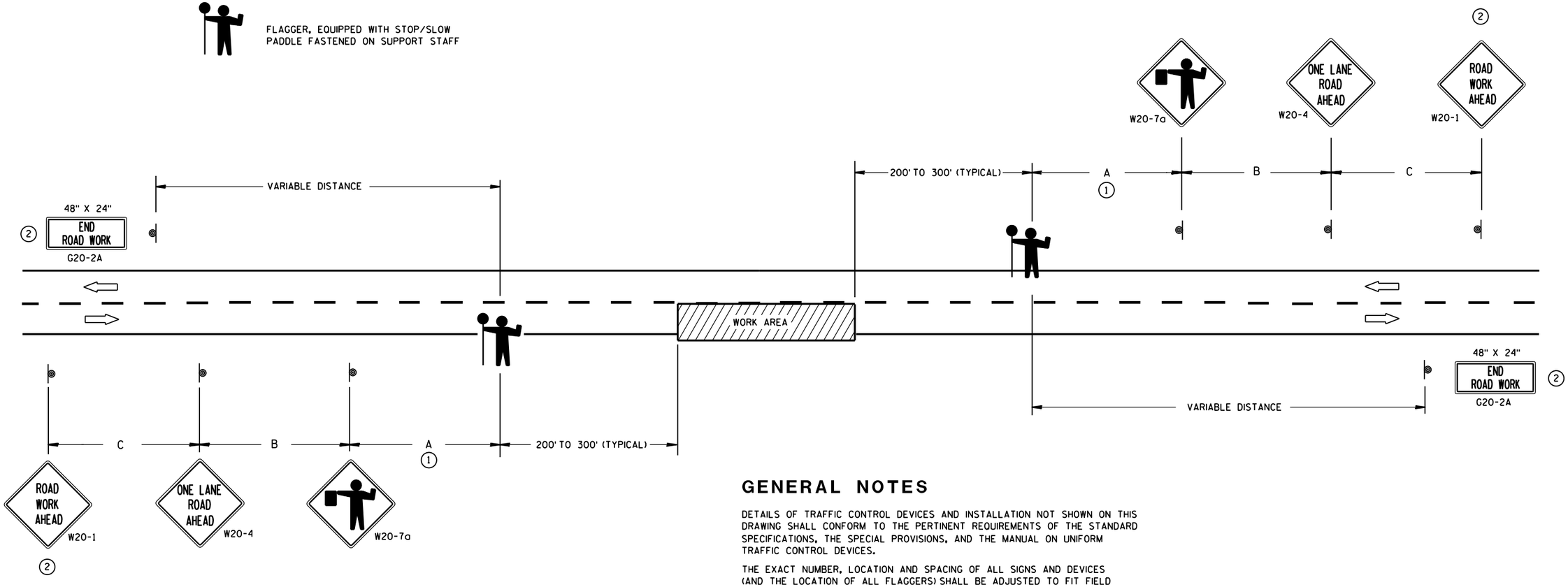
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

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



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

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

GENERAL NOTES

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

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

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

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 12-4

6

S.D.D. 15 C 12-4

GENERAL NOTES

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

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

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

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

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

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

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

TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

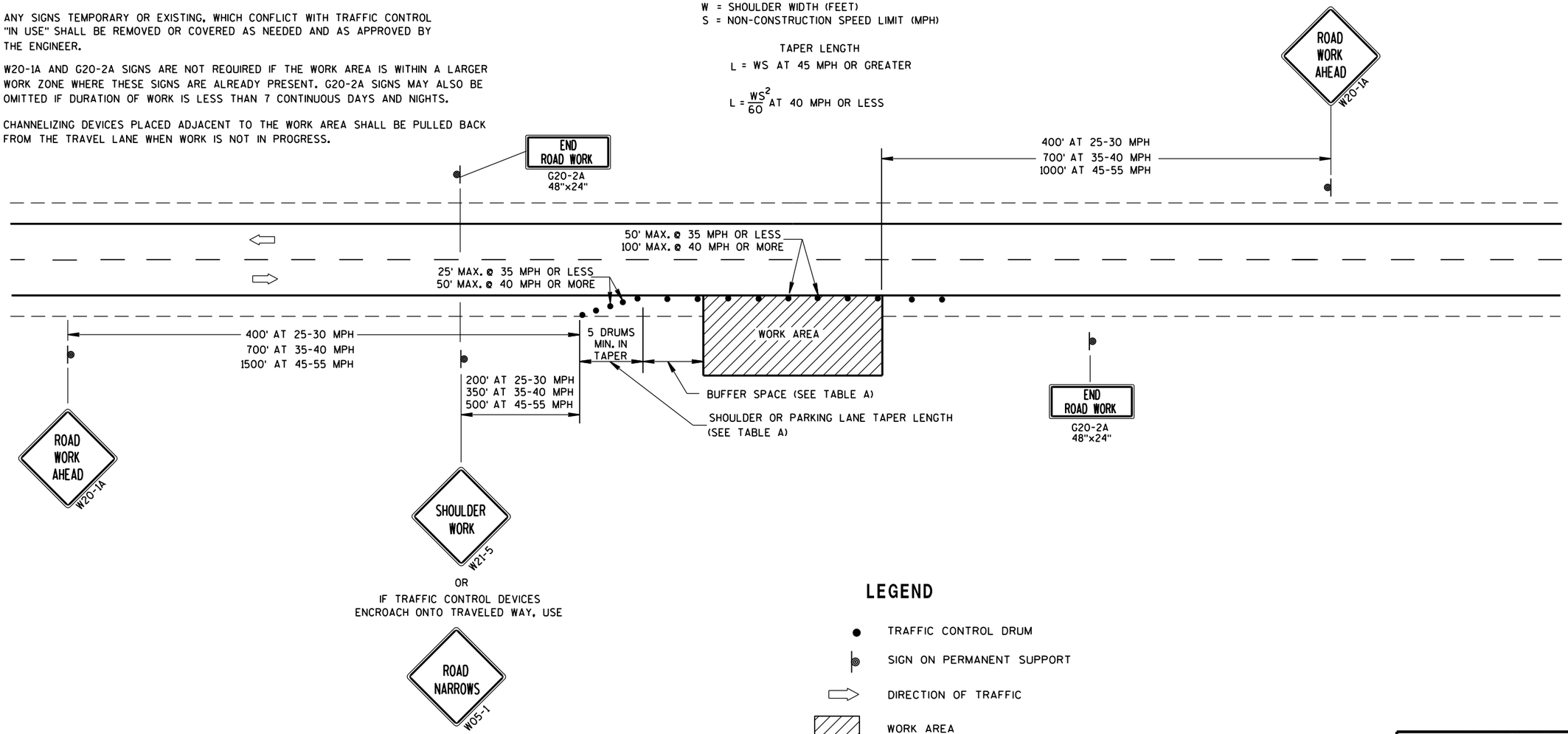
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible] FIC

FHWA

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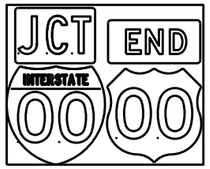
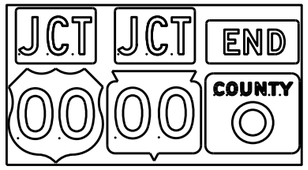
S.D.D. 15 D 28-3

TYPICAL ASSEMBLIES

J1-1

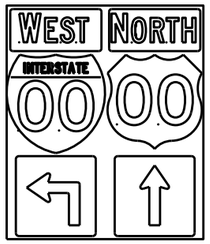


J1-2

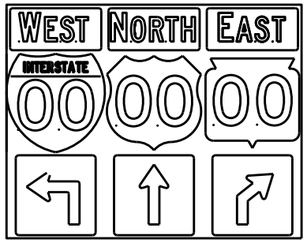


J1-3

J2-1



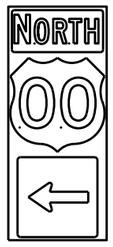
J2-2



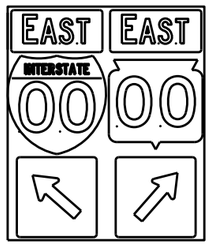
J2-3

JV

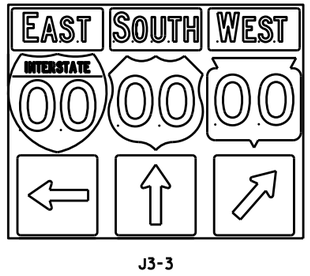
(Typical Vertical J-Assembly
See Note 10 and 11)



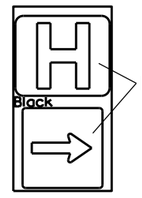
J3-1



J3-2

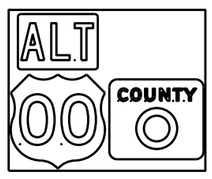


J3-3

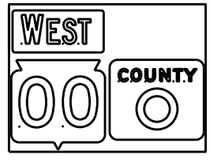


JH-1

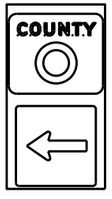
J4-1



J4-2



J4-2



J13-1

J12-1

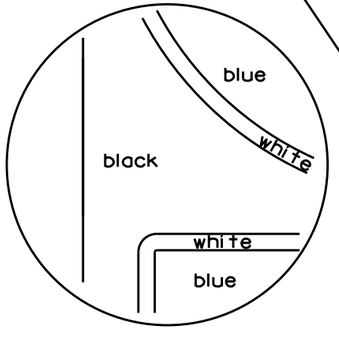
J32-1

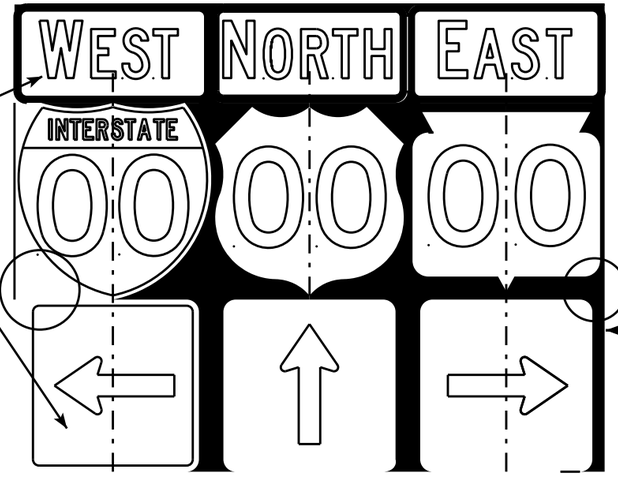
J33-1

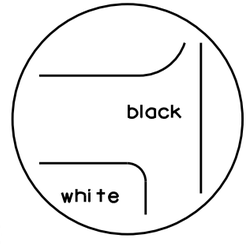
J23-1

J22-1

[blue background with interstate]







[black background]

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 or rounded if base material is plywood. If base material is metal the corners shall be rounded.
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 inchs (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.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

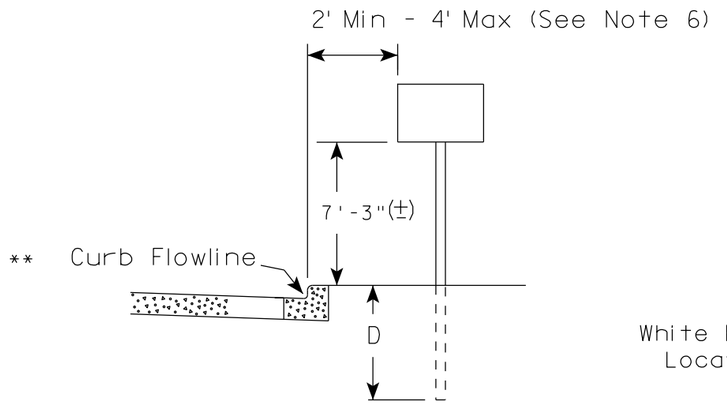
DATE 2/06/14 PL... A2-1S.8

PROJECT NO: SHEET NO: E

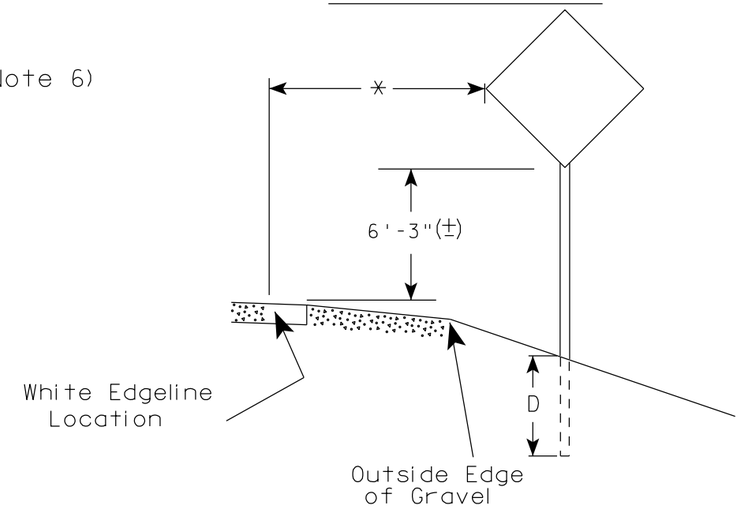
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

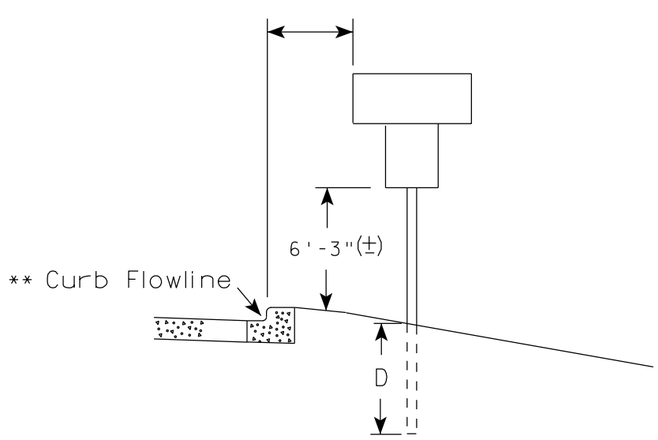
WISDOT/CADDS SHEET 42

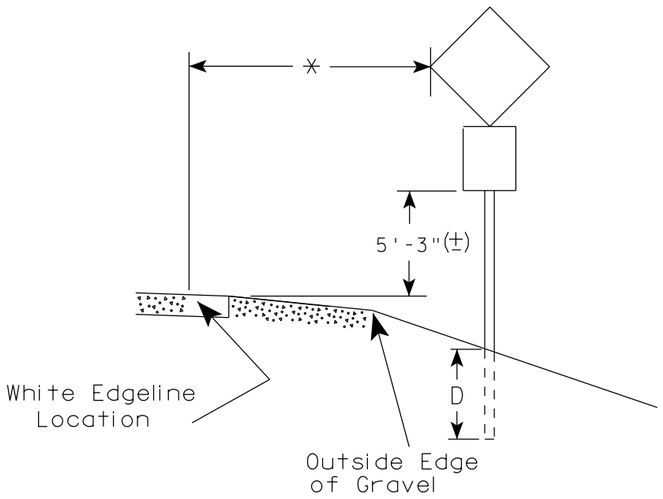
URBAN AREA



RURAL AREA (See Note 2)







