LAX

DECEMBER 2023

PROJECT ID: 7930-08-71

WITH: N/A

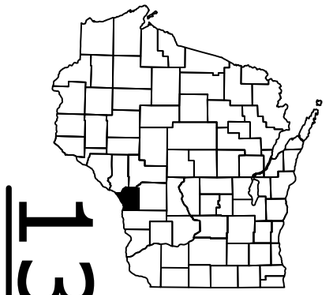
COUNTY: LA CROSSE

13

ORDER OF SHEETS

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

TOTAL SHEETS = 144



N

DESIGN DESIGNATION 7930-08-01

A.A.D.T.	2027	=	2100
A.A.D.T.	2047	=	2300
D.H.V.		=	3.7
D.D.		=	60/40
T.		=	4.5%
DESIGN SPEED		=	60 MPH
ESALS		=	170,000

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

WEST SALEM - MELROSE

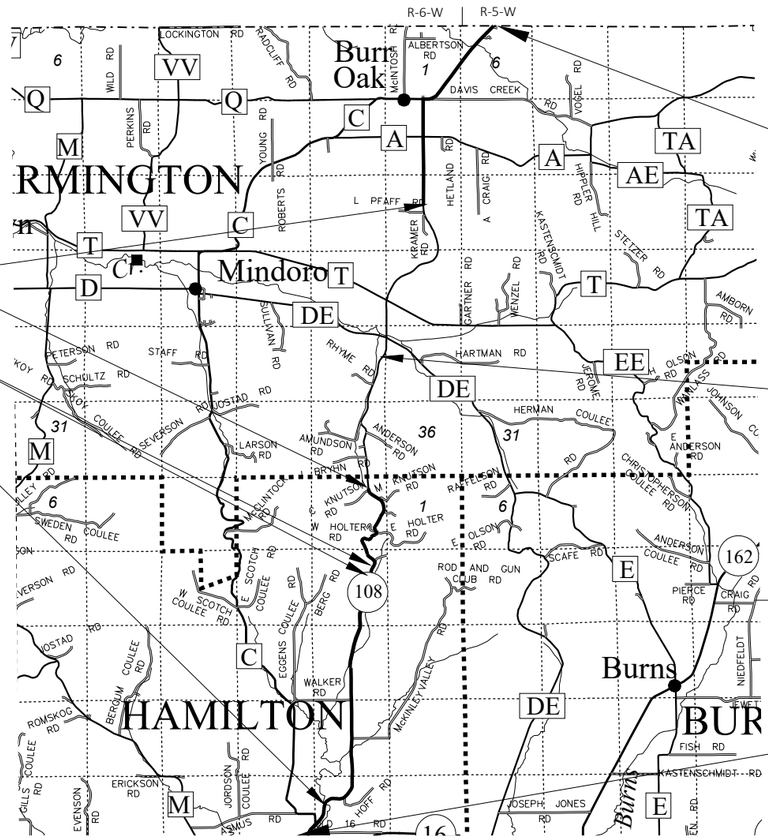
OLD 16 ROAD TO NORTH COUNTY LINE

STH 108

LA CROSSE COUNTY

STATE PROJECT NUMBER
7930-08-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7930-08-71	WISC 2024062	1



NET EXCEPTION TO CL LENGTH
STA 299+25 - STA 522+55

NET EXCEPTION TO CL LENGTH
STA 215+65 - STA 228+25

NET EXCEPTION TO CL LENGTH
STRUCTURE B-32-183
STA 45+96 - STA 46+61

LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 7.814 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), LA CROSSE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	300'EB'	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
MARSH AREA		TELEPHONE	T
		WATER	W
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SW REGION
Designer	SHANE PETERSON, P.E.
Project Manager	PAUL VALENTI, P.E.
Regional Examiner	SW REGION
Regional Supervisor	JOHN BAINTER, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 10/17/2023 Paul M Valenti (Signature)

E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\010101-TI.DWG PLOT DATE : 10/16/2023 7:08 PM PLOT BY : PETERSON, SHANE J PLOT NAME :

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ORDER OF SECTION 2 SHEETS

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

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DNR LIAISON

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STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AP	ACCESS POINT
AR	ACCESS RIGHTS
AC	ACRE
AGG	AGGREGATE
AH	AHEAD
ET AL	AND OTHERS
<	ANGLE
A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC
AE, AEW	APRON ENDWALL
ASPH	ASPHALTIC
APM	ASPHALTIC PLANT MIX
AVG	AVERAGE
A.D.T.	AVERAGE DAILY TRAFFIC
BK	BACK
BL OR B/L	BASELINE
BM	BENCHMARK
BTWN	BETWEEN
BLK	BLOCK
BR	BRIDGE
C	CELSIUS
CTR.	CENTER
CL OR C/L	CENTER LINE
CC	CENTER TO CENTER
Δ	CENTRAL ANGLE OR DELTA
CH	CHORD
CH BRG	CHORD BEARING
CZ	CLEAR ZONE
C.E.	COMMERCIAL ENTRANCE
CONC	CONCRETE
CONST.	CONSTRUCTION
CB#	CONTROL BASE
CP	CONTROL POINT OR CULVERT PIPE
CMCP	CORRUGATED METAL CULVERT PIPE
CMP	CORRUGATED METAL PIPE
CO.	COUNTY
CTH	COUNTY TRUNK HIGHWAY
CR.	CREEK OR CRUSHED
CABC	CRUSHED AGGREGATE BASE COURSE
CY OR CUYD	CUBIC YARD
CULV	CULVERT
CPCS	CULVERT PIPE CORRUGATED STEEL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPS	CULVERT PIPE SALVAGED
C&G	CURB AND GUTTER
D	DEGREE OF CURVE
D.H.V.	DESIGN HOURLY VOLUME
DIA.	DIAMETER
D.D.	DIRECTIONAL DISTRIBUTION
DISCH.	DISCHARGE
DG	DITCH GRADE
DWY	DRIVEWAY
EA	EACH
E	EAST
X	EAST GRID COORDINATE
EB	EASTBOUND
ELEC.	ELECTRIC(AL), ELEC. CABLE
EL., ELEV.	ELEVATION
EMB	EMBANKMENT
EW	ENDWALL
ENT	ENTRANCE
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC.	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
MGAL	1000 GALLONS
EXP	EXPANSION
F.F.	FACE TO FACE
FP	FENCE POST
FERT.	FERTILIZER
F.E.	FIELD ENTRANCE
F	FILL
FG	FINISHED GRADE
FAB	FLASHING ARROW BOARD
F/L, F.L.	FLOW LINE
FT	FOOT
GALV.	GALVANIZE
HT	HEIGHT
HES	HIGH EARLY STRENGTH
CWT	HUNDRED WEIGHT
HYD	HYDRANT
INL	INLET
INTER.	INTERSECTION
IH	INTERSTATE HIGHWAY
JT.	JOINT
LT	LEFT
L.	LENGTH OF CURVE
L.F.	LINEAR FOOT(FEET)
LC.	LONG CHORD
LS	LUMP SUM
M.P.	MARKER POST
NOR	NORMAL
N.C.	NORMAL CROWN
N	NORTH
NB	NORTHBOUND
NO.	NUMBER
PAV'T	PAVEMENT
T.	PERCENT TRUCKS
P.L.E.	PERMANENT LIMITED EASEMENT
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
PCC	PORTLAND CEMENT CONCRETE
P.E.	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
P.L.	PROPERTY LINE
R	RADIUS OR RANGE
R/L	REFERENCE LINE
REQ'D	REQUIRED
RT	RIGHT
R/W	RIGHT OF WAY
RD.	ROAD
SHLD.	SHOULDER(S)
SHR.	SHRINKAGE
S	SOUTH
SB	SOUTHBOUND
S.F.	SQUARE FOOT (FEET)
SDD	STANDARD DETAIL DRAWING(S)
STH	STATE TRUNK HIGHWAY
STA.	STATION
S.E.	SUPERELEVATION
S/L	SURVEY LINE
SYM	SYMMETRICAL
TEL.	TELEPHONE
TEMP.	TEMPORARY
T.L.E.	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
U.G.	UNDERGROUND (CABLE)
VAR	VARIABLE
Wt.	WEIGHT
W	WEST
WB	WESTBOUND

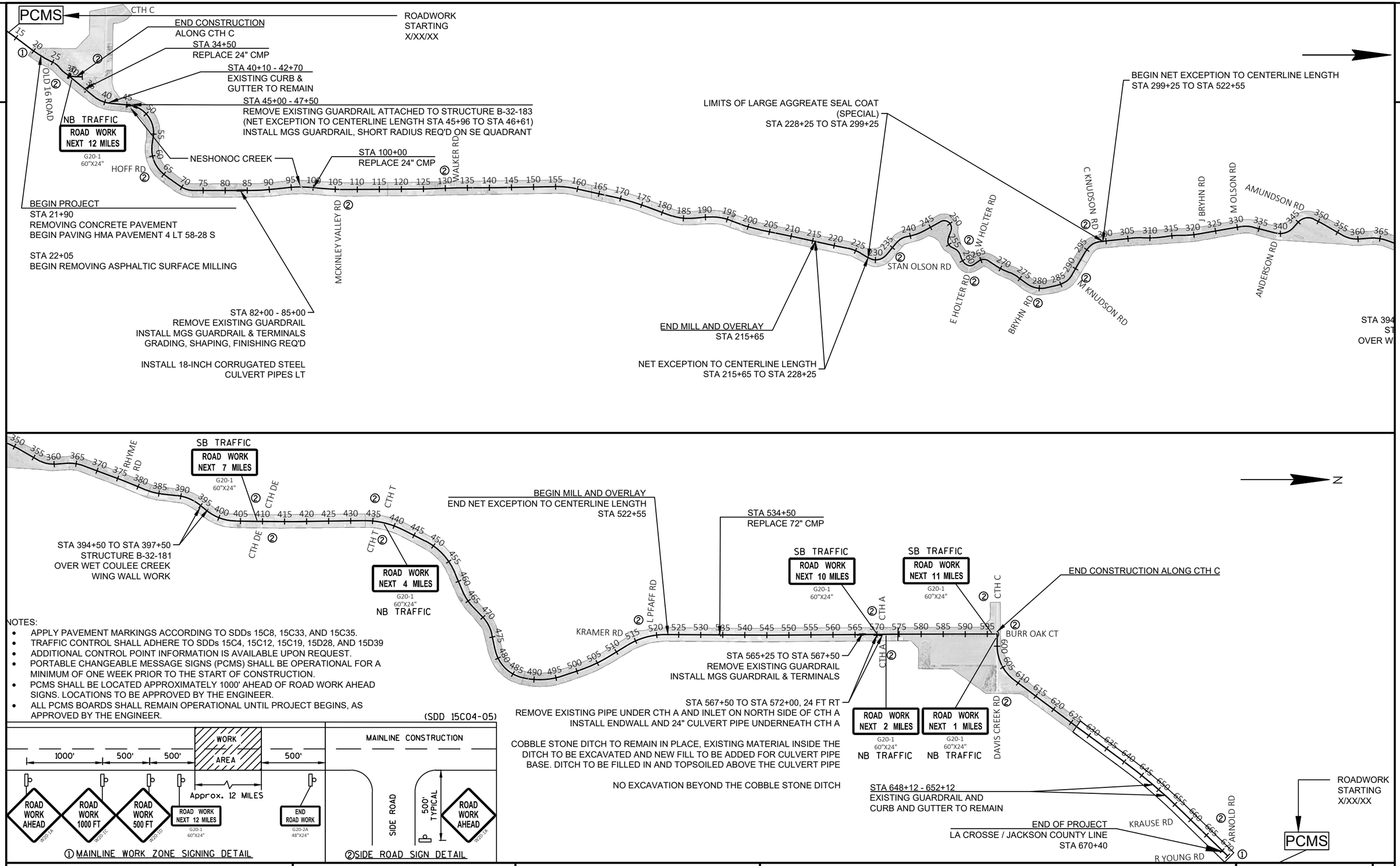
GENERAL NOTES

- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.
- RIGHT OF WAY LINES SHOWN ON THE PLANS AND CROSS SECTIONS ARE APPROXIMATE.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.
- PRIOR TO THE PLACEMENT OF MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.
- THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, BIKE OR PARKING LANE.
- HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.
- THE RATE OF APPLICATION FOR TACK COAT IS COMPUTED AT 0.070 GAL/SY ON MILLED SURFACES AND 0.050 GAL/SY BETWEEN HMA LAYERS.
- CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.
- THE QUANTITY OF THE ITEMS FOR EROSION PROTECTION INCLUDES AN UNDISTRIBUTED AMOUNT FOR PROTECTION, CONTROL AND ABATEMENT OF WATER POLLUTION RESULTING FROM SOIL EROSION. THE DISTRIBUTION AND LOCATION OF THESE MATERIALS ARE TO BE DETERMINED BY THE ENGINEER.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, FERTILIZED, AND SEEDED, AS DIRECTED BY THE ENGINEER.
- TOPSOIL HAS BEEN ESTIMATED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 5 FT BEYOND THE TOE OF SLOPE. SEEDING AND FERTILIZER HAS BEEN ESTIMATED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 10 FT.

ROADWAY SOIL BORINGS SUMMARY TABLE

BORING NUMBER	LOG MILE	APPROX. STA	OFFSET	EXISTING ASPHALT DEPTH	BASE AGGREGATE DEPTH	PAVEMENT STRUCTURE DEPTH	COMMENT
	0.00	23+00					OLD 16 ROAD
B-1	0.07	26+70	10' RT	9	13	22	
B-2	0.22	34+62	3' RT	8	4	12	
	0.43	45+70					BRIDGE B-32-183
B-3	0.69	59+43	6' RT	4.5	3	7.5	
	0.74	62+07					HOFF ROAD
B-4	1.04	77+91	8' RT	4	4	8	
B-5	1.37	95+34	3' LT	4.5	6.5	11	
	1.56	105+37					MCKINLEY ROAD
B-6	1.65	110+12	6' LT	4	11	15	BASE IS A MIXTURE OF RECYCLE AND CABC
B-7	1.90	123+32	9' LT	3	11	14	BASE IS A MIXTURE OF RECYCLE AND CABC
	2.08	132+82					WALKER ROAD
B-8	2.11	134+41	3' LT	2	8	10	BASE IS A MIXTURE OF RECYCLE AND CABC
B-9	2.33	146+02	6' LT	1.5	10.5	12	BASE IS RECYCLED ASPHALT
B-10	2.58	159+22	10' RT	4.5	9	13.5	BASE IS A MIXTURE OF RECYCLE AND CABC
B-11	2.82	171+90	3' LT	5.5	5	10.5	
B-12	3.00	181+40	6' RT	7	2	9	
B-13	3.33	198+82	5' LT	4.5	10.5	15	BASE IS A MIXTURE OF RECYCLE AND CABC
B-14	3.50	207+80	8' LT	4.5	11.5	16	BASE IS A MIXTURE OF RECYCLE AND CABC
B-15	3.74	220+47	3' RT	3.5	5	8.5	BASE IS A MIXTURE OF RECYCLE AND CABC
B-16	3.94	231+03	9' RT	2	8	10	BASE IS A MIXTURE OF RECYCLE AND CABC
	3.95	231+56					STAN OLSON ROAD
	9.43	520+90					L PFAFF ROAD
B-17	9.46	522+49	3' LT	3.5	8	11.5	BASE IS A MIXTURE OF RECYCLE AND CABC
B-18	9.66	533+05	6' LT	3.5	7.5	11	BASE IS A MIXTURE OF RECYCLE AND CABC
B-19	9.81	540+97	9' LT	3	8	11	BASE IS A MIXTURE OF RECYCLE AND CABC
B-20	9.97	549+42	3' RT	1.5	10.5	12	BASE IS A MIXTURE OF RECYCLE AND CABC
B-21	10.21	562+09	6' RT	2.5	11.5	14	BASE IS A MIXTURE OF RECYCLE AND CABC
	10.43	573+70					CTH A
B-22	10.45	574+76	9' RT	2	8	10	BASE IS A MIXTURE OF RECYCLE AND CABC
B-23	10.65	585+32	3' LT	2.5	8.5	11	BASE IS A MIXTURE OF RECYCLE AND CABC
B-24	10.88	597+46	6' LT	3	8	11	BASE IS A MIXTURE OF RECYCLE AND CABC
	10.93	600+10					CTH C
B-25	10.99	603+27	6' RT	1	14	15	BASE IS A MIXTURE OF RECYCLE AND CABC
B-26	11.20	614+36	9' LT	1	12	13	BASE IS A MIXTURE OF RECYCLE AND CABC
B-27	11.40	624+92	3' RT	1	15	16	BASE IS A MIXTURE OF RECYCLE AND CABC
B-28	11.64	637+59	6' RT	1	14	15	BASE IS A MIXTURE OF RECYCLE AND CABC
B-29	11.85	648+68	9' RT	1	10	11	BASE IS A MIXTURE OF RECYCLE AND CABC
B-30	12.08	660+82	3' LT	1	14	15	BASE IS A MIXTURE OF RECYCLE AND CABC
B-31	12.25	669+80	6' LT	1	13	14	BASE IS A MIXTURE OF RECYCLE AND CABC
AVERAGE DEPTHS				3.2	9.2	12.4	

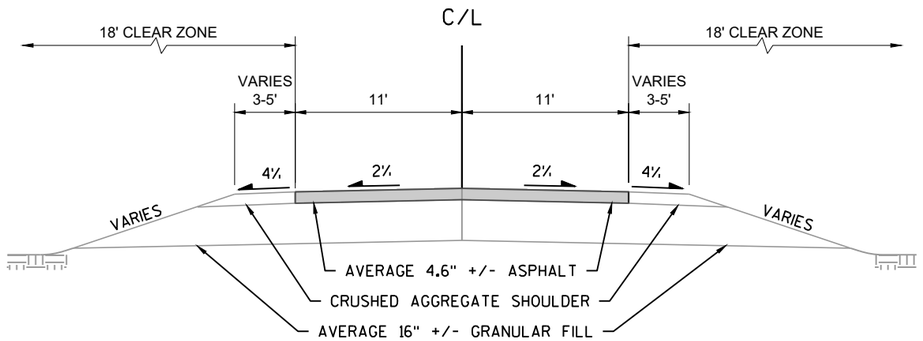
NOTES: BORINGS TAKEN 6/29/2020, 6/30/2020
DEPTHS ARE IN INCHES, OFFSETS ARE FROM EXISTING CENTERLINE
FOR REFERENCE PURPOSES ONLY



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PROJECT OVERVIEW	SHEET 4	E

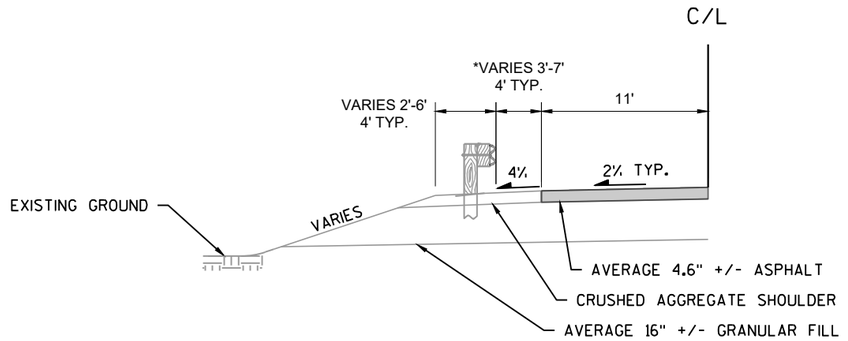
FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - 01
PLOT DATE : 10/16/2023 11:11 AM
PLOT BY : PETERSON, SHANE J
PLOT NAME :
PLOT SCALE : 1 IN:2000 FT

NOTES:
- SEE BORING LOG SUMMARY FOR MORE DETAILS
- SAFETY EDGE TO BE USED AT EDGE OF PAVEMENT
- WHERE EXISTING FULL PAVED SHOULDERS ARE LOCATED, MILL THE ENTIRE SHOULDER



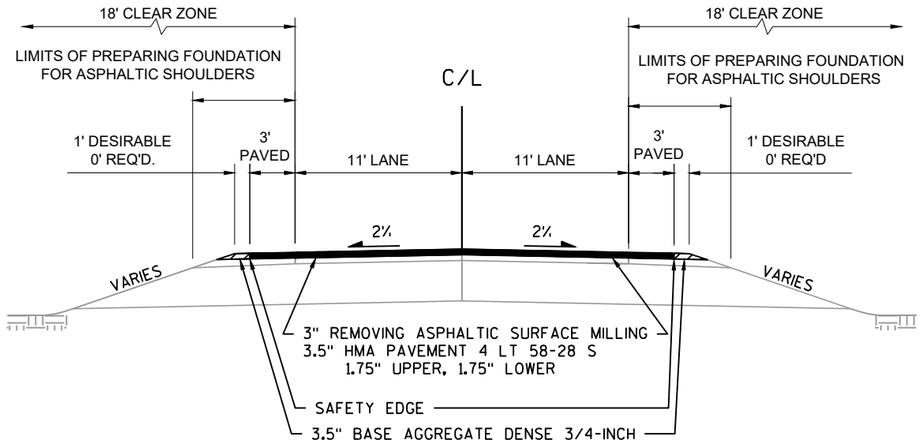
EXISTING TYPICAL SECTION STH 108

STA 22+05 TO STA 45+95
STA 46+62 TO STA 215+65
STA 522+55 TO STA 670+40



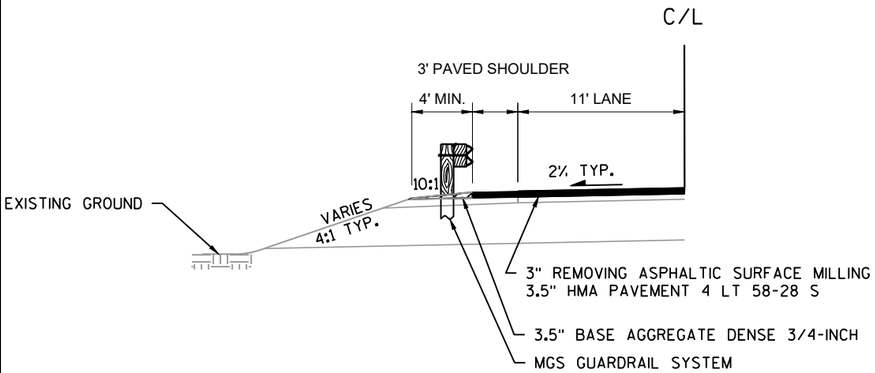
EXISTING TYPICAL GUARDRAIL HALF SECTION

STA 45+00 TO 47+50
STA 82+00 TO 85+00
STA 565+25 TO 567+50



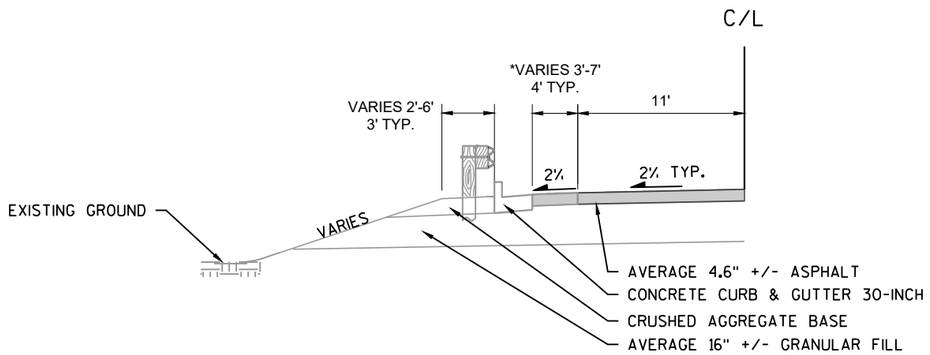
PROPOSED TYPICAL SECTION STH 108

STA 22+05 TO STA 45+95
STA 46+62 TO STA 215+65
STA 522+55 TO STA 670+40



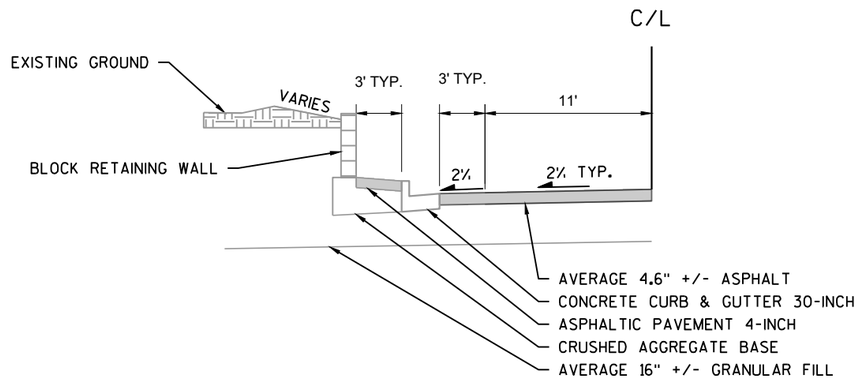
PROPOSED TYPICAL GUARDRAIL HALF SECTION

STA 45+00 TO 47+50
STA 82+00 TO 85+00
STA 565+25 TO 567+50



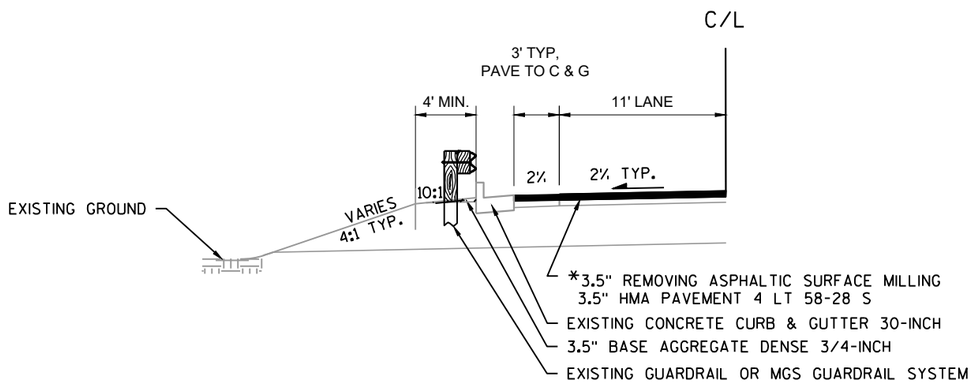
EXISTING TYPICAL GUARDRAIL HALF SECTION

STA 648+00 TO 652+00



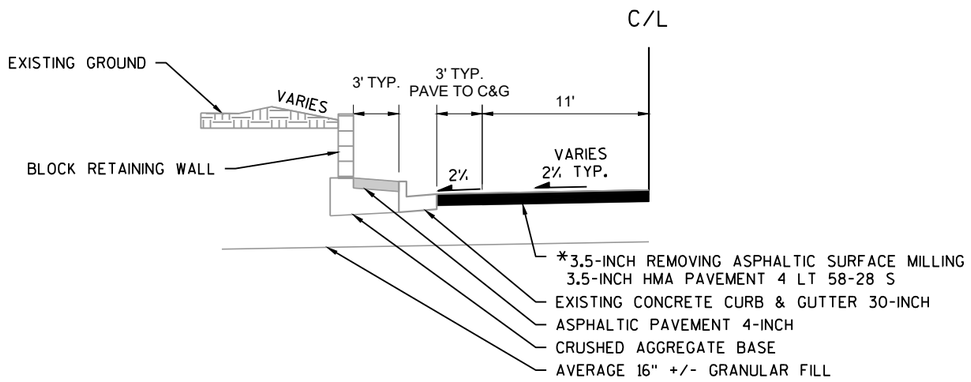
EXISTING TYPICAL RETAINING WALL HALF SECTION

STA 40+10 TO STA 42+70



PROPOSED TYPICAL GUARDRAIL HALF SECTION

STA 648+00 TO 652+00

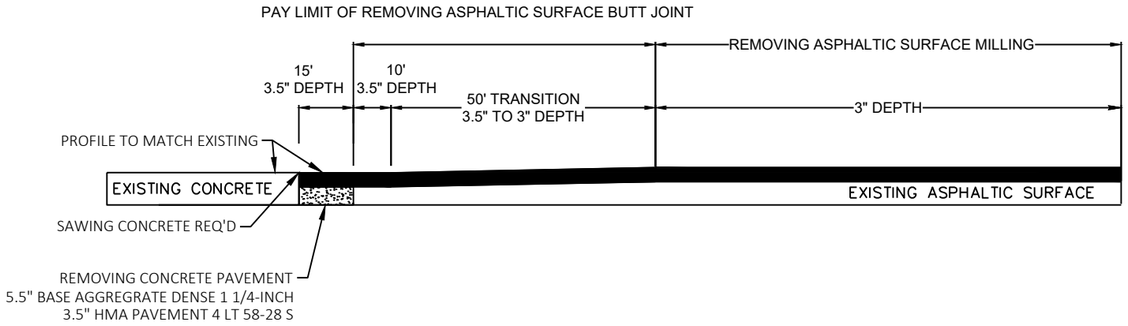


PROPOSED TYPICAL RETAINING WALL HALF SECTION

STA 40+10 TO STA 42+70

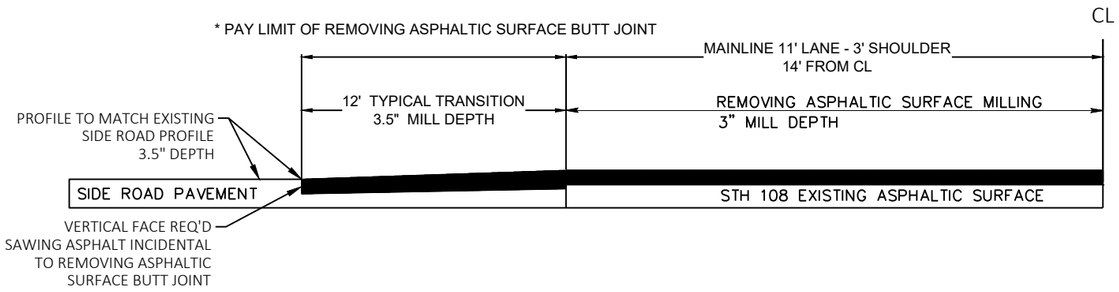
NOTE: TRANSITIONS FOR C&G SECTIONS TO MATCH MAINLINE PROFILE TRANSITION DETAIL

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	TYPICAL SECTIONS	SHEET 6	E



MAINLINE PROFILE TRANSITION DETAIL

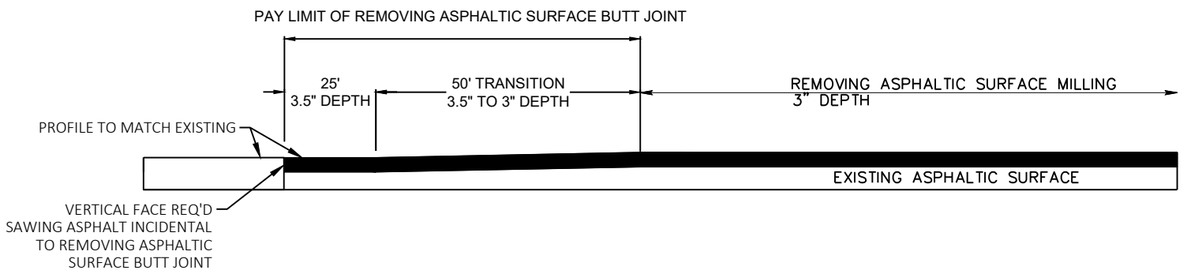
STA 21+90 - STA 22+65 - BEGINNING OF PROJECT



SIDE ROAD PROFILE TRANSITION DETAIL

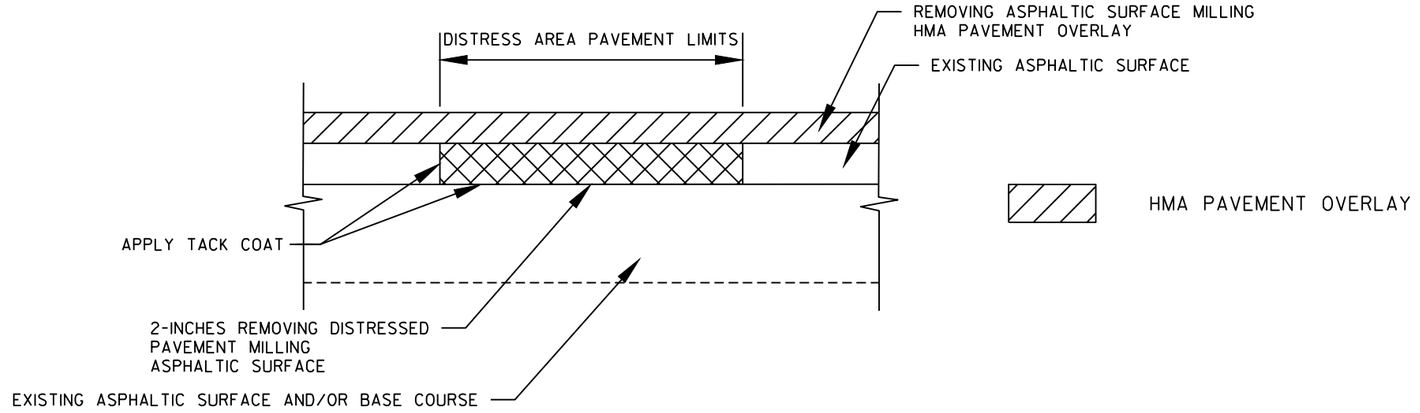
OLD 16 RD
HOFF RD
MCKINLEY VALLEY RD
WALKER RD
*CTH A
BURR OAK
*DAVIS CREEK RD - SOUTH
*DAVIS CREEK RD - NORTH
KRAUSE RD
R YOUNG RD

* LIMITS TO BE DETERMINED IN THE FIELD BY THE ENGINEER. ADJUST TRANSITION WIDTH AS NEEDED TO PROVIDE A SMOOTH PROFILE.

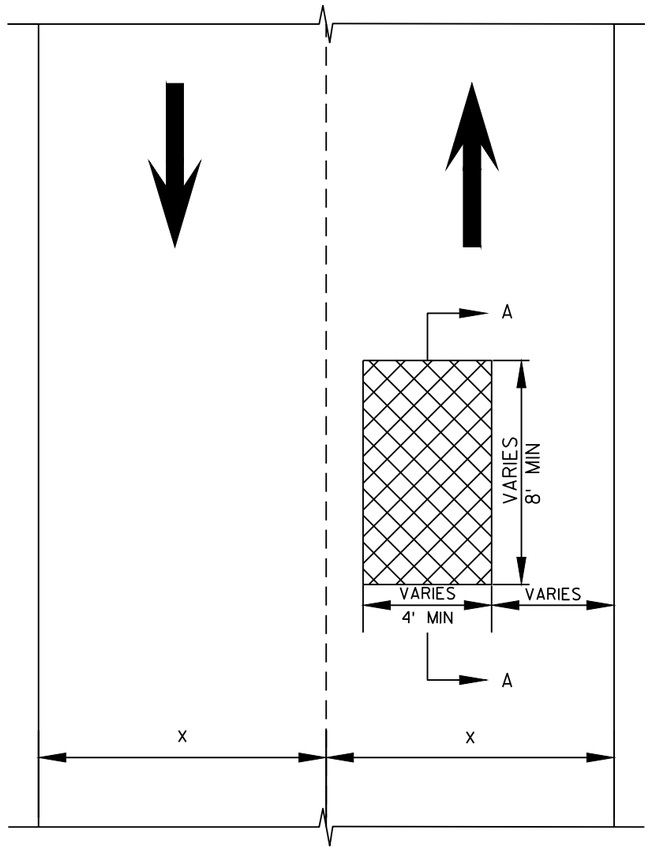


MAINLINE PROFILE TRANSITION - REMOVING ASPHALTIC SURFACE BUTT JOINT DETAIL

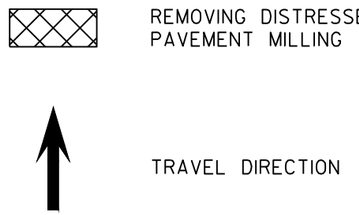
STA 30+95'C' - STA 31+70'C' - CTH C SOUTH INTERSECTION
STA 45+21 - STA 45+96 - STRUCTURE B-32-183 SOUTH ABUTMENT
STA 46+61 - STA 47+36 - STRUCTURE B-32-183 NORTH ABUTMENT
STA 214+90 - STA 215+65 - CONSTRUCTION JOINT (STAN OLSON RD)
STA 522+55 - STA 523+30 - CONSTRUCTION JOINT (L PFAFF RD)
STA 595+91'C' - STA 596+66'C' - CTH C NORTH INTERSECTION
STA 669+65 - STA 670+40 - END OF PROJECT



REMOVING DISTRESS PAVEMENT MILLING
SECTION A-A

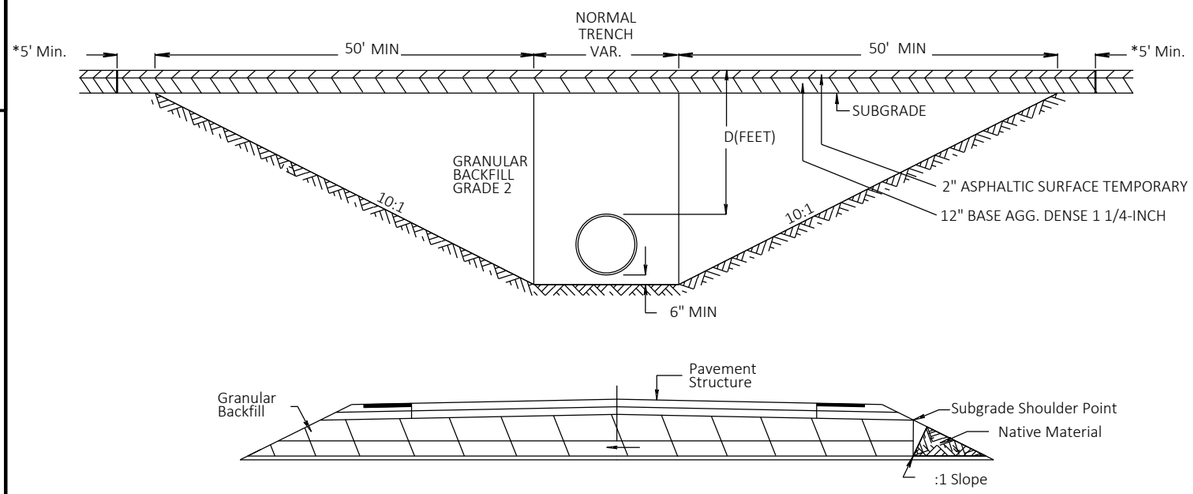


PLAN VIEW



EXACT LOCATION AND LIMITS OF REMOVING DISTRESSED PAVEMENT MILLING TO BE DETERMINED BY THE ENGINEER IN THE FIELD

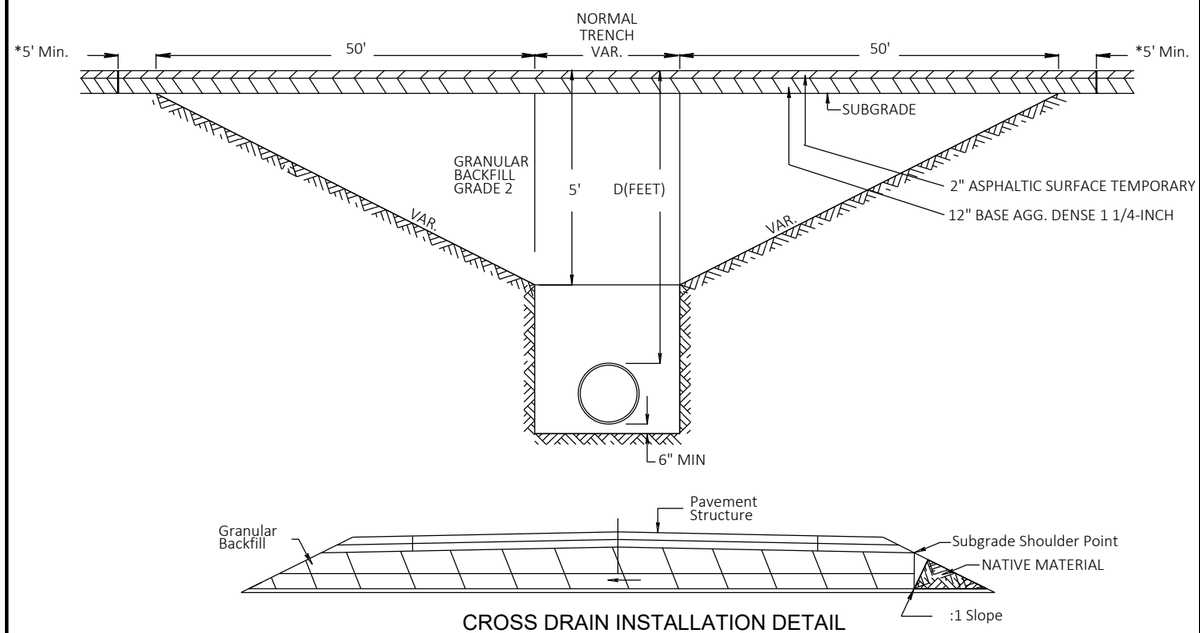
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CONSTRUCTION DETAILS	SHEET 8	E



CROSS DRAIN INSTALLATION DETAIL

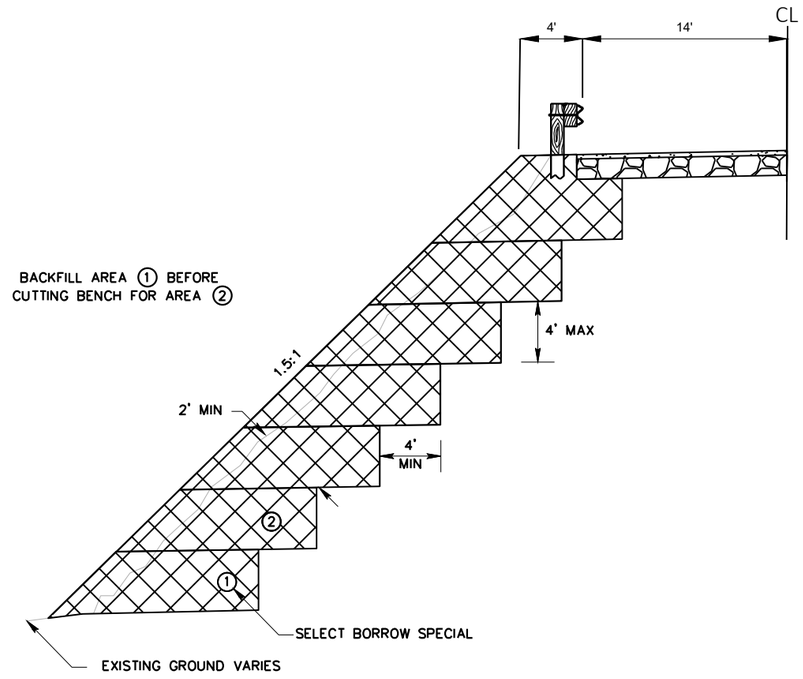
FOR D ≤ 5'

* Pavement Removal Limits (Typical)



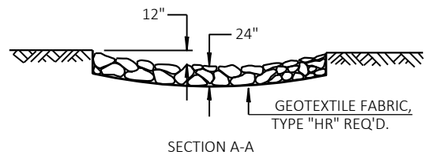
CROSS DRAIN INSTALLATION DETAIL

FOR D ⩾ 5'

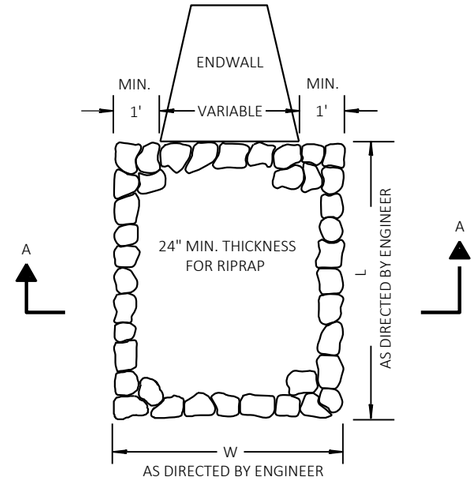


SLOPE STABILIZATION

STA 82+90 TO 84+00 LT



SECTION A-A



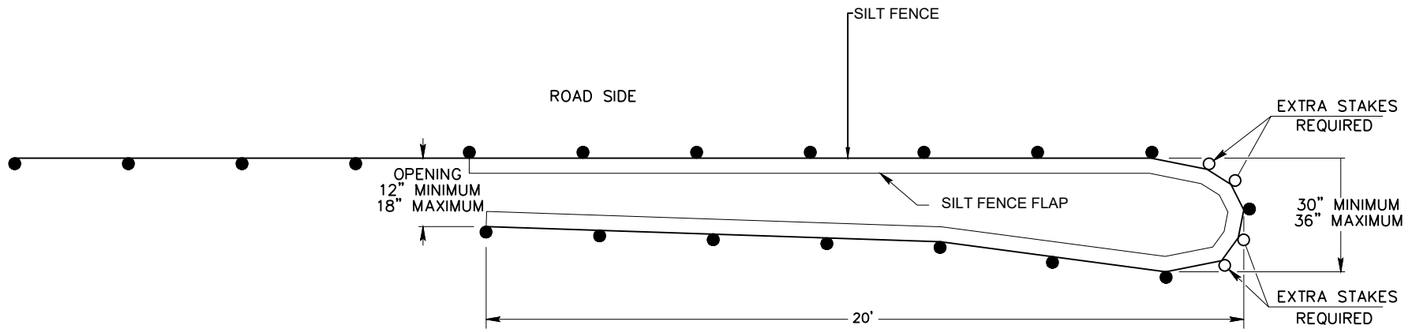
RIPRAP TREATMENT AT CULVERTS

STA 83+80 LT, W=14', L=30'

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CONSTRUCTION DETAILS	SHEET 9	E

2

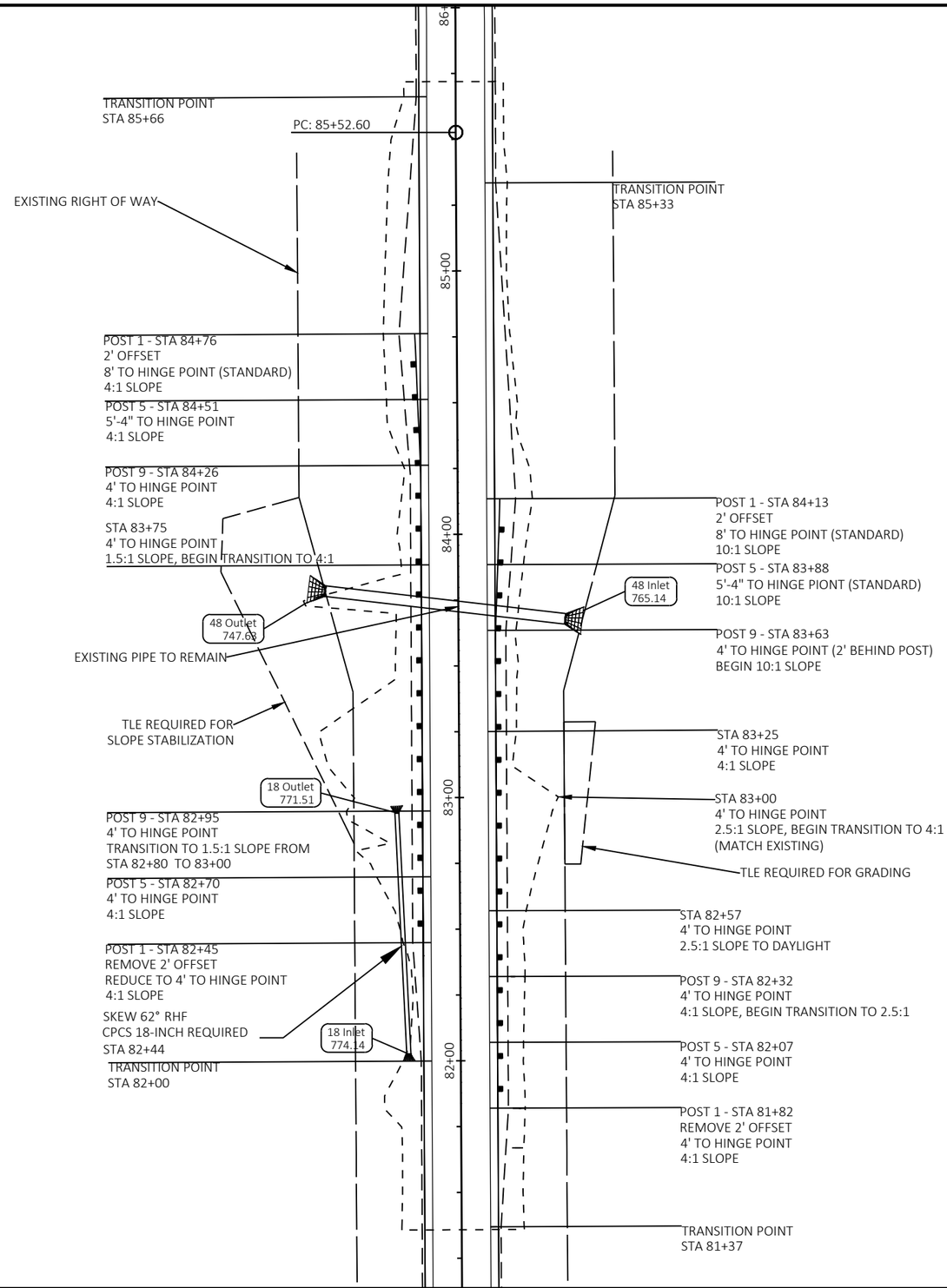
NOTES:
SILT FENCE POSTS FOR THE TURN–AROUND SHALL BE ON THE OUTSIDE OF THE TURN–AROUND.
TO BE PAID FOR AS SILT FENCE.



PLAN VIEW

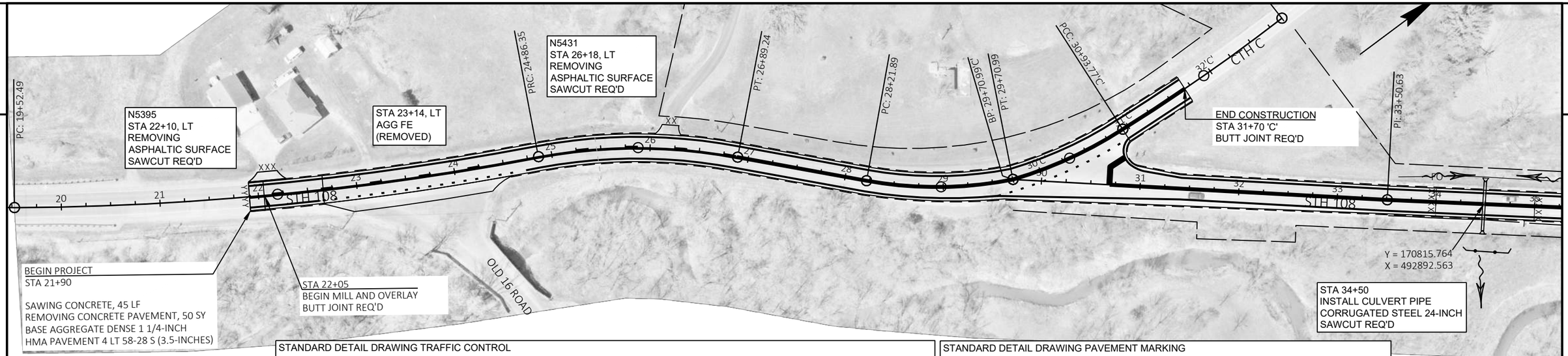
TEMPORARY SMALL ANIMAL TURN–AROUND

2



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	GRADING DETAILS - GUARDRAIL SECTION 2	SHEET 11	E

2

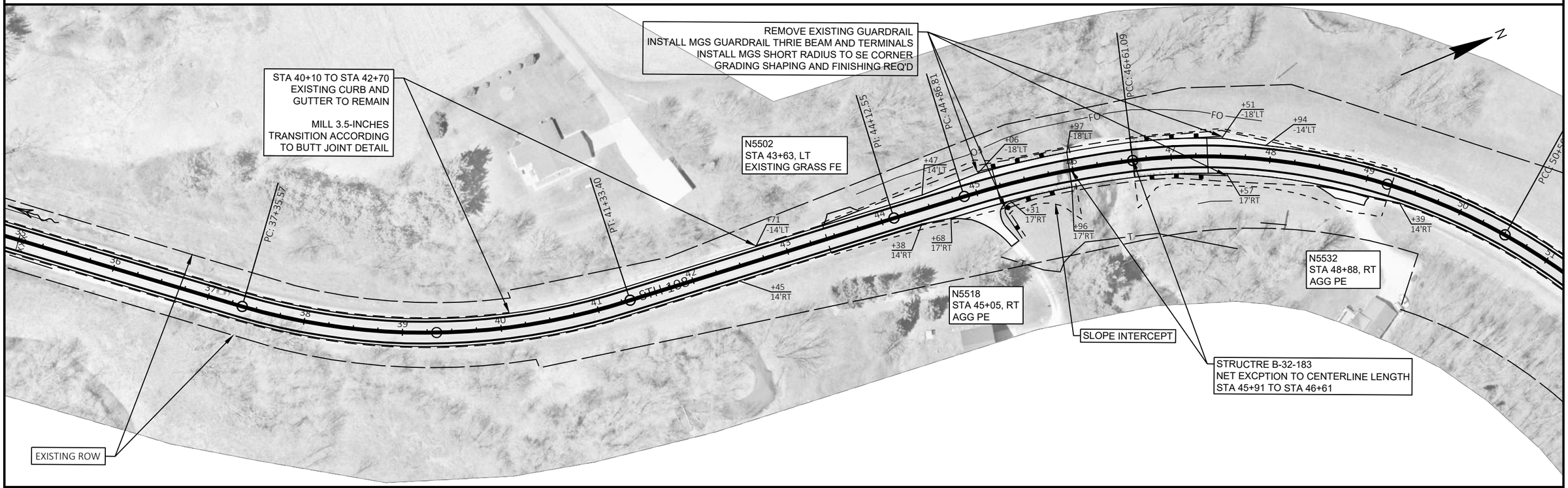


STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS FOR 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C12-09A TRAFFIC CONTROL, FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-08A MOVING PAVEMENT OPERATION TWO-LANE TWO-WAY ROADWAY
15D27-03 TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D44-02 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D51-01 TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
15C08-23B TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 12	E

2

N5521
STA 53+20, LT
REMOVING
ASPHALTIC SURFACE
SAWCUT REQ'D

EXISTING ROW

PC: 55+50.36

PT: 55+68.92

N5551
STA 56+50, LT
REMOVING
ASPHALTIC SURFACE
SAWCUT REQ'D

PC: 57+76.72

N5546
STA 56+00, RT
REMOVING CONCRETE
PAVEMENT
SAWCUT REQ'D

N5593
STA 59+50, LT
AGG PE

STA 62+87, LT
AGG FE

PT: 65+30.10

PC: 66+89.64

66+25.00

N5602
STA 65+31, RT
REMOVING
ASPHALTIC SURFACE
SAWCUT REQ'D

STH 108

N5568
STA 59+50, RT
REMOVING
ASPHALTIC SURFACE
SAWCUT REQ'D

HOFF RD

50+75.00

STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS FOR 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
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15D51-01 TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
15C08-23B TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)

N

2

PC: 66+89.64

66+25.00

PCC: 69+86.31

PT: 72+86.07

PI: 74+29.28

N5673
STA 75+45, LT
AGG PE

N5709
STA 80+52, LT
AGG PE

PI: 80+66.07

STH 108

STA 78+96, RT
AGG FE

N5666
STA 70+55, RT
AGG PE

STA 73+90, RT
AGG PE

N5666
STA 74+75, RT
REMOVING
ASPHALTIC SURFACE
SAWCUT REQ'D

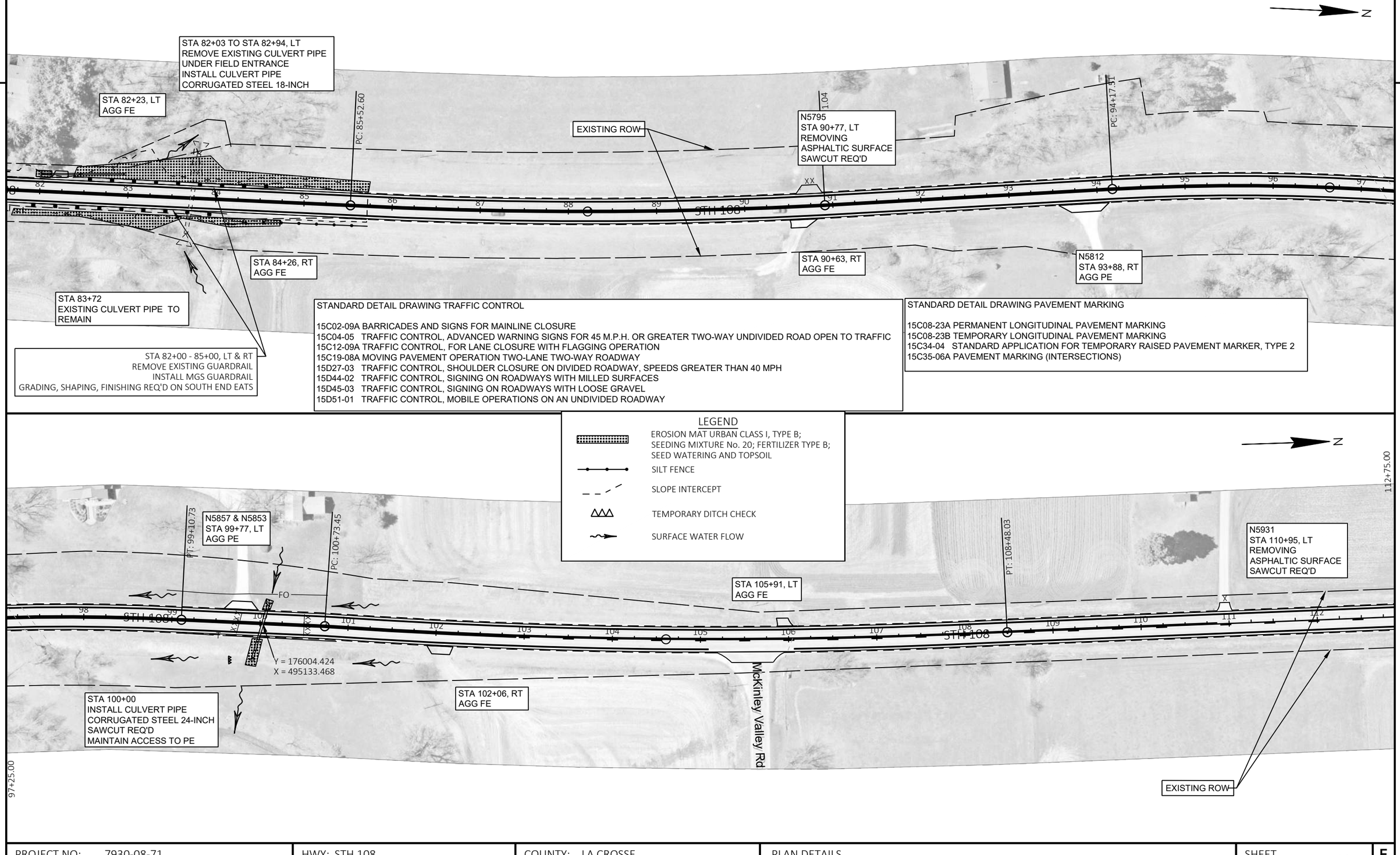
EXISTING ROW

N

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 13	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 020202-pd

PLOT DATE : 10/16/2023 3:38 PM PLOT BY : PETERSON, SHANE J PLOT NAME : PLOT SCALE : 1 IN:100 FT



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 14	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 020203-pd
PLOT DATE : 10/16/2023 3:38 PM
PLOT BY : PETERSON, SHANE J
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS FOR 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
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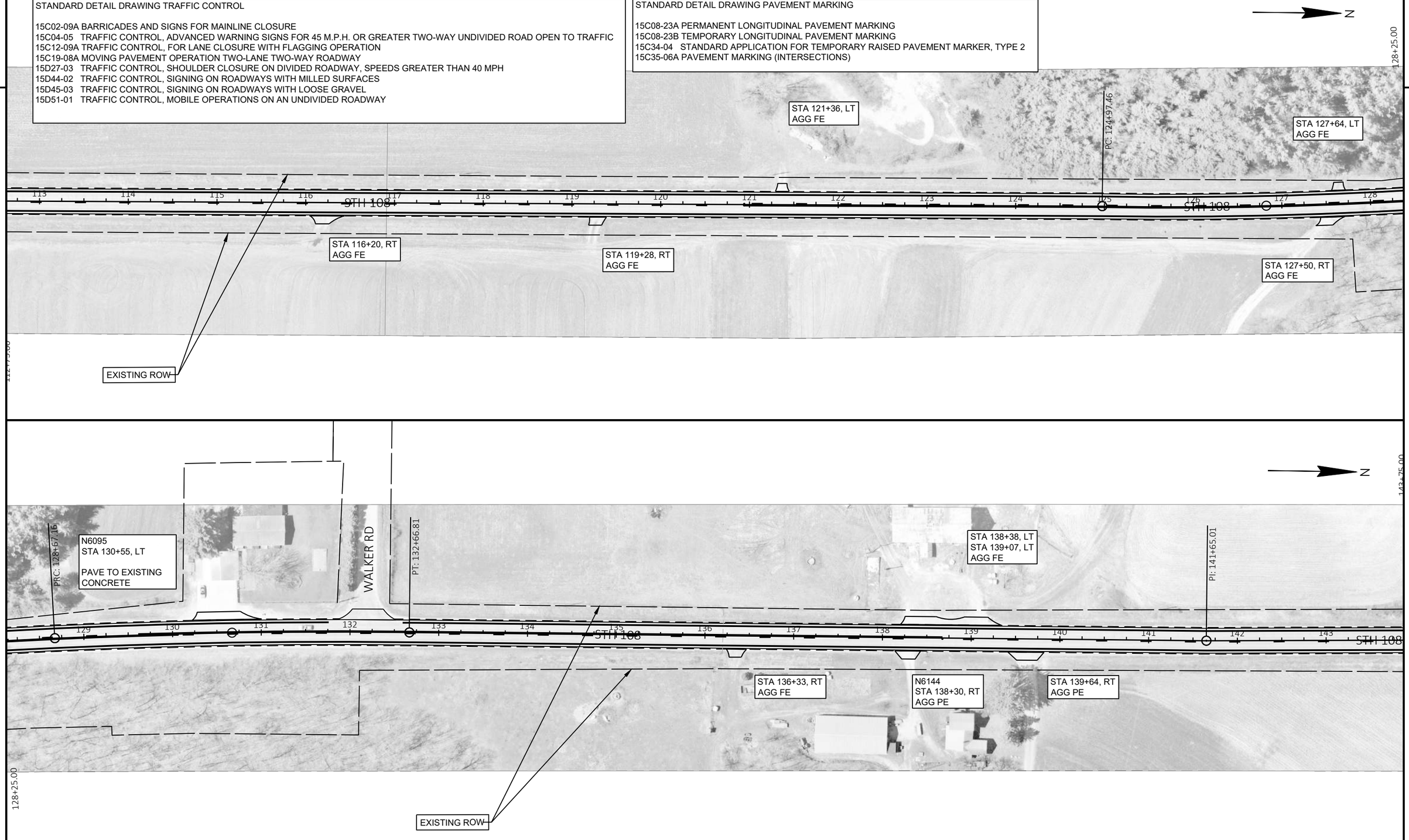
STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
15C08-23B TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 15	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 020204-pd
PLOT DATE : 10/16/2023 3:38 PM PLOT BY : PETERSON, SHANE J PLOT NAME : PLOT SCALE : 1 IN:100 FT

STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
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STANDARD DETAIL DRAWING PAVEMENT MARKING

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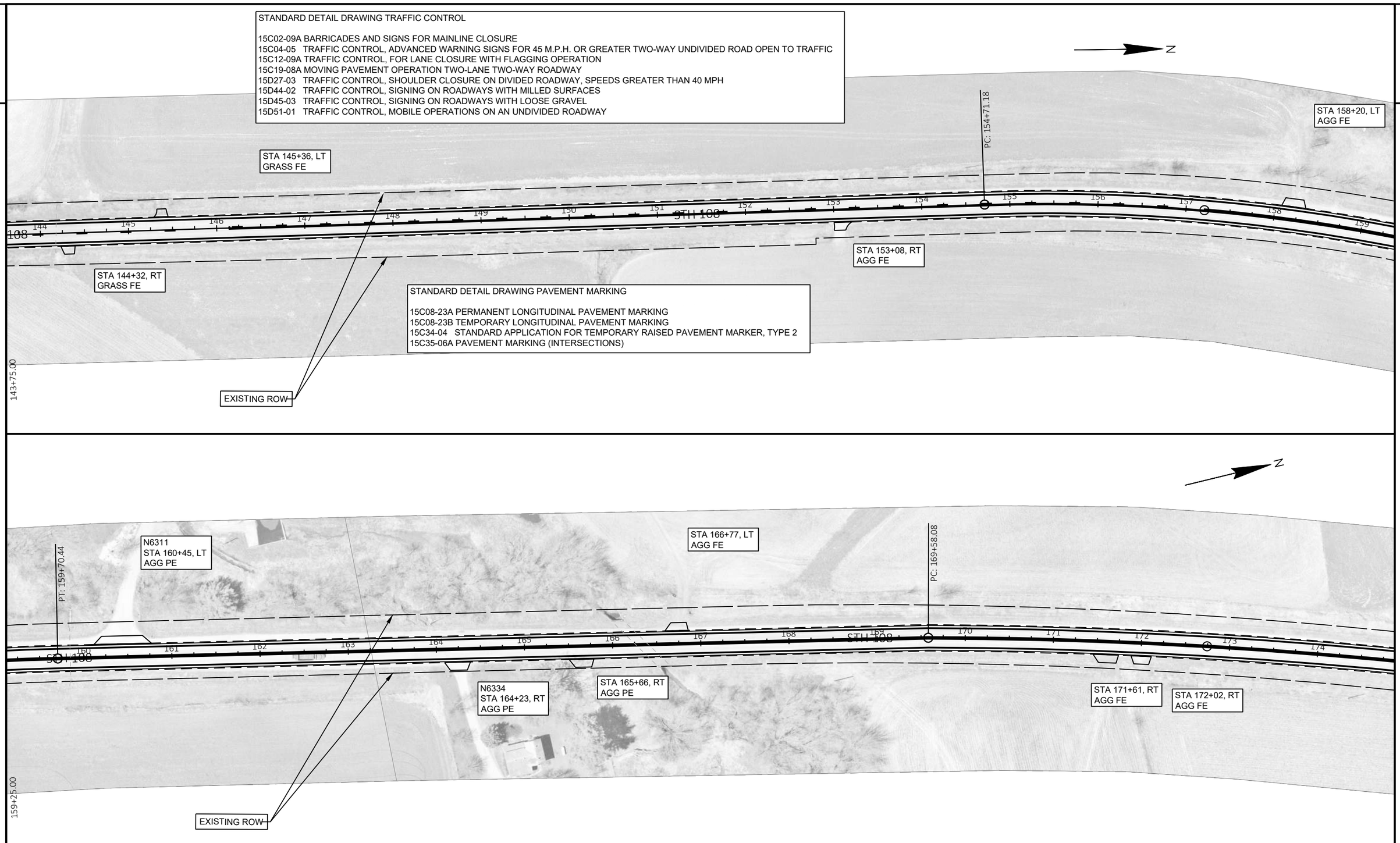
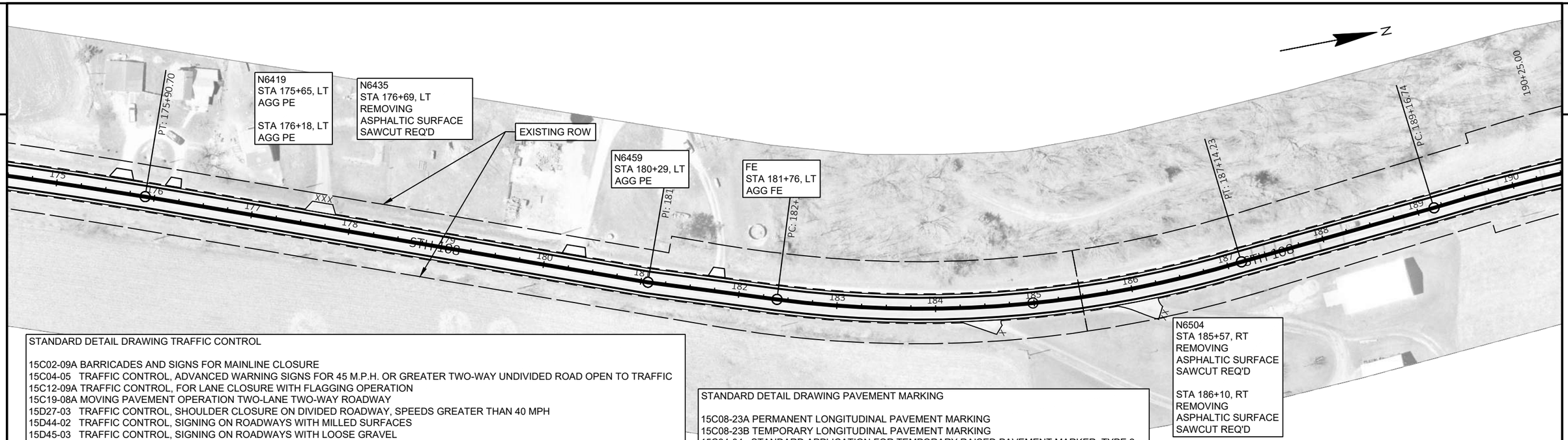
15C35-06A PAVEMENT MARKING (INTERSECTIONS)



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 16	E

2



STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
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15D45-03 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D51-01 TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
15C08-23B TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 17	E

2

2

EXISTING ROW

STA 206+18, LT
AGG FE

PI: 210+79.58

N6703
STA 213+04, LT
REMOVING
ASPHALTIC SURFACE
SAWCUT REQ'D

END CONSTRUCTION (MILL & OVERLAY)
STA 215+65
BUTT JOINT REQ'D
BEGIN NET EXCEPTION TO CENTERLINE LENGTH

PI: 219+85.67

N6733

STH 108

STA 210+88, RT
AGG FE

N6734

STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS FOR 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
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STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
15C08-23B TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)

PC: 223+10.

N6793

STH 108

PT: 226+28.18

N6796

PC: 228+26.51

PC: 229+92.95

PT: 232+81.35

EXISTING ROW

BEGIN CONSTRUCTION (LARGE AGGREGATE SEAL COAT)
STA 228+25
END NET EXCEPTION TO CENTERLINE LENGTH

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 18	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 020207-pd

PLOT DATE : 10/16/2023 3:38 PM PLOT BY : PETERSON, SHANE J PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS FOR 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
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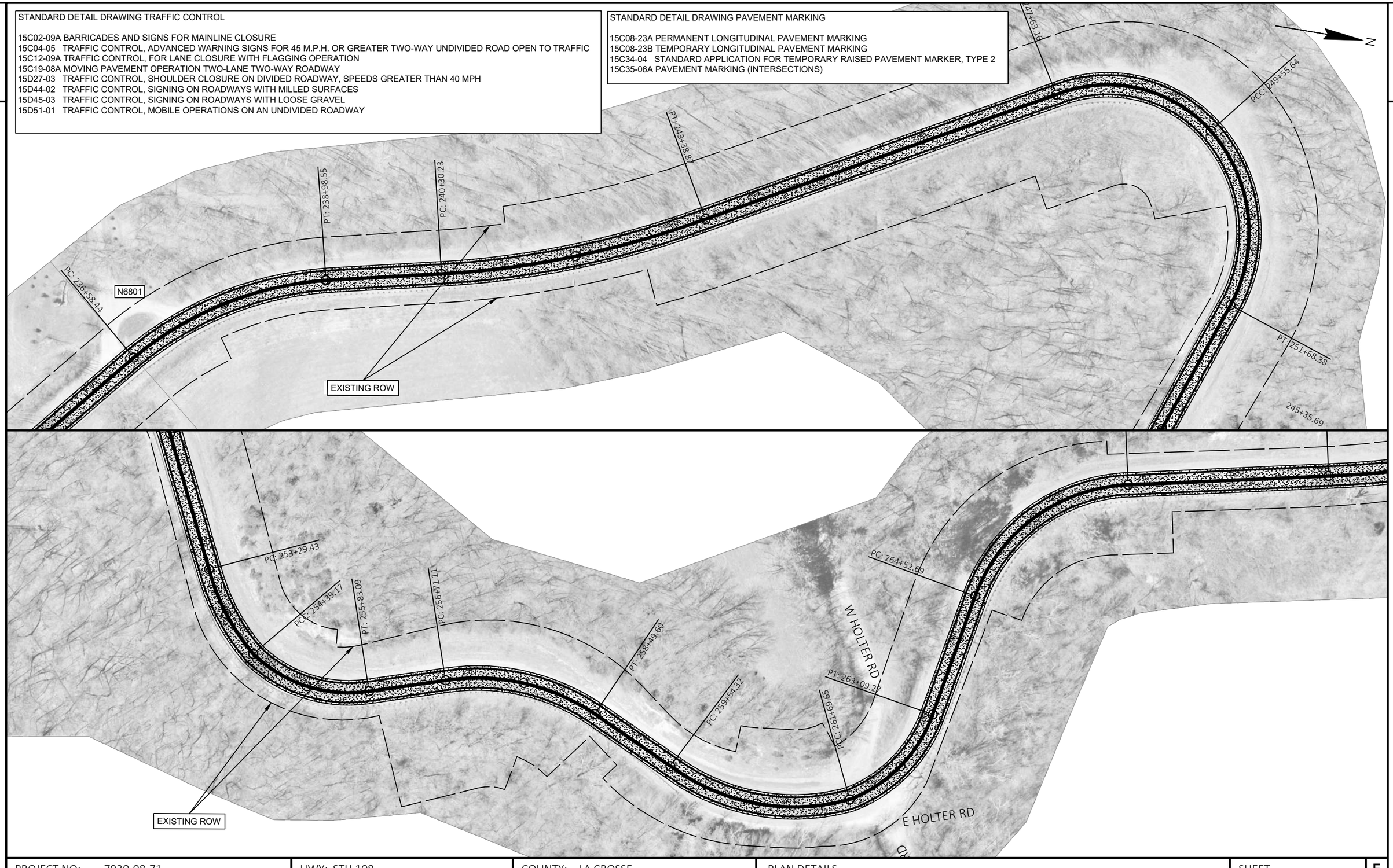
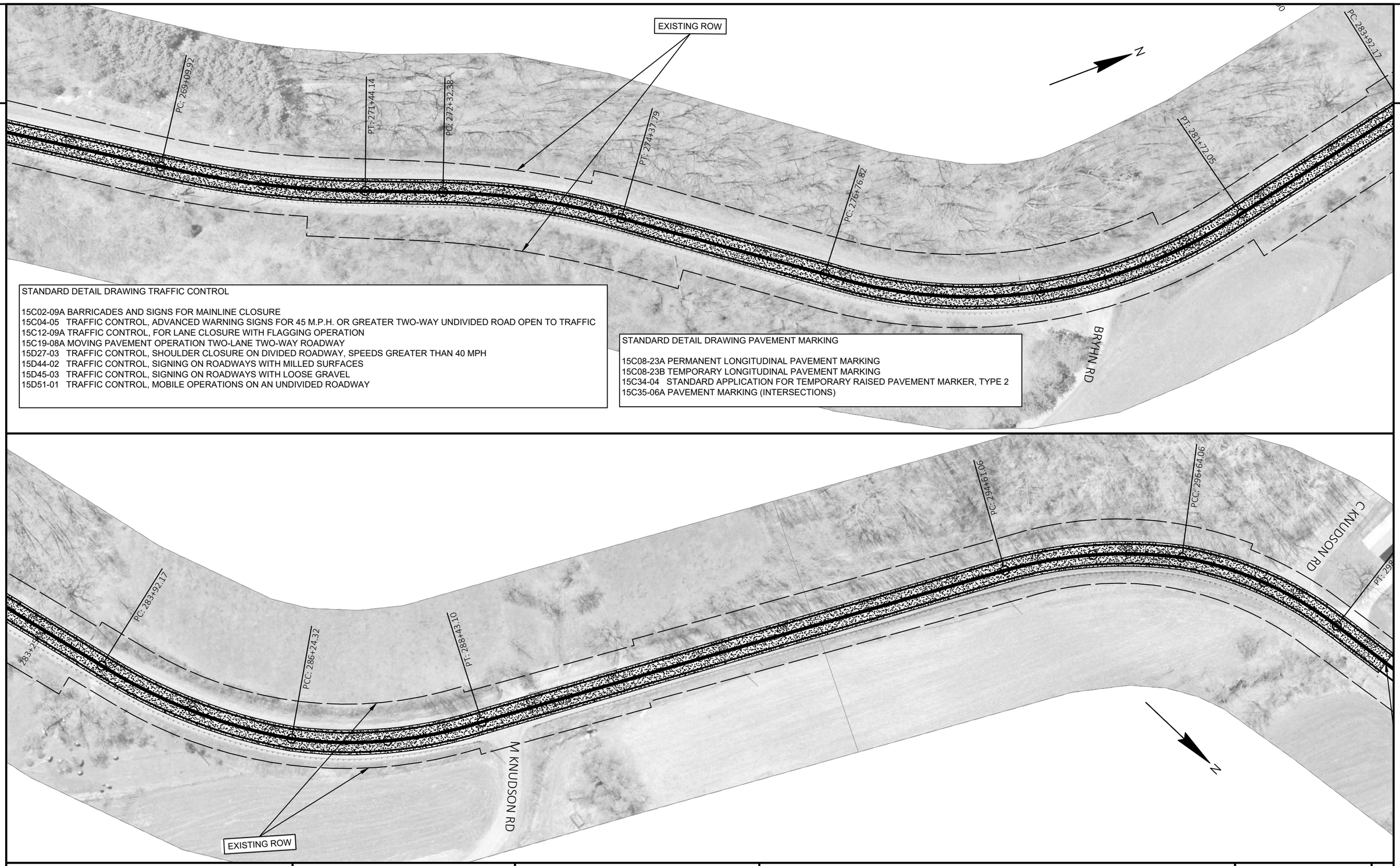
STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
15C08-23B TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 19	E



STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
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STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
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15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 20	E

STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
15C08-23B TEMPORARY LONGITUDINAL PAVEMENT MARKING
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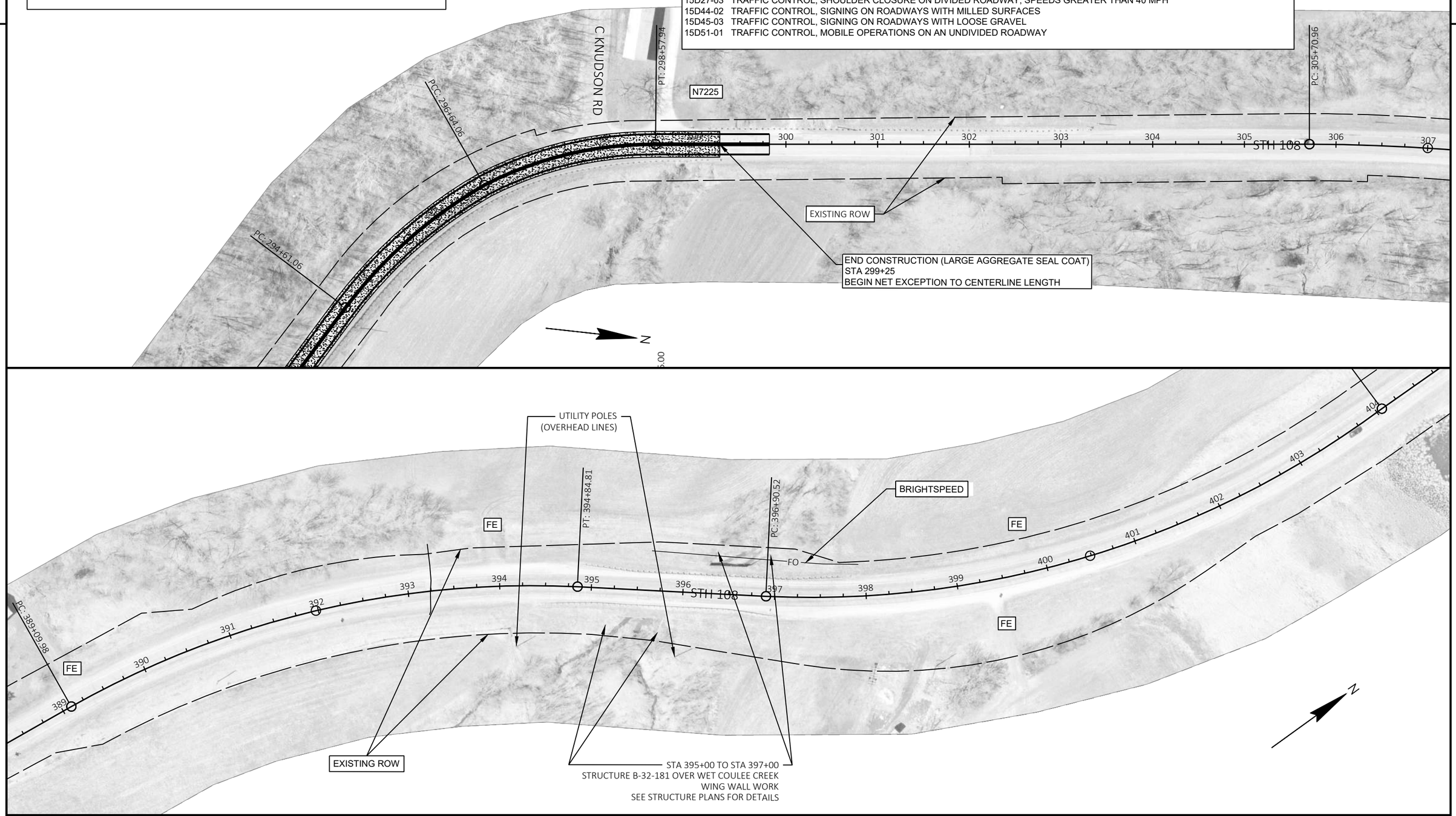
15D45-03 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D51-01 TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 21	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 020210-pd
PLOT DATE : 10/16/2023 3:38 PM
PLOT BY : PETERSON, SHANE J
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
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STANDARD DETAIL DRAWING PAVEMENT MARKING

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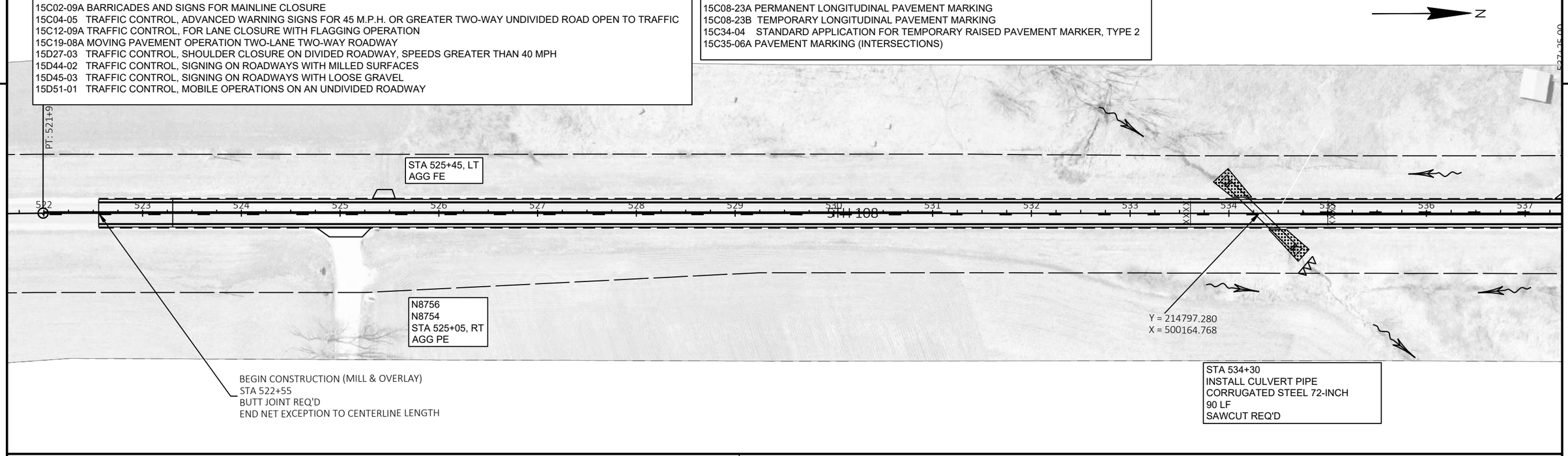
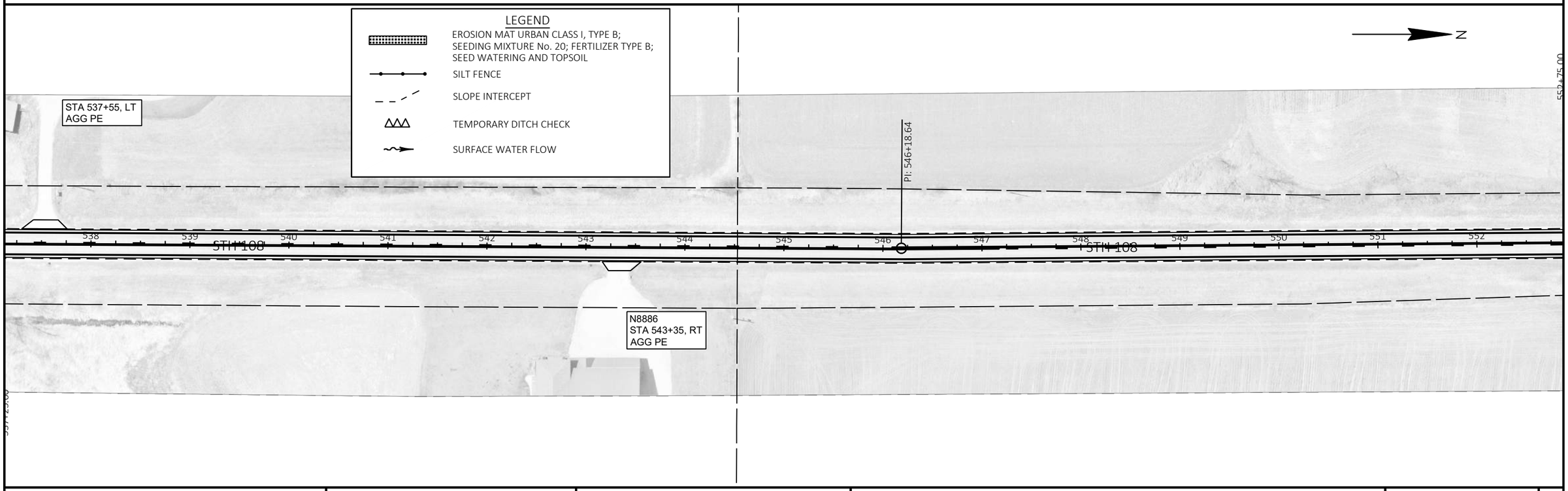
15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)



LEGEND

- EROSION MAT URBAN CLASS I, TYPE B; SEEDING MIXTURE No. 20; FERTILIZER TYPE B; SEED WATERING AND TOPSOIL
- SILT FENCE
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 22	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 020211-pd
PLOT DATE : 10/16/2023 3:38 PM
PLOT BY : PETERSON, SHANE J
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2

STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS FOR 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C12-09A TRAFFIC CONTROL, FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-08A MOVING PAVEMENT OPERATION TWO-LANE TWO-WAY ROADWAY
15D27-03 TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D44-02 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D51-01 TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
15C08-23B TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)

STA 565+25 TO STA 567+50
REMOVE EXISTING GUARDRAIL
INSTALL MGS GUARDRAIL

N

PI: 565+38.15

553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568

STH 108

STA 564+37, RT
AGG FE

STA 567+13, RT
AGG FE

LEGEND

- EROSION MAT URBAN CLASS I, TYPE B; SEEDING MIXTURE No. 20; FERTILIZER TYPE B; SEED WATERING AND TOPSOIL
- SILT FENCE
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW

N

N9113
STA 572+53, LT
AGG PE

N9133
STA 575+26, LT
AGG PE

PI: 576+29.78

CTH A

FO

569 570 571 572 573 574 575 576 577 578 579 580 581 582 583

STH 108

OH

CTH A

STA 574+73, RT
AGG PE

STA 567+50 TO STA 572+00, 24 FT RIGHT
REMOVE EXISTING PIPE UNDER CTH A AND INLET ON NORTH SIDE OF CTH A
INSTALL INLET AND 24" CULVERT PIPE UNDERNEATH CTH A AND EXTEND APPROXIMATELY 100' ALONG THE COBBLE STONE DRAINAGE DITCH UNTIL PIPE DAYLIGHTS FROM COBBLE STONE DITCH.
COBBLE STONE DITCH TO REMAIN IN PLACE, EXISTING MATERIAL INSIDE THE DITCH TO BE EXCAVATED AND NEW FILL TO BE ADDED FOR CULVERT PIPE BASE. DITCH TO BE FILLED IN AND TOPSOILED ABOVE THE CULVERT PIPE.
NO EXCAVATION BEYOND THE COBBLE STONE DITCH

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 23	E

STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS FOR 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C12-09A TRAFFIC CONTROL, FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-08A MOVING PAVEMENT OPERATION TWO-LANE TWO-WAY ROADWAY
15D27-03 TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D44-02 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D51-01 TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

STA 587+58, LT
AGG FE

STA 584+00, RT
AGG FE

STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
15C08-23B TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)

583+75.00

END CONSTRUCTION ALONG CTH C
STA 595+91'C'
BUTT JOINT REQ'D

CTH C

PI: 597+22.95

EP: 597C+22.95
BURR OAK CT

599+25.00

PC: 600+12.51

PT: 608+75.44

DAVIS CREEK RD

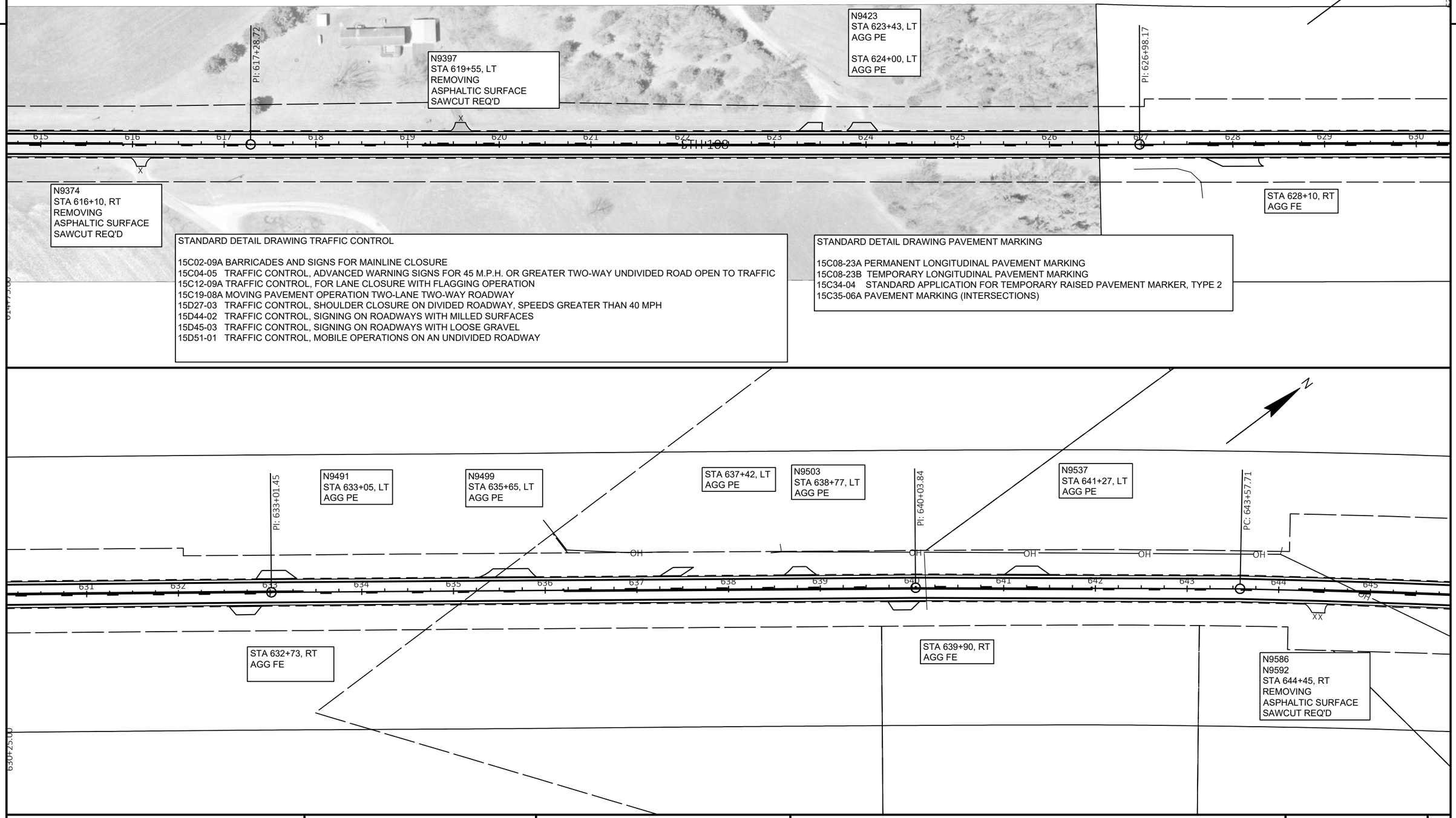
DAVIS CREEK RD

STH 108

2

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 24	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 020213-pd
PLOT DATE : 10/16/2023 3:39 PM
PLOT BY : PETERSON, SHANE J
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS FOR 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C12-09A TRAFFIC CONTROL, FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-08A MOVING PAVEMENT OPERATION TWO-LANE TWO-WAY ROADWAY
15D27-03 TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D44-02 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D51-01 TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
15C08-23B TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 25	E

STANDARD DETAIL DRAWING TRAFFIC CONTROL

15C02-09A BARRICADES AND SIGNS FOR MAINLINE CLOSURE
15C04-05 TRAFFIC CONTROL, ADVANCED WARNING SIGNS FOR 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C12-09A TRAFFIC CONTROL, FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-08A MOVING PAVEMENT OPERATION TWO-LANE TWO-WAY ROADWAY
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15D44-02 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03 TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D51-01 TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

N9621
STA 653+28, LT
AGG PE

N9643
STA 656+37, LT
REMOVING
ASPHALTIC SURFACE
SAWCUT REQ'D

PT: 657+64.23

N9655
STA 659+65, LT
AGG PE

EXISTING GUARDRAIL AND CURB AND GUTTER TO REMAIN
STA 648+12 TO STA 652+12

MILL 3.5-INCHES
TRANSITION ACCORDING TO BUTT JOINT DETAIL

N9640
STA 656+05, RT
AGG PE

KRAUSE RD

STANDARD DETAIL DRAWING PAVEMENT MARKING

15C08-23A PERMANENT LONGITUDINAL PAVEMENT MARKING
15C08-23B TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C34-04 STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A PAVEMENT MARKING (INTERSECTIONS)

645+75.00

N9655
STA 659+65, LT
AGG PE

N9699
STA 666+94, LT
AGG PE

ARNOLD RD

EP: 671+73.73

STH 108

N9674
STA 663+25, RT
REMOVING
ASPHALTIC SURFACE
SAWCUT REQ'D

N9686
STA 665+15, RT
REMOVING
ASPHALTIC SURFACE
SAWCUT REQ'D

N9698
STA 667+67, RT
AGG PE

YOUNG RD

N9710
MILLER MILE

KRAUSE RD

661+25.00

END OF PROJECT
STA 670+40
BUTT JOINT REQ'D
LA CROSSE / JACKSON COUNTY LINE

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 26	E

2

SEPTIC
SEPV
SEPV

BRIGHTSPEED (COMMUNICATIONS LINE)

CTH A

10 STA 570+19, 21.6' RT
3 DEG BEND - CONCRETE COLLAR FOR PIPE

XCEL ENERGY (OVERHEAD ELECTRIC)

STA 569+25, 21.26' RT
MITER END OF PIPE TO 4:1 SLOPE

3 STA 570+54, 23.3' RT
MANHOLES 4-J

567+00 568+00 569+00 570+00 571+00 572+00

STH 108

4 STA 571+21, 27.7' RT
INLETS MEDIAN 1G-MS

W

GUY

OH

CLEAN COBBLESTONE DRAINAGE DITCH (INCIDENTAL TO STORM SEWER)
INSTALL STORM SEWER INSIDE EXISTING COBBLESTONE DRAINAGE DITCH AND BACKFILL.
PLACE MINIMUM 4" OF TOPSOIL, SEEDING, FERTILIZER AND EROSION CONTROL MAT.
NO EXCAVATION BEYOND COBBLESTONE DRAINAGE DITCH.

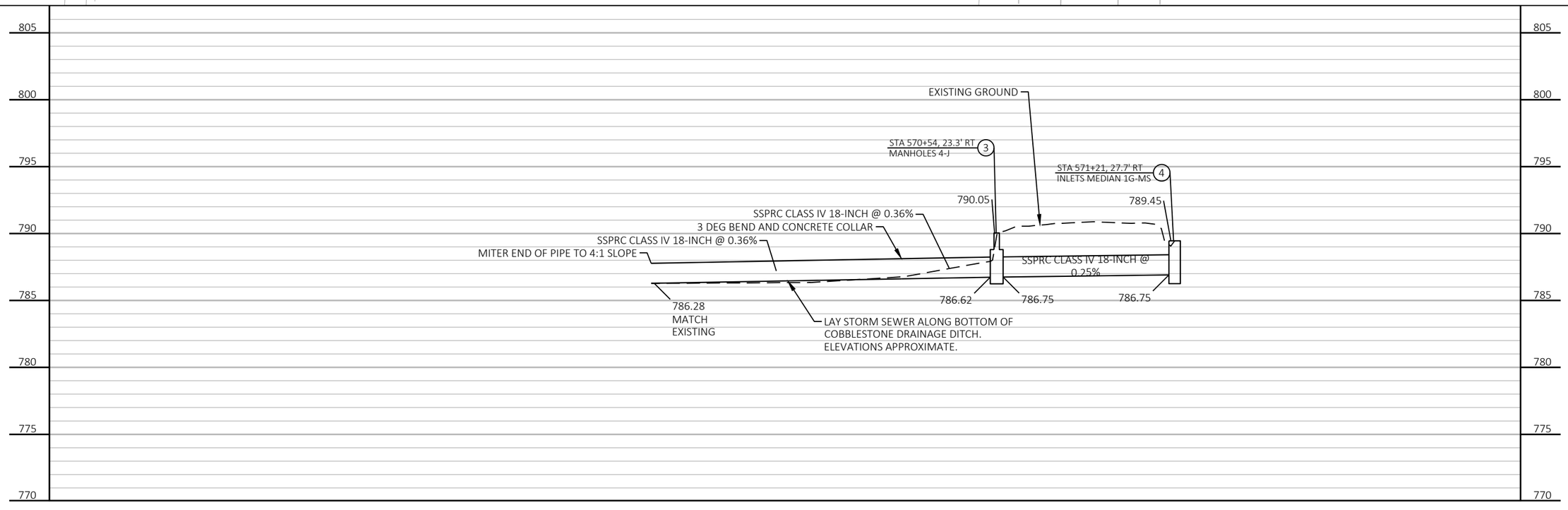
XCEL ENERGY (OVERHEAD ELECTRIC)

1 EA REMOVING SMALL PIPE CULVERTS (18" CMP)
REMOVAL OF MASONRY ENDWALL INCIDENTAL TO PIPE CULVERT REMOVAL

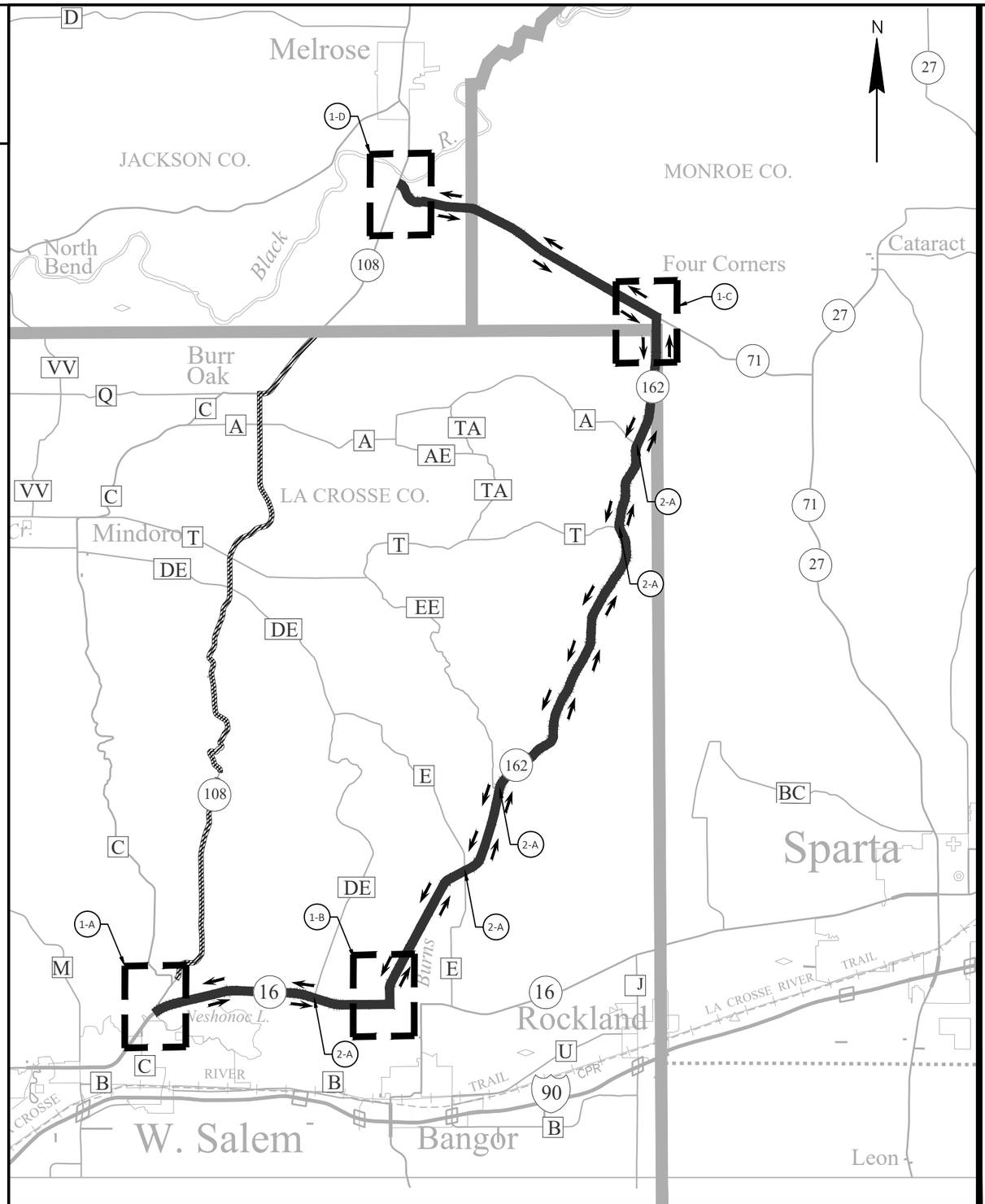
CEMETERY
DO NOT USE SITE FOR BORROW OR WASTE DISPOSAL. DO NOT USE THE SITE AREA FOR STAGING OF PERSONNEL, EQUIPMENT AND/OR SUPPLIES

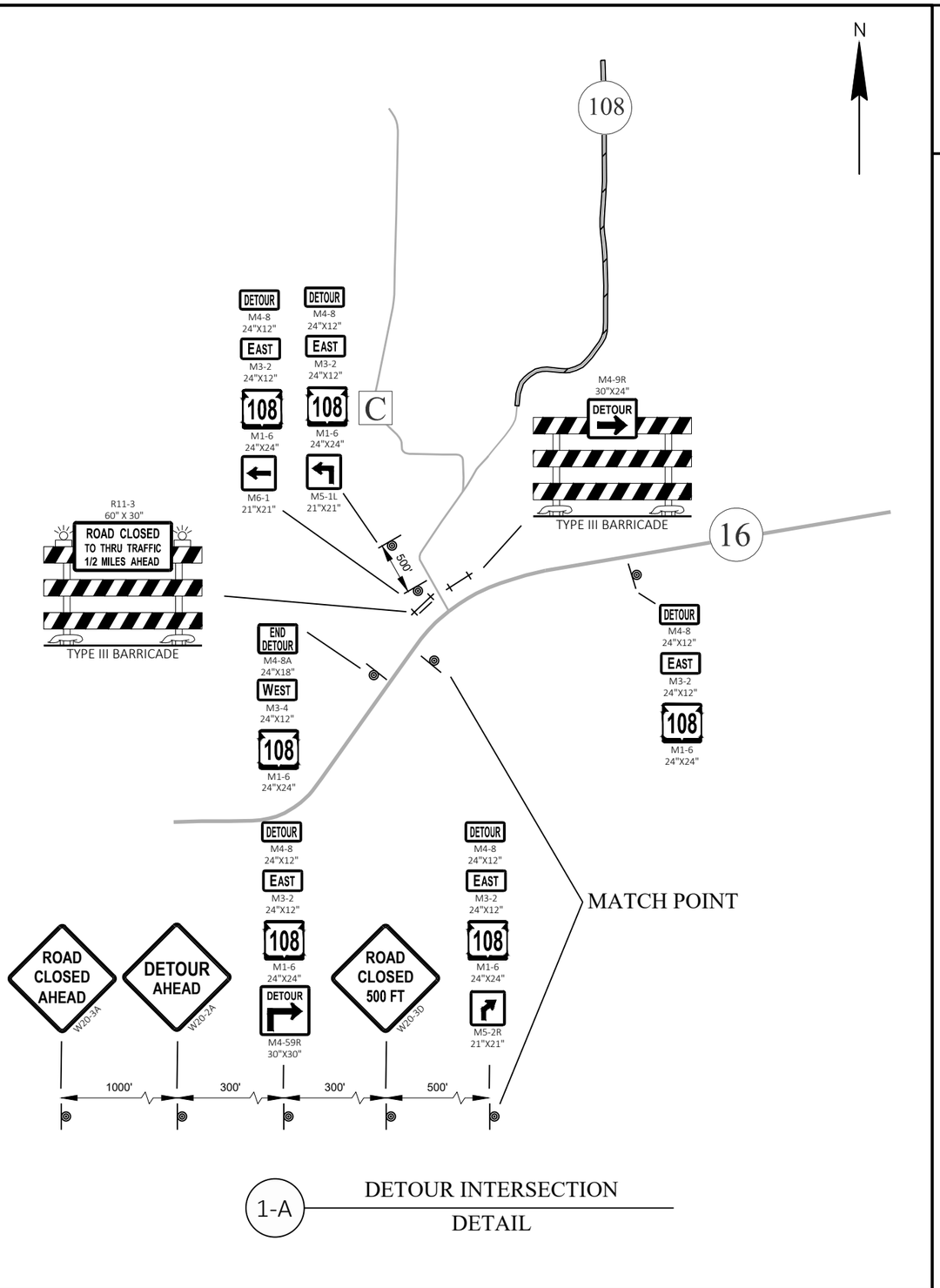
EROSION CONTROL LEGEND

INLET PROTECTION



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	STORM SEWER	SHEET 27	E

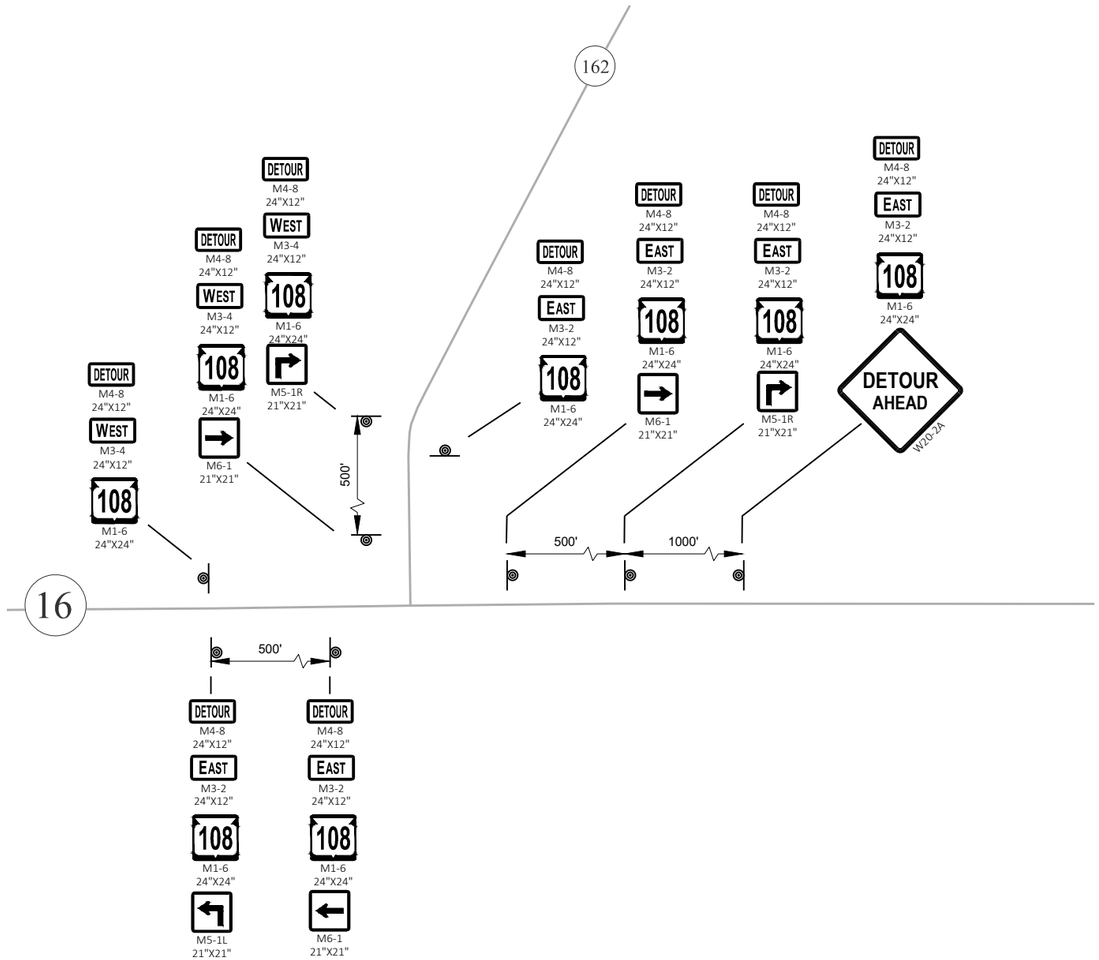




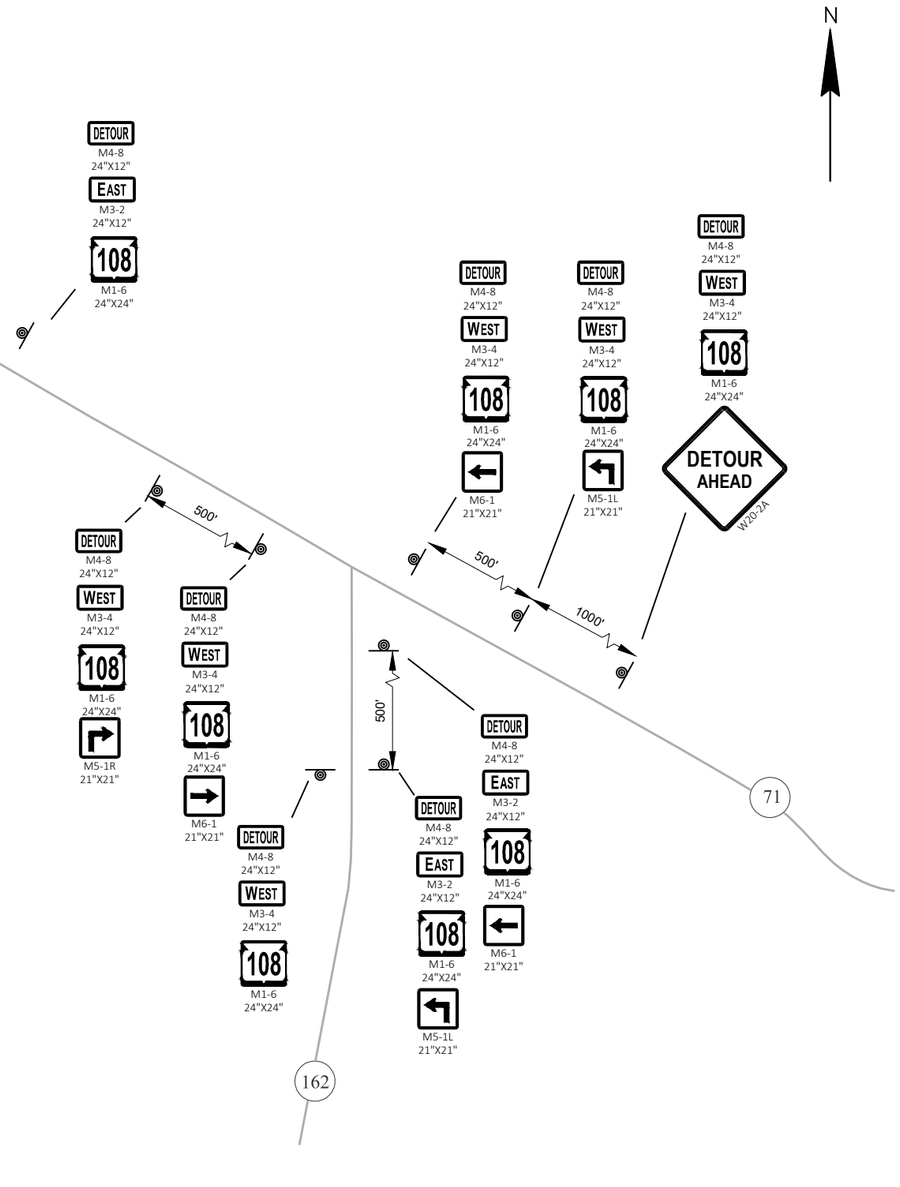
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	TRAFFIC CONTROL-STH 108 DETOUR OVERVIEW/DETAILS	SHEET 28	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\021010-CD.DWG
LAYOUT NAME - Overview and Detail A

PLOT DATE : 7/31/2023 2:20 PM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : 1"=2MI

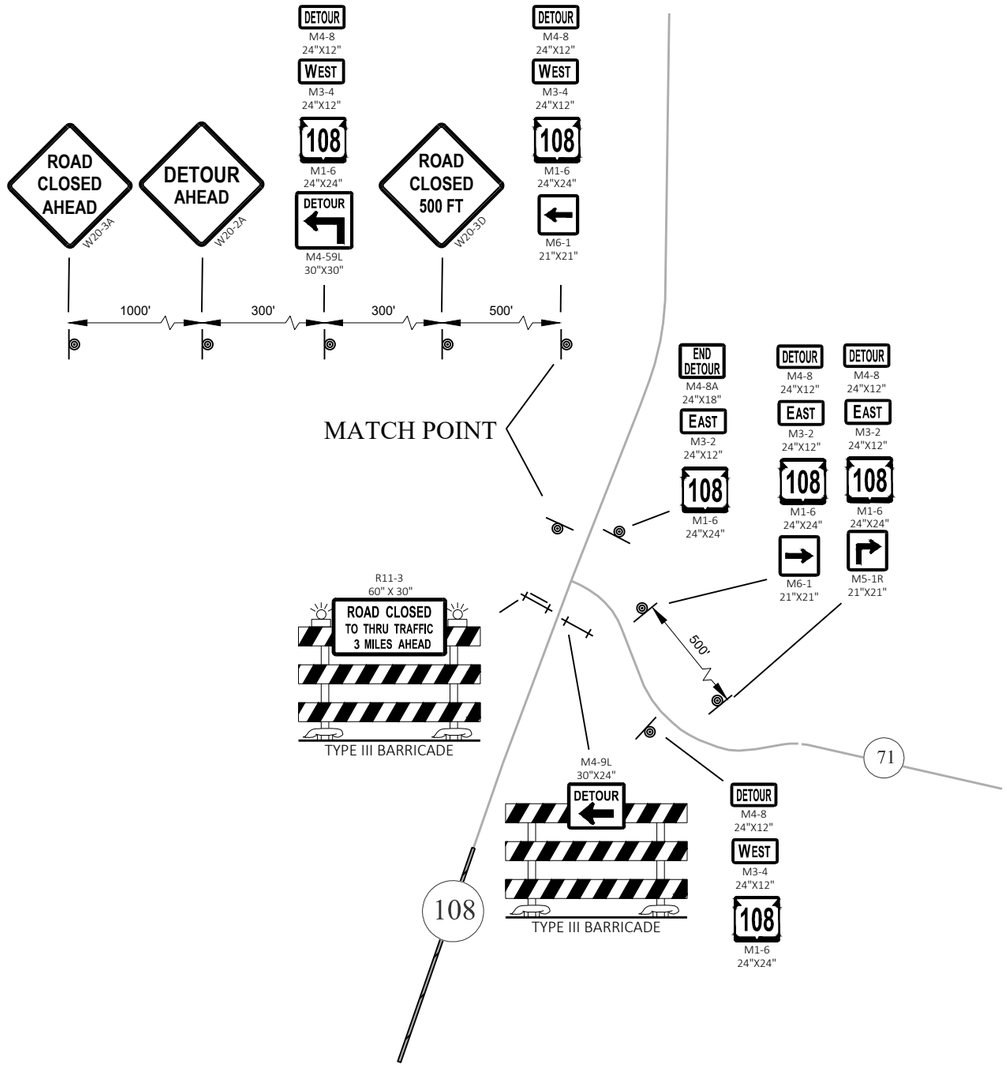


1-B DETOUR INTERSECTION DETAIL

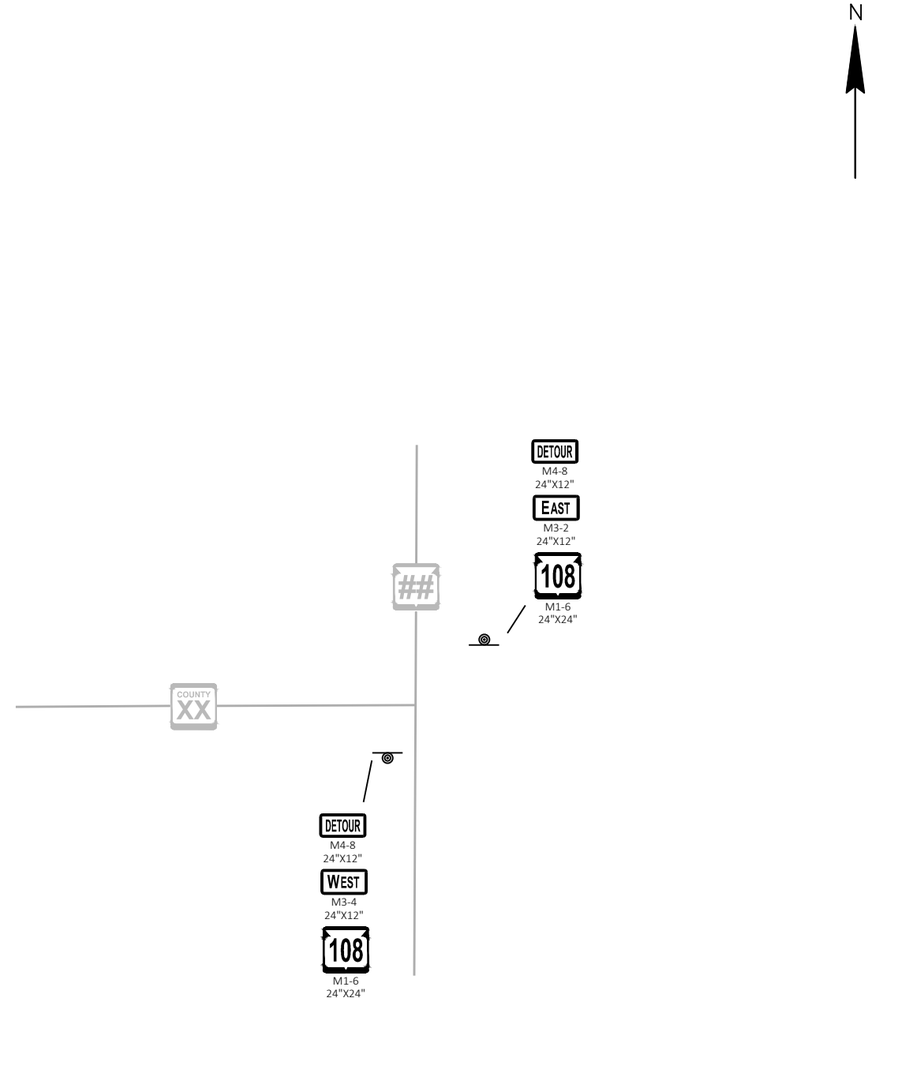


1-C DETOUR INTERSECTION DETAIL

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	TRAFFIC CONTROL-STH 108 DETOUR DETAILS	SHEET 29	E

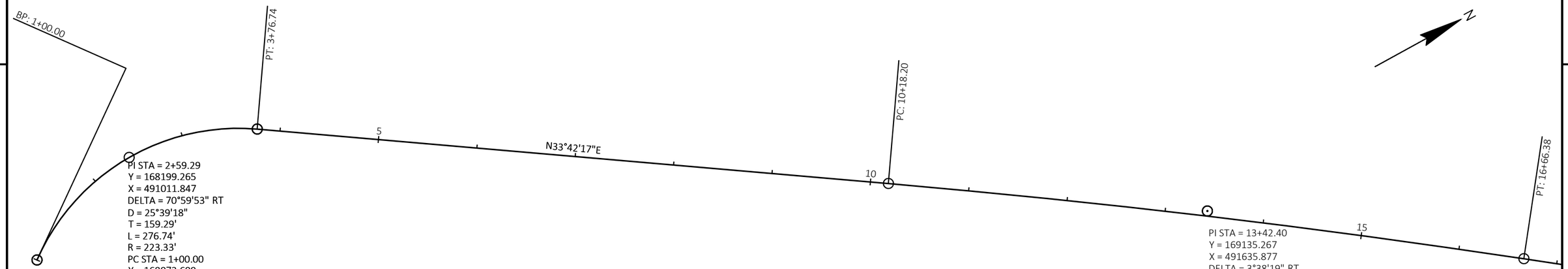


1-D DETOUR INTERSECTION DETAIL



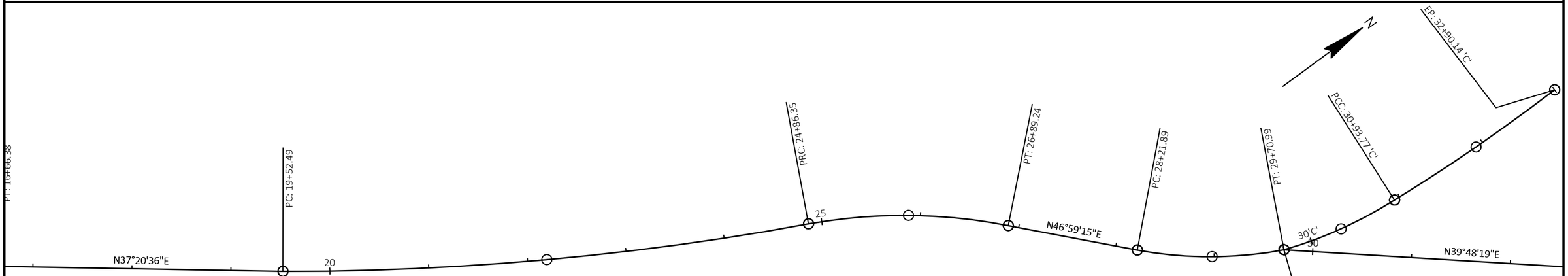
2-A DETOUR INTERSECTION DETAIL

2



PI STA = 2+59.29
Y = 168199.265
X = 491011.847
DELTA = 70°59'53" RT
D = 25°39'18"
T = 159.29'
L = 276.74'
R = 223.33'
PC STA = 1+00.00
Y = 168072.699
X = 491108.572
PT STA = 3+76.74
Y = 168331.930
X = 491100.022
DB = N37°23'17"W
DA = N33°36'36"E

PI STA = 13+42.40
Y = 169135.267
X = 491635.877
DELTA = 3°38'19" RT
D = 0°33'41"
T = 324.20'
L = 648.18'
R = 10206.83'
PC STA = 10+18.20
Y = 168865.564
X = 491455.975
PT STA = 16+66.38
Y = 169393.009
X = 491832.532
DB = N33°42'17"E
DA = N37°20'36"E



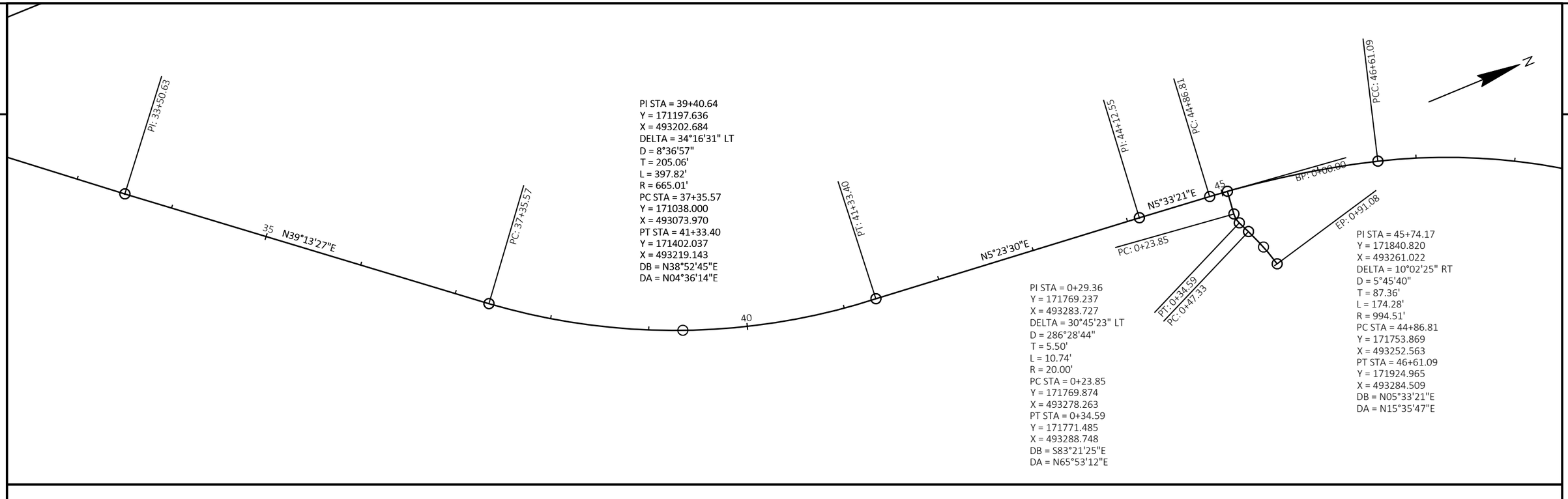
PI STA = 22+20.17
Y = 169835.878
X = 492164.995
DELTA = 10°30'01" LT
D = 1°58'01"
T = 267.68'
L = 533.86'
R = 2913.11'
PC STA = 19+52.49
Y = 169620.471
X = 492006.083
PT STA = 24+86.35
Y = 170076.639
X = 492281.991
DB = N36°25'02"E
DA = N25°55'01"E

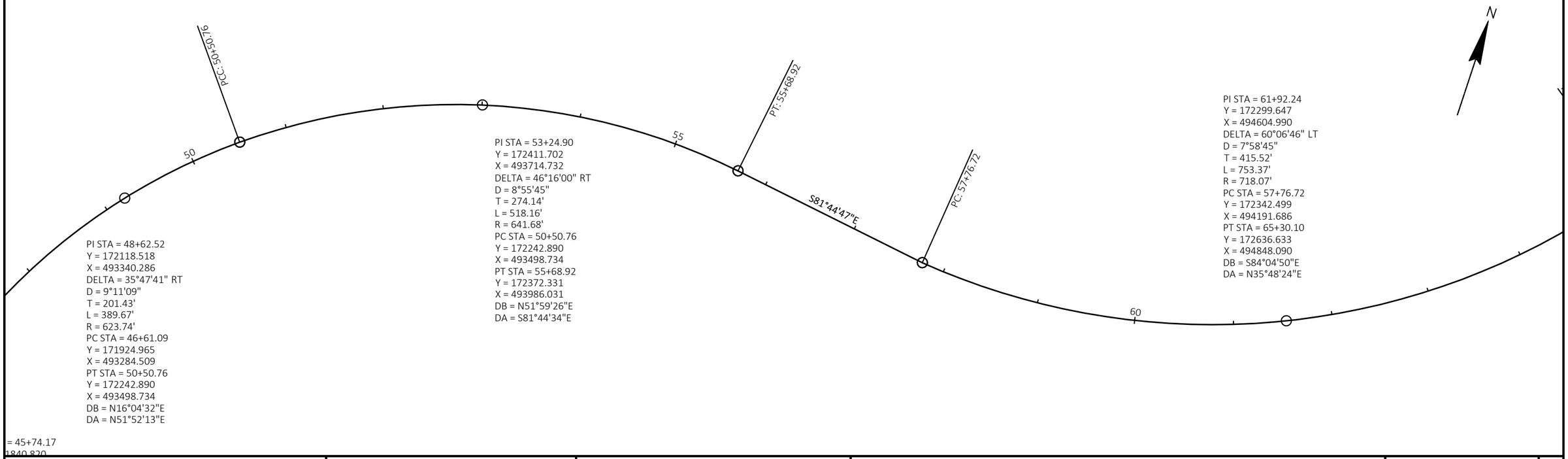
PI STA = 25+89.00
Y = 170168.833
X = 492327.132
DELTA = 21°29'38" RT
D = 10°35'38"
T = 102.65'
L = 202.89'
R = 540.84'
PC STA = 24+86.35
Y = 170076.639
X = 492281.991
PT STA = 26+89.24
Y = 170238.075
X = 492402.913
DB = N26°05'16"E
DA = N47°34'54"E

PI STA = 28+97.32
Y = 170380.084
X = 492554.997
DELTA = 21°23'02" LT
D = 14°20'34"
T = 75.42'
L = 149.09'
R = 399.48'
PC STA = 28+21.89
Y = 170328.566
X = 492499.910
PT STA = 29+70.99
Y = 170448.141
X = 492587.508
DB = N46°55'03"E
DA = N25°32'01"E

PI STA = 31'C'+92.04
Y = 170665.702
X = 492621.371
DELTA = 5°50'48" LT
D = 2°58'39"
T = 98.27'
L = 196.36'
R = 1924.33'
PC STA = 30'C'+93.77
Y = 170567.775
X = 492613.204
PT STA = 32'C'+90.14
Y = 170763.951
X = 492619.521
DB = N04°46'04"E
DA = N01°04'44"W

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 31	E

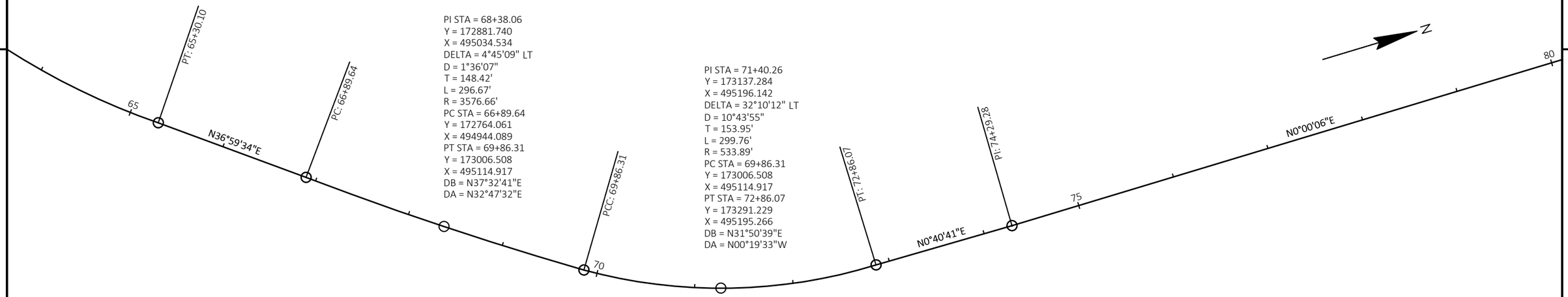


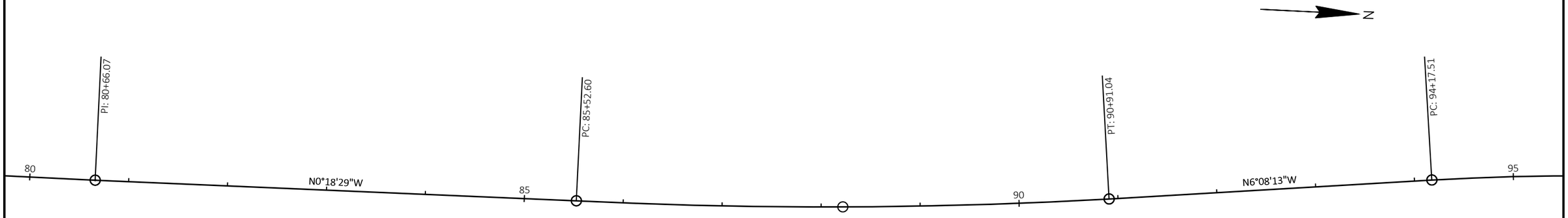


= 45+74.17
1840.820

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 32	E

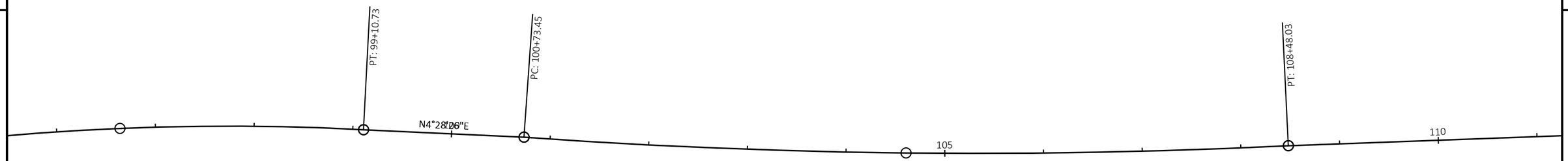
2





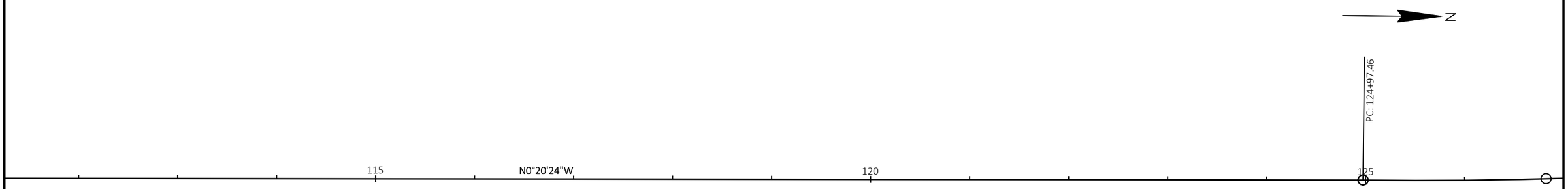
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 33	E

2



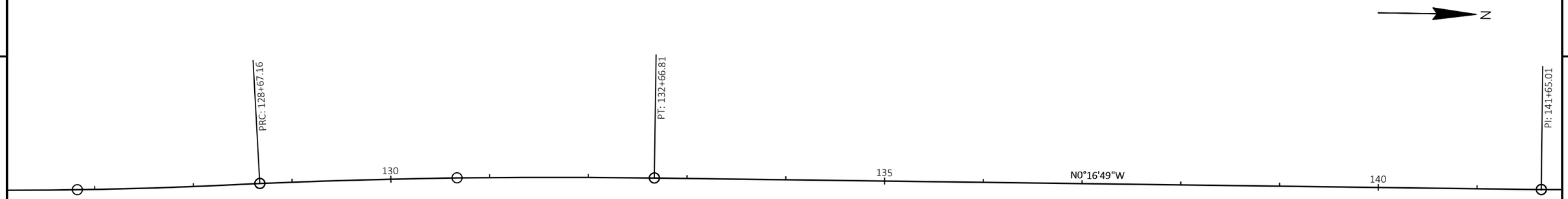
PI STA = 96+64.87
Y = 175665.780
X = 495105.411
DELTA = 10°56'47" RT
D = 2°13'10"
T = 247.37'
L = 493.23'
R = 2581.69'
PC STA = 94+17.51
Y = 175419.819
X = 495131.748
PT STA = 99+10.73
Y = 175912.266
X = 495126.257
DB = N06°06'43"W
DA = N04°50'04"E

PI STA = 104+61.20
Y = 176460.217
X = 495178.477
DELTA = 6°50'50" LT
D = 0°53'02"
T = 387.76'
L = 774.59'
R = 6481.62'
PC STA = 100+73.45
Y = 176074.481
X = 495138.949
PT STA = 108+48.03
Y = 176847.913
X = 495171.734
DB = N05°51'03"E
DA = N00°59'47"W



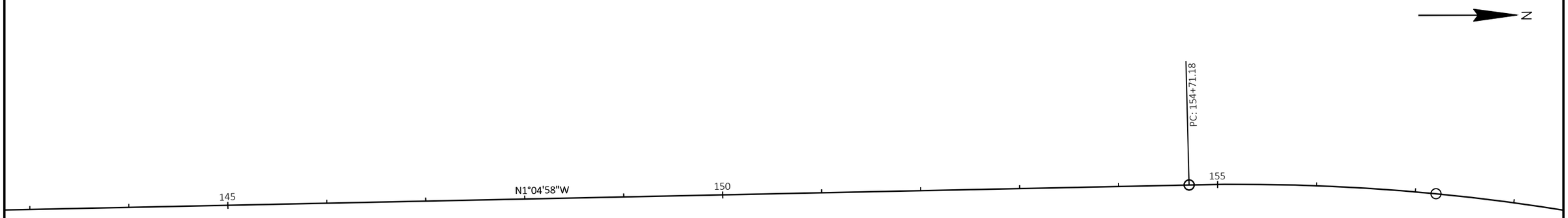
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 34	E

2



PI STA = 126+82.40
Y = 178682.247
X = 495162.850
DELTA = 4°22'01" LT
D = 1°10'52"
T = 184.94'
L = 369.71'
R = 4850.53'
PC STA = 124+97.46
Y = 178497.307
X = 495161.944
PT STA = 128+67.16
Y = 178866.720
X = 495149.671
DB = N00°16'51"E
DA = N04°05'11"W

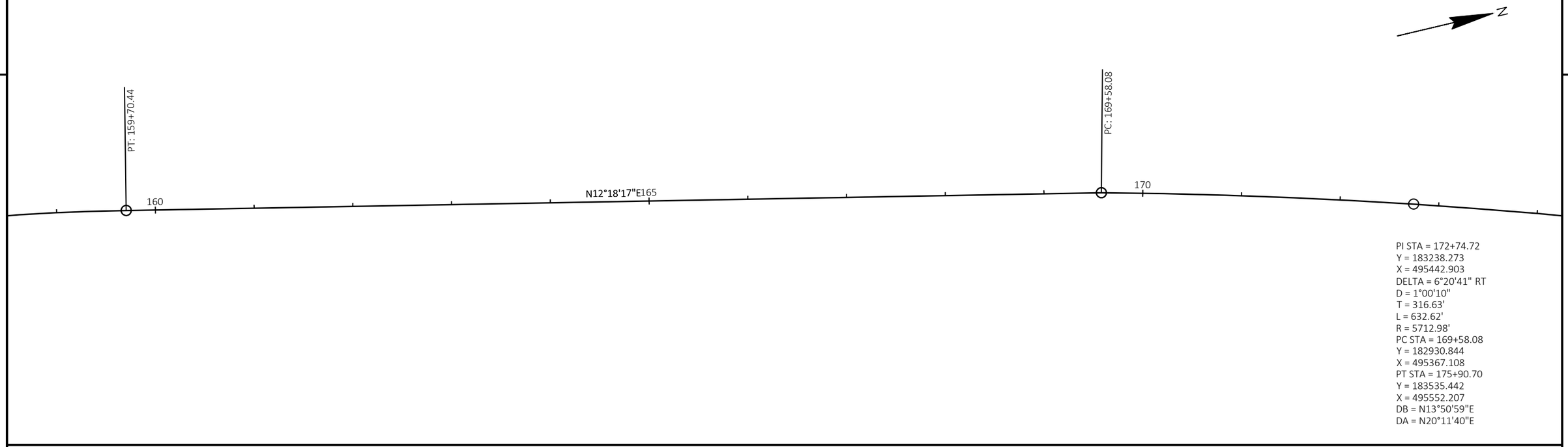
PI STA = 130+67.04
Y = 179066.236
X = 495137.677
DELTA = 3°15'12" RT
D = 0°48'51"
T = 199.88'
L = 399.65'
R = 7038.12'
PC STA = 128+67.16
Y = 178866.720
X = 495149.671
PT STA = 132+66.81
Y = 179266.111
X = 495137.025
DB = N03°26'25"W
DA = N00°11'13"W

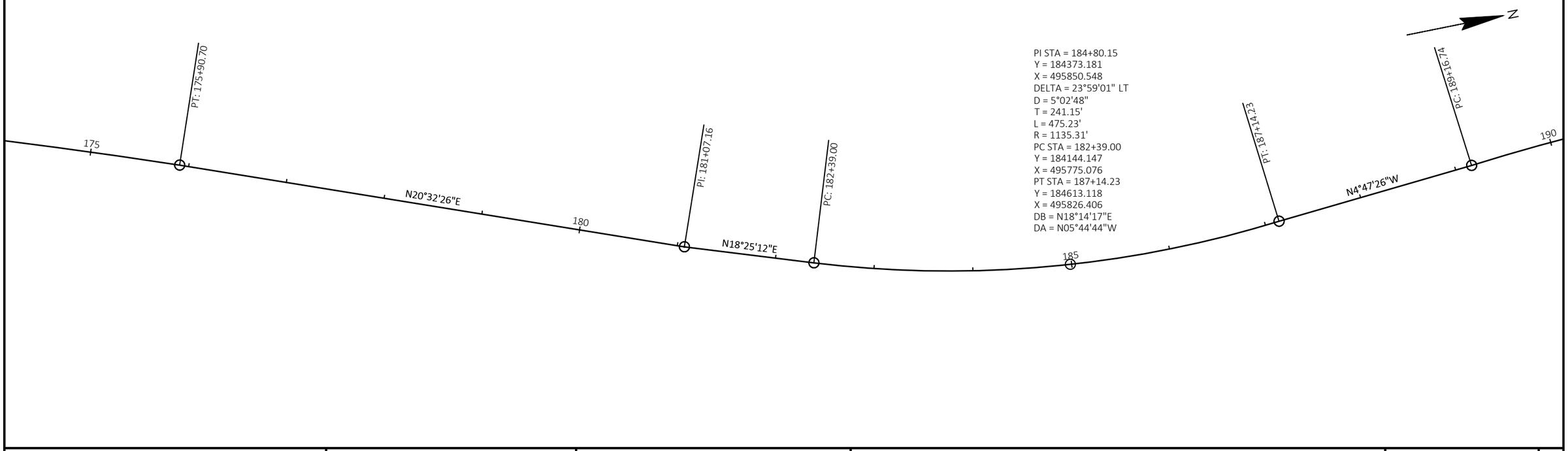


PI STA = 157+22.04
Y = 181721.036
X = 495102.067
DELTA = 13°54'21" RT
D = 2°47'07"
T = 250.86'
L = 499.26'
R = 2057.07'
PC STA = 154+71.18
Y = 181470.243
X = 495107.949
PT STA = 159+70.44
Y = 181965.891
X = 495156.630
DB = N01°20'37"W
DA = N12°33'45"E

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 35	E

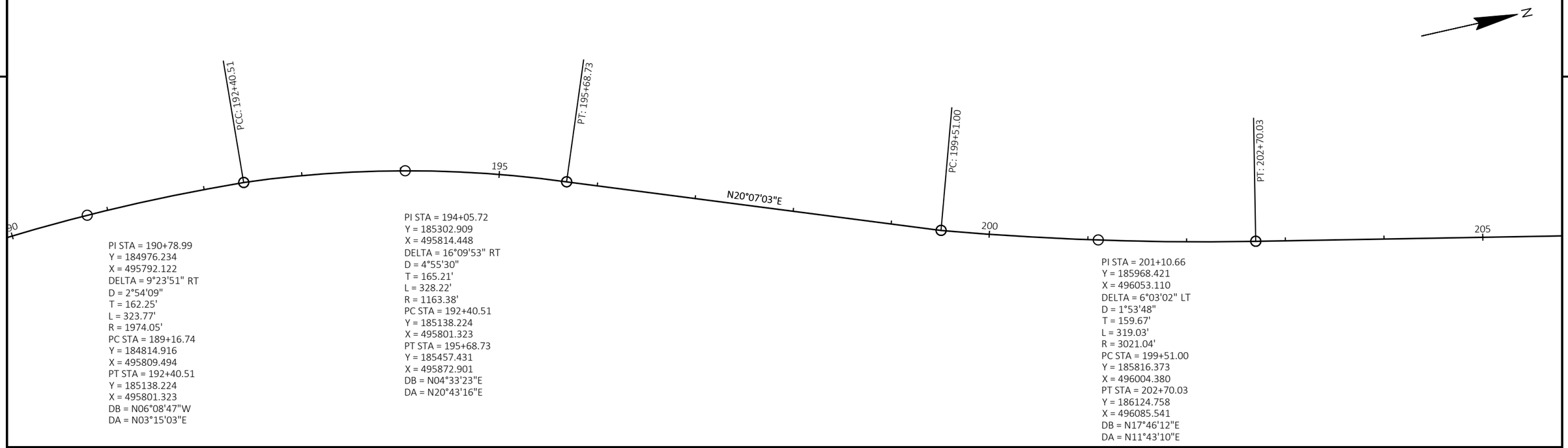
2





PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 36	E

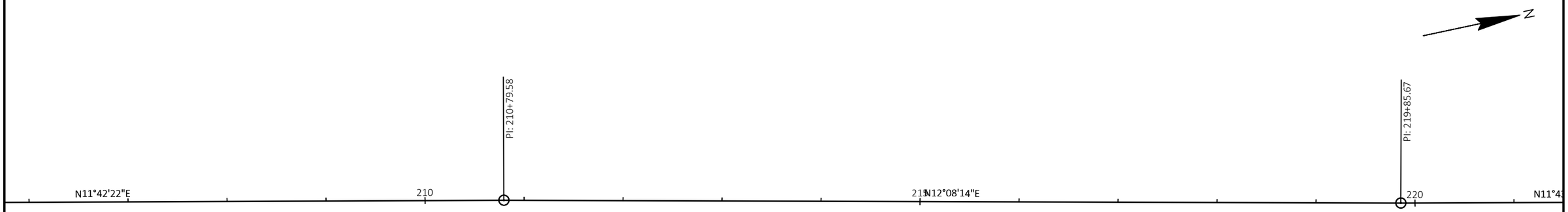
2



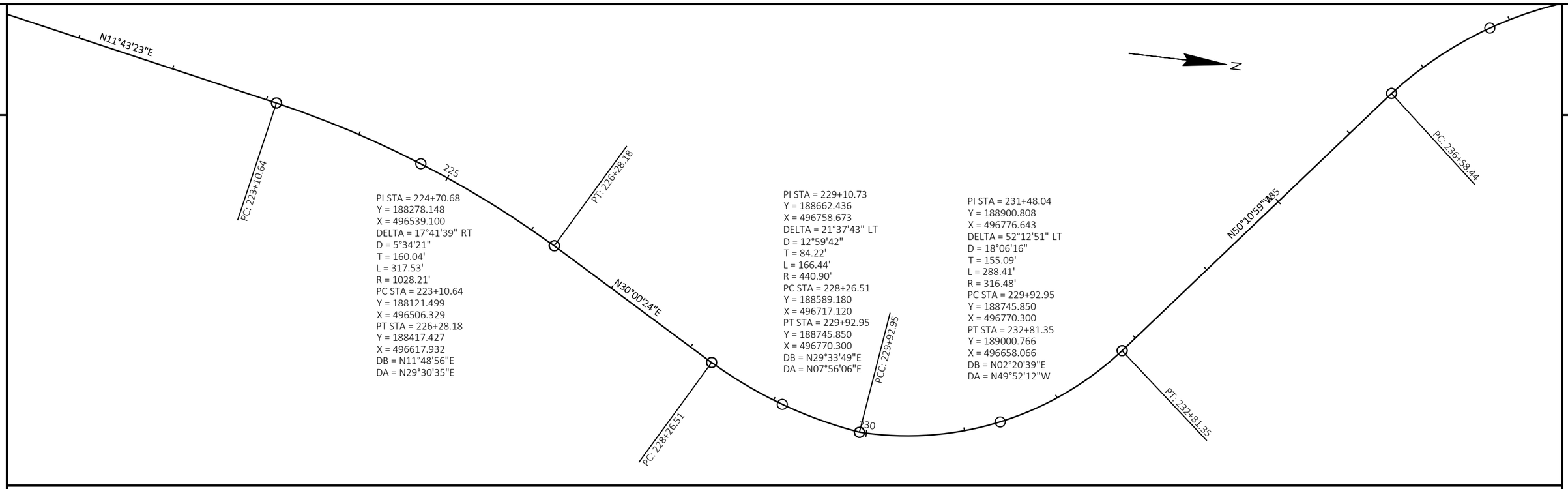
PI STA = 190+78.99
Y = 184976.234
X = 495792.122
DELTA = 9°23'51" RT
D = 2°54'09"
T = 162.25'
L = 323.77'
R = 1974.05'
PC STA = 189+16.74
Y = 184814.916
X = 495809.494
PT STA = 192+40.51
Y = 185138.224
X = 495801.323
DB = N06°08'47"W
DA = N03°15'03"E

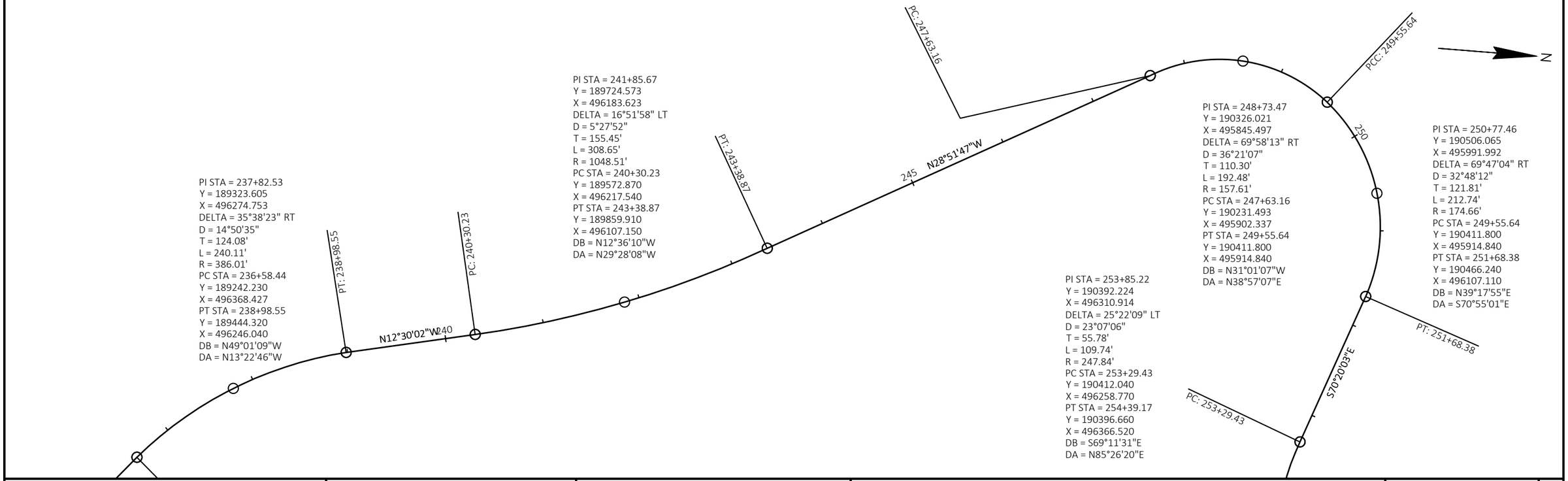
PI STA = 194+05.72
Y = 185302.909
X = 495814.448
DELTA = 16°09'53" RT
D = 4°55'30"
T = 165.21'
L = 328.22'
R = 1163.38'
PC STA = 192+40.51
Y = 185138.224
X = 495801.323
PT STA = 195+68.73
Y = 185457.431
X = 495872.901
DB = N04°33'23"E
DA = N20°43'16"E

PI STA = 201+10.66
Y = 185968.421
X = 496053.110
DELTA = 6°03'02" LT
D = 1°53'48"
T = 159.67'
L = 319.03'
R = 3021.04'
PC STA = 199+51.00
Y = 185816.373
X = 496004.380
PT STA = 202+70.03
Y = 186124.758
X = 496085.541
DB = N17°46'12"E
DA = N11°43'10"E

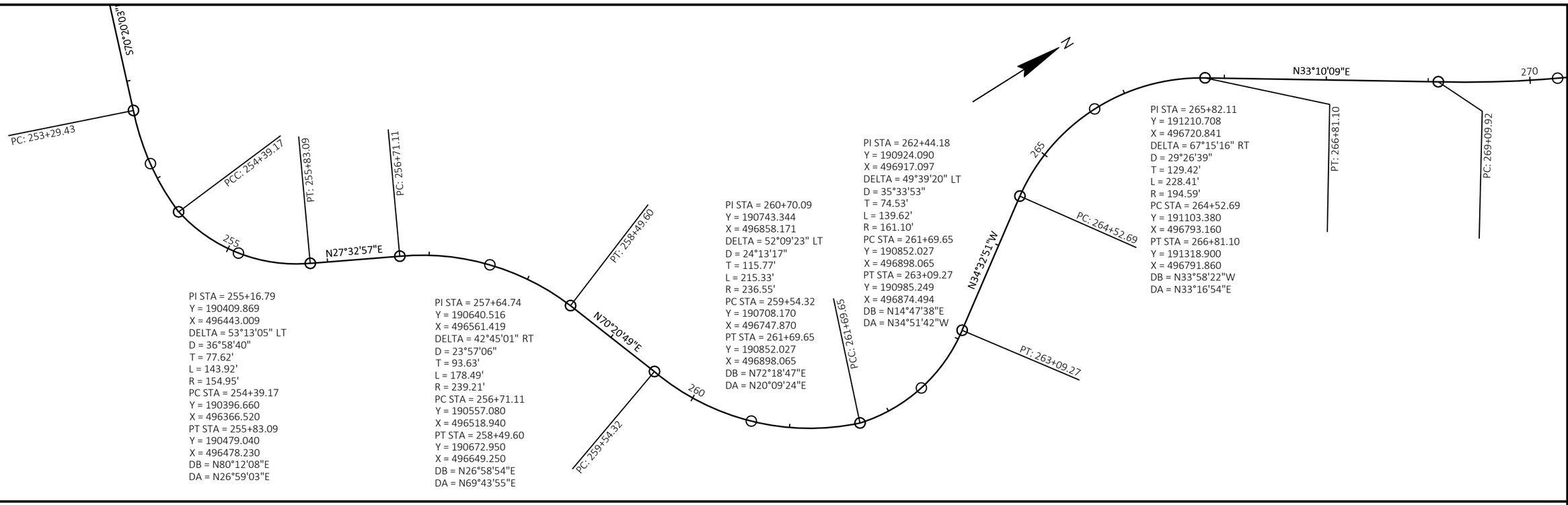


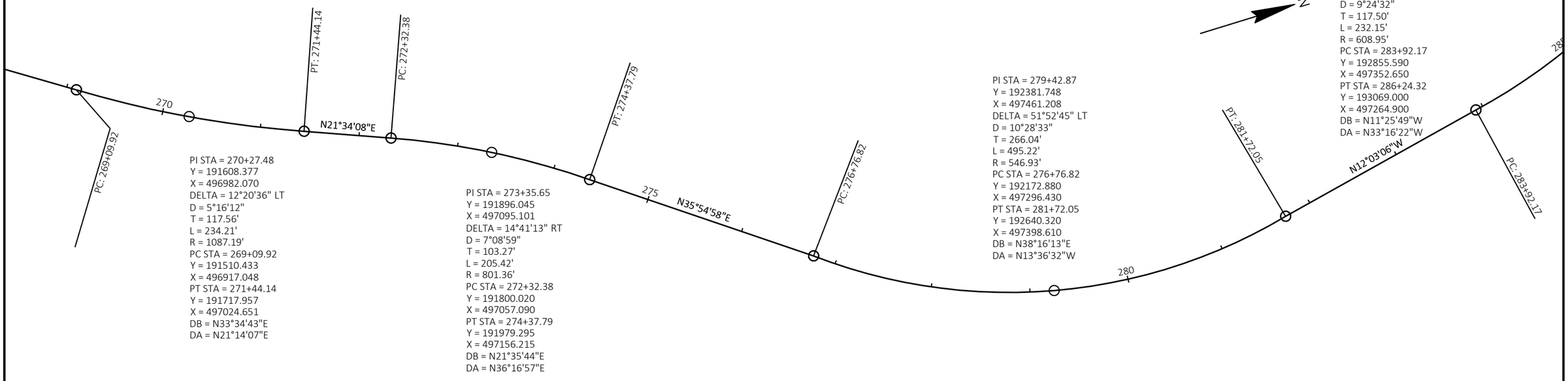
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 37	E