** 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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

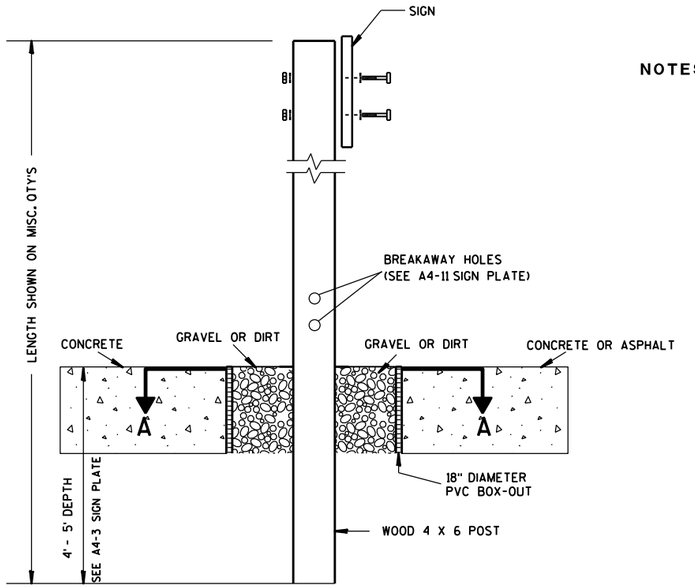
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

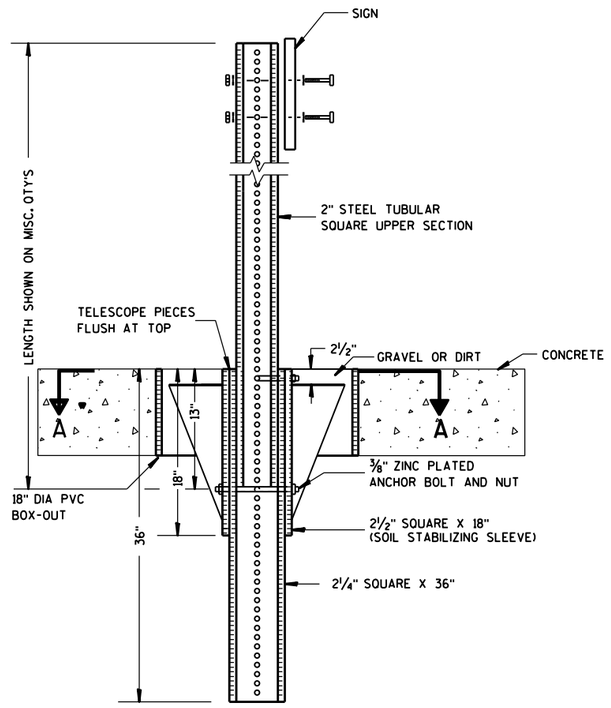
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

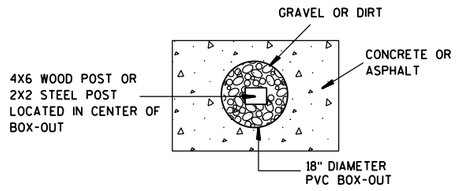
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

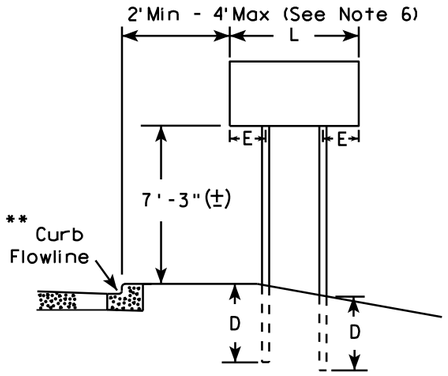
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

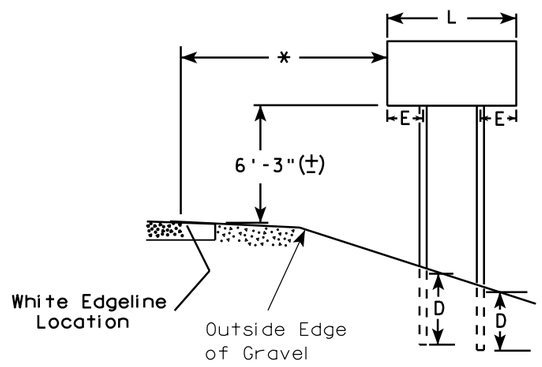
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

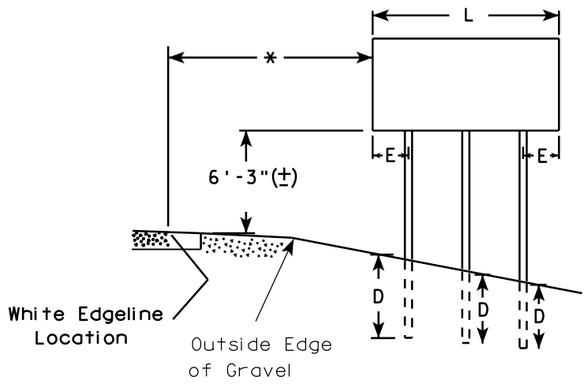
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

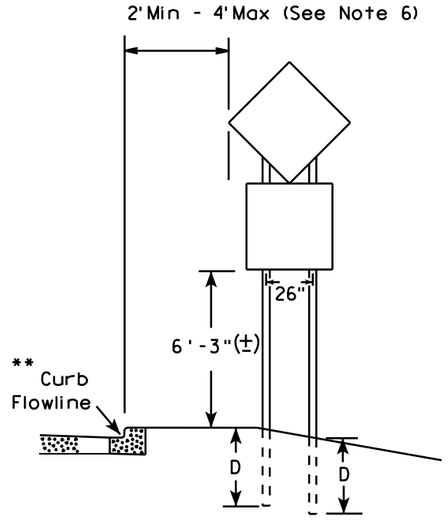
URBAN AREA



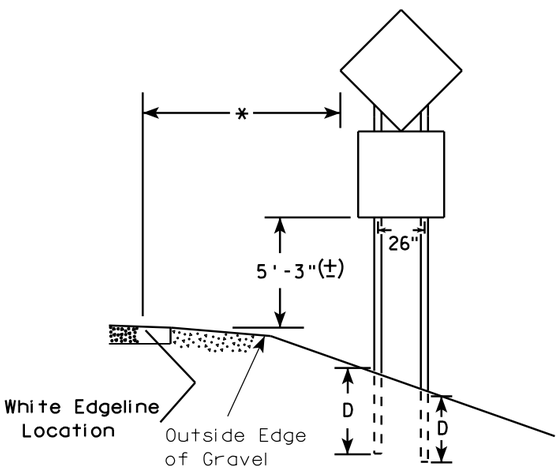
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) 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 and less than 20 S.F. in area.

***

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

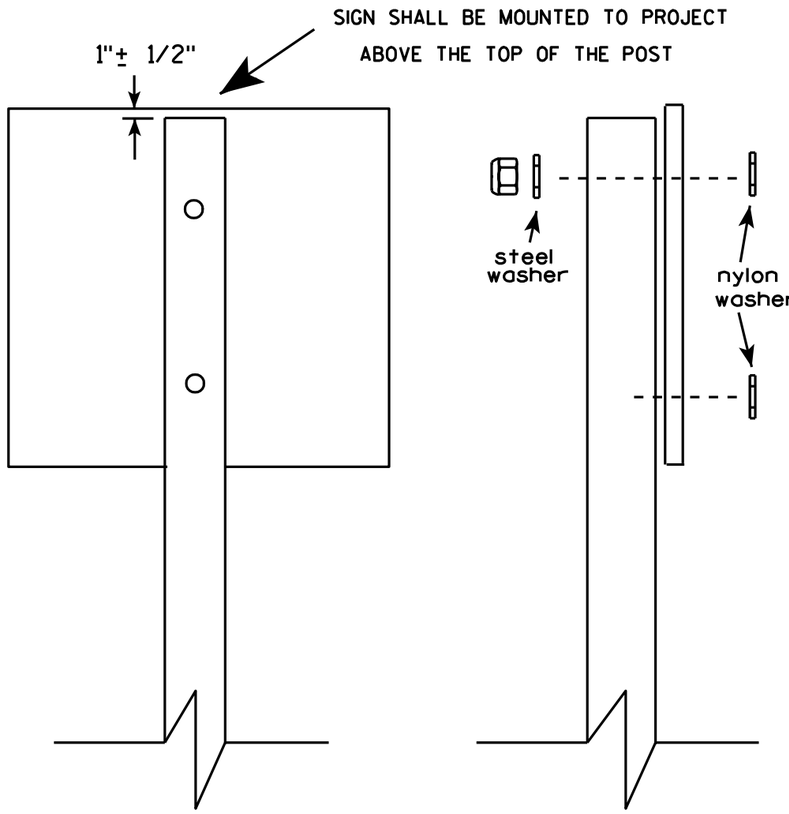
APPROVED Matthew R Rauch
for State Traffic Engineer

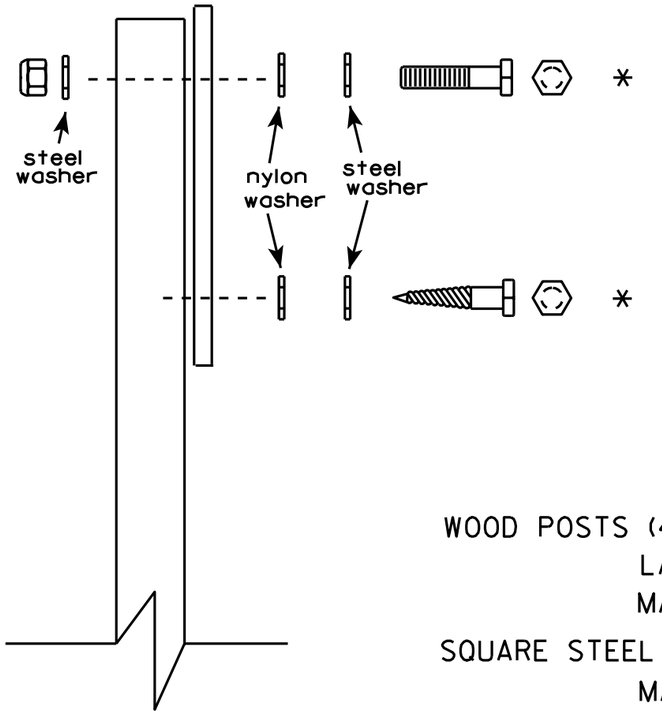
DATE 7/23/15 PLATE NO. A4-4 123 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 23-JUL-2015 15:23 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000

WISDOT/CADDS SHEET 42





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

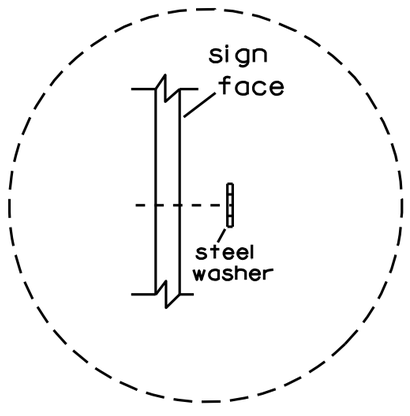
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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 Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

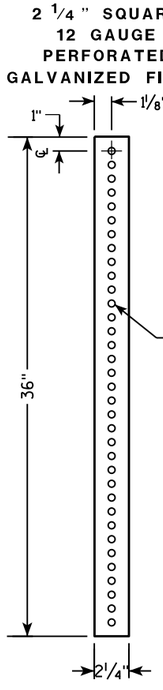
7

PROJECT NO:

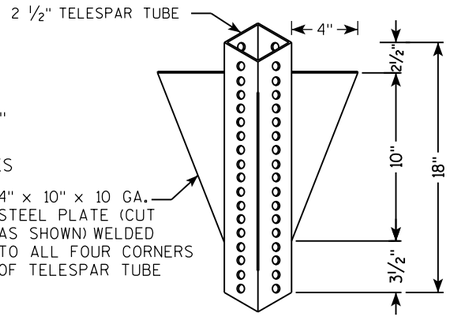
SHEET NO: 124 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

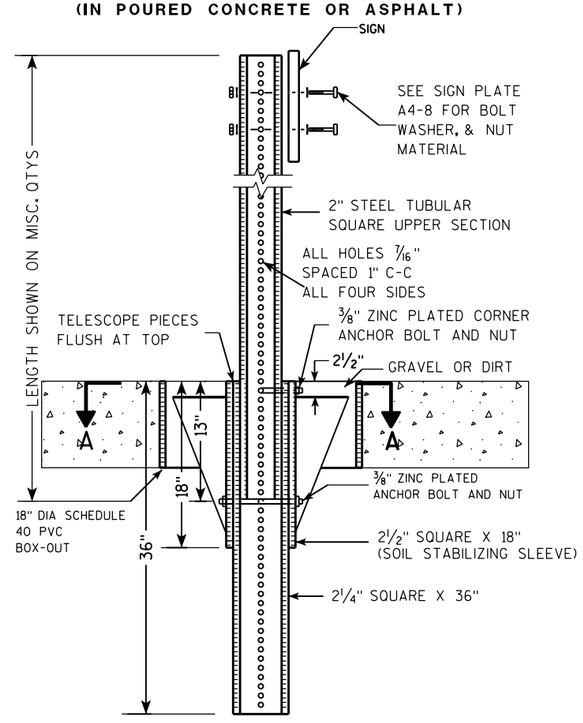
2 ¼ " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



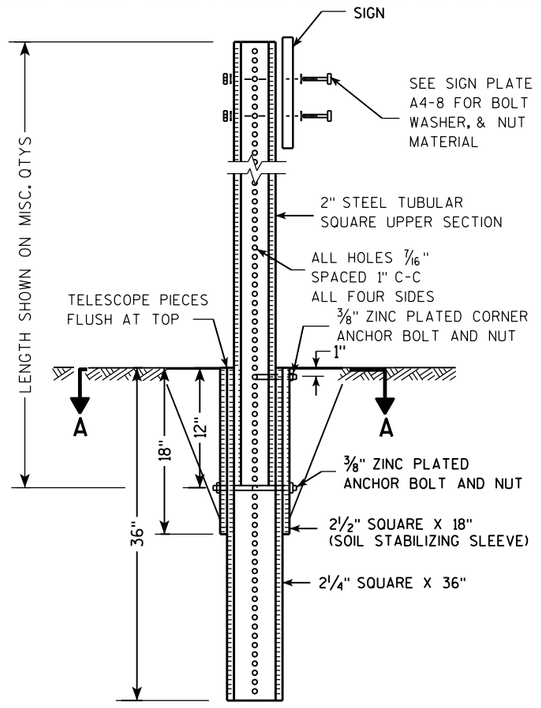
2 ½ " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