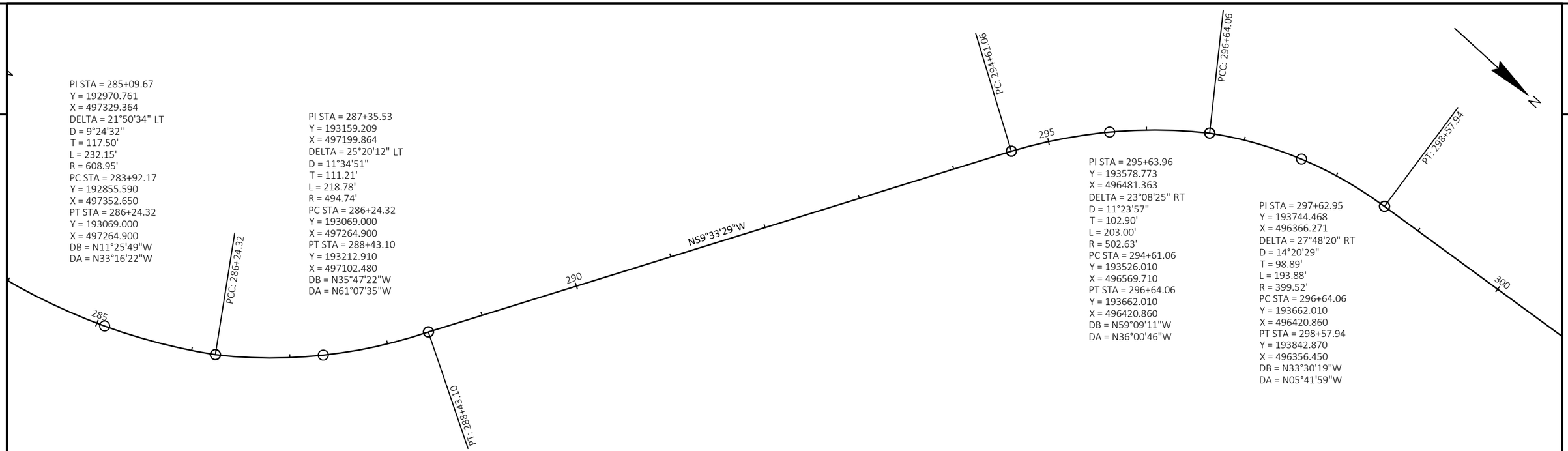


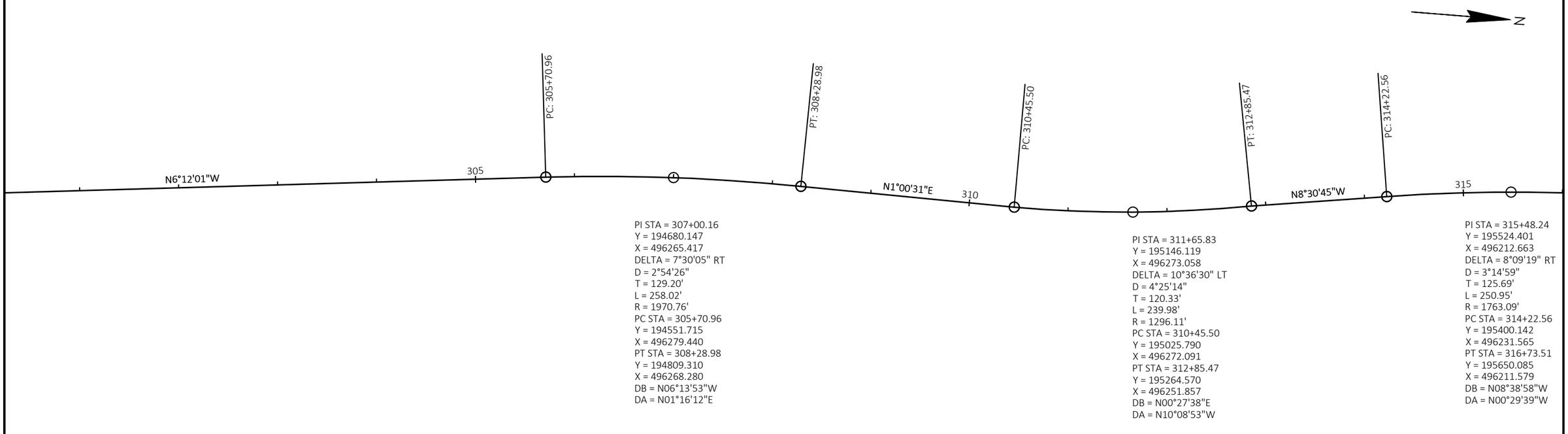
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 38	E





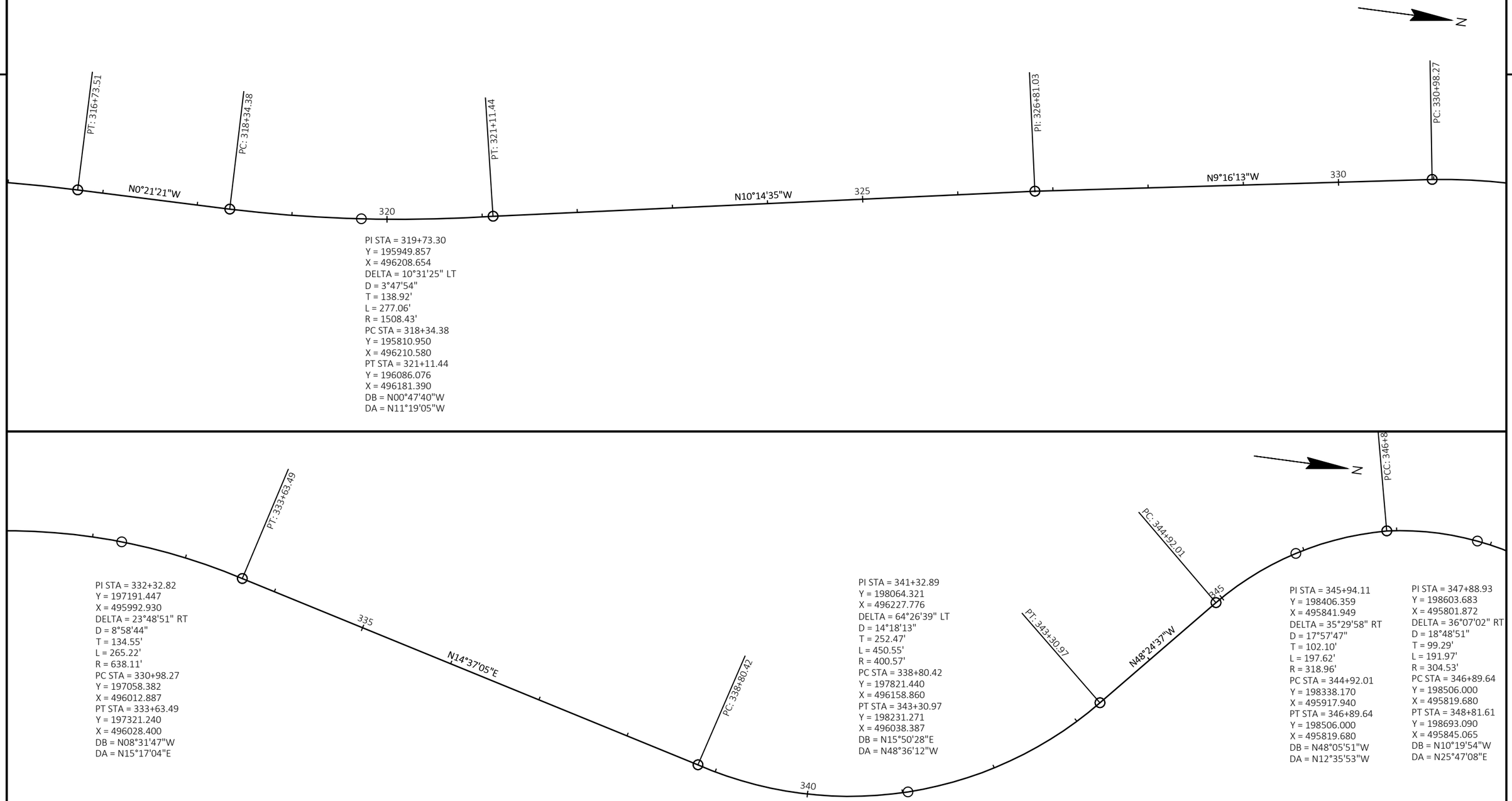
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 39	E



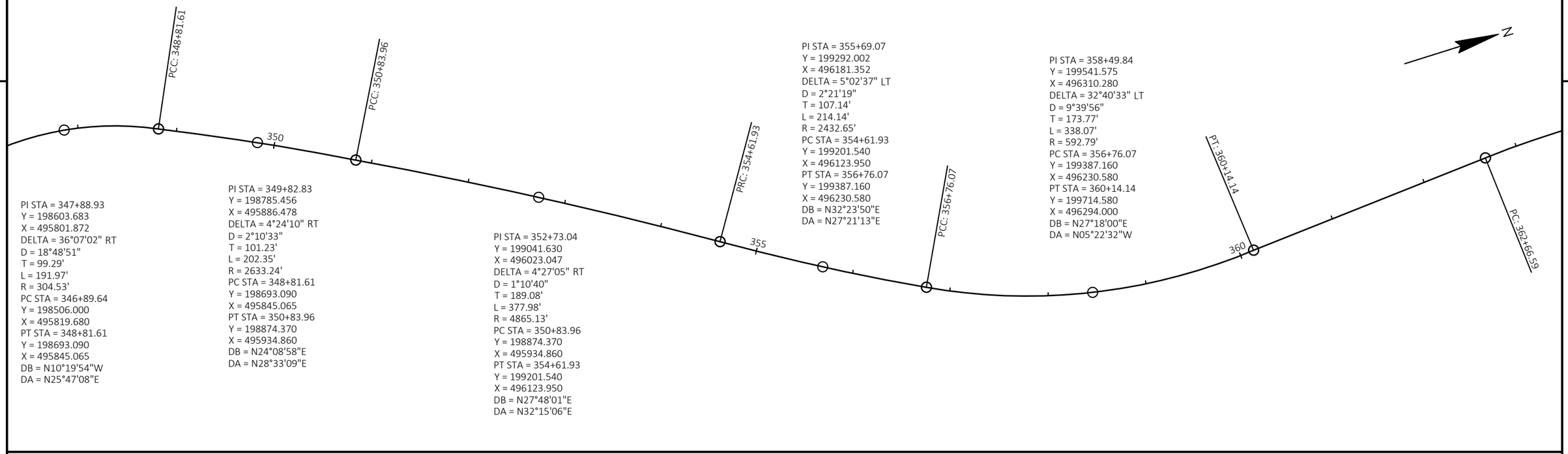


PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 40	E

2



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 41	E



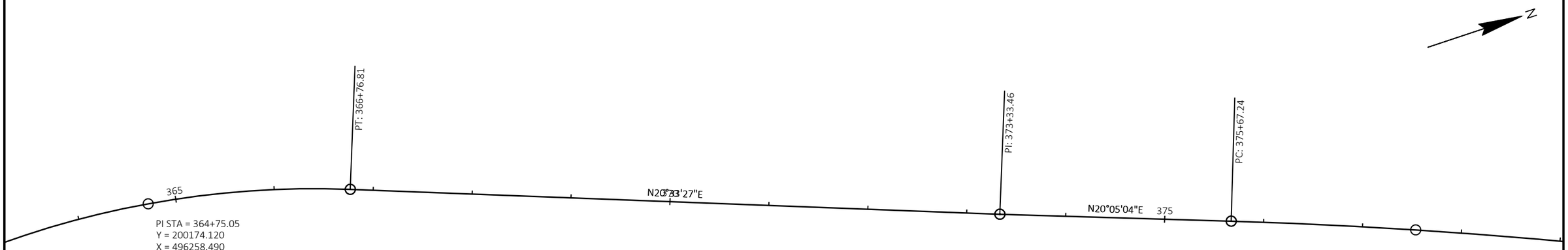
PI STA = 347+88.93
Y = 198603.683
X = 495801.872
DELTA = 36°07'02" RT
D = 18°48'51"
T = 99.29'
L = 191.97'
R = 304.53'
PC STA = 346+89.64
Y = 198506.000
X = 495819.680
PT STA = 348+81.61
Y = 198693.090
X = 495845.065
DB = N10°19'54"W
DA = N25°47'08"E

PI STA = 349+82.83
Y = 198785.456
X = 495886.478
DELTA = 4°24'10" RT
D = 2°10'33"
T = 101.23'
L = 202.35'
R = 2633.24'
PC STA = 348+81.61
Y = 198693.090
X = 495845.065
PT STA = 350+83.96
Y = 198874.370
X = 495934.860
DB = N24°08'58"E
DA = N28°33'09"E

PI STA = 352+73.04
Y = 199041.630
X = 496023.047
DELTA = 4°27'05" RT
D = 1°10'40"
T = 189.08'
L = 377.98'
R = 4865.13'
PC STA = 350+83.96
Y = 198874.370
X = 495934.860
PT STA = 354+61.93
Y = 199201.540
X = 496123.950
DB = N27°48'01"E
DA = N32°15'06"E

PI STA = 355+69.07
Y = 199292.002
X = 496181.352
DELTA = 5°02'37" LT
D = 2°21'19"
T = 107.14'
L = 214.14'
R = 2432.65'
PC STA = 354+61.93
Y = 199201.540
X = 496123.950
PT STA = 356+76.07
Y = 199387.160
X = 496230.580
DB = N32°23'50"E
DA = N27°21'13"E

PI STA = 358+49.84
Y = 199541.575
X = 496310.280
DELTA = 32°40'33" LT
D = 9°39'56"
T = 173.77'
L = 338.07'
R = 592.79'
PC STA = 356+76.07
Y = 199387.160
X = 496230.580
PT STA = 360+14.14
Y = 199714.580
X = 496294.000
DB = N27°18'00"E
DA = N05°22'32"W

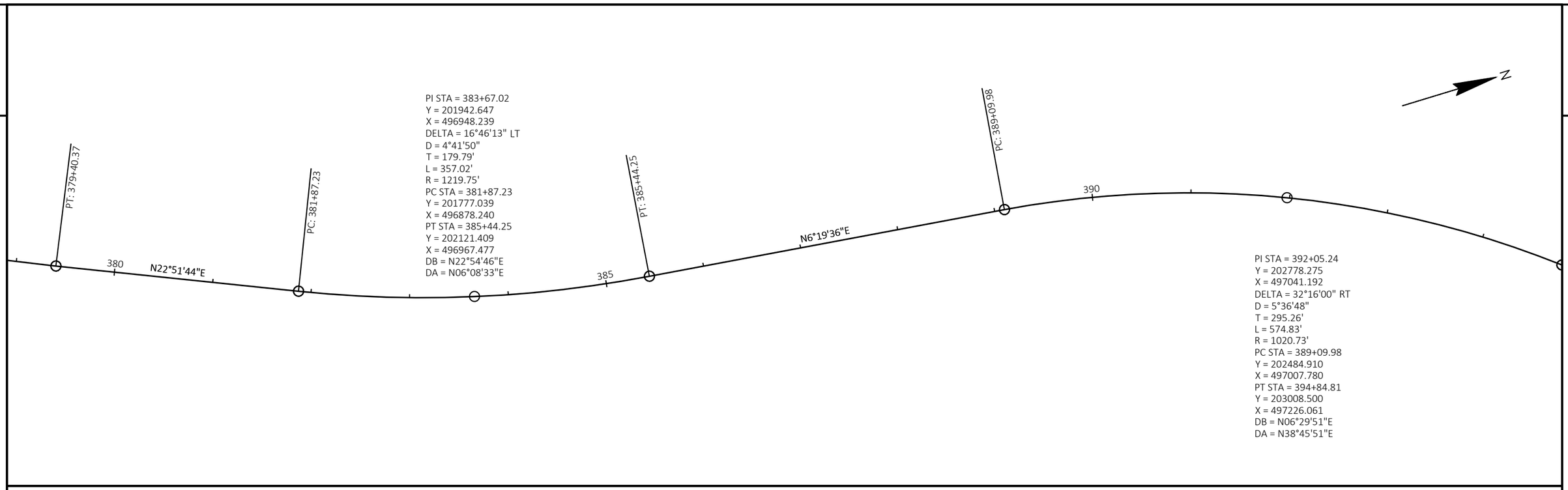


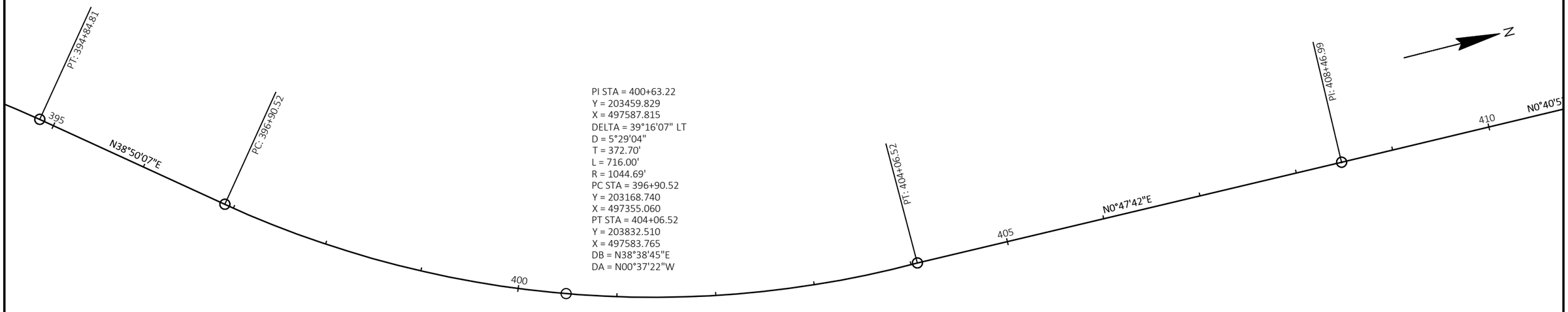
PI STA = 364+75.05
Y = 200174.120
X = 496258.490
DELTA = 25°06'24" RT
D = 6°07'13"
T = 208.46'
L = 410.22'
R = 936.17'
PC STA = 362+66.59
Y = 199966.328
X = 496275.128
PT STA = 366+76.81
Y = 200369.340
X = 496331.590
DB = N04°34'41"W
DA = N20°31'43"E

PI STA = 377+53.88
Y = 201379.055
X = 496706.443
DELTA = 3°56'22" RT
D = 1°03'21"
T = 186.64'
L = 373.13'
R = 5426.81'
PC STA = 375+67.24
Y = 201203.730
X = 496642.450
PT STA = 379+40.37
Y = 201549.570
X = 496782.330
DB = N20°03'07"E
DA = N23°59'29"E

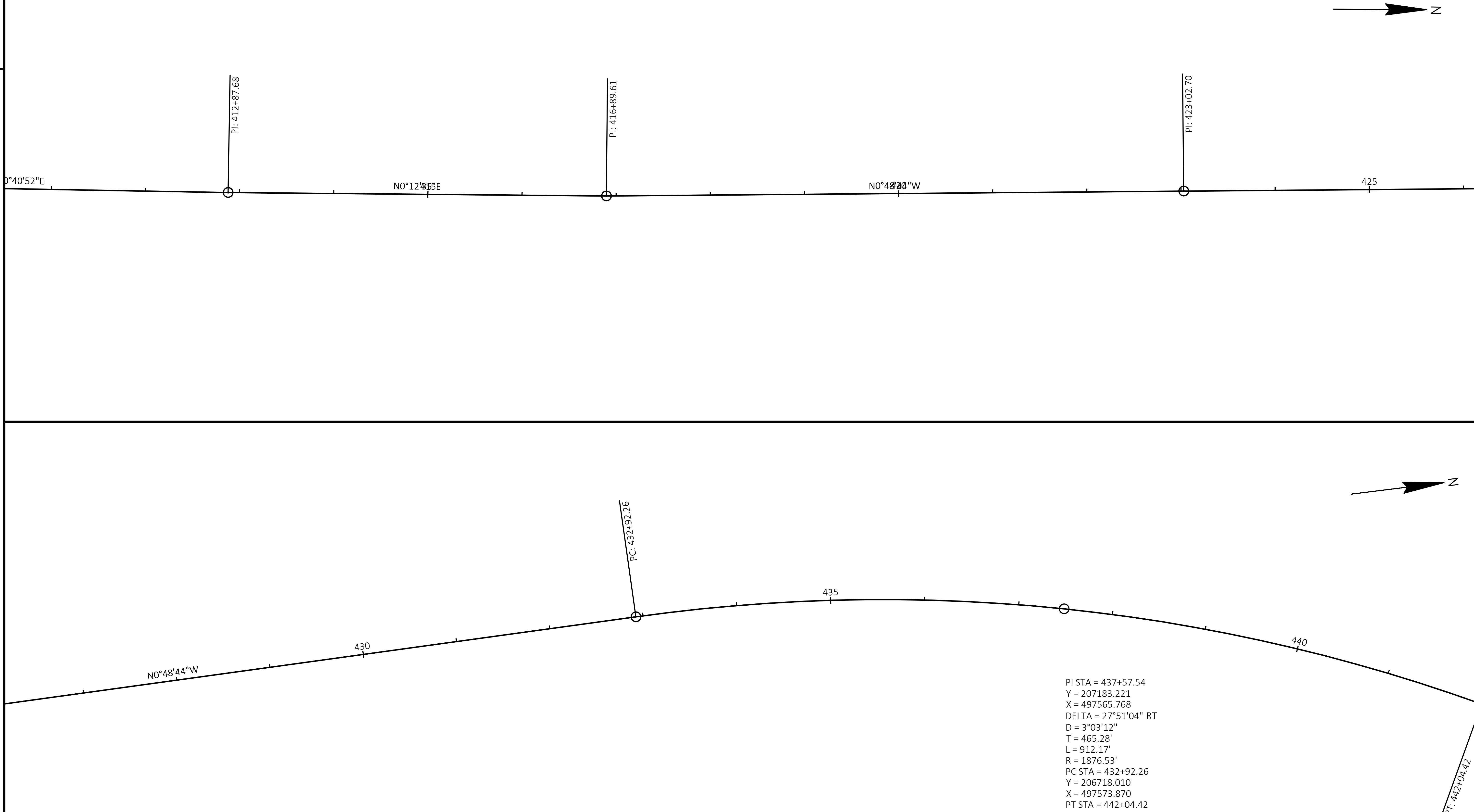
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 42	E

2



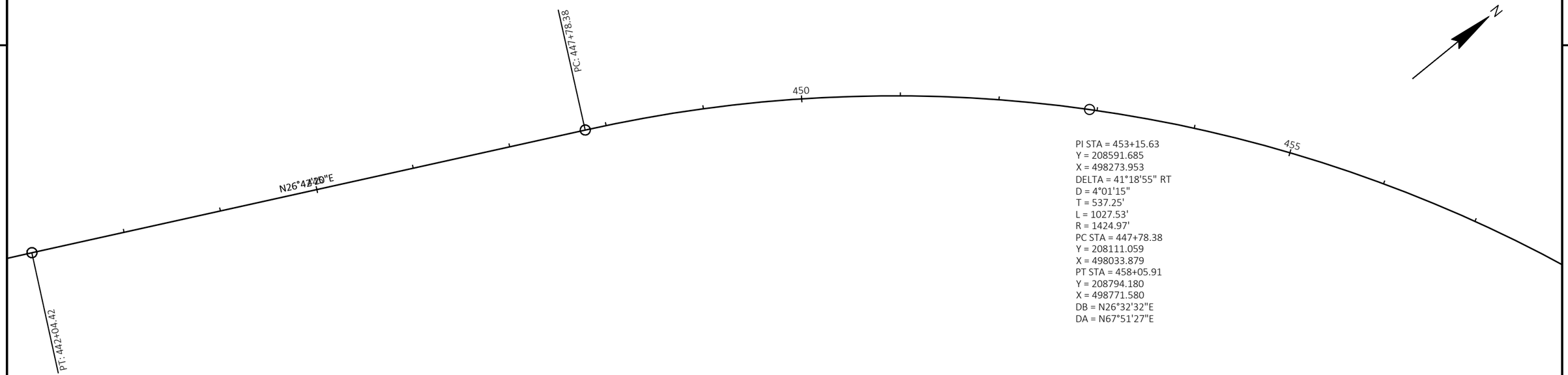


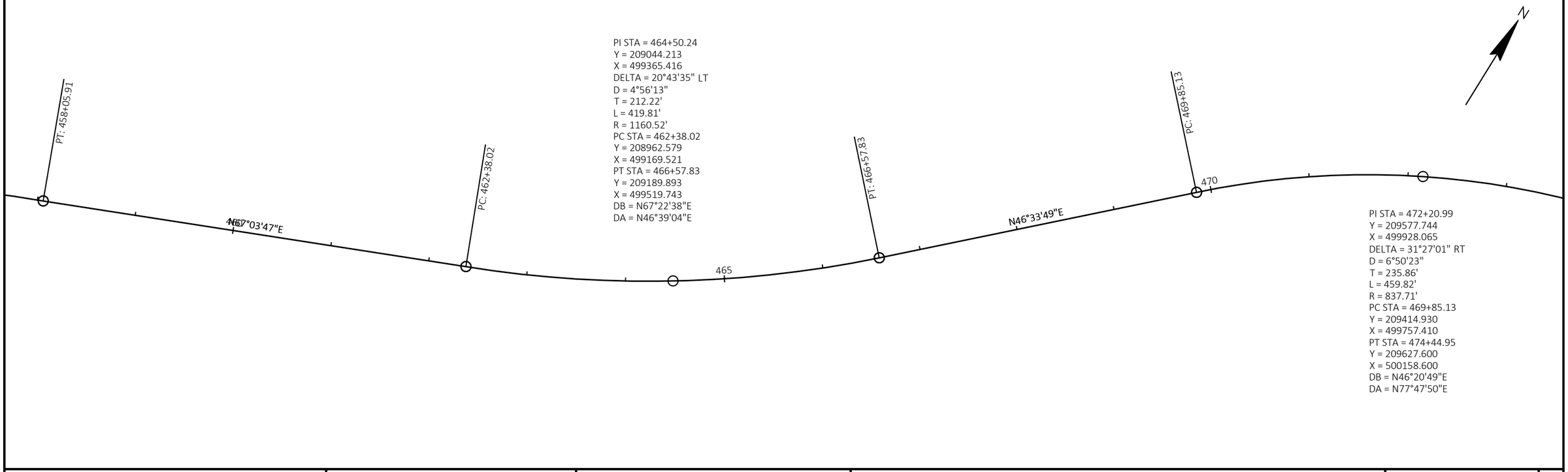
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 43	E



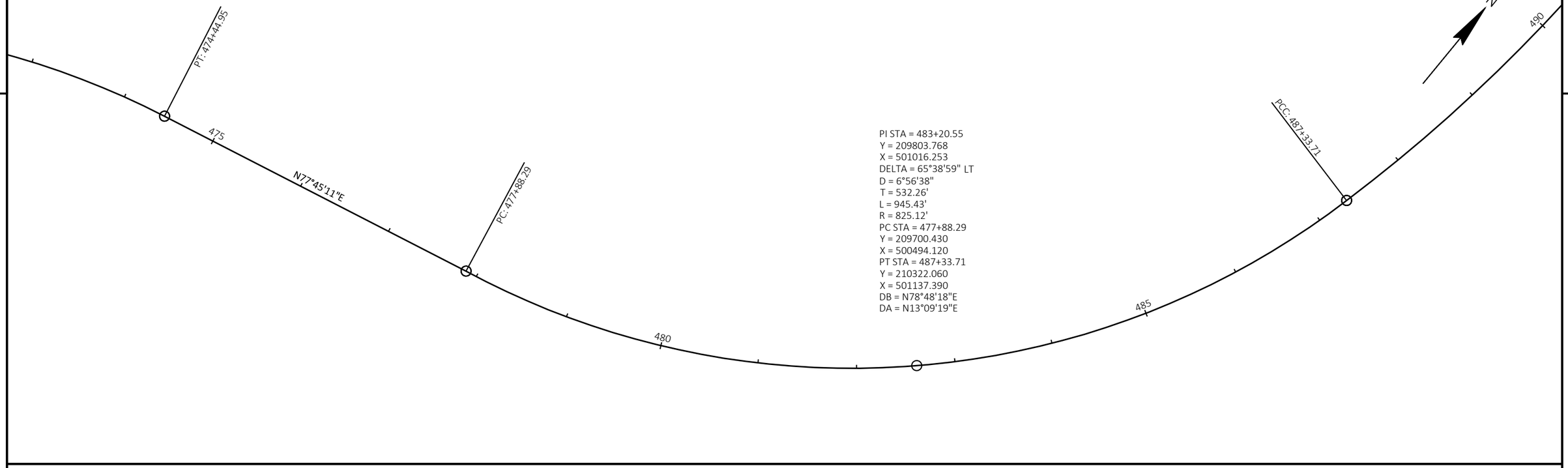
PI STA = 437+57.54
Y = 207183.221
X = 497565.768
DELTA = 27°51'04" RT
D = 3°03'12"
T = 465.28'
L = 912.17'
R = 1876.53'
PC STA = 432+92.26
Y = 206718.010
X = 497573.870
PT STA = 442+04.42
Y = 207598.330
X = 497775.940
DB = N00°59'52"W
DA = N26°51'12"E

2

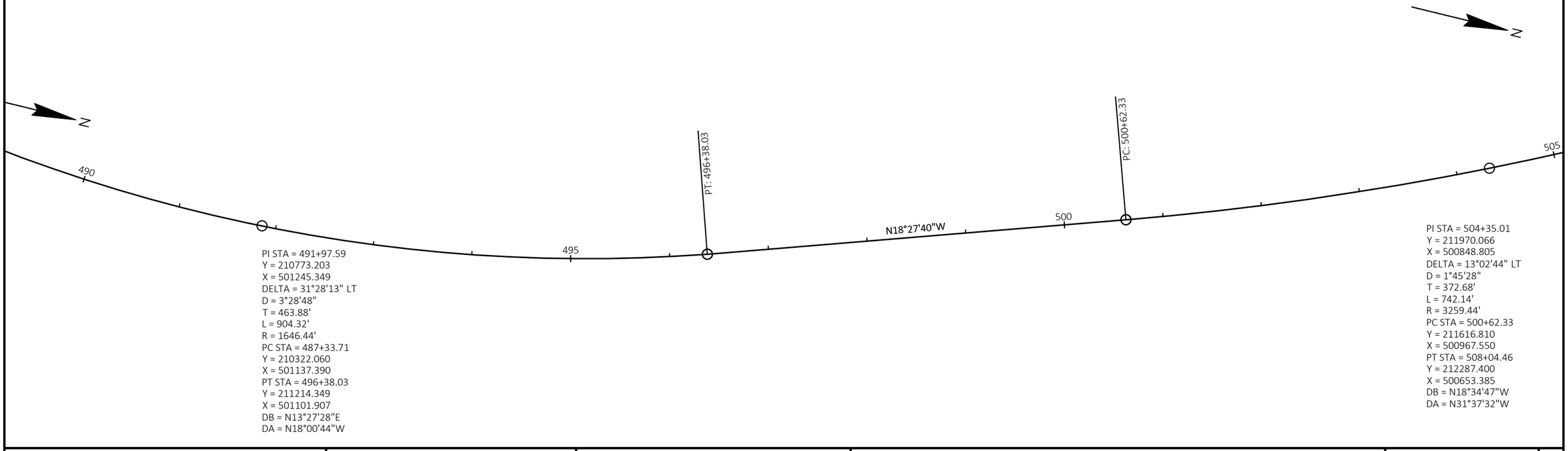




PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 45	E

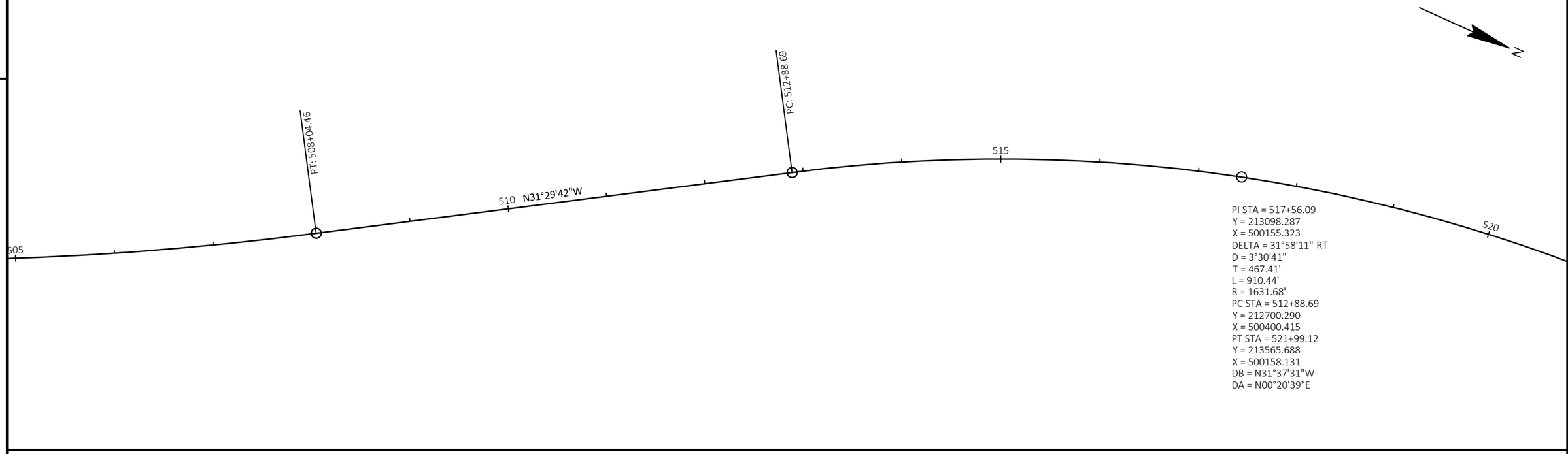


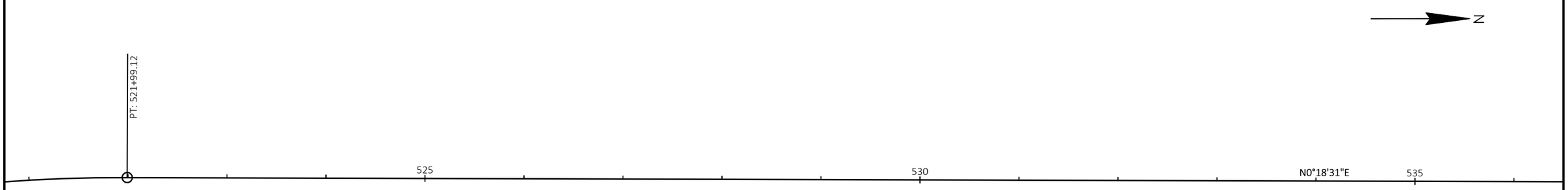
2



PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 46	E

2





PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 47	E

2

2

N

PI: 546+18.64

540

545

550

N

PI: 565+38.15

555

N0°25'58"W

560

565

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 48	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 18

PLOT DATE : 10/16/2023 1:35 PM PLOT BY : PETERSON, SHANE J PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

N

PI: 576+29.78

570

N0°28'13"W

575

580

N

BP: 595+91.09 C

EP: 597+22.95 C

595

590

N0°04'12"W

585

PI: 597+22.95

S89°57'13"E

600

PC: 600+12.51

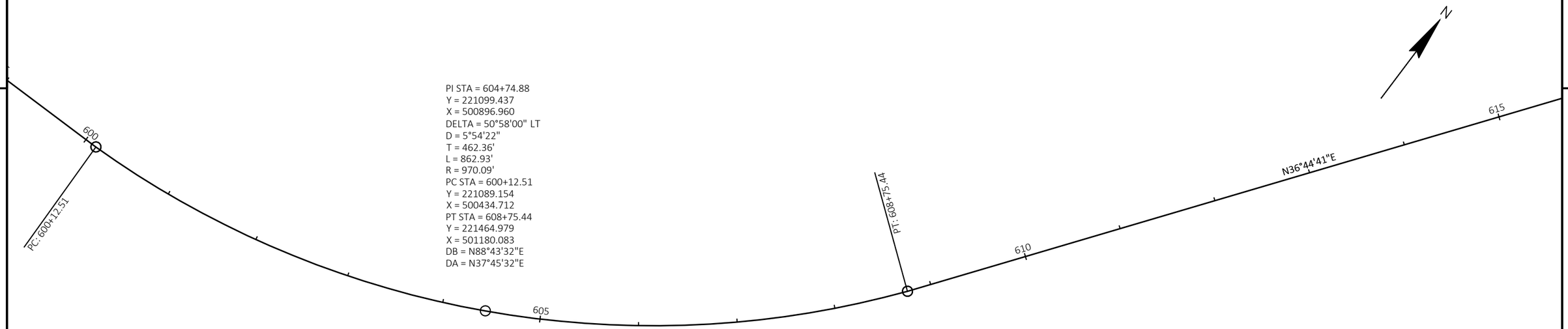
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 49	E

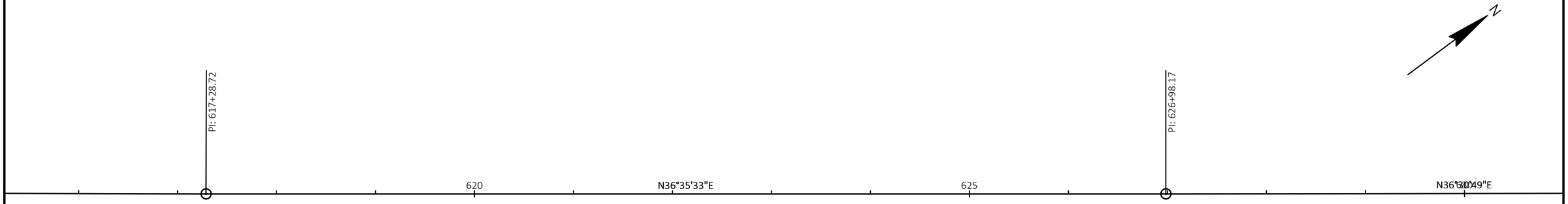
FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 19

PLOT DATE : 10/16/2023 1:35 PM PLOT BY : PETERSON, SHANE J PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

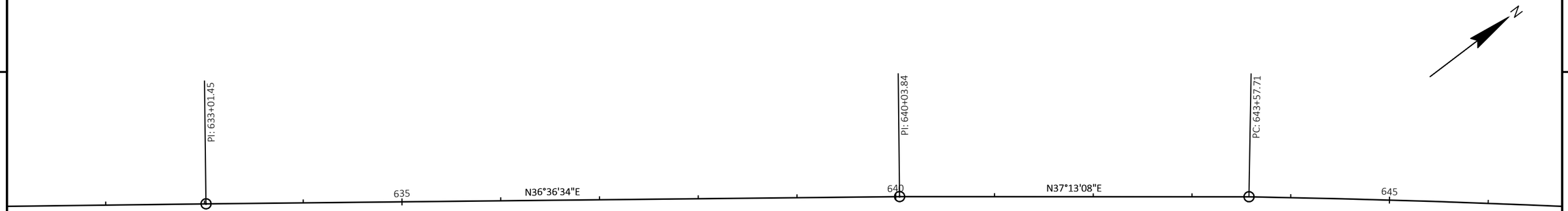
PI STA = 604+74.88
Y = 221099.437
X = 500896.960
DELTA = 50°58'00" LT
D = 5°54'22"
T = 462.36'
L = 862.93'
R = 970.09'
PC STA = 600+12.51
Y = 221089.154
X = 500434.712
PT STA = 608+75.44
Y = 221464.979
X = 501180.083
DB = N88°43'32"E
DA = N37°45'32"E

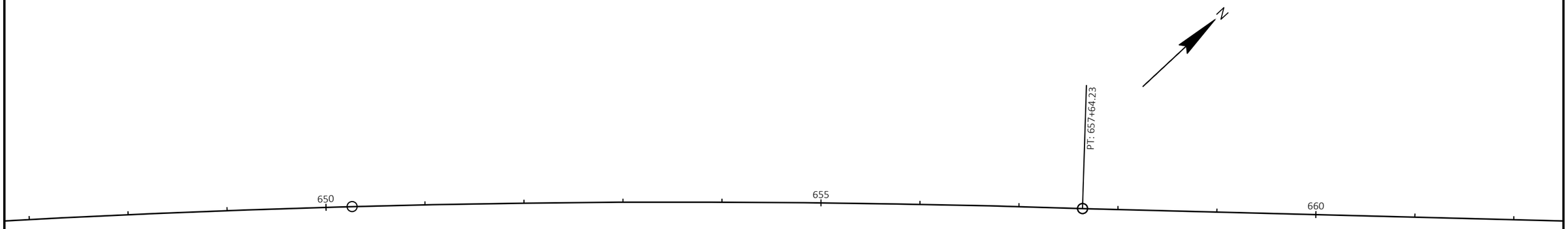




PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 50	E

2

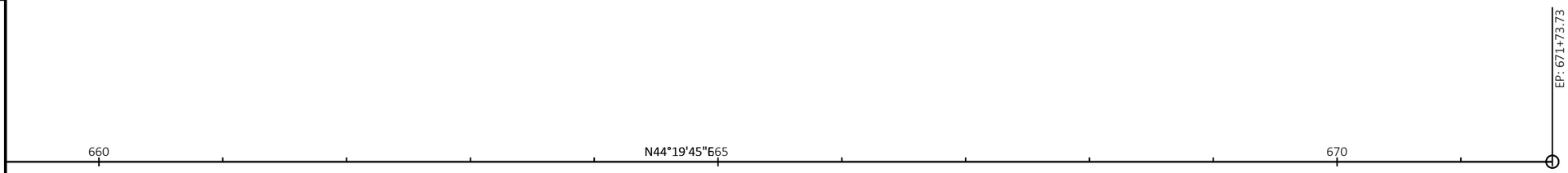


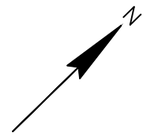


PI STA = 650+61.72
Y = 224810.723
X = 503695.840
DELTA = 6°29'58" RT
D = 0°27'44"
T = 704.02'
L = 1406.52'
R = 12399.34'
PC STA = 643+57.71
Y = 224257.567
X = 503260.344
PT STA = 657+64.23
Y = 225311.029
X = 504191.149
DB = N38°12'47"E
DA = N44°42'45"E

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 51	E

2





PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	ALIGNMENT DETAILS	SHEET 52	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 22
PLOT DATE : 10/16/2023 1:35 PM
PLOT BY : PETERSON, SHANE J
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

Estimate Of Quantities

7930-08-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	4.000	4.000
0004	203.0220	Removing Structure (structure) 01. B-32-181	EACH	1.000	1.000
0006	203.0220	Removing Structure (structure) 02. STA 534+30	EACH	1.000	1.000
0008	204.0100	Removing Concrete Pavement	SY	70.000	70.000
0010	204.0110	Removing Asphaltic Surface	SY	1,460.000	1,460.000
0012	204.0115	Removing Asphaltic Surface Butt Joints	SY	2,885.000	2,885.000
0014	204.0120	Removing Asphaltic Surface Milling	SY	82,395.000	82,395.000
0016	204.0165	Removing Guardrail	LF	951.000	951.000
0018	205.0100	Excavation Common	CY	217.000	217.000
0020	206.2001	Excavation for Structures Culverts (structure) 01. B-32-181	EACH	1.000	1.000
0022	206.5001	Cofferdams (structure) 01. B-32-181	EACH	1.000	1.000
0024	210.2500	Backfill Structure Type B	TON	74.000	74.000
0026	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 7930-08-71	EACH	1.000	1.000
0028	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	682.000	682.000
0030	213.0100	Finishing Roadway (project) 01. 7930-08-71	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	2,946.000	2,946.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	100.000	100.000
0036	311.0115	Breaker Run	CY	7.000	7.000
0038	455.0505	Asphaltic Material Seal Coat	GAL	9,940.000	9,940.000
0040	455.0605	Tack Coat	GAL	13,175.000	13,175.000
0042	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0044	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0046	460.2005	Incentive Density PWL HMA Pavement	DOL	8,200.000	8,200.000
0048	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	13,770.000	13,770.000
0050	460.2010	Incentive Air Voids HMA Pavement	DOL	21,400.000	21,400.000
0052	460.5224	HMA Pavement 4 LT 58-28 S	TON	21,395.000	21,395.000
0054	465.0105	Asphaltic Surface	TON	190.000	190.000
0056	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	111.000	111.000
0058	465.0125	Asphaltic Surface Temporary	TON	95.000	95.000
0060	504.0100	Concrete Masonry Culverts	CY	15.000	15.000
0062	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	1,150.000	1,150.000
0064	511.1200	Temporary Shoring (structure) 01. B-32-181	SF	279.000	279.000
0066	516.0500	Rubberized Membrane Waterproofing	SY	8.000	8.000
0068	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	4.000	4.000
0070	520.3524	Culvert Pipe Class III-B 24-Inch	LF	62.000	62.000
0072	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0074	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	2.000	2.000
0076	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	92.000	92.000
0078	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	50.000	50.000
0080	522.0572	Culvert Pipe Reinforced Concrete Class V 72-Inch	LF	90.000	90.000
0082	522.1072	Apron Endwalls for Culvert Pipe Reinforced Concrete 72-Inch	EACH	2.000	2.000
0084	606.0300	Riprap Heavy	CY	8.000	8.000
0086	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	197.000	197.000
0088	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0090	611.0642	Inlet Covers Type MS	EACH	1.000	1.000
0092	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0094	611.3901	Inlets Median 1 Grate	EACH	1.000	1.000
0096	614.0010	Barrier System Grading Shaping Finishing	EACH	11.000	11.000
0098	614.2300	MGS Guardrail 3	LF	418.000	418.000
0100	614.2350	MGS Guardrail Short Radius	LF	68.000	68.000

7930-08-71

Line	Item	Item Description	Unit	Total	Qty
0102	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0104	614.2610	MGS Guardrail Terminal EAT	EACH	11.000	11.000
0106	618.0100	Maintenance and Repair of Haul Roads (project) 01. 7930-08-71	EACH	1.000	1.000
0108	619.1000	Mobilization	EACH	1.000	1.000
0110	624.0100	Water	MGAL	91.000	91.000
0112	625.0100	Topsoil	SY	1,192.000	1,192.000
0114	628.1504	Silt Fence	LF	500.000	500.000
0116	628.1520	Silt Fence Maintenance	LF	500.000	500.000
0118	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0120	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0122	628.2008	Erosion Mat Urban Class I Type B	SY	1,181.000	1,181.000
0124	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0126	628.7504	Temporary Ditch Checks	LF	34.000	34.000
0128	629.0210	Fertilizer Type B	CWT	0.760	0.760
0130	630.0120	Seeding Mixture No. 20	LB	32.000	32.000
0132	630.0500	Seed Water	MGAL	20.000	20.000
0134	642.5001	Field Office Type B	EACH	1.000	1.000
0136	643.0300	Traffic Control Drums	DAY	950.000	950.000
0138	643.0420	Traffic Control Barricades Type III	DAY	125.000	125.000
0140	643.0705	Traffic Control Warning Lights Type A	DAY	100.000	100.000
0142	643.0900	Traffic Control Signs	DAY	4,865.000	4,865.000
0144	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0146	643.3165	Temporary Marking Line Paint 6-Inch	LF	60,575.000	60,575.000
0148	643.3170	Temporary Marking Line Epoxy 6-Inch	LF	63,726.000	63,726.000
0150	643.5000	Traffic Control	EACH	1.000	1.000
0152	645.0120	Geotextile Type HR	SY	20.000	20.000
0154	646.2020	Marking Line Epoxy 6-Inch	LF	147,926.000	147,926.000
0156	646.6120	Marking Stop Line Epoxy 18-Inch	LF	66.000	66.000
0158	648.0100	Locating No-Passing Zones	MI	6.500	6.500
0160	650.4000	Construction Staking Storm Sewer	EACH	3.000	3.000
0162	650.6000	Construction Staking Pipe Culverts	EACH	4.000	4.000
0164	650.8000	Construction Staking Resurfacing Reference	LF	41,385.000	41,385.000
0166	650.9911	Construction Staking Supplemental Control (project) 01. 7930-08-71	EACH	1.000	1.000
0168	650.9920	Construction Staking Slope Stakes	LF	1,102.000	1,102.000
0170	690.0150	Sawing Asphalt	LF	310.000	310.000
0172	690.0250	Sawing Concrete	LF	59.000	59.000
0174	740.0440	Incentive IRI Ride	DOL	26,080.000	26,080.000
0176	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 396+00	EACH	1.000	1.000
0178	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	600.000	600.000
0180	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0182	SPV.0060	Special 01. Verify And Replace Existing Land Parcel Monument	EACH	7.000	7.000
0184	SPV.0060	Special 02. Research And Locate Existing Land Parcel Monument	EACH	7.000	7.000
0186	SPV.0060	Special 03. Strapping B-32-181	EACH	3.000	3.000
0188	SPV.0060	Special 04. Cleaning Box Culvert B-32-181	EACH	1.000	1.000
0190	SPV.0125	Special 01. Prepare Existing Pavement For Asphaltic Seal Coat	MI	1.350	1.350
0192	SPV.0180	Special 01. Removing Distressed Pavement Milling	SY	1,675.000	1,675.000
0194	SPV.0195	Special 01. Large Aggregate Seal Coat	TON	254.000	254.000
0196	SPV.0195	Special 02. Select Borrow Special	TON	502.000	502.000

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204 REMOVALS

CATEGORY	STATION	TO	STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	SPV.0180.01 SPECIAL (01. REMOVING DISTRESSED PAVEMENT MILLING) SY	REMARKS
0010	21+90	-	22+05	ML	50	-	-	-	-	45	-	REMOVE CONCRETE PANELS ~15'X30'
0010	22+05	-	22+65	ML	-	-	160	-	-	-	-	BUTT JOINT FROM EXISTING CONCRETE
0010	22+05	-	45+21	ML	-	-	-	5,665	-	-	120	BEGINNING OF PROJECT - B-32-183
0010	45+21	-	45+96	ML	-	-	183	-	-	-	-	BUTT JOINT AT B-32-183 SOUTH ABUTMENT
0010	46+61	-	47+36	ML	-	-	183	-	-	-	-	BUTT JOINT AT B-32-183 NORTH ABUTMENT
0010	47+36	-	214+90	ML	-	-	-	40,955	-	-	830	B-32-183 - CONSTRUCTION JOINT
0010	214+90	-	215+65	ML	-	-	183	-	-	-	-	BUTT JOINT AT CONSTRUCTION JOINT
0010	522+55	-	523+30	ML	-	-	183	-	-	-	-	BUTT JOINT AT CONSTRUCTION JOINT
0010	523+30	-	669+65	ML	-	-	-	35,775	-	-	725	CONSTRUCTION JOINT - END OF PROJECT
0010	669+65	-	670+40	ML	-	-	250	-	-	-	-	BUTT JOINT AT END OF PROJECT
0010	22+10	-	-	LT	-	32	-	-	20	-	-	N5395
0010	22+95	-	24+35	RT	-	-	221	-	-	-	-	OLD 16 RD
0010	26+18	-	-	LT	-	23	-	-	17	-	-	N5431
0010	30+95'C'	-	31+70'C'	ML	-	-	183	-	-	-	-	CTH C SOUTH INTERSECTION
0010	34+00	-	35+00	ML	-	267	-	-	48	-	-	CULVERT PIPE
0010	53+20	-	-	LT	-	51	-	-	38	-	-	N5521
0010	56+00	-	-	RT	20	-	-	-	-	14	-	N5546 CONCRETE DWY
0010	56+50	-	-	LT	-	25	-	-	14	-	-	N5551
0010	59+50	-	-	RT	-	21	-	-	14	-	-	N5568
0010	62+34	-	63+07	RT	-	-	88	-	-	-	-	HOFF RD
0010	65+31	-	-	RT	-	26	-	-	16	-	-	N5602
0010	74+75	-	-	RT	-	23	-	-	18	-	-	N5666
0010	90+77	-	-	LT	-	26	-	-	17	-	-	N5795
0010	99+75	-	100+50	ML	-	200	-	-	48	-	-	CULVERT PIPE
0010	105+15	-	105+97	RT	-	-	99	-	-	-	-	MCKINLEY VALLEY RD
0010	110+95	-	-	LT	-	15	-	-	12	-	-	N5931
0010	130+55	-	-	LT	-	68	-	-	-	-	-	N6095 CONCRETE DWY
0010	131+85	-	132+51	LT	-	-	78	-	-	-	-	WALKER RD
0010	176+69	-	-	LT	-	29	-	-	-	-	-	N6435
0010	185+57	-	-	RT	-	35	-	-	-	-	-	N6504
0010	186+10	-	-	RT	-	55	-	-	-	-	-	N6504
0010	193+40	-	-	LT	-	34	-	-	-	-	-	N6345
0010	213+04	-	-	LT	-	20	-	-	-	-	-	N6703
0010	533+60	-	535+00	ML	-	373	-	-	48	-	-	CULVERT PIPE
0010	570+47	-	571+20	LT	-	-	86	-	-	-	-	CTH A
0010	570+60	-	571+29	RT	-	-	167	-	-	-	-	CTH A
0010	595+91'C'	-	596+66'C'	ML	-	-	183	-	-	-	-	CTH C NORTH INTERSECTION
0010	596+32'C'	-	598+17	LT	-	-	169	-	-	-	-	BURR OAK CT
0010	600+84	-	602+57	RT	-	-	223	-	-	-	-	DAVIS CREEK RD - SOUTH
0010	606+86	-	607+71	RT	-	-	116	-	-	-	-	DAVIS CREEK RD - NORTH
0010	616+10	-	-	RT	-	17	-	-	-	-	-	N9374
0010	619+55	-	-	LT	-	18	-	-	-	-	-	N9397
0010	644+45	-	-	RT	-	21	-	-	-	-	-	N9586/N9592
0010	656+37	-	-	LT	-	20	-	-	-	-	-	N9643
0010	658+63	-	659+24	RT	-	-	64	-	-	-	-	KRAUSE RD
0010	663+25	-	-	RT	-	26	-	-	-	-	-	N9674
0010	665+15	-	-	RT	-	35	-	-	-	-	-	N9686
0010	669+26	-	669+85	RT	-	-	66	-	-	-	-	R YOUNG RD
				TOTAL 0010	70	1,460	2,885	82,395	310	59	1,675	

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305 BASE AGGREGATE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL	REMARKS
0010	21+90	-	22+05	ML	-	16	-	FILL CONC SLAB HOLE
0010	21+90	-	670+40	ML	2225	-	44.5	SHOULDERS
0010	34+50	-	-	ML	-	8	0.5	CULVERT BASE
0010	100+00	-	-	ML	-	10	0.5	CULVERT BASE
0010	569+25	-	571+21	RT	-	16	0.5	CTH A CULVERT BASE
0010	45+05	-	-	RT	20	-	0.5	N5518
0010	48+88	-	-	RT	10	-	0.5	N5532
0010	59+50	-	-	LT	5	-	0.5	N5593
0010	62+87	-	-	LT	4	-	0.5	N5593 - FE
0010	70+55	-	-	RT	14	-	0.5	N5666
0010	73+90	-	-	RT	10	-	0.5	N5666
0010	75+45	-	-	LT	6	-	0.5	N5673
0010	78+96	-	-	RT	4	-	0.5	FE
0010	80+52	-	-	LT	5	-	0.5	N5709
0010	82+23	-	-	LT	3	-	0.5	FE
0010	84+26	-	-	RT	1	-	0.5	FE
0010	90+63	-	-	RT	6	-	0.5	FE
0010	93+88	-	-	RT	11	-	0.5	N5812
0010	99+77	-	-	LT	8	-	0.5	N5857 & N5853
0010	102+06	-	-	RT	6	-	0.5	FE
0010	105+91	-	-	LT	4	-	0.5	FE
0010	116+20	-	-	RT	7	-	0.5	FE
0010	119+28	-	-	RT	4	-	0.5	FE
0010	121+36	-	-	LT	3	-	0.5	FE
0010	127+50	-	-	RT	5	-	0.5	FE
0010	127+64	-	-	LT	3	-	0.5	FE
0010	136+33	-	-	RT	5	-	0.5	FE
0010	138+30	-	-	RT	6	-	0.5	N6144
0010	138+38	-	139+07	LT	22	-	0.5	PE
0010	139+64	-	-	RT	8	-	0.5	PE
0010	153+08	-	-	RT	4	-	0.5	PE
0010	158+20	-	-	LT	6	-	0.5	FE
0010	160+45	-	-	LT	13	-	0.5	N6311
0010	164+23	-	-	RT	6	-	0.5	N6334
0010	165+66	-	-	RT	6	-	0.5	PE
0010	166+77	-	-	LT	6	-	0.5	FE
0010	171+61	-	-	RT	5	-	0.5	FE
0010	172+02	-	-	RT	5	-	0.5	FE
0010	175+65	-	-	LT	5	-	0.5	N6419
0010	176+18	-	-	LT	3	-	0.5	N6419
0010	180+29	-	-	LT	5	-	0.5	N6459
0010	181+76	-	-	LT	3	-	0.5	FE
0010	196+55	-	-	LT	6	-	0.5	N6675
0010	206+18	-	-	LT	4	-	0.5	FE
0010	210+88	-	-	RT	3	-	0.5	FE
0010	525+05	-	-	RT	9	-	0.5	N8754 & N8756
0010	525+45	-	-	LT	4	-	0.5	FE
0010	537+55	-	-	LT	8	-	0.5	PE
0010	543+35	-	-	RT	7	-	0.5	N8886
0010	564+37	-	-	RT	2	-	0.5	FE
0010	567+13	-	-	RT	1	-	0.5	FE
0010	572+53	-	-	LT	5	-	0.5	N9113
0010	574+73	-	-	RT	4	-	0.5	PE
0010	575+26	-	-	LT	3	-	0.5	N9133
			SUBTOTAL 1		2,528	50	70.5	

305 BASE AGGREGATE CONTINUED

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL	REMARKS
0010	584+00	-	-	RT	6	-	0.5	FE
0010	587+58	-	-	LT	3	-	0.5	FE
0010	623+43	-	-	LT	5	-	0.5	PE
0010	624+00	-	-	LT	6	-	0.5	PE
0010	628+10	-	-	RT	11	-	0.5	FE
0010	632+73	-	-	RT	6	-	0.5	FE
0010	633+05	-	-	LT	8	-	0.5	PE
0010	635+65	-	-	LT	12	-	0.5	PE
0010	637+42	-	-	LT	5	-	0.5	PE
0010	638+77	-	-	LT	5	-	0.5	N9503
0010	639+90	-	-	RT	6	-	0.5	FE
0010	641+27	-	-	LT	9	-	0.5	N9537
0010	653+28	-	-	LT	6	-	0.5	N9621
0010	656+05	-	-	RT	11	-	0.5	N9640
0010	659+65	-	-	LT	6	-	0.5	N9655
0010	666+94	-	-	LT	6	-	0.5	N9699
0010	667+67	-	-	RT	7	-	0.5	N9698
0010	-	-	-	-	300	50	12.0	UNDISTRIBUTED
			SUBTOTAL 2		418	50	20.5	
			SUBTOTAL 1		2,528	50	70.5	
			SUBTOTAL 2		418	50	20.5	
			PROJECT TOTAL 0010		2,946	100	91	

SPV SEAL COAT

CATEGORY	STATION	TO	STATION	LOCATION	455.0505 ASPHALTIC MATERIAL SEAL COAT GAL	SPV.0125.01 SPECIAL (01. PREPARE EXISTING PAVEMENT FOR ASPHALTIC SEAL COAT) MI	SPV.0195.01 SPECIAL (01. LARGE AGGREGATE SEAL COAT) TON
0010	228+25	-	299+25	ML	9,940	1.350	254
				TOTAL 0010	9,940	1.350	254

PWL MIXTURE USE TABLE

LOCATION	STATION	TO	STATION	LOCATION	MIXTURE USE:	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: MIXTURE ACCEPTANCE	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: DENSITY ACCEPTANCE
DRIVING LANE	21+90 522+55	- -	215+65 670+40	ML	UPPER LAYER	HMA SURFACE	4 LT 58-28 S	8,200	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
DRIVING LANE	21+90 522+55	- -	215+65 670+40	ML	LOWER LAYER	MILLED EXISTING ASPHALT SURFACE	4 LT 58-28 S	8,200	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
SIDE ROADS	VARIES			LT/RT	UPPER LAYER	HMA SURFACE	4 LT 58-28 S	147.5	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
SIDE ROADS	VARIES			LT/RT	LOWER LAYER	MILLED EXISTING ASPHALT SURFACE	4 LT 58-28 S	147.5	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
3 FOOT SHOULDER	TOTAL LENGTH 68,190 FT				UPPER LAYER	HMA SURFACE	4 LT 58-28 S	2,350	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
3 FOOT SHOULDER	TOTAL LENGTH 68,190 FT				LOWER LAYER	BASE AGGREGATE	4 LT 58-28 S	2,350	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE

460 HMA SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	211.0101.01 PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) (01. 7930-08-71) EACH	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	455.0605 TACK COAT GAL	460.0105.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP VOLUMETRICS EACH	460.0110.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP DENSITY EACH	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	DWY #	REMARKS
0010	21+90	-	670+40	PROJECT	1	-	-	1	2	-	-	-	-	-	-
0010	21+90	-	670+40	ML	-	-	120	-	-	-	190	-	-	-	UNDISTRIBUTED - DISTRESSED PAVEMENT
0010	21+90	-	45+96	ML	-	-	432	-	-	605	-	-	-	-	22' MAINLINE LOWER LAYER
0010	21+90	-	45+96	ML	-	-	310	-	-	605	-	-	-	-	22' MAINLINE UPPER LAYER
0010	46+61	-	215+65	ML	-	-	2,895	-	-	4,050	-	-	-	-	22' MAINLINE LOWER LAYER
0010	46+61	-	215+65	ML	-	-	2,066	-	-	4,050	-	-	-	-	22' MAINLINE UPPER LAYER
0010	522+55	-	670+40	ML	-	-	2,530	-	-	3,545	-	-	-	-	22' MAINLINE LOWER LAYER
0010	522+55	-	670+40	ML	-	-	1,808	-	-	3,545	-	-	-	-	22' MAINLINE UPPER LAYER
0010	22+10	-	-	LT	-	-	-	-	-	-	-	5.0	-	N5395	DRIVEWAY DEPTH 3"
0010	22+95	-	24+35	RT	-	-	27	-	-	45	-	-	-	-	OLD 16 RD
0010	26+18	-	-	LT	-	-	-	-	-	-	-	4.0	-	N5431	DRIVEWAY DEPTH 3"
0010	34+00	-	35+00	ML	-	-	19	-	-	-	-	-	30	-	CULVERT PIPE 2" TEMP SURFACE
0010	53+20	-	-	LT	-	-	-	-	-	-	-	9.0	-	N5521	DRIVEWAY DEPTH 3"
0010	56+00	-	-	RT	-	-	-	-	-	-	-	4.0	-	N5546 CONCRETE DWY	DRIVEWAY DEPTH 3"
0010	56+50	-	-	LT	-	-	-	-	-	-	-	4.5	-	N5551	DRIVEWAY DEPTH 3"
0010	59+50	-	-	RT	-	-	-	-	-	-	-	3.5	-	N5568	DRIVEWAY DEPTH 3"
0010	62+34	-	63+07	RT	-	-	9	-	-	14	-	-	-	-	HOFF RD
0010	65+31	-	-	RT	-	-	-	-	-	-	-	4.5	-	N5602	DRIVEWAY DEPTH 3"
0010	74+75	-	-	RT	-	-	-	-	-	-	-	4.0	-	N5666	DRIVEWAY DEPTH 3"
0010	90+77	-	-	LT	-	-	-	-	-	-	-	4.5	-	N5795	DRIVEWAY DEPTH 3"
0010	99+75	-	100+50	ML	-	-	14	-	-	-	-	-	23	-	CULVERT PIPE 2" TEMP SURFACE
0010	105+15	-	105+97	RT	-	-	34	-	-	16	-	-	-	-	MCKINLEY VALLEY RD
0010	110+95	-	-	LT	-	-	-	-	-	-	-	3.0	-	N5931	DRIVEWAY DEPTH 3"
0010	130+55	-	-	LT	-	-	-	-	-	-	-	11.5	-	N6095 CONCRETE DWY	DRIVEWAY DEPTH 3"
0010	131+85	-	132+51	LT	-	-	8	-	-	12	-	-	-	-	WALKER RD
0010	176+69	-	-	LT	-	-	-	-	-	-	-	5.0	-	N6435	DRIVEWAY DEPTH 3"
0010	185+57	-	-	RT	-	-	-	-	-	-	-	6.0	-	N6504	DRIVEWAY DEPTH 3"
0010	186+10	-	-	RT	-	-	-	-	-	-	-	9.5	-	N6504	DRIVEWAY DEPTH 3"
0010	193+40	-	-	LT	-	-	-	-	-	-	-	6.0	-	N6345	DRIVEWAY DEPTH 3"
0010	213+04	-	-	LT	-	-	-	-	-	-	-	3.5	-	N6703	DRIVEWAY DEPTH 3"
0010	533+60	-	535+00	ML	-	-	26	-	-	-	-	-	42	-	CULVERT PIPE 2" TEMP SURFACE
0010	570+47	-	571+20	LT	-	-	8	-	-	14	-	-	-	-	CTH A
0010	570+60	-	571+29	RT	-	-	18	-	-	30	-	-	-	-	CTH A
0010	595+91'C'	-	597+22'C'	ML	-	-	39	-	-	63	-	-	-	-	CTH C NORTH INTERSECTION
0010	596+32'C'	-	598+17	LT	-	-	16	-	-	25	-	-	-	-	BURR OAK CT
0010	600+84	-	602+57	RT	-	-	22	-	-	37	-	-	-	-	DAVIS CREEK RD - SOUTH
0010	606+86	-	607+71	RT	-	-	12	-	-	19	-	-	-	-	DAVIS CREEK RD - NORTH
0010	616+10	-	-	RT	-	-	-	-	-	-	-	3.0	-	N9374	DRIVEWAY DEPTH 3"
0010	619+55	-	-	LT	-	-	-	-	-	-	-	3.0	-	N9397	DRIVEWAY DEPTH 3"
0010	644+45	-	-	RT	-	-	-	-	-	-	-	3.5	-	N9586/N9592	DRIVEWAY DEPTH 3"
0010	656+37	-	-	LT	-	-	-	-	-	-	-	3.5	-	N9643	DRIVEWAY DEPTH 3"
0010	658+63	-	659+24	RT	-	-	6	-	-	10	-	-	-	-	KRAUSE RD
0010	663+25	-	-	RT	-	-	-	-	-	-	-	4.5	-	N9674	DRIVEWAY DEPTH 3"
0010	665+15	-	-	RT	-	-	-	-	-	-	-	6.0	-	N9686	DRIVEWAY DEPTH 3"
0010	669+26	-	669+85	RT	-	-	6	-	-	10	-	-	-	-	R YOUNG RD
				SUBTOTAL 0010	1	0	10,425	1	2	16,695	190	111	95		

CATEGORY	STATION	TO	STATION	LOCATION	211.0101.01 PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) (01. 7930-08-71) EACH	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	455.0605 TACK COAT GAL	460.0105.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP VOLUMETRICS EACH	460.0110.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP DENSITY EACH	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	DWY #	REMARKS
0030	21+90	-	45+96	LT	-	24	60	-	-	85	-	-	-	-	3' SHOULDERS
0030	21+90	-	45+96	LT	-	-	40	-	-	85	-	-	-	-	LOWER LAYER
0030	21+90	-	45+96	RT	-	24	60	-	-	85	-	-	-	-	UPPER LAYER
0030	21+90	-	45+96	RT	-	-	40	-	-	85	-	-	-	-	LOWER LAYER
0030	46+61	-	215+65	LT	-	169	395	-	-	580	-	-	-	-	UPPER LAYER
0030	46+61	-	215+65	LT	-	-	285	-	-	580	-	-	-	-	LOWER LAYER
0030	46+61	-	215+65	RT	-	169	395	-	-	580	-	-	-	-	UPPER LAYER
0030	46+61	-	215+65	RT	-	-	285	-	-	580	-	-	-	-	LOWER LAYER
0030	522+55	-	670+40	LT	-	148	345	-	-	510	-	-	-	-	UPPER LAYER
0030	522+55	-	670+40	LT	-	-	250	-	-	510	-	-	-	-	LOWER LAYER
0030	522+55	-	670+40	RT	-	148	345	-	-	510	-	-	-	-	UPPER LAYER
0030	522+55	-	670+40	RT	-	-	250	-	-	510	-	-	-	-	LOWER LAYER
				SUBTOTAL 0030	0	682	2,750	0	0	4,700	0	0	0		
				SUBTOTAL 0010	1	0	10,425	1	2	16,695	190	111	95		
				SUBTOTAL 0030	0	682	2,750	0	0	4,700	0	0	0		
				PROJECT TOTAL	1	682	13,175	1	2	21,395	190	111	95		

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522 CULVERT SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	203.0220.02 REMOVING STRUCTURE (STRUCTURE) (02. STA 534+30) EACH	205.0100 EXCAVATION COMMON CY	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	520.3524 CULVERT PIPE CLASS III-B 24-INCH LF	521.1018 APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH EACH	521.3118 CULVERT PIPE CORRUGATED STEEL 18-INCH LF	522.0124 CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	522.0572 CULVERT PIPE REINFORCED CONCRETE CLASS V 72-INCH LF	522.1072 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 72-INCH EACH	SPV.0060.04 SPECIAL (04. CLEANING BOX CULVERT B-32-181) EACH	SPV.0195.02 SPECIAL (02. SELECT BORROW SPECIAL) TON	REMARKS
0010	34+50	-	-	ML	1	-	-	2	-	-	-	50	-	-	-	-	EXISTING 54' 24" CMP
0010	82+03	-	82+94	LT	1	-	217	-	-	2	92	-	-	-	-	-	LOCATED UNDER F.E. (MIN. THICKNESS 0.064")
0010	83+00	-	84+00	LT	-	-	-	-	-	-	-	-	-	-	-	502	EXISTING 28' 18" RCP; SLOPE STABILIZATION
0010	100+00	-	-	ML	1	-	-	2	62	-	-	-	-	-	-	-	EXISTING 62' 24" CMP
0010	394+50	-	397+50	ML	-	-	-	-	-	-	-	-	-	-	1	-	B-32-181
0010	534+30	-	-	ML	-	1	-	-	-	-	-	-	90	2	-	-	EXISTING 90' 72" RCP
0010	571+00	-	-	RT	1	-	-	-	-	-	-	-	-	-	-	-	EXISTING 64' 18" CMP
				TOTAL 0010	4	1	217	4	62	2	92	50	90	2	1	502	

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608 STORM SEWER SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	520.8000 CONCRETE COLLARS FOR PIPE EACH	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF	611.0530 MANHOLE COVERS TYPE J EACH	611.0642 INLET COVERS TYPE MS EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	628.7005 INLET PROTECTION TYPE A EACH
0010	569+25	-	570+19	RT	-	94	-	-	-	-	-
0010	570+19	-	570+54	RT	-	36	-	-	-	-	-
0010	570+19	-	-	RT	1	-	-	-	-	-	-
0010	570+54	-	571+21	RT	-	67	-	-	-	-	-
0010	570+54	-	-	RT	-	-	1	-	1	-	-
0010	571+21	-	-	RT	-	-	-	1	-	1	1
				TOTAL 0010	1	197	1	1	1	1	1

EARTHWORK SUMMARY

CATEGORY	LOCATION	205.0100 EXCAVATION COMMON CUT CU YD	SALVAGED/ UNUSABLE PAVEMENT MATERIAL CU YD	AVAILABLE MATERIAL CU YD	UNEXPANDED FILL CU YD	EXPANDED FILL FACTOR 1.43 CU YD	MASS ORDINATE +/-	SELECT BORROW CU YD	WASTE (SHORTAGE) CU YD
0010	BEAM GUARD 2 LT STA 81+35.83 TO STA 85+68.01 FOR INFORMATION PURPOSES ONLY - INCLUDED WITH BARRIER SYSTEM GRADING SHAPING FINISHING	217	0	217	198	283	-66.00	337	271
0010	BEAM GUARD 1 LT & RT STA 43+41.64 TO STA 46+00	3	0	3	132	189	-186.00		(186)
0010	BEAM GUARD 2 RT STA 81+36.91 TO STA 85+71.92	15	0	15	113	162	-147.00		(147)
0010	BEAM GUARD 3 LT & RT STA 563+60.82 TO 568+47.81	7	0	7	207	296	-289.00		(289)
	CONSTRUCTION PROJECT TOTAL	235	0	235	443	634	-399		(351)

614 GUARDRAIL SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	614.2300 MGS GUARDRAIL 3 LF	614.2350 MGS GUARDRAIL SHORT RADIUS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	REMARKS	* COMMON EXCAVATION CY	* BORROW CY
0010	45+30	-	46+00	LT	70	-	-	-	-	-	SW BRIDGE B-32-183	1	48
0010	45+25	-	45+95	RT	70	-	-	-	-	-	SE BRIDGE B-32-183	1	48
0010	46+60	-	47+30	RT	70	-	-	-	-	-	NE BRIDGE B-32-183	1	48
0010	46+60	-	47+30	LT	70	-	-	-	-	-	NW BRIDGE B-32-183	-	-
0010	45+06	-	46+00	LT	-	1	-	-	39.4	1	SW BRIDGE B-32-183	-	-
0010	45+20	-	45+95	RT	-	-	-	68	39.4	-	SE BRIDGE B-32-183 - 8' RADIUS	-	-
0010	46+60	-	47+56	RT	-	1	-	-	39.4	1	NE BRIDGE B-32-183	-	-
0010	46+60	-	47+50	LT	-	1	-	-	39.4	1	NW BRIDGE B-32-183	-	-
0010	82+51	-	84+57	LT	215	-	-	-	-	-	SECTION 2 LT	-	-
0010	82+68	-	84+12	RT	152	-	-	-	-	-	SECTION 2 RT	8	81
0010	81+82	-	84+13	RT	-	2	125	-	-	2	SECTION 2 RT	8	81
0010	82+45	-	84+76	LT	-	2	125	-	-	2	SECTION 2 LT	-	-
0010	565+46	-	566+97	RT	152	-	-	-	-	-	SECTION 3 LT	2	74
0010	565+91	-	567+42	LT	152	-	-	-	-	-	SECTION 3 RT	2	74
0010	565+25	-	567+50	RT	-	2	118	-	-	2	SECTION 3 RT	2	74
0010	565+86	-	567+42	LT	-	2	50	-	-	2	SECTION 3 LT	2	74
				TOTAL 0010	951	11	418	68	157.6	11		27	602

* INFORMATIONAL PURPOSES ONLY FOR ITEM 614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING, EACH

628 EROSION CONTROL SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7504 TEMPORARY DITCH CHECKS LF	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0500 SEED WATER MGAL	REMARKS
0010	82+30	-	84+50	LT	657	225	225	-	-	657	-	0.41	18	11	SLOPE STABILIZATION
0010	81+40	-	82+45	RT	291	225	225	-	-	291	-	0.18	8	5.00	SLOPE STABILIZATION
0010	81+95	-	82+12	LT	-	-	-	-	-	14	-	0.01	0.50	0.25	FE CULVERT PIPE
0010	99+25	-	-	RT	-	-	-	-	-	-	12	-	-	-	CULVERT PIPE
0010	100+00	-	-	LT	11	-	-	-	-	11	-	0.01	0.50	0.20	CULVERT PIPE
0010	100+00	-	-	RT	40	-	-	-	-	40	-	0.03	1.00	0.70	CULVERT PIPE
0010	533+80	-	-	LT	58	-	-	-	-	58	-	0.04	1.60	1.00	CULVERT PIPE
0010	534+75	-	-	RT	60	-	-	-	-	60	10	0.04	1.60	1.00	CULVERT PIPE
0010	-	-	-	-	75	50	50	2	2	50	12	0.04	1.00	1.00	UNDISTRIBUTED
				TOTAL 0010	1,192	500	500	2	2	1,181	34	0.76	32	20	

643 TRAFFIC CONTROL SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	NO. DAYS	NO. DRUMS	643.0300 TRAFFIC CONTROL DRUMS DAY	NO. DAYS	NO. BARRICADES	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	NO. DAYS	NO. LIGHTS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	NO. DAYS	NO. SIGNS	643.0900 TRAFFIC CONTROL SIGNS DAY	NO. DAYS	NO. SIGNS	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.5000 TRAFFIC CONTROL EACH	REMARKS
0010	-	-	-	ML										75	17	1,275	7	2	14	1	ADVANCED WARNING
0010	-	-	-	ML										7	15	105					DRIVING ON MILLED SURFACE
0010	-	-	-	ML										2	6	12					CHIP SEAL
0010	-	-	-	ML	2	100	200							2	24	48					SHOULDER CLOSURE
0010	82+00	-	85+00	LT	25	30	750	1	25	25				25	14	350					SLOPE STABILIZATION
0010	-	-	-					25	4	100	25	4	100	25	123	3,075					DETOUR
				TOTAL 0010			950			125			100			4,865			14	1	

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646 MARKING SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH LF	643.3170 TEMPORARY MARKING LINE EPOXY 6-INCH LF	646.2020 MARKING LINE EPOXY 6-INCH LF	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	REMARKS
0010	30+70	-	-	ML	-	-	-	24	SOUTH CTH C
0010	570+60	-	-	ML	-	-	-	14	CTH A
0010	571+25	-	-	ML	-	-	-	14	CTH A
0010	596+85	-	-	ML	-	-	-	14	NORTH CTH C
0010	21+80	-	22+60	RT	-	-	80	-	WHITE EDGELINE
0010	22+60	-	24+70	RT	-	-	54	-	WHITE EDGELINE 3' DASHES - OLD 16 RD
0010	24+70	-	62+25	RT	-	-	3,746	-	WHITE EDGELINE
0010	62+25	-	63+15	RT	-	-	24	-	WHITE EDGELINE 3' DASHES - HOFF RD
0010	63+15	-	105+10	RT	-	-	4,206	-	WHITE EDGELINE
0010	82+00	-	85+00	LT	500	-	-	-	WHITE
0010	106+05	-	299+80	RT	-	-	19,380	-	WHITE EDGELINE
0010	522+55	-	570+60	RT	-	-	4,805	-	WHITE EDGELINE
0010	571+40	-	596+70	RT	-	-	2,530	-	WHITE EDGELINE
0010	597+95	-	600+75	RT	-	-	280	-	WHITE EDGELINE
0010	600+75	-	602+60	RT	-	-	46	-	WHITE EDGELINE 3' DASHES
0010	602+60	-	606+75	RT	-	-	420	-	WHITE EDGELINE
0010	606+75	-	607+75	RT	-	-	24	-	WHITE EDGELINE 3' DASHES
0010	607+75	-	670+40	RT	-	-	6,270	-	WHITE EDGELINE
0010	21+80	-	2+22	LT	-	-	920	-	WHITE EDGELINE
0010	30+70	-	131+75	LT	-	-	10,115	-	WHITE EDGELINE
0010	132+60	-	299+80	LT	-	-	16,720	-	WHITE EDGELINE
0010	522+55	-	570+40	LT	-	-	4,785	-	WHITE EDGELINE
0010	571+25	-	596+85	LT	-	-	2,560	-	WHITE EDGELINE
0010	597+65	-	598+20	LT	-	-	15	-	WHITE EDGELINE 3' DASHES
0010	598+20	-	670+40	LT	-	-	7,220	-	WHITE EDGELINE
0010	21+80	-	26+88	ML	549	635	635	-	DASH - SOLID
0010	26+88	-	2+22	ML	830	830	830	-	SOLID - SOLID
0010	30+70	-	102+90	ML	14,440	14,440	14440	-	SOLID - SOLID
0010	102+90	-	110+85	ML	859	998	998	-	SOLID - DASH
0010	110+85	-	120+95	ML	84	252	252	-	DASH
0010	120+95	-	129+60	ML	934	1,084	1084	-	DASH - SOLID
0010	129+60	-	130+05	ML	90	90	90	-	SOLID - SOLID
0010	130+05	-	138+65	ML	929	1,078	1078	-	SOLID - DASH
0010	138+65	-	146+15	ML	63	187	187	-	DASH
0010	146+15	-	157+20	ML	1,193	1,382	1382	-	DASH - SOLID
0010	157+20	-	199+50	ML	8,460	8,460	8460	-	SOLID - SOLID
0010	199+50	-	210+80	ML	1,220	1,409	1409	-	SOLID - DASH
0010	210+80	-	215+65	ML	40	122	122	-	DASH
0010	215+65	-	224+95	ML	1,004	1,163	1163	-	DASH - SOLID
0010	224+95	-	299+80	ML	14,970	14,970	14970	-	SOLID - SOLID
0010	522+55	-	531+10	ML	923	1,140	1140	-	SOLID - DASH
0010	531+10	-	534+75	ML	30	92	92	-	DASH
0010	534+75	-	546+10	ML	1,226	1,420	1420	-	DASH - SOLID
0010	546+10	-	547+15	ML	210	210	210	-	SOLID - SOLID
0010	547+15	-	557+75	ML	1,145	1,330	1330	-	SOLID - DASH
0010	557+75	-	565+45	ML	64	192	192	-	DASH
0010	565+45	-	570+60	ML	556	646	646	-	DASH - SOLID
0010	570+60	-	583+95	ML	2,670	2,670	2670	-	SOLID - SOLID
0010	583+95	-	591+15	ML	778	900	900	-	SOLID - DASH
0010	591+15	-	591+65	ML	4	12	12	-	DASH
0010	591+65	-	596+85	ML	562	650	650	-	DASH - SOLID
				SUBTOTAL 1	54,333	56,362	140,562	66	

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646 MARKING SUMMARY CONTINUED

CATEGORY	STATION	TO	STATION	LOCATION	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH LF	643.3170 TEMPORARY MARKING LINE EPOXY 6-INCH LF	646.2020 MARKING LINE EPOXY 6-INCH LF	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	REMARKS
0010	597+65	-	602+40	ML	513	594	594	-	DASH - SOLID
0010	602+40	-	606+85	ML	890	890	890	-	SOLID - SOLID
0010	606+85	-	615+85	ML	972	1,130	1130	-	SOLID - DASH
0010	615+85	-	619+20	ML	28	82	82	-	DASH
0010	619+20	-	624+95	ML	621	720	720	-	DASH - SOLID
0010	624+95	-	627+50	ML	21	60	60	-	DASH
0010	627+50	-	633+40	ML	637	732	732	-	SOLID - DASH
0010	633+40	-	636+20	ML	23	60	60	-	DASH
0010	636+20	-	641+95	ML	621	720	720	-	DASH - SOLID
0010	641+95	-	644+20	ML	19	48	48	-	DASH
0010	644+20	-	650+00	ML	626	720	720	-	SOLID - DASH
0010	650+00	-	655+30	ML	572	655	655	-	DASH - SOLID
0010	655+30	-	657+75	ML	20	60	60	-	DASH
0010	657+75	-	663+50	ML	621	720	720	-	SOLID - DASH
0010	663+50	-	670+40	ML	58	173	173	-	DASH
				SUBTOTAL 2	6,242	7,364	7364	0	
				SUBTOTAL 1	54,333	56,362	140,562	66	
				SUBTOTAL 2	6,242	7,364	7,364	0	
				PROJECT TOTAL 0010	60,575	63,726	147,926	66	

650 STAKING SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 7930-08-71) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	REMARKS
0010	21+90	-	670+40	ML	-	-	41,385	1	-	
0010	34+50	-	-	ML	-	1	-	-	-	
0010	82+51	-	84+57	LT	-	-	-	-	206	GUARDRAIL SECTION 2
0010	82+68	-	84+12	RT	-	-	-	-	144	GUARDRAIL SECTION 2
0010	100+00	-	-	ML	-	1	-	-	-	
0010	534+26	-	-	ML	-	1	-	-	-	
0010	563+76	-	567+87	RT	-	-	-	-	411	GUARDRAIL SECTION 3
0010	564+97	-	568+38	LT	-	-	-	-	341	GUARDRAIL SECTION 3
0010	567+50	-	572+00	RT	-	1	-	-	-	CTH A CULVERT
0010	569+25	-	570+19	RT	1	-	-	-	-	
0010	570+19	-	570+54	RT	1	-	-	-	-	
0010	570+54	-	571+21	RT	1	-	-	-	-	
				TOTAL 0010	3	4	41,385	1	1,102	

SPV PARCEL

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0060.01 SPECIAL (01. VERIFY AND RPLACE EXISTING LAND PARCEL MONUMENT) EACH	SPV.0060.02 SPECIAL (02. RESEARCH AND LOCATE EXISTING LAND PARCEL MONUMENT) EACH	REMARKS
0010	82+00		85+00	LT	5	5	
0010	-	-	-	ML	2	2	UNDISTRIBUTED
				TOTAL 0010	7	7	

NOTE: USE ITEM SPV.0060.02 IF LANDMARK REFERENCE MONUMENT CANNOT BE FOUND OR IS DAMAGED.
DO NOT USE BOTH.

648 NO-PASSING ZONES

CATEGORY	STATION	TO	STATION	LOCATION	648.0100 LOCATING NO-PASSING ZONES MI
0010	21+90	-	215+65	ML	3.7
0010	522+55	-	670+40	ML	2.8
				TOTAL 0010	6.5

NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

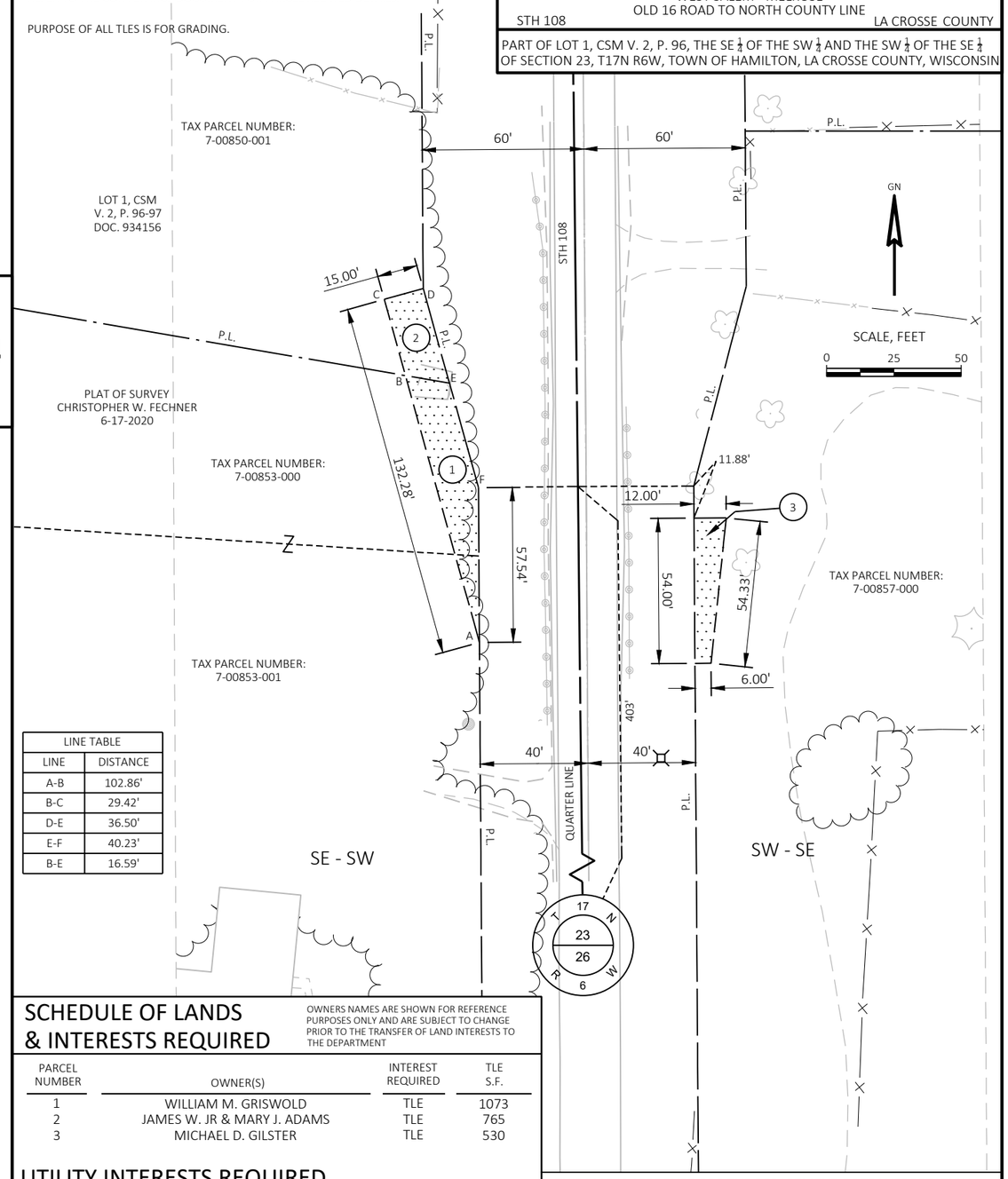
PURPOSE OF ALL TLES IS FOR GRADING.

R/W PROJECT NUMBER: 7930-08-21	SHEET NUMBER: 1

TLE ACQUISITION EXHIBIT
WEST SALEM - MELROSE
OLD 16 ROAD TO NORTH COUNTY LINE

STH 108 — LA CROSSE COUNTY

PART OF LOT 1, CSM V. 2, P. 96, THE SE ¼ OF THE SW ¼ AND THE SW ¼ OF THE SE ¼ OF SECTION 23, T17N R6W, TOWN OF HAMILTON, LA CROSSE COUNTY, WISCONSIN



LINE TABLE	
LINE	DISTANCE
A-B	102.86'
B-C	29.42'
D-E	36.50'
E-F	40.23'
B-E	16.59'

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.
1	WILLIAM M. GRISWOLD	TLE	1073
2	JAMES W. JR & MARY J. ADAMS	TLE	765
3	MICHAEL D. GILSTER	TLE	530

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
N/A	N/A	N/A

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
SOUTHWEST REGION - LA CROSSE

SIGNATURE: Cory Schlagel DATE: 11/03/2021

PRINT NAME: CORY SCHLAGEL

FILE NAME : 79300821_TLE_EXHIBIT.DWG PLOT DATE : 11/2/2021 12:47 PM R/W PROJECT: 7930-08-21

4

R/W PROJECT NUMBER: PROJECTNUMBER	SHEET NUMBER: SHNO

TLEACQUISITIONEXHIBIT
PROJECTTITLE
PROJECTSUBTITLE

HIGHWAY — COUNTY COUNTY

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SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION
REGION AND CITY REGION OFFICE

SIGNATURE: _____ DATE: _____

PRINT NAME:

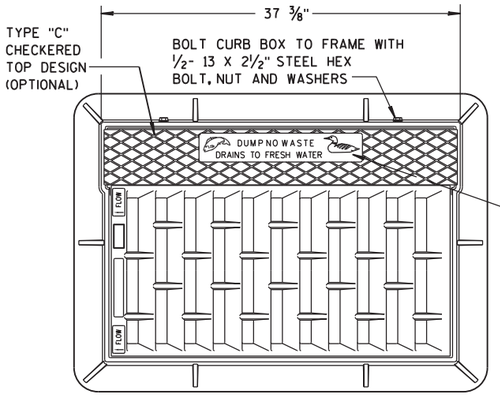
FILE NAME : 79300821_TLE_EXHIBIT.DWG PLOT DATE : 11/2/2021 12:47 PM R/W PROJECT: R/W PROJ NO

4

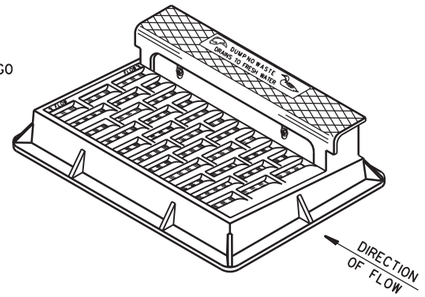
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS
08F08-02	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B53-02A	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02B	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02C	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02D	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02E	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02F	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02G	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02H	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02I	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-08A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C34-04	STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE 2
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D32-07	TRAFFIC CONTROL, ONE LANE ROAD STOP CONDITION
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D51-01	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

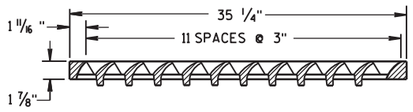
6

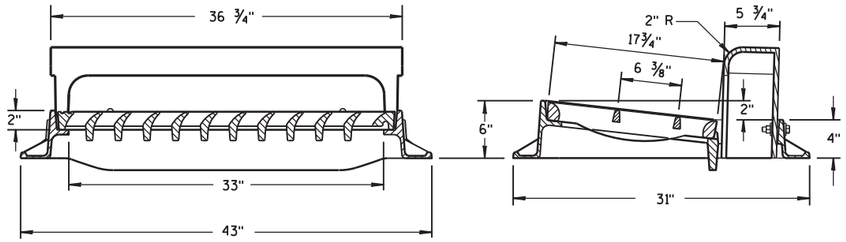


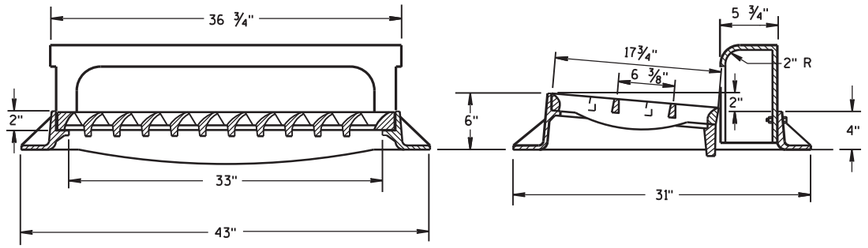
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

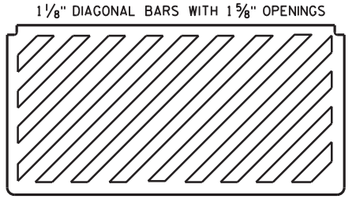






TYPE "H"

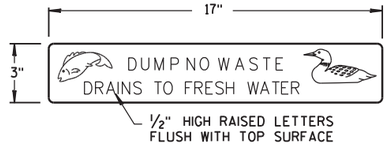
NOTE: EITHER CASTING IS ACCEPTABLE



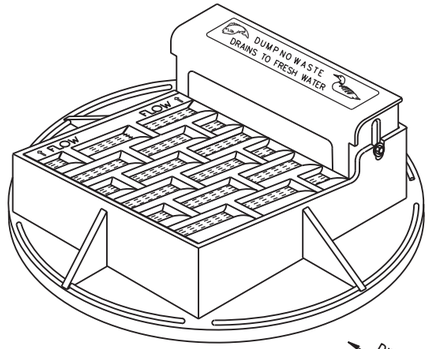
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

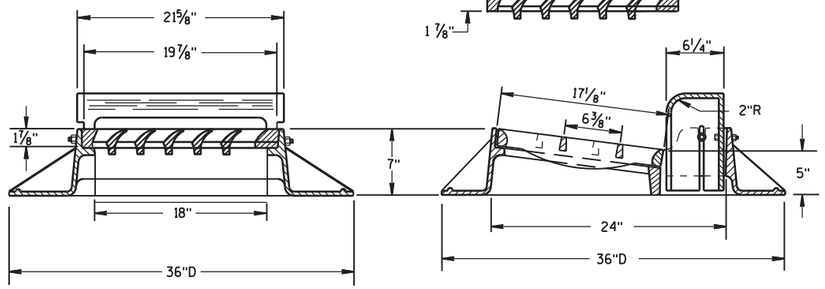


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



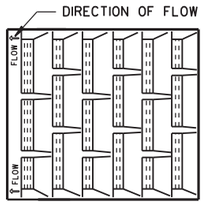
TYPE "A"

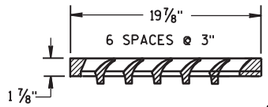
GENERAL NOTES

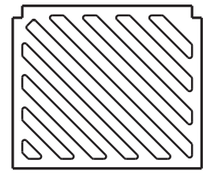
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

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



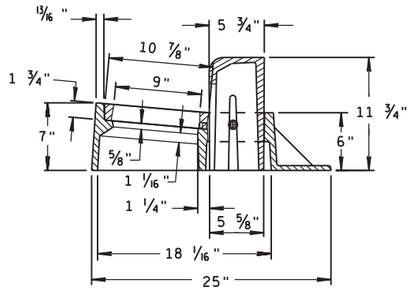


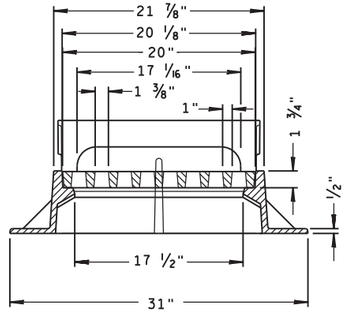


SPECIAL GRATE FOR TYPE "A" COVER

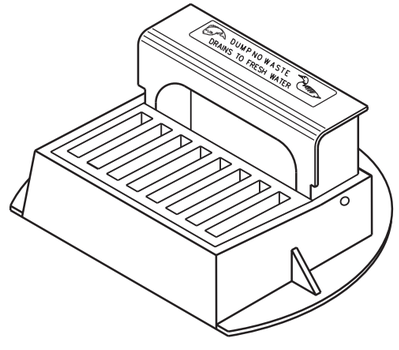
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"

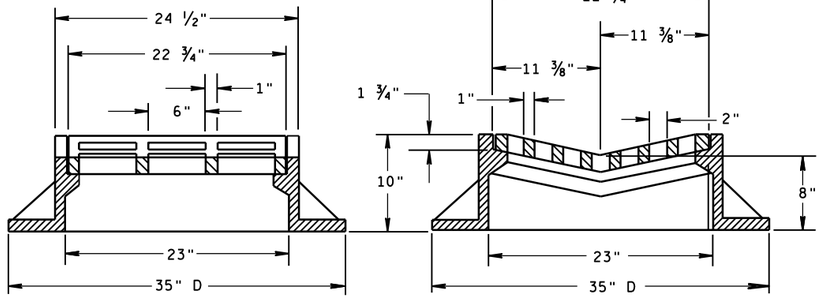


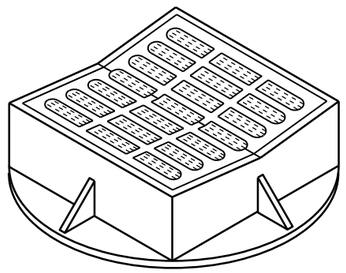
INLET COVERS TYPE A, H, A-S, H-S & Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

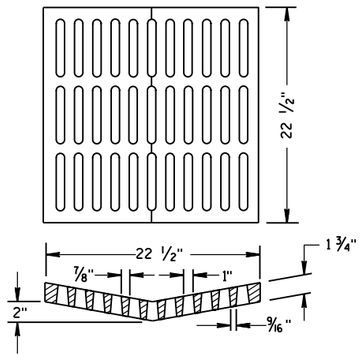
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

S.D.D. 8 A 5-19a



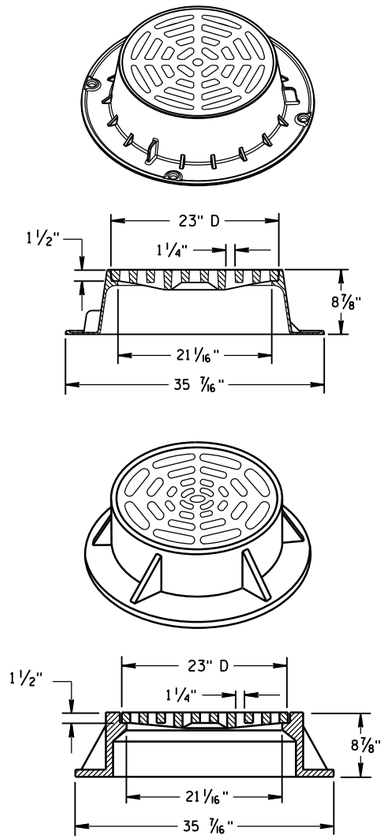


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

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



TYPE "C"

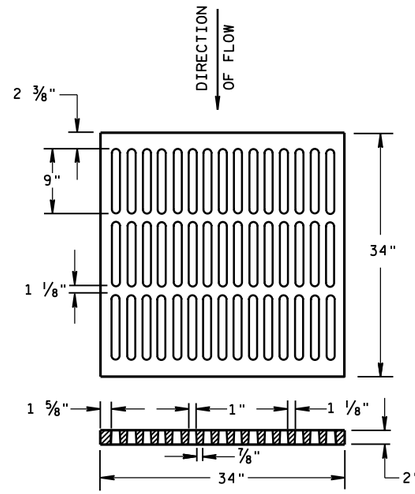
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

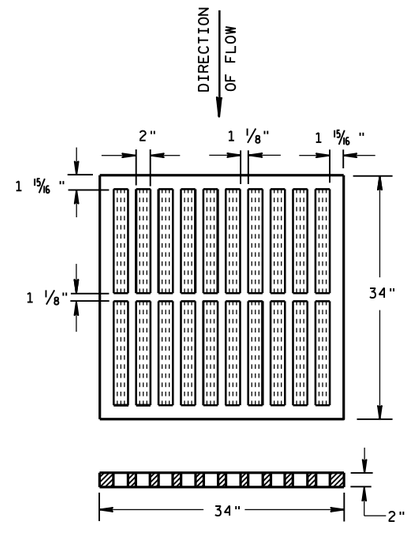
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



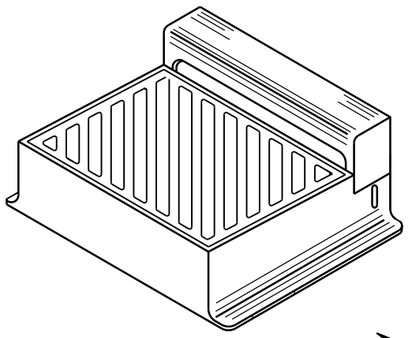
ALTERNATIVE TYPE "MS"

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

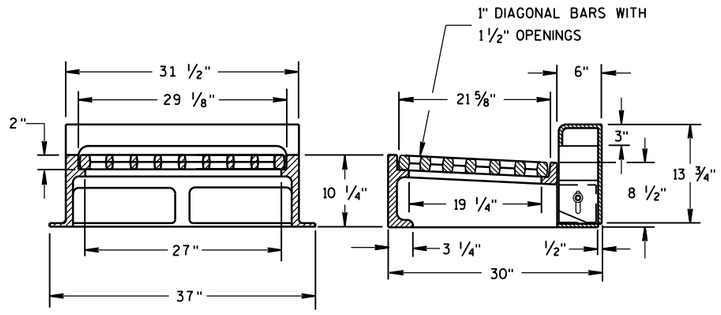


TYPE "MS"

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



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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

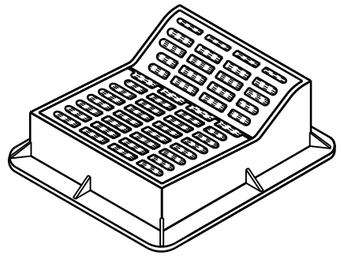
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

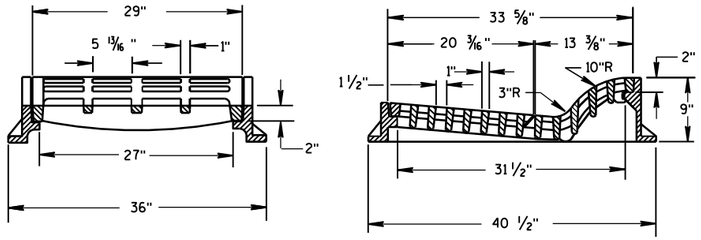
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

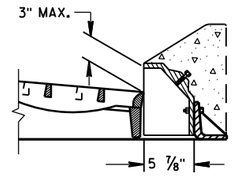
S.D.D. 8 A 5-19b





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

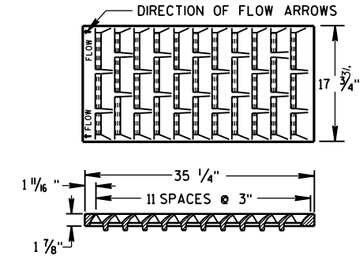
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

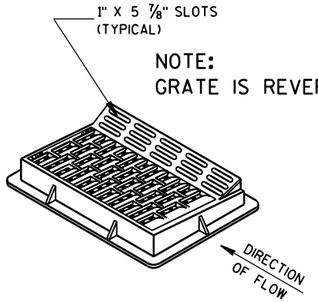
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

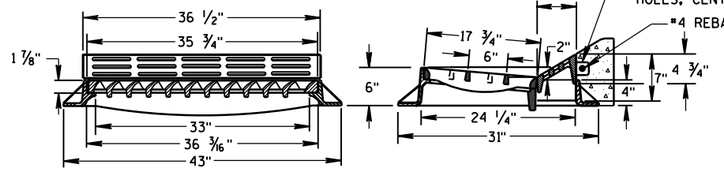
GENERAL NOTES

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

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



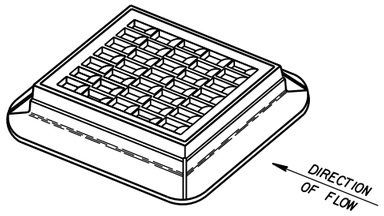


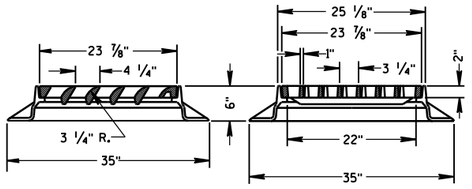


TYPE "HM"

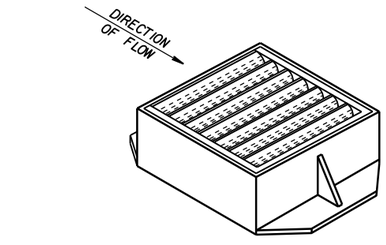
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

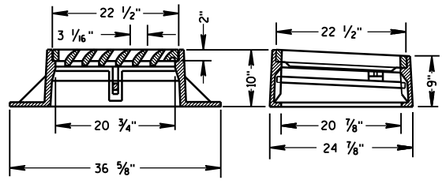
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



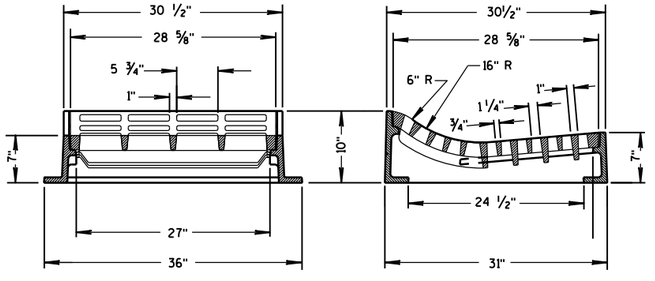


TYPE "S"



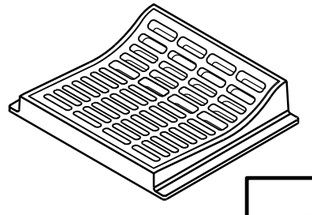


TYPE "V"



TYPE "T"

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

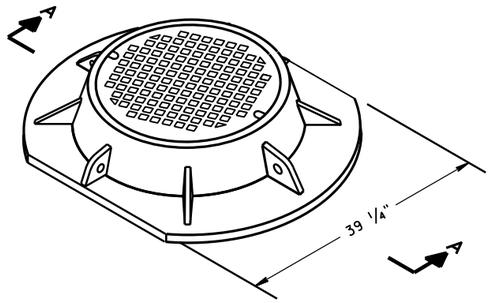
FHWA

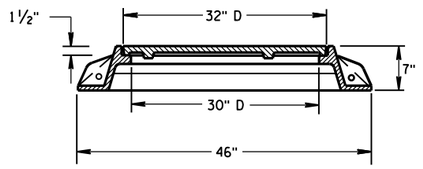
6

S.D.D. 8 A 5-19c

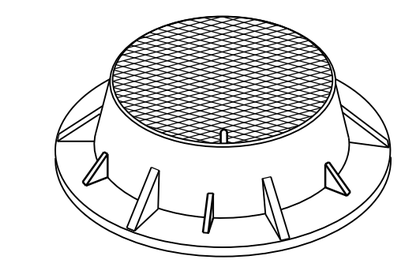
6

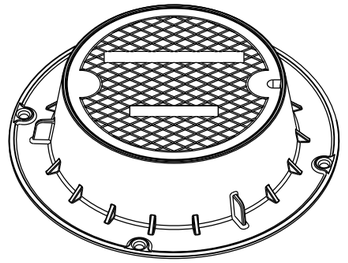
S.D.D. 8 A 5-19c

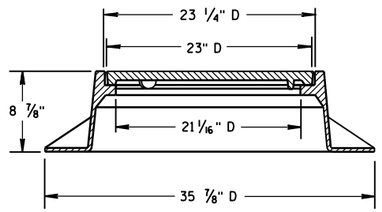


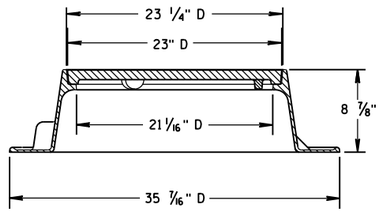


SECTION A-A
TYPE "K"









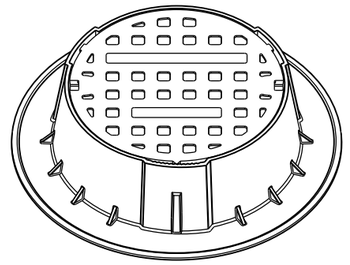
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

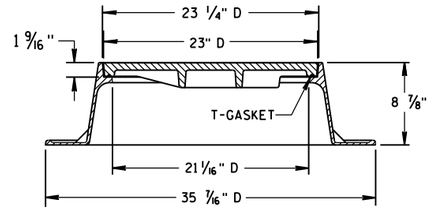
GENERAL NOTES

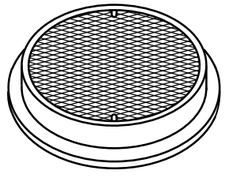
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

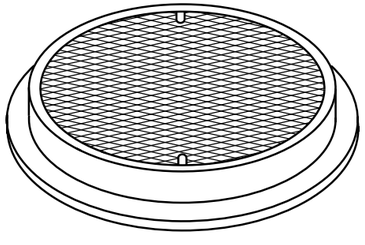
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

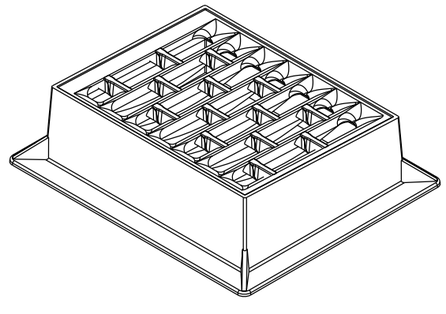
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

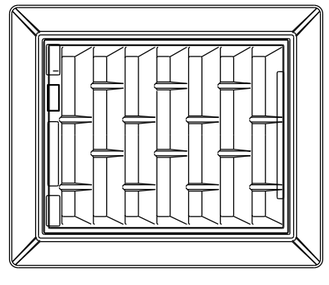


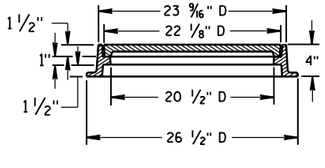




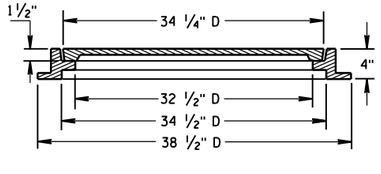




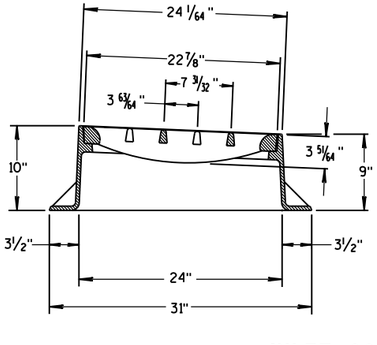


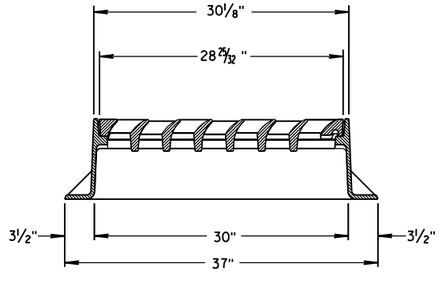


TYPE "L"

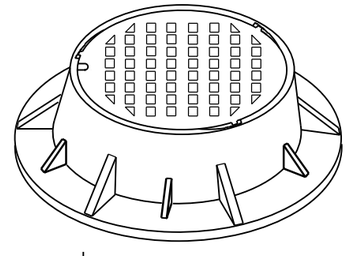


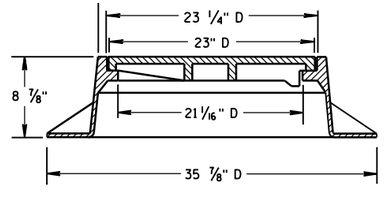
TYPE "M"





INLET COVER TYPE "BW"





TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

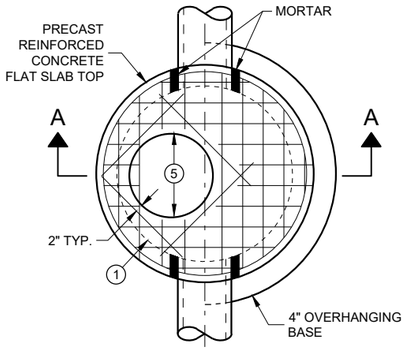
APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

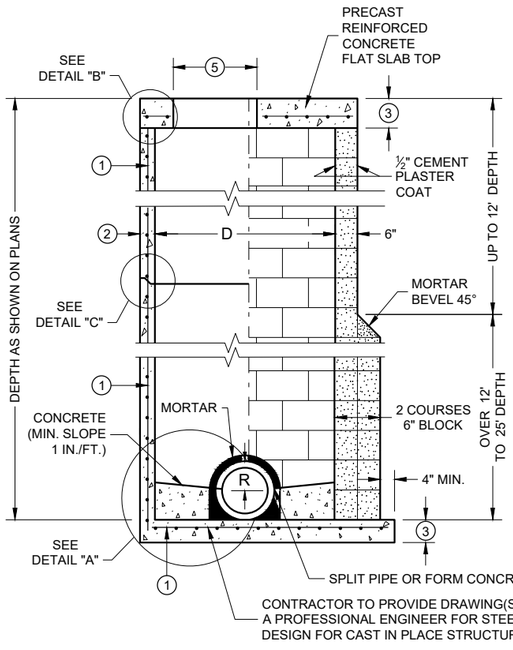
S.D.D. 8 A 5-19d

6

S.D.D. 8 A 5-19d



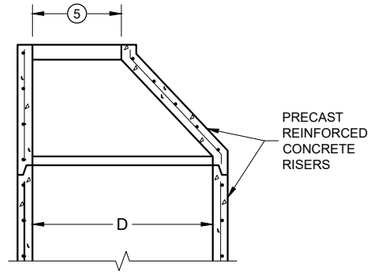
PLAN VIEW
CIRCULAR OPENING



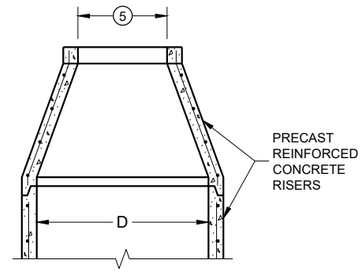
SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (1)



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

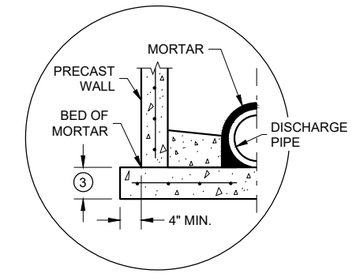
MANHOLE COVER OPENING MATRIX

OPENING SIZE (FT.) \ MANHOLE COVER TYPE	C	ALL J'S	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

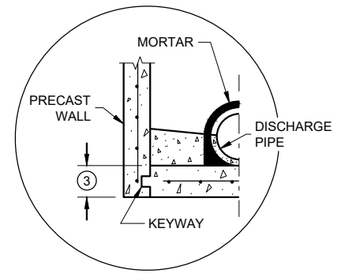
PIPE MATRIX

MANHOLE SIZE (DIA.)	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES		MINIMUM WALL THICKNESS (IN)	MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12	4	6
4-FT	24	18	4	6
5-FT	36	24	5	8
6-FT	42	36	6	8
7-FT	48	36/42*	7	8
8-FT	60	42	8	8
9-FT	66	54	9	10
10-FT	72	60	10	10

*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES.
SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.

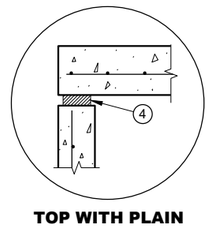


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

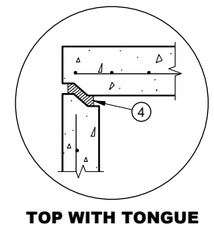


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

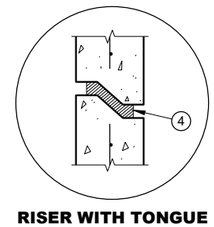
DETAIL "A"



TOP WITH PLAIN END JOINT

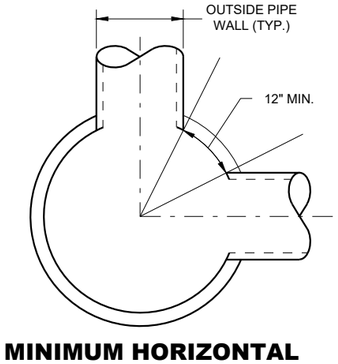


TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B" **DETAIL "C"**



MINIMUM HORIZONTAL PIPE SEPARATION

GENERAL NOTES

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

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

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

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

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

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES. CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "D".

(1) FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(2) SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES

(3) SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.

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

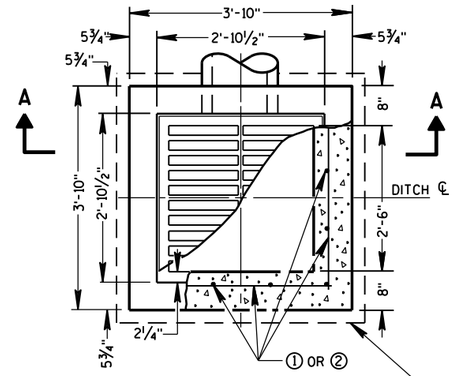
(5) SEE MANHOLE COVER OPENING MATRIX.

MANHOLES, 3-FT, 4-FT 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

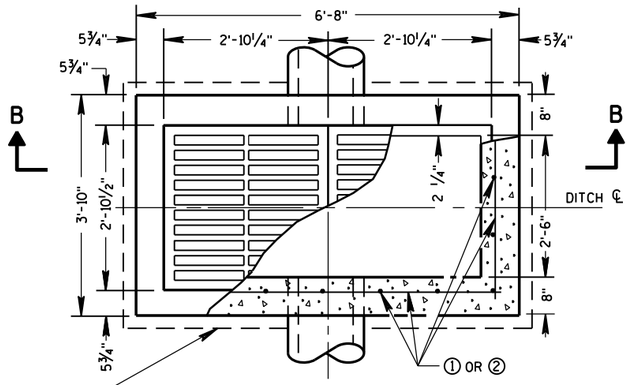
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6
SDD 08B09 - 03

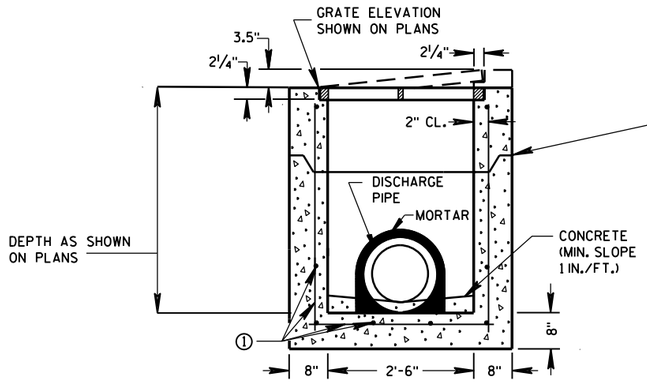


PLAN VIEW

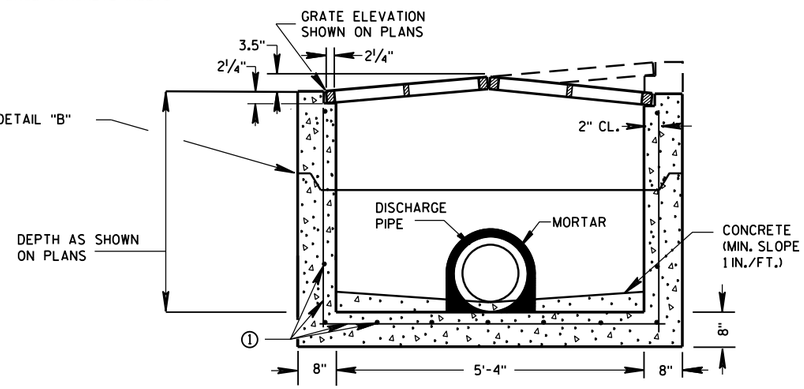


PLAN VIEW

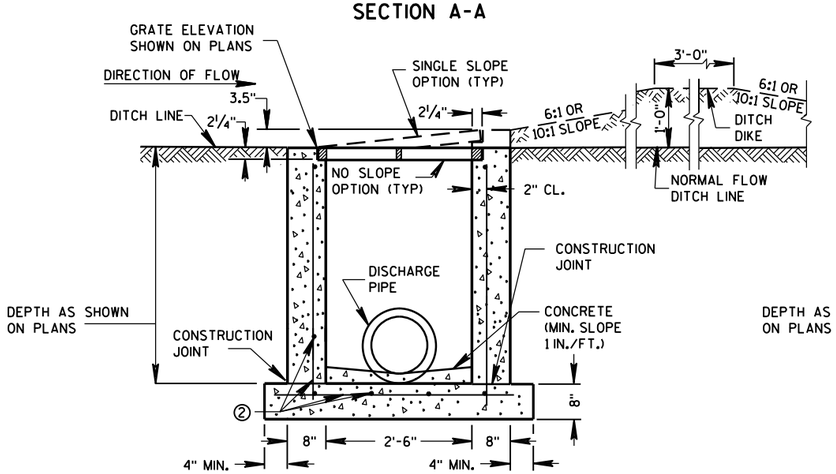
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



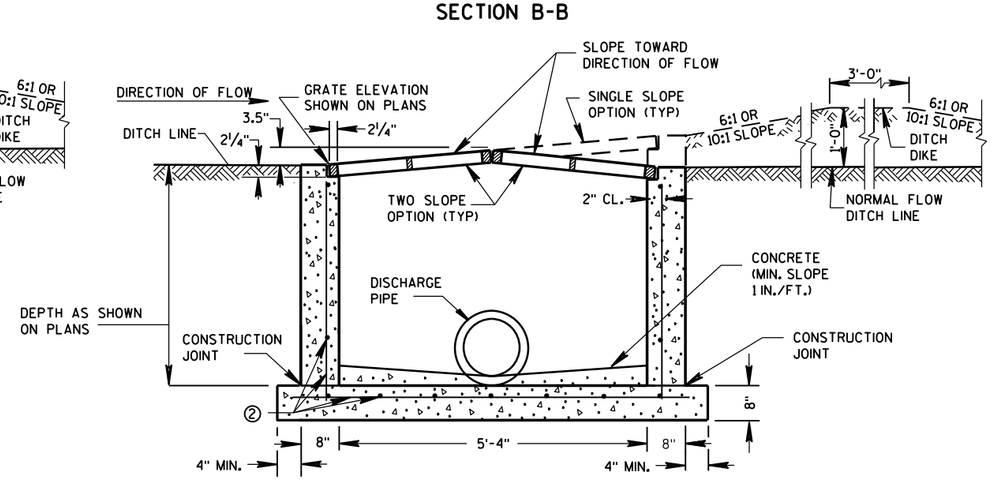
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

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

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

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

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

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

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

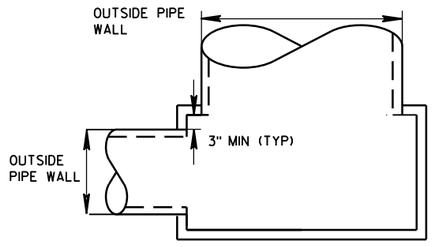
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

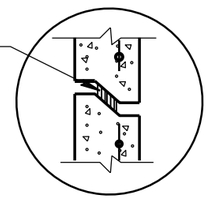
PIPE MATRIX

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



DETAIL "A"

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



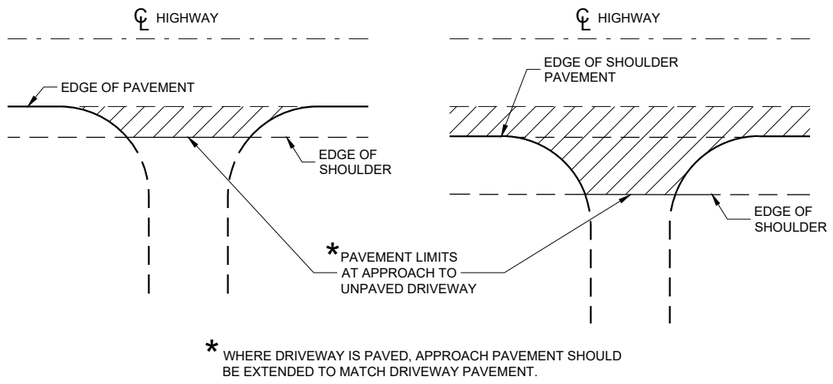
DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVI ENT
FHWA

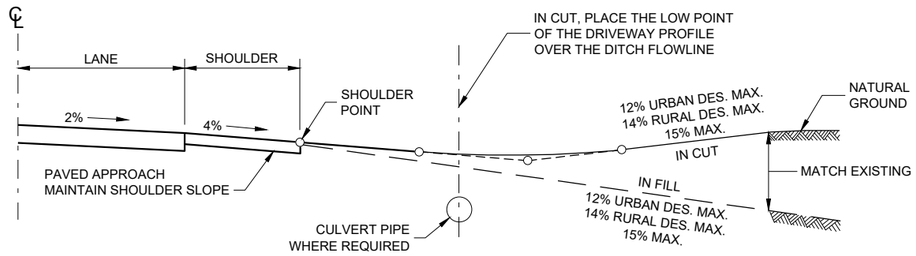
6
S.D.D. 8 C 8-2



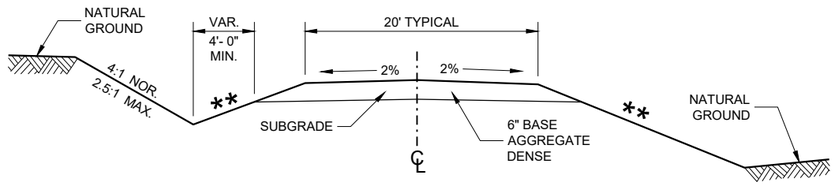
PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)



TYPICAL DRIVEWAY PROFILES

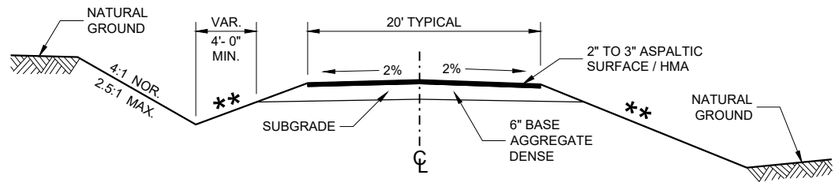


IN CUT IN FILL

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



IN CUT IN FILL

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE

6

SDD 08D21 - 01

DRIVEWAYS WITHOUT CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

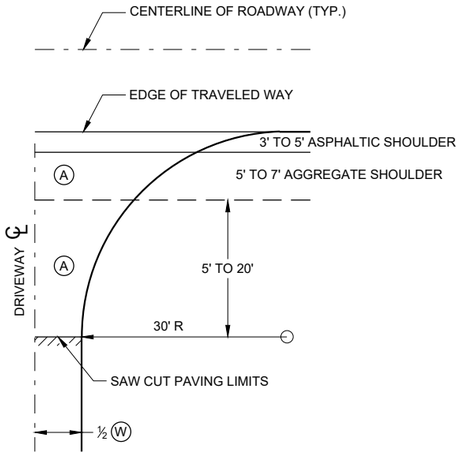
FHWA

6

SDD 08D21 - 01

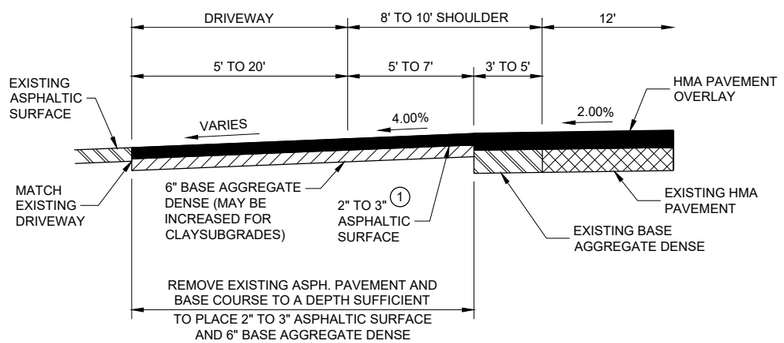
GENERAL NOTES

(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.



PLAN VIEW

HALF SECTION



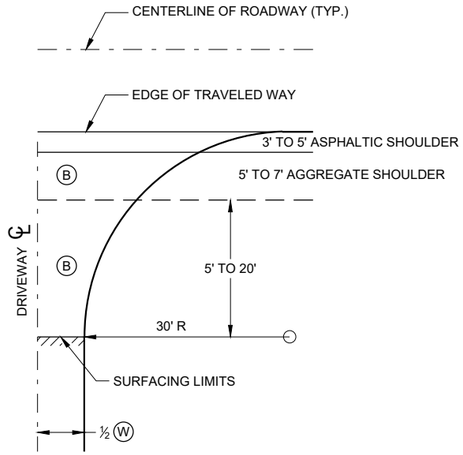
PROFILE VIEW

RURAL ENTRANCE
WITH ASPHALTIC SURFACE
RESURFACING PROJECTS

(A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. (TON)

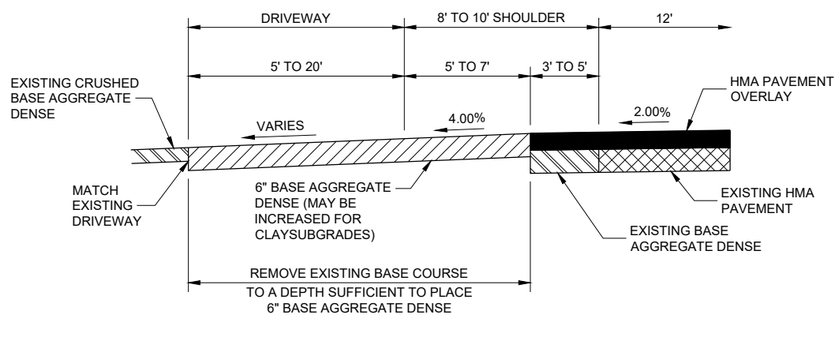
(B) : PAID FOR AS BASE AGGREGATE DENSE 1 ¼" (TON)

(W) : DRIVEWAY WIDTH 16' MIN. - 24' MAX.



PLAN VIEW

HALF SECTION



PROFILE VIEW

RURAL ENTRANCE
WITH AGGREGATE SURFACE
6" BASE AGGREGATE DENSE
RESURFACING PROJECTS

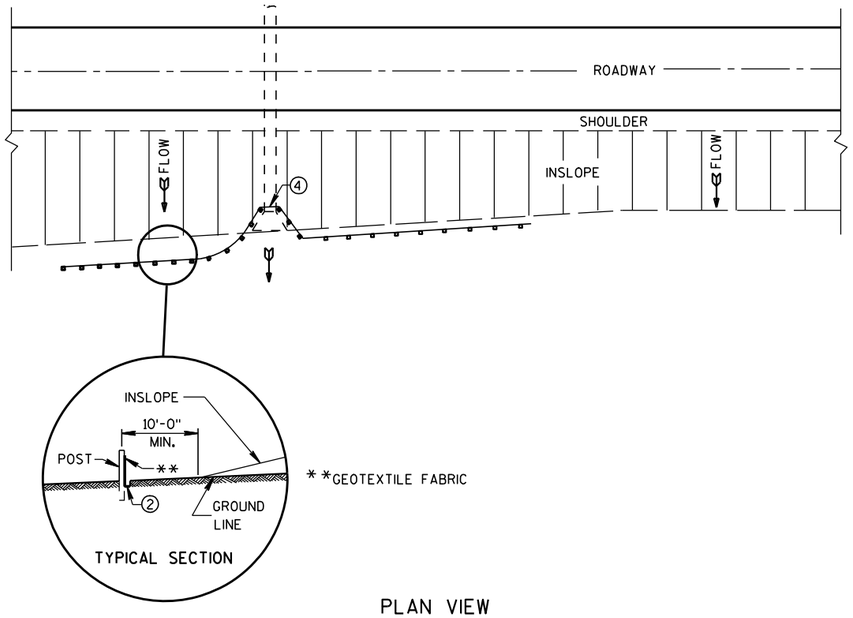
DRIVEWAYS WITHOUT CURB AND GUTTER RESURFACING PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

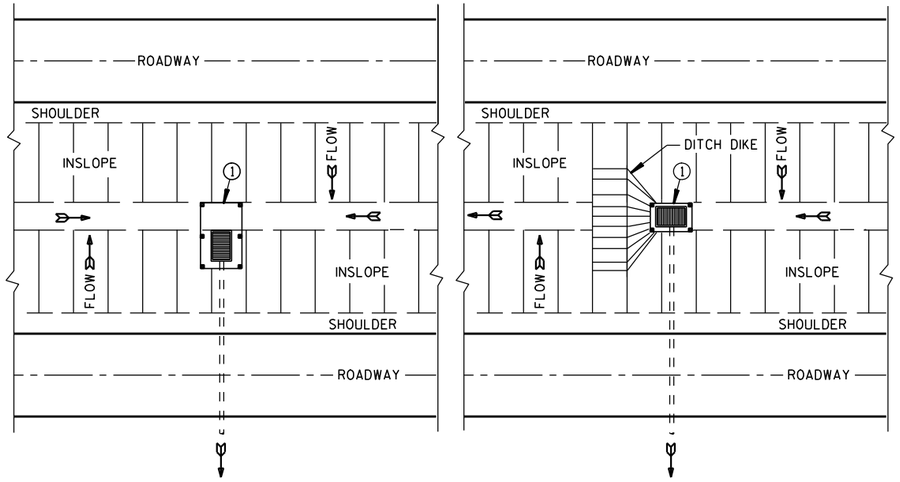
6

SDD 08D22 - 01



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



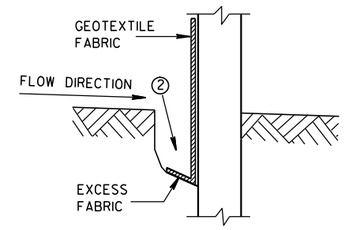
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

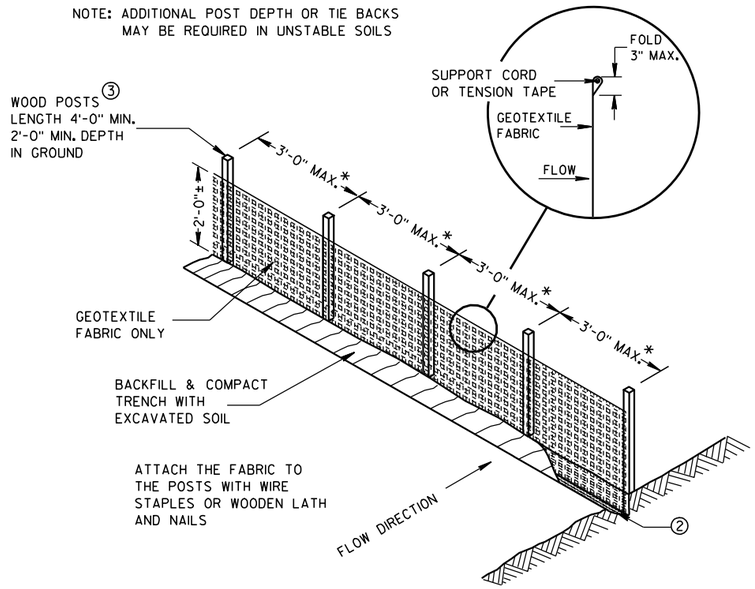
GENERAL NOTES

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

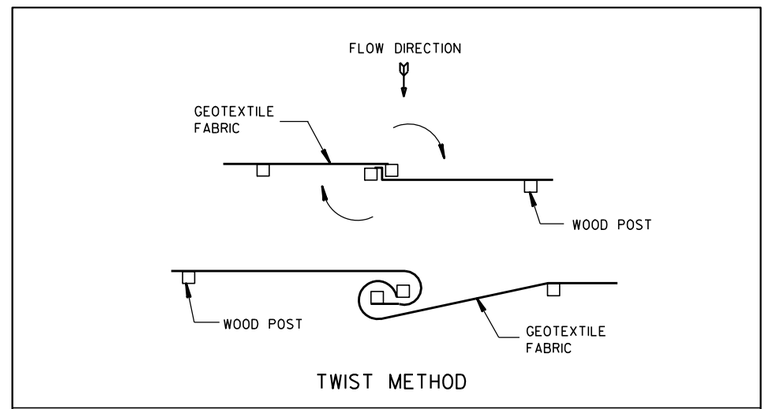
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



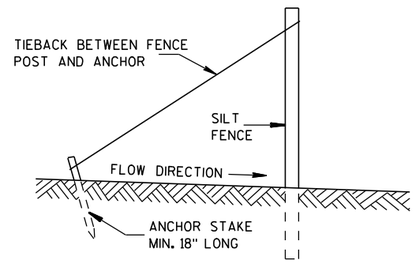
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

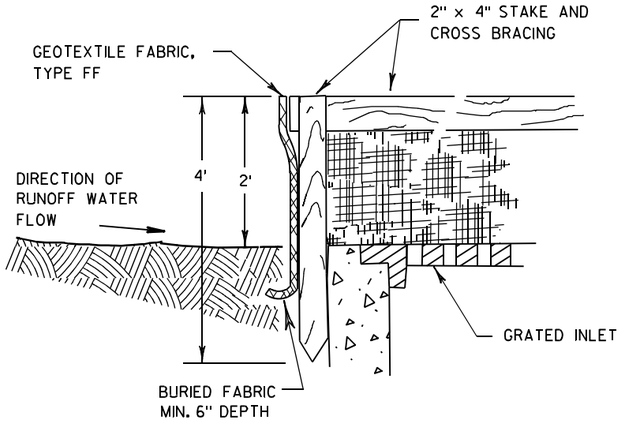
(WHEN REQUIRED BY THE ENGINEER)

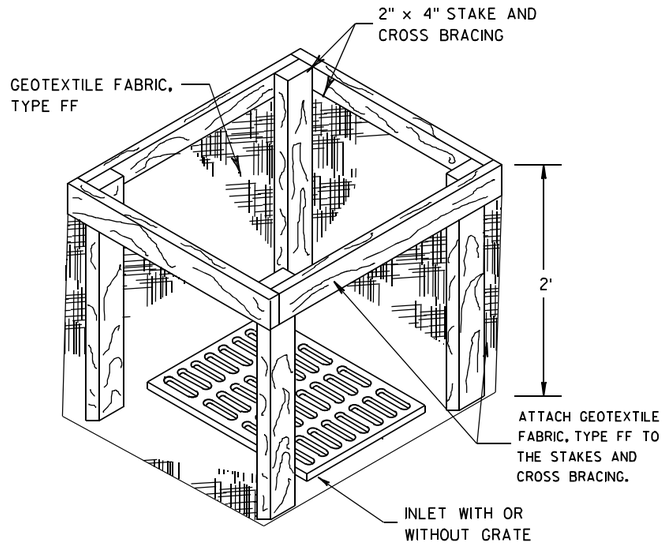
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

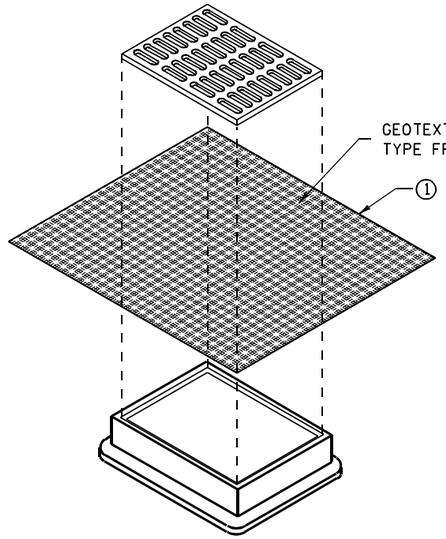
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 9-6



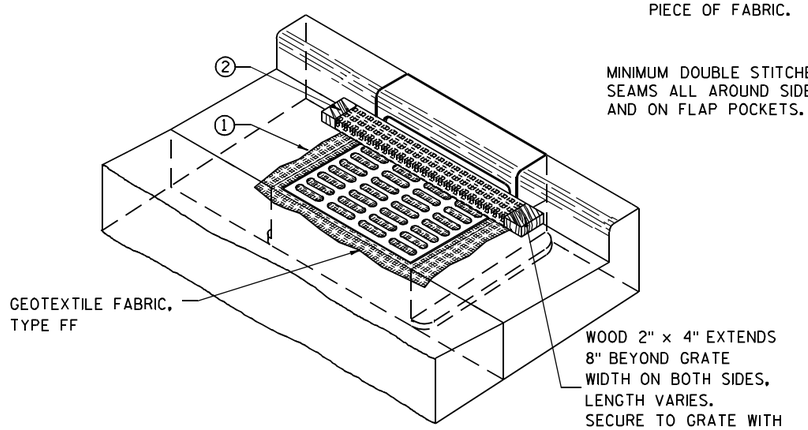


INLET PROTECTION, TYPE A

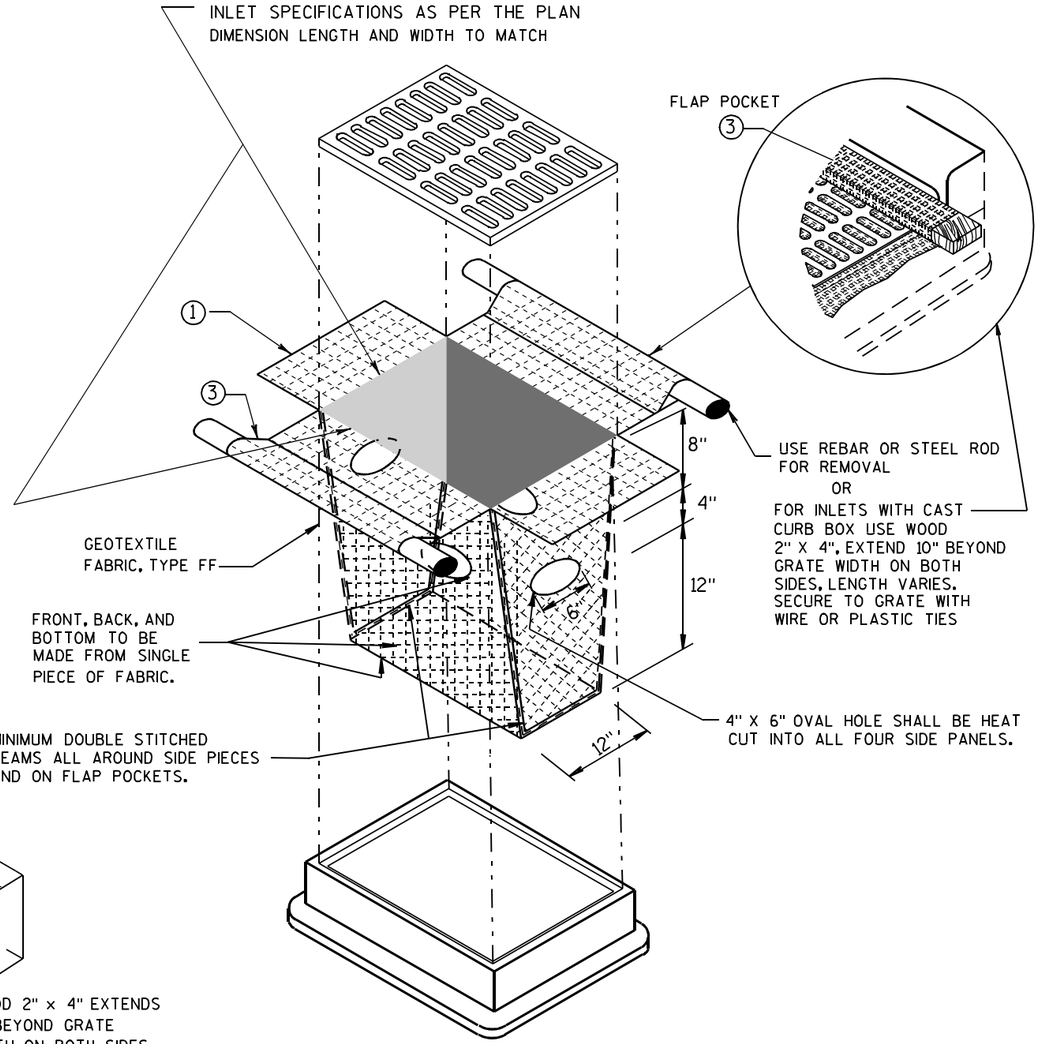


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2

METAL APRON ENDWALLS

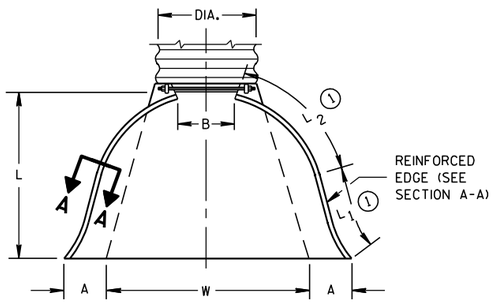
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

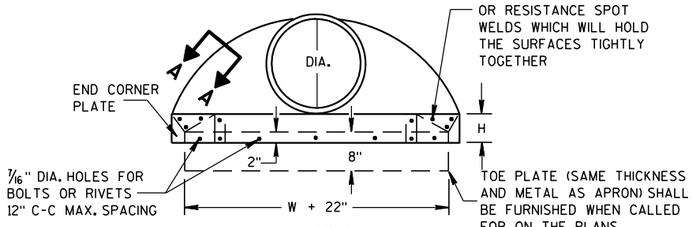
REINFORCED CONCRETE APRON ENDWALLS

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

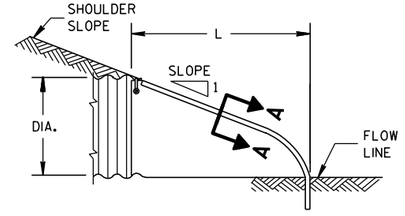
*MINIMUM
**MAXIMUM



PLAN VIEW

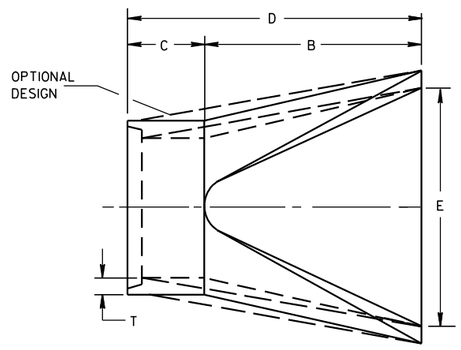


END VIEW

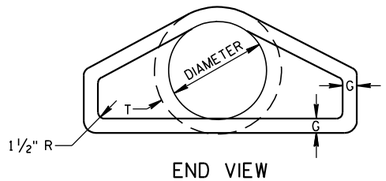


SIDE ELEVATION

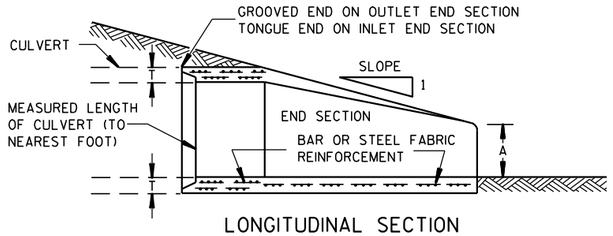
METAL ENDWALLS



PLAN

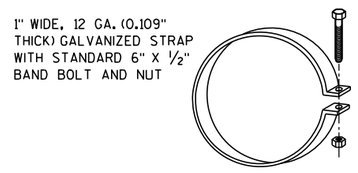


END VIEW



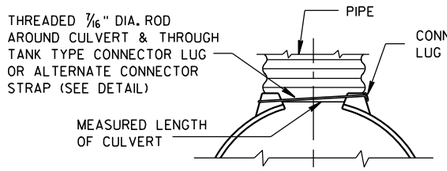
LONGITUDINAL SECTION

CONCRETE ENDWALLS

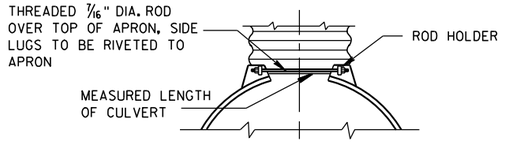


ALTERNATE FOR TYPE 1 CONNECTION

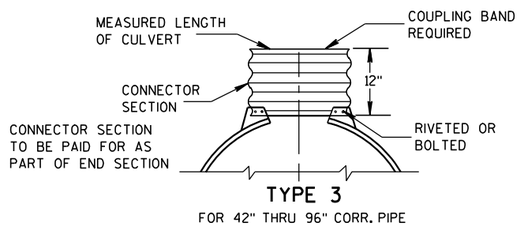
END SECTION CONNECTOR STRAP



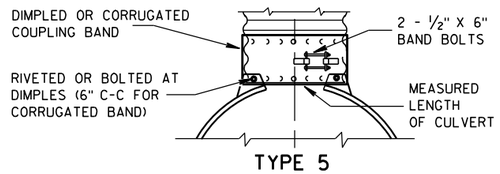
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

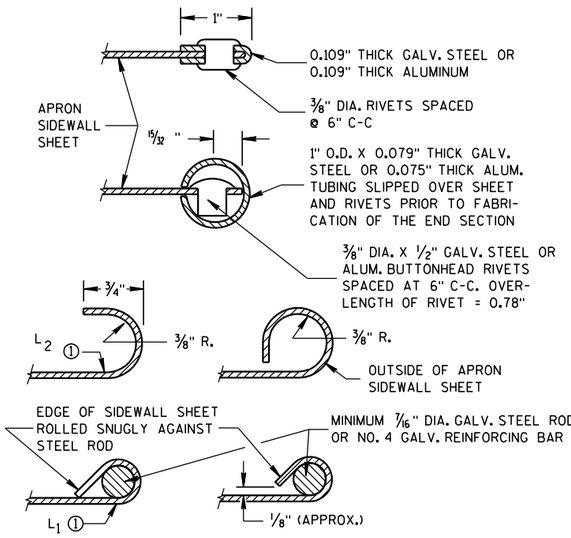
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

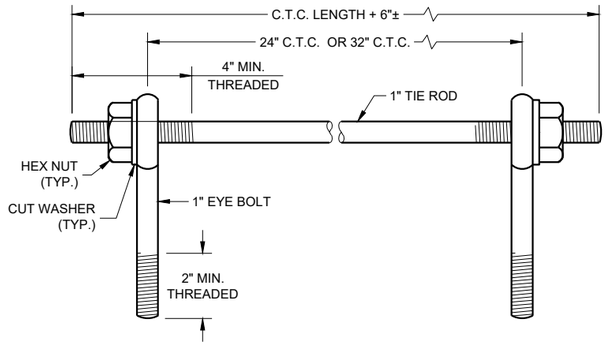
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

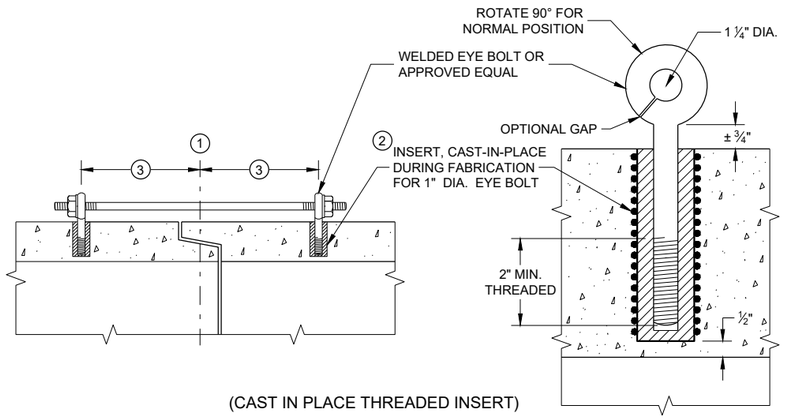
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 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 APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

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

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

(2) THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

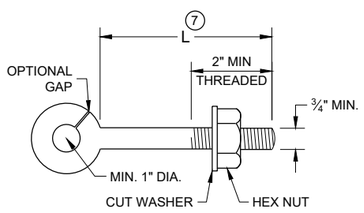
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

(4) BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

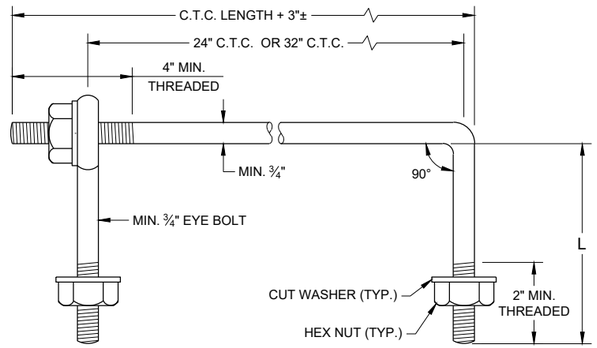
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

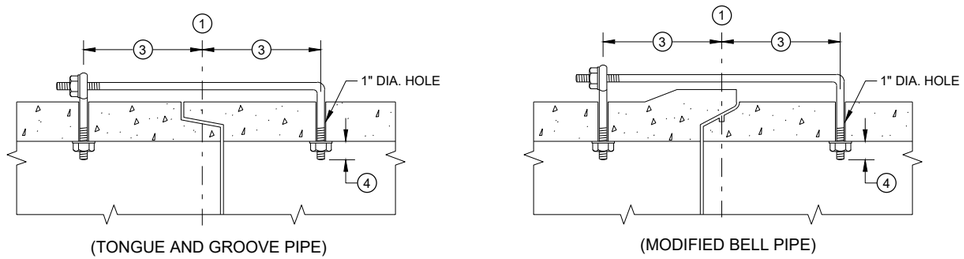


EYE BOLT (7)

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)

(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

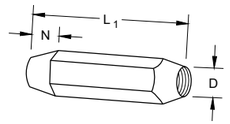
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



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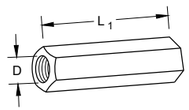
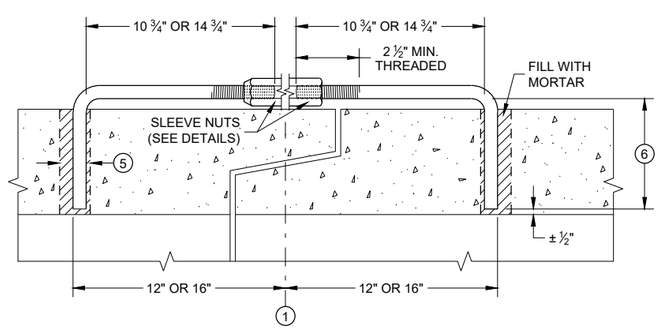


PLAIN

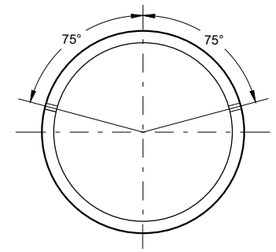
RIGHT AND LEFT THREADS

SLEEVE NUTS



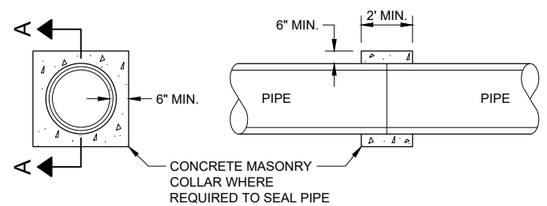
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

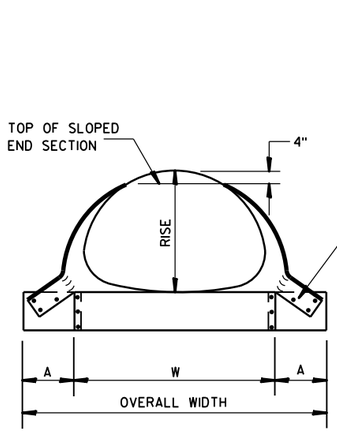
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

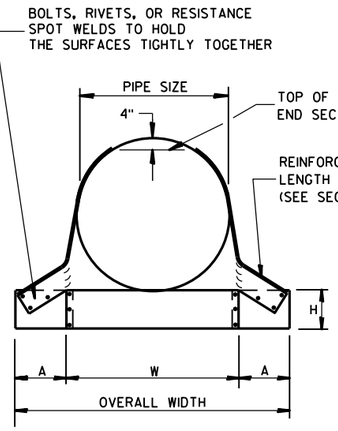
FHWA

SDD 08F04 - 08

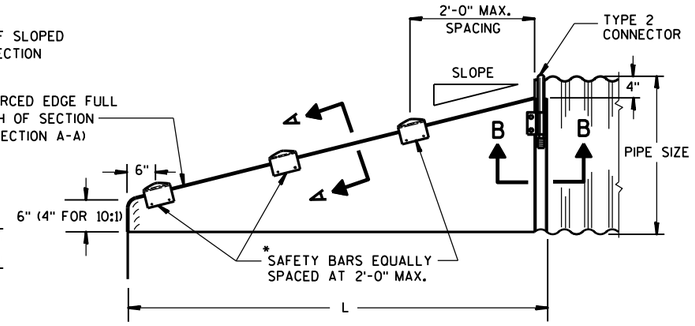
SDD 08F04 - 08



FRONT VIEW



FRONT VIEW



SIDE VIEW

GENERAL NOTES

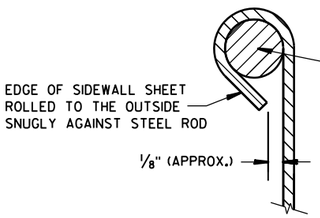
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

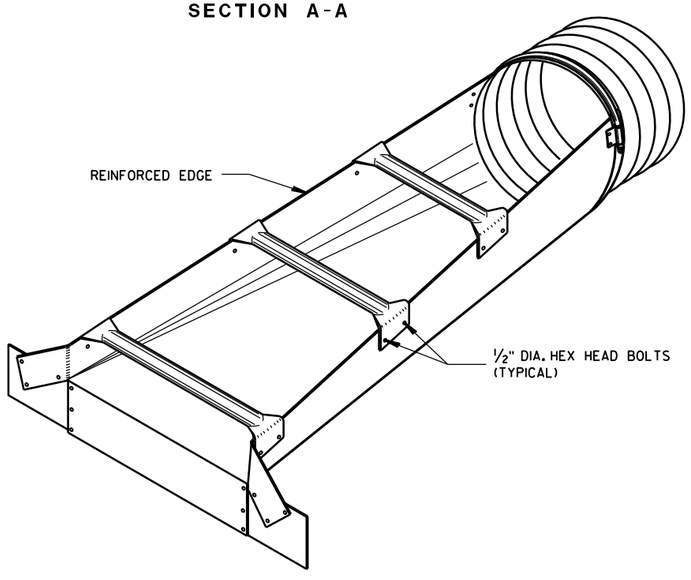
SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

STEEL APRON ENDWALLS FOR CULVERT PIPE
SLOPED SIDE DRAINS

PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1	100
21	.064	8	6	27	43	4:1	44	6:1	66	10:1	130
24	.064	8	6	30	46	4:1	56	6:1	84	10:1	160
30	.109	12	9	36	60	4:1	80	6:1	120	10:1	220
36	.109	12	9	42	66	4:1	104	6:1	156	10:1	280
42	.109	16	12	48	80	4:1	128	6:1	192	——	——
48	.109	16	12	54	86	4:1	152	6:1	228	——	——
54	.109	16	12	60	92	4:1	176	6:1	264	——	——
60	.109	16	12	66	98	4:1	200	6:1	300	——	——



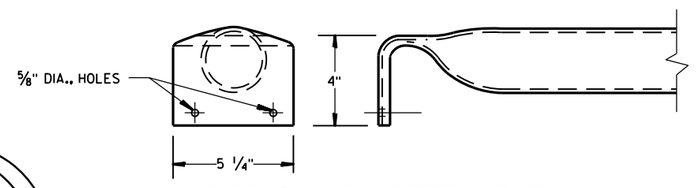
SECTION A-A



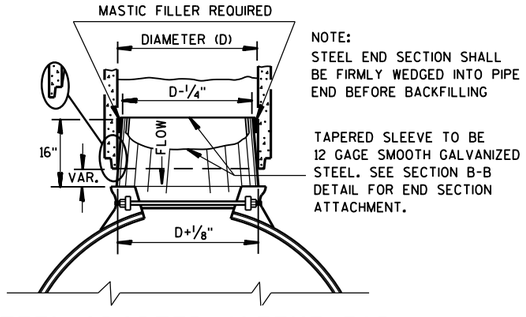
ISOMETRIC VIEW

*NOTE:
THREE SAFETY BARS ARE SHOWN. ACTUAL NUMBER OF BARS REQUIRED AT A 2'-0" C-C MAX. SPACING WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

3" GALVANIZED PIPE. FLATTEN ENDS, THEN BEND OUTSIDE 4" TO MATCH END SECTION SIDES.