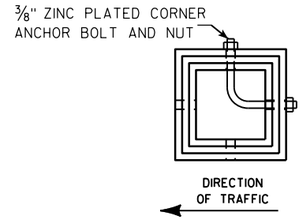


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

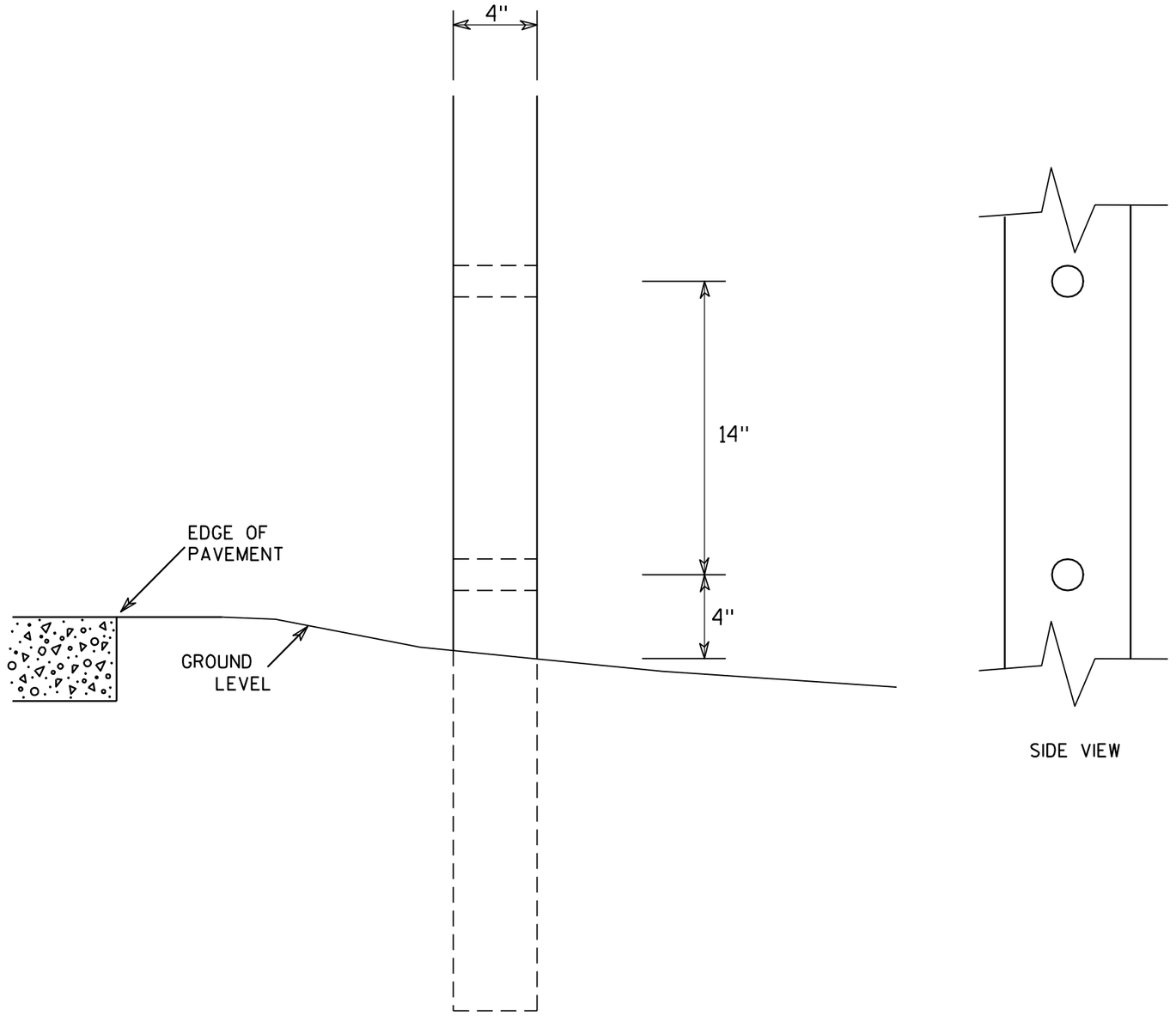
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000
WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

7

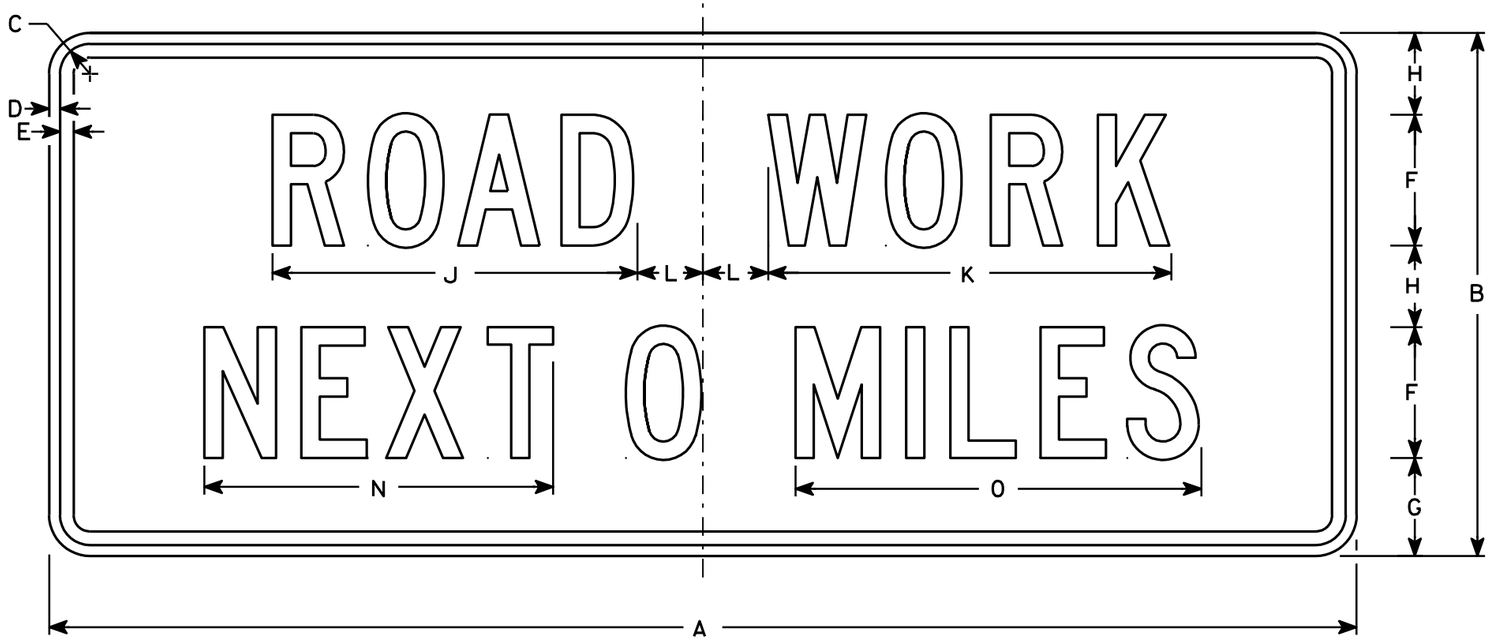
4 X 6 WOOD POST MODIFICATIONS

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: 126	E



G20-1

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	
2	1500 mm X 600 mm
3	
4	1500 mm X 600 mm
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10	.90
3																												
4	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10	.90
5																												

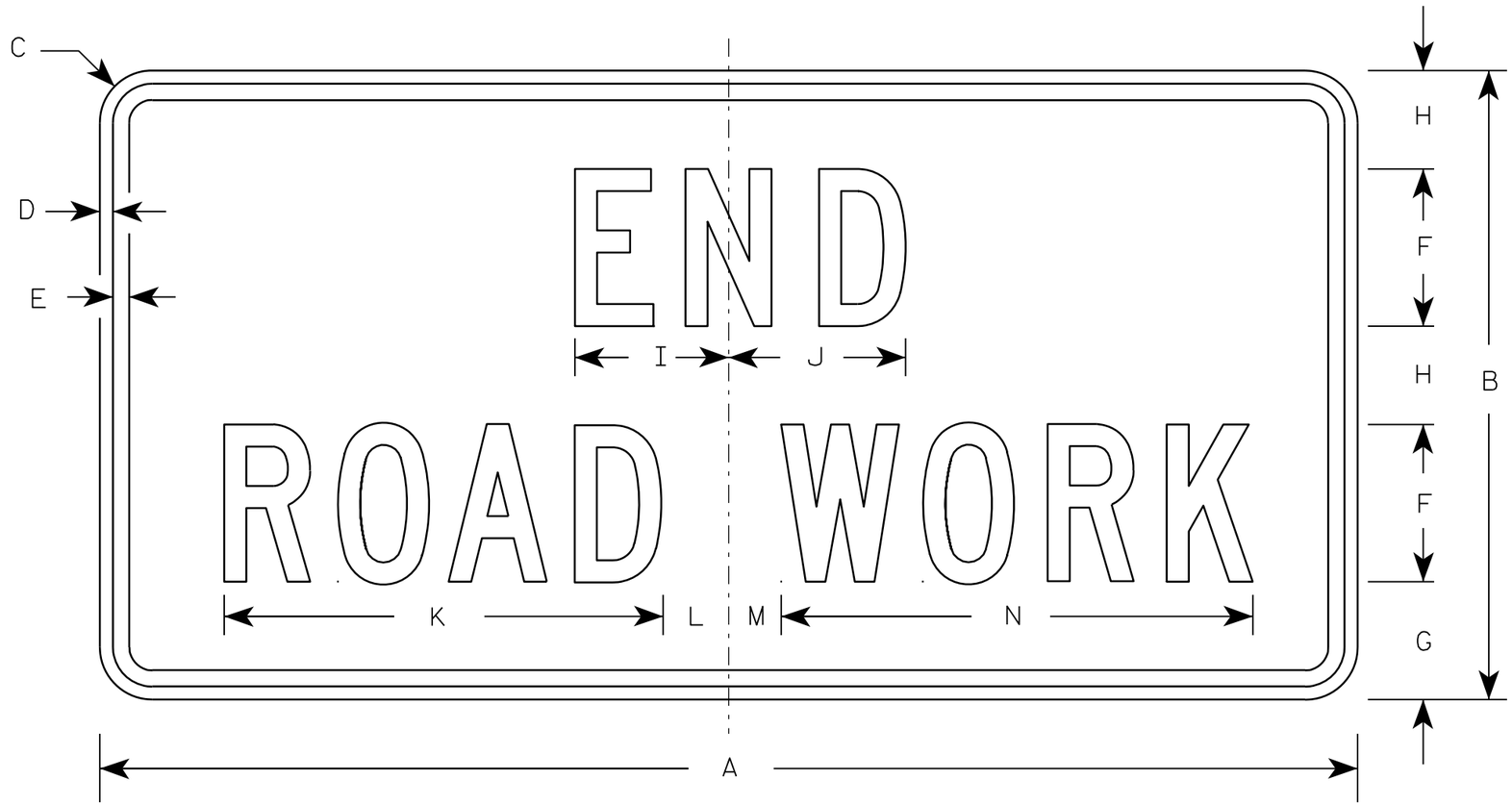
STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spray for State Traffic Engineer

DATE 4/8/97 PLATE NO. G20-1.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 127	E



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 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 m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

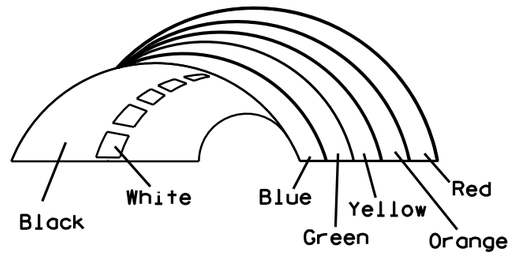
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 128	E

* VARIES

NOTES

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

Background Colors of Symbol*



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

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

STANDARD SIGN
I55-56

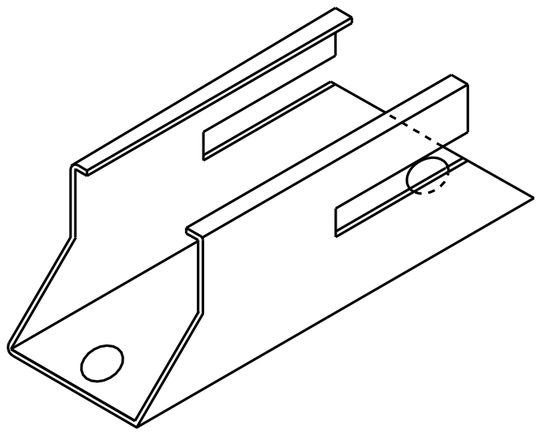
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/27/11 PLATE NO. 155-56.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 129

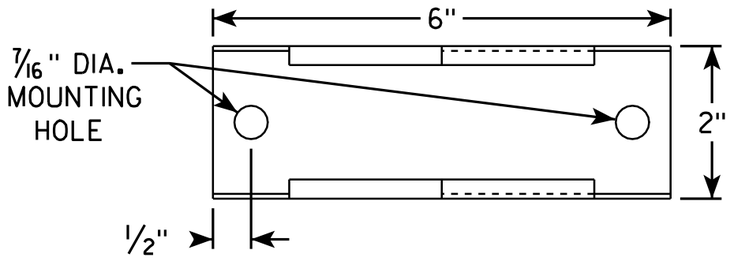
ISOMETRIC VIEW



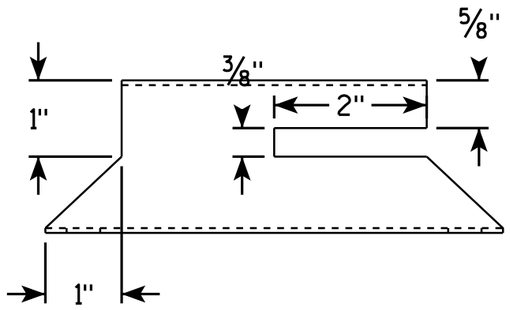
NOTES

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

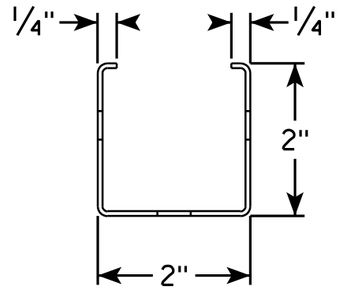
TOP VIEW



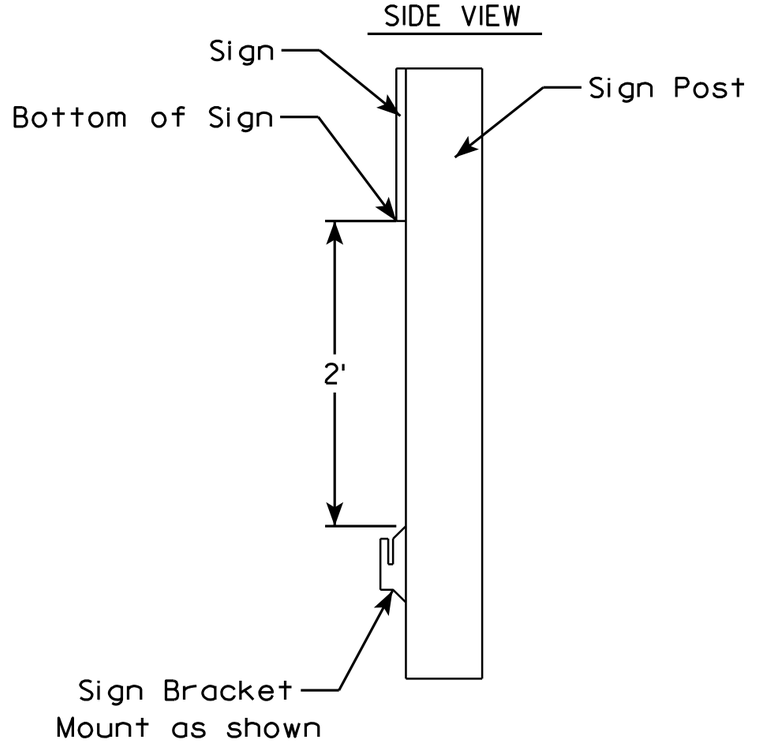
SIDE VIEW



END VIEW



SIDE VIEW



7

7

ROLLUP SIGN BRACKET
I55-56B

WISCONSIN DEPT OF TRANSPORTATION

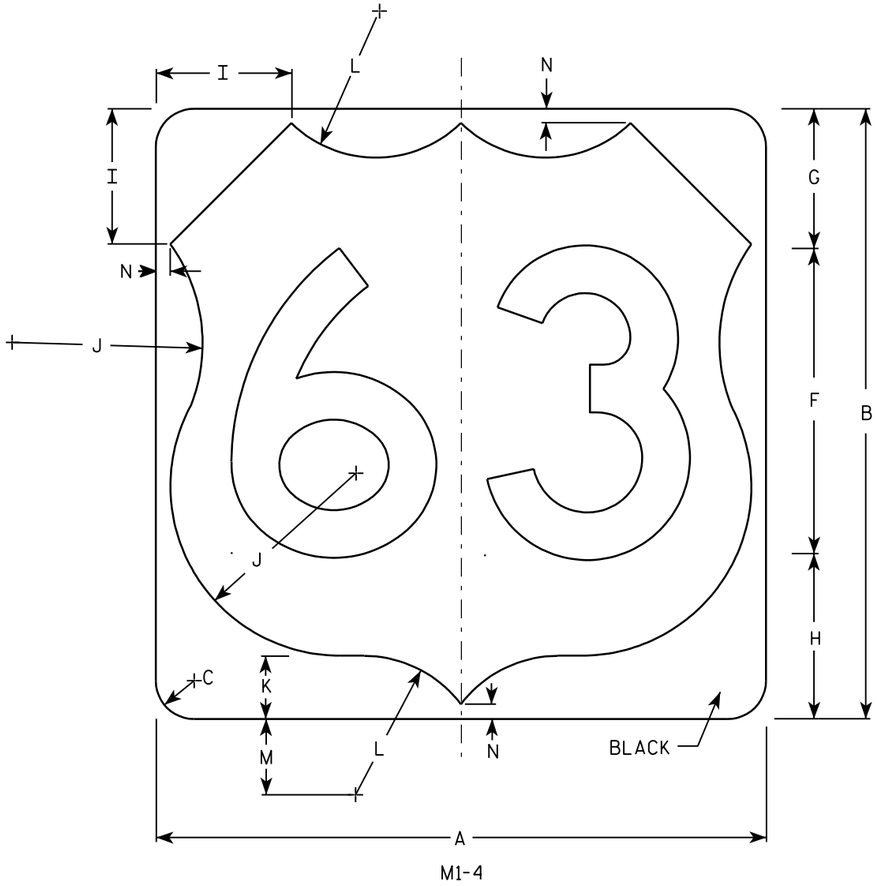
APPROVED Matthew R Rauch
for State Traffic Engineer

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

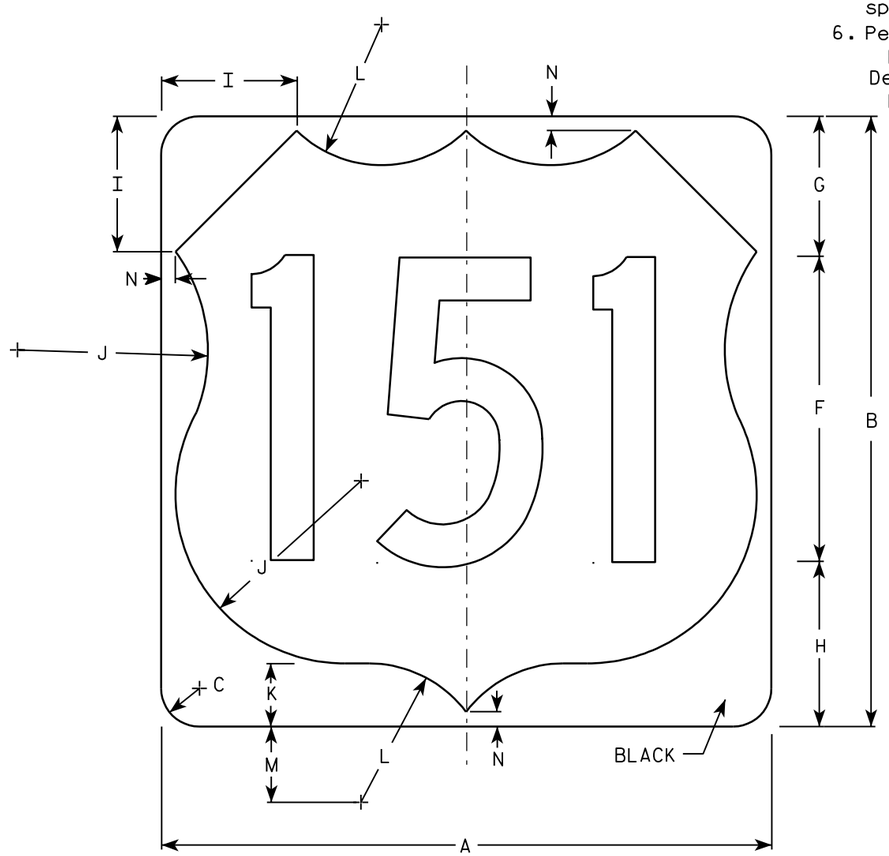
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 130	E

NOTES

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



M1-4



M1-4

7

7

Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

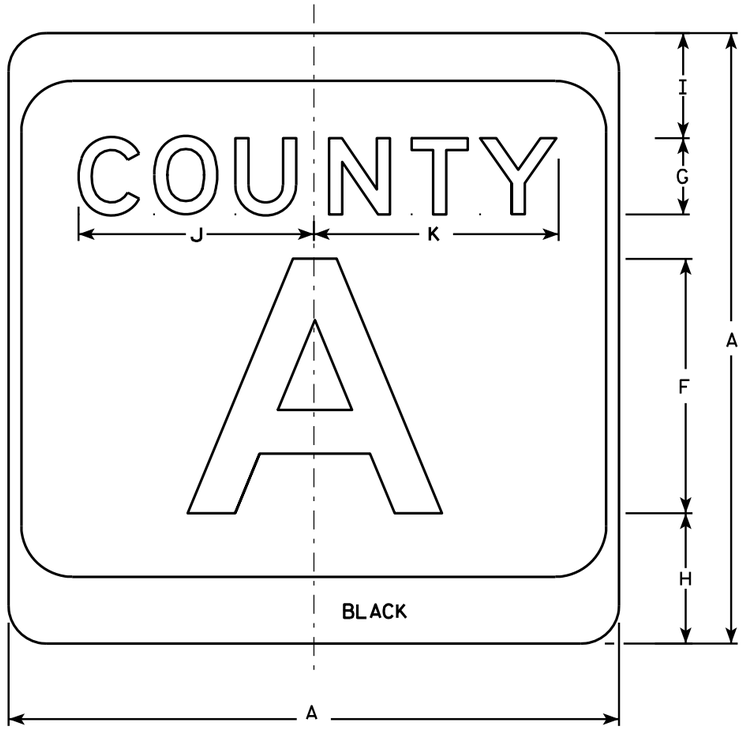
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

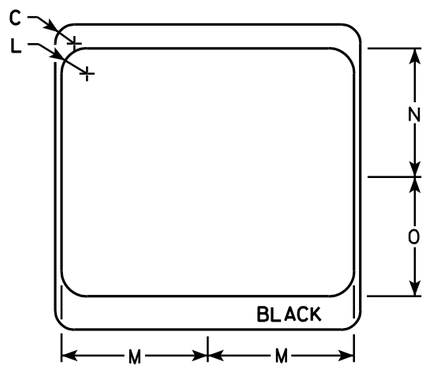
APPROVED Matthew R Rauch
for State Traffic Engineer

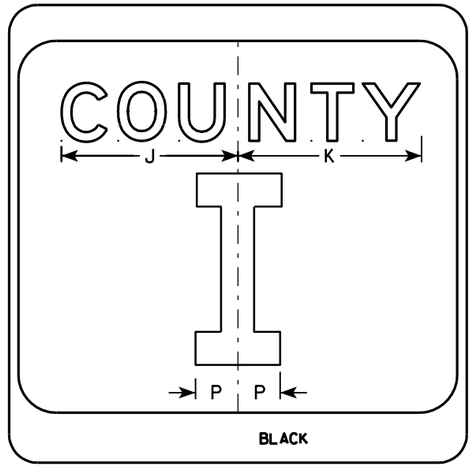
DATE 08/25/05 PLATE NO. M1-4.9

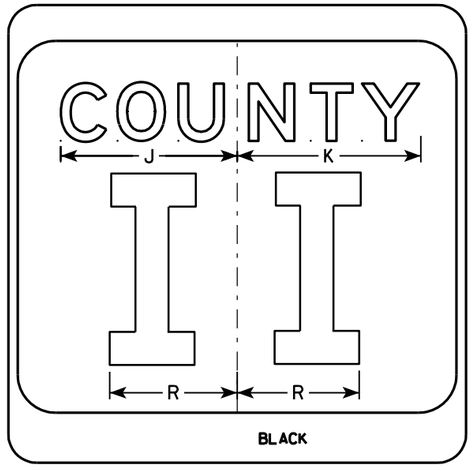
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 131	E



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

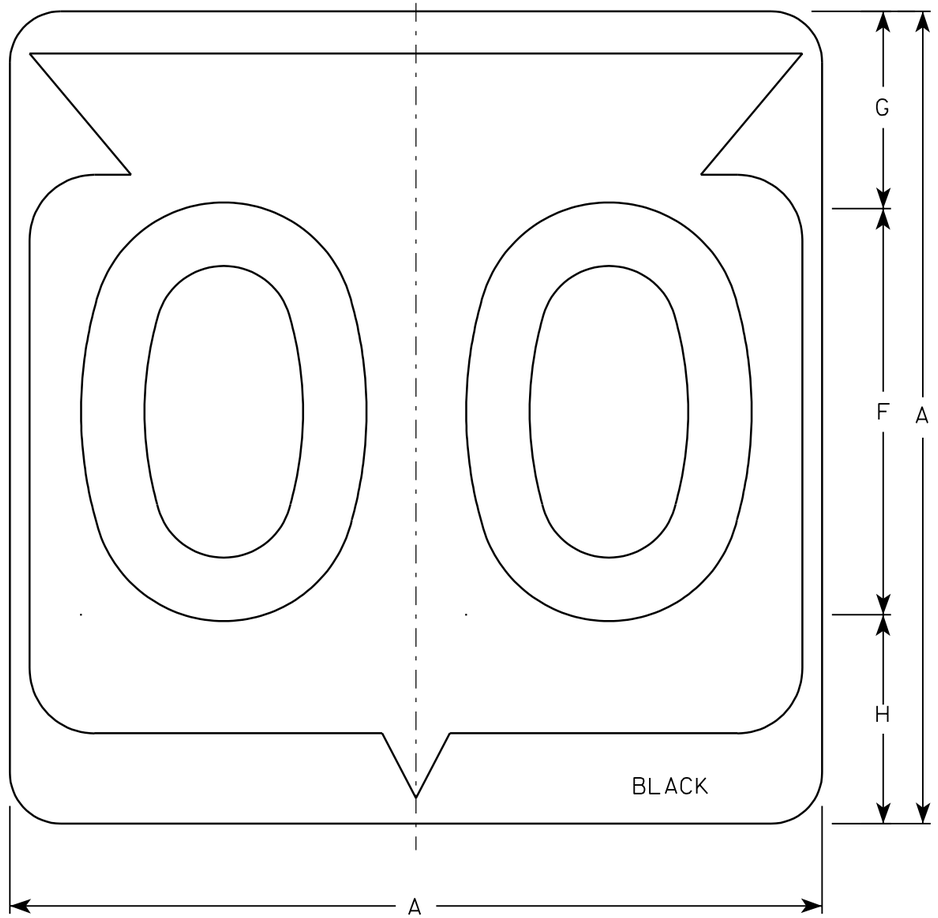
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

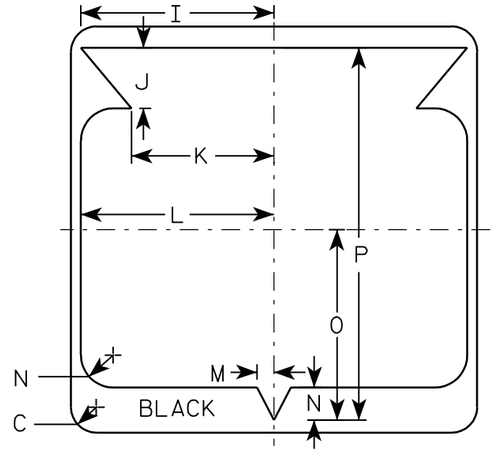
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 132	E