DETAIL OF SAFETY BAR

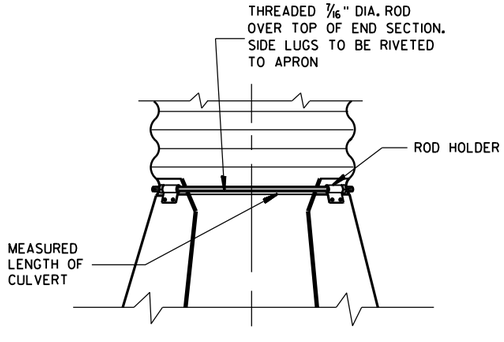


STEEL ADAPTER SLEEVE FOR CONCRETE PIPE

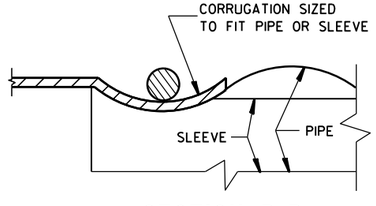
STEEL APRON ENDWALLS FOR PIPE ARCH
SLOPED SIDE DRAINS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) ①	DIMENSIONS (Inches) A	H	W	OVERALL WIDTH	L DIMENSIONS SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	17	13	.064 *	7	6	30	44	4:1	19	6:1	30	10:1 ②	70
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30	10:1	70
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48	10:1	100
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60	10:1	120
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84	10:1	160
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114	10:1	210
42	49	33	.109	16	12	55	87	4:1	92	6:1	138	——	——
48	57	38	.109	16	12	63	95	4:1	112	6:1	168	——	——
54	64	43	.109	16	12	70	102	4:1	132	6:1	198	——	——

① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
② ACTUAL SLOPE GREATER THAN 10:1.



TYPE 2
CONNECTION DETAIL



SECTION B-B

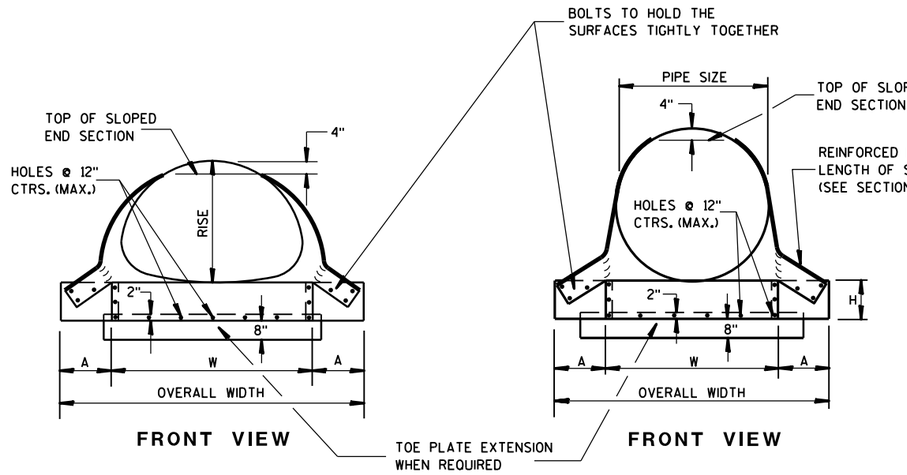
STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

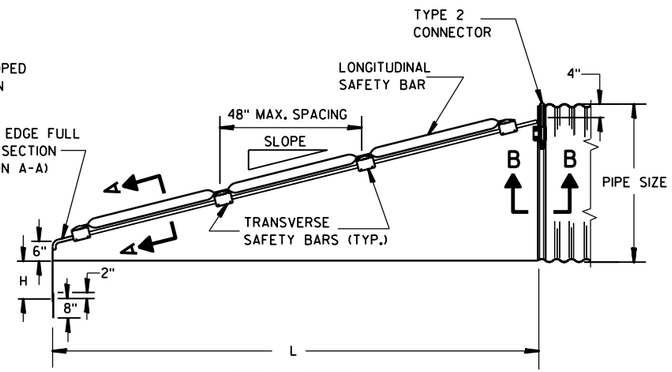
6

S.D.D. 8 F 7-5



FRONT VIEW

FRONT VIEW



SIDE VIEW
(48" SIZE ILLUSTRATED)

GENERAL NOTES

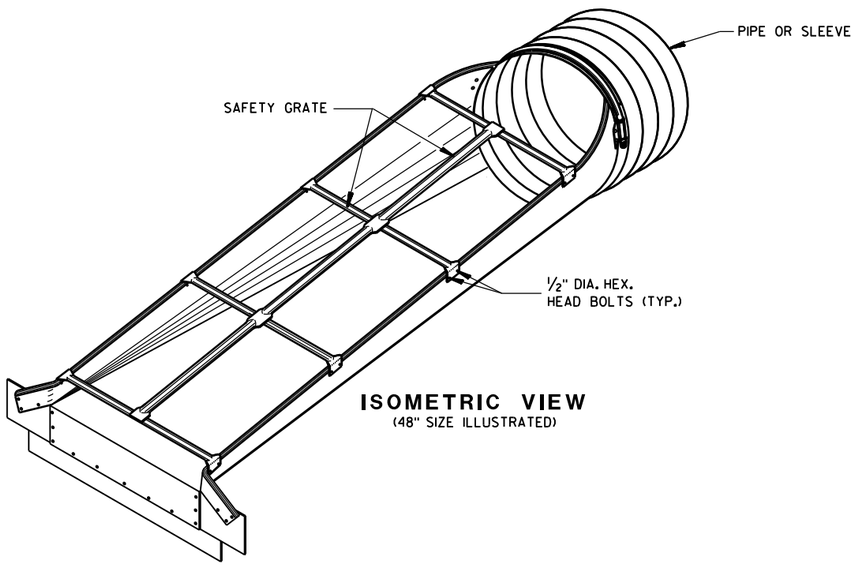
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

SAFETY GRATES SHALL BE FABRICATED FROM 3-INCH DIAMETER GALVANIZED PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL. THE LONGITUDINAL BAR SHALL BE WELDED TO THE TRANSVERSE BARS WHERE THE BARS CROSS. THE NUMBER OF TRANSVERSE BARS REQUIRED WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

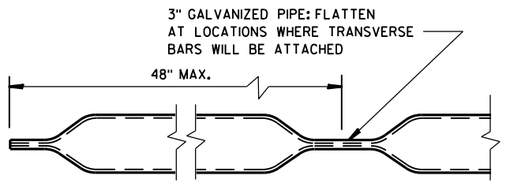
SLOPED STEEL ENDWALLS LOCATED AT THE ENDS OF CONCRETE CULVERT PIPE SHALL BE FURNISHED WITH STEEL ADAPTER SLEEVES.

STEEL APRON ENDWALLS FOR CULVERT PIPE CROSS DRAINS

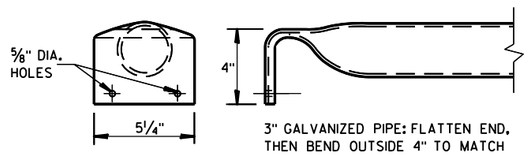
PIPE DIA. (IN.)	MIN. THICK.		DIMENSIONS (Inches)				L DIMENSIONS			
	IN.	GAGE	A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
36	.109	12	12	9	42	66	4:1	104	6:1	156
42	.109	12	16	12	48	80	4:1	128	6:1	192
48	.109	12	16	12	54	86	4:1	152	6:1	228
54	.109	12	16	12	60	92	4:1	176	6:1	264
60	.109	12	16	12	66	98	4:1	200	6:1	300



ISOMETRIC VIEW
(48" SIZE ILLUSTRATED)



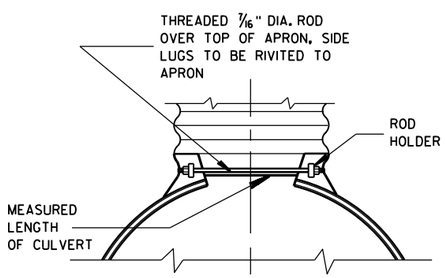
LONGITUDINAL SAFETY BAR



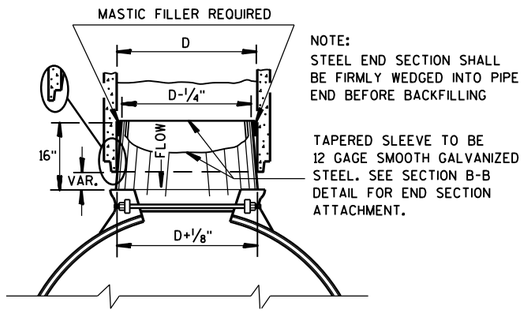
TRANSVERSE SAFETY BAR

STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED CROSS DRAINS

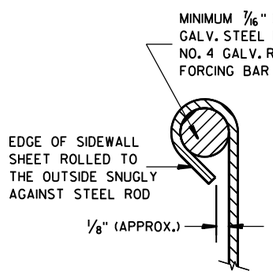
EQUIV. DIA. (IN.)	INCHES		MIN. THICK.		DIMENSIONS (Inches)				L DIMENSIONS			
	SPAN	RISE	IN.	GAGE	A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
30	35	24	.079	14	12	9	41	65	4:1	56	6:1	84
36	42	29	.109	12	12	9	48	72	4:1	76	6:1	114
42	49	33	.109	12	16	12	55	87	4:1	92	6:1	138
48	57	38	.109	12	16	12	63	95	4:1	112	6:1	168
54	64	43	.109	12	16	12	70	102	4:1	132	6:1	198
60	71	47	.109	12	16	12	77	109	4:1	148	6:1	222



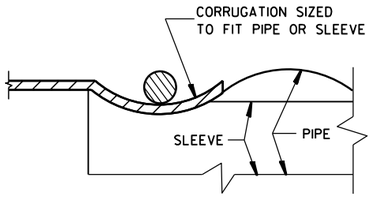
TYPE 2 CONNECTOR DETAIL



STEEL ADAPTER SLEEVE FOR CONCRETE PIPE



SECTION A-A



SECTION B-B

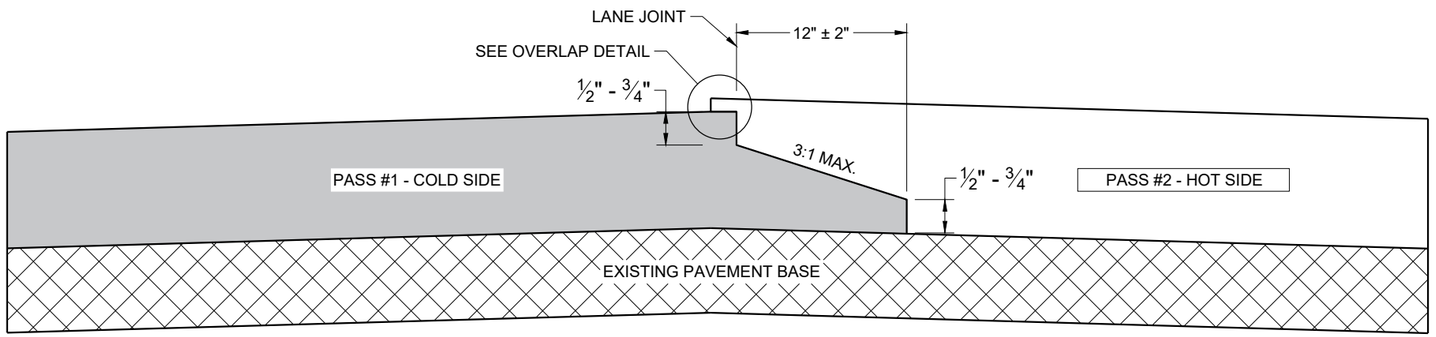
STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED CROSS DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

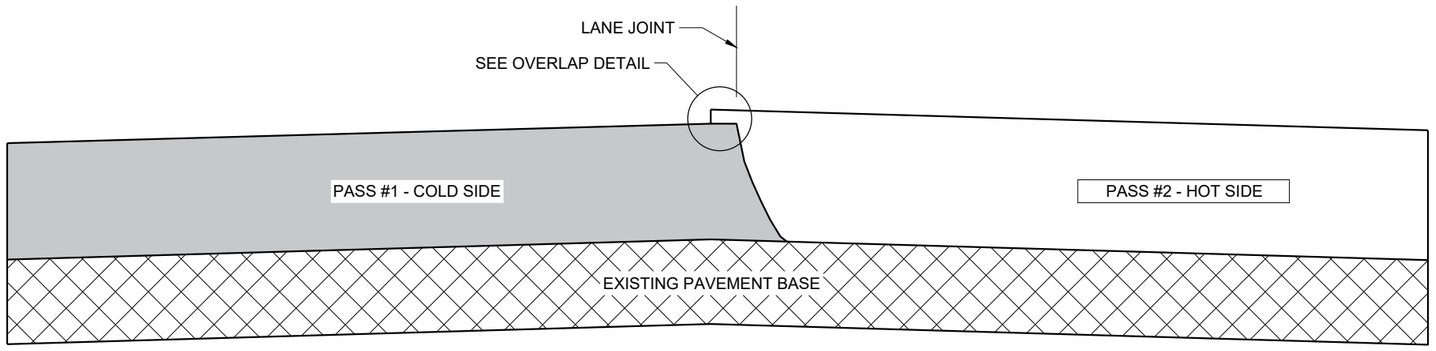
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

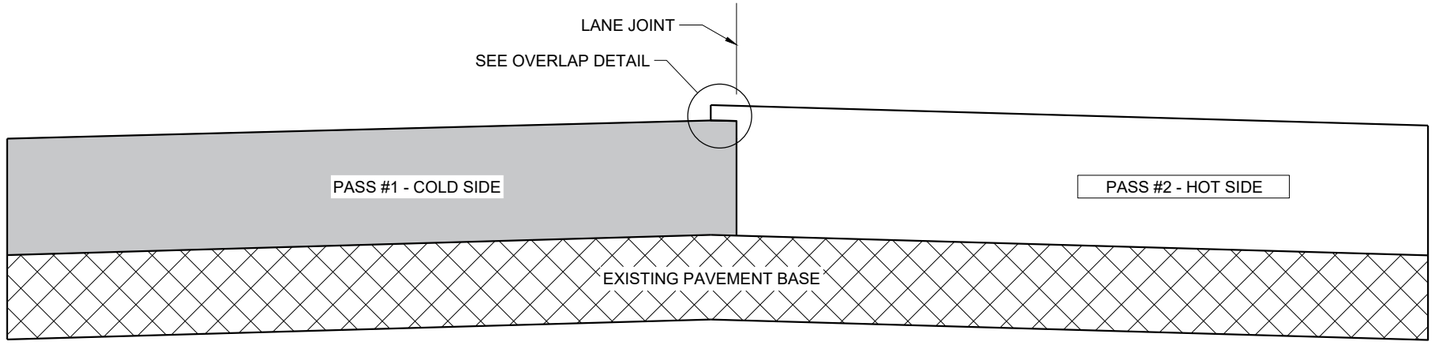
S.D.D. 8 F 8-2



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

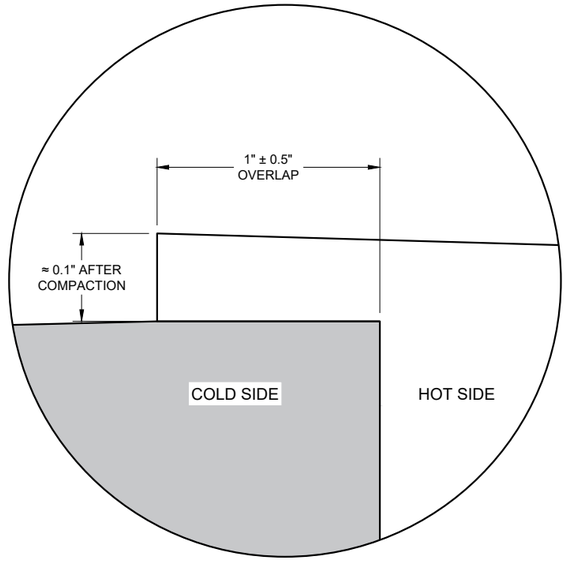
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

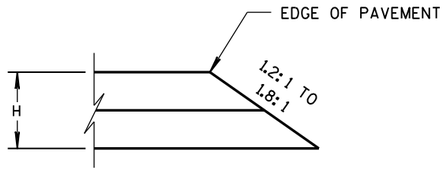
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

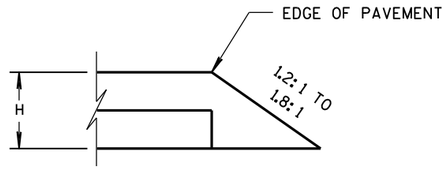
/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



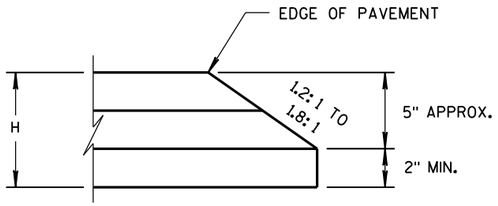
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



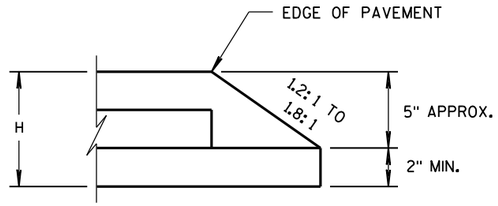
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

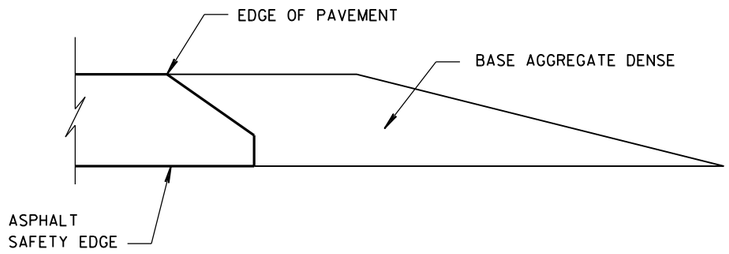
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

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

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

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

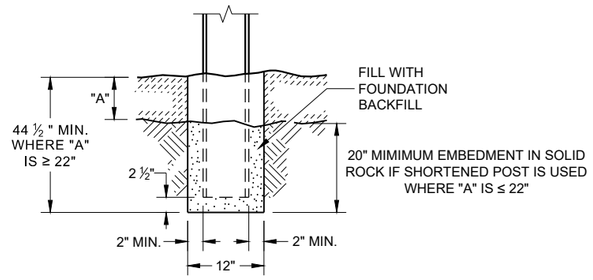
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

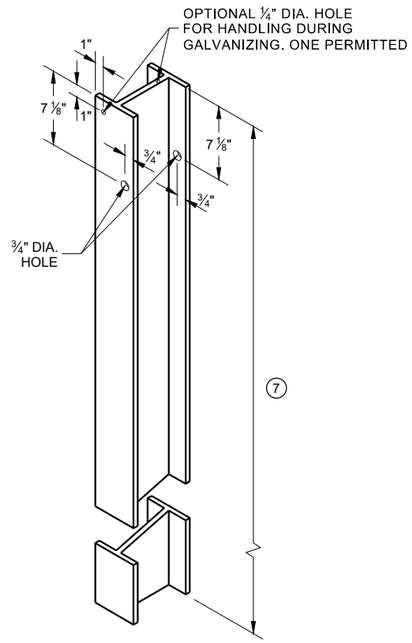
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

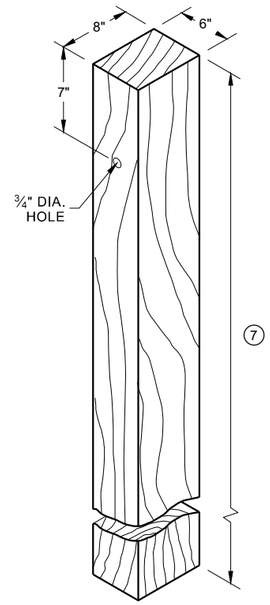
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



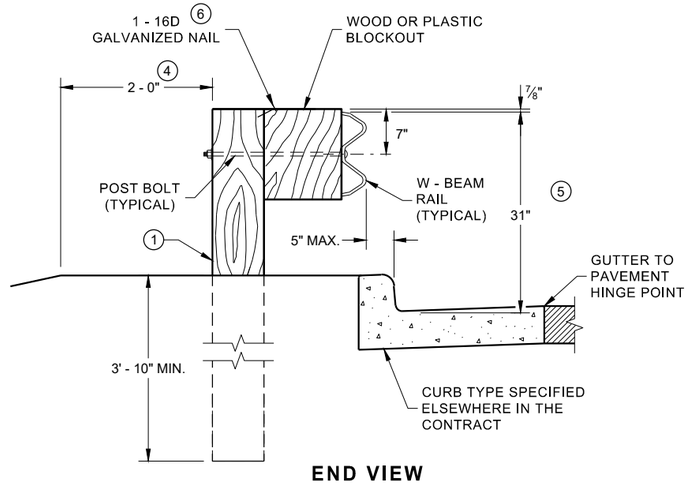
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



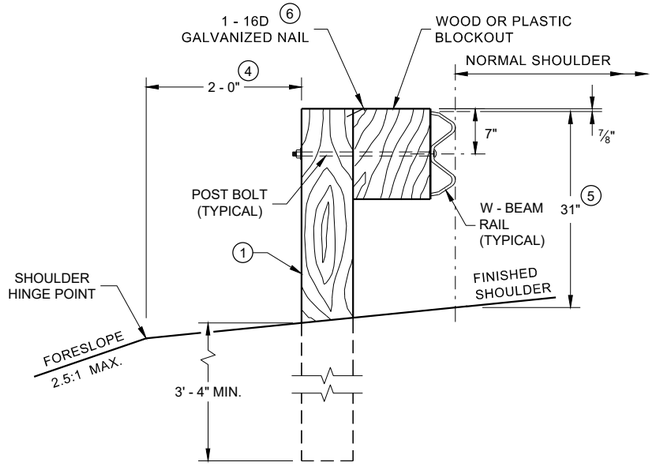
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



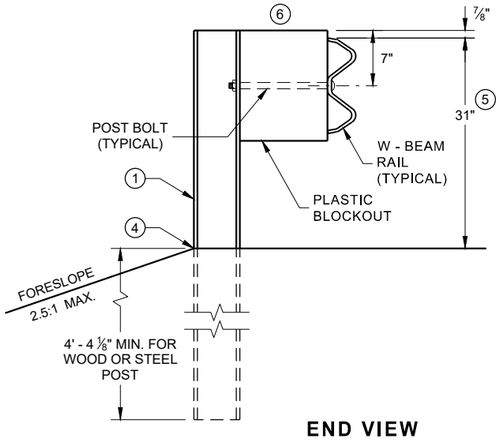
WOOD POST (6" X 8") NOMINAL (1)



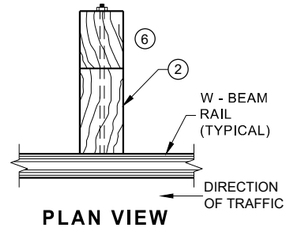
END VIEW
LOCATED ALONG A CURBED ROADWAY



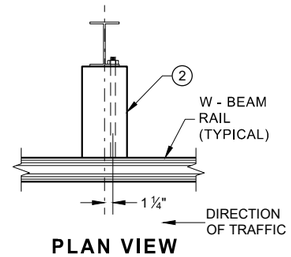
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



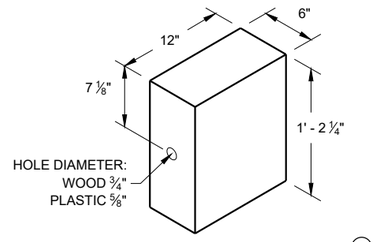
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



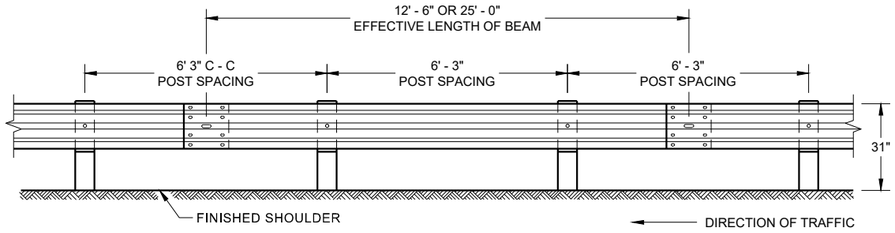
PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



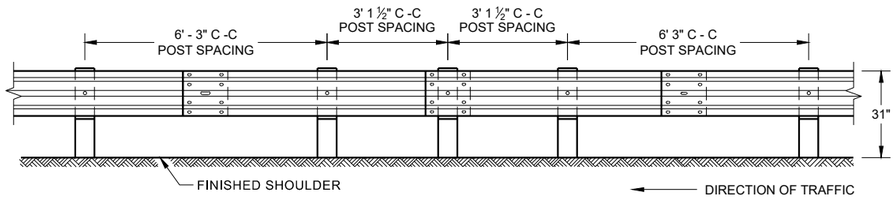
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

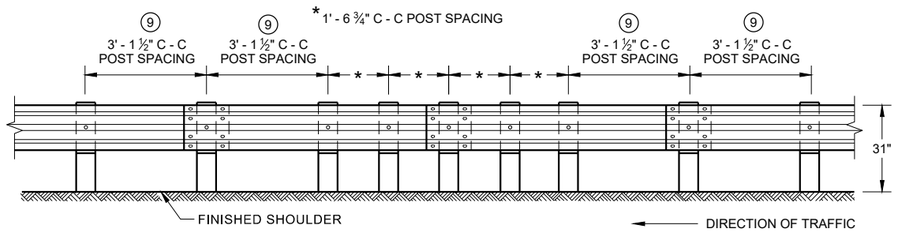
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



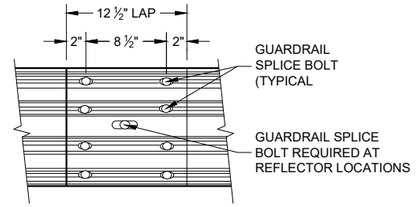
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

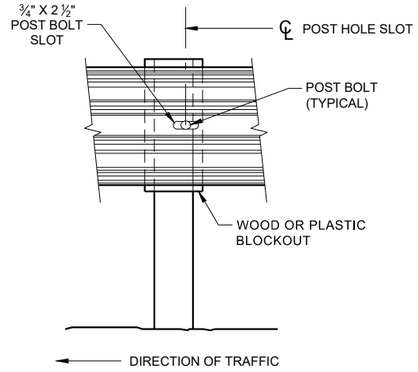
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

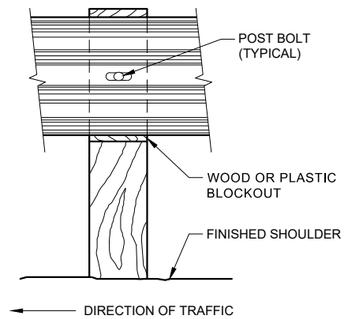
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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.

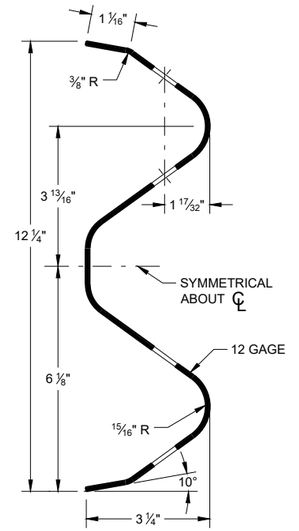
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



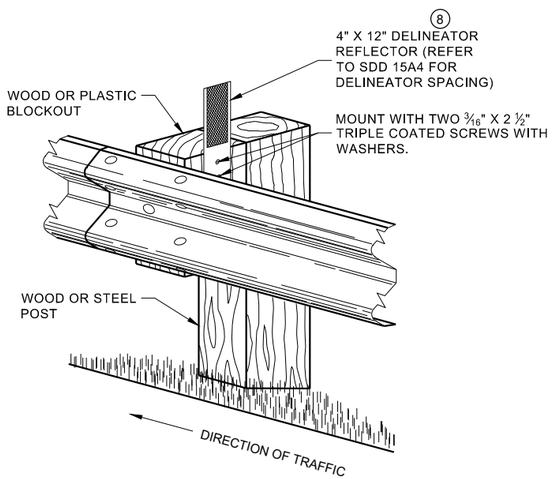
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



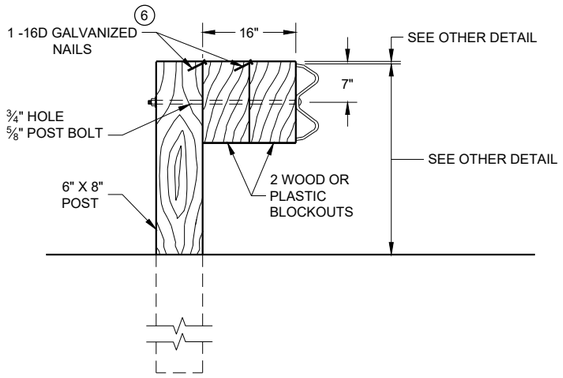
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b

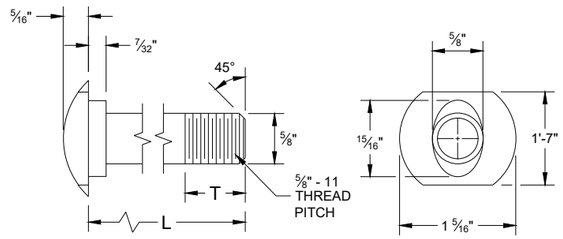


DETAIL FOR 16" BLOCKOUT DEPTH

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.

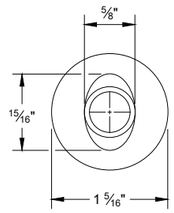
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

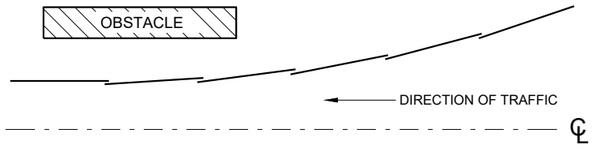


POST BOLT TABLE

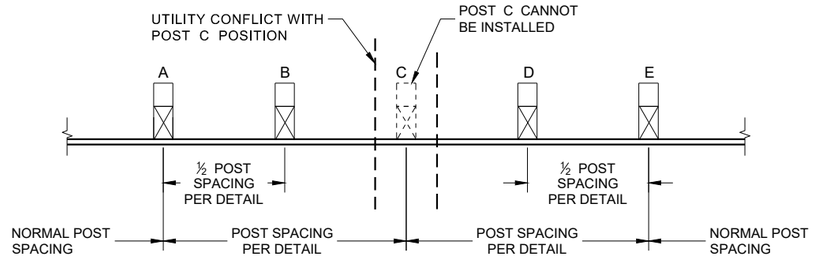
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



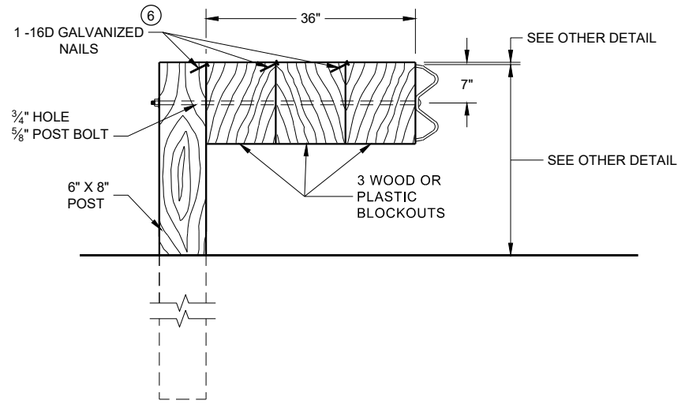
ALTERNATE BOLT HEAD



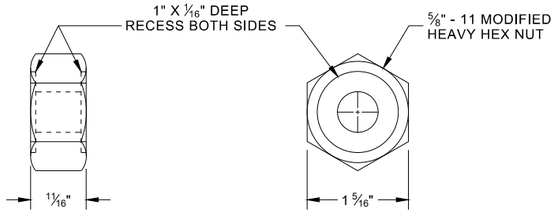
PLAN VIEW
BEAM LAPPING DETAIL



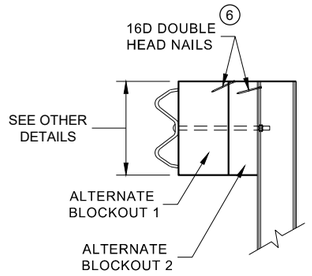
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



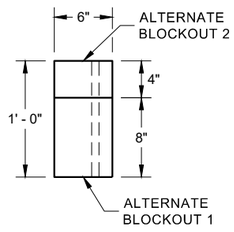
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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.

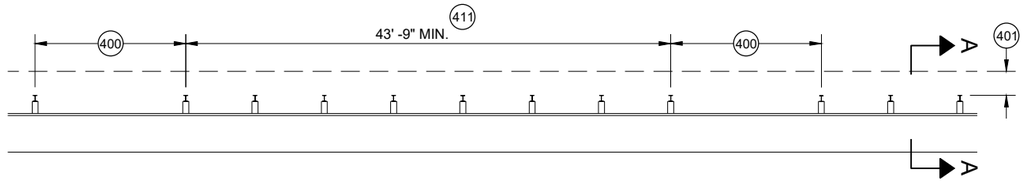
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD 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.

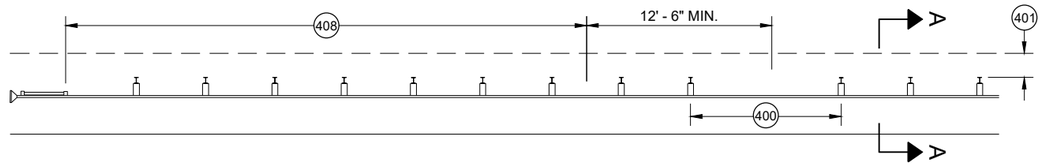
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

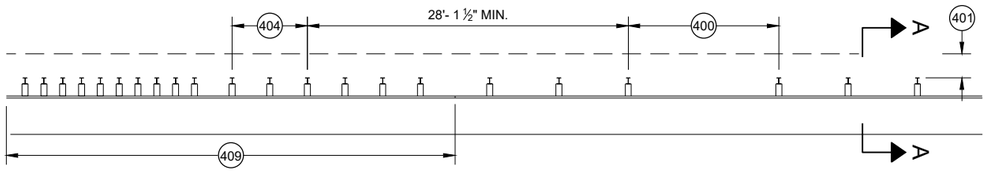
SDD 14B42 - 07c



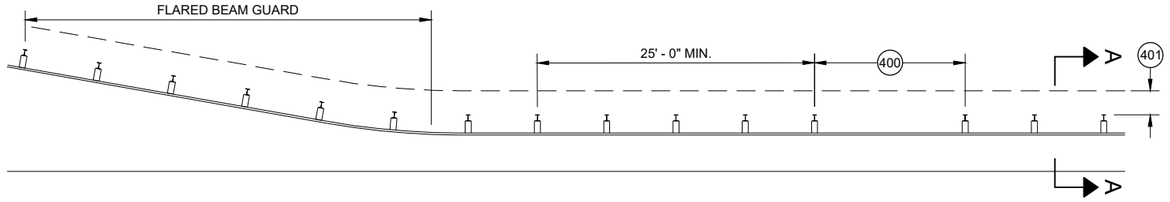
MISSING POST IN MGS GUARDRAIL



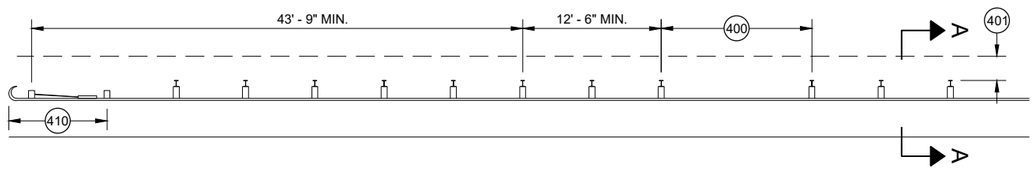
MISSING POST IN MGS GUARDRAIL NEAR EAT



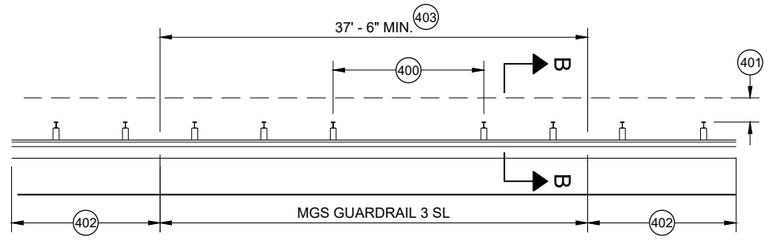
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

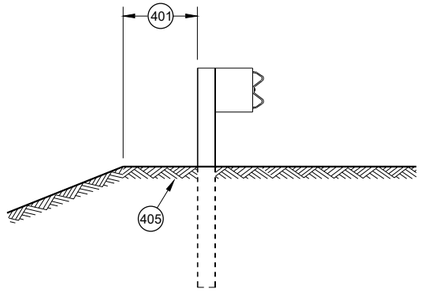


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

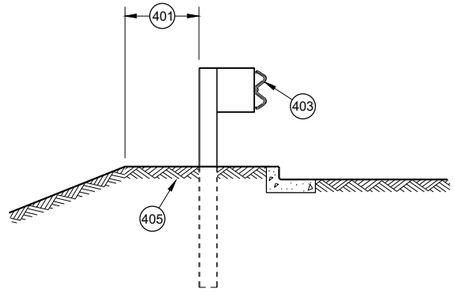


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(400) MAX SPAN 12' - 6"
(401) 2' MIN.
(402) MGS GUARDRAIL 3
(403) NESTING BEAM GUARD
(404) ASYMMETRIC TRANSITION
(405) SOIL WELL DRAINED AND COMPACTED
(406) SEE OTHER DRAWINGS IN THIS SDD
(407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
(408) SEE SDD 14B44
(409) SEE SDD 14B45
(410) SEE SDD 14B47
(411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

SDD 14B42 - 07d

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 MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

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

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

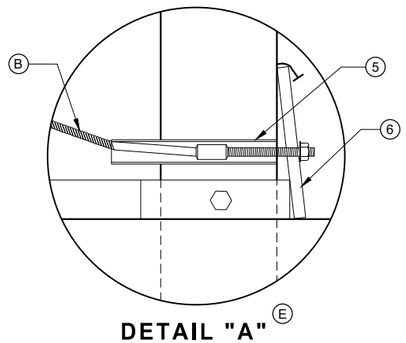
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

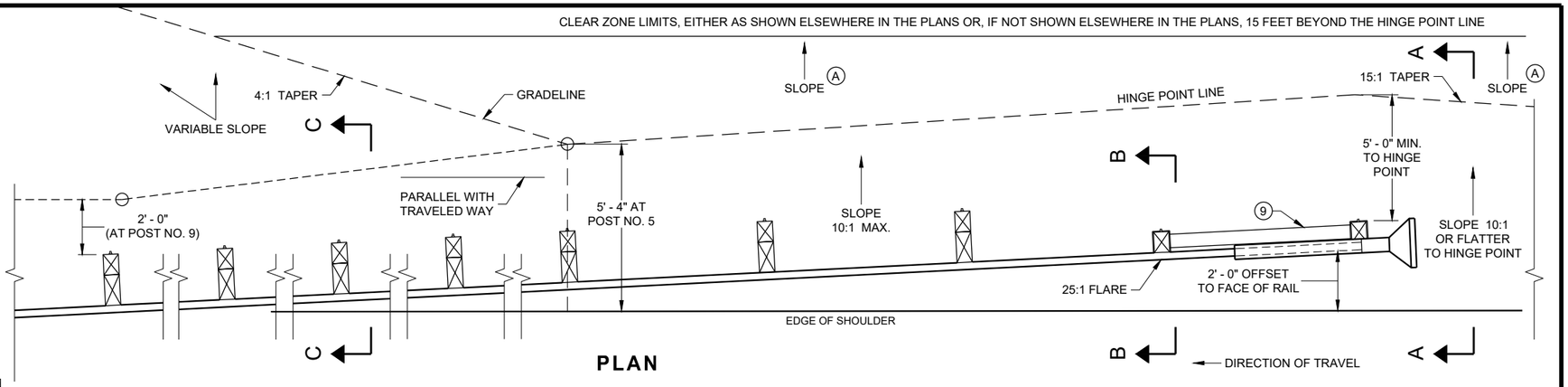
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

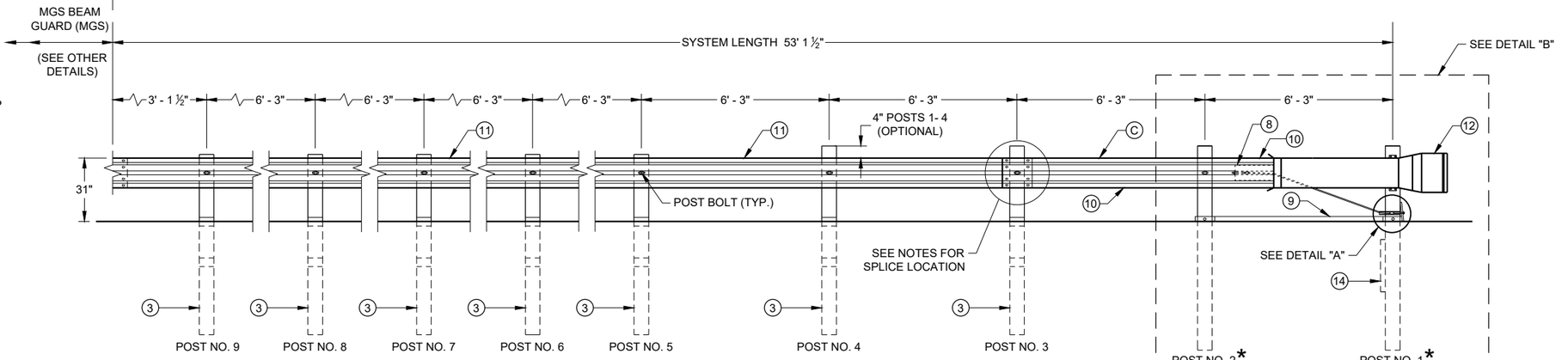
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



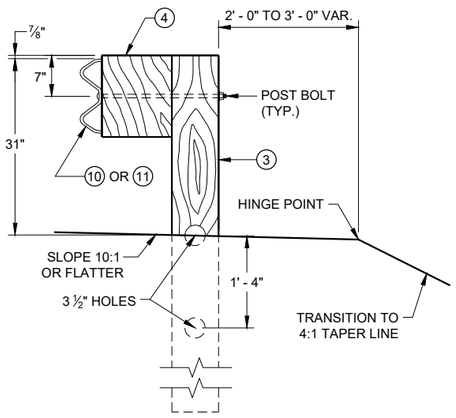
DETAIL "A" (E)



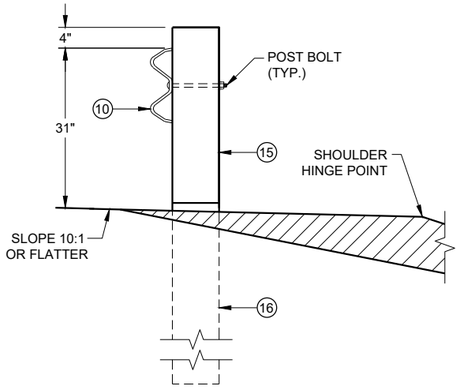
PLAN



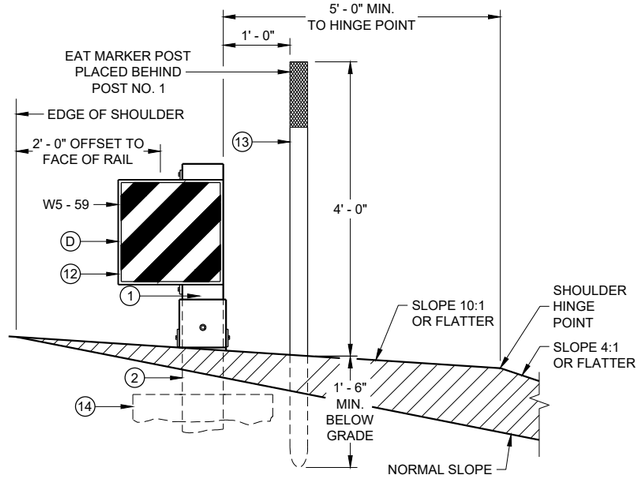
ELEVATION



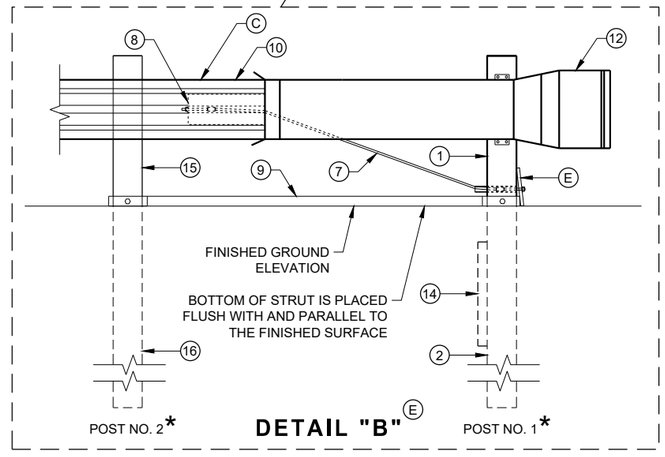
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



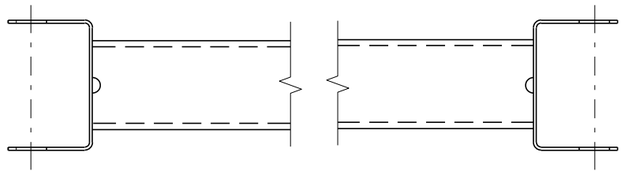
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

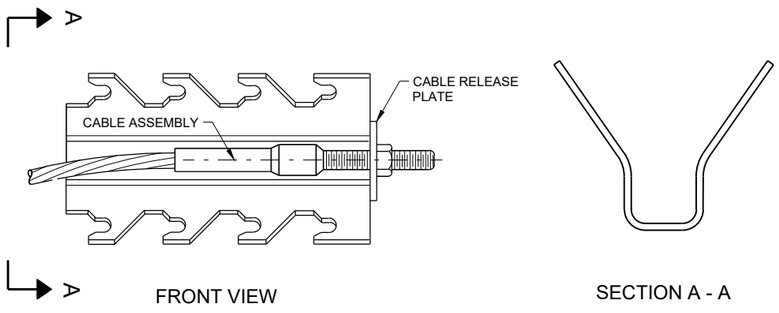
SDD 14B44 - 04a



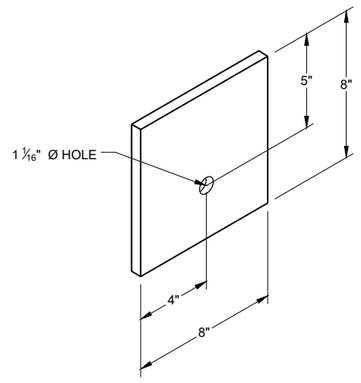
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
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	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

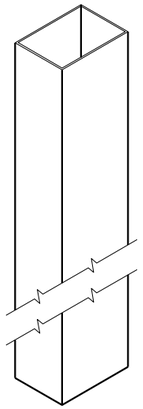
6

SDD 14B44 - 04b

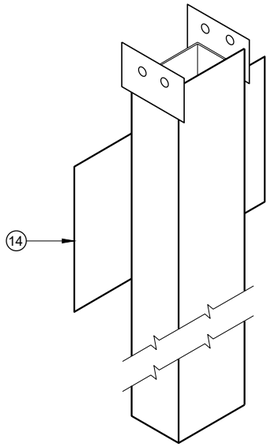
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



UPPER POST NO. 1 (1) (E)



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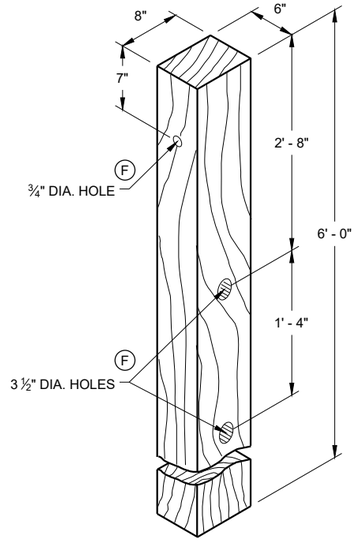
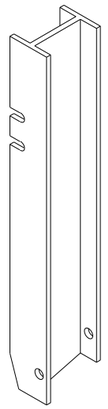
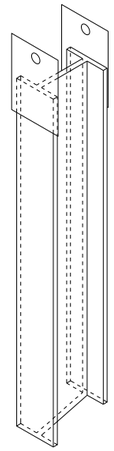


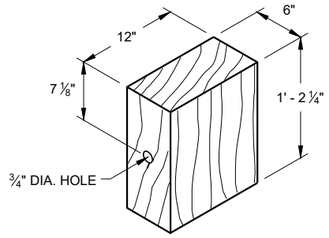
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



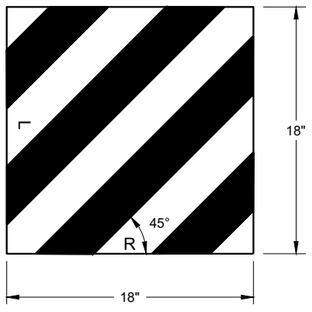
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

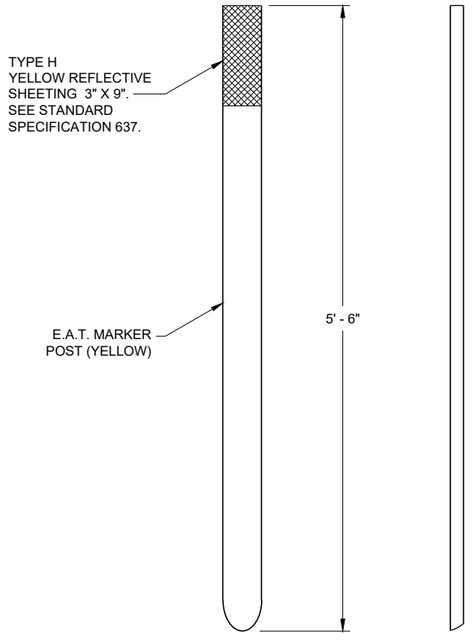


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



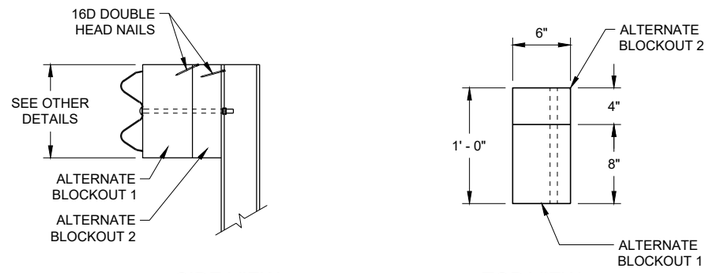
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

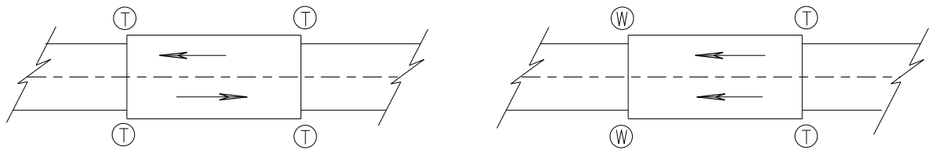
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



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

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.

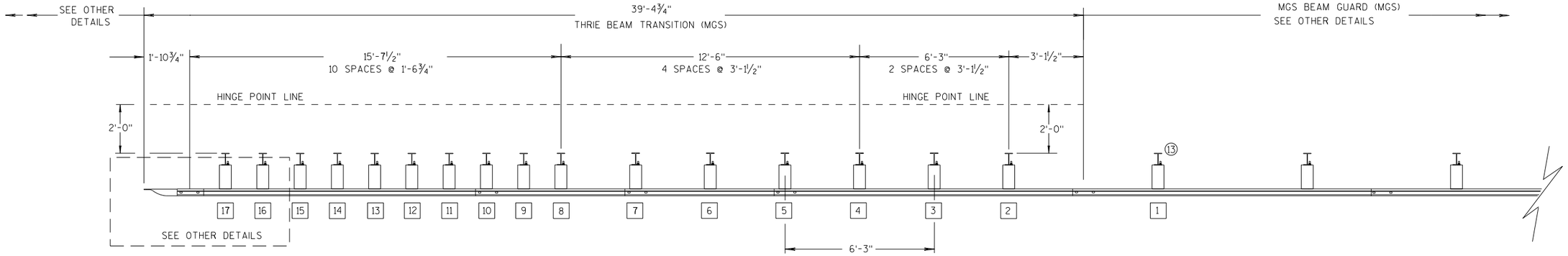
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

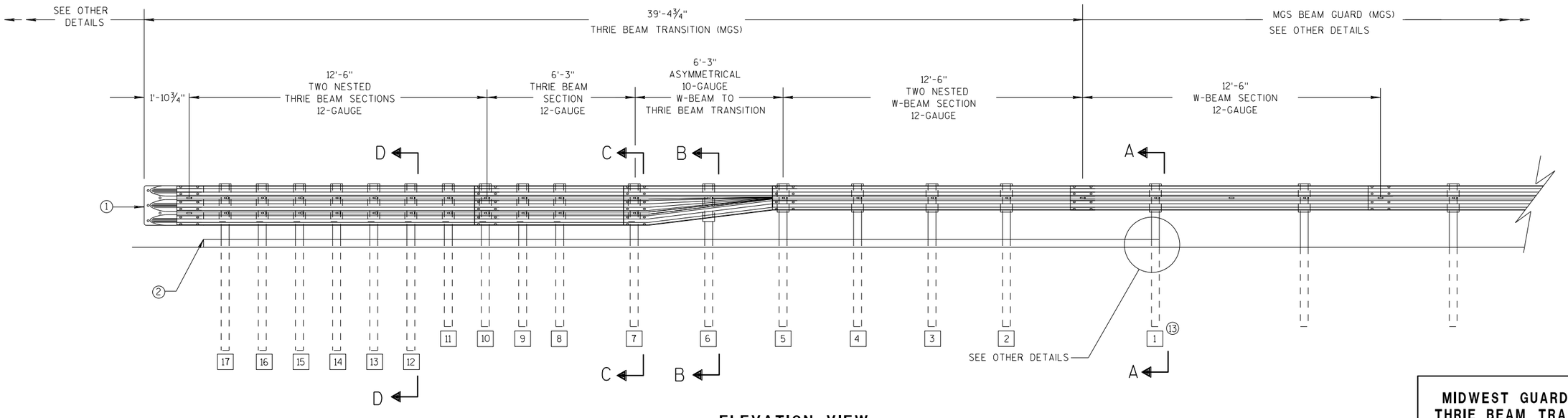
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

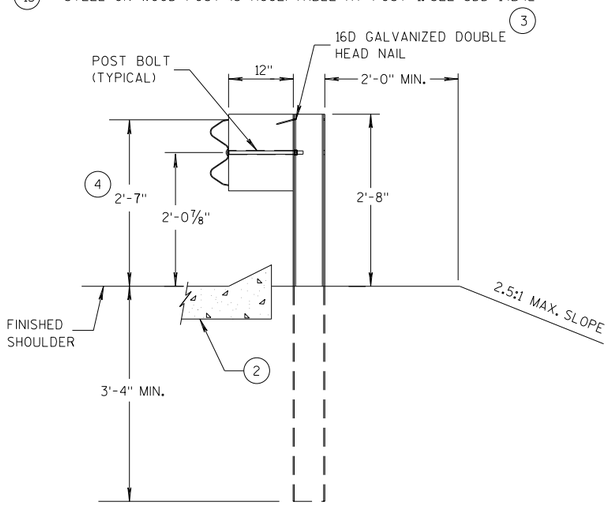
GENERAL NOTES

(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.

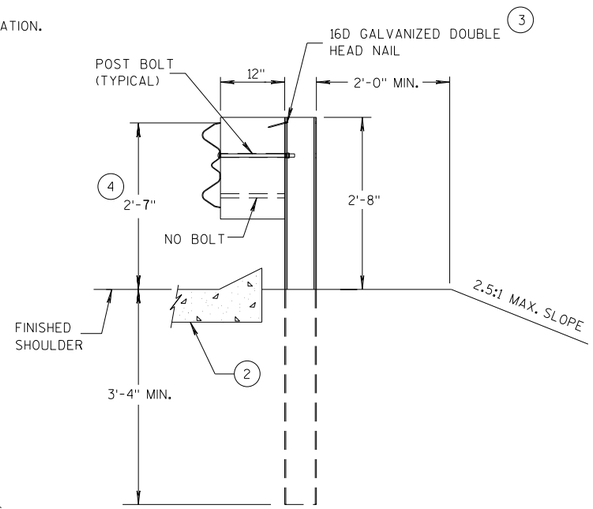
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



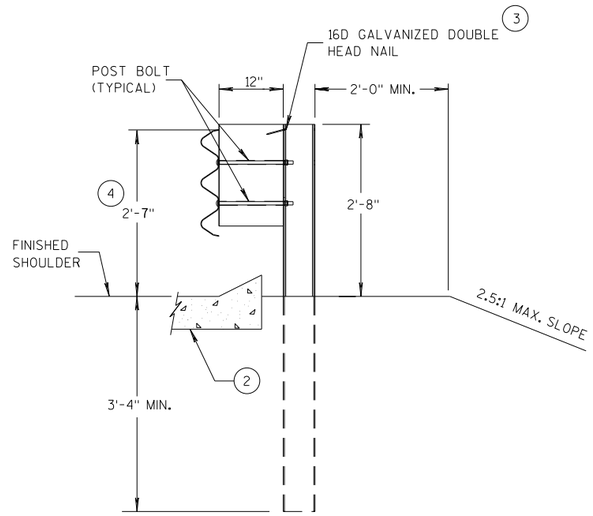
SECTION A-A (13)

POSTS 1-5



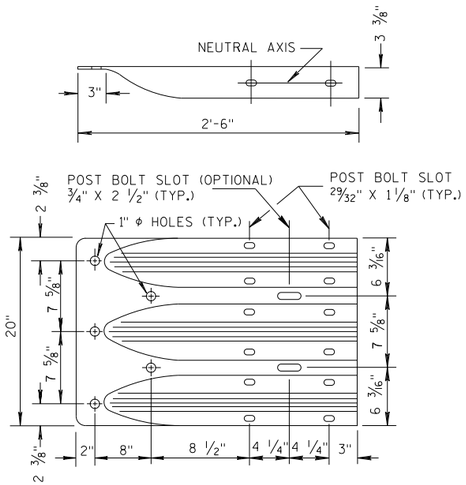
SECTION B-B

POST 6

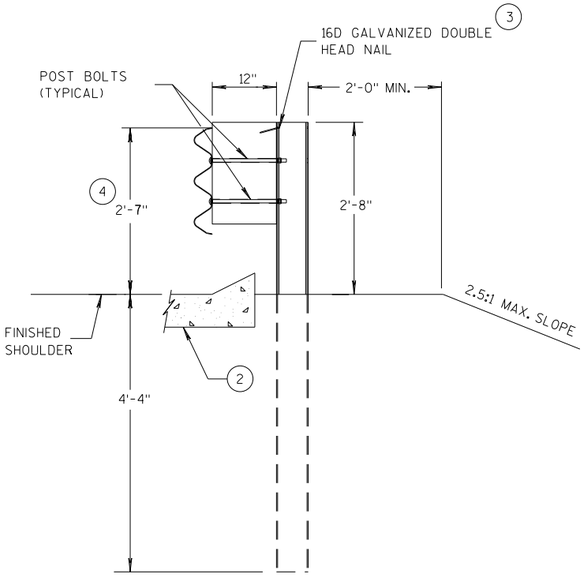


SECTION C-C

POSTS 7-11

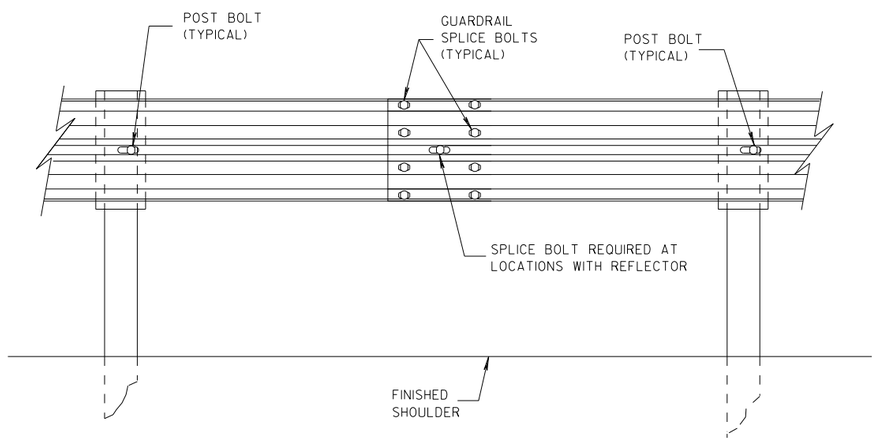


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

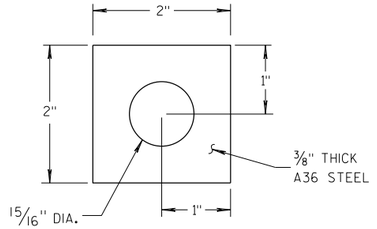
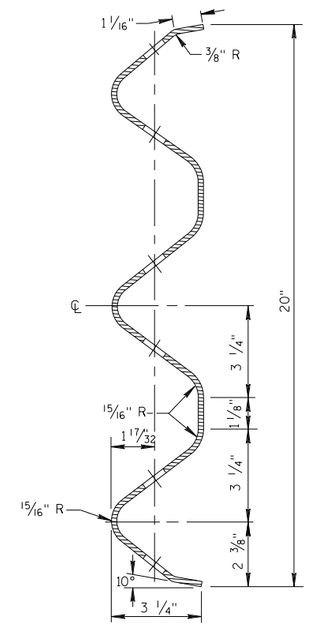


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

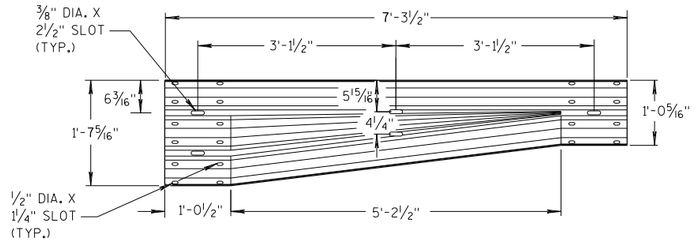
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 88

6

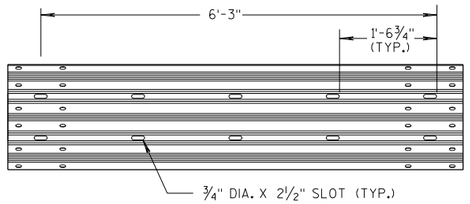
S.D.D. 14 B 45-5b

6

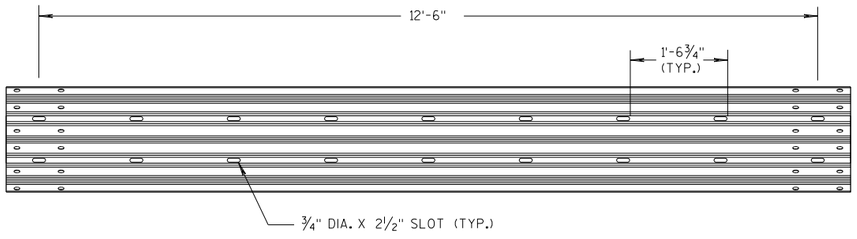
S.D.D. 14 B 45-5b



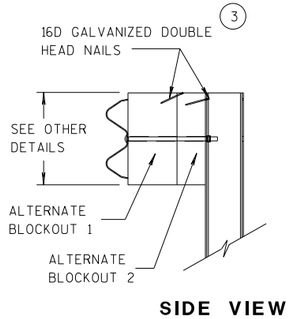
W-BEAM TO THRIE BEAM TRANSITION SECTION



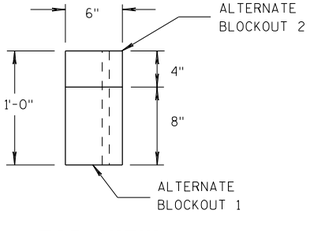
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

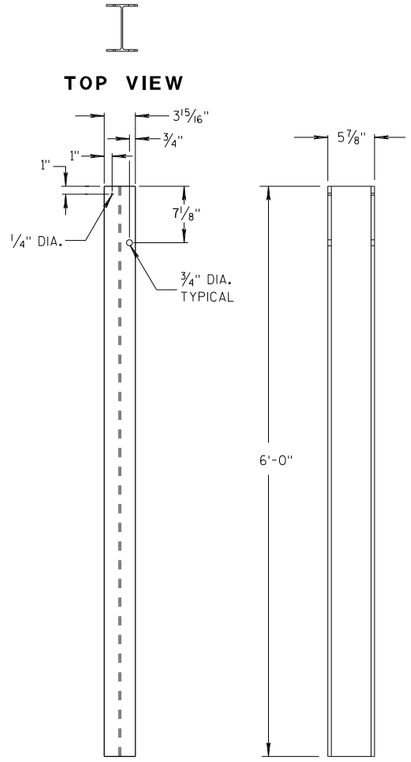


SIDE VIEW



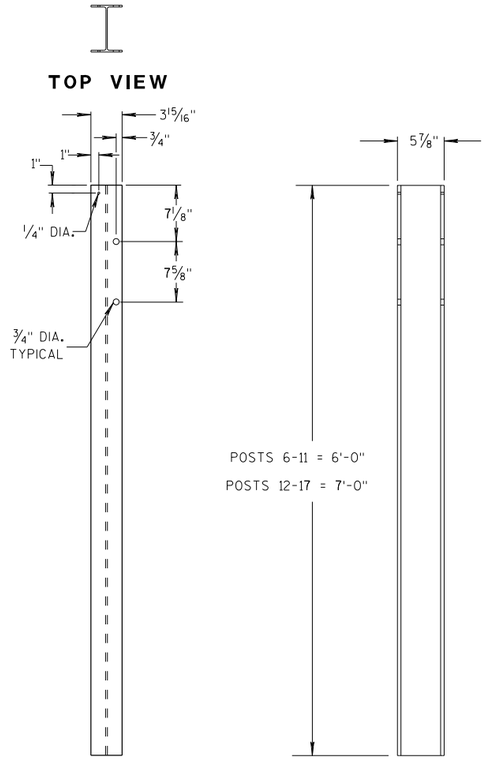
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



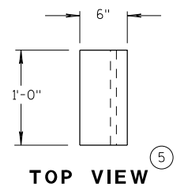
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

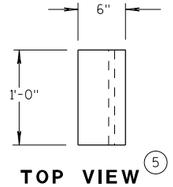


FRONT VIEW SIDE VIEW

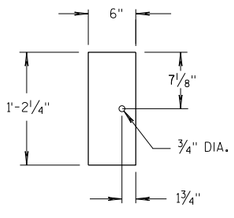
STEEL POSTS 6-17



TOP VIEW (5)

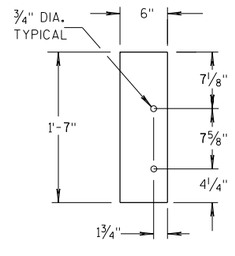


TOP VIEW (5)



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.

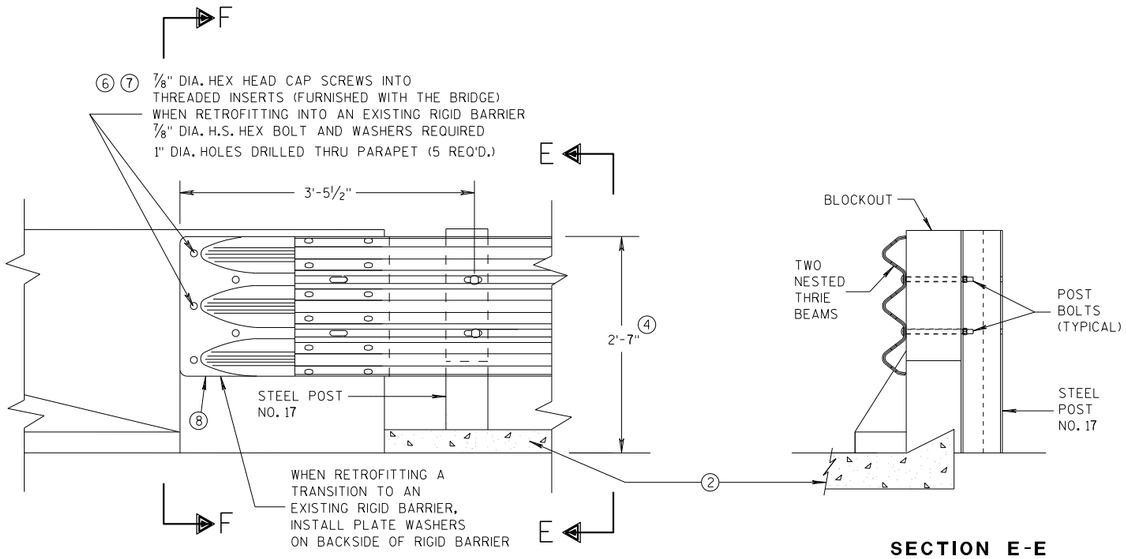
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6
S.D.D. 14 B 45-5c



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.

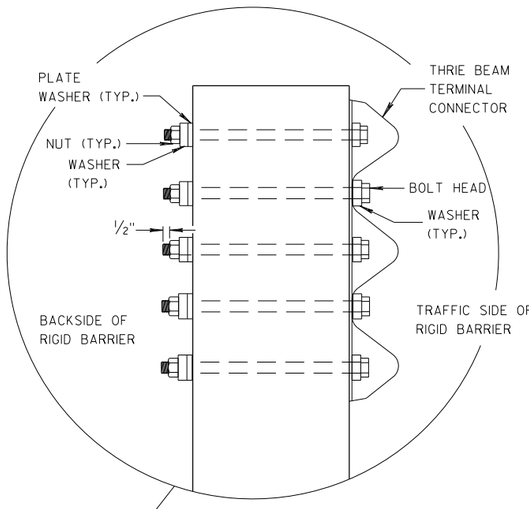
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

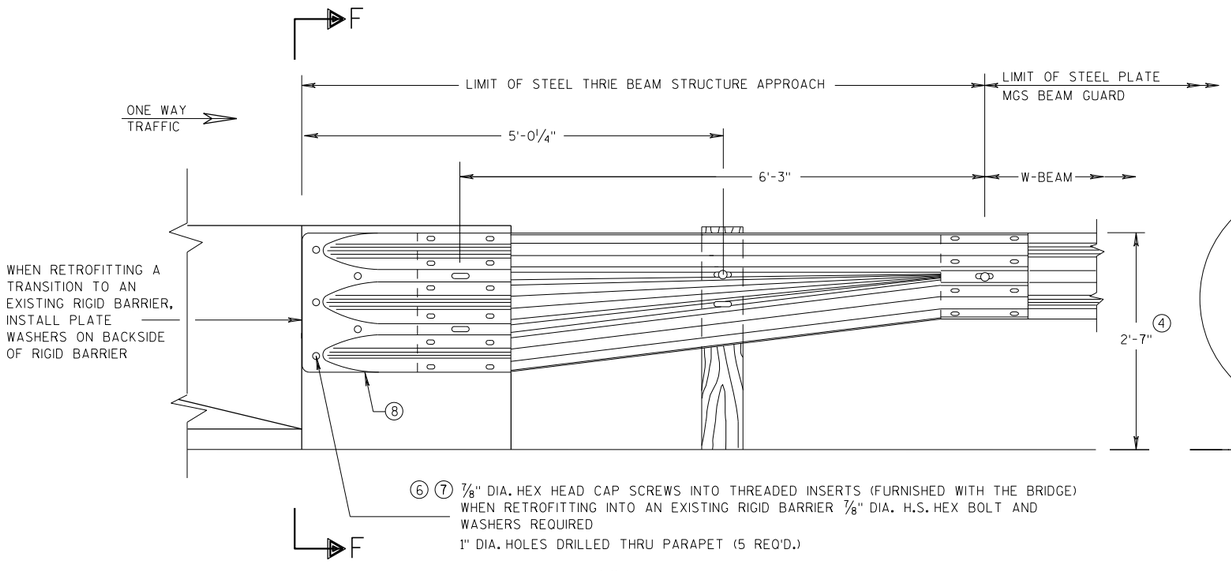
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

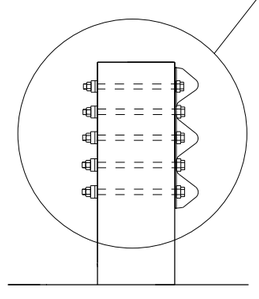
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" 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".

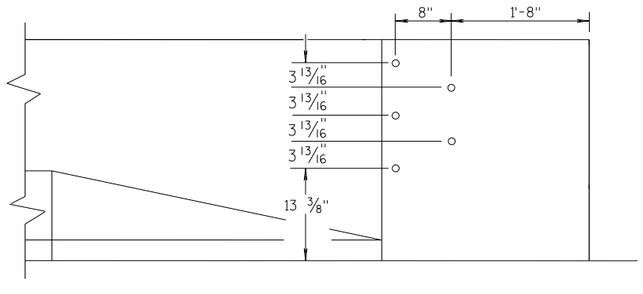




FRONT VIEW



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
07/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVI
NT
FHWA

6

S.D.D. 14 B 45-5d

6

S.D.D. 14 B 45-5d

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.