M1-6

NOTES

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



Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

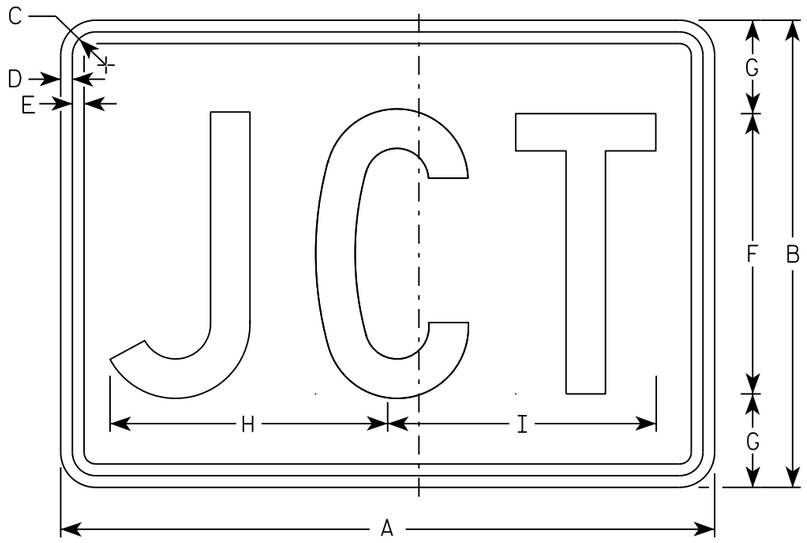
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

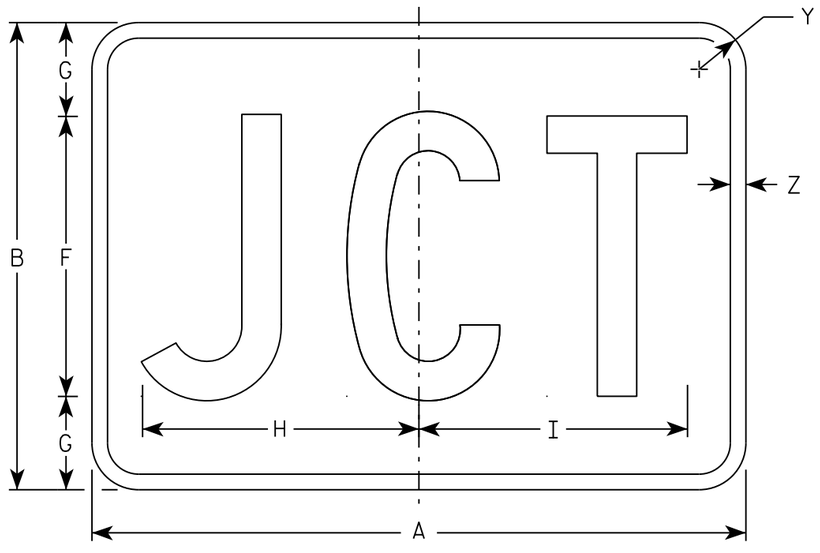
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 133	E



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 Background - Brown
   Message - Yellow

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	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

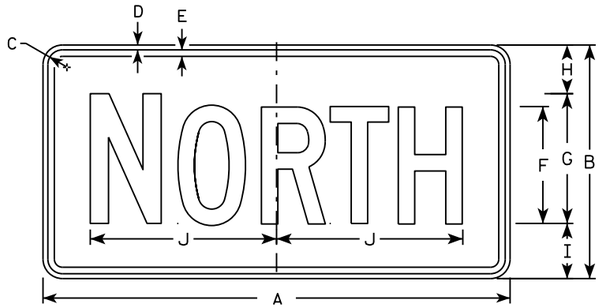
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

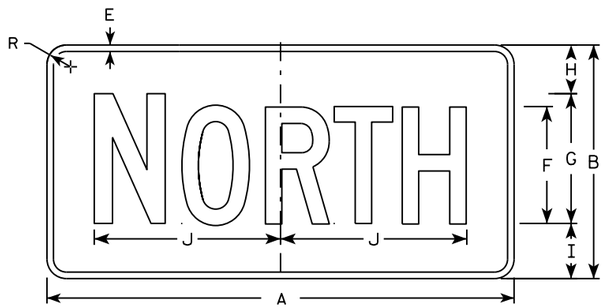
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 134 12-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



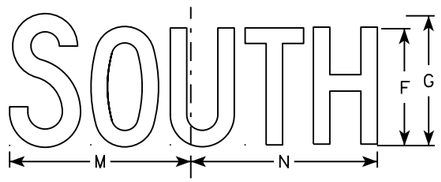
M3-1
MM3-1
MP3-1



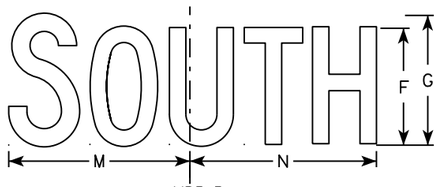
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

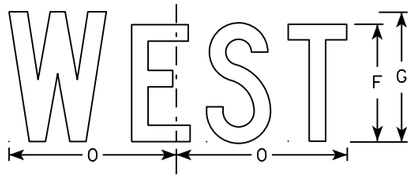
MB3-2
MK3-2
MN3-2



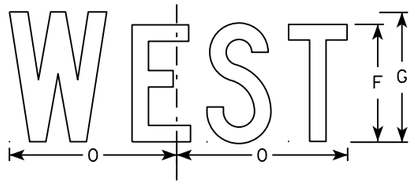
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
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
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
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

STANDARD SIGNS
M3-1 thur M3-4
SERIES

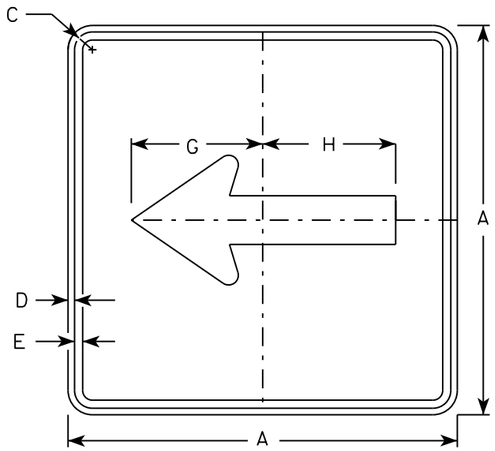
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

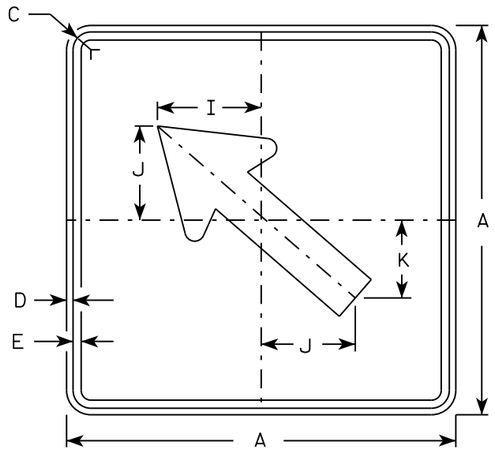
DATE 10/15/15 PLATE NO M3-1.14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



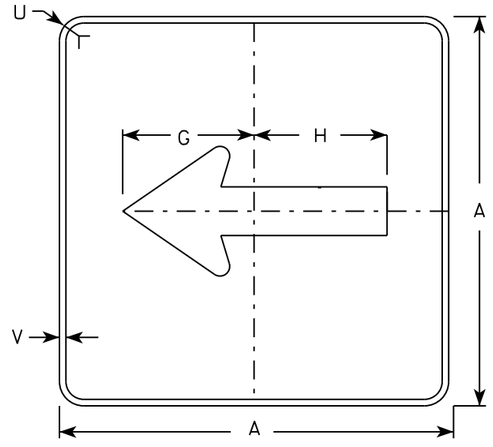
M6-1
MM6-1
MO6-1
MP6-1



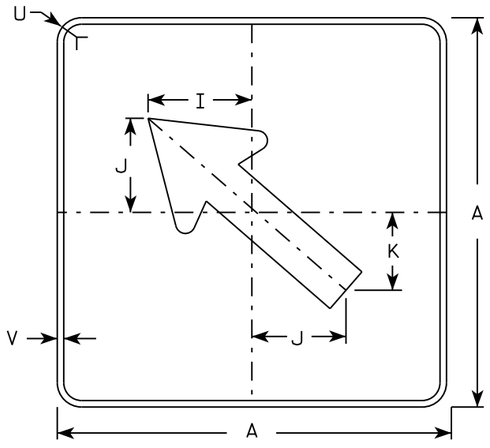
M6-2
MM6-2
MO6-2
MP6-2

NOTES

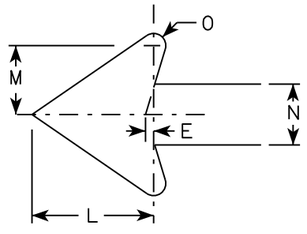
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



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



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



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

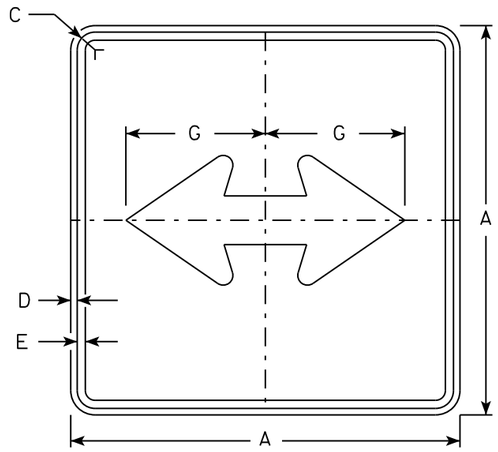
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

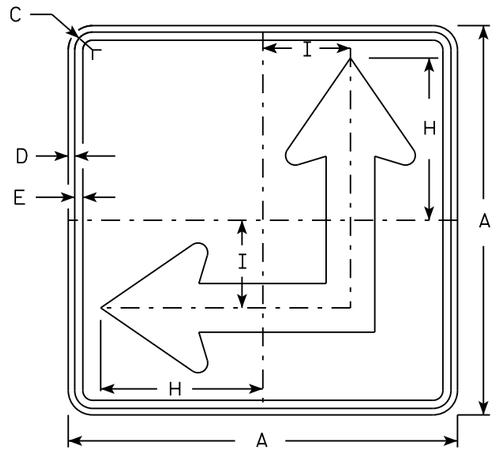
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 136 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



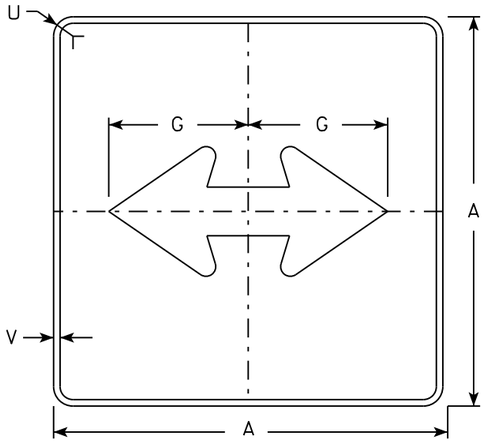
M6-4
MM6-4
MO6-4
MP6-4



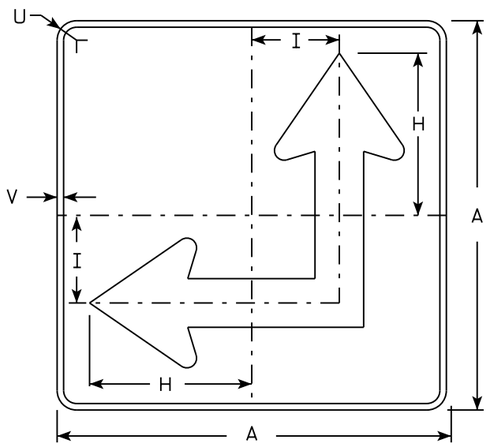
M6-6
MM6-6
MO6-6
MP6-6

NOTES

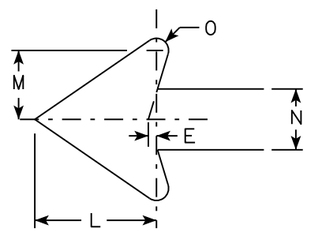
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



MB6-4
MK6-4
MN6-4
MR6-4



MB6-6
MK6-6
MN6-6
MR6-6



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

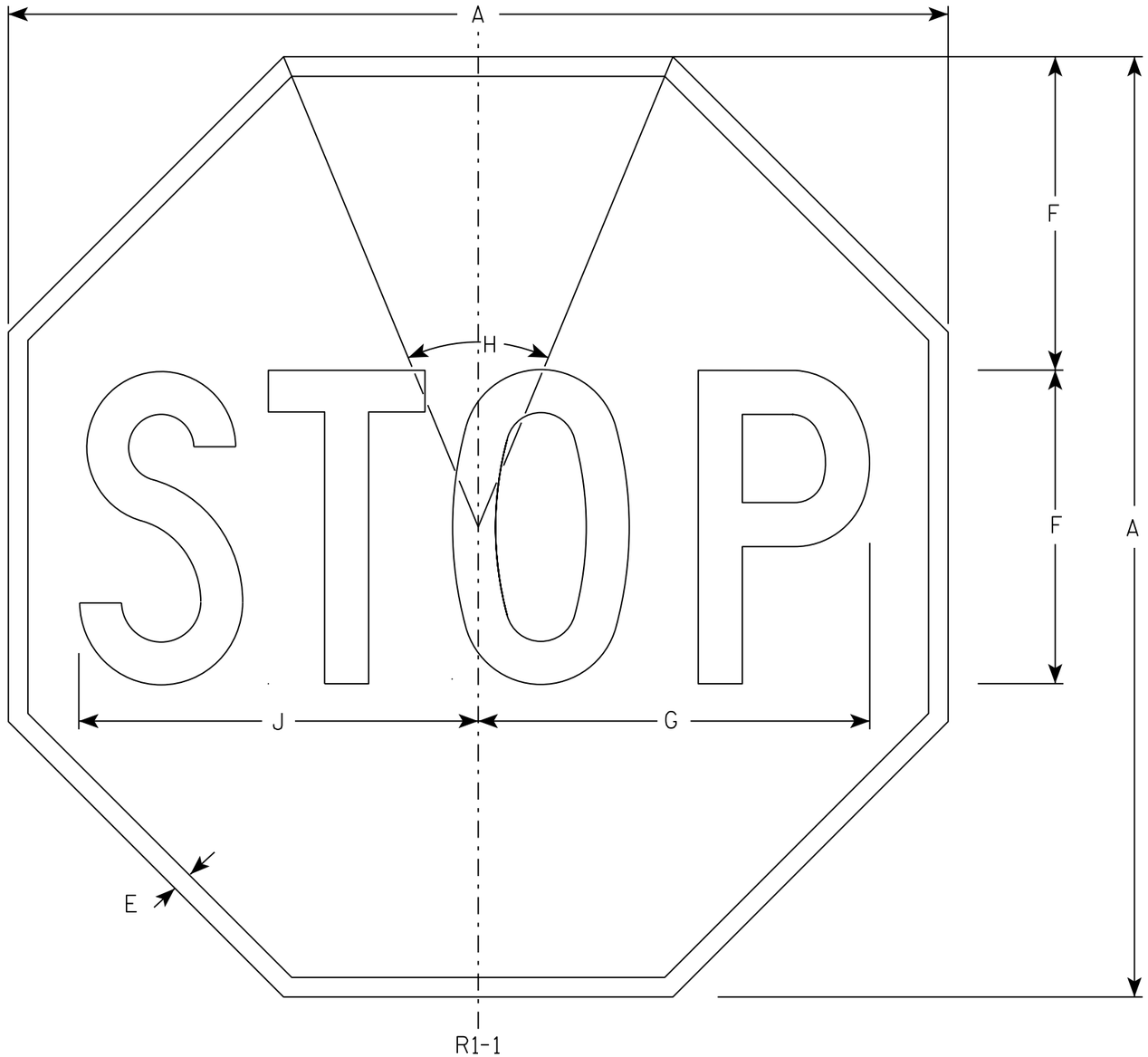
STANDARD SIGN
M6-4 & M6-6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 137 M6-4.10