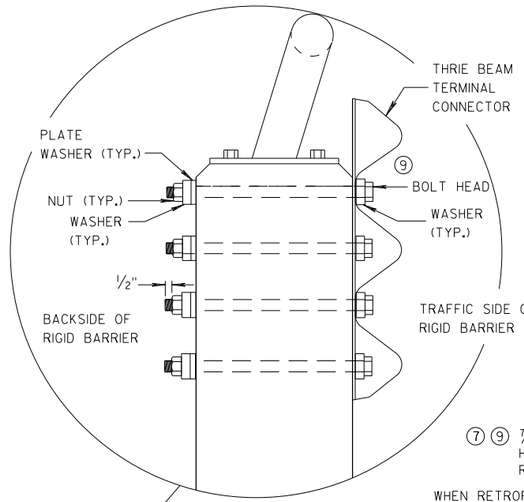
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

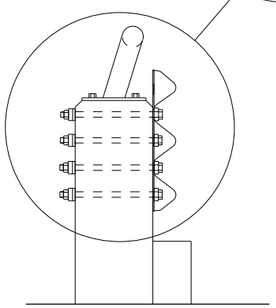
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

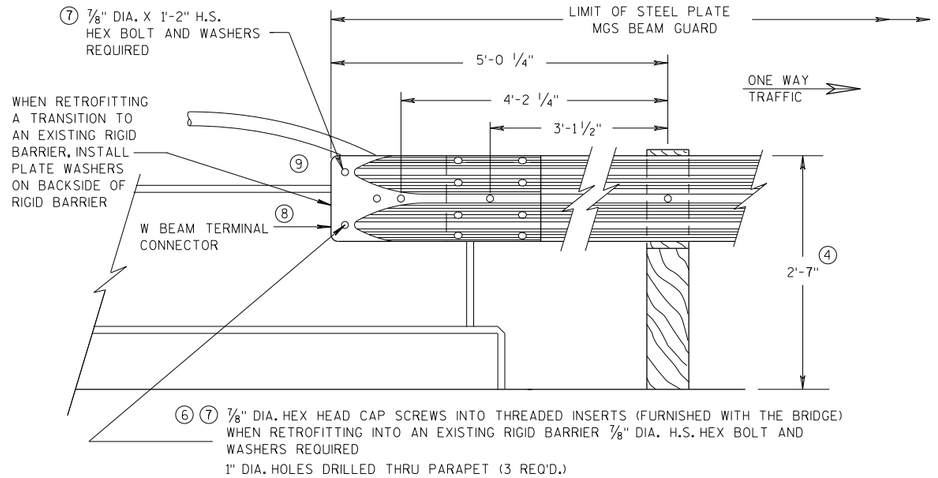
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(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.





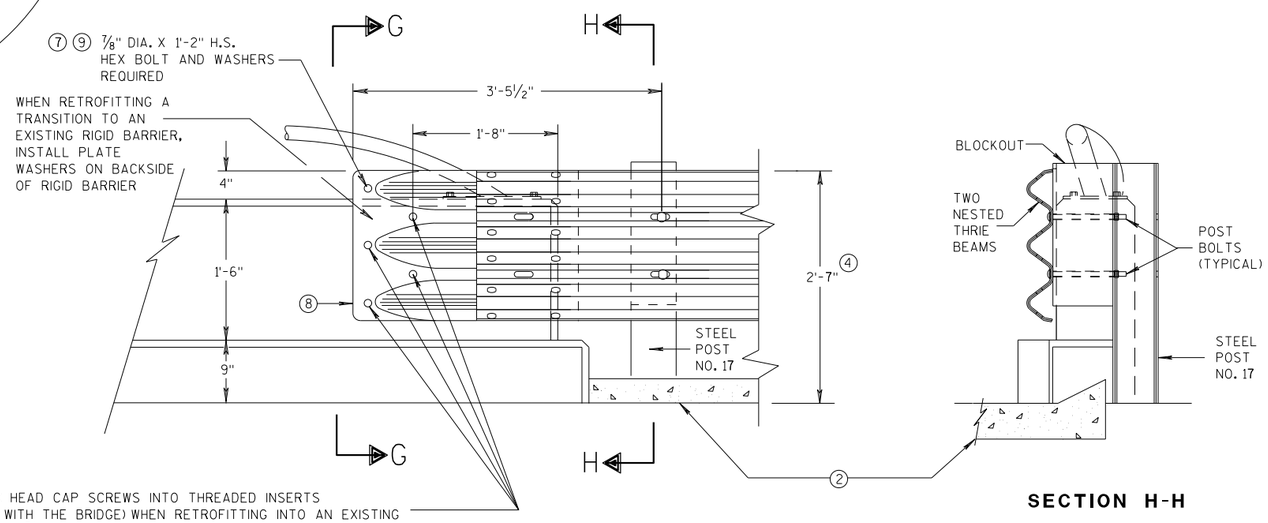
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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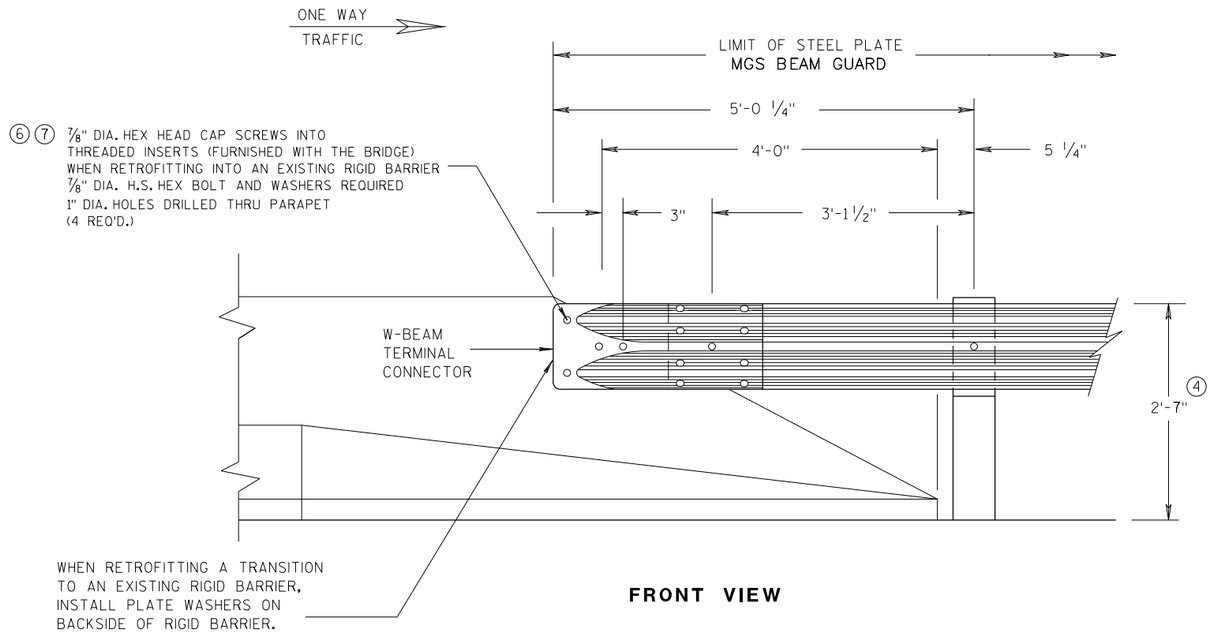


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

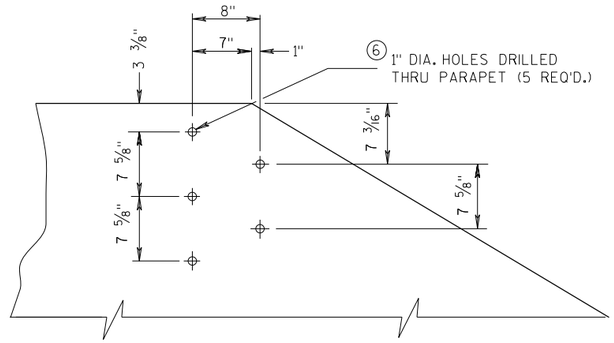
GENERAL NOTES

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

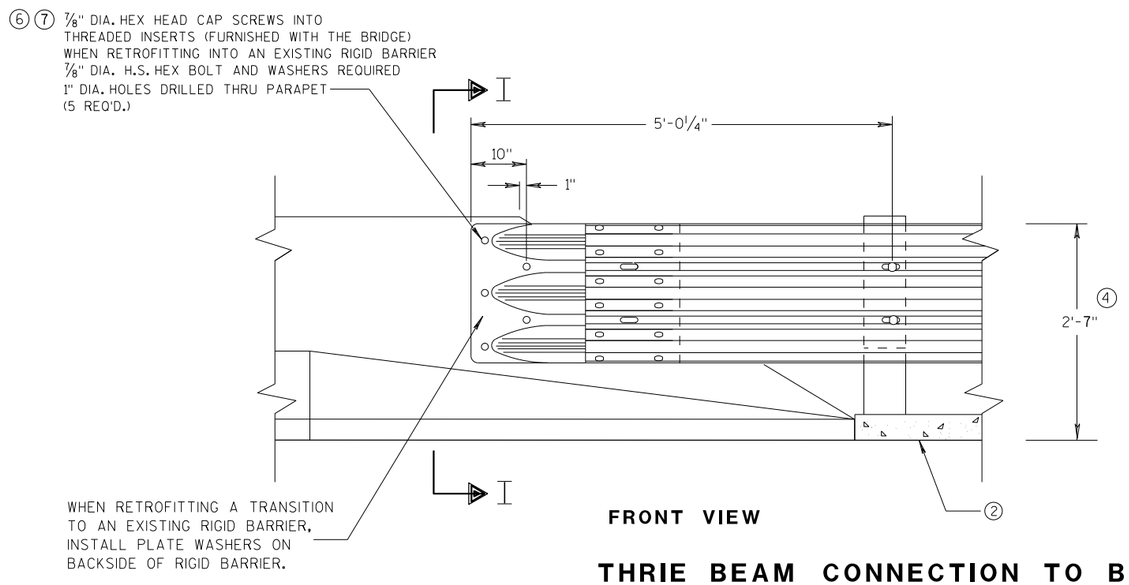
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

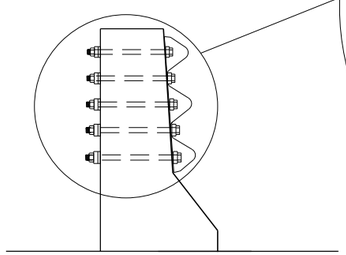
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



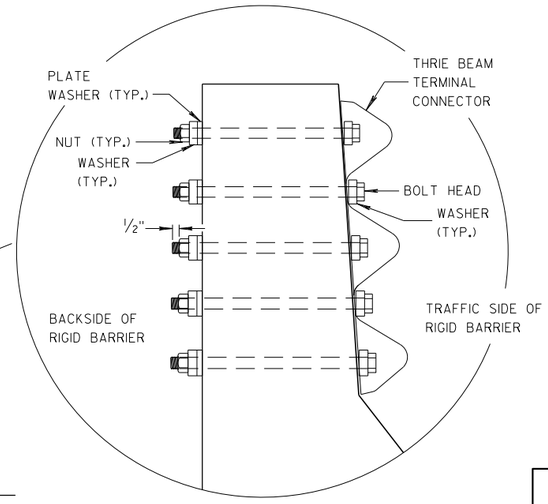
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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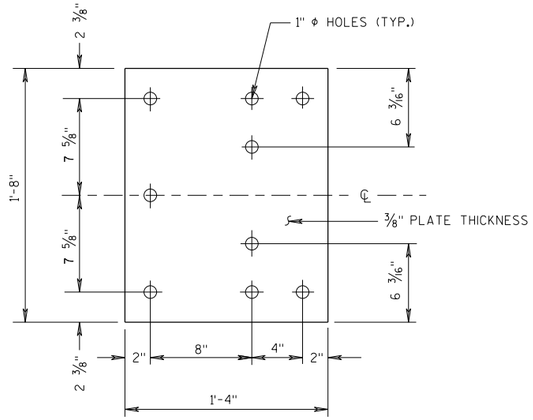
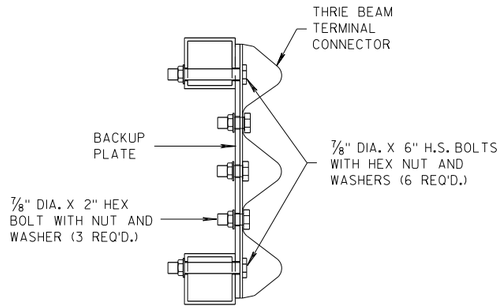
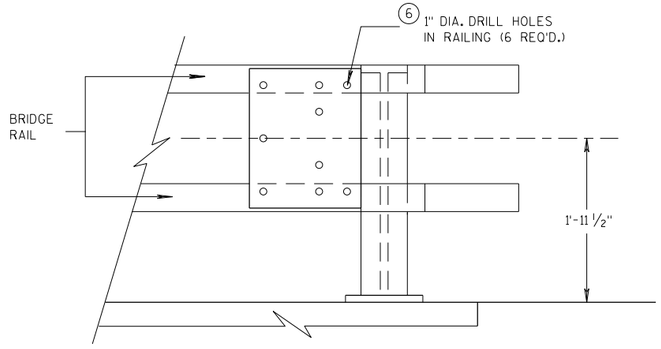


BACK-UP PLATE DETAIL



SECTION J-J

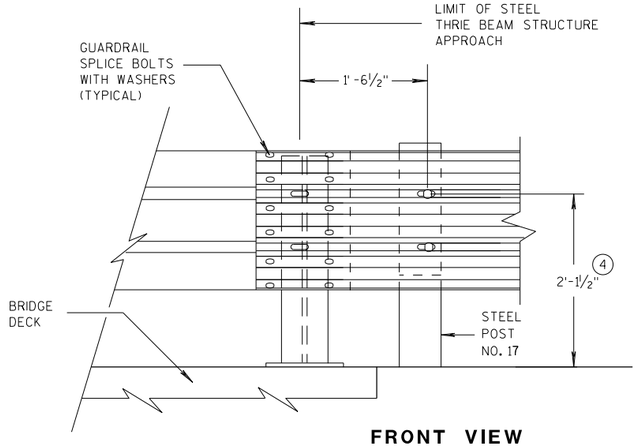


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

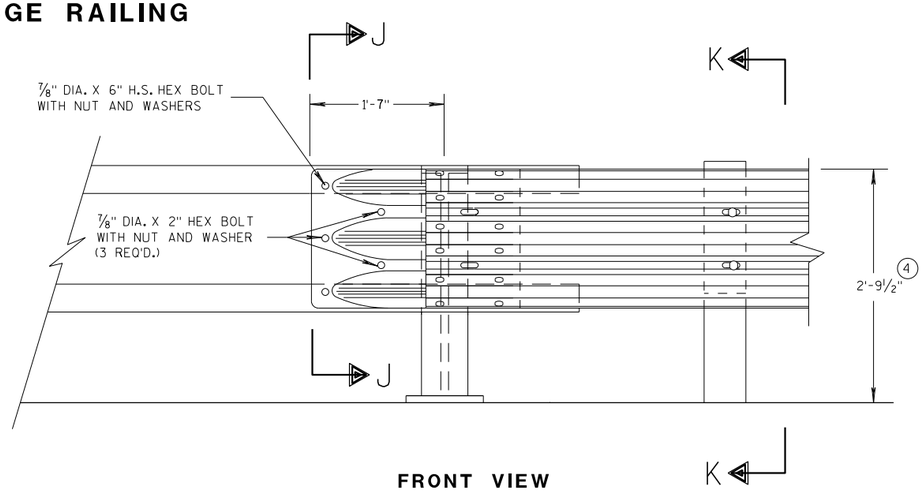
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

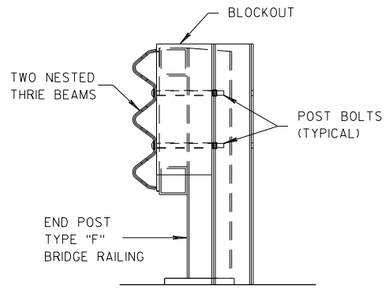


FRONT VIEW

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)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
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ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

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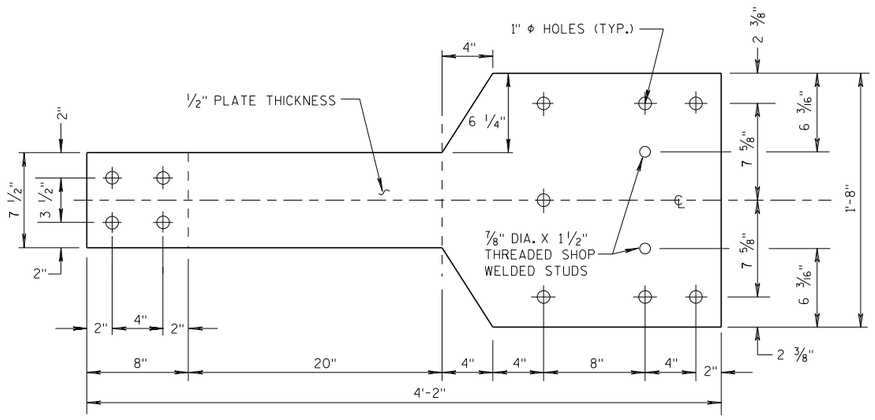
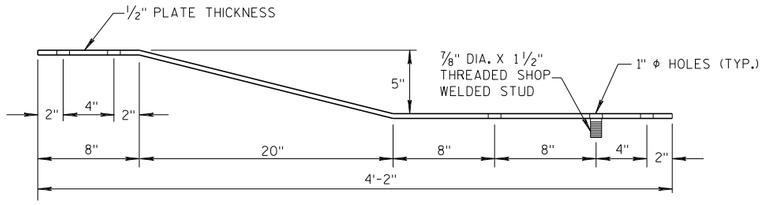
GENERAL NOTES

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

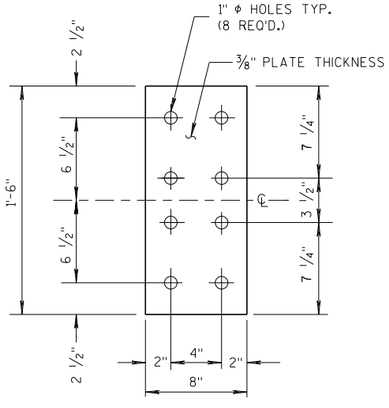


FRONT VIEW



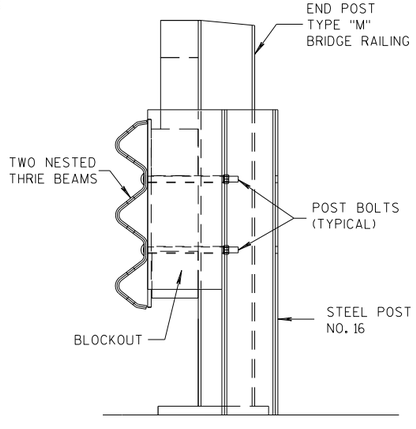
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

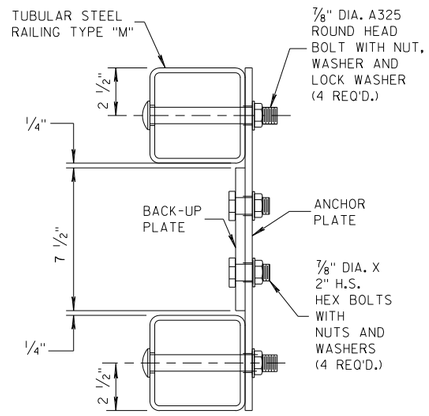


FRONT VIEW

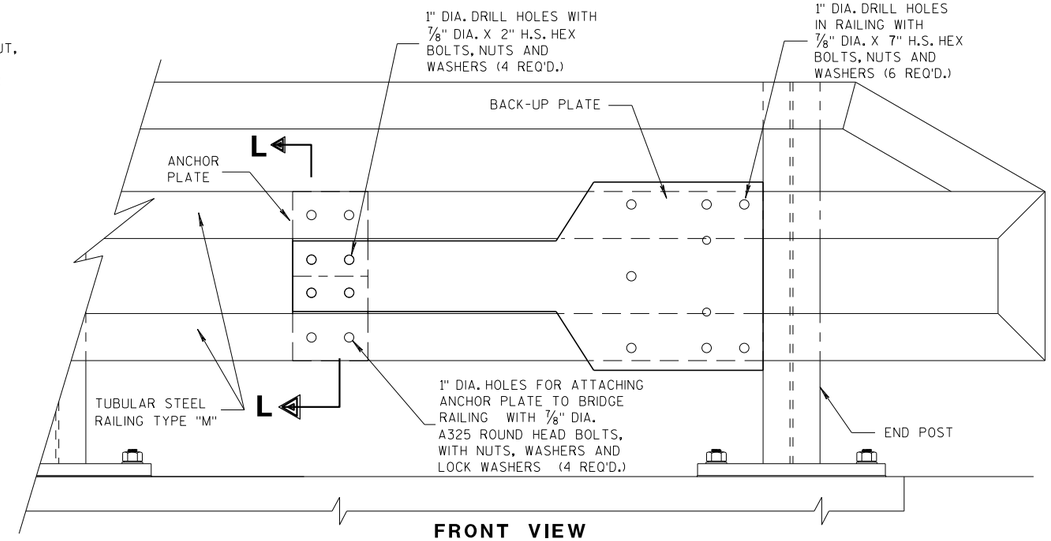
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

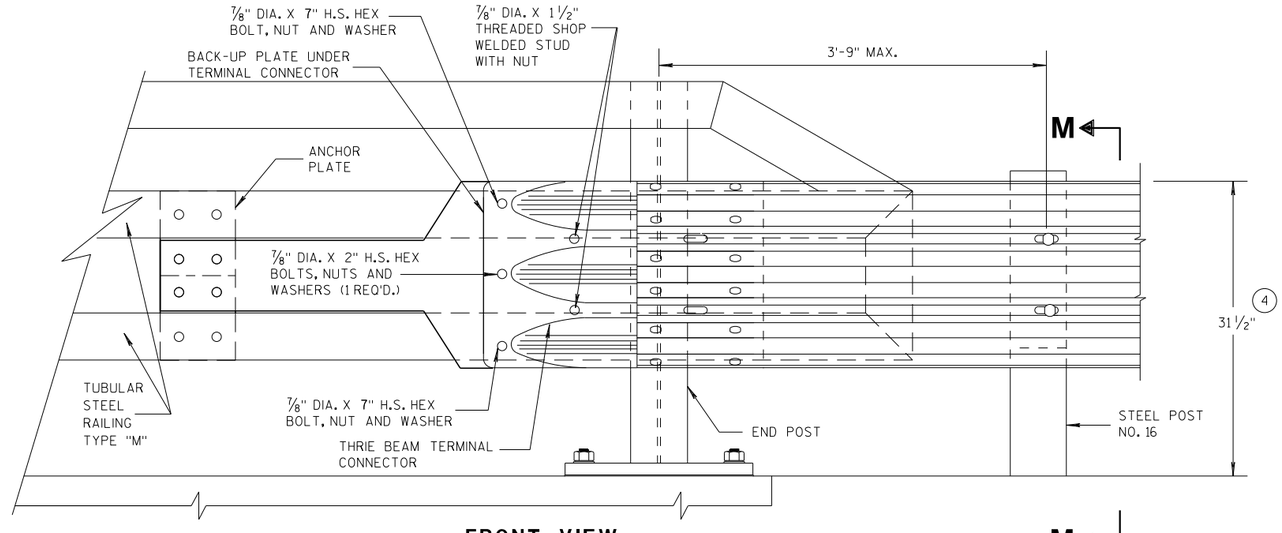


SECTION L-L

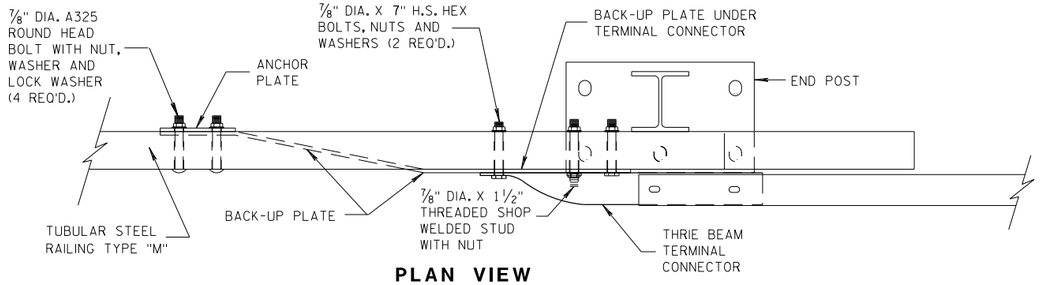


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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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.

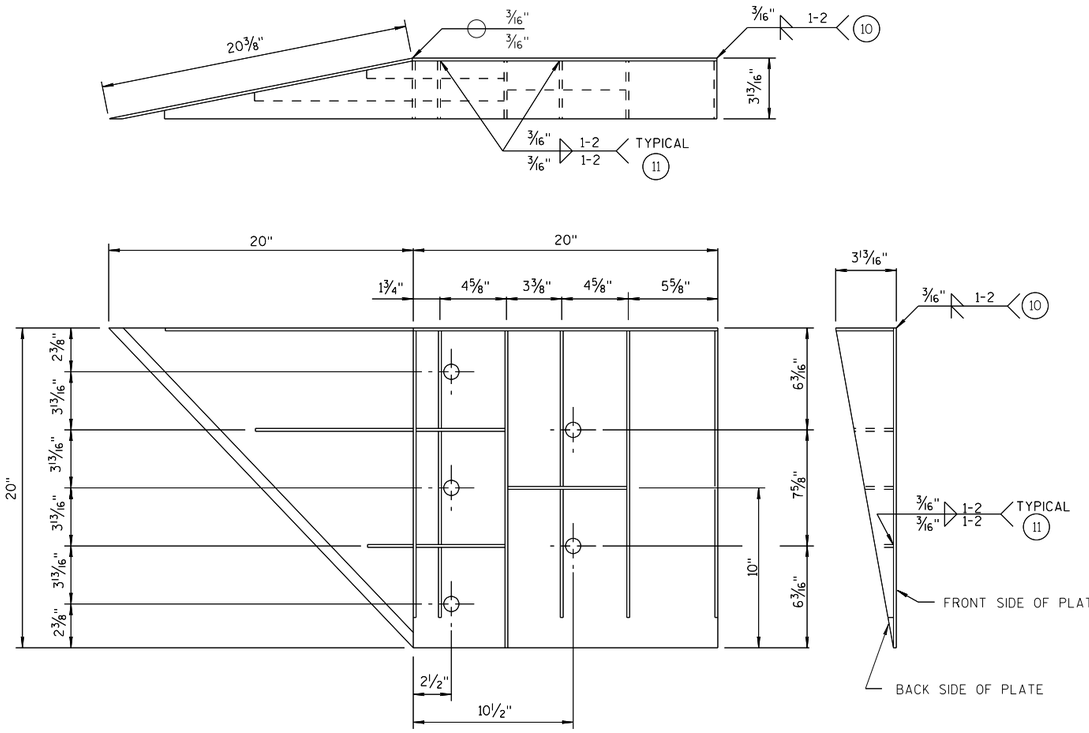
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

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".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

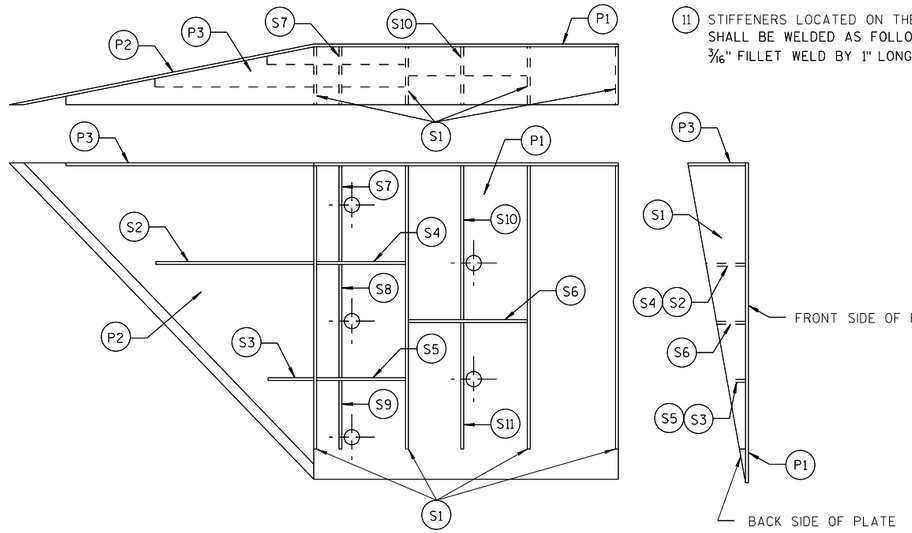


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

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 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 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 3/32"	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)

STATE OF WISCONSIN
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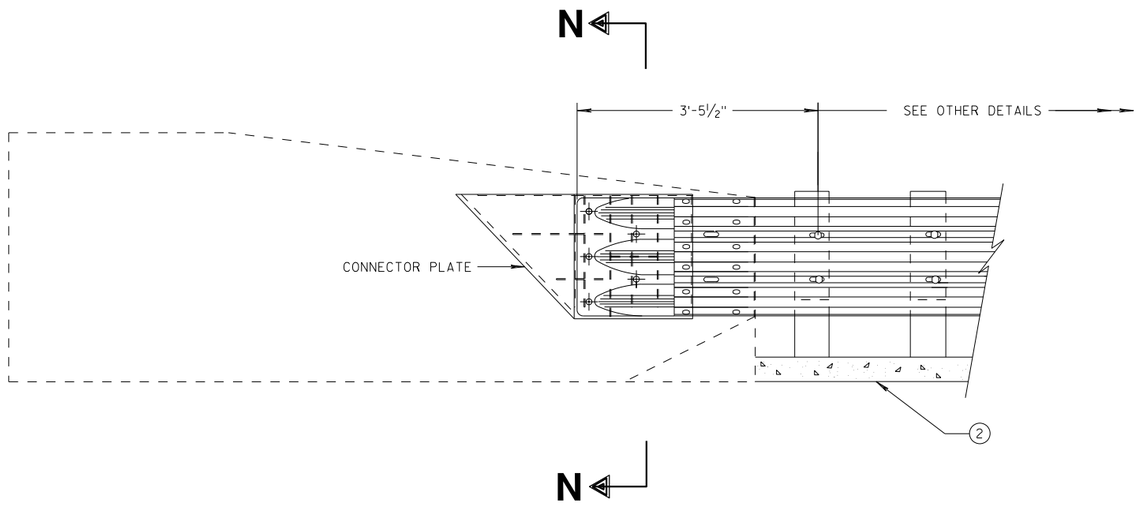
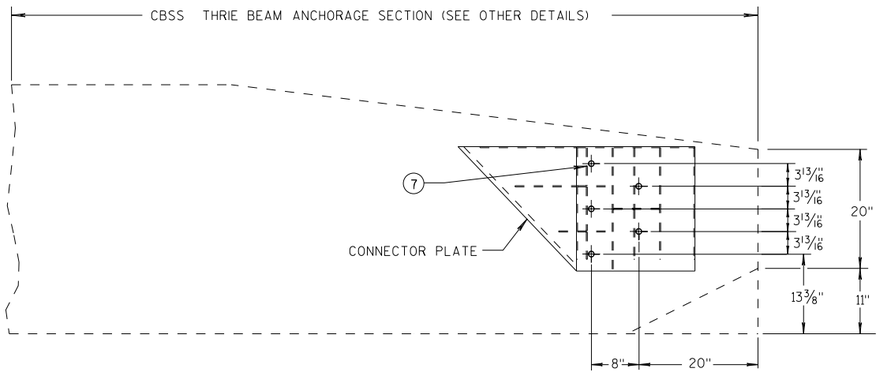


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



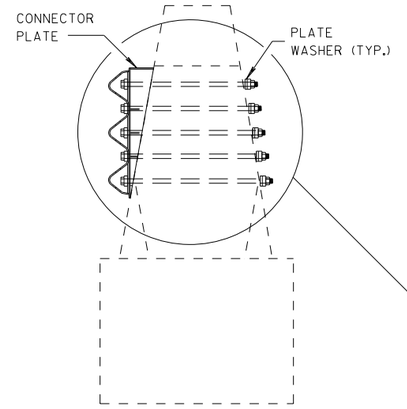
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

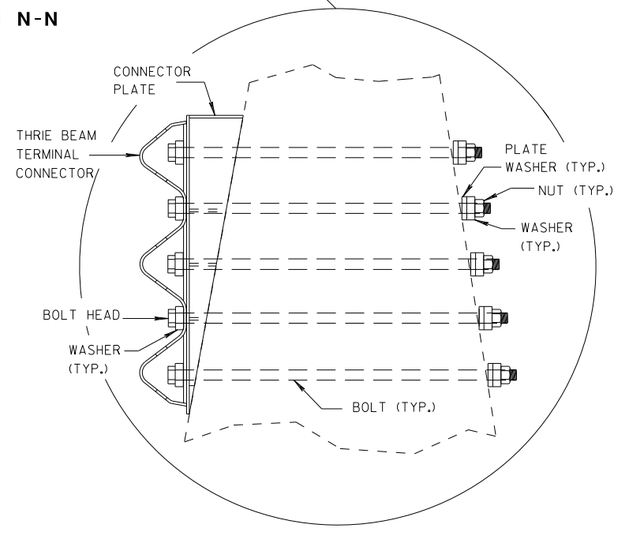
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 5/32" 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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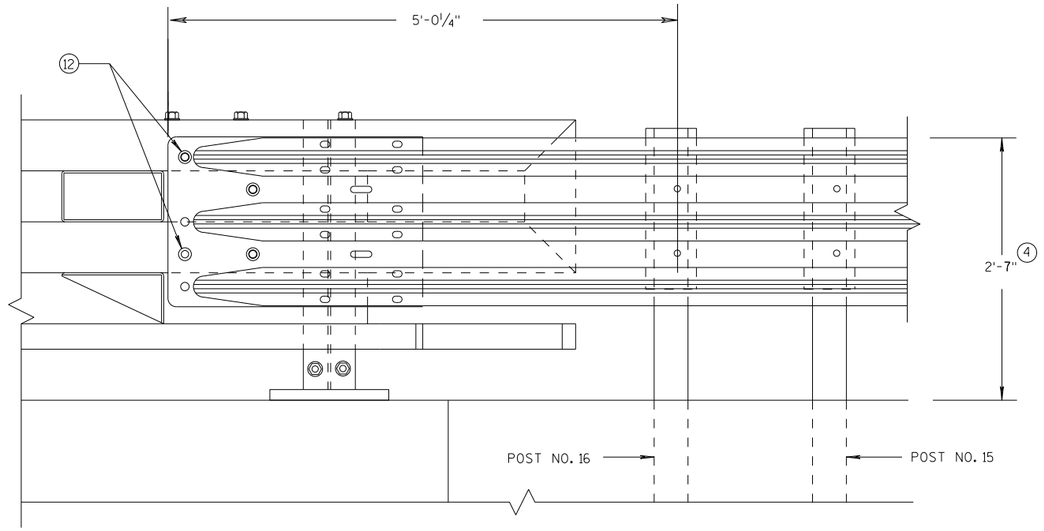
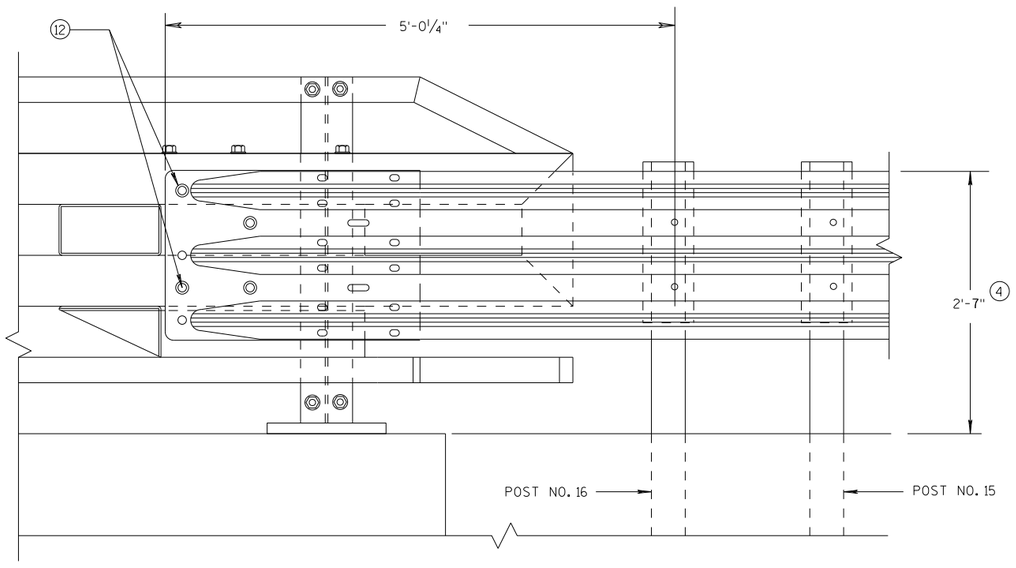


ELEVATION OF DETAIL AT NY3 END POST

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 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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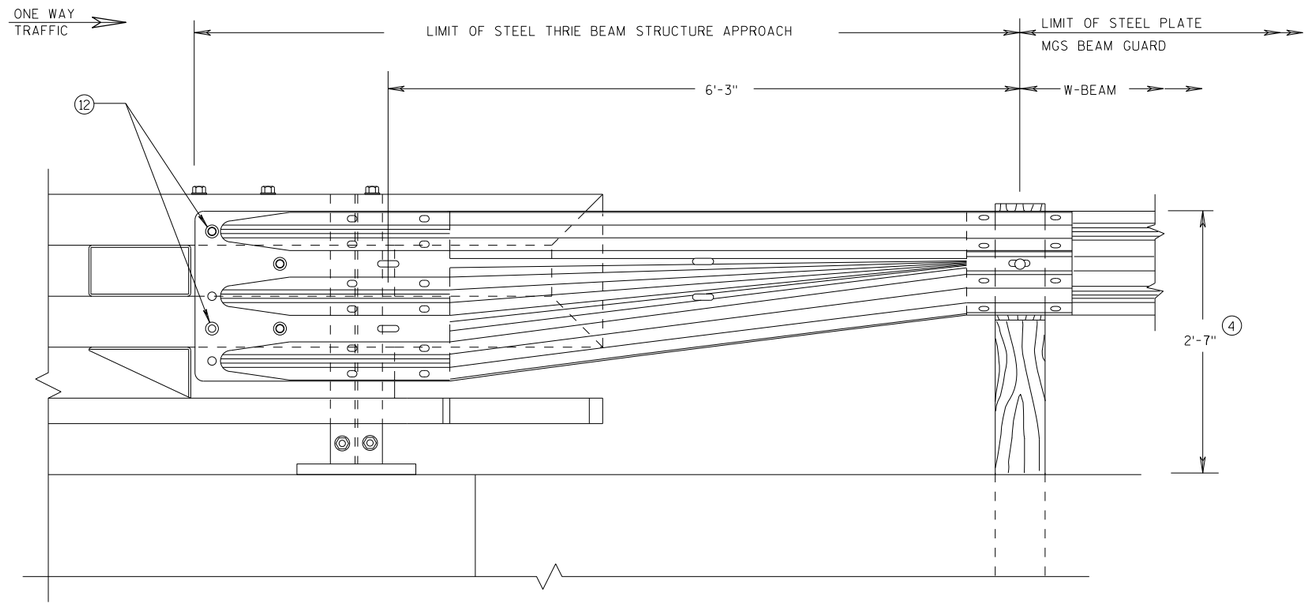


FRONT VIEW

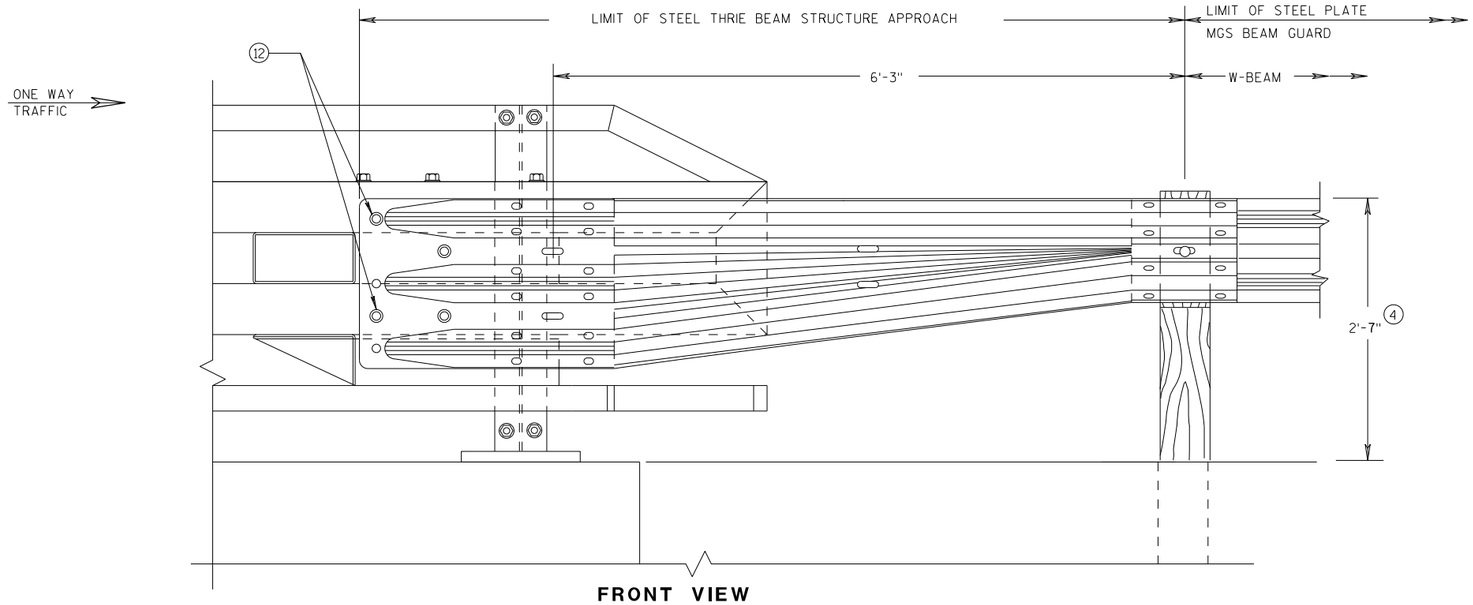
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(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 1/2-INCH BEYOND NUT.



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)

STATE OF WISCONSIN
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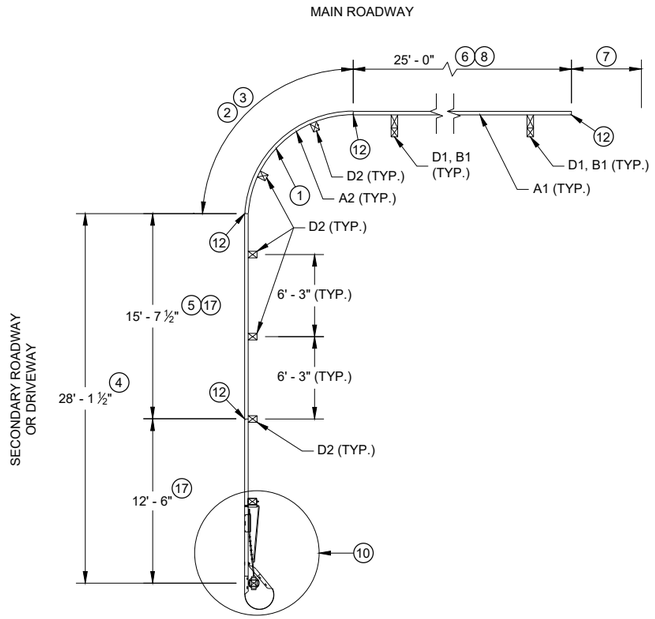
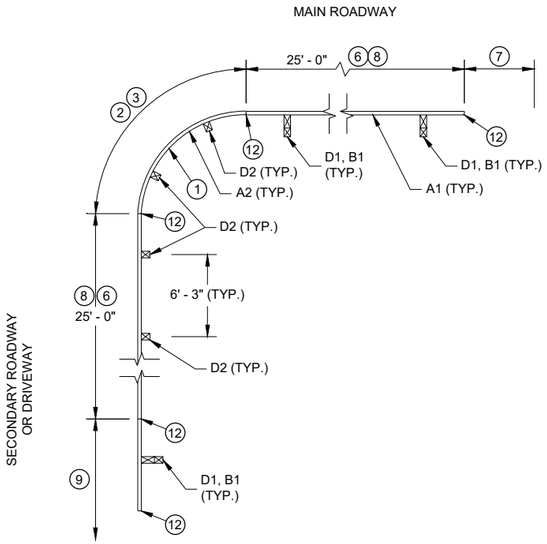


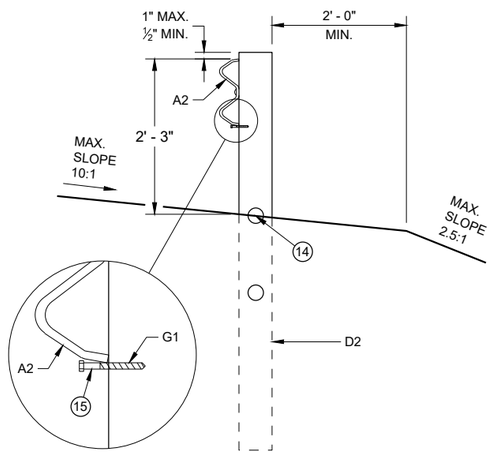
PLAN VIEW

SHORT RADIUS BEAM GUARD WITH SHORT RADIUS TERMINAL ON SECONDARY ROAD OR DRIVEWAY

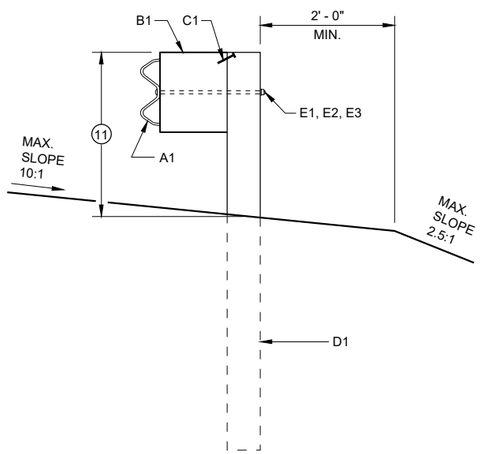


PLAN VIEW

SHORT RADIUS BEAM GUARD WITH EAT, ADDITIONAL BEAM GUARD OR TRANSITION TO RIGID BARRIER ON SECONDARY ROAD OR DRIVEWAY



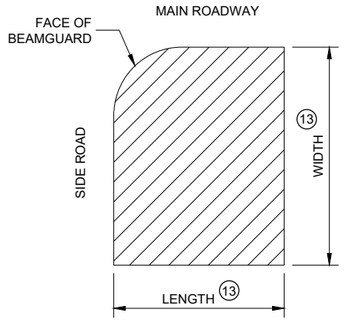
CONTROLLED RELEASE TERMINAL POST (CRT) IN RADIUS



BEAM GUARD POSTS IN HEIGHT TRANSITION

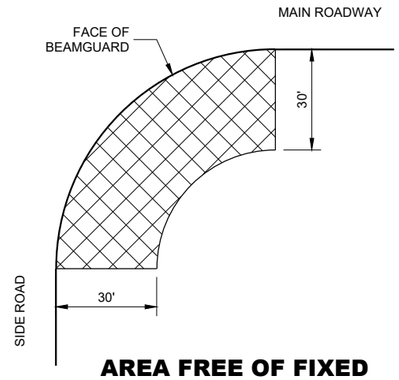
TABLE FOR RADIUS OF 32' AND LESS

RADIUS (FT)	LENGTH (FT)	WIDTH (FT)
8	25	15
16	30	15
24	40	20
32	50	30

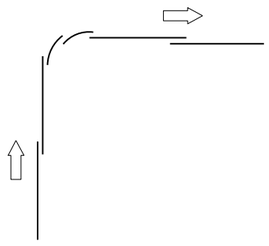


AREA FREE OF FIXED OBJECTS FOR RADIUS 32' AND LESS

16



AREA FREE OF FIXED OBJECTS FOR RADIUS GREATER THAN 32'



LAP SPLICE DETAIL

GENERAL NOTES

SEE PLANS FOR OTHER BARRIER SYSTEM AND LOCATION SPECIFICS.

SEE SDD 14B42 FOR MORE INFORMATION ON BEAM GUARD INSTALLATION, PARTS, MATERIALS, AND INSTALLATION INFORMATION.

GALVANIZE PARTS AFTER FABRICATION.

WELDING TO FOLLOW CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI / AWS D1.1.

UNLESS NOTED OTHERWISE, ALL PLATES ARE FLAT AND FREE OF WARP.

UNLESS NOTED OTHERWISE, ALL EDGES ARE SMOOTH, STRAIGHT AND VERTICAL.

ALL CUTS AND HOLES, EXCEPT IN BEAM GUARD RAIL ARE TO BE MACHINED OR MACHINE FLAME CUT.

UNLESS NOTED OTHERWISE, CUT OR PROVIDE BOLTS THAT ARE ¼" TO ½" BEYOND THE NUT.

DRAWINGS ARE NOT TO SCALE.

1. RADIUS MEASURE FROM INSIDE OF RAIL. LENGTH OF BEAM GUARD SHORT RADIUS GUARD MEASURED ALONG TRAFFIC SIDE OF RAIL. RADIUS BETWEEN 8 FEET TO 150 FEET. SEE PLAN FOR REQUIRED RADIUS. BEAM GUARD RAIL IN RADIUS IS SHOP BENT. ODD RAIL LENGTH OR FIELD CUTS MAY BE REQUIRED.
2. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE USED IN THE RADIUS. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE SPACED 6' - 3". SEE PLAN FOR NUMBER OF CONTROLLED RELEASE (CRT) POSTS.
3. WITHIN RADIUS BEAM GUARD RAILS ARE NOT BOLTED TO POSTS. BEAM GUARD RAIL IS RESTED ON TOP OF LAG SCREW.
4. MINIMUM LENGTH OF BEAM GUARD ALONG SIDE ROAD OR DRIVEWAY TO INSTALL SHORT RADIUS TERMINAL. BEAM GUARD IS PAID WITH BEAM GUARD ITEM.
5. ODD LENGTH OF BEAM GUARD REQUIRED TO INSTALL SHORT RADIUS TERMINAL.
6. MINIMUM AMOUNT OF BEAM GUARD TO BE INSTALLED PRIOR TO TRANSITION TO RIGID BARRIER. ADDITIONAL BEAM GUARD, OR EAT. BEAM GUARD PAID FOR WITH BEAM GUARD ITEM. SEE PLANS FOR MORE DETAIL.
7. BEAM GUARD, EAT, OR TRANSITION TO RIGID BARRIER. SEE PLAN.
8. TOP OF BEAM GUARD BY THE RADIUS IS 27". HEIGHT OF BEAM GUARD IS 31" BY TRANSITION TO RIGID BARRIER, ADDITIONAL BEAM GUARD OR EAT.
9. ADDITIONAL BEAM GUARD, EAT OR TRANSITION TO RIGID BARRIER. BEAM GUARD SHOWN. SEE PLAN FOR DETAILS.
10. SHORT RADIUS TERMINAL (SEE OTHER DETAILS).
11. HEIGHT VARIES. SEE NOTE 8 AND 8 .
12. BEAM GUARD RAIL SPLICE LOCATION. SPLICE LOCATION REQUIRES PART F1 AND F2. SEE SDD 14B42 FOR DETAILS.
13. SEE TABLE FOR VALUES.
14. MAXIMUM HEIGHT FOR CENTER OF HOLE IS ¾" ABOVE FINISHED GROUND ±1".
15. DRILL POST $^{15}/_{64}$" DIA. PILOT HOLE. DO NOT HAMMER LAG SCREW INTO POST.
16. SMALL SIGNS ON BREAKAWAY HARDWARE ARE ACCEPTABLE.
17. TOP OF RAIL HEIGHT IS 27" WHEN USING A SHORT RADIUS TERMINAL (CRT).

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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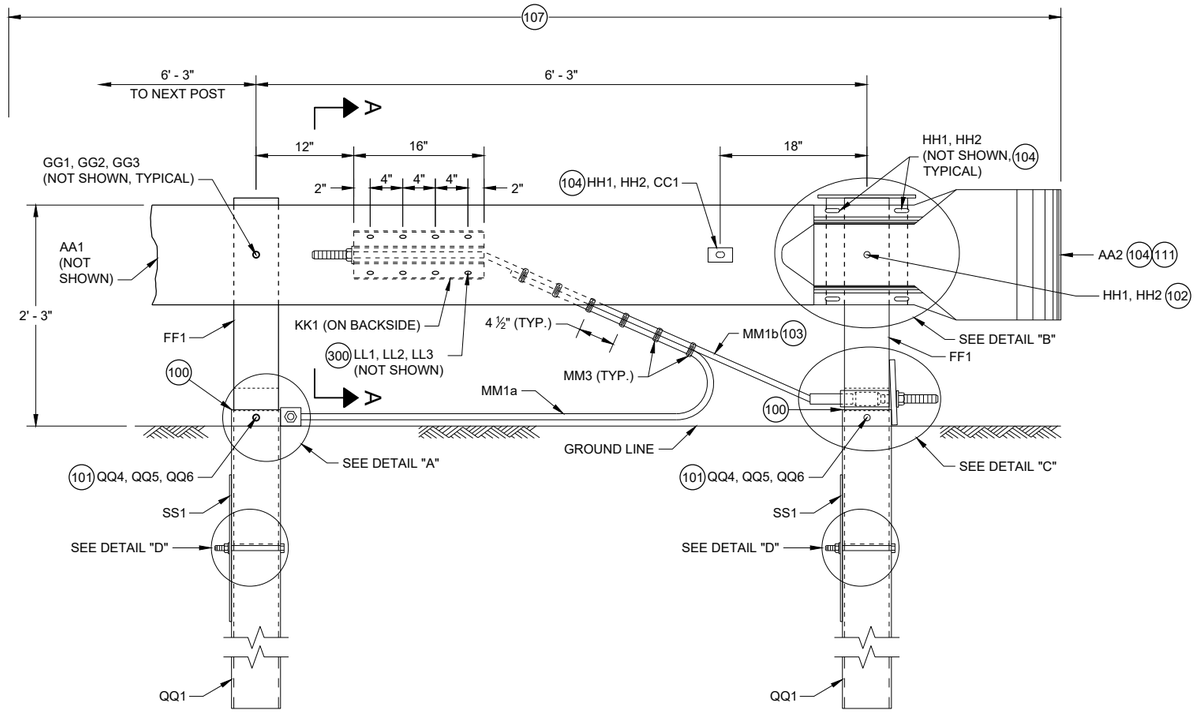
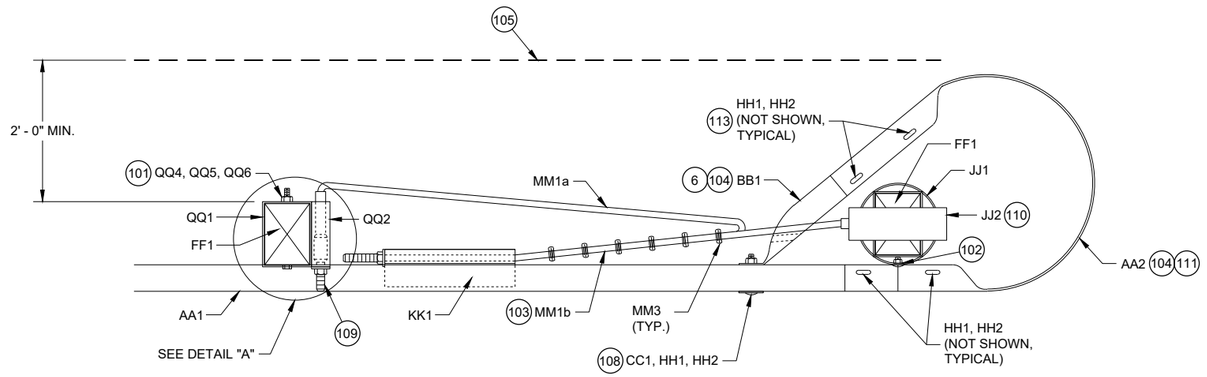


PROFILE VIEW

SHORT RADIUS TERMINAL



TOP VIEW

SHORT RADIUS TERMINAL

GENERAL NOTES

100 TOP OF FOUNDATION TUBE 2 INCHES MAXIMUM ABOVE FINISHED GROUND.

101 WASHERS REQUIRED BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

102 SPLICE BOLT AND NUT CONNECTS BEAM GUARD RAIL, W-BEAM SECTION BUFFER, AND STEEL PIPE ASSEMBLY. NO WASHER REQUIRED. SEE DETAIL "B".

103 CABLE IS TAUT.

104 ADJUST AA2 AND BB1 TO FIT.

105 BREAK POINT OF SHOULDER.

106 TACK WELD CABLE CONNECTOR TUBE PLATE TO CABLE CONNECTION TUBE. SEE DETAIL "A" PROFILE VIEW.

107 PAY LIMIT FOR BEAM GUARD.

108 SQUARE WASHER BETWEEN HEAD OF BOLT AND TRAFFIC FACE OF BEAM GUARD. ROUND WASHER REQUIRED BETWEEN NUT AND BB1.

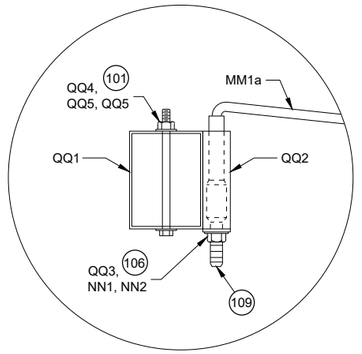
109 CUT OR PROVIDE THREADED STUD THAT IS FLUSH WITH FACE OF BEAM GUARD RAIL KK1 (PLUS OR MINUS ½" TOLERANCE). DEBURR AFTER CUTTING.

110 SEE STEEL PIPE ASSEMBLY DETAILS.

111 ATTACH UU2 WITH UU3. SHOP APPLY UU1 TO UU2.

112 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA1 TO AA2.

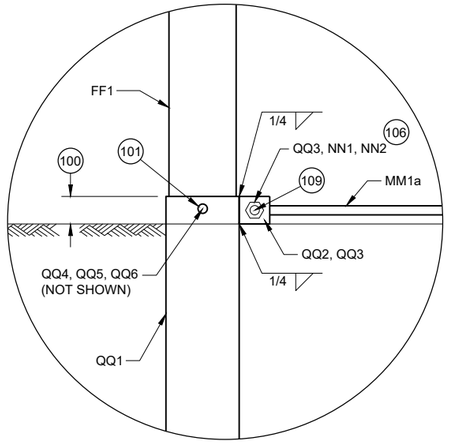
113 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA2 TO BB1.



TOP VIEW

DETAIL "A"

(WOOD BREAKAWAY AND BEAM GUARD RAIL POSTS NOT SHOWN)



PROFILE VIEW

DETAIL "A"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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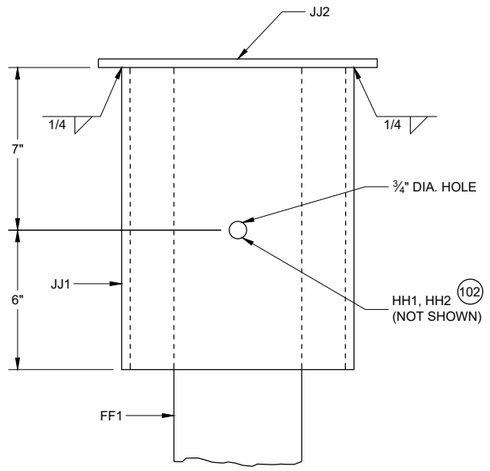
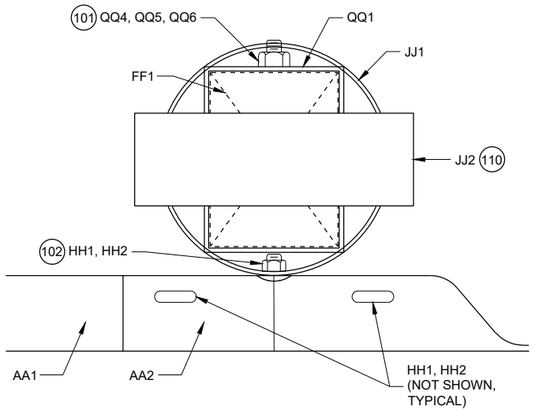


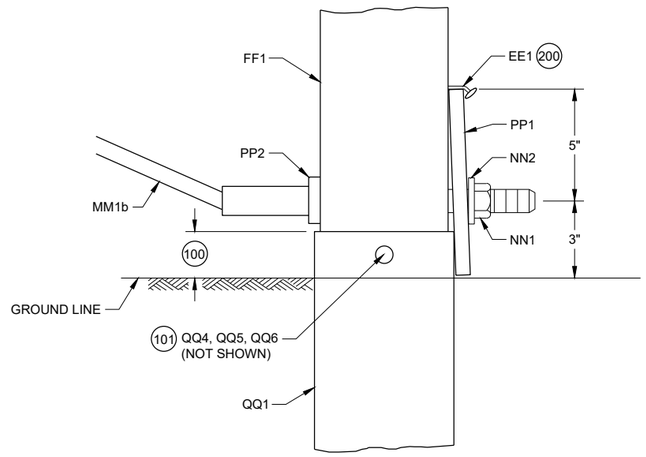
PROFILE VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY
(BEAM GUARD AND W BEAM END SECTION NOT SHOWN)



PLAN VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY

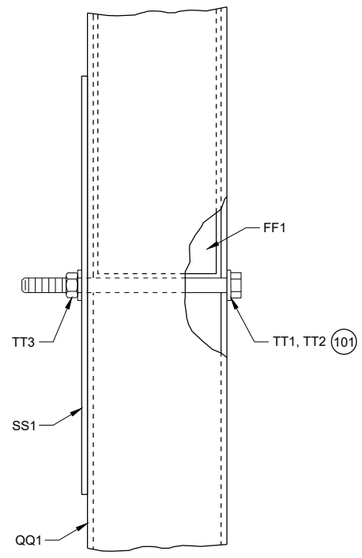


PROFILE VIEW

DETAIL "C"

GENERAL NOTES

200 TWO (2) NAILS SPACED 4 INCHES CENTER TO CENTER.



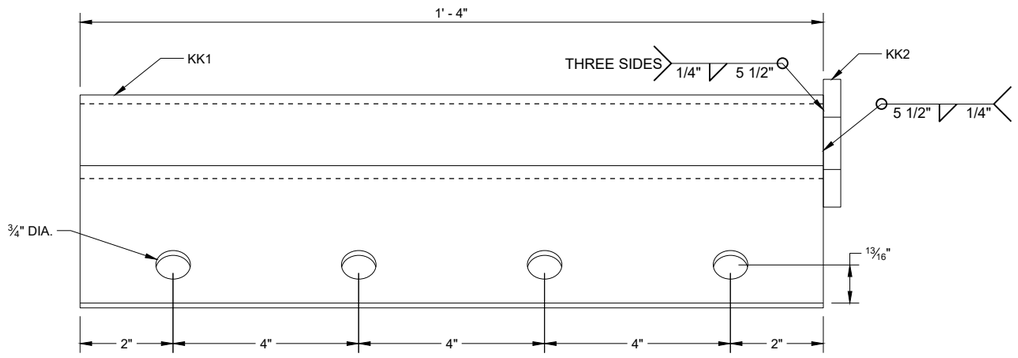
PROFILE VIEW

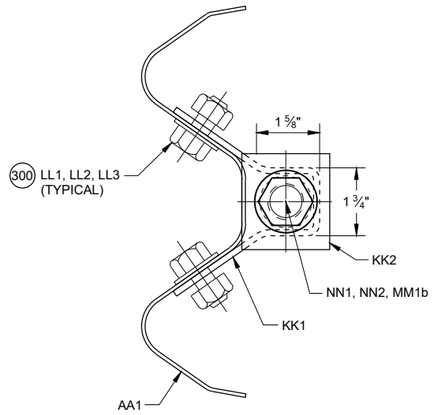
DETAIL "D"

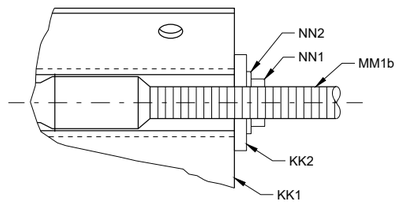
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

GENERAL NOTES

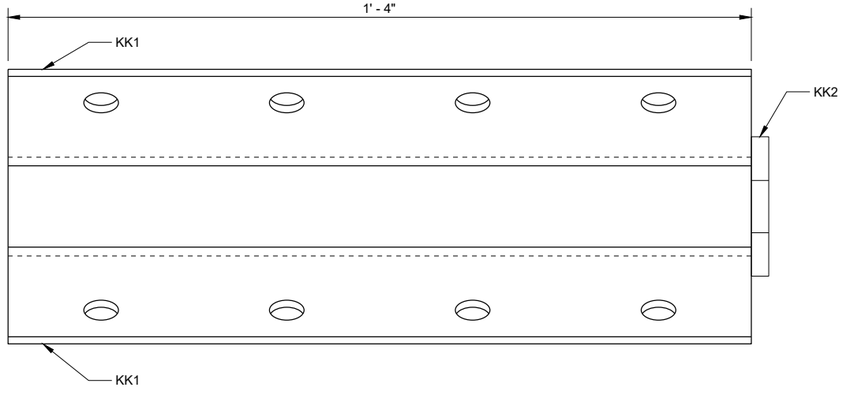
(300) WASHERS REQUIRED BETWEEN BOLT HEAD AND BEAM GUARD RAIL AND BETWEEN NUT AND ANCHOR BRACKET. EIGHT (8) LL1 AND LL3 REQUIRED. SIXTEEN (16) LL2 REQUIRED.

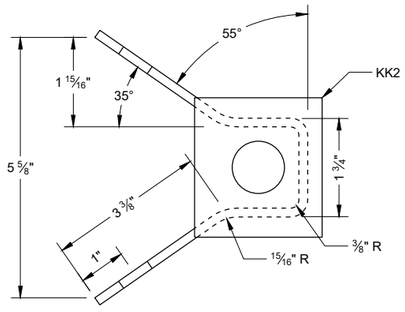




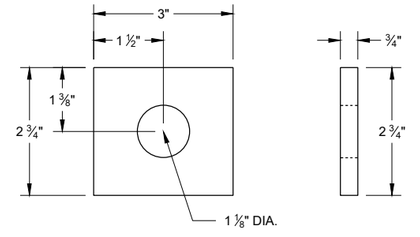


SECTION A - A





ANCHOR BRACKET (KK1, KK2)



ANCHOR BRACKET BEARING PLATE (KK2)

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
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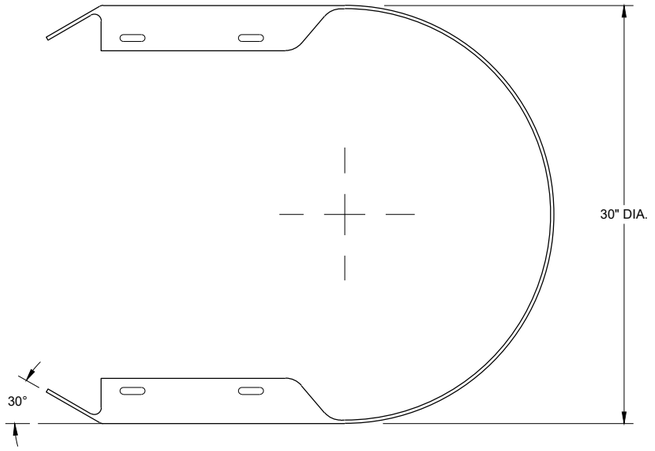
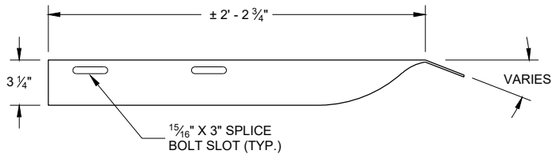


TOP VIEW

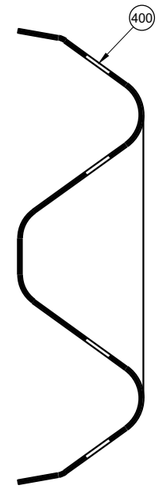


TOP VIEW

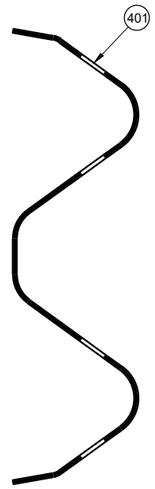
GENERAL NOTES

(400) CROSS SECTION OF PART IS TO FIT OVER AA1 .

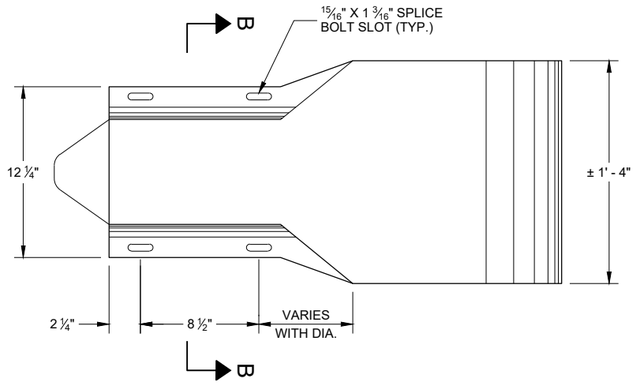
(401) CROSS SECTION OF PART IS TO FIT OVER OR UNDER AA1 .



SECTION B -B

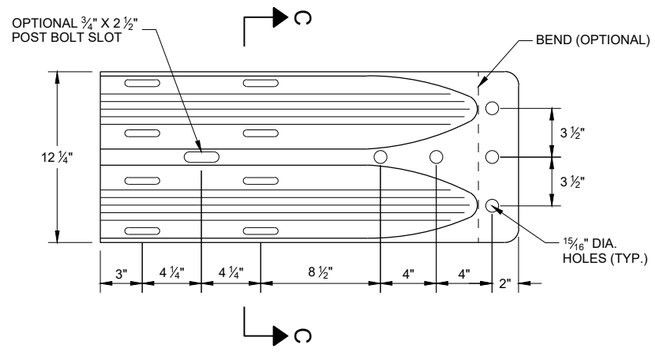


SECTION C -C



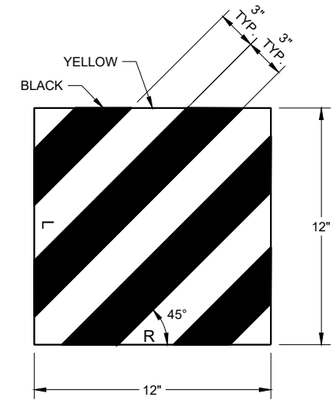
PROFILE VIEW

W BEAM
END SECTION BUFFER (AA2)



PROFILE VIEW

W BEAM
TERMINAL CONNECTOR (BB1)



REFLECTIVE SHEETING (UU1, UU2)

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

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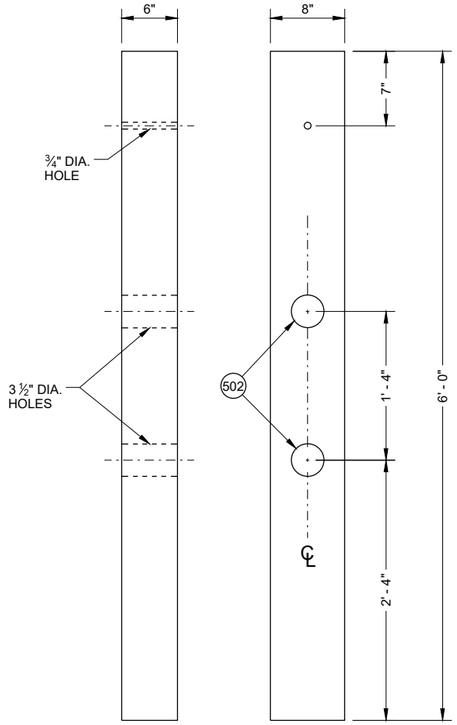
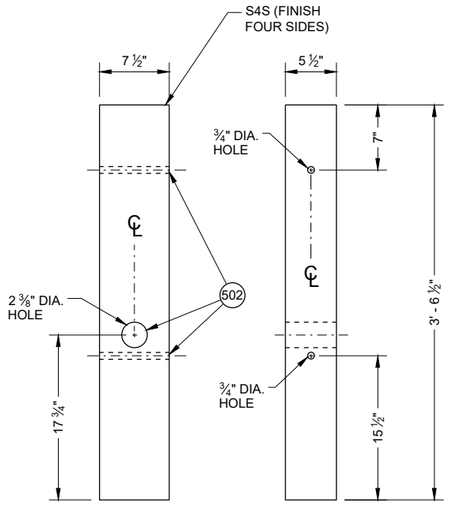


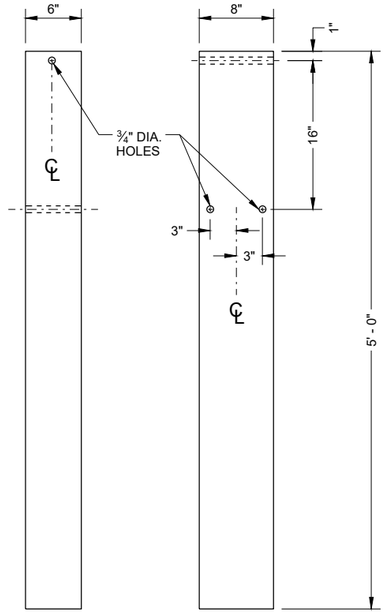
FRONT VIEW SIDE VIEW

CONTROLLED RELEASE POST (CRT) (DD2)



FRONT VIEW SIDE VIEW

WOOD BREAKAWAY POST (FF1)



FRONT VIEW SIDE VIEW

FOUNDATION TUBE (QQ1) (500)

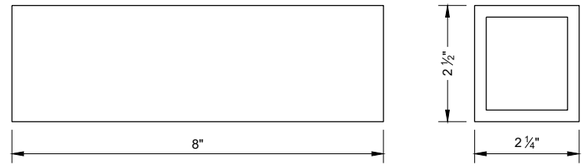
GENERAL NOTES

(500) SEE DETAIL "D" FOR LOCATION AND ATTACHMENT OF SS1.

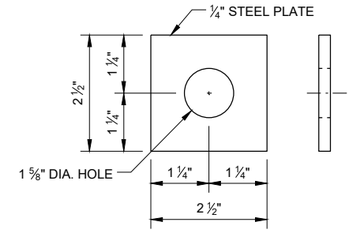
(501) FOR MM1a THREADED STUD ONLY REQUIRED ON ONE END. SWAGED FITTING REQUIRED.

(502) LOCATE HOLES ON THE CENTERLINE OF THE SIDE OF THE POST.

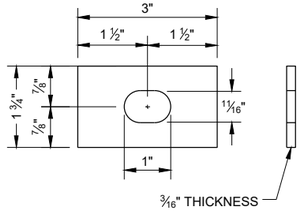
(503) MM1a MAY HAVE ONE THREADED STUD 4 INCHES LONG. SEE NOTE (109).



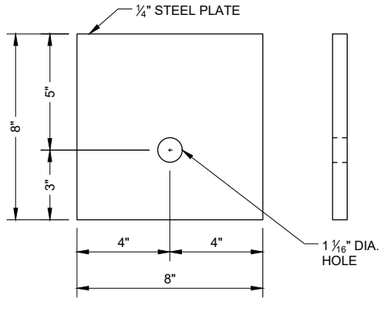
FOUNDATION TUBE - ANCHOR CABLE TUBE (QQ2)



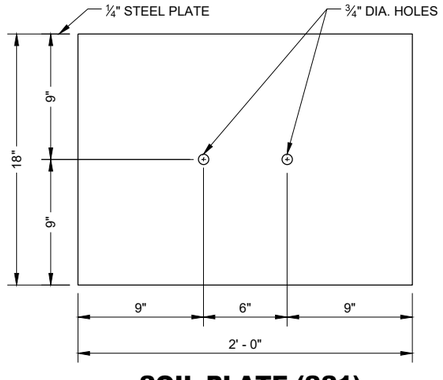
ANCHOR CABLE TUBE END PLATE (QQ3)



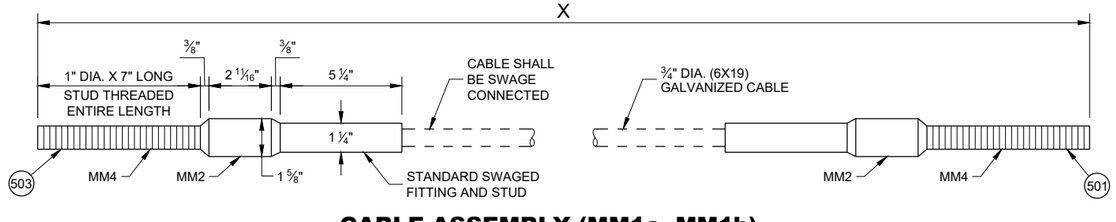
RECTANGULAR PLATE WASHER (CC1)



BEARING PLATE (PP1)



SOIL PLATE (SS1)



CABLE ASSEMBLY (MM1a, MM1b)

"X" LENGTH

MM1b	9' - 0"
MM1b	6' - 8"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
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SDD 14B53 - 02f

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	BEAM GUARD RAIL	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
A2	BEAM GUARD RAIL - SHOP BENT	INDICATE ON BACK OF RAIL THE RADIUS THAT RAIL WAS BENT TO. SHOP BEND RADIUS IS TO THE NEAREST FOOT. FOLLOW AASHTO M180 ON HOW TO MARK RADIUS INFORMATION.	
		AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
B1	BLOCK - WOOD	WISDOT SPEC. 614	SEE SDD 14B42
C1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEAD)	
D1	POST-STRONG POST-WOOD	WISDOT SPEC. 614	SEE SDD 14B42
D2	POST-CRT-WOOD	WISDOT SPEC. 614	
E1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
E2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	5/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
E3	POST BOLT - NUT	AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
F1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
F2	SPLICE BOLT - NUT	ASTM A563 GRADE A	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
G1	LAG SCREW	ASTM A308 GRADE A ASTM A153 CLASS D	1/2" DIA. 6" LONG
H1	DELINEATOR - BEAM GUARD		SEE SDD 14B42 FOR MORE INFORMATION
H2	DELINEATION - SHEETING	YELLOW OR WHITE	
		WISDOT SPEC 637 TYPE SH	
		APPROVED PRODUCT LIST	
J1	FOUNDATION BACKFILL	STANDARD SPEC. 614	
AA1	BEAM GUARD RAIL - PUNCHED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
AA2	BEAM GUARD RAIL - END SECTION BUFFER	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
BB1	BEAM GUARD RAIL - TERMINAL CONNECTOR MODIFIED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
CC1	SHORT RADIUS - SQUARE WASHER	AASHTO M180	
		GALV. AASHTO M111 / ASTM A123	
EE1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)	
FF1	POST - BCT - WOOD	S4S FINISH ON 4 SIDES	
		WISDOT SPEC. 614	
GG1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	3/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		UNC	
GG2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	3/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C/ASTM A153 CLASS C / ASTM F2329	

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SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B53 - 02g

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
GG3	POST BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE 14B42 FOR GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
HH1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180 HEAD GEOMETRY	
HH2	SPLICE BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
JJ1	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	10" O.D.
JJ2	TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS ⅜" X 4" X 1' - 0"
		GALV. AASHTO M111 / ASTM A123	
KK1	ANCHOR BRACKET	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
KK2	ANCHOR BRACKET - BEARING PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
LL1	ANCHOR BRACKET - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
LL2	ANCHOR BRACKET - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	⅝" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
LL3	ANCHOR BRACKET - NUT	ASTM A563 GRADE A	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
MM1a	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM1b	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM2	ANCHOR CABLE - SWAGE FITTING	ASTM A576 GRADE 1035	
		SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. WITH A BREAKING STRENGTH 40,000 LBS.	
		GALV. AASHTO M111 / ASTM A123	
		ASME B30.26 FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING INTO CONNECTION: NAME OF MANUFACTURER OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE.	
MM3	WIRE ROPE CABLE CLAMPS	FF-C-450D TYPE 1 CLASS 1	¾"
		ASTM A153 HOT DIP CLASS D	
MM4	ANCHOR CABLE - SWAGE FITTING - STUD	ASTM F3125 GRADE A325 TYPE 1 OR SAE GRADE 5 OR ASTM A449 TYPE 1 HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
NN1	ANCHOR CABLE - NUT	ASTM A563 GRADE A	1" DIA.
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
NN2	ANCHOR CABLE - NUT - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	1" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
PP1	BEARING PLATE AT POST	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
PP2	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	2" DIA. x 6" LONG
QQ1	FOUNDATION TUBE	ASTM A500 GRADE B	8" X 6" X 3/16"
		GALV. AASHTO M111 / ASTM A123	
QQ2	SHORT RADIUS - FOUNDATION TUBE - ANCHOR CABLE - TUBE	ASTM A500 GRADE B	DIMENSIONS 2 1/2" X 2 1/4" X 1/4" X 8"
		GALV. AASHTO M111 / ASTM A123	
QQ3	SHORT RADIUS - SOIL TUBE - ANCHOR CABLE - TUBE - END PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS 2 1/2" X 2 1/2" X 1/4"
		GALV. AASHTO M111 / ASTM A123	
QQ4	GROUND STRUT AND YOKE - BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
		ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	
		UNC	
QQ5	GROUND PLATE AND YOKE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
QQ6	GROUND STRUT AND YOKE - NUT	HEAVY HEX	5/8 DIA.
		UNC	
		ASTM A563 GRADE A	
		OVER TAPPED NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
SS1	SOIL PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / A123	
TT1	SOIL PLATE - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	5/8 DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
TT2	SOIL PLATE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
TT3	SOIL PLATE - NUT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
UU1	OBJECT MARKER - SHEETING	MUTCD / WISDOT OBJECT MARKER TYPE 3	PATTERN AND COLOR FOR SHEETING. SHEETING TYPE FOR MARKER.
		WISDOT SPEC 637 TYPE F	
		APPROVED PRODUCT LIST	
UU2	OBJECT MARKER - ALUMINUM PLATE	WISDOT SPEC 637 ALUMINUM PLATE	MATERIAL AND THICKNESS OF MATERIALS
UU3	OBJECT MARKER - SCREWS	STAINLESS SELF-TAPPING SCREWS	
VV1	FOUNDATION BACKFILL	WISDOT SPEC 614	

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

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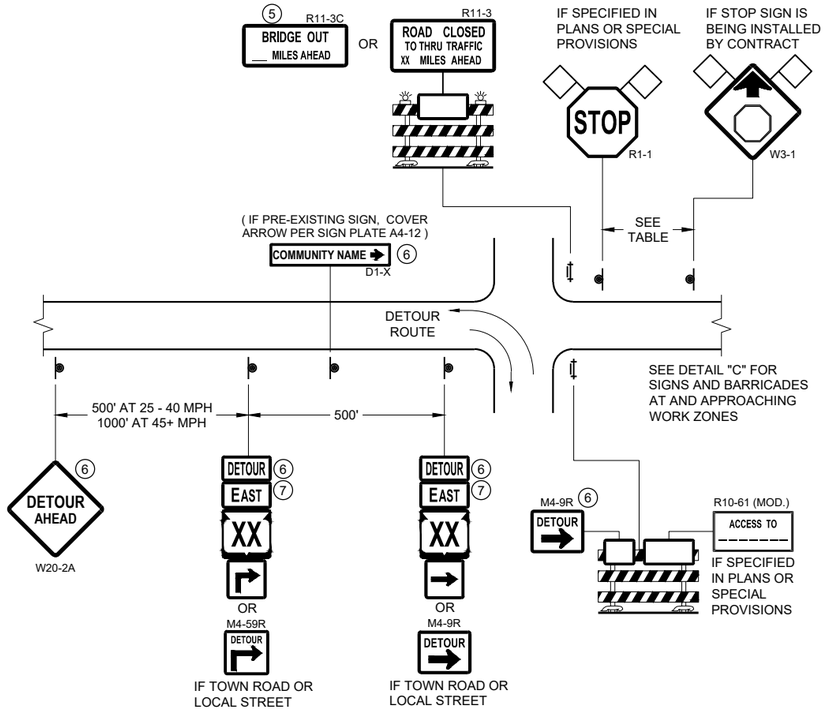
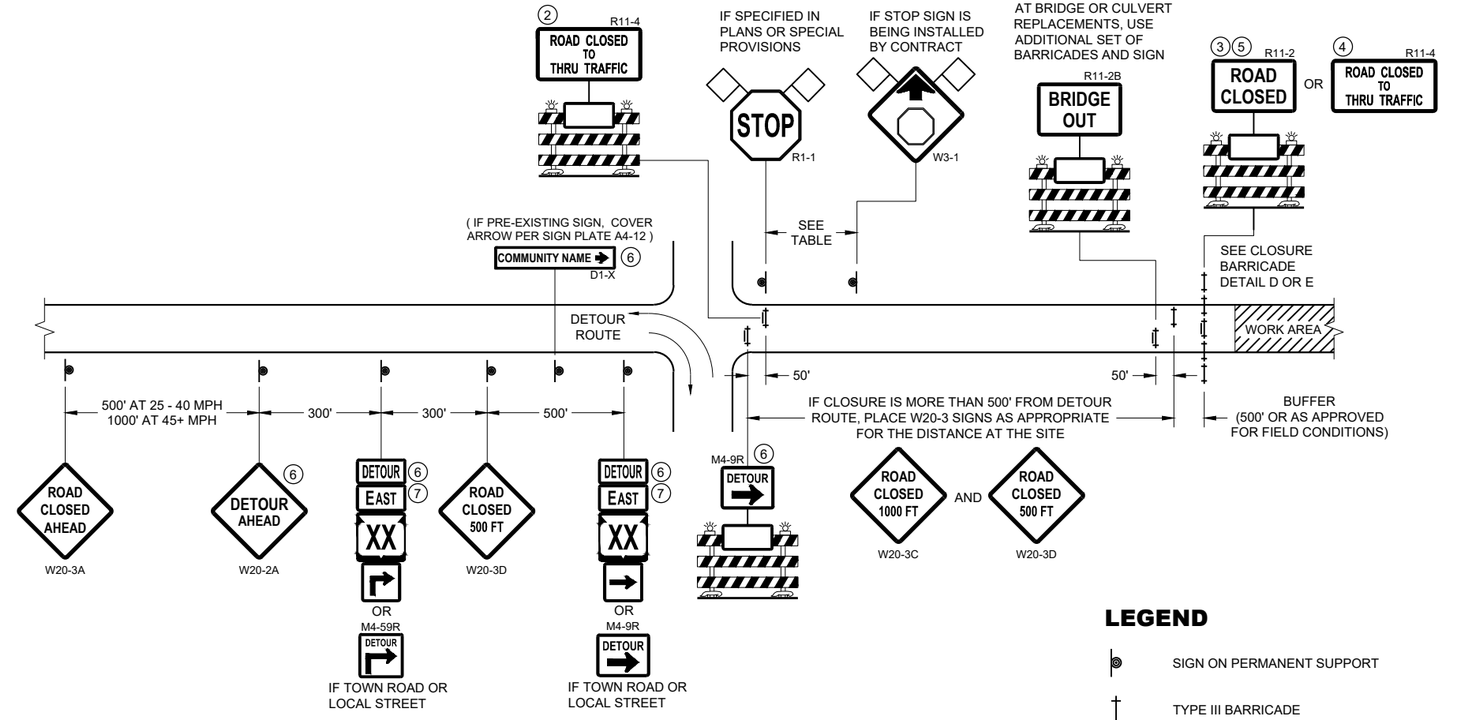
SDD 14B53 - 02i



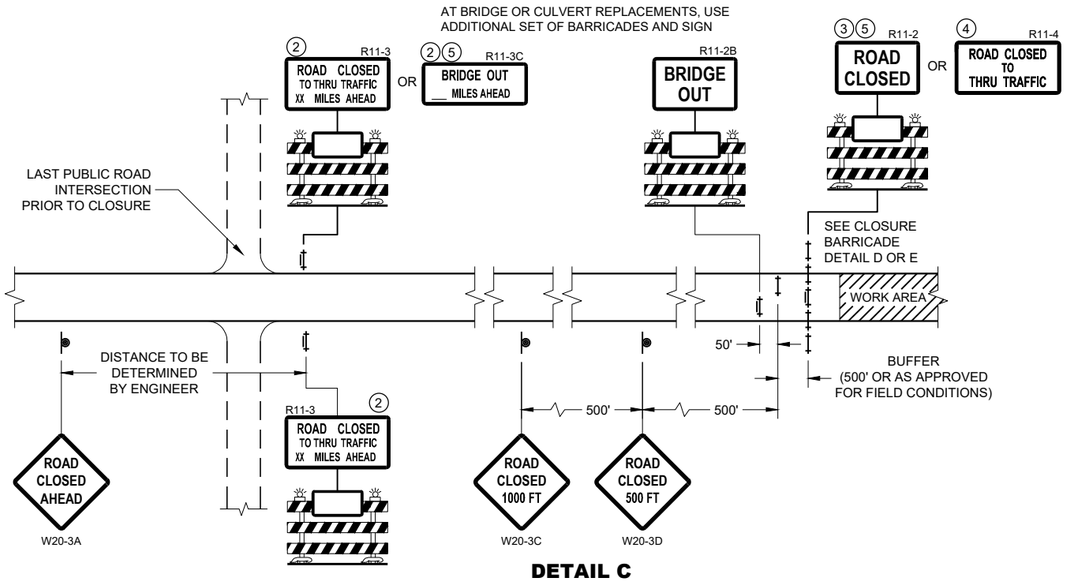
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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SDD 15C02 - 09a

SDD 15C02 - 09a

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR / EAST — M4 - 8, M3 - X
- XX — M1 - 4; OR XX — M1 - 6; OR COUNTY X — M1 - 5A
- M05 - 1; OR M06 - 1; OR M06 - 1

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

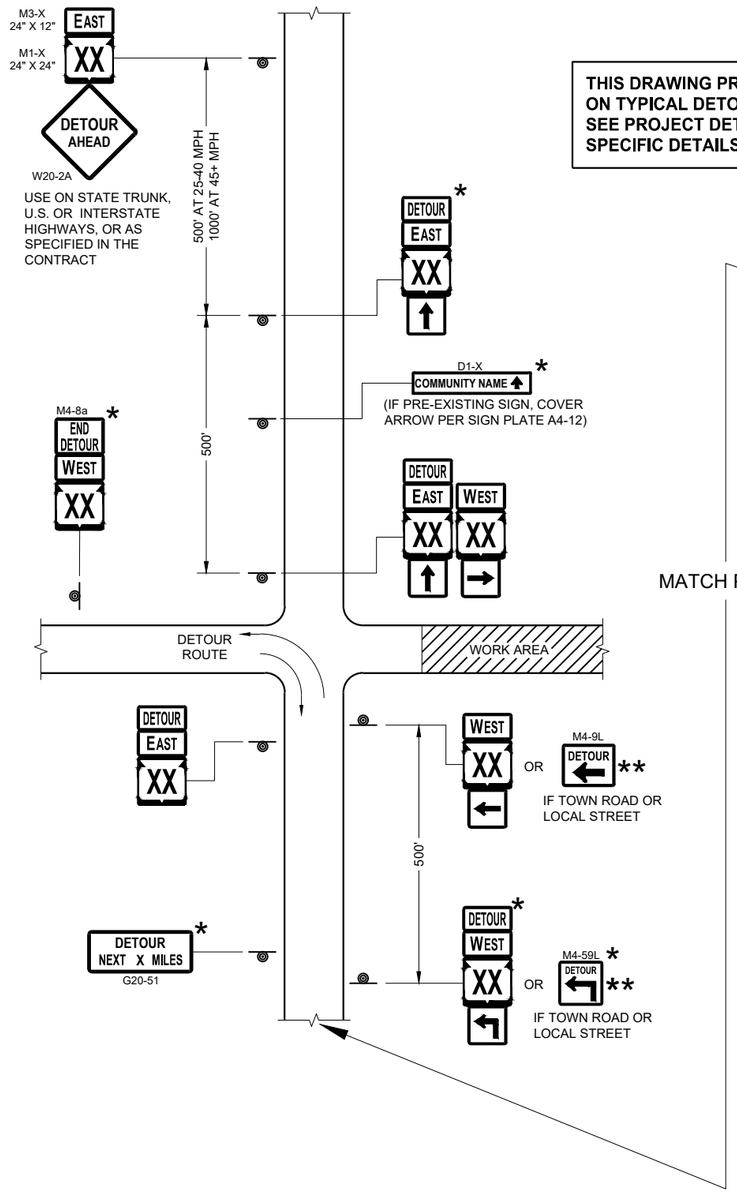
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

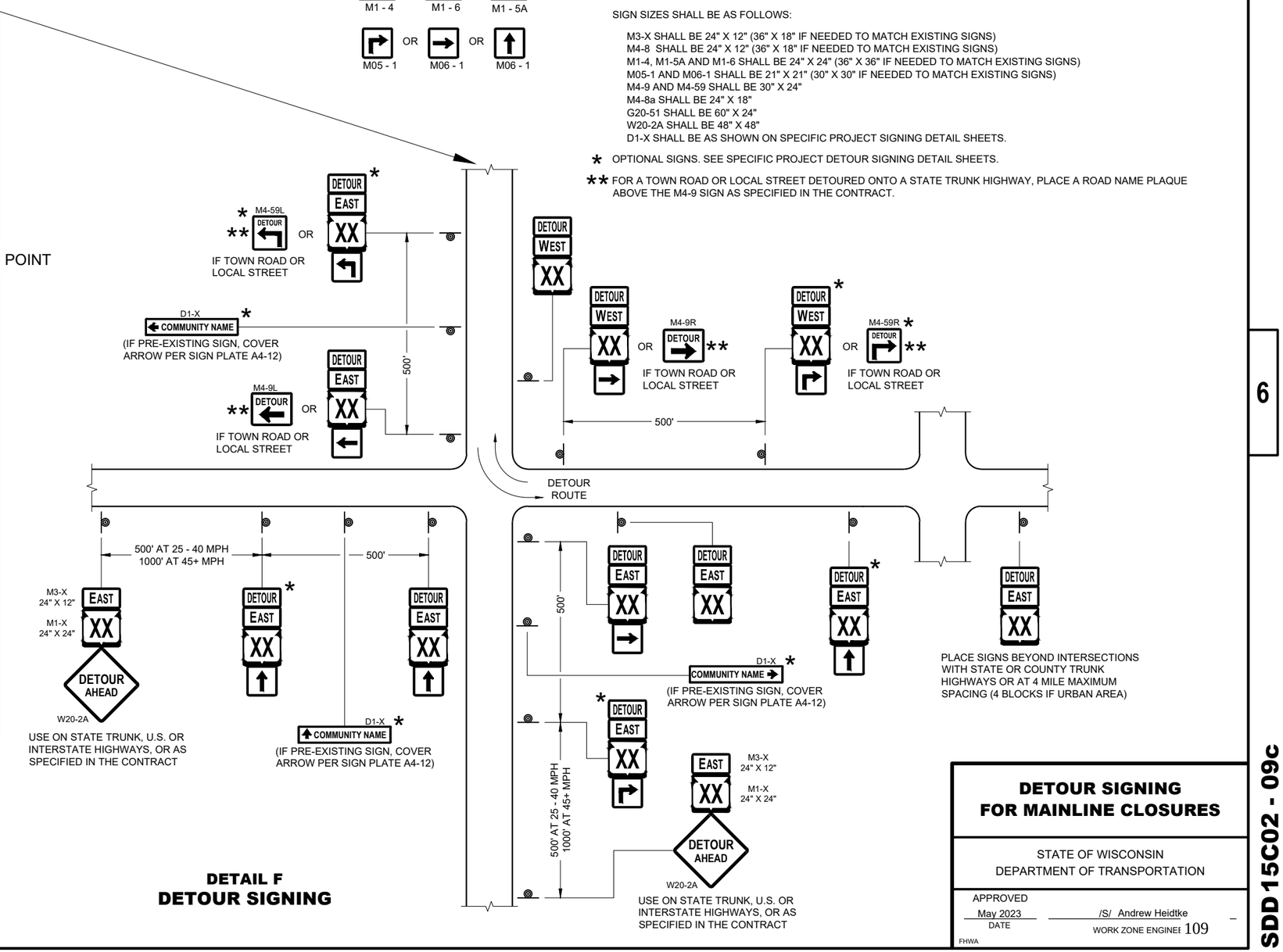
SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.





SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

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SDD 15C02 - 09c

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.

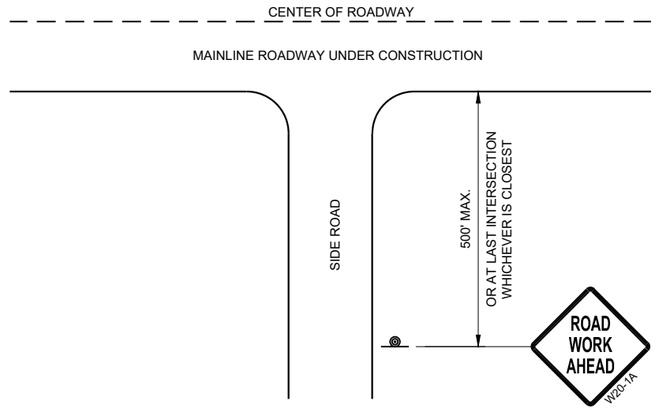
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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 REESTABLISHED.

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

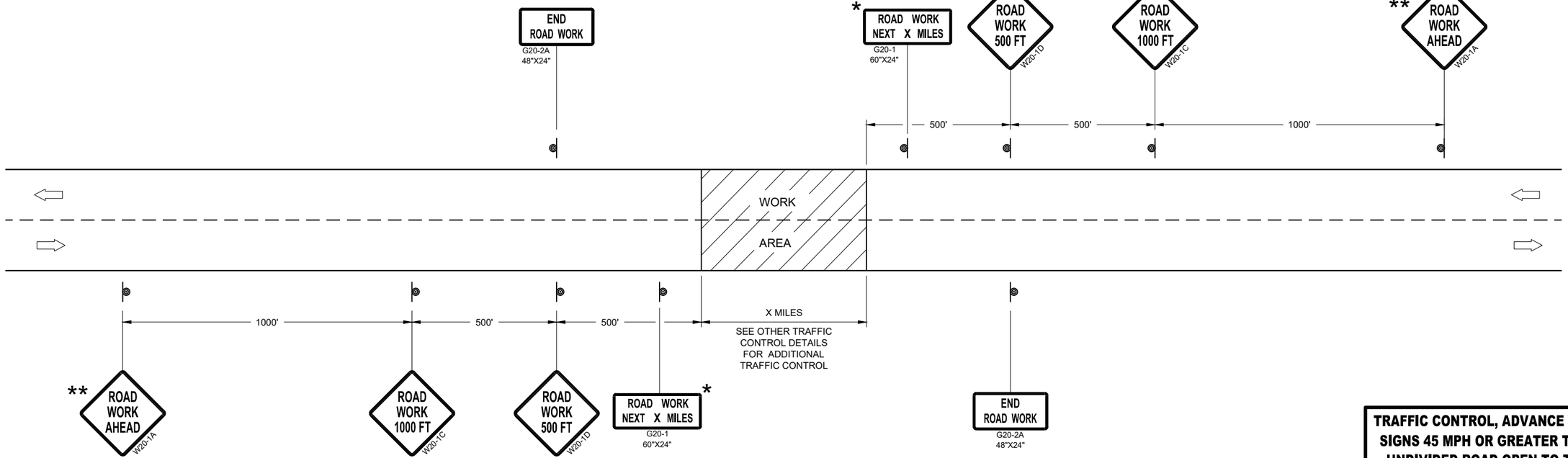
** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

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



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C04 - 05

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

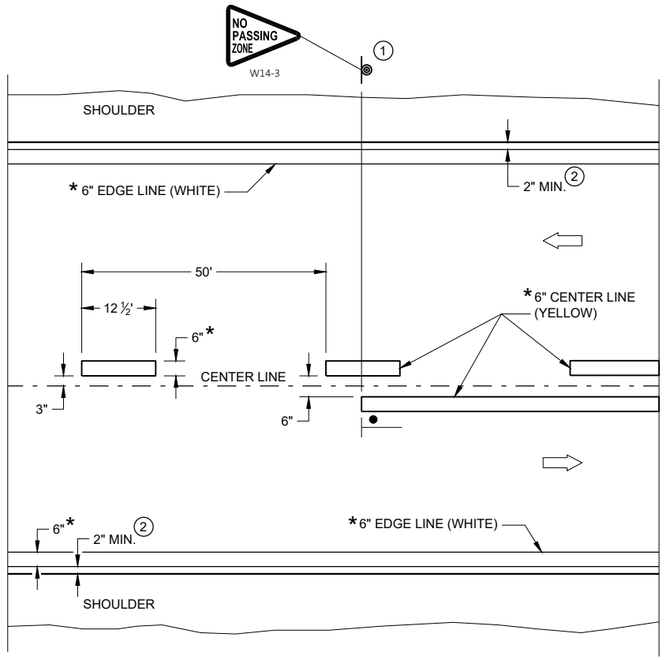
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

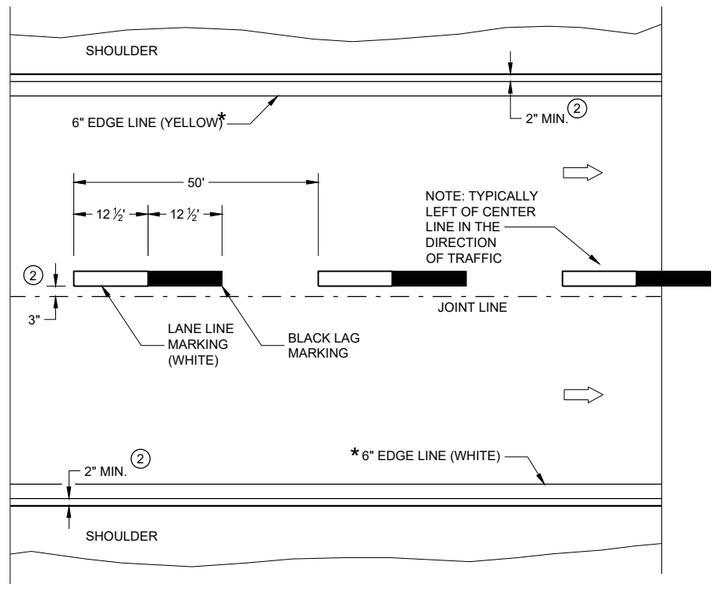
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

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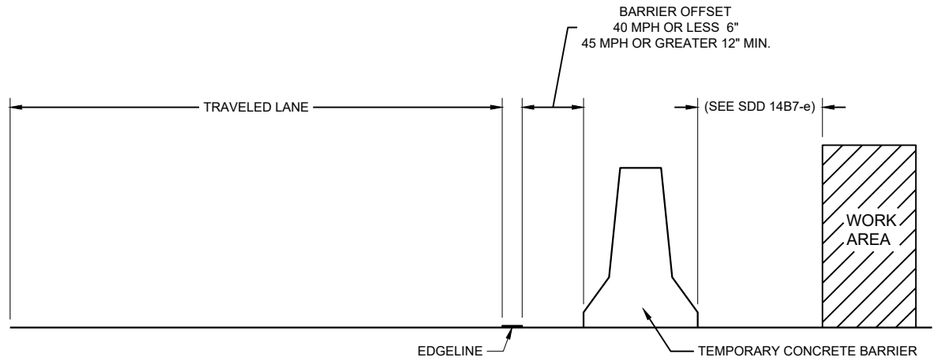
SDD 15C08-23a



TEMPORARY BARRIER OFFSET FROM EDGELINE

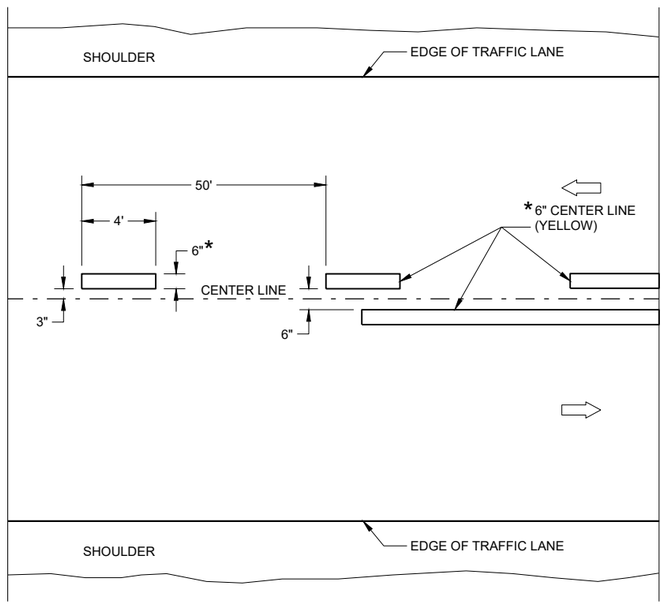
GENERAL NOTES

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

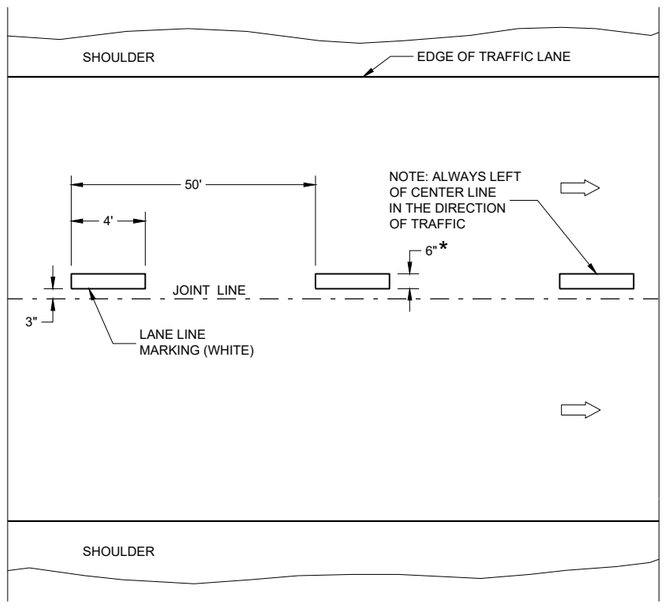
LEGEND

⇨ DIRECTION OF TRAFFIC

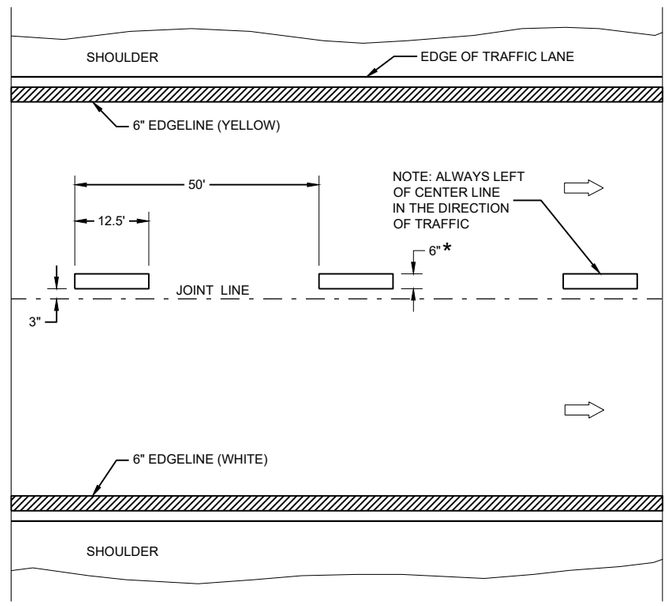
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

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SDD 15C08-23b

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SDD 15C08-23b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

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

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.

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

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

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND 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.

FLAGGING

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 PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' 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.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

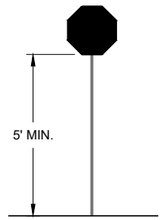
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



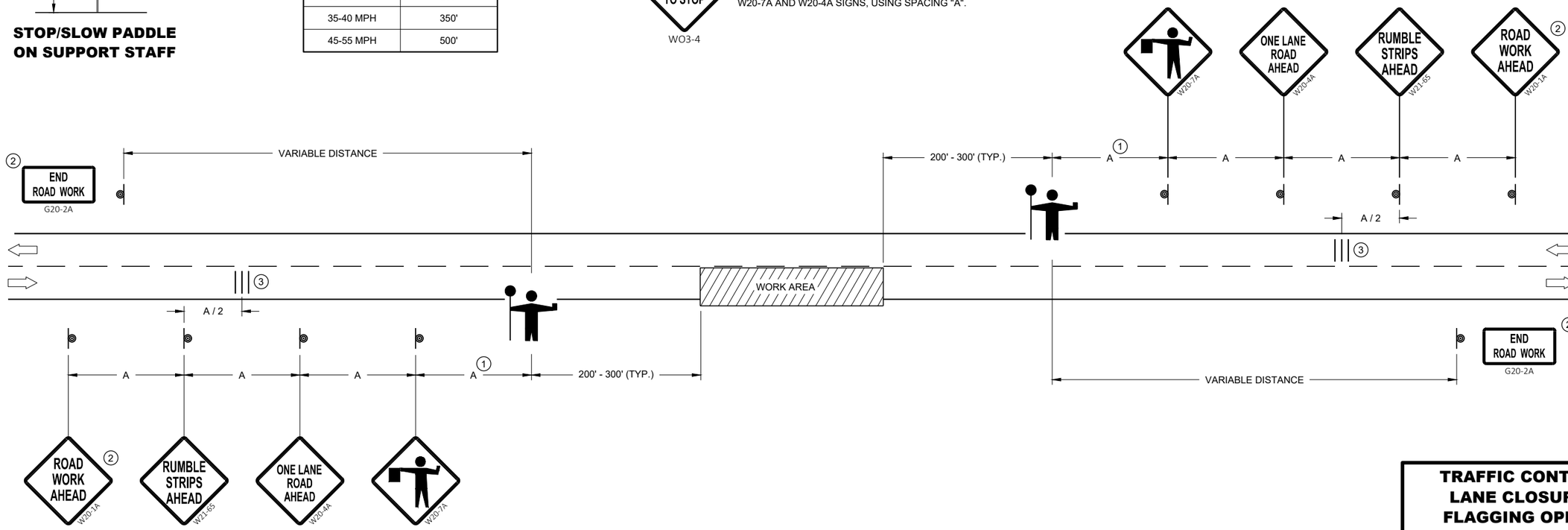
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

WO3-4

USE OF WO3-4 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 CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C12 - 09a

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SDD 15C12 - 09a

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

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

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

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

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

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

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

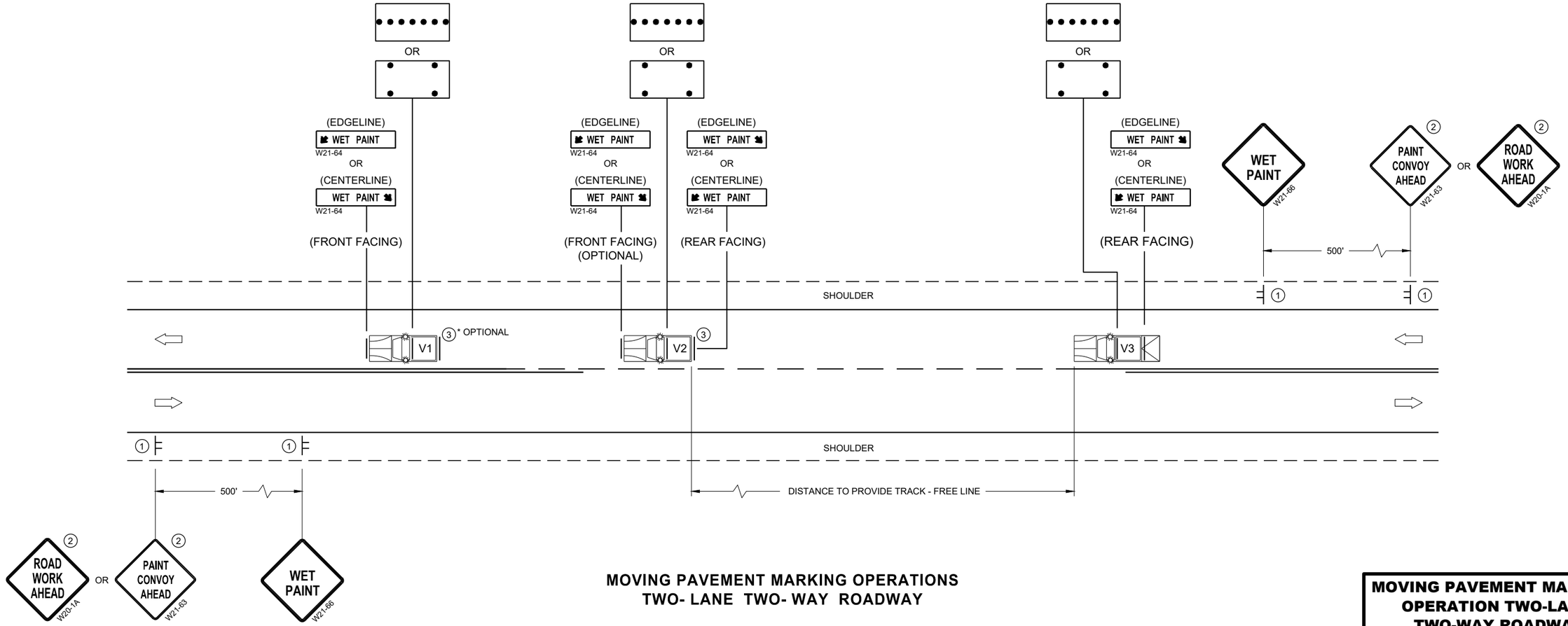
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

(3) V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



MOVING PAVEMENT MARKING OPERATIONS
TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2023
DATE

/S/ Andrew I . . . .
WORK ZONE EN

FHWA

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SDD 15C19-08a

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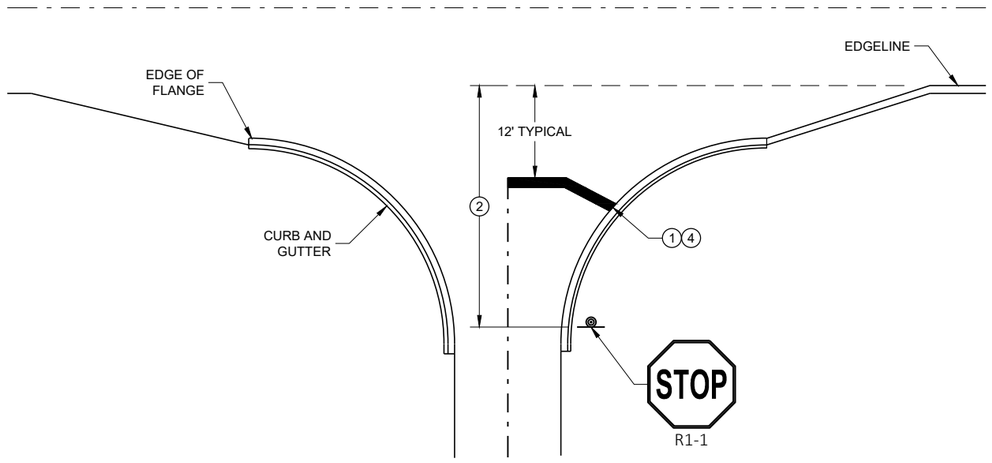
SDD 15C19-08a

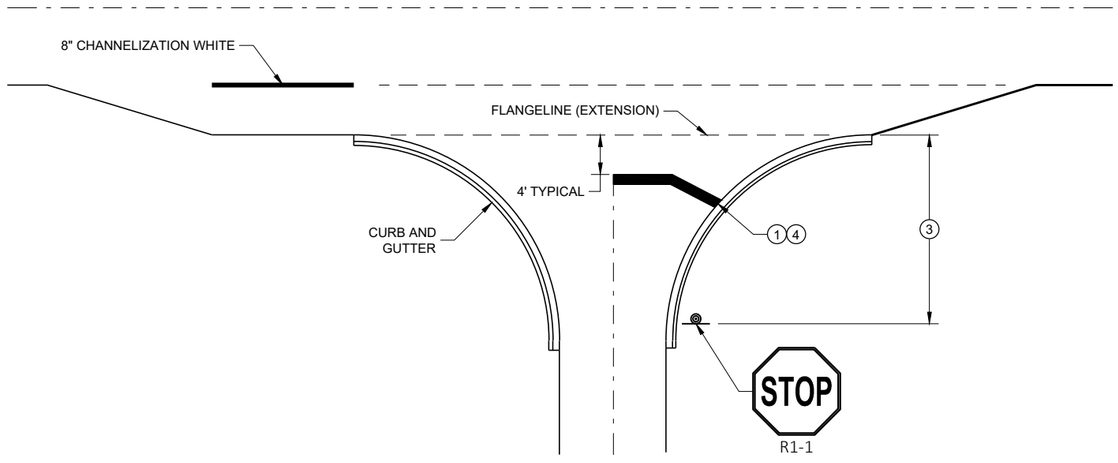
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

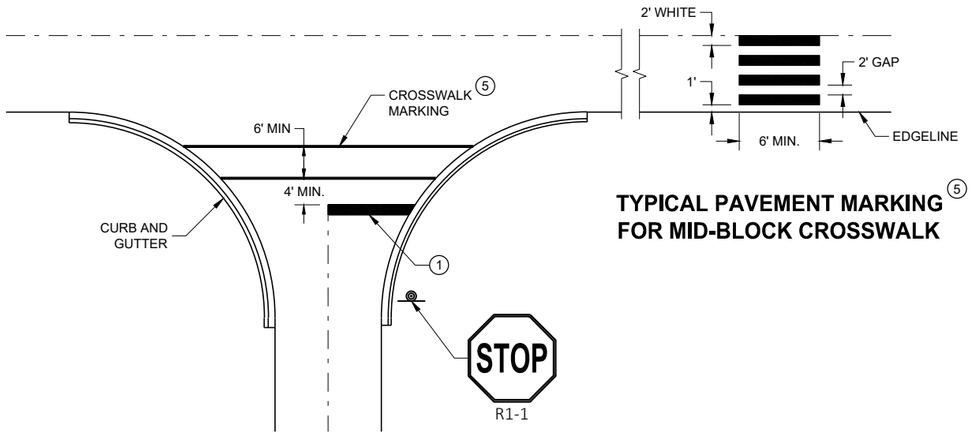
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

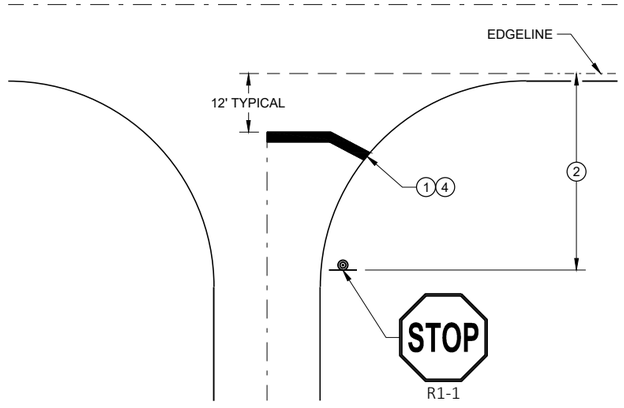


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

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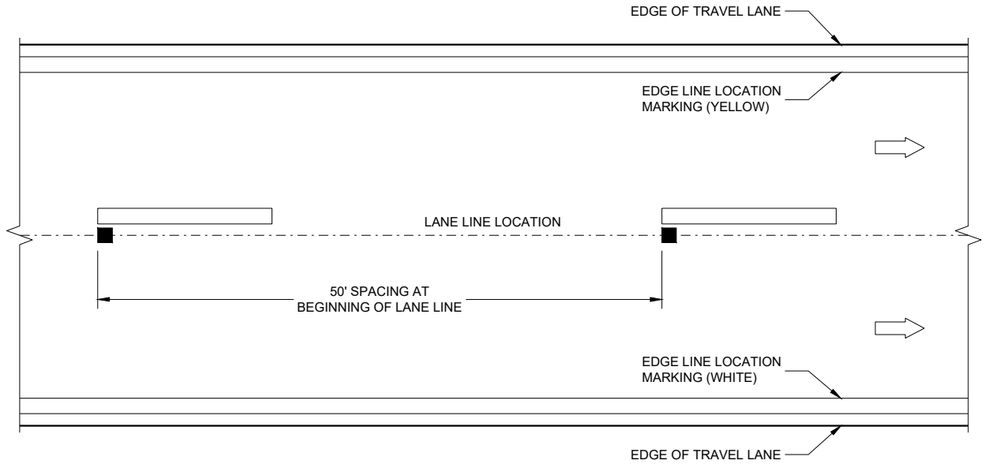
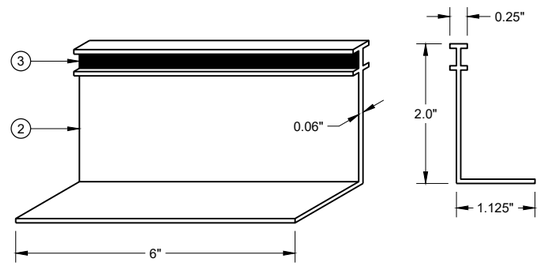
SDD 15C33 - 04



LONGITUDINAL PLACEMENT 6 - INCH LANE LINE



ISOMETRIC VIEW **SIDE VIEW**

TEMPORARY RAISED PAVEMENT MARKER, TYPE II

GENERAL NOTES

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

COLOR OF TEMPORARY RAISED PAVEMENT MARKERS, TYPE II, SHALL MATCH THE COLOR OF THE MARKING THEY SUPPLEMENT.

PLACEMENT OF TEMPORARY RAISED PAVEMENT MARKERS ON EDGE LINES IS OPTIONAL. IF PLACED ON EDGE LINES, MAXIMUM SPACING SHALL BE 50 FEET.

PROVIDE SINGLE OR MULTI-COVER TEMPORARY RAISED PAVEMENT MARKERS AS SHOWN ON PLAN.

MARK "T"s ON PAVEMENT FOR REESTABLISHING NO PASSING ZONES.

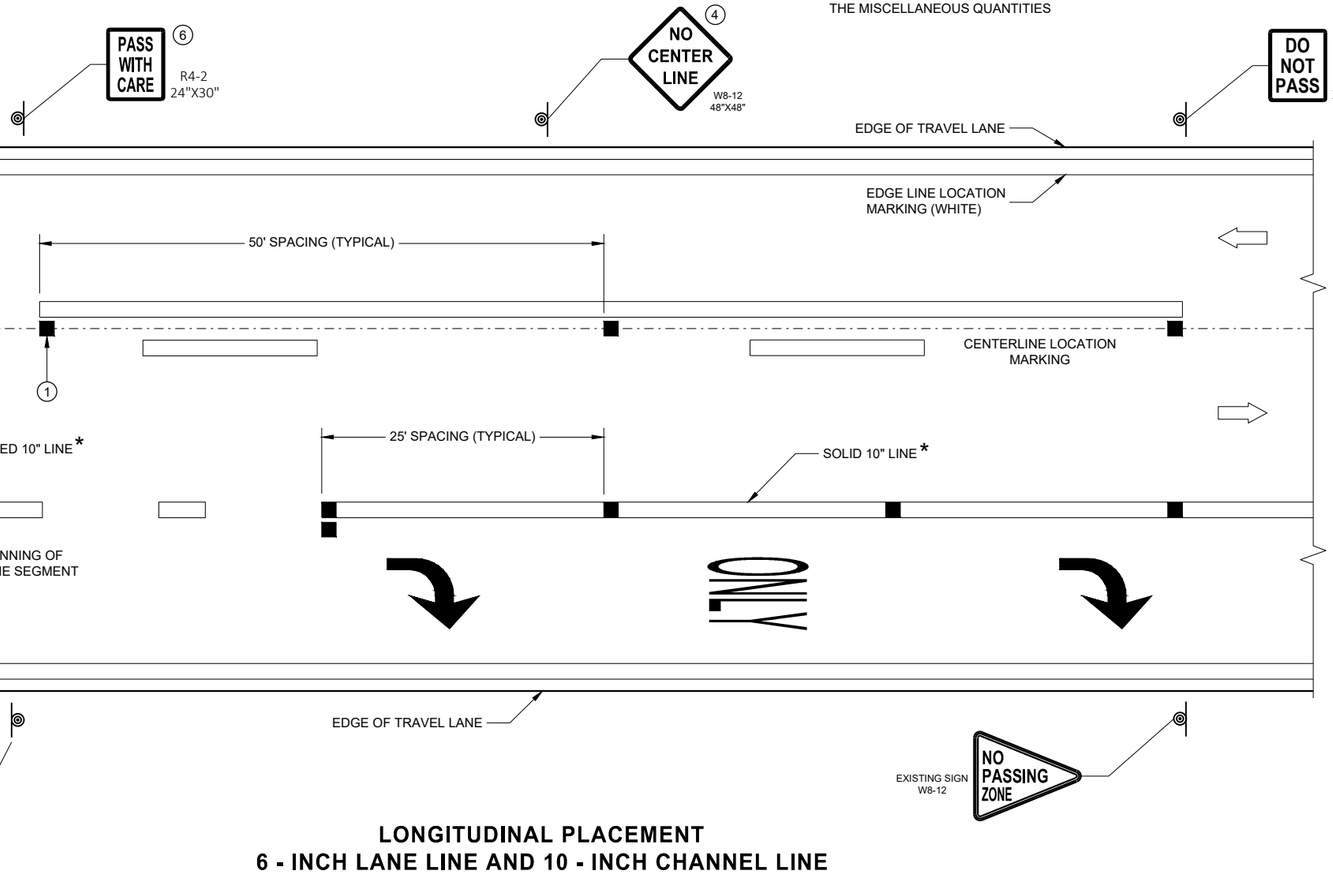
SAME DAY TEMPORARY PAVEMENT MARKING MAY BE USED IN LIEU OF TEMPORARY RAISED PAVEMENT MARKERS, TYPE II.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF TEMPORARY SAME DAY PAVEMENT MARKING IS USED, ENSURE PROPOSED PAVEMENT MARKING ARE PLACED IN THE EXACT LOCATIONS AS THE EXISTING MARKINGS, USING A MINIMAL AMOUNT OF TEMPORARY RAISED MARKERS, TYPE II OR OTHER METHODS AS APPROVED BY THE ENGINEER.

IF ROADWAY IS DETOURED DURING CONSTRUCTION, THE "DO NOT PASS, "PASS WITH CARE" AND "NO CENTERLINE" SIGNS MAY BE OMITTED, PROVIDING A LIQUID MARKING IS INSTALLED BEFORE THE ROADWAY IS REOPENED TO TRAFFIC.

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



LONGITUDINAL PLACEMENT
6 - INCH LANE LINE AND 10 - INCH CHANNEL LINE

1. FOR DOUBLE SOLID YELLOW, PLACE THE MARKERS BETWEEN THE LINES.
2. MARKERS SHALL BE OF POLYURETHANE MATERIAL.
3. MARKERS SHALL HAVE A MINIMUM SIZE REFLECTIVE SURFACE OF 6-INCH WIDTH X 0.25 INCH HEIGHT.
4. "NO CENTER LINE" SIGNS SHALL BE PLACED AT THE BEGINNING OF PROJECT, AT TWO MILE INTERVALS AND AFTER STATE AND COUNTY HIGHWAY INTERSECTIONS.
5. "DO NOT PASS" SIGNS SHALL BE INSTALLED AT THE BEGINNING OF NO PASSING ZONES. ADDITIONAL "DO NOT PASS" SIGNS SHALL BE INSTALLED AT ONE MILE INTERVALS AND AFTER STATE AND COUNTY HIGHWAY INTERSECTIONS WITHIN THE NO PASSING ZONE.
6. "PASS WITH CARE" SIGNS SHALL BE PLACED AT THE DOWNSTREAM END OF NO PASSING ZONES.

LEGEND

- TEMPORARY RAISED PAVEMENT MARKER, TYPE II
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC.

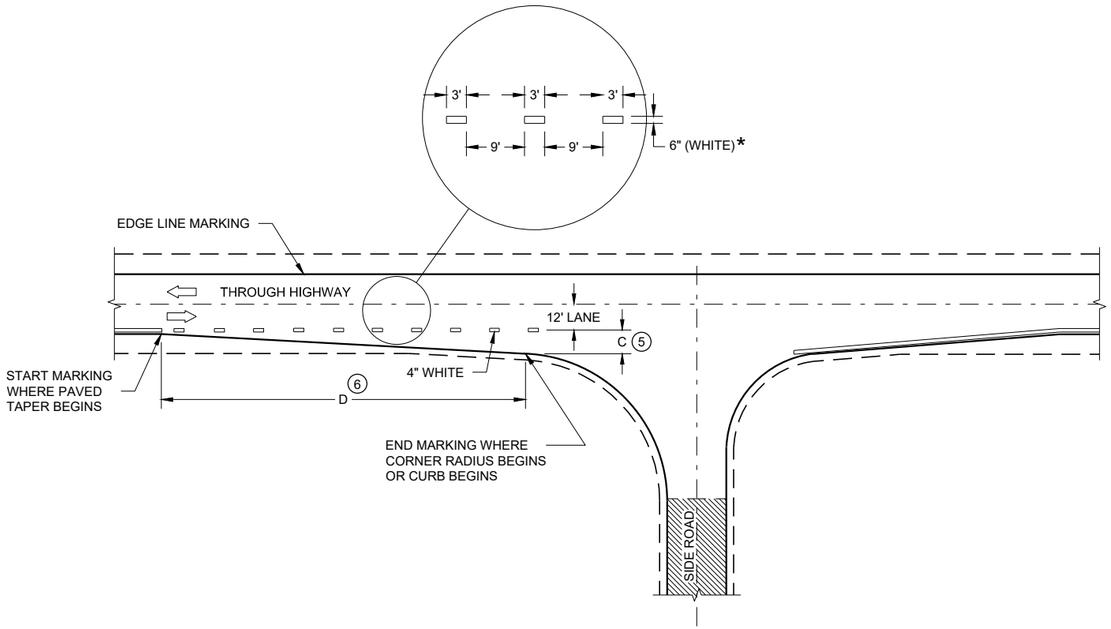
STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKERS, TYPE II

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

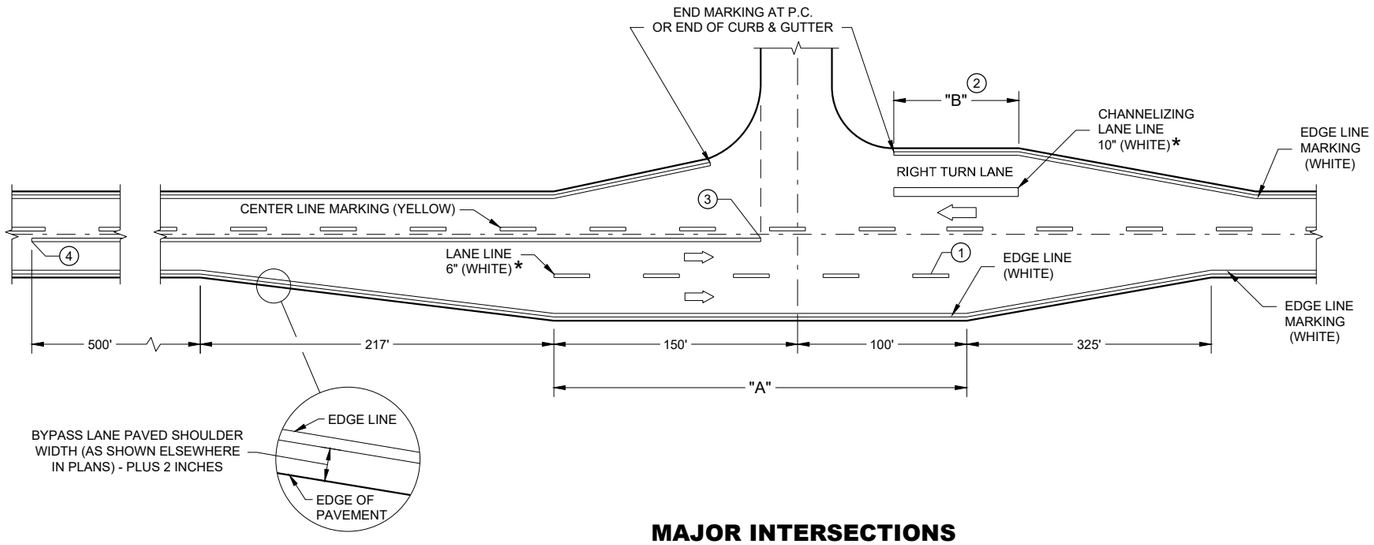
APPROVED
May 2023 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MAF ENGINEER

FHWA

6 SDD 15C34-04



MINOR INTERSECTION



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

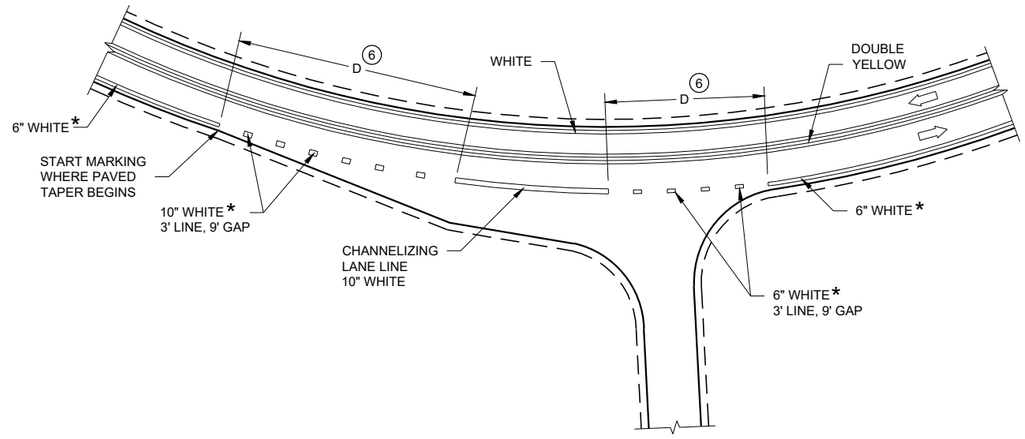
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES 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. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
6. WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING (INTERSECTIONS)

SDD 15C35-06a

6

LEGEND

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

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

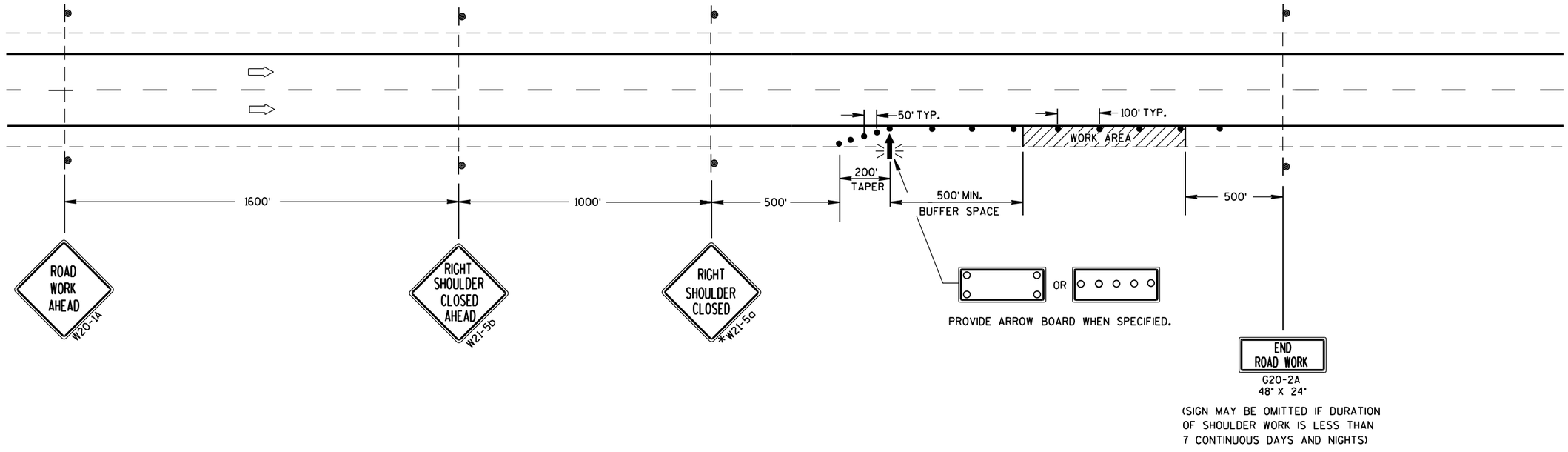
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

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

WHEN A 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.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

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

FHWA

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S.D.D. 15 D 27-3

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

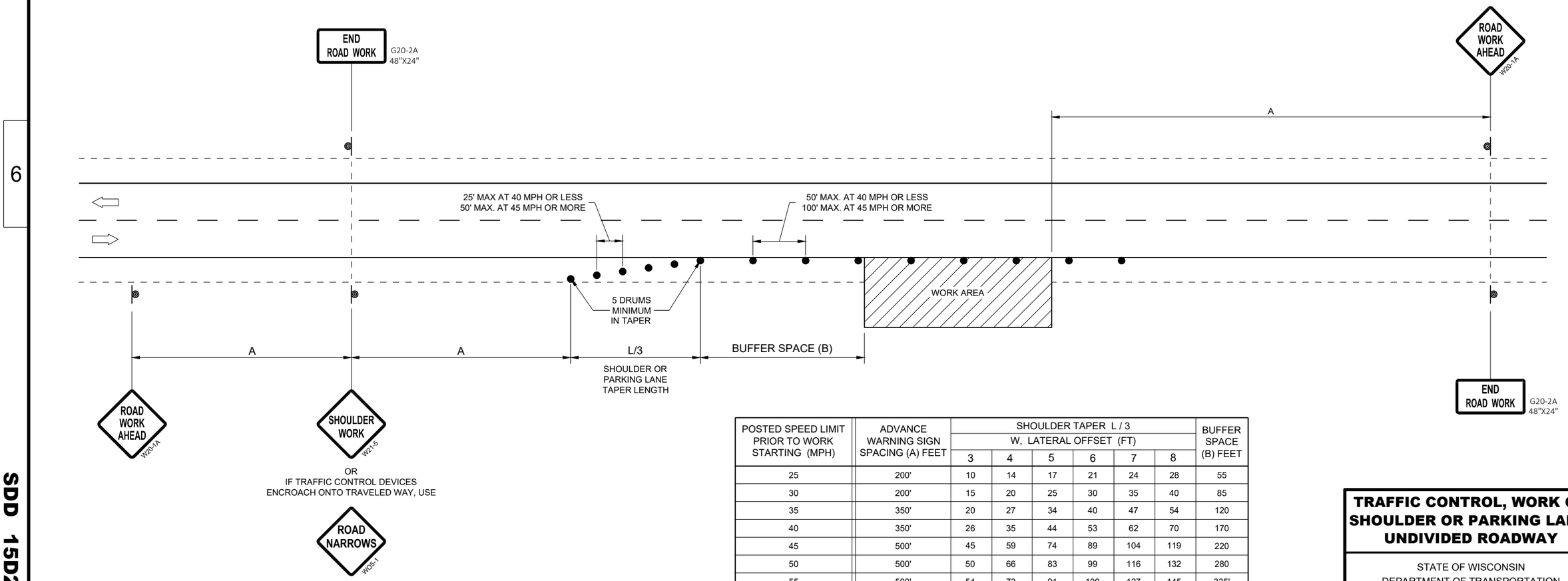
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

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.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

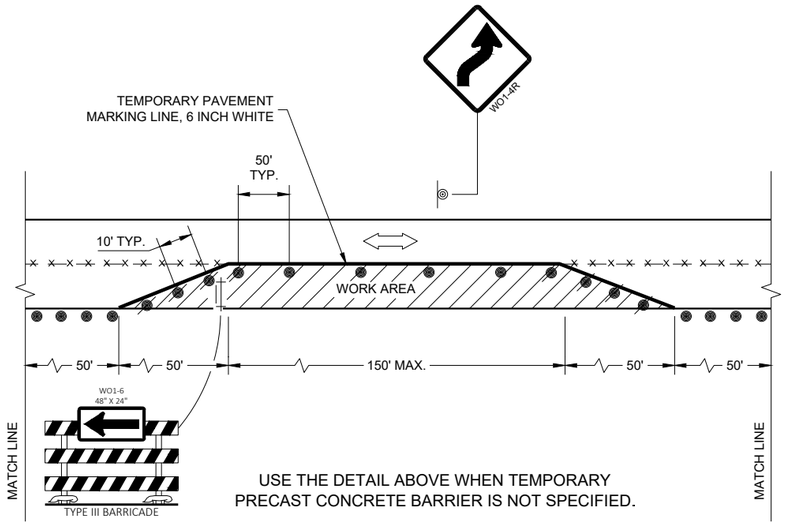
FHWA

SDD 15D28 - 04

SDD 15D28 - 04

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLAGS, 16" X 16" MIN. (ORANGE)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- ASPHALTIC PAVEMENT WIDENING
- CONCRETE BARRIER TEMPORARY PRECAST



USE THE DETAIL ABOVE WHEN TEMPORARY PRECAST CONCRETE BARRIER IS NOT SPECIFIED.

GENERAL NOTES

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

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

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

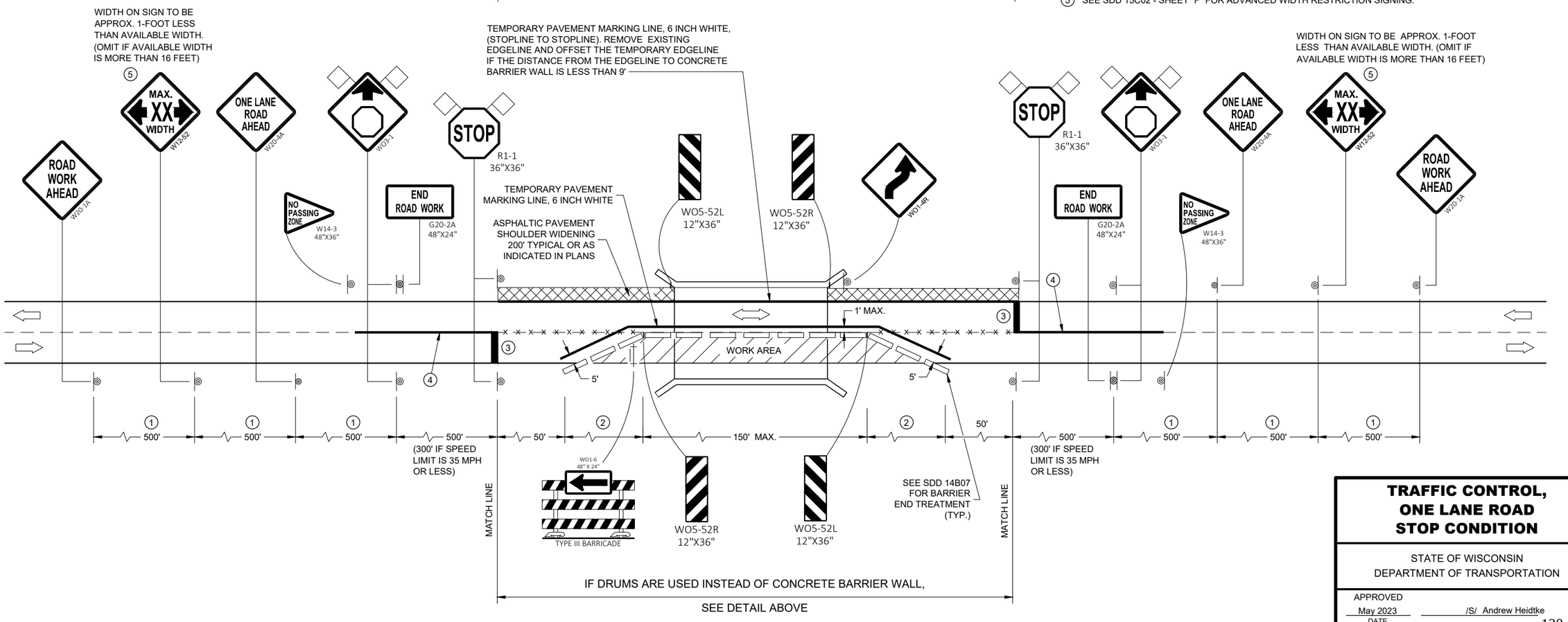
ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

1. 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35 - 40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25 - 30 MPH, USE 200 FOOT TYPICAL SPACING.
2. DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.
3. TEMPORARY PAVEMENT MARKING LINE, 18 INCH WHITE STOP LINE.
4. 700 FOOT TEMPORARY PAVEMENT MARKING LINE, 6 INCH DOUBLE YELLOW. WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.
5. SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.



TRAFFIC CONTROL, ONE LANE ROAD STOP CONDITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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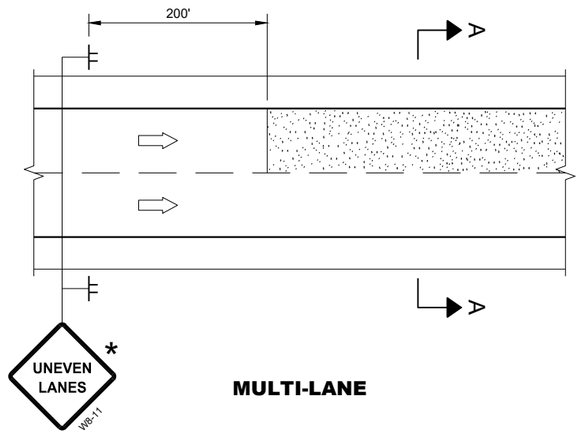
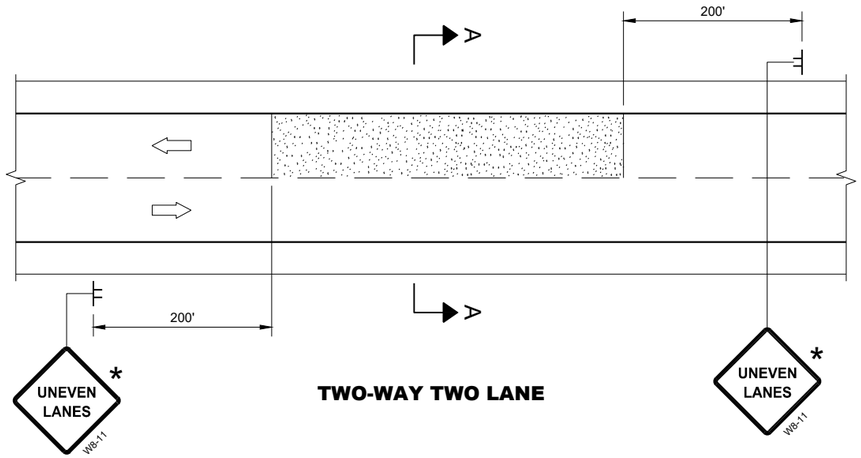
SDD 15D32-07



MULTI-LANE



TWO-WAY TWO LANE

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

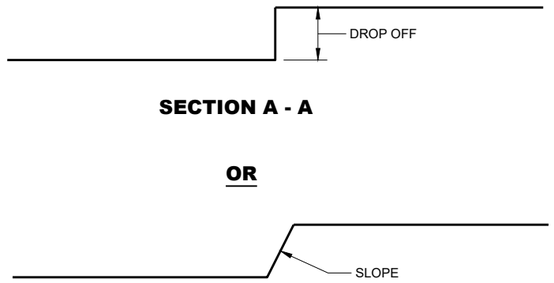
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

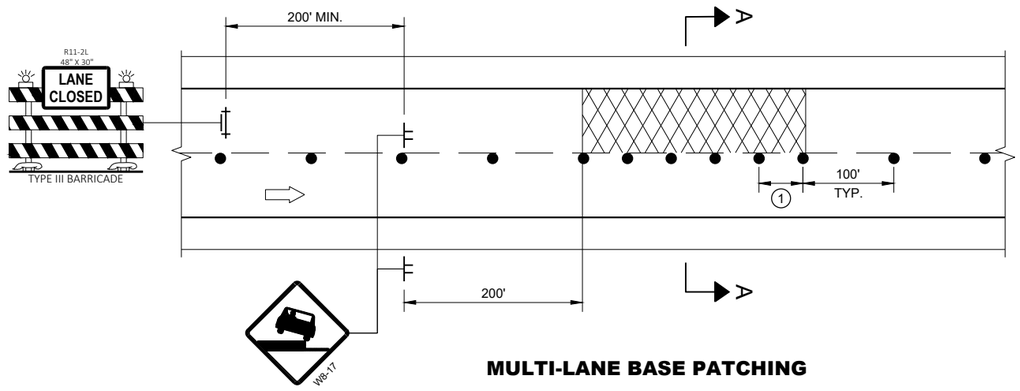
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE



SECTION A - A

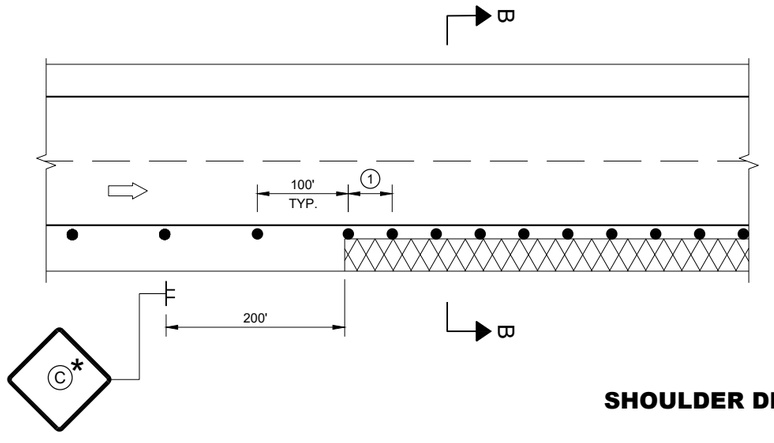
OR

SECTION A - A

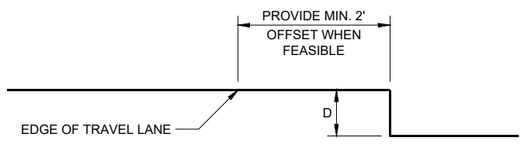


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D39 - 02

6

SDD 15D39 - 02

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

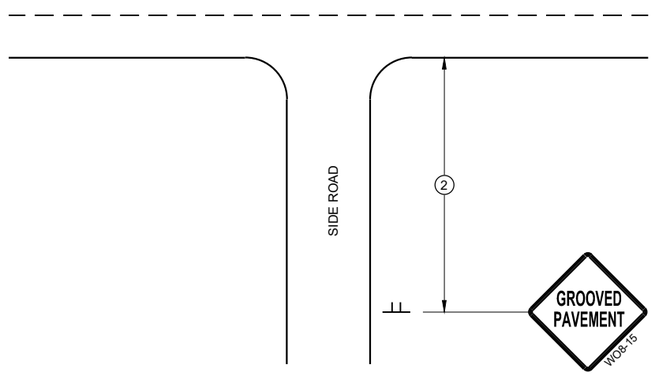
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

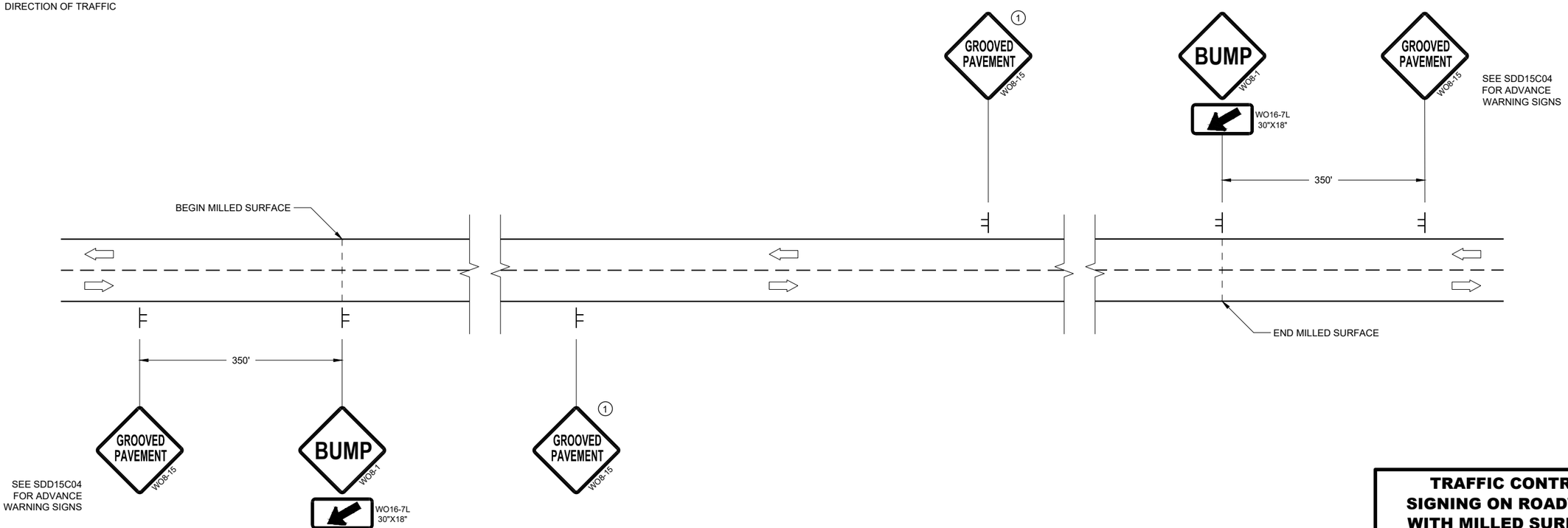
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6
SDD 15D44 - 02

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

(1) PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

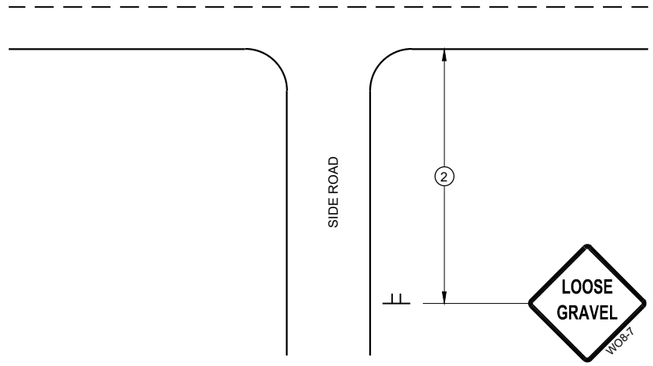
(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

(3) ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

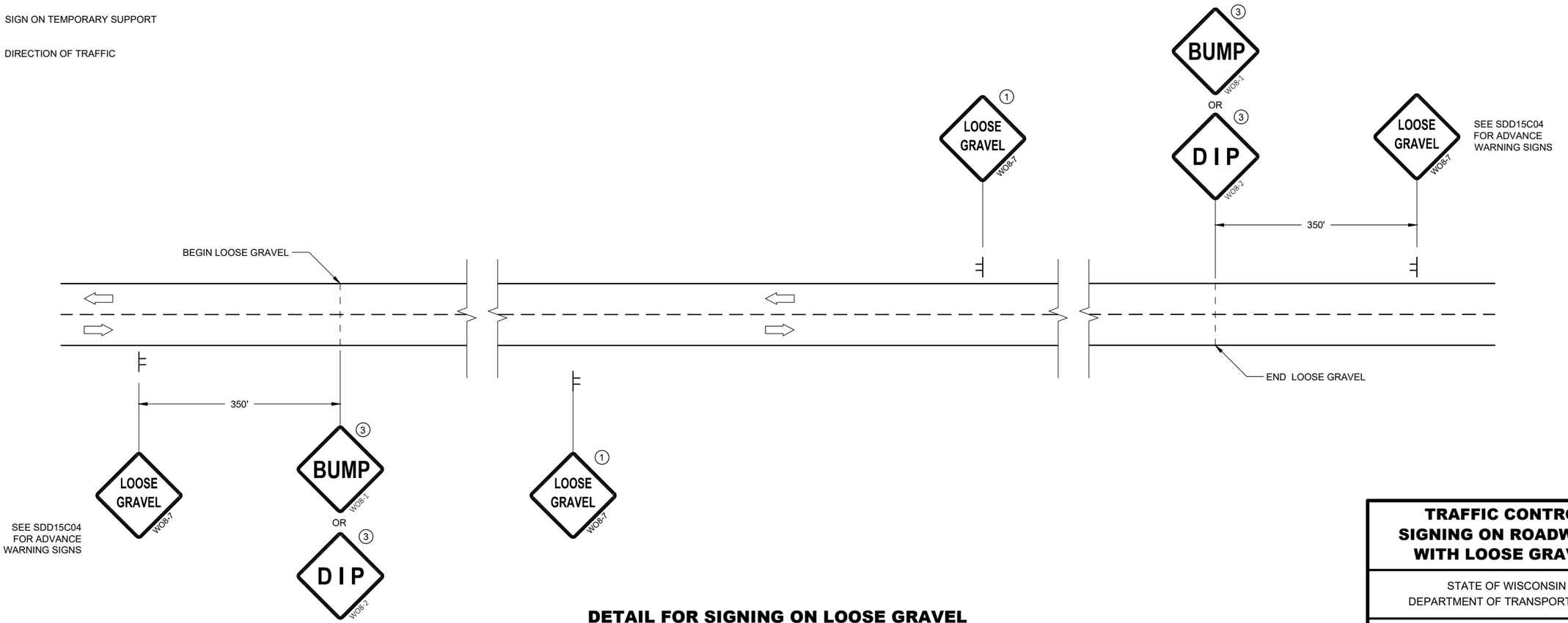
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES

TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D45 - 03

6

SDD 15D45 - 03

LEGEND

V1 WORK VEHICLE

V2 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

FLASHING ARROW PANEL (CAUTION)

WORK AREA

DIRECTION OF TRAFFIC

POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

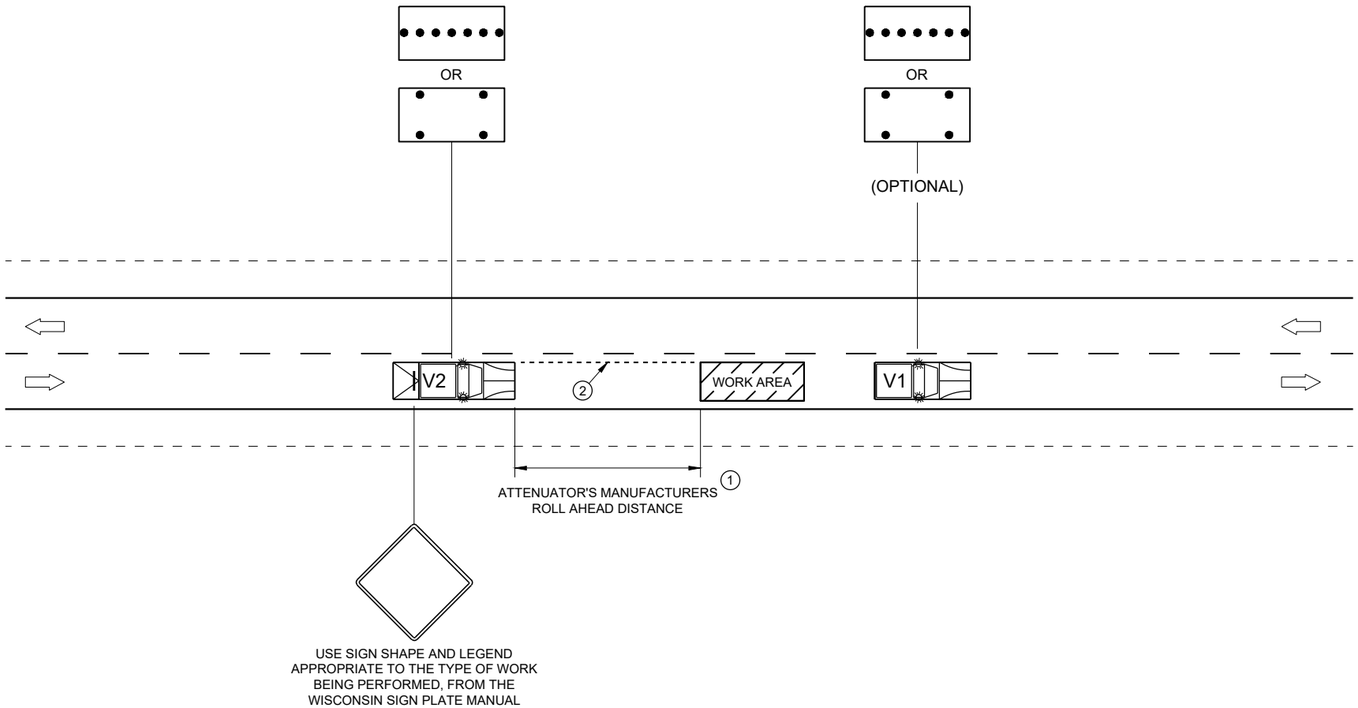
ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

(1) DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

(2) ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

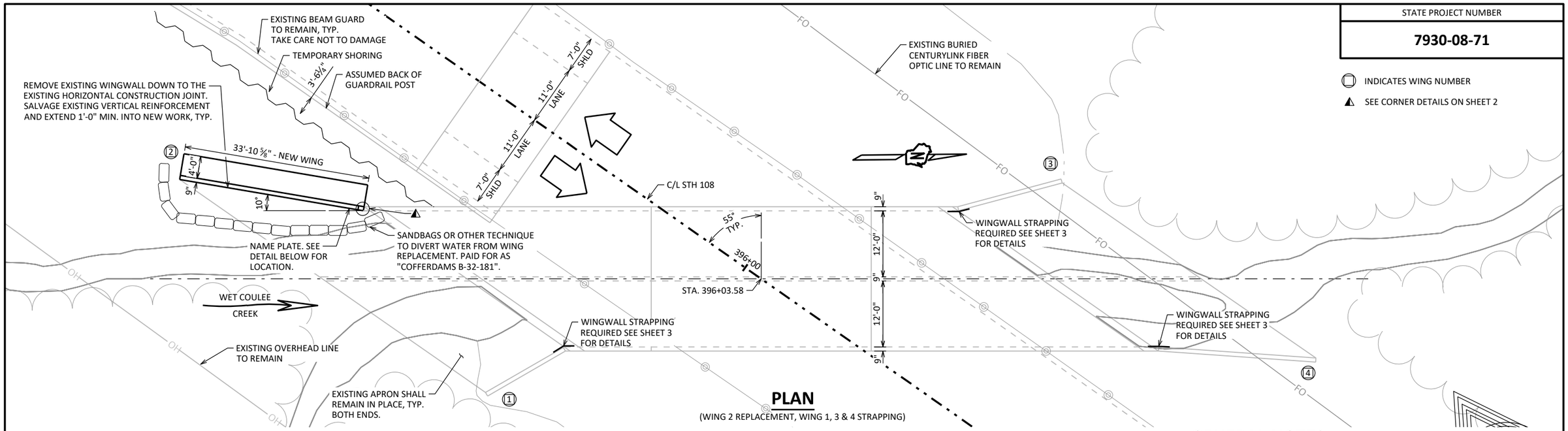
APPROVED
February 2021 — DATE
/S/ Andrew Heidtke — STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

6

SDD 15D51 - 01

STATE PROJECT NUMBER
7930-08-71



PLAN

(WING 2 REPLACEMENT, WING 1, 3 & 4 STRAPPING)

- INDICATES WING NUMBER
- ▲ SEE CORNER DETAILS ON SHEET 2

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERT B-32-181" SHALL BE THE EXISTING GROUNDLINE.