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 - Red
   Message - White
3. Message Series - C

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				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1-1

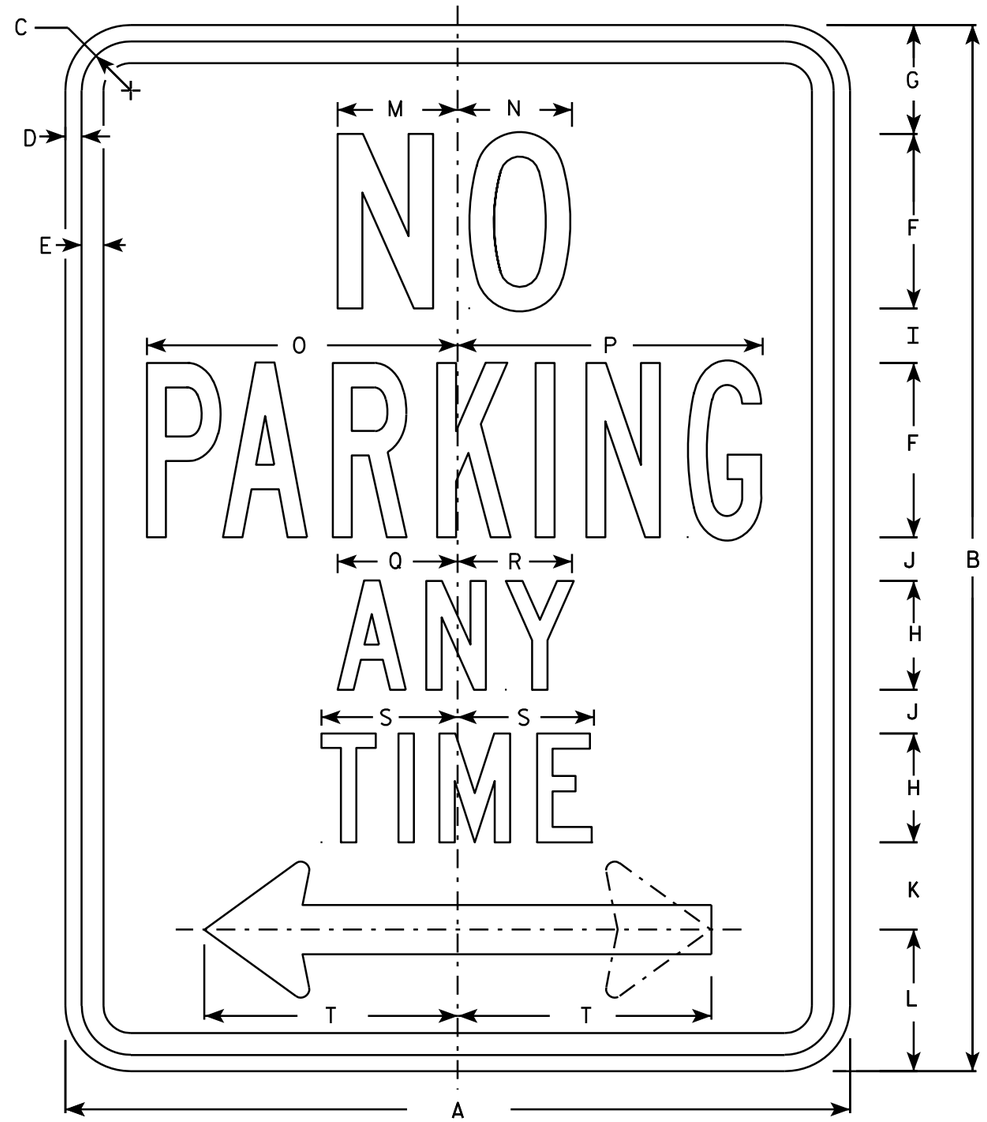
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE R1-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: E

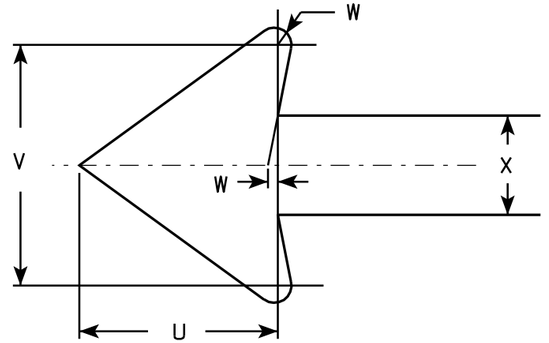
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R11.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.378143:1.000000



R7-1

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 - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



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	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

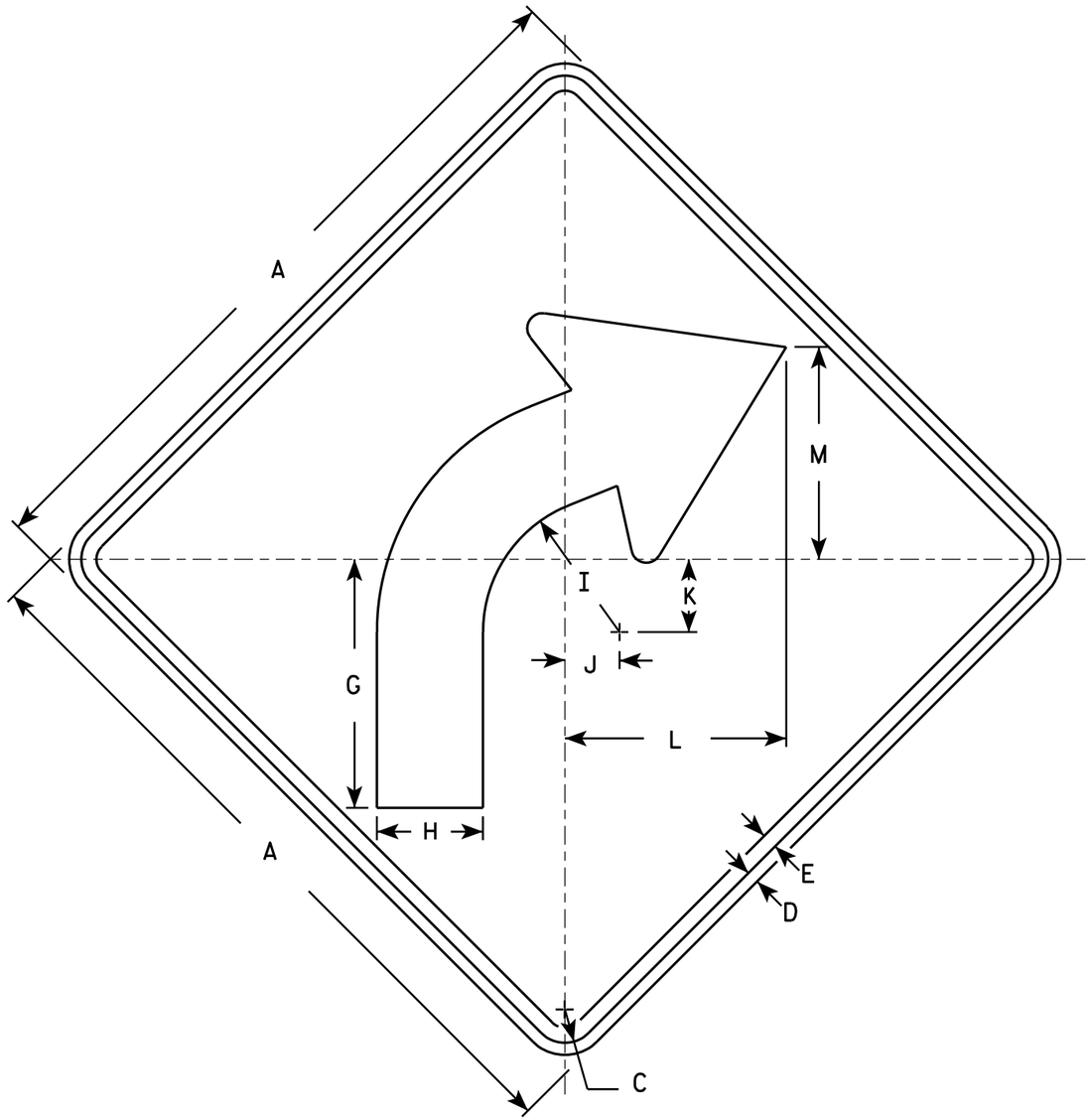
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

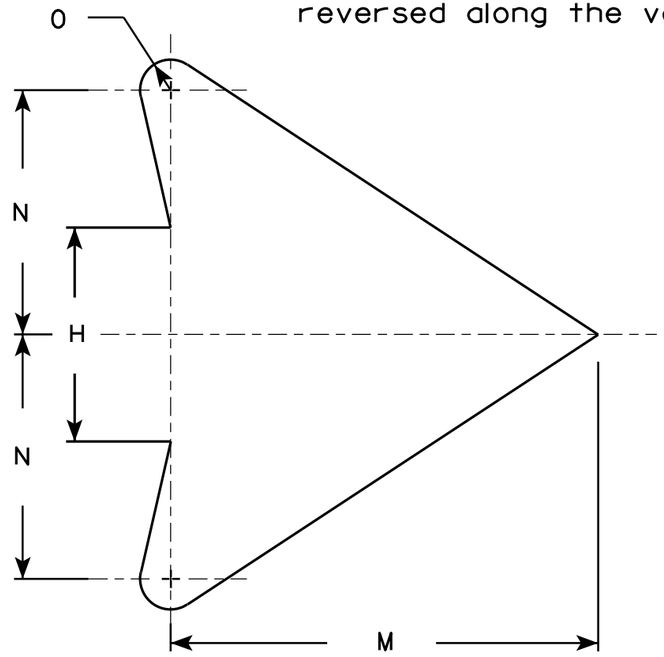
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 139 | E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



ARROW DETAIL

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

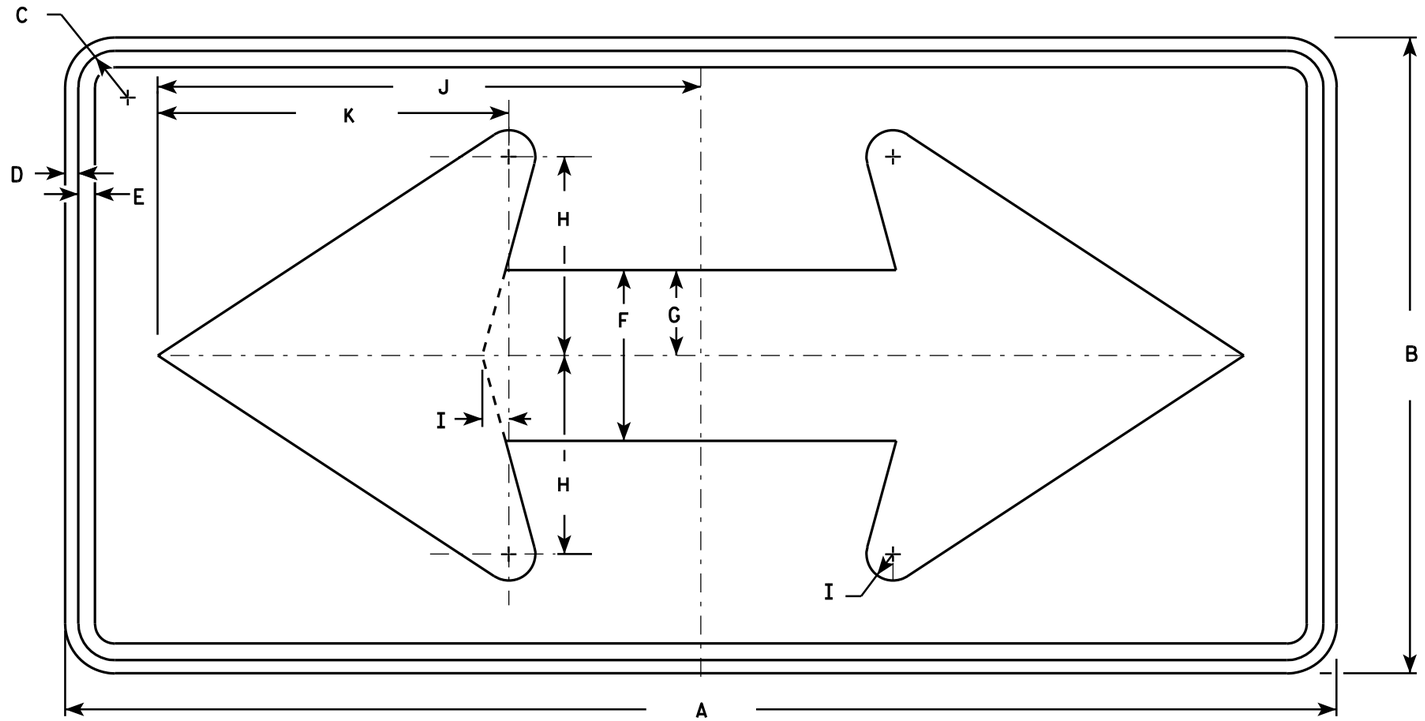
STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 140	E



W1-7

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	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