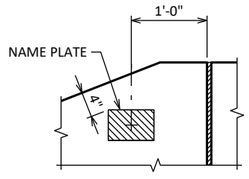
AT THE BACK FACE OF THE CULVERT WINGWALL, ALL VOLUME WHICH CANNOT BE PLACED BEFORE WINGWALL AND FOOTING CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL WITHIN THE LENGTH OF CULVERT INCLUDING THE APRON WINGWALLS.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

PLACE 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON VERTICAL AND HORIZONTAL WING CONSTRUCTION JOINTS.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 504.3.4 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1992. WORK SHALL BE INCLUDED IN THE BID ITEM "CONCRETE MASONRY CULVERTS".



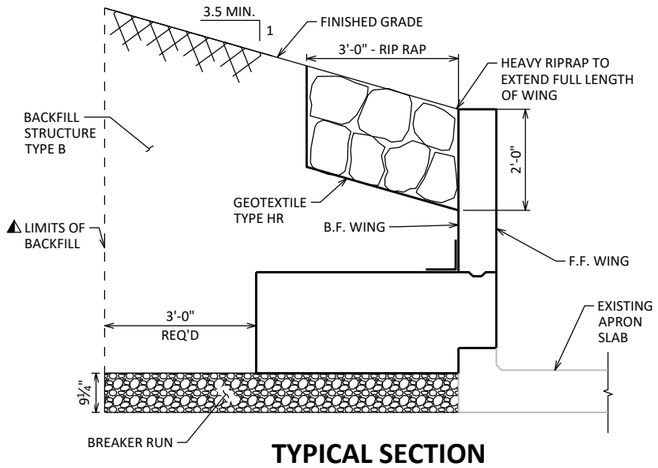
NAME PLATE LOCATION

DESIGN DATA

MATERIAL PROPERTIES:

CONCRETE MASONRY ——— f'_c = 3,500 PSI

HIGH STRENGTH BAR STEEL REINFORCEMENT ——— f_y = 60,000 PSI



TYPICAL SECTION THRU WINGWALL

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0220	REMOVING STRUCTURE B-32-181	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS B-32-181	EACH	1
206.5001	COFFERDAMS B-32-181	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	74
311.0115	BREAKER RUN	CY	7
504.0100	CONCRETE MASONRY CULVERTS	CY	15
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,150
511.1200	TEMPORARY SHORING B-32-181	SF	279
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8
606.0300	RIPRAP HEAVY	CY	8
645.0120	GEOTEXTILE TYPE HR	SY	20
SPV.0060	STRAPPING B-32-181	EACH	3
	NON-BID ITEM		
	JOINT FILLER	3/4"	
	NAME PLATE		
	NON-BITUMINOUS JOINT SEALER		

STRUCTURE DESIGN CONTACTS:

ANN THIELMANN 608-261-0375

DOMINIQUE BECHLE 608-261-8205

LIST OF DRAWINGS:

NO.	DATE	REVISION	BY

WISCONSIN DEPARTMENT OF TRANSPORTATION — BUREAU OF STRUCTURES

ACCEPTED DMB 07/28/23

CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-32-181

STH 108 OVER WET COULEE CREEK

COUNTY	TOWN
LA CROSSE	FARMINGTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
ACT	EMK	ACT	EMK

WING REPLACEMENT & REPAIRS

SHEET 1 OF 3

125

SCALE =

I.D. 7930-08-01A

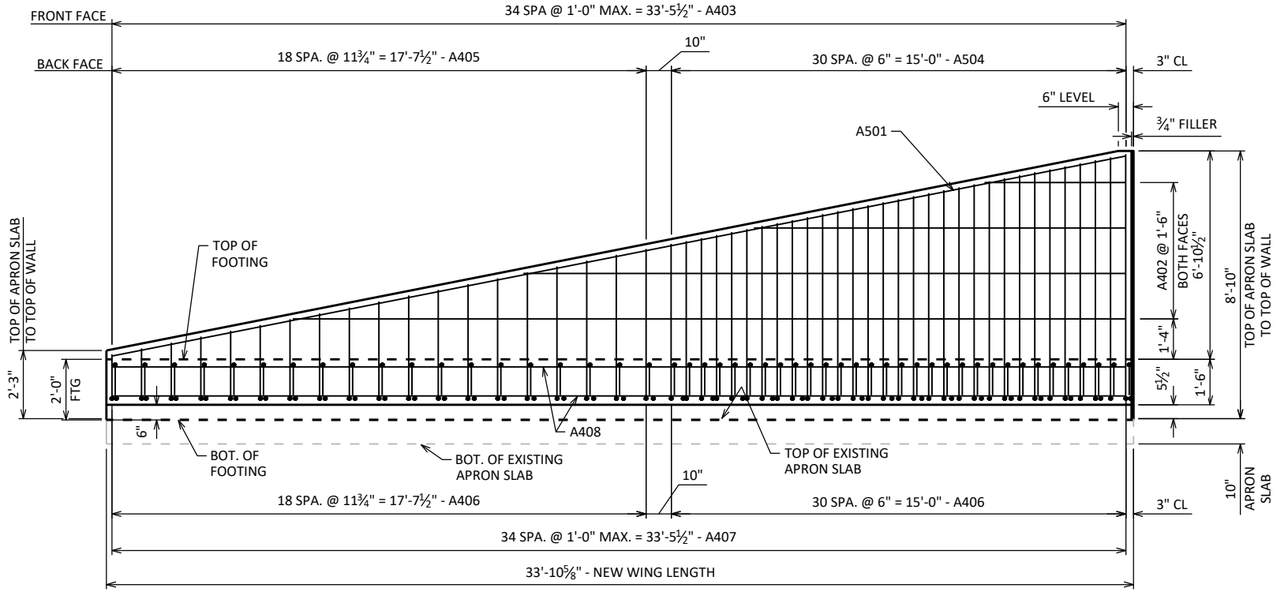
DATE: JAN. 2023

8

8

STATE PROJECT NUMBER

7930-08-71



ELEVATION WING 2

LOOKING WEST

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

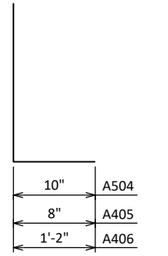
	BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
	A501	X	2	34'-1"			WING HORIZ. TOP
⚠	A402	X	8	16'-1"		X	WING HORIZ.
⚠	A403	X	35	4'-9"		X	WING VERT. F.F.
⚠	A504	X	31	7'-3"	X	X	WING VERT. B.F.
⚠	A405	X	19	3'-10"	X	X	WING VERT. B.F.
	A406	X	50	5'-6"	X		WING FOOTING
	A407	X	35	4'-5"			WING FOOTING
	A408	X	14	33'-6"			WING FOOTING

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

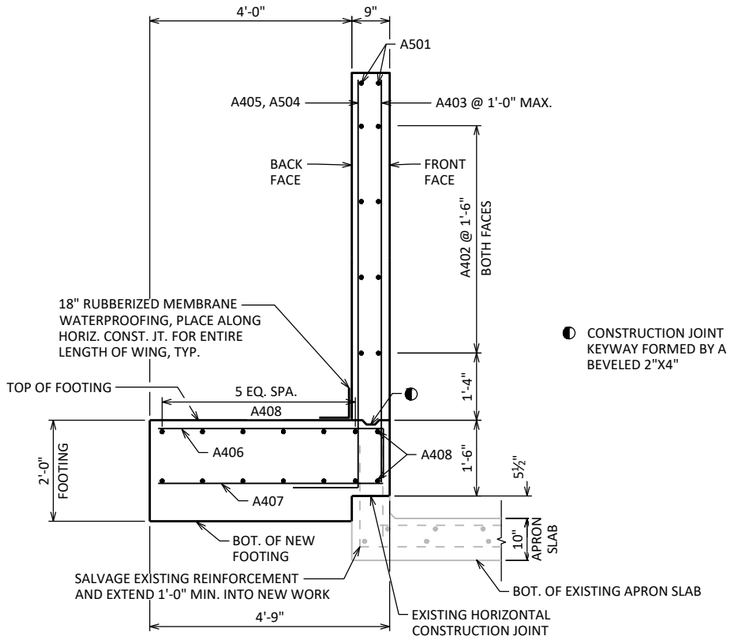
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

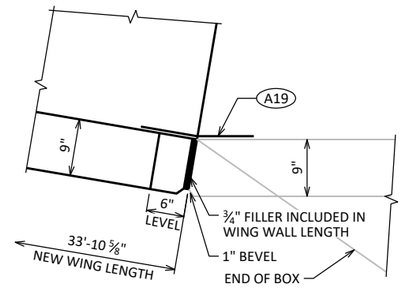
BAR MARK	NO. REQ'D	LENGTH
A402	2 SERIES OF 4	4'-8" TO 27'-5"
A403	1 SERIES OF 35	1'-6" TO 8'-0"
A504	1 SERIES OF 31	5'-9" TO 8'-9"
A405	1 SERIES OF 19	2'-1" TO 5'-6"



A504, A405, A406



SECTION THRU WING 2



WING 2 CORNER

CORNER DETAIL

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-181

DRAWN BY ACT | PLANS CK'D EMK

WING REPLACEMENT DETAILS

SHEET 2
126

SCALE =

8

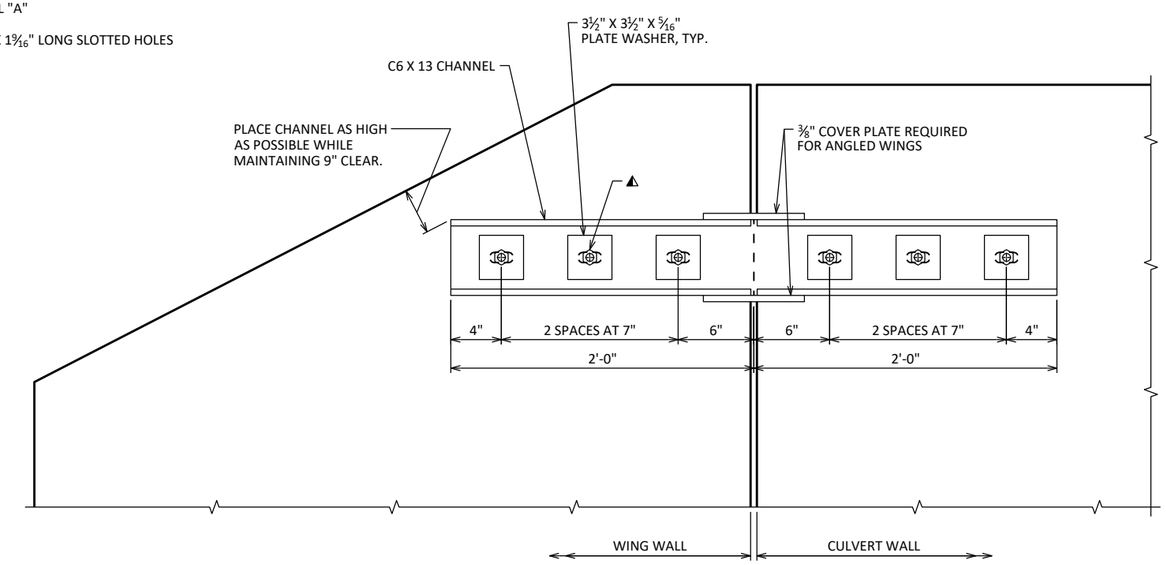
8

STATE PROJECT NUMBER

7930-08-71

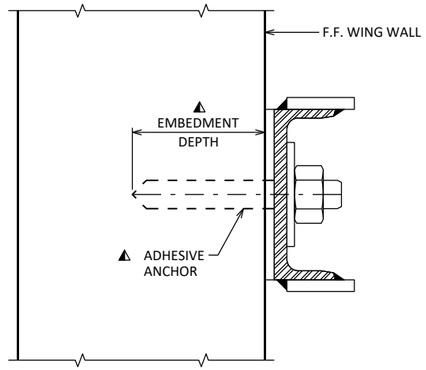
⚠ ADHESIVE ANCHORS ⅝ - INCH.
EMBED 5" IN CONCRETE.
SEE DETAIL "A"

USE 1 1/16" X 1 3/16" LONG SLOTTED HOLES



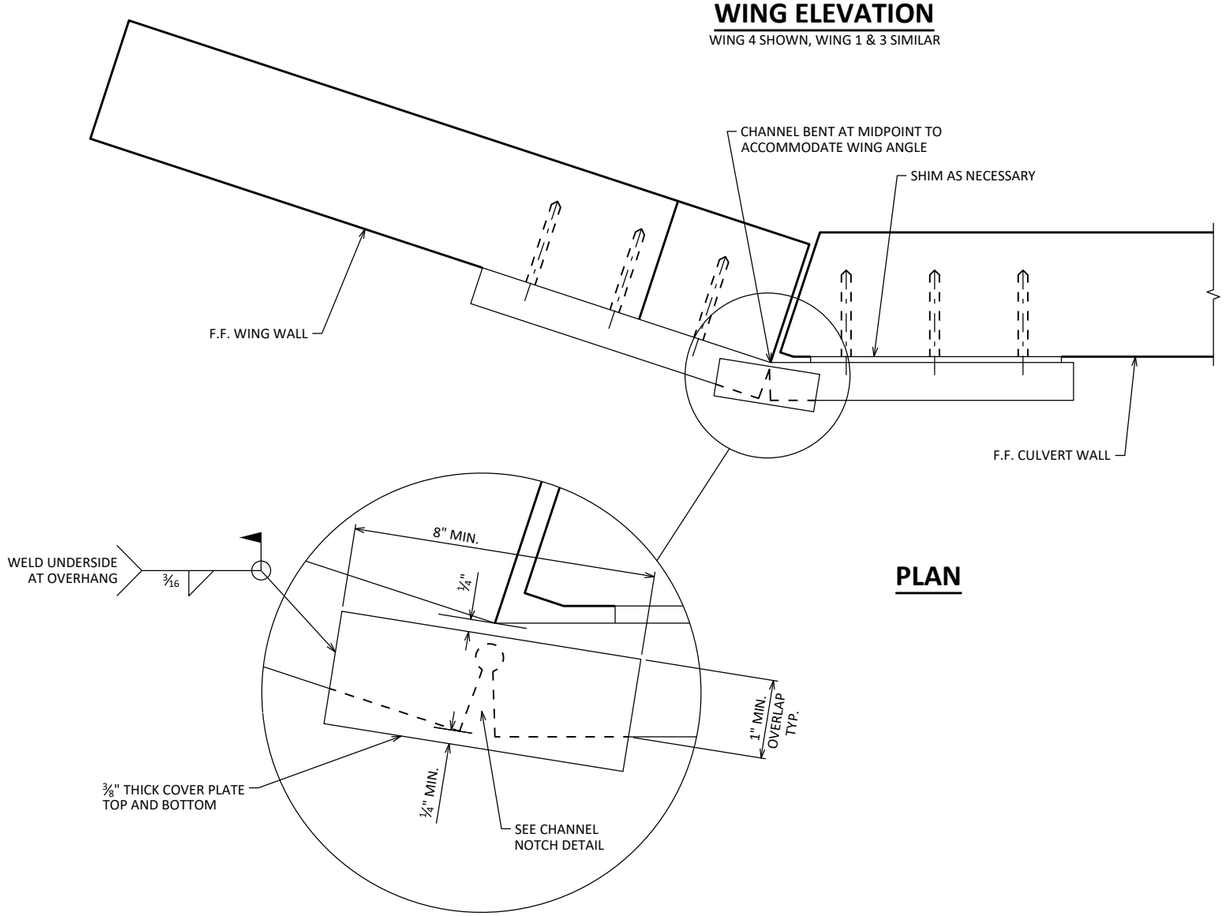
WING ELEVATION

WING 4 SHOWN, WING 1 & 3 SIMILAR

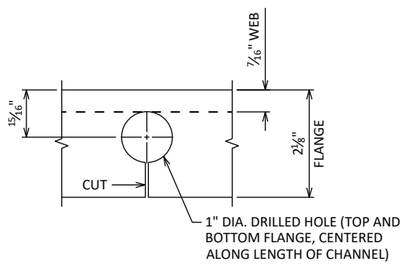


DETAIL A

SECTION THRU CHANNEL



PLAN



CHANNEL NOTCH DETAIL

NOTES

BID ITEM SHALL BE "STRAPPING B-32-181" WHICH INCLUDES ALL ITEMS SHOWN.

ALL PROVIDED STEEL MATERIAL SHALL CONFORM TO ASTM A36.

ALL STRUCTURAL STEEL SHOWN SHALL BE GALVANIZED. THREADED RODS, MASONRY ANCHORS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C.

CUTTING AND DRILLING OF CHANNEL SHALL BE DONE IN FABRICATION SHOP, PRIOR TO GALVANIZING.

WING WALL ANGLE, REQUIRED SHIMS, ANCHOR LOCATIONS AND WELD CLEARANCES SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATING WING WALL STRAP.

IF WELDING COVER PLATE IN FIELD, PRIOR TO WELDING, REMOVE GALVANIZING FROM AREA TO BE WELDED. TOUCH UP WITH PAINT ALL AREAS LACKING GALVANIZING WHEN COMPLETE.

CAULK AROUND PERIMETER OF CHANNEL AND FILL PORTION OF HOLE AROUND ANCHOR BOLT AND SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-181

DRAWN BY ACT | PLANS CK'D EMK

WING STRAPPING

SHEET 3
127

SCALE = 2.00

8

8

ST 10 BEAM GUARD SECTION 2 LT

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.43	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		
81+35.83	8135.83	0.00	0.27	0.00	1.29	0	0	0	0	0	0
81+50.00	8150.00	14.17	0.33	0.00	1.53	0	0	1	0	1	-1
81+86.81	8186.81	36.81	0.00	0.00	3.96	0	0	4	0	.	-7
200.00	200.00	13.1	0.1	0.00	4.11	0	0	2	0	10	10
231.1	231.1	31.1	0.0	0.00	1.31	0	0	3	0	14	14
2.1	2.1	2.00	0.00	0.00	.1	0	0	5	0	21	21
21.1	21.1	2.00	0.	0.00	.2	0	0	8	0	33	33
300.00	300.00	1.1	0.	0.00	2.0	1	0	13	1	1	34
32.00	32.00	2.00	10.1	0.00	1.44	3	0	22	0	3	7
30.00	30.00	2.00	1.02	0.00	.3	58	0	12	14	100	4
3.00	3.00	2.00	.4	0.00	3.	3	0	4	1	1	20
400.00	400.00	2.00	0.00	0.00	4.4	30	0	4	21	232	1
413.01	413.01	13.01	0.00	0.00	2.4	0	0	2	21	23	1
43.01	43.01	2.00	0.04	0.00	3.3	0	0	3	21	23	22
43.01	43.01	2.00	0.00	0.00	.1	0	0	5	21	24	2
00.00	00.00	3.	0.00	0.00	.	0	0	12	21	23	4
0.00	0.00	0.00	0.00	0.00	3.	0	0	12	21	20	3
.01	.01	1.01	0.00	0.00	2.0	0	0	2	21	23	-66

NOTES	
1 CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 SALVAGED/UNUSABLE PAVEMENT MATERIAL	TIS DOES NOT SO UP IN CROSS SECTIONS
3 FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME

9

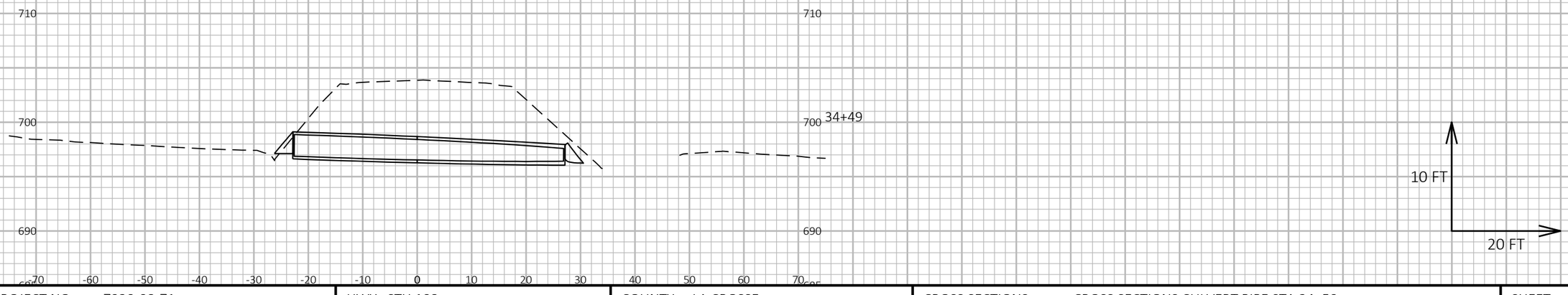
9

PROJECT NO 3001 | Y ST 10 | COUNTY LA CROSSE | EARTOR DATA | SEET 128 | E

FILE NAME NPDSC3D30001SEETSPLAN00101E.DG
LAYOUT NAME 01

PLOT DATE 10/1/2023 2 PM PLOT BY PETERSON SANE J PLOT NAME PLOT SCALE 1 1

ISDOT/CADDS SEET 4

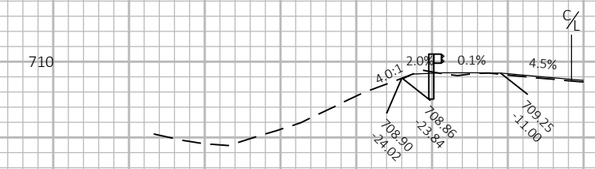


PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS CULVERT PIPE STA 34+50	SHEET 129 E

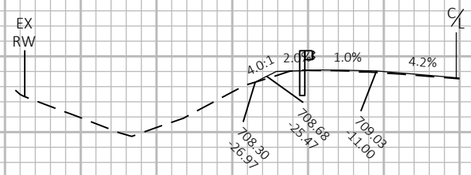
FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 7/31/2023 2:21 PM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

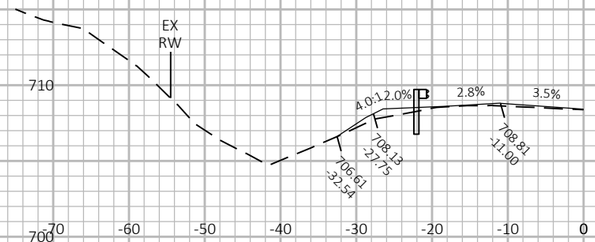
WISDOT/CADDS SHEET 49



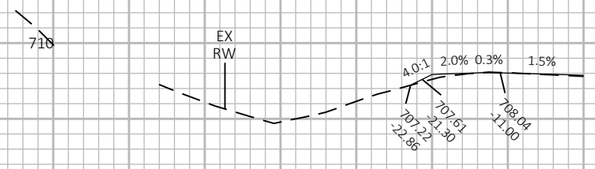
45+57
POST 9



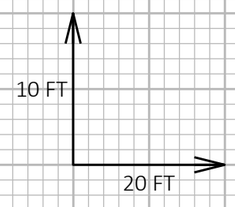
45+32
POST 5



45+06
POST 1



44+17
TRANSITION

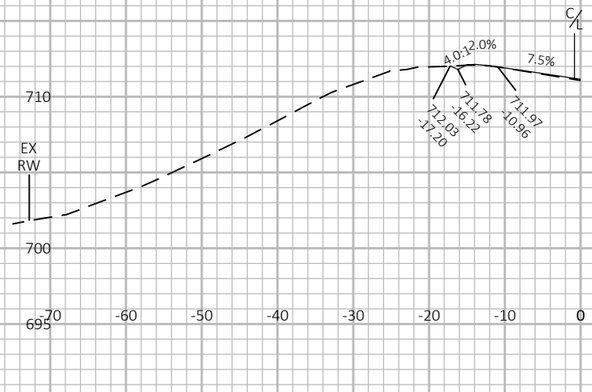


9

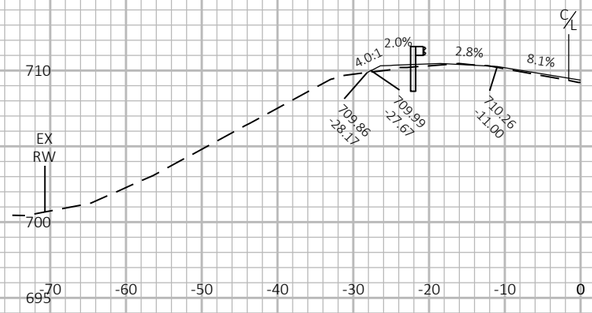
9

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS SECTION 1 SW QUADRANT	SHEET 130	E

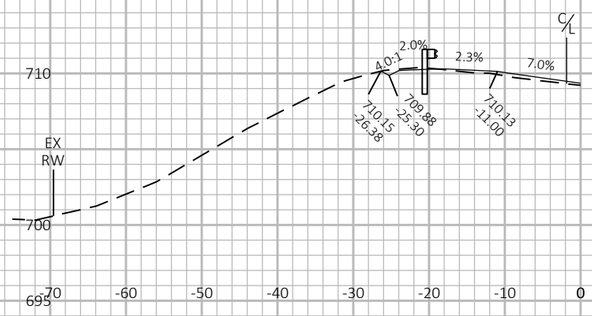
FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 02
PLOT DATE : 7/31/2023 2:22 PM
PLOT BY : KLUDY, KATHLEEN M
PLOT NAME :
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



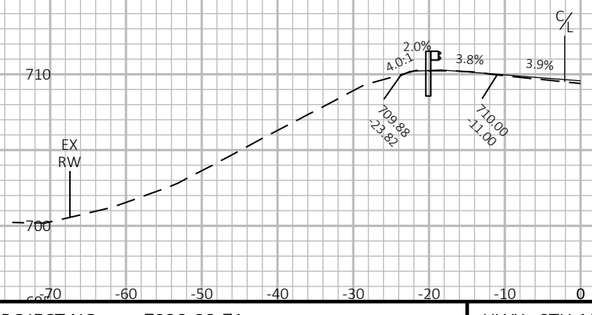
48+42
TRANSITION



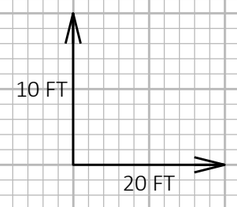
47+51
POST 1



47+26
POST 5



47+01
POST 9



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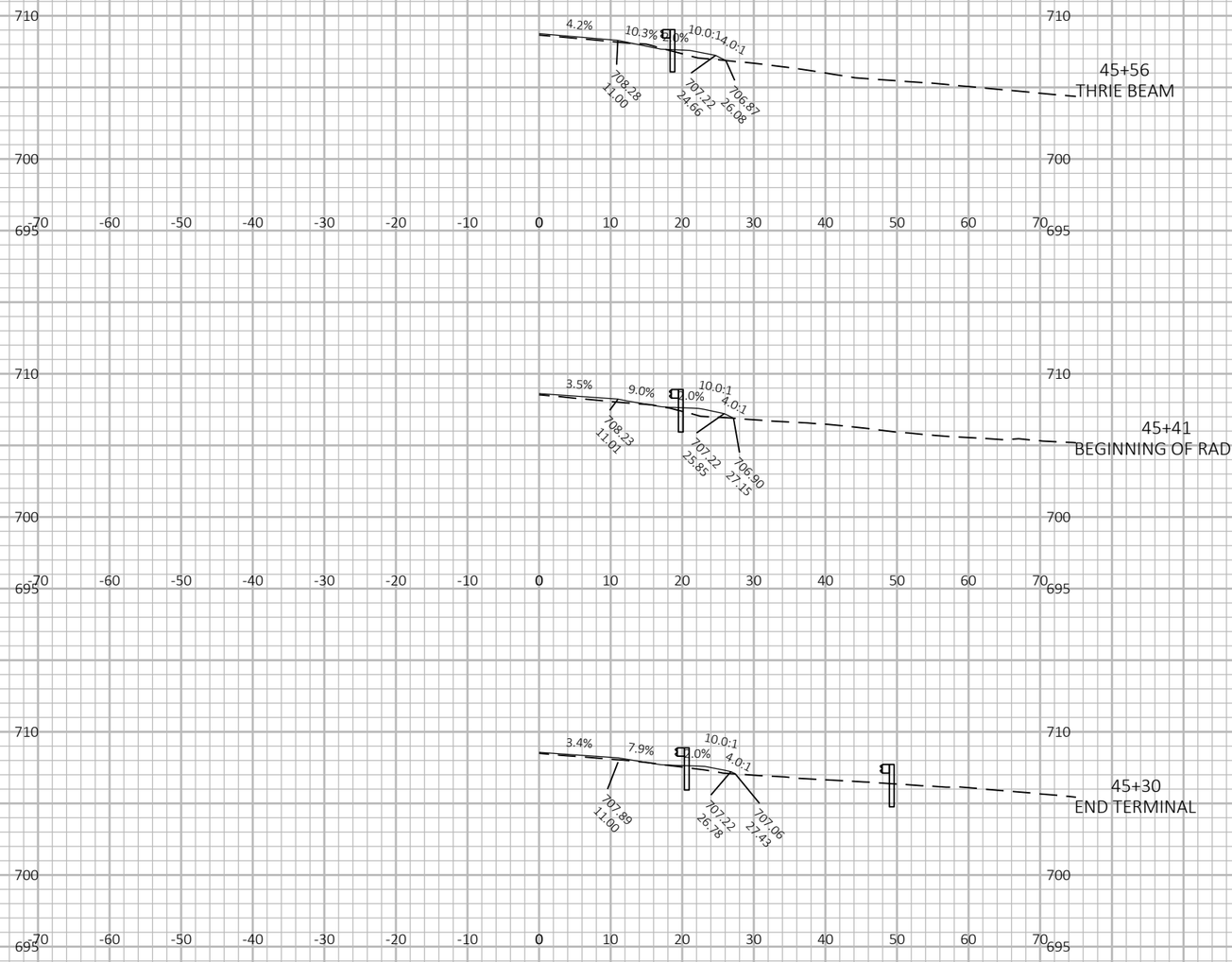
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS SECTION 1 NW QUADRANT	SHEET 131	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 03

PLOT DATE : 7/31/2023 2:22 PM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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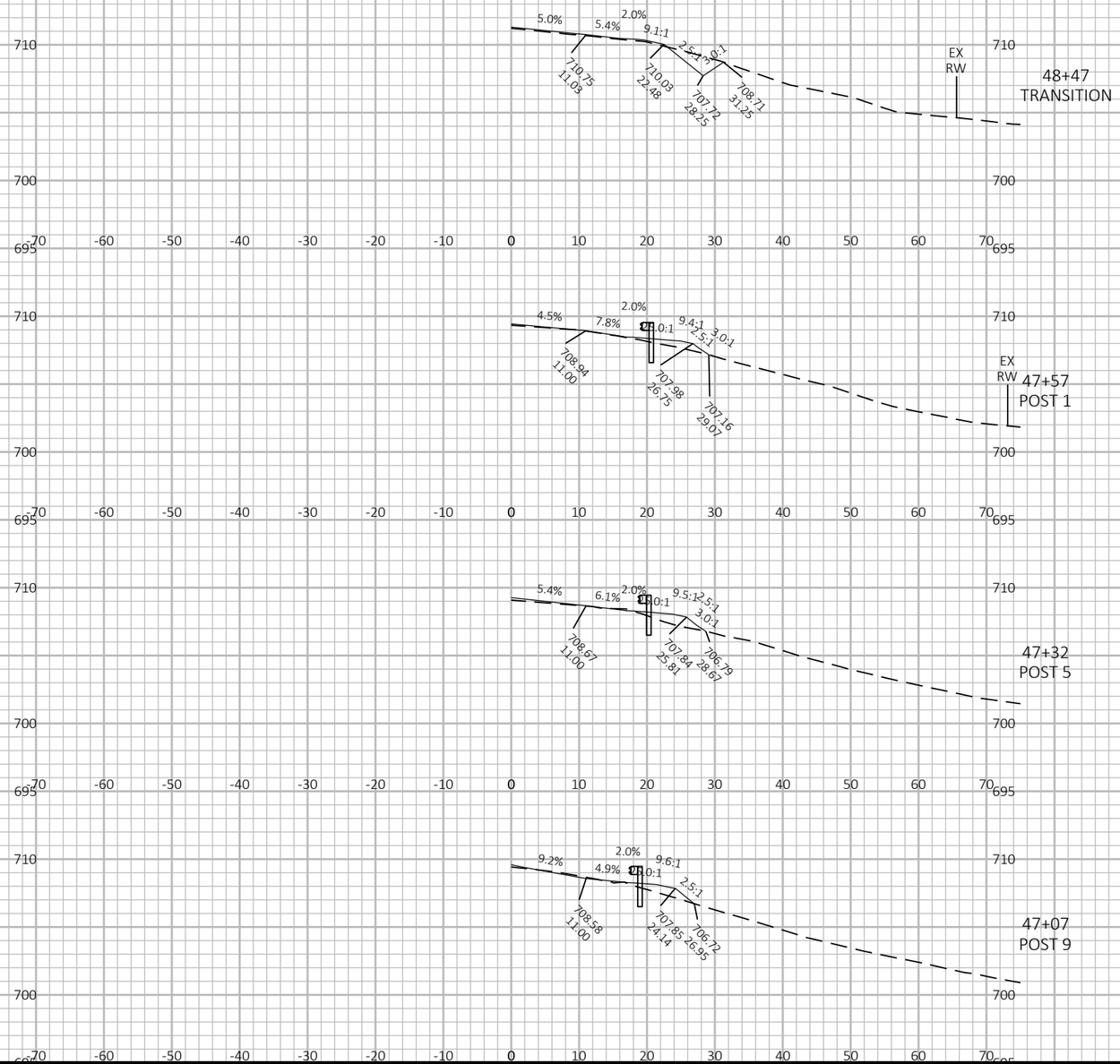
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS SECTION 1 SE QUADRANT - SHORT RADIUS	SHEET 132	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 04
PLOT DATE : 7/31/2023 2:22 PM
PLOT BY : KLUDY, KATHLEEN M
PLOT NAME :
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



9

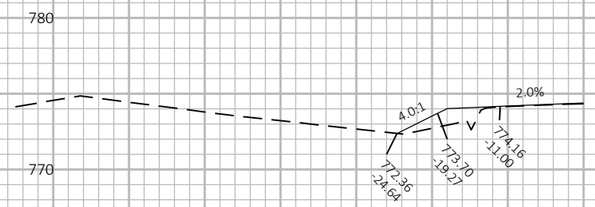
9

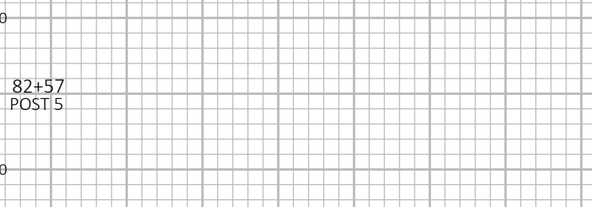
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS SECTION 1 NE QUADRANT	SHEET 133	E

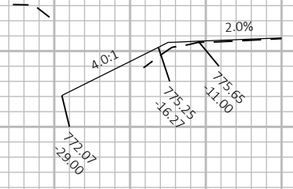
FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 05

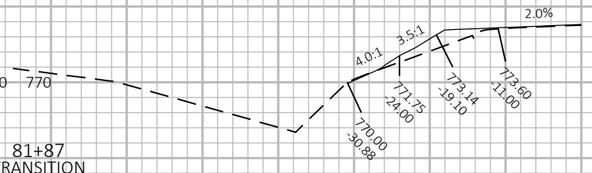
PLOT DATE : 7/31/2023 2:22 PM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

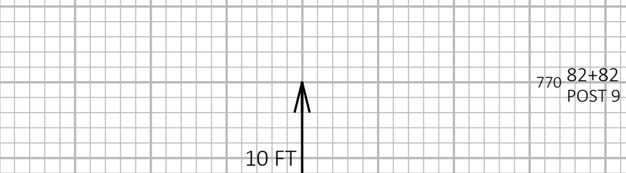
WISDOT/CADDS SHEET 49











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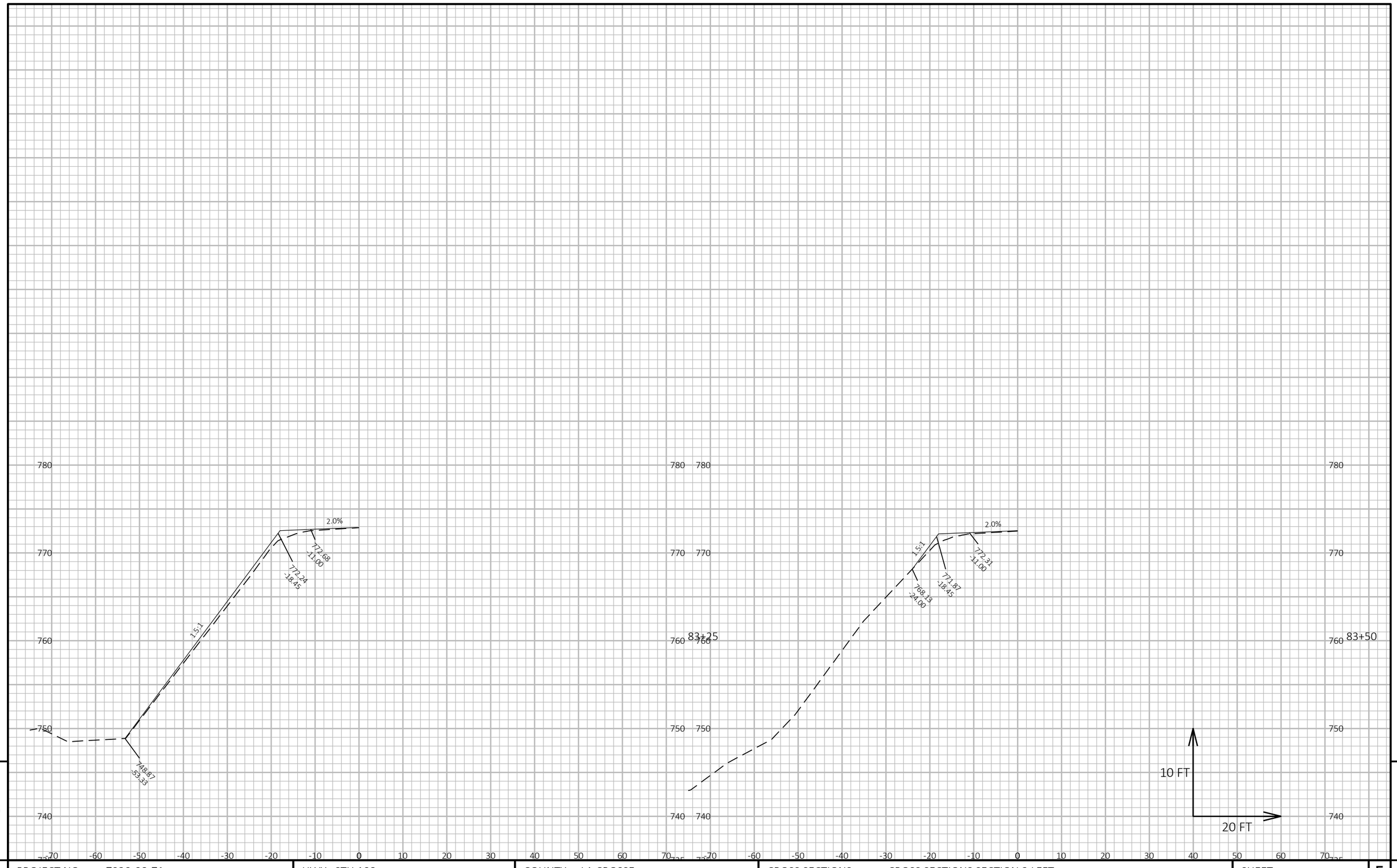
9

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS SECTION 2 SW QUADRANT	SHEET 134	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 06

PLOT DATE : 7/31/2023 2:23 PM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS SECTION 2 LEFT	SHEET 135	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 07

PLOT DATE : 7/31/2023 2:23 PM

PLOT BY : KLUDY, KATHLEEN M

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS SECTION 2 LEFT	SHEET 136	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 08

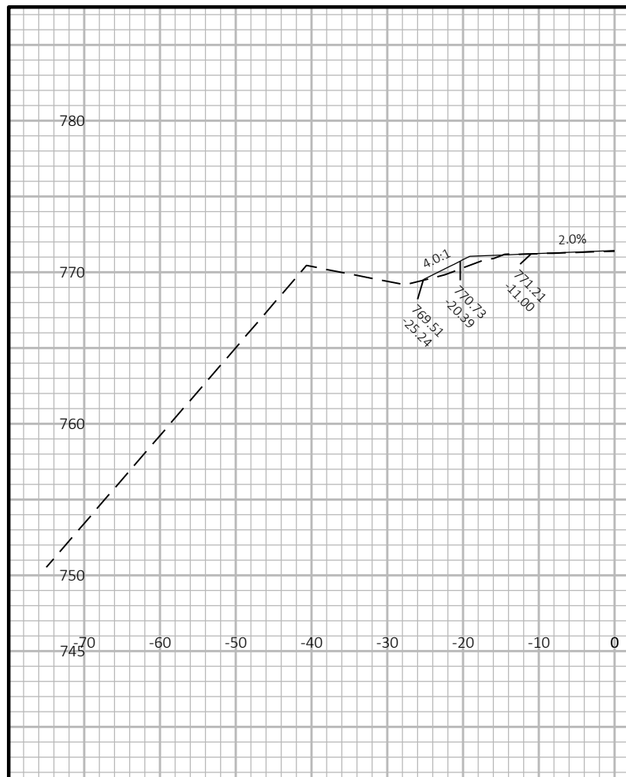
PLOT DATE : 7/31/2023 2:23 PM

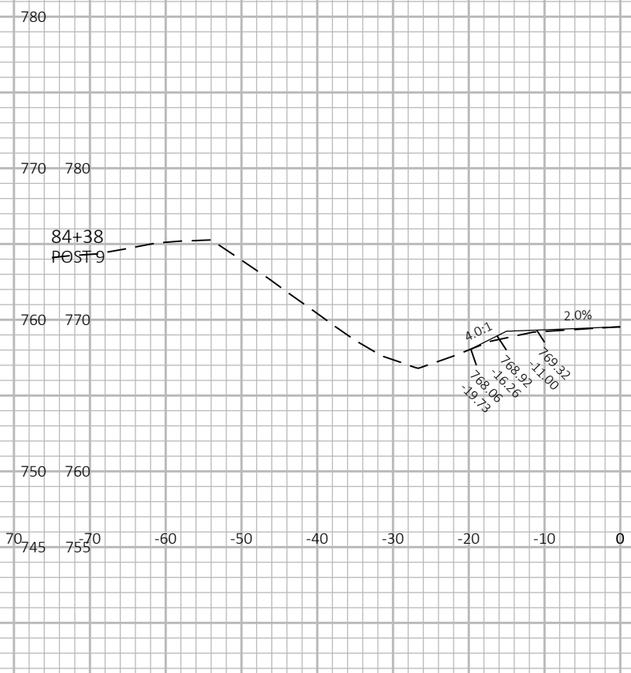
PLOT BY : KLUDY, KATHLEEN M

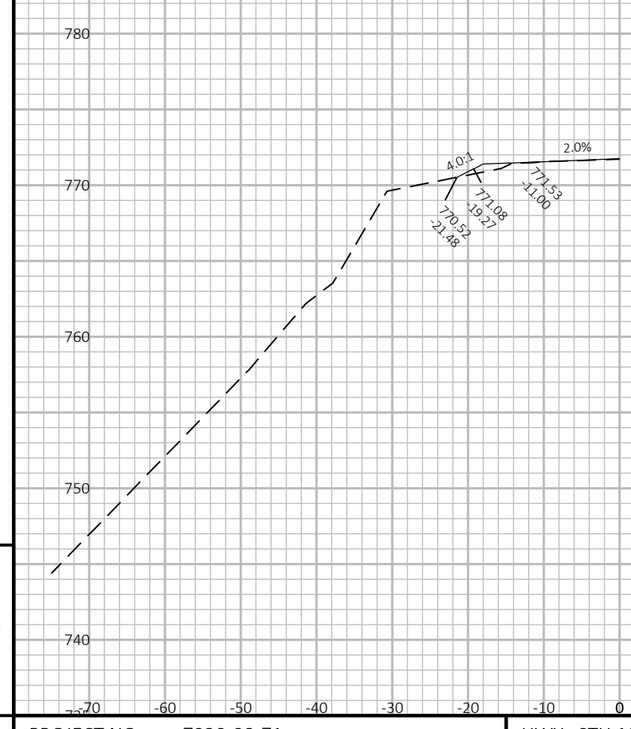
PLOT NAME :

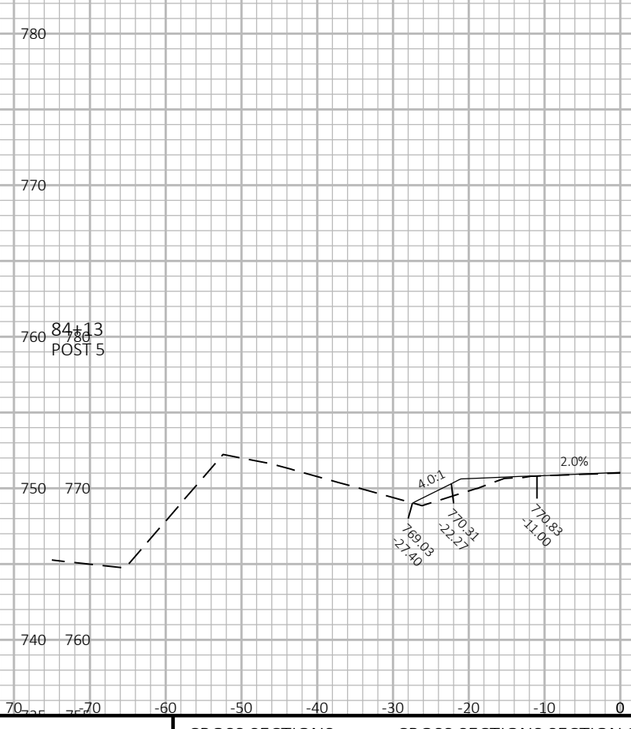
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

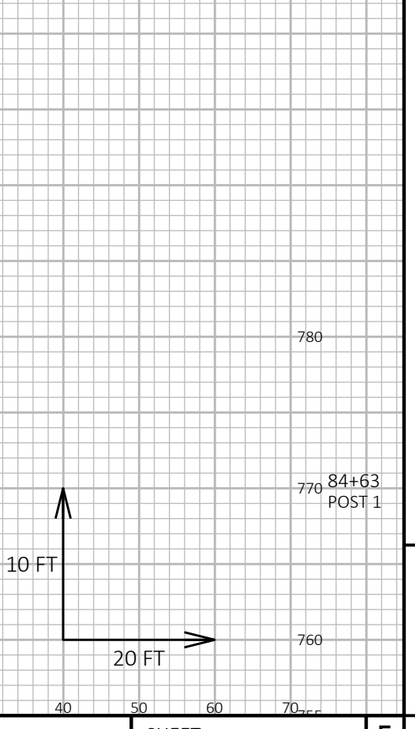
WISDOT/CADDS SHEET 49











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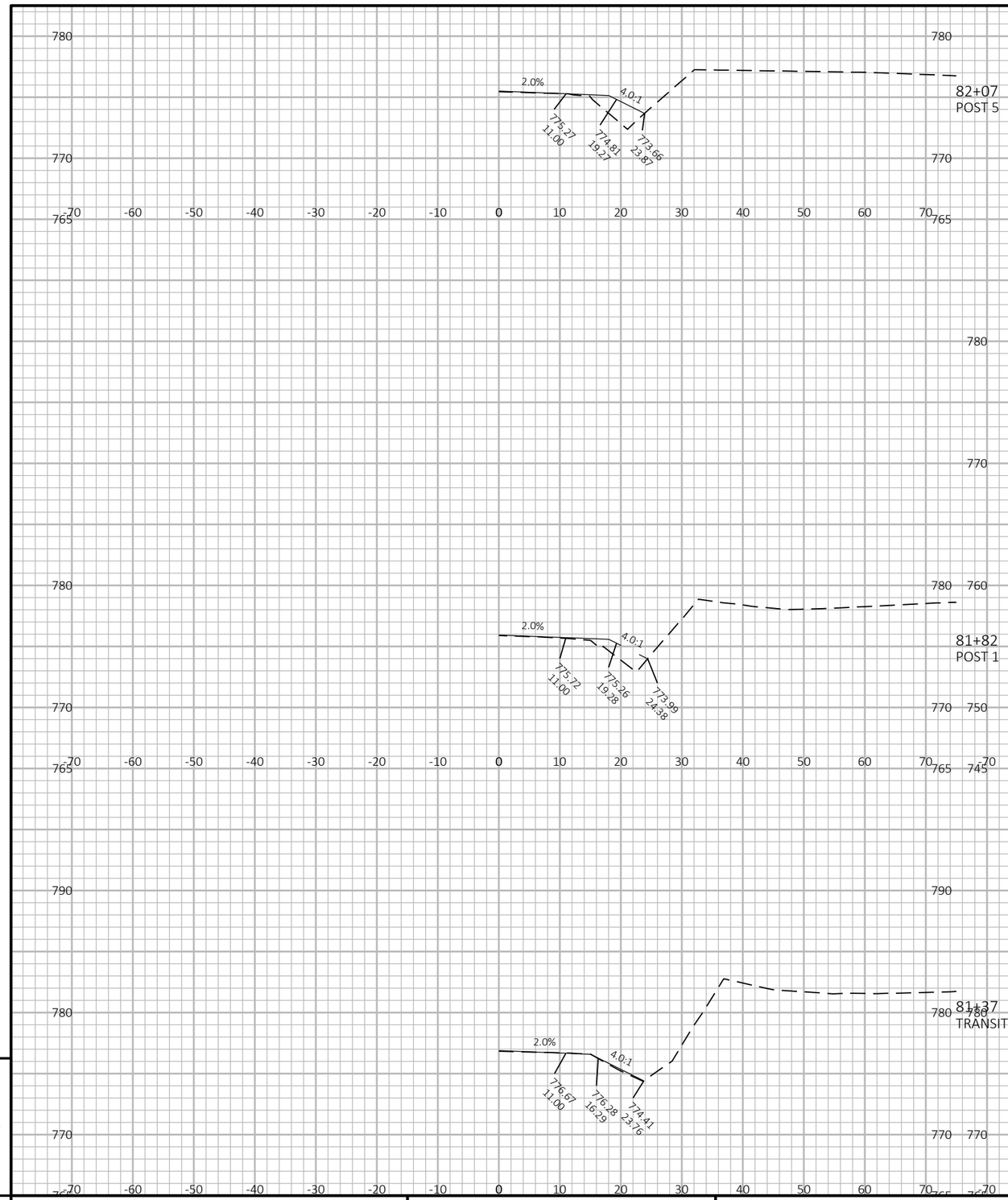
9

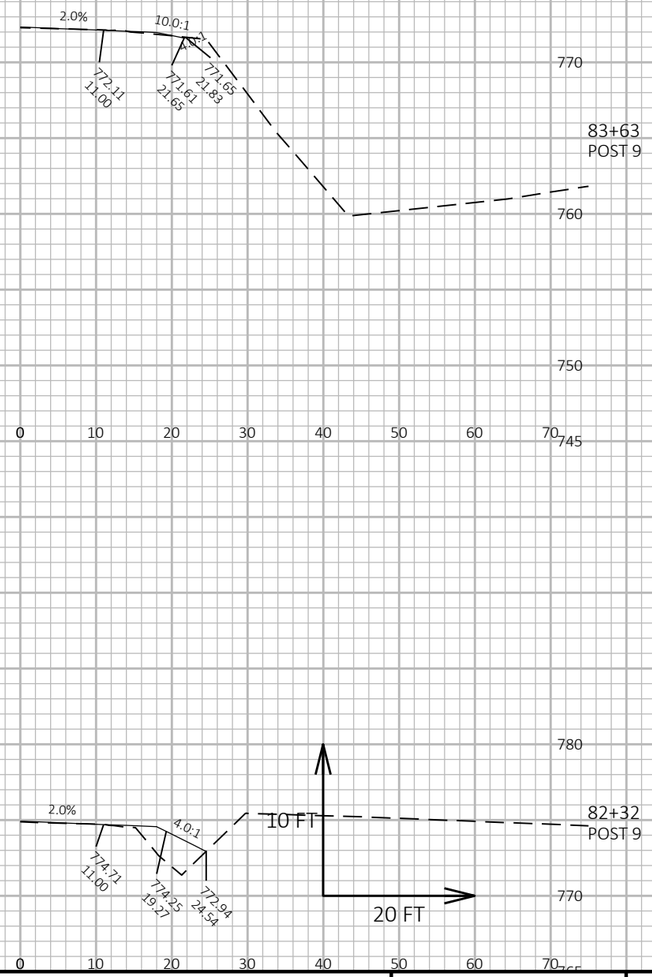
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS SECTION 2 NW QUADRANT	SHEET 137	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 09

PLOT DATE : 7/31/2023 2:24 PM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





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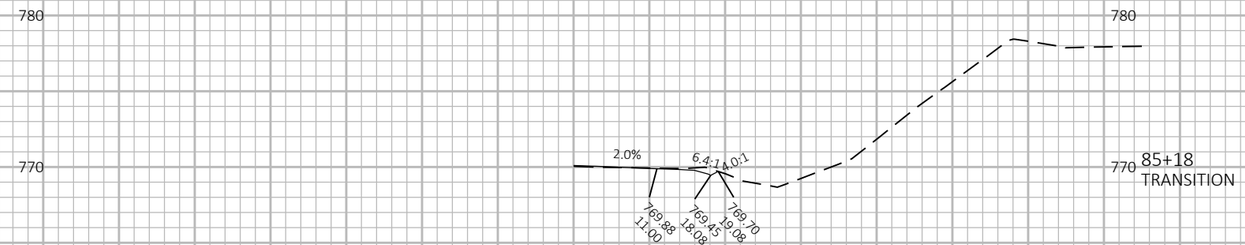
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS SECTION 2 SE QUADRANT	SHEET 138	E

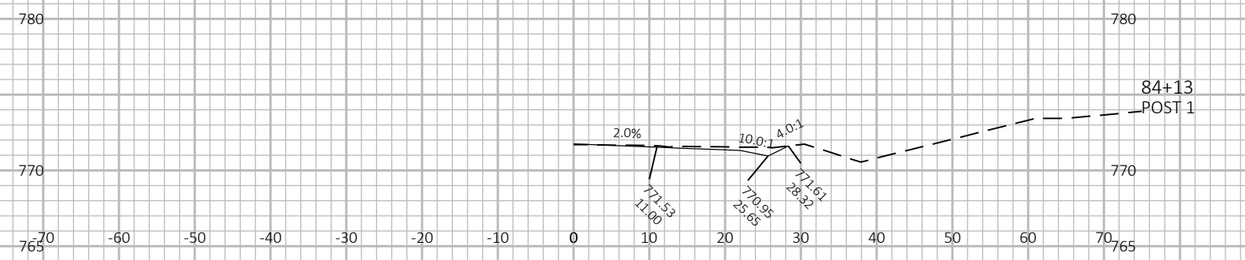
FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 10

PLOT DATE : 7/31/2023 2:24 PM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

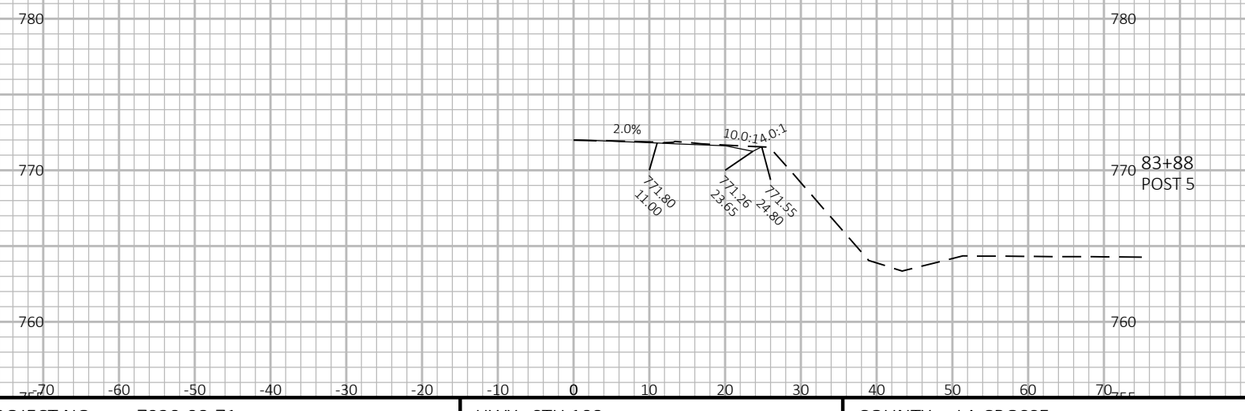
WISDOT/CADDS SHEET 49



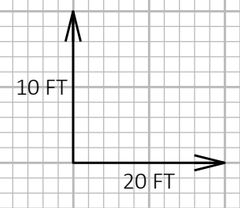
85+18
TRANSITION



84+13
POST 1



83+88
POST 5



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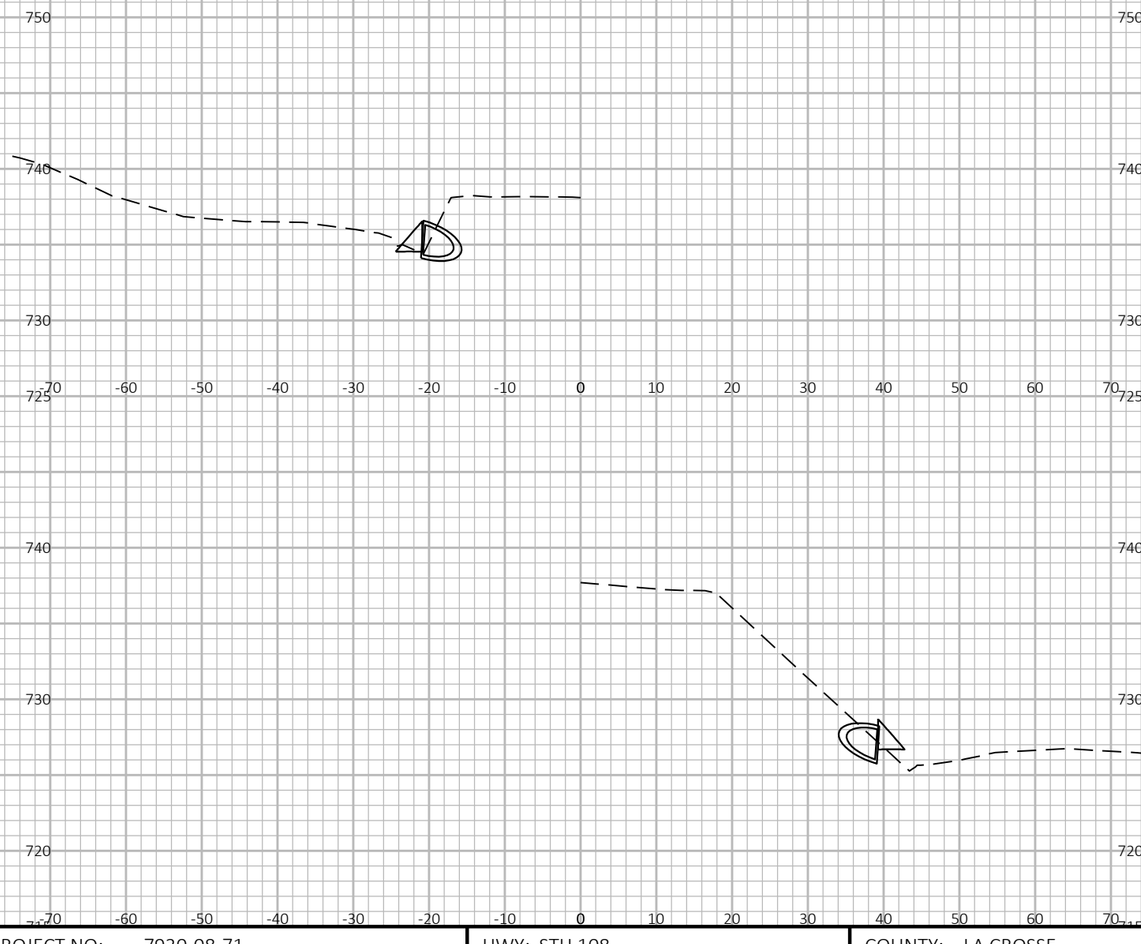
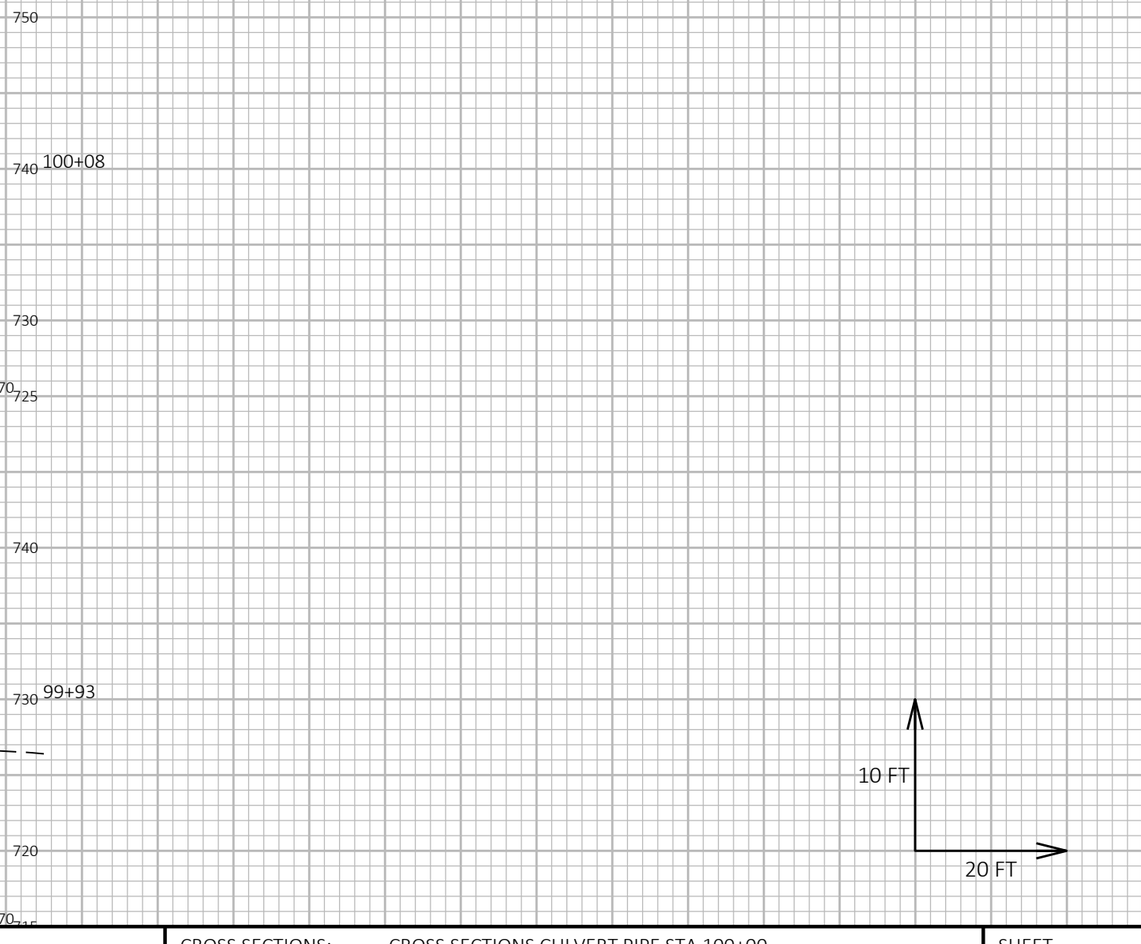
PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS SECTION 2 NE QUADRANT	SHEET 139	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 11

PLOT DATE : 7/31/2023 2:24 PM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





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PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS CULVERT PIPE STA 100+00	SHEET 140	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 12
PLOT DATE : 7/31/2023 2:24 PM
PLOT BY : KLUDY, KATHLEEN M
PLOT NAME :
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

820 820

810 534+65 810

800 800

795 795

820 820

533+99

810 810

800 800

10 FT

20 FT

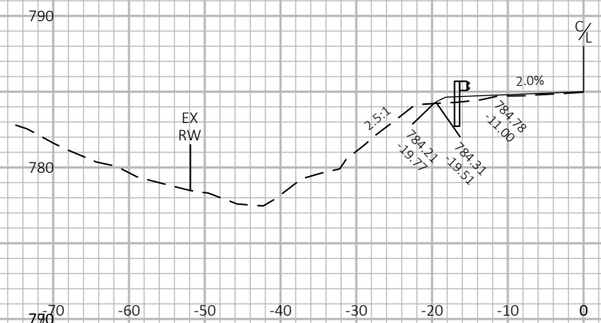
9 9

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS CULVERT PIPE STA 534+50	SHEET 141	E

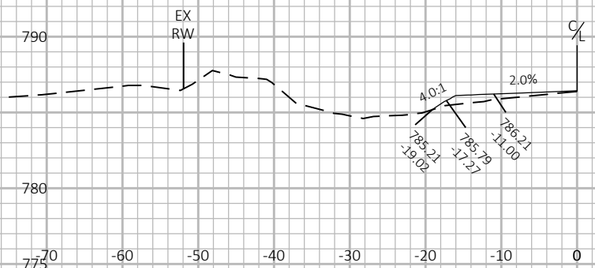
FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 13

PLOT DATE : 7/31/2023 2:25 PM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

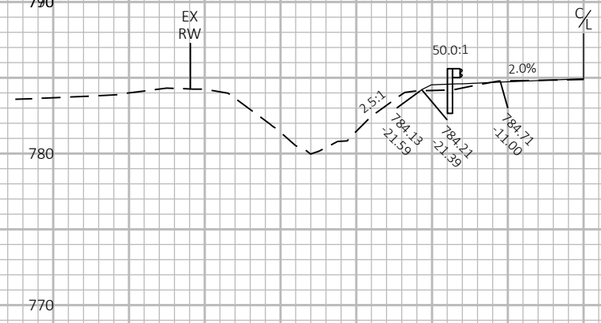
WISDOT/CADDS SHEET 49



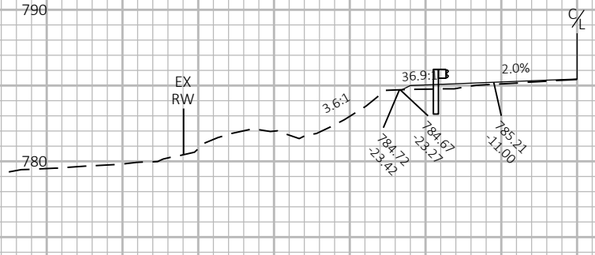
566+37
POST 9



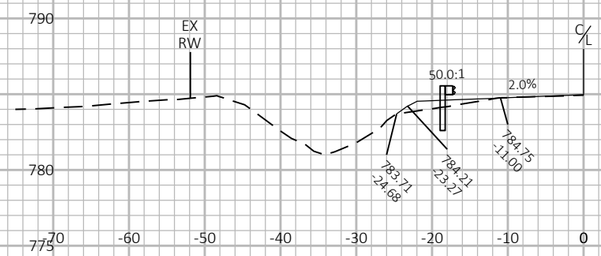
568+33
TRANSITION



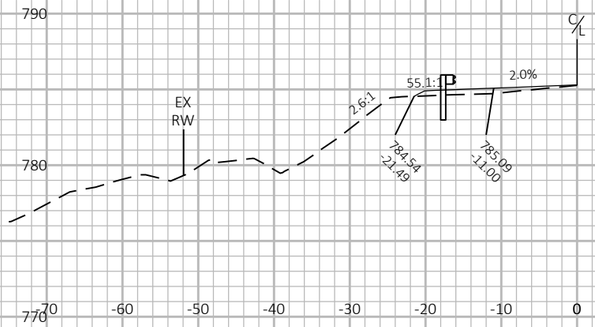
566+12
POST 5



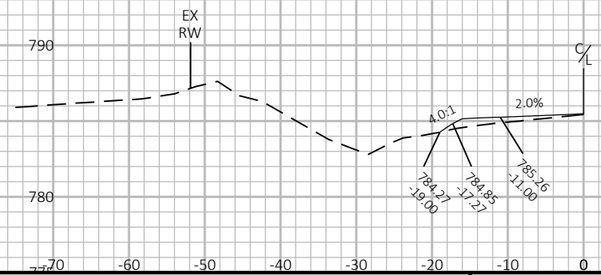
567+43
POST 1



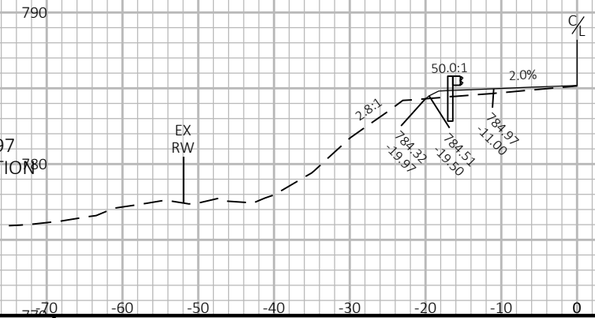
565+87
POST 1



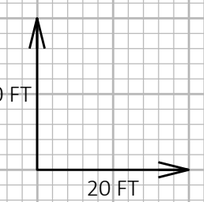
567+18
POST 5



564+97
TRANSITION



566+93
POST 9



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PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS	SHEET 142	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 14

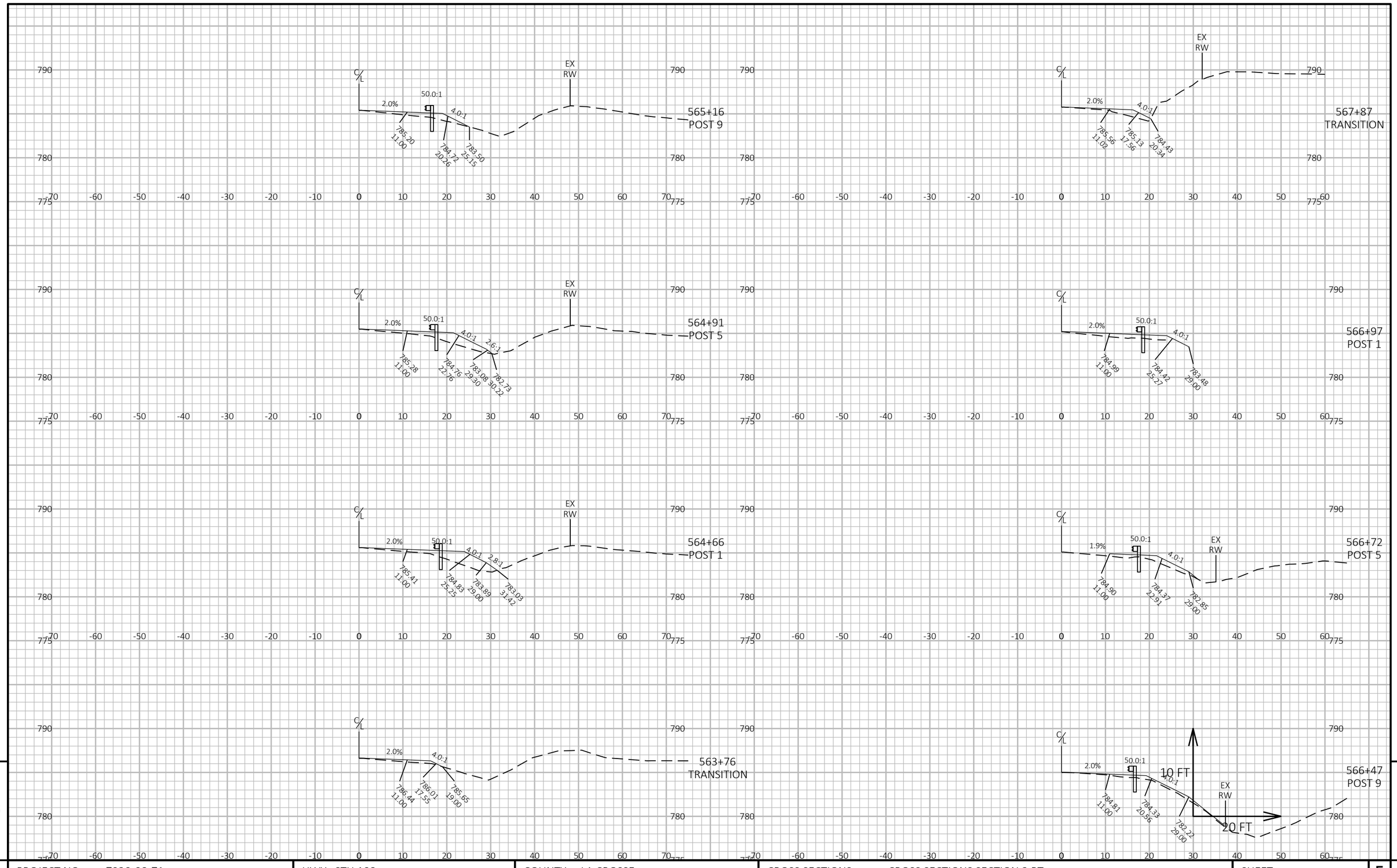
PLOT DATE : 7/31/2023 2:25 PM

PLOT BY : KLUDY, KATHLEEN M

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 7930-08-71	HWY: STH 108	COUNTY: LA CROSSE	CROSS SECTIONS: CROSS SECTIONS SECTION 3 RT	SHEET 143	E

FILE NAME : N:\PDS\C3D\79300801\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 15

PLOT DATE : 7/31/2023 2:25 PM

PLOT BY : KLUDY, KATHLEEN M

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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