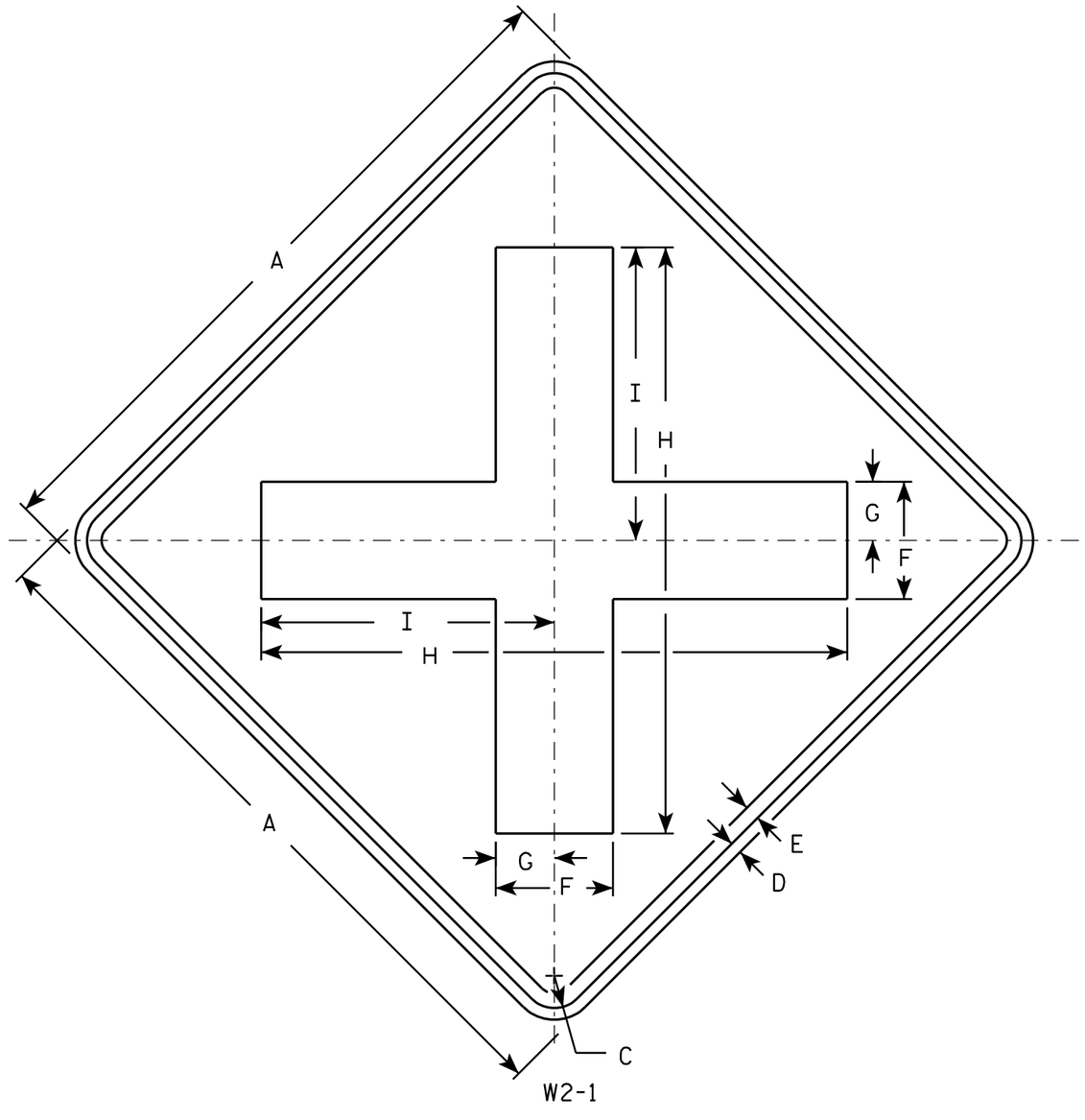
STANDARD SIGN
W1-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 141 | E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2	20	10																		4.0
2S	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3	30	15																		9.0
4	48		2 1/4	3/4	1	8	4	40	20																		16.0
5																											

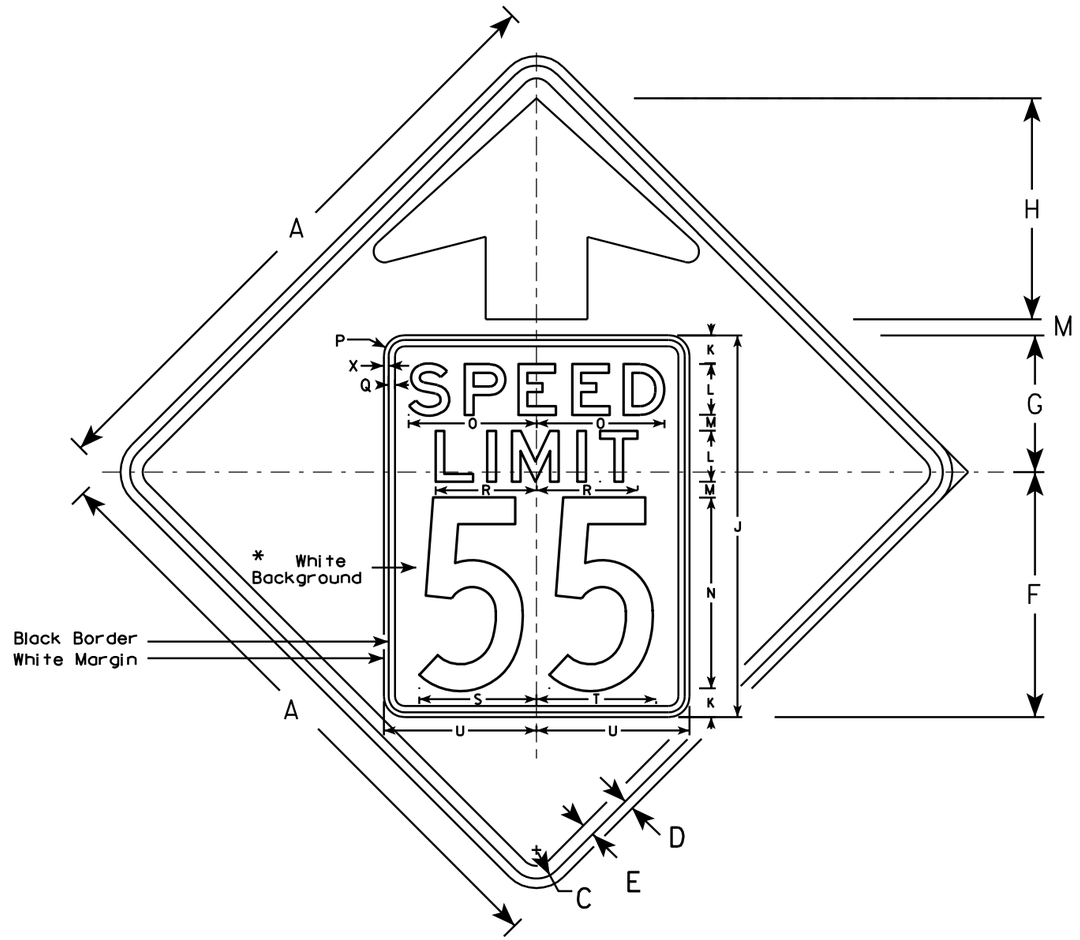
STANDARD SIGN
W2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-1.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 142	E

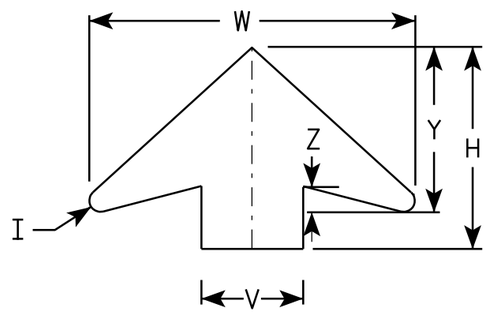


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - YELLOW*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

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

STANDARD SIGN
W3-5

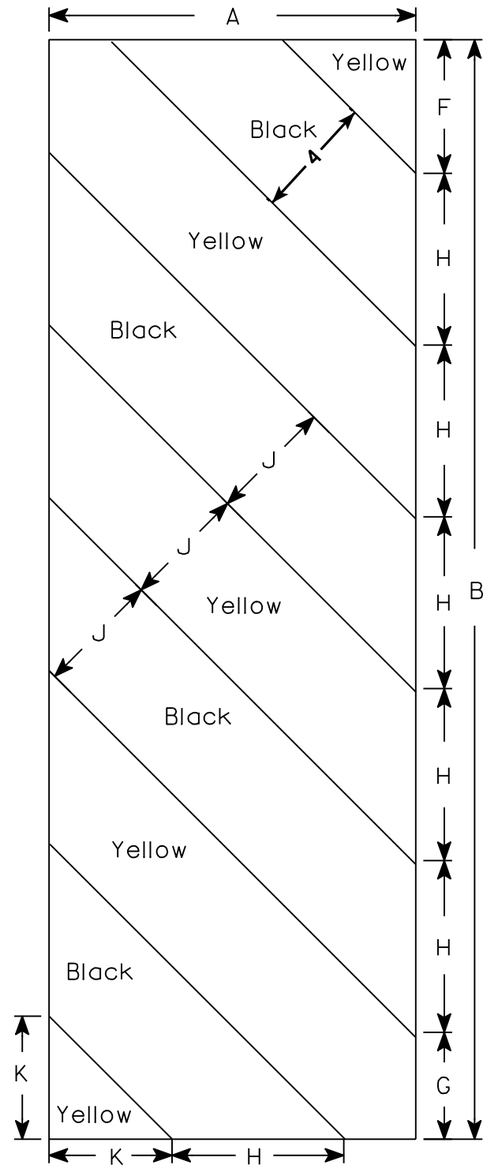
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

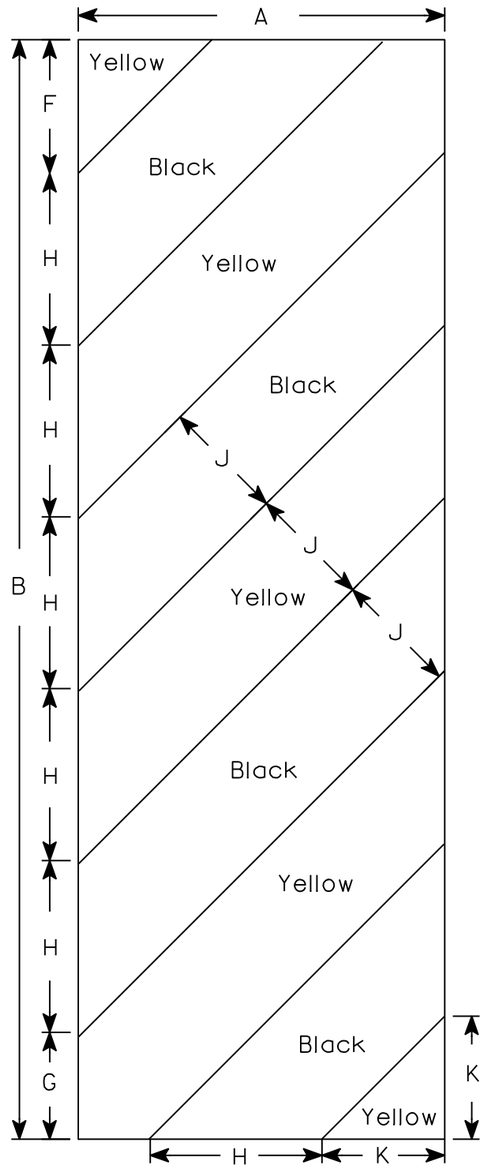
DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 143 E



W5-52L



W5-52R

NOTES

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

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	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

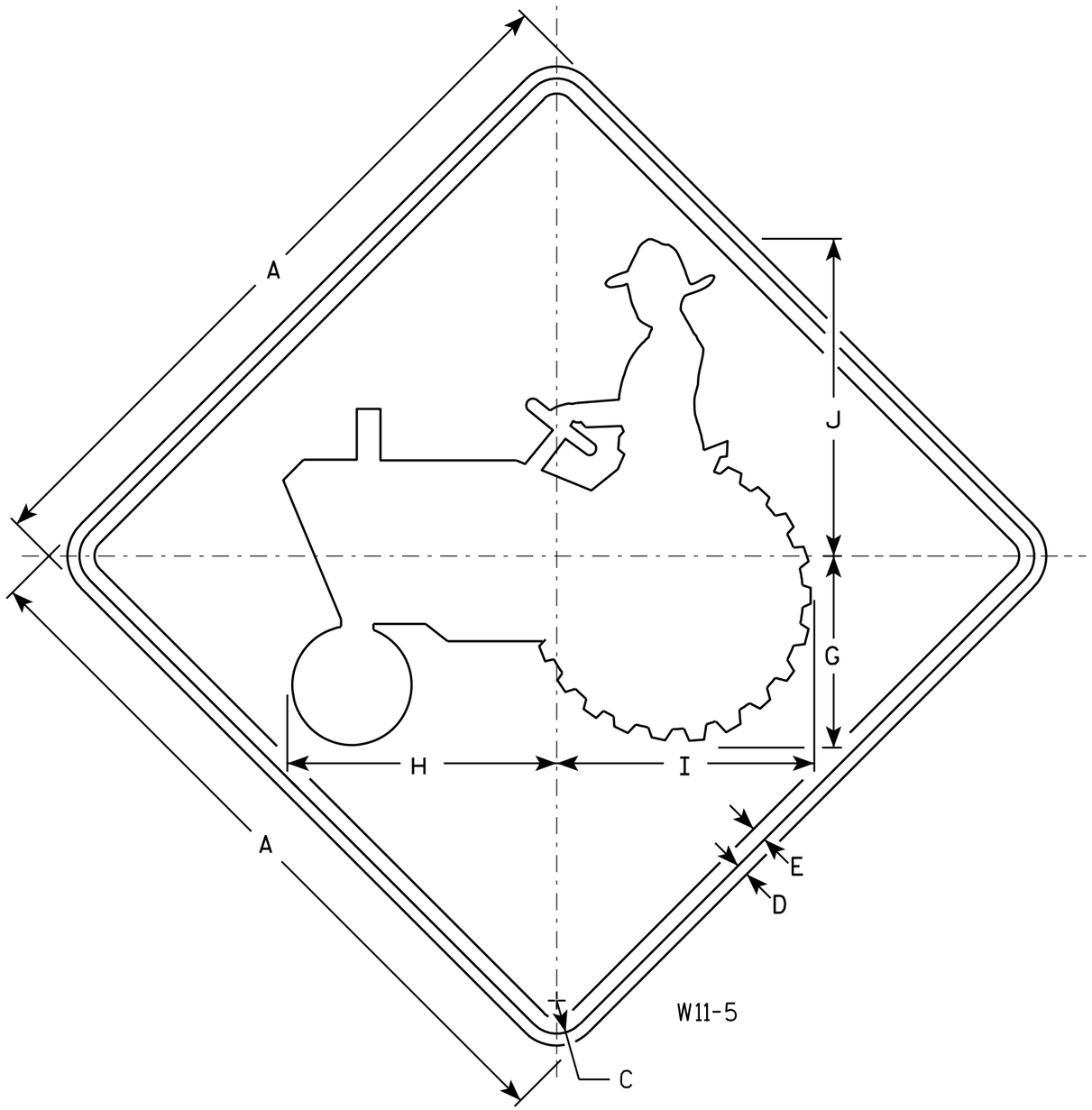
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 144	E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		6 3/8	9	8 5/8	10 5/8																	4.0
2S	30		1 3/8	1/2	5/8		8	11 1/4	10 3/4	13 1/4																	6.25
2M	30		1 3/8	1/2	5/8		8	11 1/4	10 3/4	13 1/4																	6.25
3																											
4	36		1 5/8	5/8	3/4		9 5/8	13 1/2	12 7/8	16																	9.0
5	48		2 1/4	3/4	1		12 3/4	18	17 1/4	21 1/8																	16.0

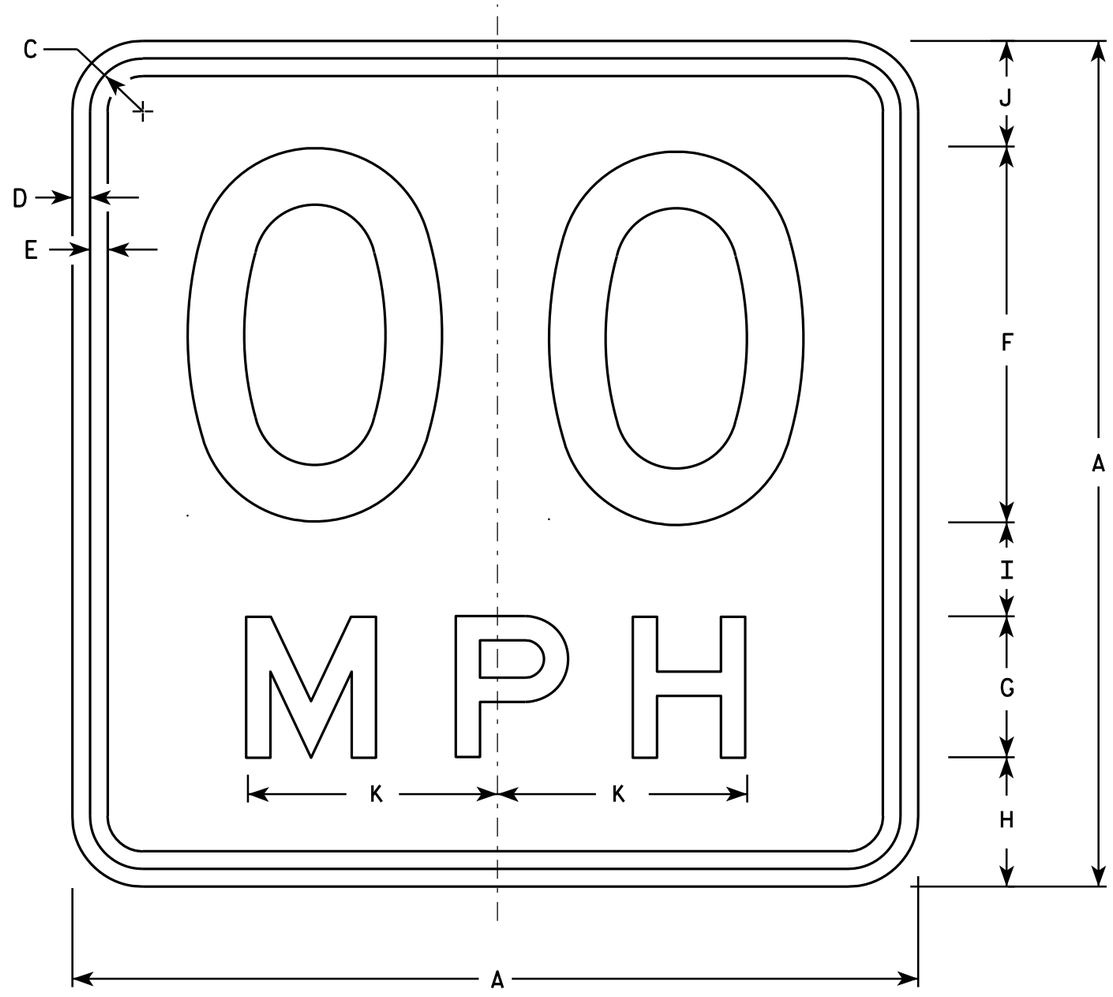
STANDARD SIGN
W11-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/13/15 PLATE NO. W11-5.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 145 | E



W13-1

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

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

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

STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

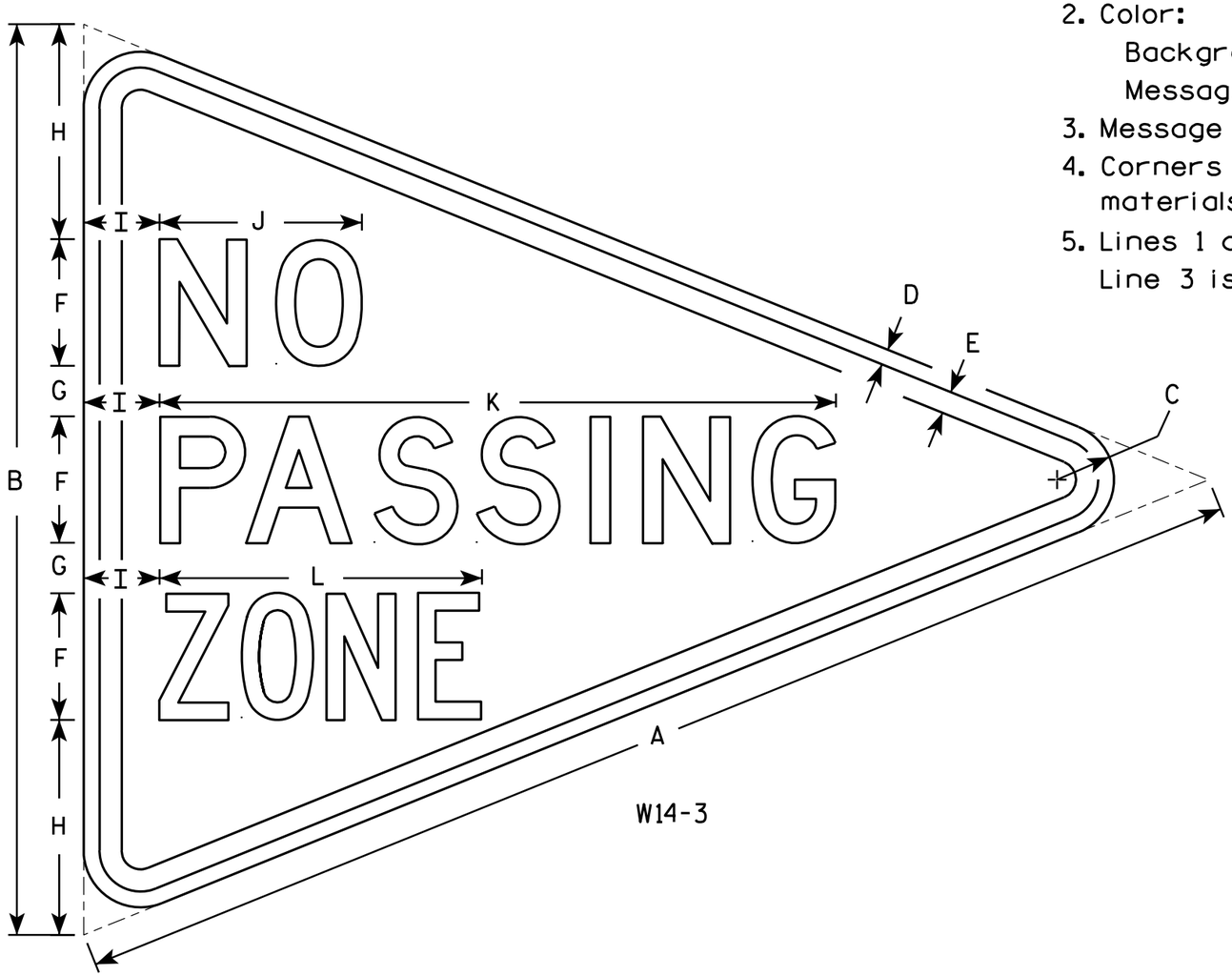
APPROVED Matthew R Rauch
For State Traffic Engineer

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

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

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners and borders shall be rounded on all base materials for this sign.
5. Lines 1 and 2 are Series D.
   Line 3 is series C.



W14-3

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

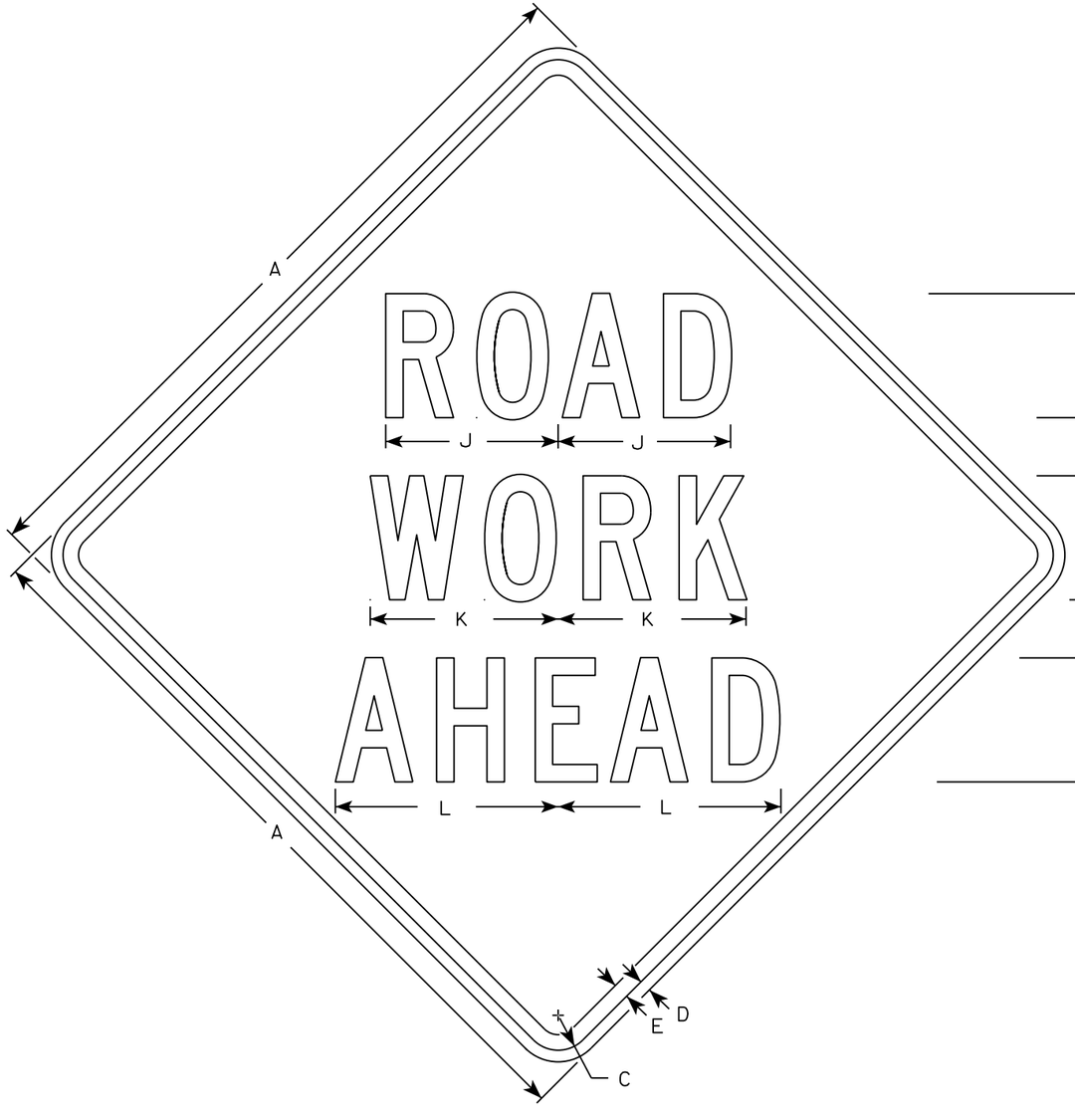
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

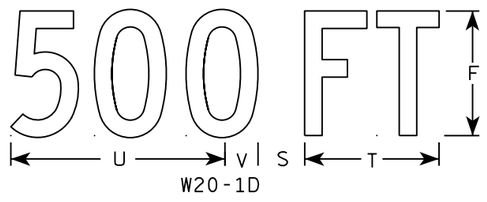
APPROVED Matthew R Rauch
for State Traffic Engineer

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

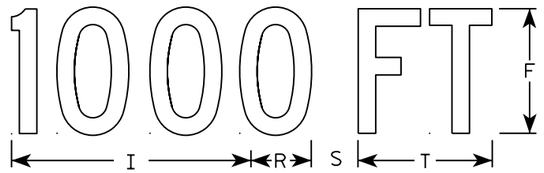
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 147	E



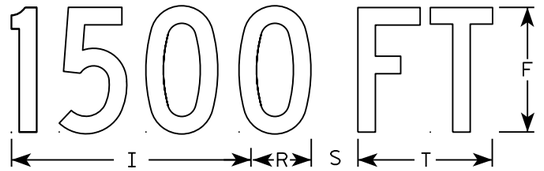
W20-1A



W20-1D

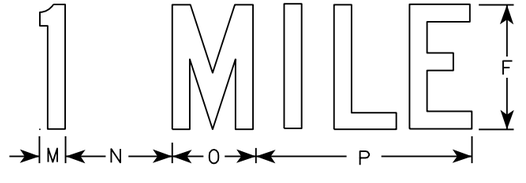


W20-1C

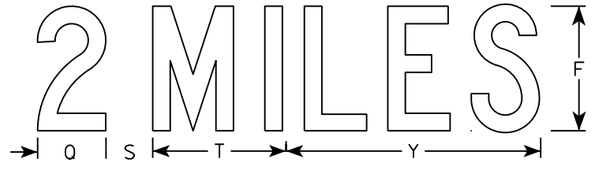


W20-1B

W20-1G



W20-1F



W20-1E

NOTES

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

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

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

PROJECT NO:

SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$

Notes

Wisconsin Department of Transportation

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